تحت رعاية صاحب السمو الشيخ محمد بن زايد آل نهيان، رئيس دولة الامارات العربية المتحدة

Under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the United Arab Emirates

أديبك ADIPEC

Host

أدنوك ADNOC

3-6 November 2025, Abu Dhabi, UAE

ADIPEC INTELLIGENCE GUIDE

SETTING THE PACE FOR THE NEXT ERA OF ENERGY

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Introduction

ADIPEC Intelligence Guide 2025: shaping the future of energy

Returning for its 41st edition under the theme Energy. Intelligence. Impact., ADIPEC 2025 unites the world's energy leaders, innovators, and policymakers at a defining moment: balancing accelerating global demand with the urgent need for sustainability. Reflecting the spirit of ADIPEC 2025, the ADIPEC Intelligence Guide is an essential playbook for a decade set to redefine the global energy landscape. Designed as an essential companion to the world's largest energy event, the Guide captures the insight and ingenuity driving transformation across the global energy ecosystem.

What the ADIPEC Intelligence Guide delivers:

- **The pillars of transformation:** Divided into five thematic segments, the opening sections of the ADIPEC Intelligence Guide feature exclusive global thought leadership, analysis and case studies focused on three vital pillars: meeting future demand for sustainable global growth, the AI revolution driving the sector, and intelligence for an equitable energy pathway.
- **Game-changing innovation from the show floor:** A curated segment showcases game-changing solutions, services, and technologies from our valued sponsors and exhibitors – your first look at the innovations taking centre stage on the ADIPEC show floor this year.
- **Your event roadmap:** The ADIPEC Intelligence Guide is your insider map to ADIPEC 2025, highlighting unmissable experiences, including the dynamic Digitalisation, Decarbonisation and AI zones, where the future of energy takes shape.

Through perspectives from global executives, policymakers, and visionaries, the Guide offers a direct look at the technological breakthroughs and partnerships that are transforming ambition into measurable, scalable impact.

The ADIPEC Intelligence Guide captures the intelligence and innovation that are at the core of ADIPEC this year, empowering attendees and the industry to engage with the ideas and opportunities that will shape the next decade of global energy.

Contents

ADIPEC 2025: WHERE ENERGY AND INTELLIGENCE CONVERGE TO DELIVER PROGRESS

In an exclusive interview, **Abdulmunim Al Kindy,** 2025 Chairman of ADIPEC, shares his perspective on how the world's largest energy gathering is shaping a new era of progress

Hosted by ADNOC under the patronage of His Highness Sheikh Mohamed bin Zayed Al Nahyan, President of the UAE, ADIPEC 2025 will welcome more than 205,000 participants from 172 countries, with 1,800 speakers and 2,250 exhibiting companies.

What is the significance of this year's ADIPEC theme, 'Energy. Intelligence. Impact.'?
We are entering what may be a defining era for human progress. As populations grow, new economies emerge, and artificial intelligence advances at an extraordinary pace, the world faces both profound opportunities and pressing challenges.
Energy and intelligence are the twin engines that are setting the pace of global progress. ADIPEC 2025 is designed around this dual imperative: to help ensure secure and competitive energy supply today, while scaling the intelligent energy systems that will fuel the future.
This year's theme – 'Energy. Intelligence. Impact.' – reflects the convergence between energy systems and artificial intelligence, and the need to transform at pace and at scale. It is also a call to action: to seize the opportunities of this new era while remaining resilient in the face of uncertainty.

How is ADIPEC leading in today's complex and fast-moving energy landscape?
Today's energy industry is navigating near-term volatility, geopolitics, and infrastructure pressures – but must also keep one eye on the long-term forces reshaping our world.
ADIPEC is a platform for industry leadership and collective action. It has always helped the industry collaborate in

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Abdulmunim Al Kindy
ADIPEC Chairman

times of change, but this year's edition goes beyond a sector-focused event into a platform for system-wide transformation. It is where industries connect, sectors converge, and real outcomes are achieved – not just ideas exchanged.
This year, we are bringing together more leaders from across energy, technology, and investment than ever before – and introducing new zones and forums that reflect the growing complexity of global energy systems.

What scale and impact can we expect from ADIPEC 2025?
This year's ADIPEC will be the most inclusive and wide-ranging in the event's history. We will welcome over 205,000 participants from 172 countries, 30 national pavilions, and more than 2,250 exhibiting companies.
No other global platform convenes such a diverse coalition – from producers and policymakers to financiers, innovators, and industrial consumers.
The expanded conference programme reflects this diversity. Five new focus areas – Emerging Economies, Natural Gas & LNG, Downstream & Chemicals, Diversity, Leadership & Development, and AI & Digitalisation – complement the established priorities of energy security, decarbonisation, hydrogen, finance, and workforce development. In total, more than 1,800 speakers will participate across 380 sessions.
This scale matters because it translates into real-world impact. Last year, more than $10 billion worth of agreements were signed at ADIPEC. With even greater participation from energy, investment, and technology leadership this year, we expect another wave of transformative partnerships.
As I have said before, ADIPEC 2025 is more than a gathering – it's where ambition becomes action and ideas become measurable impact. In today's complex world, progress depends on harnessing all technologies – from artificial intelligence to advanced low-carbon solutions – and uniting every part of the energy ecosystem. By bringing together diverse perspectives from across geographies and industries, ADIPEC will help shape a resilient, inclusive and high-growth future where energy security and sustainability advance together.

What can we expect to see from ADNOC at ADIPEC?
As the proud host of ADIPEC 2025, ADNOC is focused on delivering energy the world needs today, while investing in the energy systems of tomorrow. Across oil, gas, chemicals, and low-carbon solutions, we are scaling every viable source of energy to meet demand – and using AI to fundamentally reinvent how energy works.
You'll hear about how we are maximising energy, scaling diverse energy solutions and investing to meet demand, maximising AI, both unlocking energy for AI, while advancing the use of AI to reinvent how energy works, and how we are maximising our positive impact everywhere we supply, operate and invest.

At ADIPEC, ADNOC will showcase this approach through high-impact announcements, strategic partnerships, and bold investments that create long-term value – not just for our company, but for the world.

Intelligence and innovation to secure the future of global energy

The global energy landscape is undergoing a rapid transformation driven by forces of exponential scale: the rapid industrialisation of emerging economies, the dual engines of artificial intelligence shaping both future demand and system-wide efficiencies, and an evolving geopolitical landscape.

The opportunities ahead are significant as we meet the energy demand of a growing global population while delivering the energy capacity required by AI-driven infrastructure. By 2030, global data centres are projected to consume more than four times the electricity they used in 2024, according to the International Energy Agency. The imperative for our industry is to determine how to secure this energy capacity while simultaneously building new energy systems that are reliable, resilient, and sustainable.

This is where intelligence meets energy and impact – and this is where ADIPEC 2025 leads the conversation. Building intelligent energy systems of the future powered by AI is now a central necessity of the industry – because AI is the essential solution, not just a driver of demand. It is the engine accelerating exploration, optimising industrial operations, transforming the grid, and creating a new energy order that is diversified, digitised, and rapidly decarbonised.

The ADIPEC Intelligence Guide 2025 is your preview to this new ecosystem. It offers a look at the innovative solutions and breakthrough technologies from a selection of exhibitors – from digital twins and automations to cognitive platforms and smart distribution networks that highlight the critical pathways required to turn ambition into impact.

At a time of mounting complexity and opportunity, the energy sector demands action, collaboration, and partnerships. Please explore the pages ahead to discover the transformative possibilities that await at ADIPEC 2025, where over 205,000 participants from more than 170 countries and more than 2,250 exhibitors convene with a unified mission: to strengthen today's intelligent energy systems while building those of tomorrow.

Christopher Hudson
President - dmg events

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EXPERIENCE THE FUTURE AT ADIPEC 2025

ADIPEC Focus

PIONEERING AN INTELLIGENT PATH TO A SECURE AND SUSTAINABLE ENERGY FUTURE

ADIPEC 2025 stands at the intersection of energy and intelligence which will define the next chapter of progress – it's about adding energy securely, sustainably, and intelligently to power a growing, connected world

Energy and intelligence are not just complementary forces, they are interdependent drivers of global progress. Even as global energy systems underpin every dimension of economic and social activity, artificial intelligence is transforming the way industries and communities generate, distribute, and use energy, unlocking new levels of efficiency, optimisation, and resilience.

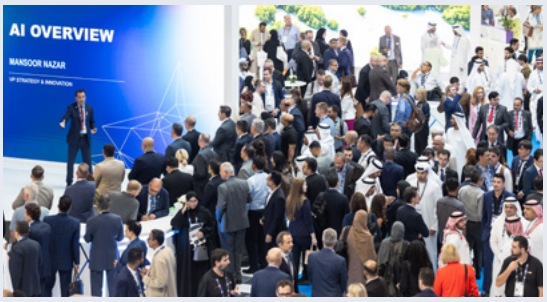
AI's expanding energy footprint brings both urgency and opportunity. As demand accelerates, it creates powerful incentives to build cleaner, smarter, and more efficient systems, driving innovation in low-carbon power, advanced infrastructure, and intelligent energy management. This convergence of energy and intelligence defines the next chapter of progress. It's not only about transitioning systems, but about adding energy – securely, sustainably, and intelligently – to power a growing, connected world.

> ADIPEC 2025 will focus on strengthening resilience across existing energy systems and scaling intelligent solutions that can accelerate their transformation.

ADIPEC 2025 stands at this intersection, uniting the global energy ecosystem to deploy intelligent solutions, build resilient systems, and accelerate collective progress. Uniting two of the most critical topics of our time, ADIPEC 2025 will focus on strengthening resilience across existing energy systems and scaling intelligent solutions that can accelerate their transformation. An expansive programme of leadership panels, exhibition interactions, product demonstrations, and strategic meetings will foster collaboration and drive meaningful outcomes.

Harnessing AI's dual power at ADIPEC

ADIPEC this year is the essential global forum confronting a fundamental challenge: harnessing the immense potential of artificial intelligence (AI) while managing its soaring energy demands. AI is reshaping the energy landscape fast. By 2030, AI-powered energy systems and smart grids could unlock up to US$1.3 trillion in economic value. AI-driven technologies also have the potential to cut global emissions by 5%–10% over the same period. ADIPEC serves as the critical global platform to convene the AI-energy nexus, bringing together leaders from technology, finance, and energy to develop the strategic and technical solutions needed to balance AI's immense potential for impact with its growing demand for secure, low-carbon energy.



The ultimate global stage for energy

Across four days, ADIPEC 2025 will welcome more than 205,000 participants from 173 countries, bringing together more leaders and policymakers from energy, technology, and finance than ever before. With expanded exhibition halls, zones, and conference themes addressing the industry's emerging complexities, ADIPEC 2025 reinforces its role as energy's ultimate stage for conversation and innovation, a crucible for smart ideas and tangible outcomes fuelling global ambitions and shared prosperity.

DISCOVER GAME-CHANGING INNOVATIONS AND AI-POWERED SOLUTIONS

As the essential global platform where intelligence meets action, ADIPEC 2025 brings together new technologies and global breakthroughs alongside pragmatic, real-world discussions on their deployment across the rapidly evolving energy landscape.

THE AI ZONE

This zone will provide a compelling journey into many of the innovations shaping tomorrow's intelligent energy systems. It will showcase the integral and transformative role of AI on energy via an immersive experience exploring how intelligence, artificial as well as human, is redefining energy systems, empowering people and enabling bold, cross-sector disruption.

Mixing dynamic exhibition and demonstration elements, energy and AI companies alongside startups from the wider energy sector will spotlight solutions that illustrate AI's increasing role in forecasting, optimisation and resilience, from digital twins to HSE cockpit.

This will come to life across several core areas:

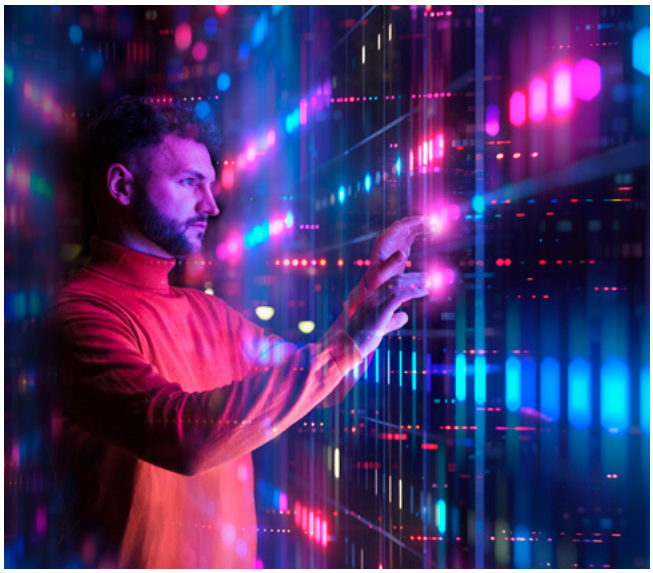
The Intelligence Grid will examine the real-world decisions shaping AI's role in energy

The Values Room will give inspirational direction on the future of work, upskilling, youth innovation, and human-AI collaboration.

The Talent Hub will feature hackathons, a youth AI garage, engaging demonstrations and roundtable discussions on youth and innovation in the AI sphere

Data Visualisation is set to showcase AI's rise, energy appetite, and its role in accelerating decarbonisation, innovation and resilience across sectors.

Framed by the dual lens of AI for Energy and Energy for AI, the AI Zone stands as an engine room for innovators, producers and policymakers to connect, explore and exchange initiatives, develop fresh partnerships and mobilise the skills, capital and infrastructure required to scale transformation.



THE DIGITALISATION ZONE

Data, digital infrastructure and emerging technologies are accelerating the transformation of global energy systems. Learn how they are enabling faster, smarter, more sustainable decision-making across the value chain.
In this space, you will find technologists, innovators, energy leaders and policymakers ready to showcase digital tools designed to improve efficiency, optimise performance and unlock new value to accelerate inclusive global progress.
Big data and predictive analytics through to smart grids, blockchain, and edge computing, are in the spotlight alongside cybersecurity solutions, Internet of Things and smart sensors, plus robotics and automation.
This zone demonstrates how intelligent systems are driving measurable impact, enhancing safety, productivity and sustainability at scale, and allows visitors access to a dedicated content stage where insightful discussions on digital transformation across the energy ecosystem will be featured.
Digitalisation & AI conference sessions at ADIPEC 2025 will explore a broad range of related topics, ranging from energy leaders in AI to competition for critical minerals, safeguarding energy security with AI, and a start-up showcase.

2,250+
Exhibitors

THE DECARBONISATION ZONE

Placing the focus on one of the energy sector's most urgent imperatives - how to reduce emissions while safeguarding energy security and economic growth - this zone gathers policymakers, investors, innovators and industry leaders.
It provides a showcase for scalable technologies and practical strategies enabling industries to lower carbon intensity without compromising affordability or reliability.
AI and digitalisation drives decarbonisation by optimising energy use, streamlining supply chains to reduce transport emissions, and accelerating innovation in clean energy technologies through advanced analytics, predictive maintenance, intelligent grid management, and by enabling more efficient production processes and logistics.
Visitors can explore that technology and real-world solutions covering carbon capture, fuel cells, hydrogen, infrastructure and utilities, all aimed at advancing a resilient, secure and more sustainable energy future.

RECOGNISING ADIPEC 2025 IMPACT CHAMPIONS

- A dynamic new initiative for ADIPEC 2025 recognises and celebrate exhibitors that most effectively bring their show stand to life with the theme of this years event.
- The Impact Champions are those companies that empower their exhibition space to demonstrate their high-impact solutions and contributions to the energy sector's transformation.
- Impact Champions will receive a special badge to display on their stand as a visible mark of distinction.
- This will draw attention to their display, encourage greater interaction with visitors, and celebrate the exhibitor's contribution to industry-wide progress.

DISCOVER THE LATEST INTELLIGENT IDEAS, PRODUCTS AND STRATEGIES

Explore ADIPEC's generous exhibitions spaces - including specially curated zones for AI, finance, digitisation, decarbonisation, marine and more - for a chance to connect with energy pioneers and innovators eager to present their increasing role in the world's evolving energy journey.
Visitors can expect to find start-ups revealing their flagship solutions to the industry for the first time.
And live demonstrations from established companies showcasing equipment that could prove essential now, and in the future, to ensure stable and affordable energy supplies around the globe.
Expect exclusive launches of new product lines from companies offering everything from cutting-edge underwater intelligence and superior drone technology to drilling platform fire safety right through to crucial valves and pipes.

205,000
Visitors

MEET THE COMPANIES DRIVING THE FUTURE OF ENERGY

Many returning firms and show veterans are represented across ADIPEC's exhibition floors - beside the industry's new operators.
They will confirm why they offer tried and trusted brands while also underlining how they are influencing a shifting energy agenda amid volatile markets and growing demand.
Multiple levels of engineering are represented - as are numerous nations, not least on 30 multi-company country pavilions.
Meanwhile, many company stands around the halls will host presentations from senior leadership and expert team members tackling industry hurdles, growth trends, and detailing their market-ready solutions.

GLOBAL EXPERTISE AND KEY INSIGHTS DRIVING PROGRESS

All of this is complemented by an extensive programme of 380 Strategic Conference and the Technical Conference sessions.
These are brought to life with insight and expertise from 1,800 speakers from across the energy value chain - and the world - helping visitors unlock unique opportunities for productivity and sustainability in what promises to be a truly captivating ADIPEC.

AT THE NEXUS OF INTELLIGENCE AND ENERGY TRANSFORMATION

Every aspect of the energy value chain is covered at ADIPEC 2025 - whether it's in the exhibition halls or on the panel discussions taking place in the conference arenas.
Among a huge variety of key areas covered by exhibitor stands are high-performance hydrogen and gas solutions, the digital intelligence powering decarbonisation, and water treatment and waste treatment recovery.
As well as face-to-face discussions with the people behind the products, visitors can view - and in some cases experience - physical examples of precision manufacturing, specialised fabrication, and high-grade production relevant to energy discovery, procurement, delivery, consumption and more.
From powerful compressors, intricate models of state-of-the art LNG vessels to equipment that protects where it matters in the field, there is no shortage of physical hardware in the spotlight this edition. Or people to emphasise the advanced quality, exacting standards and relevant applications of the products on show.

1,800
Speakers

SECTION 1

THE AI REVOLUTION IN ENERGY

Framing Feature

ARTIFICIAL INTELLIGENCE: POWERING CHANGE ACROSS THE ENERGY LANDSCAPE

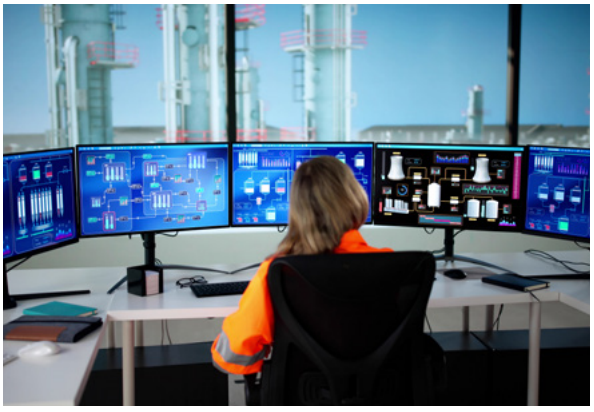
Companies are fundamentally reinventing upstream, downstream, and power sectors as they make big data a game changer in very practical AI applications

As a vital link connecting energy, data, and carbon, artificial intelligence (AI) is fundamentally reinventing the energy industry and delivering the crucial benefits needed to scale a secure and sustainable future. From helping operators optimise complex networks and improving energy efficiency to supporting advanced capabilities like predictive cooling, renewals forecasting, and the use of digital twins to simulate performance, AI delivers tangible benefits that are essential for the industry. This convergence is the heart of the energy sector's future as companies will be increasingly required to produce more energy and to distribute it with a measurable impact at pace and scale.

Two-way relationship

The relationship between AI and energy is remodelling the industry in both directions. Expansion in data centres and cloud computing is fuelling record-breaking power demand, straining grids and placing pressures on supply models. But AI simultaneously provides the energy sector with the technology it needs to manage this new demand and facilitate its green aspirations.

> AI is rendering the industry smarter, faster, and more environmentally friendly from upstream exploration to downstream refining and grid operations. Practical applications are converting big data into actionable insights.



This creates a feedback loop of escalating output, necessary innovation, and even tailored policy. Nations like the United Arab Emirates and Morocco have established specialised Ministries of AI, reflecting a growing trend in the region to accelerate digital frameworks. With an unprecedented growth in energy demand globally, existing grids are incapable of matching the new levels of consumption, and access to abundant and reliable power becomes vital on a broader scale.

Value chain

AI is rendering the industry smarter, faster, and more environmentally friendly from upstream exploration to downstream refining and grid operations. Practical applications are converting big data into actionable insights.

In exploration and production, AI brings about efficiency and safety improvements. For instance, Halliburton's Logix orchestration platform, founded on automation and data, delivers up to 20% overall well time savings. In collaboration with ADNOC and AIQ, they developed RoboWell, the world's first AI-based solution for gas-lifted wells, maximising production with autonomous well tuning.

SLB similarly uses agentic AI to position engineers and geoscientists as "systems thinkers," enabling them to operate oilfields as dynamic, integrated systems. Results are breathtaking performance gains, reduced lifting costs, and reduced carbon emissions.

> Every step forward in artificial intelligence depends on a leap forward in energy efficiency.

ADNOC's ENERGY[ai] platform showed seismic interpretation 10 times faster and 70% higher accuracy in test environments. The platform reduces drilling by as much as 30% through predictive maintenance and better analytics.

Downstream transformation

In downstream, digital twins and AI-based analytics are transforming engineering, procurement, and construction processes with better outcomes in megacapital projects. The chemical sector - one of the main driving forces behind the energy transition - is reliant on AI-fuelled demand modelling and carbon-intensity information to allow CFOs to price risk correctly before investing in projects.

Energy leaders must cut through AI hype and focus on near-term performance. Digital twins - virtual, real-time replicas of physical assets - are a good place to begin with credible AI plans. Strong clean-data foundations are required to avoid AI hallucinations.

Predictive maintenance

The most effective AI is practical, not flashy. As global power grids suffer tremendous stress from industrialisation

and AI adoption, AI itself enables the development of smarter, more robust, and responsive solutions, moving the focus from reactive to proactive management. AI enables predictive maintenance for pre-empting equipment failure, load forecasting for balancing supply and demand, and "self-healing" grid development to detect faults independently and redirect power to prevent widespread outages.

Efficiency leap

Every step forward in artificial intelligence depends on a leap forward in energy efficiency. Realising AI's full potential requires a concerted and strategic effort encompassing policy guidance, aligned investment, and firm commitment to inclusive global development.

The intersection of AI and the energy industry can make the global energy system more efficient, reliable, resilient, and sustainable with an inclusive approach to build long-term resilience, strategic autonomy, and sustainable economic growth.

70%

Improvement in accuracy in major seismic interpretation aspects by ADNOC's ENERGY^{ai} platform

Source: ADNOC

Thought Leadership

AI: THE EMERGING UTILITY POWERING ENERGY TRANSFORMATION

By DENNIS JOL
Chief Executive Officer, **AIQ**

Global energy demand has continued to rise at an average of 1% between 2019 and 2024. With continued economic development, expansive industrialisation is set to come with the requirement to access more reliable sources of energy.

This dynamic needs to be considered in the context of carbon emissions, which have grown by an average rate of 0.6% per annum between 2019 and 2024. Artificial intelligence (AI) is an important change engine in this regard, with proofs of concept of the technology at work within the energy sector, and experimental pilots having matured into scalable, real-world applications. AI has the potential to become a key strategic asset in the industry.

AIQ's large-scale deployments of AI-enabled solutions are premised on three pivotal elements within the wider energy/AI matrix: Access to high-quality data; resilient compute infrastructure; and expert talent. In Abu Dhabi, G42's "Intelligence Grid" initiative is already establishing applied intelligence as a ubiquitous utility, akin to electricity, through integrated infrastructure, policies, and user interfaces.

AI should be recognised as an investment that yields exponential returns, despite any initial implementation costs or complexities. AIQ's strategy focuses on digitalising only the most impactful infrastructure before layering AI. This means a dramatic reduction in digitalisation-related capital expenditure. The UAE's

> "AI has the potential to become a key strategic asset in the energy sector. It is this potential that is being converted to value creation by AIQ."

DENNIS JOL
Chief Executive Officer, **AIQ**

progressive regulatory environment, prioritising data privacy and cybersecurity, provides an enabling backdrop fundamental to AIQ's ability to foster secure AI innovation, offering replicable models for global adoption.

A paradigm shift

AIQ has ascended to unicorn status in five years, valued at over US$1.4 billion.This is attributable to its privileged access to vast amounts of operational data from its shareholder and customer ADNOC, advanced analytics and cloud infrastructure from Presight, a G42 portfolio company, and energy experts working alongside data-driven professionals within AIQ.
Currently, AIQ's 14 AI-enabled products are active across producing wells, rigs, reservoirs, and vessels, and the company seeks to export this experience gained in the UAE, internationally.

Agentic AI

AIQ's in-the-field experience has been brought to bear in its development of a pioneering agentic AI framework for energy, ENERGY^{ai}, which clinched a landmark US$340 million contract in March. ENERGY^{ai} harnesses PhD-level AI agents capable of perceiving, learning, thinking, and acting autonomously on routine tasks while streamlining workflows.
AIQ continues to expand its technological coalition of willing partners, having recently announced plans to collaborate closely with SLB, a global energy technology company, to advance its continued development and deployment of ENERGY^{ai} across ADNOC's subsurface operations. Early indications of the solution's capabilities in a test environment using 15% of ADNOC's data, and looking specifically at two fields, resulted in a seismic agent achieving a tenfold increase in the speed of seismic interpretation and a 70% increase in precision.
AIQ aims to offer its solutions internationally, bolstered by its experience in the UAE, coupled with access to Presight's distribution networks.
The outcome: An energy landscape that maximises output with minimal ecological impact, ensuring enduring competitiveness and more sustainable industrialisation for all.

Dennis Jol will appear on the panel,
The AI impact: transforming the global energy system
ICC Hall A
Wednesday, 5 November, 12:40 – 13:20

Book your Delegate Pass

Thought Leadership

HOW AI AND ROBOTICS ARE TRANSFORMING ENERGY INFRASTRUCTURE

Jake Loosararian, co-founder and CEO of Gecko Robotics, discusses the transformative role of AI in the energy sector and how it redefines energy systems, empowers people and enables bold, cross-sector innovation.

As we increasingly hear about energy for AI, and AI for energy, how can AI become a powerful enabler of new energy production rather than just being a consumer of it?

Energy helps to power artificial intelligence, but we don't talk about the importance of AI powering energy. That refers to the data sets we need to be able to drive more production with the same infrastructure, with less downtime and fewer dangerous incidents, and the ability to reduce emissions. Robots and AI from the Gecko landscape have been able to uncover the ability to create data sets that never existed before, about things in the physical world. Gathering information and data sets on how assets are performing helps to drive the ability to optimise how every single component and asset that powers our energy sector, actually works. It's the ability to create more with less, and it's the ability to ensure that we never have a catastrophic failure.

What makes AI successful and why are 95% of AI companies failing to deliver results? What are the challenges that you often see for energy companies trying to implement AI solutions?

While the AI algorithms are quite incredible, they are nothing without the input that goes into those models. The data sets that exist are immense, and we know very little about those that have not been digitised, that must drive the data inputs into these algorithms. This is why most AI solutions

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JAKE LOOSARARIAN, Co-founder and CEO of **GECKO ROBOTICS**

fail; because the math that's being run in the algorithms is just a byproduct of the data sets that are driving the insights. That's why Gecko is one of the 5% of companies delivering meaningful impact and ROI, because we go out and collect this data with our robots to power our AI.

Could you share with us a case study where this has actually made a difference in terms of operations or efficiency?
Our tools and technologies use robotics and sensors to first go out and gather information about the health and performance of some of the most critical assets like flare lines, alky units, and storage tanks. Companies including ADNOC have been able to leverage that, and around the world we're saving months of potential asset downtime. We eliminate and transform what turnarounds mean in refineries. Our ambition is to ensure we get more production, and that we never have downtime if we don't want it.

How does the use of robotics support greater safety at facilities when it comes to assessing the health of critical infrastructure?
Every cent counts in a barrel. The inability to gather information and then digitise it reduces the ability of tools like AI algorithms to be able to drive better insights. So the ability to gather tens of millions times more data, and digitise it with robots about the health and performance of critical assets allows our AI models to be able to extend the useful life, predict where problems are going to occur, and optimise how those assets are able to perform. We do this with things like ultrasonics, cameras, and phased array technologies. We're called the doctors of the built world due to the ability to diagnose the health and the performance of these assets, because we're trying to get more energy by using less.

How does AI empower graduates and young engineers, and equip them with the same level of knowledge as veterans of the industry?
As energy demand increases, so does the demand for skilled labour that's in short supply. The ability to be an expert in these sectors sometimes takes 20 to 30 years, and we just don't have that time frame. So robots and AI that we build enable people to sense these things with only a few months of experience to become an expert. Then the AI allows them to analyse and make decisions using better data sets, that reduce the amount of experience and knowledge that they had to have previously.

Jake Loosararian will appear on the strategic panel *The AI impact: transforming the global energy system*
ICC Hall A
Wednesday, 5 November, 12:40 – 13:30

Book your Delegate Pass

Thought Leadership

A NEW TECHNOLOGY FRONTIER

By **RAKESH JAGGI**
President of Digital & Integration, **SLB**

We are on the cusp of a digital disruption in energy worthy of such a label.
The emergence of AI into the mainstream represents a genuine paradigm shift, as tech moves from its role in the background as an enabler to a source of dynamic agency. It begins to impact decision making, creativity, and value creation, redefining how individuals and enterprises interact with information, with each other, and how we innovate and compete.

The last 20 years have seen digital technologies upend the business landscape and transform cultures and societies worldwide. Across many industries, however, energy included, change has so far been incremental, not transformational.

A plateau?
Each new dazzling innovation – the cloud, open source, big data, the Internet of Things, software-as-a-service – promises much but even when taken together have led to only modest efficiency gains. We've been tuning the engine – fuel injection, a bigger exhaust, lighter rotating parts – when what we need is a new vehicle, perhaps one that we don't even drive ourselves.

Few energy companies have successfully delivered a digital transformation across the value chain at meaningful scale and with material and lasting performance gains. Data and knowledge in our industry continues to move slowly by way of manual hand-offs across disciplines, leading to sequential decision-making, frequent context loss, and significant value leakage.

Enter Agentic AI
Meanwhile, the industry is facing challenges, both cyclical and structural. Pressure to deliver lower cost and lower carbon barrels from aging and increasingly complex assets and infrastructure with a shrinking global talent pool see us grappling with a classic 'nexus of forces.'
The need for a step-change that brings about exponential impact has never been greater.
Enter Agentic AI. A technology that flips the script. Tech is

> "For most of human history, intelligence was a rare commodity. With the rise of AI, intelligence is no longer scarce. It's abundant. It's accessible to every professional, in every discipline, in every organisation."

RAKESH JAGGI
President of Digital & Integration,
SLB

no longer a passive and reactive tool, but a dynamic, proactive teammate.

From supporting users on individual tasks by using machine learning or domain-informed models, to agents that can string tasks together and interact with their environment, make decisions, and take actions. Towards full workflow-scale agents with humans-in-the-loop or with humans freed up for doing the things that humans do best – problem solving and collaborating – as we enter a world of autonomous agents.

From assistants to autonomous agents
These aren't just assistants, they're proactive, goal-oriented systems that can reason, take action, and collaborate.

For most of human history, intelligence was a rare commodity. With the rise of AI, intelligence is no longer scarce. It's abundant. It's accessible to every professional, in every discipline, in every organisation. When AI can function as a force multiplier in technical domains, engineers and geoscientists can be elevated to the role of 'systems thinkers,' becoming curators of judgment and decisions, ensuring AI outputs are reliable and contextually correct.

They can leave much of the heavy lifting to AI, freeing themselves up to do the things that humans do best– framing questions in context and collaborating with one another. Their span of control grows. More prospects, more assets, more wells.

The dynamic oilfield
Systems thinking becomes practical at scale. A competency shift occurs as we begin to see and govern the oilfield as a living, dynamic system, not just a chain of isolated technical puzzles.

Closed-loop processes and new levels of system autonomy at many scales become possible, giving us a more holistic view across the value chain.
Better and faster decisions then give rise to significant performance gains such as reduced lifting costs, greater recovery, and lower carbon.

Our industry is heading towards a new frontier. On the other side of it is a world where digital technologies realise their early promise. Come with us.

Rakesh Jaggi will appear on the panel, *Responsible AI and advanced technology investment*
ICC Hall B
Tuesday, 4 November, 16:00 - 16:40

Book your Delegate Pass

Thought Leadership

BUILDING ENERGY RESILIENCE THROUGH REINVENTION

By **MUQSIT ASHRAF**
Group Chief Executive - Strategy, **Accenture**

At the turn of the 20th century, global energy demand spiked. Cities installed tramways and streetlights while factories adopted electric motors over steam. At the same time, oil consumption surged with the rise of automobiles, trucks and early aviation. Nearly 100 years later, we're again seeing an energy spike – this time from AI.

While promising growth and productivity, our research reveals that AI's energy consumption is on track to grow over 10 times by the end of the decade, reaching 612 terawatt-hours annually. The International Energy Agency (IEA) places data centre demand even higher, closer to 945 terawatt-hours. Putting that into context, this demand would be slightly higher than Japan's consumption today. To meet this rising energy demand, the United Arab Emirates is building one of the largest data centres in its aim to become an AI hub. In a region long adapted to navigating geopolitical shifts, commodity cycles and evolving consumer needs, this move offers a compelling example of building long-term resilience – one that prioritises a shift from legacy infrastructure to future-ready systems. For CEOs, the imperative is clear: resilience must evolve from a reactive stance to a proactive strategy. As leaders navigate a new era of

> "For CEOs, the imperative is clear: resilience must evolve from a reactive stance to a proactive strategy. As leaders navigate a new era of disruption with advanced AI – generative, agentic and physical – the learning is not just about diversification but about embedding resilience throughout the enterprise."

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disruption with advanced AI – generative, agentic and physical – the learning is not just about diversification but about embedding resilience throughout the enterprise.

Realising advanced AI's potential across the business

The third edition of Accenture's Resilience Index, a proprietary analysis of 1,600 of the world's largest companies on key business and technology dimensions, revealed a sobering finding this year: While overall resilience rebounded, it's also increasingly fragmented as less than 15% of companies achieve long-term profitable growth and leaders balance different priorities across technology, people, operations and commercial models.

With technology as the foundation of reinvention, additional Accenture research surveying the c-suite found 85% are already planning to increase their generative AI investments, which is good news. Two-thirds (67%) view AI as a driver of revenue growth. Business leaders in EMEA are even more bullish, with 40% of the C-suite saying AI is already changing roles significantly.

To realise the full potential of advanced AI, leaders must then invest in and grow their people. In EMEA, one in three (35%) people have regularly worked with AI agents, signaling an opportunity to ensure employees are equipped with both the tools and training necessary to thrive alongside this technology. More good news, companies that invest in both technology and people are four times more likely to sustain profitable growth. The UAE is already executing this approach by expanding generative AI access for its population.

At the same time, leaders faced with commercial pricing pressures, demand shifts and regulatory changes can consider leveraging AI for dynamic pricing and scenario building to help make difficult decisions on what costs to absorb and what to pass on. With supply chains under strain, a quarter (25%) of executives have already begun their journey toward autonomy. Those that are reconfiguring their operations for resilience see a 62% decrease in response time, and they recover 60% quicker than conventional networks.

From endurance to long-term, profitable growth

As AI today becomes as ubiquitous as streetlights and steam engines became 100 years ago, preparing for the increased energy demand requires building agility into every layer of resilience. For high-performing companies, these moments of disruption are not just about endurance.

Instead, the leaders of tomorrow use change as a launchpad for growth and a way to establish a competitive edge over their peers that doesn't just withstand the future, but that helps reinvent it.

Thought Leadership

A CALL TO FUTUREPROOF GCC ENERGY SYSTEMS AS RISING DEMAND PRESSURES GRIDS

By **SANTIAGO BAÑALES**
Managing Director, **Iberdrola Innovation Middle East**, and CEO, **East-West Digital**

Artificial intelligence (AI) is transforming the energy sector twice over. It is radically transforming how energy systems are planned and operated while simultaneously being one of the fastest-growing sources of electricity demand.

In the Gulf where population growth, industrial expansion, AI adoption, and renewable integration are reshaping grids, the need for stronger and smarter systems is critical. Data centre capacity in the Middle East is projected to roughly triple between 2025 and 2030, adding new power needs and grid upgrades even as governments push to reduce emissions in supply. That combination makes grid strength, flexibility, and digitalisation an urgent priority, rather than a distant goal.

The rising appetite for energy in the Gulf

National plans such as Qatar National Vision 2030, Saudi Vision 2030, Bahrain 2030, UAE Vision 2031, Kuwait Vision 2035 and Oman Vision 2040 point to rapid digital and industrial growth. The Middle East data centre market is set to expand sharply by 2030, with demand from cooling tripling by 2030. Each of the region's upcoming developments such as Abu Dhabi's planned Sphere venue, Dubai's Al Maktoum International Airport, Qatar's

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"Land of Legends" district and Saudi Arabia's New Murabba and NEOM megacities with a multi-billion-dollar AI factory campus due by 2028 carry direct and indirect implications for electricity demand, grid adequacy, and clean energy supply.
Iberdrola is meeting rising digital demand with clean energy partnerships worldwide. In the Gulf, Iberdrola Innovation Middle East at Qatar Science and Technology Park tackles digital utility challenges across networks, renewables, and sophisticated energy users.
Since 2018, its workforce has grown sixfold, driving advances in smart grids, renewable integration, and customer solutions. A 2022 agreement with Invest Qatar strengthened this role, focusing on AI tools to reinforce grids, optimise networks, and boost efficiency. Solutions developed in Doha now feed directly into Iberdrola projects worldwide.

The impactful focus of East-West Digital

Building on this momentum, we launched East-West Digital in May 2025. Our work is centred on four product areas:

- ***Asset optimisation and maintenance.*** We build predictive tools that help energy infrastructure such as power plants and networks run more efficiently, with reduced downtime, and last longer.
- ***Grid planning and stability.*** We build tools to support network planning and regulatory needs, helping grid operators integrate higher shares of renewable energy by leveraging generative AI.
- ***Flexibility and distributed energy integration.*** We offer platforms for battery optimisation, smart charging, and vehicle-to-grid coordination to enable buildings and fleets to contribute back into the energy system.
- ***Smart buildings and sustainability management.*** We create tools that optimise energy use, cost, and comfort at the building level. Our goal is to expand our impact by addressing the critical Water-Energy-Food nexus, an issue of strategic importance for the GCC region.

Together, these form the backbone of future energy systems.

Santiago Bañales will appear on the panel, *Safeguarding energy security with AI*
Conference Room A
Wednesday, 5 November, 11:25 – 12:05

Book your Delegate Pass

SECTION 2

MEETING DEMAND IS KEY TO GLOBAL GROWTH

Framing Feature

FINDING A PRAGMATIC PATH FORWARD WITH INTELLIGENCE AND IMPACT

As demands on power grids reach all-time highs, leaders are looking to more intelligent systems, pragmatic approaches to sustainability, and collaboration

As artificial intelligence drives rapid industrial development throughout various sectors and emerging economies experience strong expansion, the world needs more energy than ever before.

Growth in data centres, digital infrastructure, and tens of millions of new factories and homes becoming operational from Asia to Africa means electricity production is at an all-time high in many areas of the planet.

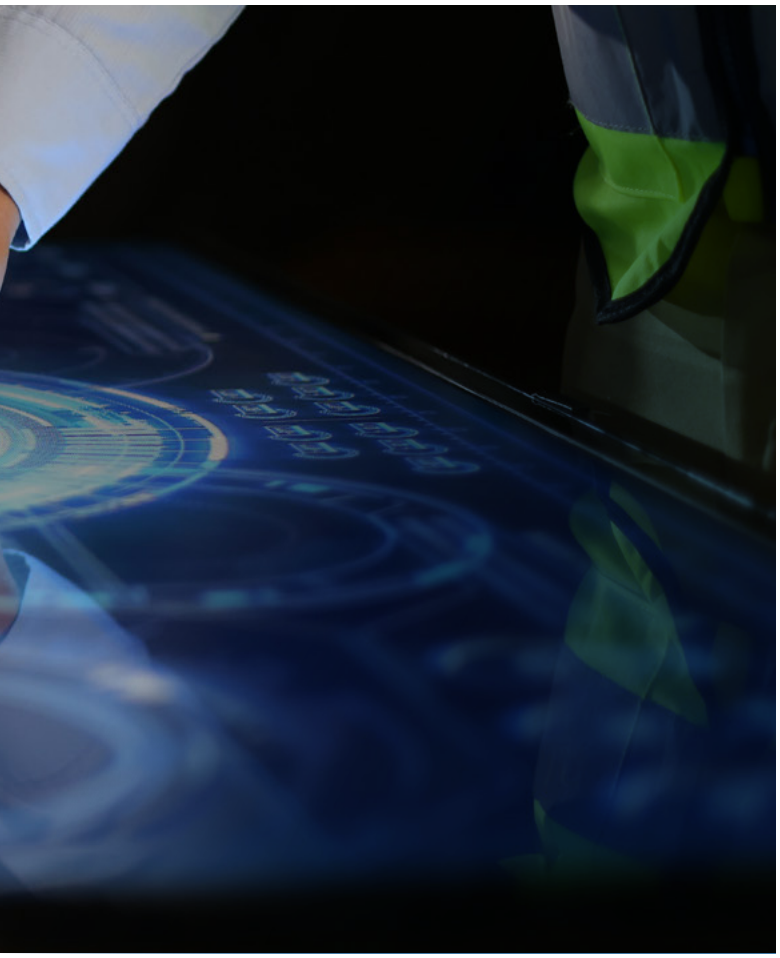
As for the world's grids, designed for a previous era, they are now being stressed by intermittent loads and the task of integrating renewables with dispatchable backup. Secure supply demands joint investment in automated controls, storage, and transmission.

The reality of unprecedented levels of urbanisation and industrialisation makes it crystal clear that the task is now one of adding lower-carbon capacity to existing systems that in turn must keep running.

All-time high

Data centre power demand has become the single largest contributor to electricity growth consumption, outpacing other markets and influencing generation mixes beyond traditional economies. Most recent statistics underscore the challenge.

Electricity demand in the United States is expected to reach a record of 4,187 billion kilowatt-hours this year - thanks to explosive growth in data centres fuelling



> Energy-hungry artificial intelligence is playing an increasingly key role - not only as a demand driver, but as an early solution for both developed and developing nations.

AI and digital service, the US Energy Information Administration said in its Short-Term Energy Outlook published in October.

In meantime, access to reliable power remains an underlying issue in developing economies and in particular in the so-called Global South. Per capita electricity consumption across Africa is expected to average just 1.1 to 1.3 megawatt-hours per year through mid-century - a fraction of the expected 4.8 to 8.3 megawatt-hours per person globally, depending on market and climate conditions.

Part of the solution

In this context, energy-hungry artificial intelligence is playing an increasingly key role - not only as a demand driver, but as an early solution for both developed and developing nations. The power industry is applying AI to optimise grid operation, predict equipment failure, and coping with fluctuations in real time. Data-driven systems are making it possible to match consumption and production more precisely, reducing waste and enhancing reliability. Some recent examples include artificial intelligence-enabled cooling technology for data centres, smarter demand prediction, and maximisation algorithms to tap the most energy at the network edge.

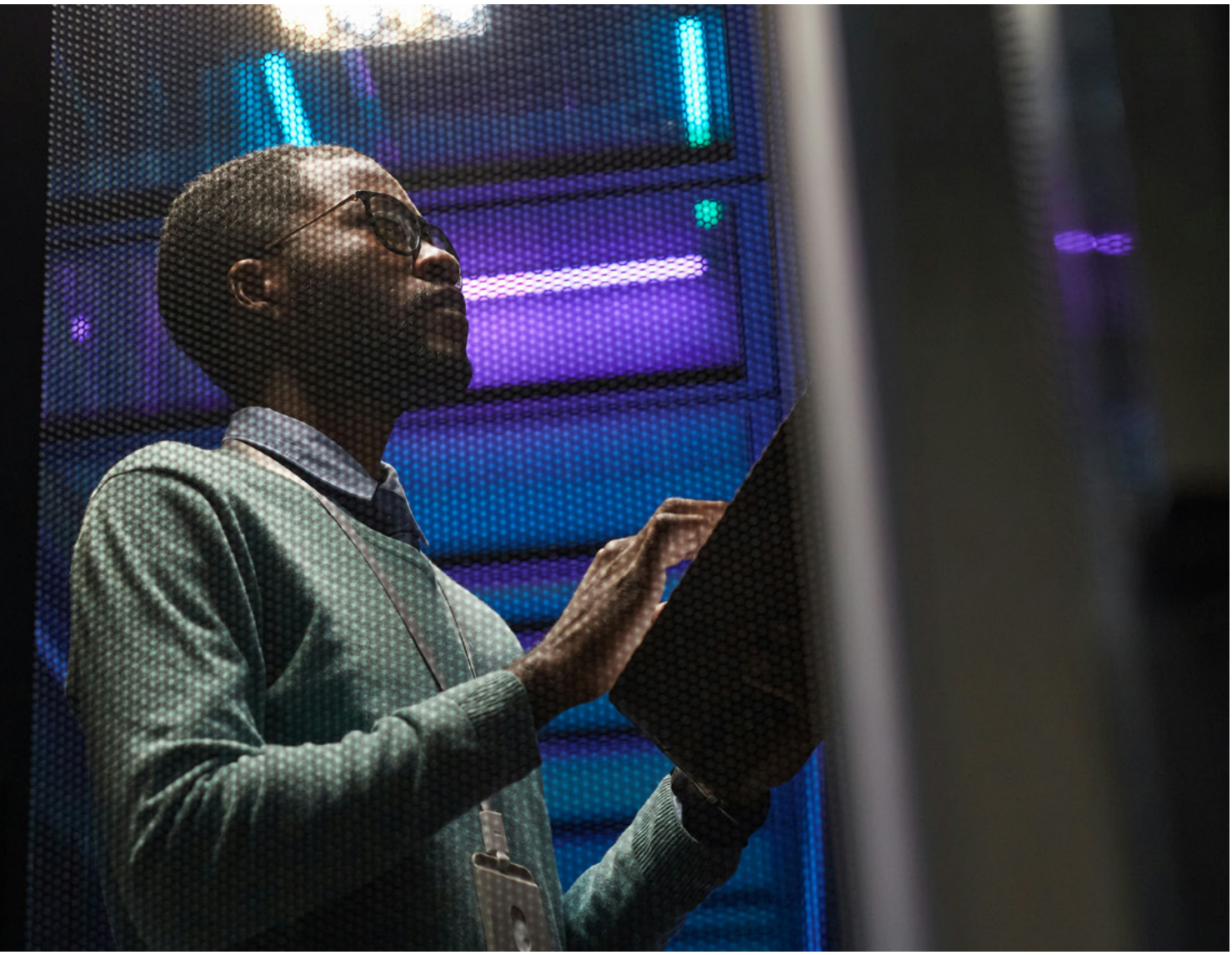
Of course, these answers are not without their issues: plugging AI into critical infrastructure requires up-front investment, technical belief, and ongoing surveillance for guaranteeing resilience and security.
Supply chains are another persistent problem. Electrification and clean tech's scale-up has also exposed vulnerabilities in the supply of minerals like copper, lithium, and rare earths.
These are no longer niche matters - they are strategic imperatives in the energy and tech sectors, affecting battery cost through to the scheduling of megascale clean power projects.

Eliminating bottlenecks

Regulatory and permitting bottlenecks continue to hinder progress, even as the sense of urgency increases. Years-long approval processes and alternative policy priorities can bring new capacity to a halt, undermining energy security and financiers' trust.
Policy changes to eliminate bottlenecks and accelerate investment are now promoted by most governments and industry leaders as a pillar of support for economic competitiveness and climate leadership.

Intelligence, pragmatism, and partnerships

To move forward, energy and technology companies, governments, and investors are coming together under three pillars. One is the intelligence imperative: using top-of-the-line analytics, automation, and forecasting systems to drive efficiencies where and how they can.
The second is a pragmatic approach to sustainability - marrying lower-carbon capability with legacy fuels, exploiting all available options from hydrogen to nuclear.
The third is collaboration: forming partnerships to co-invest, share knowledge, and share risk.
The challenge of balancing surging demand with the push for sustainability and economic growth remains. The energy sector is being tasked with forging a path that leverages intelligence not just for more consumption - but for smart, secure, and sustainable progress.



1.1–1.3

MWh per person

Average electricity consumption expected per person in Africa by mid-century, roughly one-quarter of the global average

Source: RFF

Thought Leadership

PROGRESS AT SCALE: THE JOURNEY TOWARDS A MORE RESILIENT ENERGY FUTURE

By **LORENZO SIMONELLI**
Chairman & CEO, **Baker Hughes**

The global energy landscape is constantly evolving, introducing a new phase of complexity that reinforces a fundamental truth: energy security and decarbonisation are not opposing goals. The future demands an inclusive approach to energy utilisation - one that drives affordability, security, and sustainability in equal measure.

As the world's largest energy exhibition and conference, ADIPEC plays a pivotal role in bringing together global leaders, innovators, and policymakers to address these complexities and advance dialogue on building a more resilient energy future.

Today, climate challenges, geopolitical uncertainties, and supply chain disruptions are placing increasing pressure on the energy industry.

Building resilient energy systems that can adapt to these disruptions while maintaining a reliable energy supply has become essential. This requires robust, flexible, and future-proof infrastructure that enables communities and economies to thrive.

To meet the world's growing energy demand, we must tap into all energy sources. Traditional sources, such as hydrocarbons, must continue to meet today's needs while becoming cleaner and more efficient. At the same time, we must accelerate the development and integration of renewables and champion new and emerging energy frontiers.

The world's demand for power is surging, driven by the rise of data centres, AI computing, and industrial digitalisation. In January 2024, the International Energy Agency (IEA) projected that electricity consumption from data centres, cryptocurrency, and artificial intelligence represented almost 2% of global demand in 2022 - and could double by 2026. While these innovations enable progress, they

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also require vast, reliable, and continuous energy supplies that are clean and efficient. Technologies that enable fuel flexibility, cogeneration, and electrification are vital to ensuring that the systems powering innovation remain resilient. Baker Hughes' advanced gas turbines, for instance, can operate with hydrogen blends - bridging today's energy needs with a lower-carbon future without compromising reliability.Technology remains the cornerstone of progress toward resilient, decarbonised energy systems. Unlocking both existing and breakthrough technologies that enhance efficiency and accelerate decarbonisation is essential. We must focus on innovations that harness all sources of energy, leverage digital solutions to maximise data's potential, and scale adoption of cleaner, more efficient industrial solutions across LNG, hydrogen, CCUS, geothermal, clean power, and mining.

Our digital tools and solutions, such as Cordant™ and Leucipa™, are helping customers drive automation, extend maintenance intervals, reduce downtime, and cut emissions - delivering both economic and environmental value while achieving lower carbon intensity in every molecule delivered.

Yet technology alone is not enough - policy must rise to meet the moment. Recent regulatory volatility has shown how uncertainty can derail critical investments in long-lead energy projects. The industry must advocate for stable, evidence-based policy frameworks that enable long-term infrastructure planning and rational investment. Effective policy should be technology-agnostic, performance-based, and designed to enable - not hinder - innovation. It must reduce barriers to permitting and deployment of new solutions, ensuring that progress moves at the pace the world demands.

Collaboration and partnership remain the essential pillars of progress. Now more than ever, we must expand how we build and leverage partnerships to influence policy, accelerate regulation, and transform commercial practices. These partnerships must extend across industries, governments, NGOs, financial institutions, academia, and technology providers.

Operating across more than 120 countries, Baker Hughes leverages deep local insight - understanding unique market requirements, customer needs, and regulatory contexts - to deliver tangible local impact. This includes developing region-specific solutions, investing in local talent, and ensuring innovation is scalable and inclusive.

ADIPEC represents a defining moment for the global energy community to convene and shape the energy future the world needs. The next decade will be defined by how we balance energy security with climate ambition to build a more resilient energy future. As we look ahead, three words capture Baker Hughes' outlook: Secure. Sustainable. Scalable.

Lorenzo Simonelli will appear on the panel, *The tech imperative: who leads the future of energy?*
ICC Hall A
Tuesday, 4 November, 10:20 – 11:00

Book your Delegate Pass

Thought Leadership

BUILDING AN INTELLIGENT AND SECURE ENERGY FUTURE THROUGH VISION AND INNOVATION

By **HIROSHI FUJII**
President & CEO, **JODCO**
Senior Executive Vice President, Europe & Middle East Projects, **INPEX Corporation**

The commitment to a stable, secure and intelligent energy supply globally is now more paramount than ever, especially as geopolitical shifts and rising global demand underscore the urgency of energy security. However, there is no single path to a sustainable future.

Commitment to stable and secure energy supply globally

The energy transition will likely follow distinct paths in different parts of the world, be it in the Middle East, Asia, Europe or the Americas. Each region needs to adopt a realistic approach tailored to its specific circumstances, such as the state of economic development, energy security concerns, and the growing demand for energy.

With a growing focus on energy security, at INPEX/JODCO, we are committed to supplying stable, sustainable and accessible energy to the global community – and in particular, the Japanese and Asian markets, by focusing on meeting the demand for oil and natural gas, leveraging geographical advantages and supporting decarbonisation through lower-carbon solutions such as CCS and hydrogen.

Realising a responsible energy transition

In February 2025, INPEX Corporation, the parent company of JODCO, announced its new long-term vision and mid-term business plan called INPEX Vision

> “Pragmatic pathways involve integrating existing oil and gas production facilities with CCS and effectively utilising lower-carbon solutions such as blue hydrogen and ammonia, in addition to tapping sustainable renewable energy sources.”

HIROSHI FUJII
President & CEO, **JODCO**
Senior Executive Vice President, Europe & Middle East Projects, **INPEX Corporation**

2035. The vision is based on three pillars, the first of which is the expansion of our upstream business, with a focus on natural gas and LNG.
The other two pillars consist of lower-carbon solutions leveraging CCS and hydrogen, and initiatives in non-oil and gas resources and power-related business fields. We will continue to focus on our core business of developing and producing crude oil and natural gas to maintain and expand a stable supply of energy and grow our business, while making it cleaner.

Minimising carbon intensity
More specifically, we have announced a 60-60 target for growth and decarbonisation, whereby we will grow our business scale by 60% by 2035 to further build on the expansion of our business in Abu Dhabi and in other parts of the world, while reducing net carbon intensity by 60% over the next 10 years, through CCS and other decarbonisation measures.
Over the next three years, we will prioritise safe and reliable operations while implementing cost reduction measures to improve profitability. For example, in Abu Dhabi we will work with ADNOC and our partners to contribute to stable production operations at the onshore concession and key offshore oil fields supported by efforts to minimise carbon intensity, while advancing development plans to expand production capacity.

New technologies for a low-carbon future
The paths to net zero vary across regions and require tailored measures. Pragmatic pathways involve integrating existing oil and gas production facilities with CCS and effectively utilising lower-carbon solutions such as blue hydrogen and ammonia, in addition to tapping sustainable renewable energy sources.
In addition to our efforts to minimise the carbon intensity of our projects in Abu Dhabi, we are involved in various such initiatives in different parts of the world, starting with the INPEX-operated Bonaparte CCS Project in Australia, which is expected to reduce two million tonnes per year of GHG emissions by 2030 at our flagship Ichthys LNG project; the Abadi LNG Project in Indonesia, where FEED work recently commenced and which will incorporate a CCS component that will capture 100% of native CO2 from the reservoir; and the Kashiwazaki Hydrogen Park in Japan, a rare example of an integrated hydrogen and ammonia value chain from production to utilisation that came on stream earlier this year.

Energy, intelligence and impact
At INPEX/JODCO, we seek to integrate our technologies and expertise with capabilities developed through research and development to gain competitive advantages in our existing businesses, while developing new ones. To this end, energy, intelligence and impact are all keywords that exemplify our striving for performance and growth.

Thought Leadership

THE EVOLVING ENERGY MIX AND THE TECHNOLOGIES POWERING PROGRESS

Innovation has always been the lifeblood of the energy industry, enabling us to solve the most complex challenges in the harshest environments.

Today, as the industry undergoes unprecedented transformation, innovation is more important than ever, not just in creating new technologies, but in reimagining how we work, connect, and deliver results. At ADIPEC 2025, Weatherford International is highlighting how breakthroughs in digitalisation, automation, and advanced oilfield technologies are redefining performance and unlocking new opportunities across the global energy ecosystem.

Girish Saligram, Weatherford's President and Chief Executive Officer, shares his perspective on the future of the energy mix, the trends and technologies driving progress, recent company milestones, and why innovation will be front and centre at ADIPEC.

In the push toward a more sustainable energy future, how do you see the global energy mix evolving?

We see the global energy mix evolving toward an all-in additive model, one that prioritises efficiency, sustainability, and lower-carbon solutions while continuing to meet the world's growing demand for reliable energy through oil and gas technology. Our role is to help our customers drive that by delivering technologies and digital solutions that make operations smarter, safer, and more sustainable.

At Weatherford, this means advancing the performance of traditional energy systems while also enabling operators to integrate digital intelligence into every stage of the well lifecycle. It is not about replacing one energy source with

"We see the global energy mix evolving toward an all-in additive model, one that prioritises efficiency, sustainability, and lower-carbon solutions while continuing to meet the world's growing demand for reliable energy through oil and gas technology."

Girish Saligram
President and Chief Executive Officer, **Weatherford**

What trends or technologies are helping transform the global energy industry from your perspective?

Digitalisation and automation are at the forefront of change in our industry. At Weatherford, we are embedding cloud-based platforms, real-time data, and artificial intelligence into everything we do. Combined with innovations in paradigms like our Managed Pressure Wells systems, these technologies are enabling our customers to improve performance, reduce risk, and lower environmental impact.

The acceleration of digital adoption is particularly significant. By making data accessible and actionable, we help customers predict and prevent operational challenges, reduce downtime, and enhance efficiency. In parallel, automation enables safer operations by reducing human exposure in high-risk environments. Together, these capabilities are redefining the way energy is produced and managed globally.

How does this year's ADIPEC theme of Energy. Intelligence. Impact. resonate with you?

ADIPEC is one of the most important platforms for the global energy industry, and it's an essential event for us. It allows us to showcase our latest innovations, connect with customers and partners, and engage in the critical conversations shaping the future of energy. This year, we look forward to highlighting how Weatherford is driving progress through digitalisation and technology innovation.

Beyond showcasing solutions, ADIPEC is about collaboration. It is an opportunity to listen to our customers, exchange insights with peers, and explore new partnerships that can accelerate industry transformation. For Weatherford, ADIPEC is more than an exhibition, it is a catalyst for shaping the future of the global energy ecosystem.

Weatherford enters ADIPEC 2025 with a clear focus on innovation as the engine of progress. From embedding digital intelligence at the edge, to deploying next generation drilling systems, to forging strategic partnerships that accelerate technology development, the company is proving that innovation is not a one-time breakthrough but an ongoing cycle of transformation. By combining ingenuity with proven expertise, Weatherford is helping its customers push boundaries, unlock efficiencies, and shape the next era of energy.

Thought Leadership

BUILDING A RESILIENT ENERGY SYSTEM FIT FOR THE FUTURE

Siemens Energy discusses renewables, gas-fired power and a "hybrid energy system" ahead of ADIPEC 2025.

How do you see the global energy mix evolving in the push towards a more sustainable energy future?

Global electricity demand is on a steep upward trajectory - doubling by mid-century, by most estimates. With renewables' volatility posing greater supply challenges, gas-fired power remains a critical part of the equation; on average, for every 3-4GW of renewables, at least 1GW of dispatchable capacity is needed to stabilise the grid.

Attention is also returning to nuclear power, with over 50 countries now including it in their national energy strategies.

The UK aims to deliver up to 24GW by 2050, while China is targeting 150 new reactors by 2035.

In 2024, the UAE's Barakah Nuclear Energy Plant reached full capacity, supplying up to 25% of the country's electricity in record time.

From your perspective, what do you see as the trends or technologies helping to transform the global energy industry?

The rise of AI and cloud computing is transforming electricity demand. Data centres alone are expected to consume about 1,000 terawatt-hours globally

"Global electricity demand is on a steep upward trajectory - doubling by mid-century, by most estimates. With renewables' volatility posing greater supply challenges, gas-fired power remains a critical part of the equation."

KARIM AMIN
Executive Board Member,
Siemens Energy

by 2030; that's approximately 3.2% of total global electricity demand in 2024, according to the IEA.
These facilities need uninterrupted power, driving innovation in on-site generation, storage, and microgrid design.
Earlier this year, we partnered with Rolls-Royce's Small Modular Reactors (SMRs) to supply power generation technology for the firm's SMRs and help bring these next-generation reactors to market.
HVDC systems, grid-forming inverters, and automated controls are becoming essential to manage high renewable penetration, while gas turbines are being redesigned for higher efficiency, carbon capture and hydrogen blending. Siemens Energy aims to have its key gas turbine frames capable of burning 100% hydrogen by 2030.

What recent Siemens Energy projects and milestones can you highlight?
Siemens Energy recently recorded a milestone quarter, with an order intake of EUR 16.6 billion, the highest ever in our five-year history.
Our Gas Services business area sold 86 gas turbines spanning a broad range of power outputs - again, the highest quarterly result ever since the spin-off of Siemens Energy.
Notably, in the United States, data centre customers have accounted for 65% of the 14GW in gas turbine orders placed so far this fiscal year.
We've recently joined forces globally with Eaton to foster faster power supply for data centres, integrating medium-size gas turbines with battery storage.
In Saudi Arabia, we are delivering over 7.6GW of new gas-fired capacity with our largest gas turbine frame - the 9000HL - across several major projects, including Taiba 2, Qassim 2, Rumah 2, and Nairyah 2.
In the UAE, we are working with ENGIE, TAQA, Sumitomo, and EWEC to convert the Shuweihat S1 plant from a cogeneration power and water desalination facility into a power-only plant.
This will decouple the steady operation for water production from the gas turbines, which will be dispatched only when needed.
Starting in 2027, Shuweihat S1 will provide 1.1GW of flexible reserve supply, supporting the increased integration of renewable and clean energy sources into the national grid.

Is it important to be part of conversations such as those during ADIPEC?
ADIPEC is one of the few global platforms that brings energy producers, policymakers, innovators, and financiers to the same table.
The event provides an opportunity to engage with partners across the Middle East and beyond, share our global experience from different regions, discuss what is needed on the ground, and advance practical, flexible solutions.

Thought Leadership

THE CONNECTED INTELLIGENCE NEEDED TO DRIVE THE ENERGY 'EVOLUTION'

By **SIMON FLOWERS**
Chairman & Chief Analyst, **Wood Mackenzie**

What began as a straightforward transition narrative with renewables replacing fossil fuels, has evolved into an energy system which spans 250 emerging technologies across multiple interconnected value chains.

Despite record renewable capacity additions and electric vehicle growth, oil demand will climb from 104 million barrels daily this year, with the continued resilience for oil stemming from heightened energy security concerns, Western discomfort with Chinese cleantech dominance, and a staggering US$3.5 trillion annual investment shortfall for low-carbon infrastructure.

Anticipating the looming supply crunch

The development of commodity markets, such as low-carbon hydrogen and carbon trading, is likely to see rapid growth in the 2030s and beyond. Critical minerals essential for electrification, particularly copper and lithium, face prolonged demand.

Sustained investment across supply-related sectors will be crucial to meet future demand. This

> "What we are witnessing is an 'energy evolution' that will play out gradually and which has already led to an energy mix that is far more diverse than it was at the start of the 21st century. With billions hanging in the balance and global energy security at stake, companies that thrive will navigate complexity through an interconnected view of the energy landscape."

SIMON FLOWERS
Chairman & Chief Analyst, **Wood Mackenzie**

varies from US$72 trillion in Wood Mackenzie's delayed energy transition scenario (DETS), a 3°C pathway, to US$78 trillion in our base case 2.5°C pathway, and US$117 trillion if net zero by 2050 is achieved.

The emergence of complex dynamics
Green hydrogen projects compete with data centres for renewable electricity. Critical mineral shortages ripple through automotive and storage sectors. European companies must maintain decarbonisation momentum amid economic pressures and amid aggressive diversification strategies, US policy reversals, and Chinese competition.

Why intelligence is imperative
Comprehensive scenario analysis requires months to synthesise data across business units. Many companies still operate with siloed thinking, analysing individual market segments without understanding how they interact, influence each other, and respond to external pressures as a unified system.
Renewable, grid and storage investment jumped from US$755 billion in 2015 to US$1.027 trillion in 2023, while thermal investment fell from US$134 billion to US$106 billion.

The need for evolution rather than revolution
As energy demand continues to grow, the world will need to increase supply each year. Low-carbon technologies add another string to the systemic bow, enriching the mix. What we are witnessing is an 'energy evolution' that will play out gradually and which has already led to an energy mix that is far more diverse than it was at the start of the 21st century. Companies positioning themselves for success recognise that traditional sector-focused analysis cannot navigate today's complexity. When every decision carries significant implications for investment returns and business performance, the ability to see and respond to the full picture becomes critical for survival. When supply chains span continents and regulations shift rapidly, integrated intelligence becomes essential.

The survival imperative
Political pressures, technological advances, economic volatility and environmental imperatives continue to reshape market dynamics at unprecedented pace. With billions hanging in the balance and global energy security at stake, companies that thrive will navigate complexity through an interconnected view of the energy landscape.

SECTION 3

INTELLIGENCE IN ENERGY FOR AN EQUITABLE PATHWAY

Framing Feature

ENERGY EVOLUTION: ACCELERATING TECHNOLOGY DEPLOYMENT FOR A SECURE ENERGY FUTURE

As the world races to decarbonise, the rapid deployment of next-generation technologies is redefining how we produce, store, and secure our energy - shaping a cleaner, more resilient future for all

AI-powered sensors now work deep within desert sands, digital twins inform operational planning from Europe to East Asia, and cross-border cooperation quietly improves global energy systems.

It is about ensuring energy security amid volatility and achieving rapid sustainability targets for a lower-carbon future. For years, these goals were often seen as a trade-off, but that framework is now evolving.

In a world of rising energy demand, diversifying systems, and accelerating intelligence, security and sustainability have become mutually reinforcing goals, bridged by the power of technology.

Increasing demand

Most recent statistics from the International Energy Agency's Global Energy Review 2025, substantiate the increasing pace of change in the world of energy. Global demand for energy increased by 2.2% in the previous year - the most in a decade. And this is driven by demographic

> Technologies including AI and machine learning up to the Internet of Things (IoT) are transforming how energy is produced, managed, consumed and even regulated.

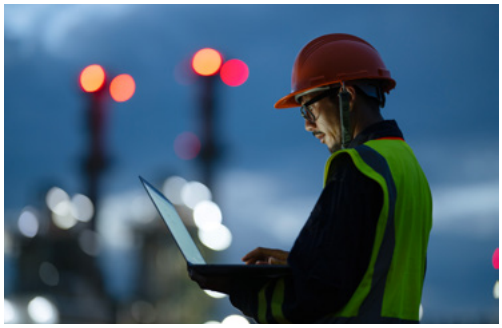
expansion and the rise of major economies, as well as by digitalisation and expansion of energy-gobbling industries. In such scenarios the conversation is increasingly focusing on energy evolution - giving more energy, in a more sustainable manner, to power global advancement.

As renewables rise, the market share of oil continues to be critical for transport, petrochemicals, and industrial expansion and all forms of energy are being considered for a secure future, among them lower carbon molecules of hydrocarbons.

This revolution is not only changing what sources are being deployed, but how energy systems are designed and operated - preparing the ground for a wave of innovation that's redefining industry standards.

Measurable impact

Like never before in human history, innovation seems to have moved from theory to practice, unlocking measurable impact. Technologies including AI and machine learning up to the Internet of Things (IoT) are transforming how energy is produced, managed, consumed and even regulated, with new levels of efficiency and operational best practices being unleashed.



ADNOC applies AI with ENERGY[ai] to transform seismic interpretation and reservoir modelling, SLB's Delfi digital platform provides customers with enhanced cognitive capacities, State Grid Shaanxi collaborates with Huawei to build smart distribution grids, and General Electric leverages digital twins to optimise critical power generation assets.
Predictive maintenance saves 20% of downtime and 10% of costs, and digital simulations increase infrastructure resilience by simulating extreme events, including cyberattacks.

Cybersecurity imperative

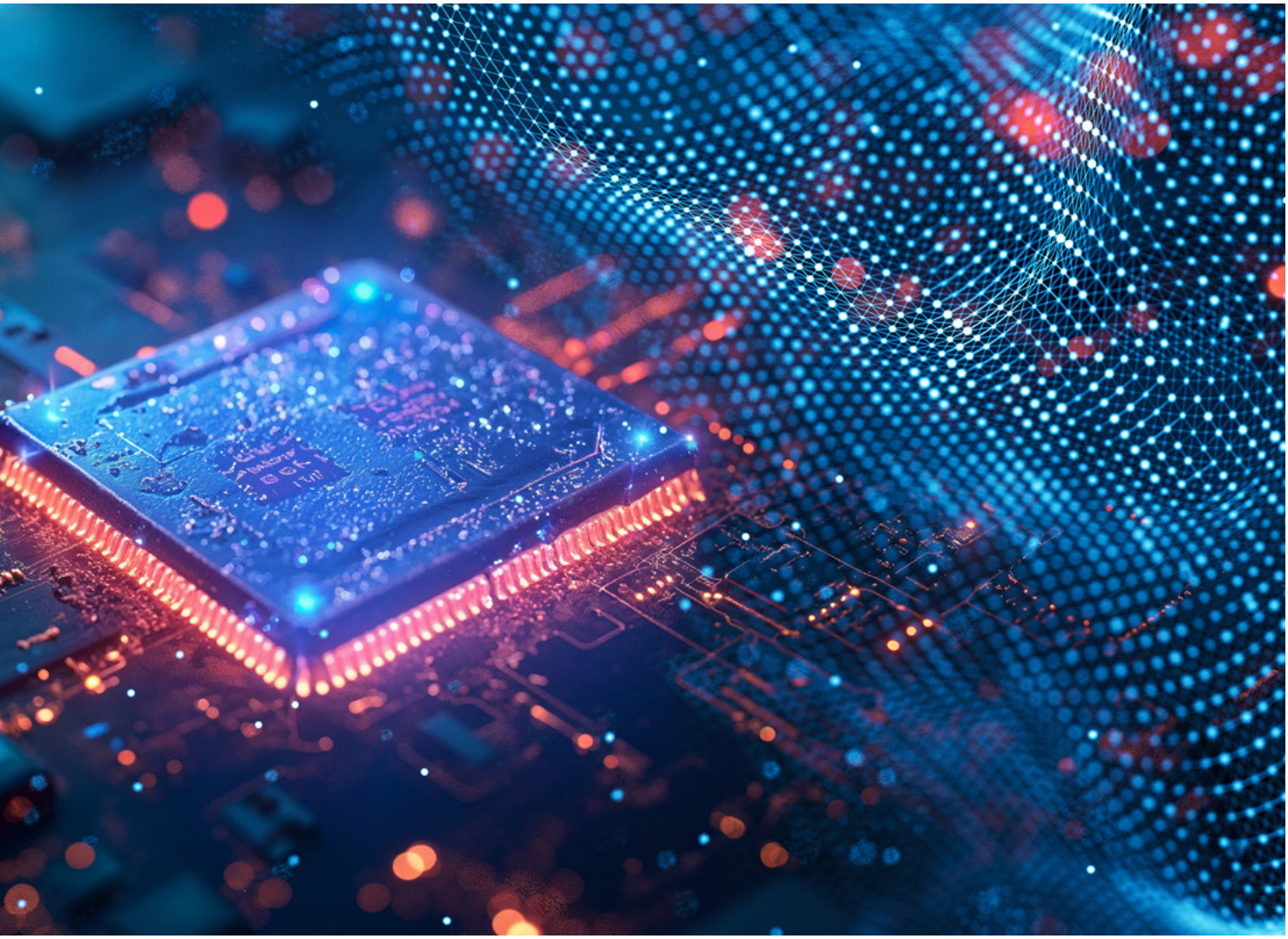
Digitalisation also brings new vulnerabilities. As energy systems become more interconnected, they in fact expose themselves to threats like breaches, malware, and other sophisticated assaults on a new scale. And installing good cybersecurity is not just a technological requirement but a strategic one for any power infrastructure.
Operational continuity and supply security now depend on both physical assets and sophisticated digital defense whose spending in oil and gas is seen increasing at double-digit rates, according to the World Economic Forum.

Resilience optimisation

Resilience, once linked to giant centralised schemes, is also evolving. Distributed methods such as microgrids, modular infrastructure, and advanced storage augment traditional oil and gas assets to take shocks and provide system flexibility.
Based on multiple scenario pathways, the “S&P Global Commodity Insights, Beyond the Energy Transition: Reimagined Energy Scenarios for an Evolving World,” projects that oil and gas will account for more than half of the global energy mix out to mid-century, as new fuels and systems increasingly gain market penetration.

Adaptation opportunity

As the energy sector pivots toward low-carbon targets, hydrogen costs are hitting US$1 per kilogramme and pipeline capacity for carbon capture, utilisation, and storage (CCUS) is increasing at 40% annually.
Technology is remaking old assets as part of a greener future instead of taking them out of commission.
Heavy industry, maritime shipping, and air transport are leading the charge. The IEA urges development in low-carbon hydrogen as well as bulk-scale CCUS with



the major project debuts, especially in the Middle East and Asia.

Integration, not exclusion

Shaping the future of the dynamic energy industry is a question of integration and enhancement - not exclusion. Incremental, synchronised progress - producing more and improved energy while responding to the demands of the generations ahead - is the way forward through continued dialogue and proven case studies. ADIPEC 2025 is the ideal forum to spur realistic solutions to energy security and sustainability, gathering the industry's foremost minds and most adventurous innovations at a turning point for the sector.

Global energy demand grew by

2.2%

in 2024, the largest increase in over a decade.

Source: International Energy Agency

Thought Leadership

STRIKING A BALANCE WITHIN SHIFTING ENERGY INDUSTRY DYNAMICS

In the push towards a more sustainable energy future, how do you see the global energy mix evolving?

Despite geopolitical shifts and diverse policy approaches, the underlying trend towards decarbonisation remains strong. Investments in clean technology remain robust and new carbon pricing mechanisms, emissions and disclosure standards are being implemented across the world.
Ultimately, the global energy mix continues to evolve and diversify, incorporating a wide range of lower carbon energy sources. This is currently primarily driven by the need to meet rising energy demand and ensure energy security, while also addressing the need to decarbonise in response to climate change.
PETRONAS is committed to executing our Energy Transition Strategy, which seeks to strike a balance between energy security, affordability and sustainability. We will continue to invest in our core business of oil and gas to provide more energy with less emissions. This will support our decarbonisation efforts in line with our target of net zero carbon emissions by 2050.

What trends or technologies are helping transform the global energy industry from your perspective?
The increasing use of AI is a significant factor driving the global demand for data centres, which in turn leads to higher energy consumption. AI has the potential

> “AI has the potential to advance cleaner, more efficient and more resilient energy infrastructure, including both existing oil and gas operations and the integration of renewable energy into electricity grids.”

CHARLOTTE WOLFF-BYE
Vice President and Group Chief Sustainability Officer, **PETRONAS**

to advance cleaner, more efficient and more resilient energy infrastructure, including both existing oil and gas operations and the integration of renewable energy into electricity grids. We have several use cases for AI, many of which are being driven by our AI Centre of Excellence which governs and scales our AI capabilities as well as strengthens implementation oversight and promotes responsible use.

Could you share some recent projects and milestones of your company?
We've launched the second edition of the ASEAN Energy Sector Methane Leadership Programme with our partners. This initiative has become a leading platform for driving methane emissions reduction, fostering knowledge exchange, policy alignment and technology deployment. PETRONAS is partnering with the Japan Organisation for Metals and Energy Security to establish the Southeast Asia Methane Emissions Technology Evaluation Centre here in Malaysia.
Another important initiative is the PETRONAS Supplier Support Programme, launched in 2024 to equip Malaysia's Oil and Gas Services and Equipment sector, particularly SMEs, with sustainability capabilities, promote disclosures and enable access to financing to remain competitive in a low-carbon future. To date, close to 500 businesses have enrolled in the programme.
In June, PETRONAS, together with partners, organised the inaugural Energy and Nature Forum in Kuala Lumpur, Malaysia, in conjunction with Energy Asia, which advanced the discussion on complexities and opportunities at the intersection of energy and nature.

How important is it for your company to be at ADIPEC 2025, and what are you looking forward to this year?
Every year, ADIPEC anticipates and addresses the most strategic and pressing topics by convening relevant industry leaders, experts, and policymakers from multiple sectors. PETRONAS is excited to share our progress, exchange innovative ideas and deepen collaborations. We warmly invite all visitors to pay a visit to our exhibition pavilion.

Charlotte Wolff-Bye will appear on the panel, *Methane reduction in a divided regulatory landscape: what it means for decarbonisation*
Conference Room A
Tuesday, 4 November, 14:35 - 15:20

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Thought Leadership

IMPACT CHAMPION

ELECTRIFICATION AND DIGITALISATION AS PATHWAYS TO DECARBONISATION

By **AMEL CHADLI**
President of Gulf Countries, **Schneider Electric**

The global energy landscape is defined by a profound dual imperative: to meet ever-growing energy demand, while urgently accelerating the transition to a low-carbon future. Today, through the lens of innovation and a collaborative spirit, both goals are fundamentally intertwined.

The ADIPEC 2025 theme of "Energy. Intelligence. Impact." powerfully captures this new reality, highlighting that a secure energy future is built on a foundation of technology and partnership. ADNOC has positioned itself at the forefront of this transformation, by setting ambitious net-zero targets and declaring its intention to become a global leader in the use of AI.

This is an ambition that is needed industry-wide, and a transformation that will be accelerated by integrated automation and electrification solutions with open, software-defined architecture. To achieve this, we must overcome significant hurdles, from the financial risks of new capital projects to the operational complexities of integrating intermittent renewable energy.

For hard-to-abate industries such as chemicals, oil and gas, mining and steel, the path forward is a strategic journey focused on profitability and sustainability, enabled by digitalisation and electrification.

> "Schneider Electric's role is to provide the digital tools and platforms that empower local partners to meet global standards of quality and efficiency. This creates a virtuous cycle of innovation and, in turn, helps to develop the skilled talent required to operate these sophisticated systems."

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President of Gulf Countries,
Schneider Electric

The solution lies in harnessing advanced technologies - like Schneider Electric's EcoStruxure Automation Expert (EAE) - to make smarter, more informed decisions at every level of industrial operations. This begins with AI, which has evolved from a futuristic concept to a fundamental tool for unlocking operational value. Our next-generation, AI-powered Energy Management Systems (EMS) provide the practical intelligence that extends a company's vision from the executive suite to the operational floor. These systems continuously monitor and optimise a diverse array of energy resources, including solar, wind, battery energy storage systems, and the grid. By balancing user-defined priorities like cost or carbon content, they turn real-time data into a decisive operational advantage. This helps energy-intensive processes run on the cleanest and most efficient power available, boosting both profits and progress toward decarbonisation.
While digitalisation provides this intelligence, electrification is the most direct and effective pathway to decarbonisation. In 2024, 60% of industrial processes requiring heat could have been electrified with available technology; by 2035, 90% of these processes could be electrified with existing and under-development technologies. For hard-to-abate sectors, this is a paradigm shift. By replacing traditional gas-fired engines with electric motors, companies can achieve a near-100% reduction in direct emissions.

For capital-intensive projects like new gas and LNG facilities, an integrated approach is not a luxury, it is a necessity. Digital twins, which can unify power and process design, are crucial tools for de-risking these massive investments. By enabling the dynamic modelling and simulation of complex operating scenarios before ground is even broken, this technology allows for the optimisation of design, the reduction of engineering costs, and the assurance that new facilities are built for maximum efficiency and reliability from day one. This proactive approach can lead to significant value, with some projects achieving up to a 10% reduction in CAPEX.
Many initiatives across the Middle East and Africa are focused on building a resilient and technologically-advanced industrial base. Schneider Electric's role is to provide the digital tools and platforms that empower local partners to meet global standards of quality and efficiency. This creates a virtuous cycle of innovation and, in turn, helps to develop the skilled talent required to operate these sophisticated systems.
As ADIPEC brings together the world's energy innovators, the conversation must focus on how to translate ambition into action. Schneider Electric stands as a strategic partner, providing the technologies needed to secure the energy of today and create a lasting impact for tomorrow.

Thought Leadership

TAKING INDUSTRIAL METAVERSE AND AI POTENCY ACROSS THE OIL AND GAS SECTOR

In this Q&A, the Siemens executive explains how the company helps oil and gas firms adopt AI, digital twins, and automation to boost efficiency, cut risk, and maximise ROI through scalable, strategy-led transformation.

As AI rapidly advances in the oil and gas segment, how should organisations embarking on their AI journey ensure they invest in the technology with purpose and long-term ROI in mind?
AI has the potential to transform oil and gas, but success depends on starting with the right strategy.
The key is to partner with a technology provider who understands your business challenges. At Siemens, we bring decades of industry expertise and a financially grounded approach to AI investments. We help customers evaluate their current landscape, align digital transformation with business goals, and deploy AI in areas that improve operational efficiency, accelerate ROI, and enable resiliency in volatile conditions.

Why is data ontology fundamental to maximising AI's value in energy? And how does does your company help others to build this digital backbone?
In oil and gas, data comes from engineering, operations, compliance, safety, and procurement.
We help customers build this structure across systems so they can feed clean, contextual data into their digital twins and AI engines, which avoids AI hallucinations and ensures better predictions, better decisions, and better outcomes.

> "We work with companies to develop comprehensive and powerful digital twins that serve as the foundation for immersive design, predictive maintenance, and remote operations as key pillars of the industrial metaverse."

JOHN NIXON
Vice President, Global Strategy - Process Industries, **Siemens Digital Industries Software**

How can AI be applied to reimagine requirements management to accelerate project timelines, improve compliance, and reduce change orders?
We've invested in Polarion AI Tender Manager, which uses AI to automate requirements extraction and classification, streamline documentation, and enable a single source of truth across the project lifecycle.
One recent example is Shell, who presented a case study on how they use Polarion AI Tender Manager software in their capital projects to manage functional and design requirements across the entire project lifecycle.
With a model-based systems engineering approach, they've embedded requirements early, validated them continuously, and reduced risk by aligning project execution with evolving standards and compliance needs.

As numerous companies explore what the industrial metaverse means for them, what is a practical initial step and how do digital twins drive that transformation?
The best place to start is with your digital twin - a real-time virtual replica of a physical asset or system which evolves as the asset does. When done right, it allows operators, engineers, and technicians to simulate scenarios, run diagnostics, and optimise performance without touching the asset itself.
At Siemens, we work with companies to develop comprehensive and powerful digital twins that serve as the foundation for immersive design, predictive maintenance, and remote operations as key pillars of the industrial metaverse.

Amid increased skepticism around AI hype in energy, what is your message for executives seeking to rise beyond the noise and deliver tangible results from digital investments?
My advice is simple: focus on financial optimisation.
For instance, with Polarion AI Tender Manager, we've helped customers reduce bid cycle times by up to 25% - not because it's flashy, but because it eliminates manual processes and aligns teams faster. The most impactful AI is often the most practical, and just works really well for the day to day mundane tasks.

Siemens assists both major and smaller operators in oil and gas to adopt AI and digital twin technology, regardless of budget or scale. Please tell us how.
Digitalisation shouldn't be reserved for the largest players. Siemens meets you where you are with scalable solutions that support your cash preservation goals and digital maturity journey supporting you along the way.
Tools like Siemens Xcelerator and Polarion AI Tender Manager are designed to scale from early digital adapters to full-scale enterprise transformation.
We support phased investments, cloud-based deployments, and modular adoption, so that any operator can access the benefits of AI, automation, and digital twins regardless of size or capital constraints.

Thought Leadership

HOW COLLECTIVE ACTION CAN HELP ENABLE A NET-ZERO FUTURE FOR ALL

By **BRIAN SULLIVAN**
CEO, **Ipieca**

The journey to net-zero emissions (NZE) does not have a unique solution - there are multiple pathways and combinations of technologies. However, science-based pathways to NZE that also ensure "access to affordable, reliable, sustainable and modern energy for all" (United Nations' SDG 7) all include oil and gas as part of the energy mix for the foreseeable future.

NZE and the oil and gas sector

Given the challenges posed by regional differences, the need to balance energy affordability, reliability and sustainability (the 'energy trilemma') and other factors, oil and gas is expected to continue to play an important role in meeting global energy demand on the way to NZE.

The industry is responding to the challenge of transforming the global energy system through decarbonisation and by responding to increased demand for decarbonised energy products.

Reflecting this need, many operators have made NZE commitments regarding Scope 1 and 2 emissions. A range of measures are readily available and adopted within the industry, including:

- Efficiency improvements in operations
- Elimination of routine flaring, and minimisation of methane emissions

"The industry is responding to the challenge of transforming the global energy system through decarbonisation and by responding to increased demand for decarbonised energy products."

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CEO, **Ipieca**

- Carbon, capture and storage (CCS)
- Deployment of renewable power

Electrification and evolving consumption will drive increased demand for low-carbon electrons. However, some sectors are more challenging to electrify, including long-haul transport, petrochemicals, cement, steel, mining, marine transport, and aviation. Customers in these sectors are expected to drive increased demand for low-carbon molecules like hydrogen or biofuels. CCS is a key lever in supporting both production of low-carbon electrons (e.g. gas fired power generation with CCS) and low-carbon molecules (e.g. low-carbon intensity hydrogen).

The importance of CCS and hydrogen
For large-scale, cost-effective mitigation and stabilisation of atmospheric CO2, CCS is a critical technology.
The oil and gas industry is currently working to develop CCS technologies and projects and, of the 50 projects in operation today, the majority are related to enhanced oil recovery, while others are pure geologic storage projects.
Hydrogen combustion can produce the high-quality heat necessary for numerous industrial processes. Low-carbon hydrogen can carry and store energy across major sectors (electricity, industry, transportation and buildings). It can eventually be an enabler of the growth of renewable hydrogen through the repurposing and reuse of the existing gas infrastructure and distribution network.

The role of IPIECA in the net-zero journey
As a non-lobby association, IPIECA convenes members and stakeholders to advance a shared industry response to the energy transition in the context of sustainable development. Such collective action is critical to enabling the industry to develop the new value chains and products necessary to deliver the aims of the Paris Agreement while also protecting and enhancing nature and advancing the social and economic development of communities and countries. IPIECA provides a unique platform for our industry to work towards a NZE future in support of the Paris Agreement.

Brian Sullivan will appear on the panel, *Methane reduction in a divided regulatory landscape: what it means for decarbonisation*
Conference Room A
Tuesday, 4 November, 14:35 - 15:20

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Thought Leadership

COMPANIES MUST PREPARE FOR A RANGE OF OUTCOMES AMID SHIFTING COST DYNAMICS

By **ALEX DOLYA** & **JAIME RUIZ CABRERO**
Managing Director and Senior Partner, **BCG**

The dynamics of supply chain costs in upstream oil and gas are changing, with sharp acceleration over the last five years.

Inflationary pressures remain, fuelled by production growth, geopolitical risks, and shortages in key categories. Even where cost pressures may moderate, capacity constraints continue to define the supplier landscape. Many have structurally underinvested in new capacity for reasons including high capital costs, a mismatch between investment payback horizons and short-cycle contracting, and oil's uncertain outlook in the energy transition.

Oil and gas companies also face increased margin pressure from other cost drivers. As the share of mature and marginal oil fields in operators' portfolios increases, the cost of production will rise. And as companies align to sustainability objectives and local content requirements, associated compliance investments are also expected to increase.

Yet, there are some emerging signs of stabilisation, including a plateauing of capital expenditure increases, falling commodity input costs, and a rebalancing of regional demand.

Operators must prepare for a range of outcomes, with potentially escalating pressures in some categories and an easing in others.

> "As the share of mature and marginal oil fields in operators' portfolios increases, the cost of production will rise. And as companies align to sustainability objectives and local content requirements, associated compliance investments are also expected to increase."

Three actions to unlock value through strategic procurement:

1. Secure a competitive supply of critical at-risk categories

Six critical categories face significant risk of short supply:

ALEX DOLYA &
JAIME RUIZ CABRERO
Managing Director and
Senior Partner, **BCG**

drilling rigs, well services, subsea equipment, offshore installation vessels, some offshore support vessels, and EPC fabrication services. Procurement functions should rapidly:

- Harness intelligence-driven decision making to assess demand and supply dynamics, and strategically advise internal stakeholders on how to optimise demand schedules or lock in supply and prices
- Leverage strong relationships with suppliers in critical categories, and initiatives like joint capacity planning, collaborative design optimisation, and rights of first refusal
- Consider vertical integration and alliances, from acquisitions to geographically based "buyer clubs", to overcome shortages and ensure long-term supply security
- Enable data-driven vendor development programs (VDPs), helping key local suppliers to achieve a minimum efficient scale of operations, benefit from technology transfer, and invest in workforce capabilities
- Establish differentiated agile procurement processes, tailoring distinct sourcing processes to different scenarios, e.g., standard, fast-tracked, or innovation-driven

2. Reframe value creation through value engineering
Most procurement functions focus on creating value using commercial levers, like bundling parts and services, to drive economies of scale and competition. However, this accounts for only 20% of value creation. The remaining 80% comes from optimising demand and using technical levers, requiring procurement to:

- Foster business partnering for demand management, building the deep category expertise and market intelligence needed to get involved early and help shape business demand and requirements
- Create value from design, helping to unlock technical levers like avoiding gold plating, adopting greater standardisation, and using a lifecycle approach to cost through design-to-value techniques
- Encourage and harness supply chain innovation, leveraging their relationships with innovative suppliers, e.g., by replacing prescriptive design specifications with functional requirements

3. Leverage the transformative power of AI and GenAI
AI offers significant value creation opportunities. Companies can leverage this technology in three ways:

- Unlock productivity gains, recognising that approximately three-quarters of procurement and supply chain activities can be automated or enhanced using AI and GenAI technology, and potentially freeing 50%–75% of procurement resources to focus on more strategic work
- Drive savings across total spend, leveraging GenAI to systematically unlock savings among medium-sized and long-tail suppliers, which contribute just 20% of procurement spend but 80% of volumes
- Deploy control towers to enhance agility by dramatically improving the breadth and depth of supply chain and supplier risk monitoring.

INTELLIGENCE IN ENERGY FOR AN EQUITABLE PATHWAY

Case Studies

COMPELLING APPLICATIONS OF TECHNOLOGY IN AN EVOLVING ENERGY ECOSYSTEM

The possibilities of intelligence in energy are fast emerging as real-world applications that are rapidly taking the industry forward. Here we share impactful examples of technology in action across energy verticals and an evolving value chain.

1 ENERGY^{ai} by ADNOC

AI is rapidly becoming a crucial player in the shift to decarbonisation - as well as a motive for securing additional energy from multiple sources. Projects such as ENERGY^{ai} harness the power of intelligence and scale is in sight.

ENERGY^{ai} is an agentic AI platform designed to automate seismic interpretation and reservoir modelling. It brings a new level of efficiency and precision to critical tasks, minimising cost and emissions in the process.

ADNOC partnered with AI powerhouse AIQ and SLB to launch ENERGY^{ai}, developed in the UAE with AIQ in collaboration with Microsoft and G42.

It uses AI agents combined with large language model technology, built on five decades of ADNOC knowledge and trained on workflows across ADNOC's value chain.

In January, ADNOC and AIQ announced a successful proof-of-concept trial of ENERGY^{ai}. This delivered promising real-world results, including a 70% improvement in accuracy in major seismic interpretation aspects, and significant improvements in advanced reservoir monitoring and anomaly detection.

The first operational, scalable version of ENERGY^{ai} was scheduled for completion in the first half of 2025, to include five fully operational AI agents covering tasks within subsurface operations. It was being test-deployed across a number of upstream assets, with plans to scale its application to thousands of additional wells.

2 The Delfi platform by SLB

SLB's Delfi digital platform is enriched with powerful AI and industry-leading analytics which, the company says, is the first step in empowering clients with a broad range of cognitive capabilities.

The Delfi platform is full stack AI covering the entire E&P lifecycle from exploration, to development, production and midstream. SLB says its AI software solutions are centred around taking reservoir performance to the next level.

The Shushufindi-Aguarico field in Ecuador is a prime example. It reached peak production in 1986, and declined in yield until water injection started in 2014.

A new drilling campaign plan to increase recovery - also targeting bypassed oil in the attic - required a higher stratigraphical subunit resolution, for a thorough and rigorous analytical interpretation of key data, including 3D seismic, core data, drilling cuttings, conventional and special wireline logs.

SLB reported last year that by leveraging Delfi's domain science, workflow integration and cloud scalability, an optimised field development plan was generated in two months, versus six months for traditional solutions.

Simulation studies commonly taking 12-plus hours on premises, can be completed in less than an hour.

Optimisation study results for all areas of interest highlighted nine horizontal well opportunities. Drilling horizontal wells was identified as the best strategy as the volume represented new reserves that couldn't be drained otherwise. These wells were projected to improve the initial oil production rate by a factor of 2.5, and double the estimated ultimate recovery, resulting in a more economically attractive, emissions-friendly development plan.

> SLB reported last year that by leveraging Delfi's domain science, workflow integration and cloud scalability, an optimised field development plan was generated in two months, versus six months for traditional solutions.

3 State Grid Shaanxi and Huawei

Countries need smart grids to enhance energy efficiency and reliability through better distribution as more renewables enter the mix, and outdated, often inadequate and inefficient power grids are replaced.

China's State Grid Shaanxi is a real-world smart grid that leverages a digital technology support system centred on data collection, transfer, storage, and usage.

It addresses problems such as limited control over power distribution network services in supply stations, slow analysis of medium-voltage line faults, and difficulties in terminal IoT app development, and operations and maintenance.

Huawei provided its Intelligent Distribution Solution (IDS) for the implementation of transparent sensing of power distribution transformer districts and the enhancement of intelligent service capabilities - thus providing users with a greener, more stable, safer power consumption experience.

The concentrated charging of electric vehicles in residential areas is one example where smart grids matter. This can significantly impact distribution transformers, damaging grid equipment and causing power outage incidents. With IDS, the utility can improve distribution network resilience and efficiency by adjusting distribution transformer capacity based on collected data.

4 GE Vernova utilises digital twins

Critics of wind power highlight intermittency as turbines are reliant on weather and therefore aren't capable of generating electricity at all times. Digital twin technology provides a virtual representation of the physical elements and dynamic behaviour of an asset over its lifecycle. The tech is being used to secure the best performance from turbines.

GE Vernova leverages digital twins to transform wind turbines from static energy-generating machines into intelligent, interconnected assets.

Each virtual replica integrates data from IoT sensors, real-time weather feeds, and historical performance models to create a dynamic, high-fidelity simulation of an entire wind farm's operations.

The system analyses how atmospheric conditions, such as wind speed and air density, affect each turbine's performance. Operators identify inefficiencies, diagnose component wear, and schedule proactive maintenance to prevent costly downtime, and maximise energy production.

By simulating a turbine's performance in relation to its neighbour and the environment, GE can optimise wind farm output. The digital twin can test micro-adjustments to pitch and yaw to reduce 'wake effect' where turbulence from one turbine negatively impacts another.

This optimisation delivers significant value that can boost the profitability of wind energy projects. Operators gain the ability to increase annual energy production, reduce unplanned maintenance, and extend the operational lifespan of high-value components. Aggregated data also provides invaluable insights to GE for designing more efficient, resilient turbines.

> By simulating a turbine's performance in relation to its neighbour and the environment, GE can optimise wind farm output.

ADIPEC Focus

THE INTELLIGENCE 'SUPERPOWER' DRIVING ENERGY'S EVOLUTION

ADIPEC 2025 will showcase some of the world's leading AI-driven products and host a powerful line-up of conferences and discussions, bringing together brilliant minds from across the globe

The energy industry is being disrupted like never before, driven by the need to meet rising energy demand while balancing the imperative to decarbonise.

Central to this is artificial intelligence as the enabler of impactful solutions, but also as a catalyst for delivering more energy as a power-thirsty technology.

AI is expanding exponentially across multiple sectors as a powerful ally in the goal to unite the global energy ecosystem to deliver a viable and impactful pathway to a future that balances energy security and sustainability.

The World Economic Forum says AI-driven energy efficiency measures and smart grid technologies could generate up to US$1.3 trillion in economic value by 2030.

AI integration can lower the need for new energy infrastructure by making existing systems more efficient and flexible. For example, it enables better grid management, providing operators with increased visibility into system performance and allowing for more precise, targeted investments.

Furthermore, AI has the potential to reduce global greenhouse gas emissions by five-10% – equivalent to the annual emissions of the entire EU. AI-led applications can improve energy efficiency, help to manage renewable energy sources and optimise energy usage by managing demand-side response through smart meters and other technologies.

The human factor

Beyond the grid, AI is also reshaping the workforce. Automation frees employees from repetitive, time-consuming tasks, allowing them to focus on creativity, strategy, and innovation. The result: higher productivity, greater job satisfaction, and more opportunities for reskilling and long-term career growth.

Digitalisation is already a powerful force in the energy sector - but AI is its supercharger, accelerating the digital transformation of organisations and entire industries. It provides tools to analyse and turn vast amounts of data into actionable insights, automate complex tasks, and catapult innovation among existing energy majors such as ADNOC while spawning newer companies such as AIQ, thriving amid emerging opportunities.

Global technology leaders including Siemens, ABB, GE Vernova and Schneider Electric are leading digital twin technology - a computer-generated virtual replica of a system connected to its real-world counterpart through sensors and IoT devices - pioneering its use for areas like power generation, grid management, and predictive maintenance.

The future in focus

All of these innovations and more will be featured during ADIPEC 2025 – and given focused exposure in dedicated AI and Digitalisation zones.

These exhibition areas will showcase the latest technologies and real-world applications driving the energy industry forward. From AI-enabled systems that automate tasks and optimise real-time operations to innovations in cybersecurity, subsea robotics, and inspection drones, these zones will highlight how digital solutions are enhancing performance, efficiency, and safety across the sector.

They will also bring together experts in big data and advanced analytics, AI tech providers, academic and research institutions, government and regulatory bodies, venture capitalists and investors, tech startups, and SMEs with specialised AI solutions.

> At ADIPEC 2025, the message is clear: accelerate the energy transition while building a more sustainable industry.

Visitors will be able to learn from Gain.Energy how specialised AI agents transform oil and gas operations, while CleanConnect.ai will showcase how AI can drive measurable impact in methane emissions management.
Among the live launches taking place onsite, Senergetics unveils its AI-powered asset health monitoring solution.
Meanwhile, Bapco Upstream will be demonstrate how Geminus AI cuts flaring and optimises networks in real time.
ADIPEC exhibitor Celeros Flow Technology, for example, will reveal how it is uses AI to enable commercial operations teams to respond to request for proposals (RFPs) more efficiently, thus making better use of manpower.

Away from the stands, the nexus of energy and intelligence will be in the discussion spotlight of the Digitalisation & AI Strategic Conference Programme.
Energy leaders, digital disruptors and AI pioneers will explore intelligent technology's current and potential impact, scalable solutions, angles such as operational resilience, strategic decision-making, and how leveraging powerful technology can enable more agile, secure and cost-effective energy systems and fill in for labour gaps.

Wide-ranging topics and themes cover responsible AI and advanced technology investment, AI's upstream role from discovery to production, the IoT in energy operations as a building block for a resilient energy future, and how to modernise digital foundations for scalable AI. Sessions will examine the AI talent revolution in energy and how to build the human-AI workforce, tackle broader issues such as safeguarding energy security with AI, and ask whether AI will be instrumental or detrimental to the global shift to a diversified energy mix.

AI is regarded as key to the rapid transformation demanded by the energy sector. And viewed by many as the gold rush of our generation.
The actual effectiveness of this increasingly crucial technology depends on strategic implementation, as well as the quality of data quality which feeds it.
The bright minds of ADIPEC 2025 will further expand our understanding of AI in the context of energy and seek to unlock its ultimate and enduring potential for our industry.

SECTION 4

ADIPEC PARTNERS, SPONSORS & EXHIBITORS

Explore a selection of intelligence solutions and innovations from global sponsors and exhibitors

IMPACT CHAMPION | SPONSOR | **ABB** | HALL 3 | STAND 3110

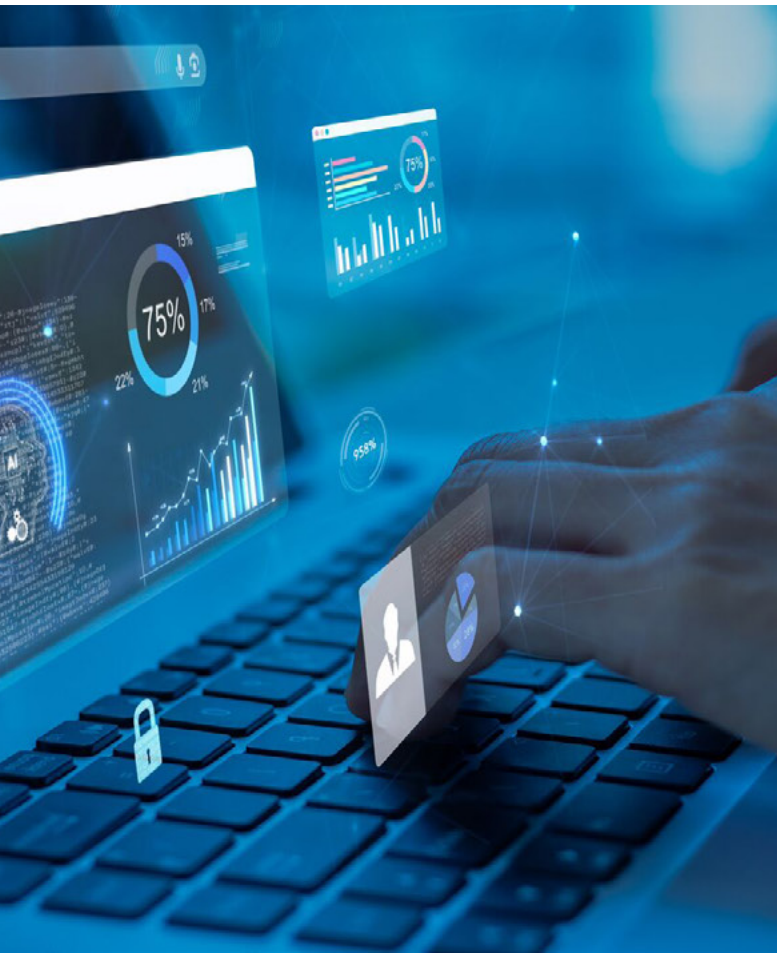
VISION FOR AI-DRIVEN INDUSTRIAL TRANSFORMATION FROM A PIONEER

Gino Hernandez, Head of Global Digital Business for **ABB's** Energy Industries division, details a customer-centric approach to introducing AI-led autonomy

How is the relationship between energy and AI transforming the future - and what role does ABB play in shaping that transformation?

The energy sector is experiencing a fundamental shift toward autonomous operations that go beyond traditional automation. Where facilities once relied on rule-based systems and human oversight, we're now seeing AI-enabled platforms that learn from operational history, predict potential issues, and adapt to unexpected situations without manual intervention. This transformation addresses critical industry challenges. The experienced workforce that built and operates our most complex facilities is retiring faster than expertise can be replaced. Simultaneously, operational data has increased from hundreds of sensors per facility to hundreds of thousands of data points in modern plants, far beyond human processing capabilities.

ABB has been pioneering industrial AI for decades, developing AI technologies that address real operational challenges. We help customers progress through defined autonomy levels, from basic automation to fully autonomous operations where systems can handle anticipated and unanticipated situations independently.



Can you briefly describe one of your AI-powered solutions and how it drives efficiency, innovation, and impact?
ABB Ability PlantInsight exemplifies our approach to industrial AI. Rather than simply alerting operators when variables exceed preset limits, PlantInsight provides, in real-time, an intuitive overview of plant performance. By visualising even the smallest anomalies through dynamic trend displays and heatmaps, it helps operators maintain optimal production states with minimal intervention.
This solution enhances operational efficiency by reducing downtime and unplanned maintenance, and fosters innovation through AI-driven insights and predictive analytics in complex industrial environments.

Which AI-driven energy technologies will have the most transformative impact, both now and in the next decade?
State-based and model predictive control are the most immediately impactful technologies in process automation. These systems recognise process condition changes and automatically adjust control parameters accordingly without human intervention. What previously required hours of skilled operator time can now occur in minutes. Looking ahead, agent-based operations will become standard. Rather than providing recommendations that require human approval, systems will independently execute complex operational strategies while maintaining appropriate oversight. This automation of routine activities frees up time for teams to focus on high-value tasks instead.
Code generation offers a dramatic long-term impact. Current industrial projects require two to three years for engineering and commissioning. Systems trained on millions of lines of proven control logic could generate facility-specific automation code in a fraction of this time. Considering that an average refinery contains 750,000 to 1.5 million lines of control code, the potential for accelerating project timelines becomes clear.

What intelligent solutions are you most excited to showcase at ADIPEC 2025?
Our augmented operator solutions demonstrate the practical reality of AI in energy operations today. The latest technology provides early warning for process deviations, identification of critical patterns and possibilities of what-if simulations.
One-button startup technology represents the evolution from manual operations to autonomous systems. Startup procedures that once demanded thousands of manual operations by highly skilled operators are now reduced to fewer than 10 automated steps, dramatically reducing time, improving safety, and cutting emissions.
We're particularly excited to demonstrate state-based control implementations that automatically manage process transitions without human intervention, and energy management optimisation systems that evaluate multiple power sources in real-time while considering weather forecasts, pricing fluctuations and predicted loads.

How can cross-sector collaboration accelerate scalable solutions and real-world impact?
Successful AI implementation in energy requires meeting customers at their current automation maturity rather than demanding wholesale transformation. A facility with basic process control might achieve significant benefits from advanced process control implementation, while highly automated operations can progress directly to predictive analytics and autonomous optimisation.
This approach demands collaboration across technology providers, energy operators and financial partners. Technology companies must understand operational contexts, regulatory requirements and risk management strategies essential for safe implementation. Energy operators need partners with decades of plant operation expertise, rather than simply innovative algorithms.
To successfully progress towards higher autonomy levels, finance and operations teams must work together on a phased implementation strategy. Modern architectures are designed to integrate with existing distributed control systems, but a phased approach will preserve existing technology investments while demonstrating a clear path forward, ultimately unlocking the autonomy and agility needed to lead the next era of operations.

SPONSOR | **ALI & SONS OIL & GAS** HALL 6 | STAND 6150

AI AND BEYOND

Ali & Sons Oil & Gas is embedding technology into daily operations and forming partnerships with leading robotics firms and consultancy providers, redefining efficiency and reliability across its operations

The integration of AI into the energy sector is transforming the global landscape – delivering greater efficiency, improving safety, and accelerating the shift toward sustainable operations. For Ali & Sons Oil & Gas, this transformation is essential, reflecting the UAE's strategic vision and the industry's evolving demands.

With decades of local expertise and a commitment to operational excellence, Ali & Sons Oil & Gas has evolved from a service provider into an integrated energy partner. The company continues to deliver engineering, procurement, drilling, and petrochemical solutions across the UAE's energy landscape while embracing intelligent systems that enhance performance, safety, and sustainability. The integration of AI into its business processes marks a pivotal step in this journey. By embedding technology into daily operations and forming partnerships with leading robotics firms and consultancy providers, we are redefining efficiency and reliability across our operations.

In response to the rapid growth of AI, we are deploying AI-powered predictive maintenance and monitoring systems that leverage IoT sensors and real-time data analytics. These technologies enable us to anticipate equipment performance issues before they occur, significantly reducing downtime, optimising asset lifecycles, and enhancing safety standards. The same data-driven approach has been extended to its fleet, where AI-enabled monitoring tracks driver behaviour and detects fatigue, improving both operational

efficiency and workforce safety. These smart solutions demonstrate the value of digital transformation and highlight how the fusion of energy and intelligence drives measurable impact.

Beyond energy operations, the company has introduced EDPx, a next-generation Employee Digital Platform designed to enhance productivity and decision-making. At its core is ASHGPT, an in-house AI assistant built on OpenAI's large language model and securely embedded within the organisation's digital ecosystem. Tailored to internal needs, ASHGPT streamlines everyday tasks such as leave management and instant access to policies, while EDPx's live dashboards provide senior management with real-time visibility of performance across business units. Together, these tools simplify operations, strengthen data security, and empower teams with actionable intelligence and illustrating how our digital transformation extends beyond energy operations into every aspect of our business.

As the industry looks toward the future, Ali & Sons Oil & Gas recognise that scaling innovation requires proprietary solutions. To achieve this, the company is focusing on strategic acquisitions of international OEMs to broaden its product portfolio and extend its service capabilities. These acquisitions enable global growth and reinforce the company's position as a forward-thinking contributor to the UAE's industrial and energy ambitions.

> "For Ali & Sons Oil & Gas, the future of energy lies in harnessing intelligence to create value, building partnerships that advance innovation, and investing in capabilities that expand impact."

Looking ahead, AI, robotics, and automation will continue to redefine operational efficiency, while digital twins and data analytics will improve predictive modelling and sustainability outcomes. Additionally, the integration of AI into renewable forecasting, carbon capture systems, and smart grid optimisation will shape the next era of energy resilience. Ali & Sons Oil & Gas is actively positioning itself to adopt and lead in these areas, ensuring that intelligence remains central to every stage of its operations.

At ADIPEC 2025, themed Energy, Intelligence, and Impact, the company will not only showcase its AI-driven and robotics-enabled solutions but will also present a maquette illustrating its local manufacturing plans; a representation of its upcoming factory in action. This initiative underscores the company's long-term commitment to strengthening local industrial capacity, supporting the UAE's In-Country Value objectives, and contributing to the national vision of energy independence and innovation. The maquette serves as a tangible demonstration of how Ali & Sons transforms intelligence into impact and translating ideas into real-world infrastructure that empowers local growth.

However, achieving industry-wide transformation requires more than innovation alone. Cross-sector collaboration between energy, technology, and finance is essential to scale solutions and create tangible impact. When energy expertise meets technological advancement and financial backing, the potential for sustainable, large-scale change becomes attainable. Ali & Sons Oil & Gas plays an active role in this ecosystem, connecting global partners with local capabilities to drive projects that align with both business growth and national energy objectives.

For us, the future of energy lies in harnessing intelligence to create value, building partnerships that advance innovation, and investing in capabilities that expand impact. By blending human expertise with digital intelligence, the company continues to strengthen its role as a trusted partner in the UAE's evolving energy landscape. This ongoing journey is not just about keeping pace with technological change; it is about shaping it. Guided by purpose, powered by intelligence, and driven by collaboration, Ali & Sons Oil & Gas stands ready to lead the transformation toward a smarter, more sustainable energy future.

SPONSOR | **ARAB DEVELOPMENT** HALL 5 | STAND 5240

INTELLIGENT ENERGY ECOSYSTEMS FOR A SUSTAINABLE FUTURE

ADIPEC veteran **Arab Development** (ARDECO) outlines how it is grasping global innovation and nurturing collaborations for impactful solutions that drive the UAE's transition and industrialisation goals

As the global energy landscape undergoes its most profound transformation in a century, transition from carbon-intensive models towards intelligent, low-emission systems, transformation is not a choice, it is a competitive imperative.

This paradigm shift is redefining how nations industrialise, innovate, and invest.

As a trusted partner in the oil and gas sector in the UAE, for Arab Development this transformation is a purpose driven mandate to bridge global innovation with local value creation, and to position the UAE at the forefront for advanced technology deployment.

Transformation catalyst

Arab Development's mission is simple yet bold: to translate global innovation into practical, scalable solutions into the UAE that accelerate the UAE's energy transition and industrialisation agenda.

The company's identity is rooted in its active collaboration and relationships with its clients and principles. It acts as a technology integrator and enabler, bringing cutting-edge technologies and services from its ever expanding global network of strategic partners to its key stakeholders across the UAE's industries, ensuring every project delivers measurable outcomes.

In order to contribute to the realisation of the UAE's Industrialisation Agenda, Arab Development is leading by example by expanding its relationships with its partners to manufacture sustainable technology solutions locally. These industrial initiatives are geared to generate In-Country-Value and ensure technology and knowledge transfer and cultivate local talent - converting ambition into action, and innovation into localised value.

Driving efficiency and impact through AI and automation

- **TAQANA Energy Solutions (JV with Schneider Electric),** inaugurated in 2024, will play a pivotal role in supplying switch gears, energy management and automation technologies to ADNOC and TAQA.
  TAQANA is pioneering AI-powered asset management and energy automation by integrating Schneider Electric's EcoStruxure platform into locally manufactured systems, creating digital twins connected to a cloud-based advisory system.
  This solution empowers clients to:
  · *Reduce total cost of ownership (TCO)* through predictive maintenance,
  · *Enhance safety* by monitoring risk factors in real time,
  · *Increase reliability* via continuous performance analytics, and
  · *Simplify operations* with unified dashboards and automated insights.
  TAQANA is a prime example of intelligence driving impact — enabling industries to make smarter decisions, faster, and more sustainably.

- **SOLUS (JV with Oceaneering)** delivers next-generation digital inspection and robotics solutions in offshore and subsea domains.
  SOLUS leverages Oceaneering's advanced remotely operated vehicles (ROVs), autonomous systems, and digital inspection technologies, enabling clients to enhance subsea visibility, improve operational uptime, and reduce offshore risk exposure.
  These intelligent systems will support ADNOC's push toward integrated offshore asset management and align with the UAE's commitment to safety, sustainability, and operational excellence.
  Together, TAQANA and SOLUS reflect Arab Development's commitment to building the energy infrastructure of the future — intelligent, integrated, and impact-driven.

Technologies defining the next decade

The next era of energy will be shaped by convergence, where digital intelligence meets industrial resilience. Three interconnected forces will drive transformation:

- **Integrated intelligence:** The fusion of AI, IoT, and cloud ecosystems enabling autonomous energy systems, predictive supply chains, and real-time optimisation.
- **Electrification and localised manufacturing:** A shift toward electrified assets, modular production, and smart factories, building industrial self-sufficiency, and reducing import dependencies.
- **Circular energy systems:** The rise of hydrogen, carbon capture, and closed-loop resource recovery, embedding sustainability into every phase of the industrial lifecycle.

These forces demand not just adoption, but orchestration which is precisely the role Arab Development plays in bridging partners, policy, and purpose.

Collaboration is the multiplier

Ultimately, this scale of transformation cannot be achieved in silos. By fostering cross-sector collaboration, pairing industrial operators with technology leaders and financial partners, Arab Development has been helping design viable pathways to deploy AI, digitise, and decarbonise while maintaining economic competitiveness.
The intersection of energy, technology, and finance is where the world's most scalable solutions will emerge. Arab Development is leveraging these best-in-class frameworks to co-create value with its partners, embedding innovation into the UAE's industrial base, while ensuring:

- **In-country value** through local manufacturing and supply chains,
- **Technology and knowledge transfer** via joint ventures with world leaders
- **Human capital development,** by cultivating a generation of Emiratis equipped for the digital energy era.

This integrated approach ensures that every collaboration extends beyond contracts, contributing to the socioeconomic development of the UAE, fortifying national resilience, and positioning Abu Dhabi as a global hub for energy intelligence and industrial impact.

> "In order to contribute to the realisation of the UAE's Industrialisation Agenda, Arab Development is leading by example by expanding its relationships with its partners to manufacture sustainable technology solutions locally."

SPONSOR | **AVAXIA** HALL AI ZONE | STAND AI P32

UTILISING THE ENERGY OF VISIBLE INTELLIGENCE

Avaxia discusses how Human 2.0 transforms complexity into confidence as the 'new language of clarity in energy' and IntelliFish as the future of downhole intervention

Digital transformation has revolutionised energy operations, yet it has also created a paradox as systems grow smarter, visibility often fades.

Data accelerates, but insight lags. The future demands not just intelligence, but clarity, explains Mohamed Ali Fadhloun, Software Architect, Avaxia Group.

Human 2.0 is Avaxia's paradigm for transparent intelligence, an ecosystem where human expertise and artificial intelligence collaborate in full visibility. It's not automation for its own sake, but intelligence you can see, trace, and trust.

The future of energy cannot run on black boxes. It must run on clarity.

The cognitive core of energy

At the heart of Human 2.0 lies MINOTAUR, Avaxia's AI-powered system that transforms complexity into confidence.

Beneath every refinery, grid, or pipeline flow millions of data points from SAP, IoT, and control systems. MINOTAUR unifies them into a single cognitive fabric - reading, correlating, and reasoning across silos in real time.

- Predictive analytics anticipate maintenance needs before downtime occurs.
- Process intelligence optimises procurement, logistics, and compliance workflows within SAP.
- Root-cause mapping ensures every recommendation is explainable revealing the data lineage, source, and reasoning behind each insight.

With MINOTAUR, energy operations evolve from reactive management to proactive orchestration, empowering consultants, engineers, and operators to act with foresight.

Redefining IT consulting

Traditional IT consulting has reached its limits in the face of global energy challenges. Avaxia's Human 2.0 redefines the model by augmenting human judgement with AI-driven precision.

For energy enterprises relying on SAP for mission-critical processes, this means:

- Real-time insight into resource allocation and performance.
- Predictive maintenance that prevents costly downtime.
- Automated workflows that eliminate manual inefficiencies.

By combining human intuition with machine cognition, consultants gain a 360° operational view, enabling faster, more informed decision-making.

The industrial metaverse — seeing the invisible

Avaxia extends Human 2.0 into the industrial metaverse, immersive digital twins that mirror physical assets and evolve alongside them.

Within this environment, operators can:

- Simulate process changes safely before implementation.
- Conduct virtual training and remote collaboration.
- Observe live performance metrics through interactive dashboards.

This is not a parallel universe, it is a strategic cockpit for decision-making, merging digital foresight with physical control.

Predictive maintenance and workflow automation

Energy infrastructure demands continuous vigilance. Delays in maintenance or compliance can lead to cascading losses. MINOTAUR automates these critical processes, ensuring every component of the operational chain functions at peak efficiency.

> "Avaxia's Human 2.0, powered by MINOTAUR, transforms complexity into confidence. Every decision is traceable, every automation auditable, every insight explainable."

- Automated task assignments and approval routing within SAP.
- Intelligent alerts and KPI monitoring for asset health.
- Real-time synchronisation across departments and systems.

The result is fewer disruptions, higher productivity, and measurable sustainability gains.

Industry 4.0 — intelligence in motion

Avaxia's Human 2.0 aligns perfectly with Industry 4.0 principles integrating big data, IoT, AI, and automation into a seamless operational fabric. Energy companies can harness connected intelligence to:

- Integrate renewable sources dynamically into existing grids.
- Balance production with consumption through adaptive analytics.
- Achieve sustainable growth through intelligent, data-driven governance.

Every sensor, system, and specialist becomes part of a living network of intelligence transparent, traceable, and trusted.

The energy of trust

Avaxia's Human 2.0, powered by MINOTAUR, transforms complexity into confidence. Every decision is traceable, every automation auditable, every insight explainable. It's not just technology, it's the new language of clarity in energy.

Reimagining crisis management in drilling operations

In the high-stakes world of oil and gas drilling, fishing operations those triggered by sudden tool failures or stuck pipes - cost the industry millions of dollars annually. They disrupt well delivery schedules, delay rig operations, and amplify carbon emissions. Despite their frequency, these accidental interventions have remained an underserved space in digital innovation,until now.

Enter IntelliFish - the world's first AI-enabled, 3D-simulation-based platform built specifically for fishing contingency planning and real-time intervention. While most solutions have focused on prevention, IntelliFish uniquely tackles the aftermath - when panic sets in, time is lost, and costly decisions are made under pressure.

By leveraging cutting-edge artificial intelligence, IntelliFish provides drilling engineers with real-time risk evaluations, scenario-based simulations, and remedial action plans. Its immersive 3D simulation mode allows users to visualise complex downhole environments, helping them test 'what-if' responses before acting. In moments of chaos, the Panic Mode replicates real-world emergencies, guiding teams through best practices and optimal tool deployment based on data-driven logic, not guesswork.

The platform doesn't just digitise a problem - it transforms how decisions are made during fishing operations. IntelliFish empowers engineers to respond swiftly and confidently, reducing non-productive time, minimising environmental impact, and saving millions in unplanned expenses.

Backed by a clear mission to digitise accidental well intervention and a bold vision to become the global standard in fishing crisis management, IntelliFish is not just a product, it's a paradigm shift. For operators striving to optimise performance and sustainability in tandem, IntelliFish is the intelligent choice.

SPONSOR | **BECHTEL ENERGY** AI ZONE | STAND AI P15

ENERGY TRANSFORMATION THROUGH TECHNOLOGY AND COLLABORATION

John Platt, Senior Vice President of New Energies, Chemicals and Fuels at **Bechtel Energy,** explains how the firm is embracing technologies that make the world better while supporting customers through transformation

As the global energy sector accelerates toward net-zero goals, the journey is marked by challenges, including affordability, policy, and regulatory hurdles. While the future may appear uncertain, for Bechtel the path forward is clear: lean in, embrace transformative technologies, and build resilient energy systems that make the world better for generations to come.
Bechtel's commitment to energy transformation is rooted in a belief that progress is not a matter of 'if' but 'when.'

> "Across our projects and business sectors, the optimal approach to energy transformation is not just about technology, it is about building resilience and fostering collaboration."

Leading with proven approaches
At project locations around the world, Bechtel partners with leading energy companies to shape the future of global energy by developing the infrastructure, technologies, and fuels needed for sustainable energy growth.
For instance, Bechtel has engineered and built more than 30% of the world's LNG production capacity, bringing cleaner energy to locations that would otherwise be dependent on more carbon-intensive sources.
By applying proven execution models from other sectors, we can provide better control of sequence, schedule, and cost for new technologies.
This approach is working in our LNG business and other parts of our portfolio, and we are confident that applying lessons learned from across the business promotes delivery with certainty and value even in markets where EPC activity may be limited.

Innovation in action with LEEDS technology
Behind every breakthrough is a team committed to solving real-world problems.
One example is Bechtel's Low Energy Ejector Desalination System (LEEDS). Born from the ingenuity of its engineers, LEEDS addresses water management challenges in oil and gas operations.
In regions like the Permian Basin, where water scarcity and regulatory pressures are intensifying, LEEDS enables safe, efficient water recovery for productive use and future generations.
Instead of re-injecting millions of barrels of water or losing it to evaporation ponds, LEEDS offers a practical, scalable solution.

Enhancing safety with AI: meet Detect T-Pulse

Safety is a core value at Bechtel, embedded in every aspect of our work.

The deployment of Detect T-Pulse AI, a camera-based system that pairs artificial intelligence with human judgment, has transformed construction safety across LNG projects in Australia and the US Gulf Coast.

Routine industrial tasks carry inherent risks, from spills to unsecured loads. T-Pulse amplifies the vigilance of craft professionals by providing real-time hazard detection and actionable insights.

This fusion of AI-powered monitoring and human decision-making enables predictive, proactive interventions that strengthen safety culture and operational processes.

We have piloted this technology at three major Bechtel sites and deployment data demonstrates measurable impact:

- At a construction site in northern Virginia, detection of high-risk events - most related to hazard communication and personal protective equipment - increased six-fold month-over-month.
- At LNG projects in Australia and on the US Gulf Coast, high-risk detection increased along with closure rates, reinforcing effective risk mitigation, identifying targeted interventions, and strengthening safety behaviours.

Across all sites, Detect T-Pulse AI has proven its ability to drive corrective action, enable predictive decision-making, and support global standardisation of best practices.

Building resilience and collaboration

Across our projects and business sectors, the optimal approach to energy transformation is not just about technology, it is about building resilience and fostering collaboration.

Integrating vertical processes and maintaining control through execution ensures certainty in cost and delivery.

At the same time, we recognise the importance of partnerships with customers, through licensing models, or by teaming with technology partners to deliver greater value together.

Cross-sector collaboration - between energy, technology, and finance - is essential for accelerating scalable solutions and real-world impact.

Bechtel's experience shows that strong alliances and shared goals drive innovation and success, from concept to execution.

Looking ahead to ADIPEC 2025 and beyond

At ADIPEC 2025, Bechtel is excited to showcase innovations and explore solutions that are accelerating the industry's progress toward global energy security, net-zero goals, and safer, smarter operations.

Our vision is clear: embrace technologies that make our world better, support customers through transformation, and build a future defined by resilience, innovation, and impact.

As the energy landscape evolves, Bechtel stands ready to lead - leaning in, embracing change, and delivering solutions that matter.

SPONSOR | **CHINA ZHENHUA OIL** HALL 3 | STAND 3220

HOW AI CAN POWER THE NEXT LEAP IN ENERGY PRODUCTION

Integrated international energy enterprise China ZhenHua Oil outlines the route from energy to intelligence via smart monitoring and emissions control

As the global energy landscape rapidly transforms, the race toward smarter, more sustainable operations has never been more critical.

At the forefront of this transformation stands China ZhenHua Oil Co. Ltd., an integrated international energy enterprise leveraging digital intelligence and innovation to advance low-carbon growth across the entire oil and gas value chain.

Headquartered in Beijing, ZhenHua Oil's portfolio spans exploration and production, international trade, logistics, refining, and storage, creating an agile, synergised value chain that bridges traditional energy operations with next-generation technologies.

The company operates eight global oil and gas development projects, with technically recoverable reserves of 770 million tons and an annual production capacity of 11.5 million tons.

As an international shareholder in ADNOC Onshore and the asset leader of the Buhasa Oilfield, ADNOC's largest onshore asset, ZhenHua Oil plays a strategic role in advancing digital transformation and operational excellence within the UAE energy landscape.

Smart monitoring and emissions control

At the heart of ZhenHua Oil's transformation lies a simple philosophy: energy intelligence is the new energy source. Through advanced sensing, analytics, and automation, the company is redefining how safety, efficiency, and sustainability are managed in real time.

One of its flagship innovations, the long-range infrared camera for emissions detection and alarm, exemplifies this vision.

Engineered to provide continuous, high-precision environmental monitoring, the system transforms invisible gas emissions into actionable insights.

The camera can detect emissions within a 2km radius, ensuring broad coverage of large-scale facilities and remote assets. Its 360-degree rotation with tilting capability enables comprehensive scanning of the surrounding environment, eliminating blind spots and ensuring total situational awareness.

By combining these powerful optics with AI-driven image analytics and cloud integration, the system automatically identifies leaks and transmits real-time alerts to operators. This allows field teams to respond immediately to potential safety or environmental risks.

The solution not only enhances regulatory compliance but also supports ZhenHua Oil's broader commitment to the "Dual Carbon" strategy, reducing emissions intensity while improving operational reliability.

AI-powered efficiency: smarter fields, faster decisions

Building on its success in emissions monitoring, ZhenHua Oil is accelerating the deployment of AI-powered surveillance and optimisation systems that bring intelligence to every corner of field operations.

Its AI-CCTV platform represents the next generation of industrial safety management.

The system employs advanced computer vision and deep learning algorithms to continuously scan operational areas and detect unsafe acts, leaks, or abnormal conditions, triggering instant alarms to the control room.

It can identify whether personnel are wearing the correct personal protective equipment (PPE), flag unauthorised access, and recognise potential hazards before they escalate.

> "By aligning investment, innovation, and implementation, ZhenHua Oil is helping to create a future where energy systems are smarter, emissions are lower, and progress is shared."

By merging live video feeds with operational data and analytics, the AI-CCTV system delivers actionable intelligence that enhances both safety and productivity. Every detected behaviour or event becomes a data point for continuous learning, strengthening predictive capability and promoting a culture of accountability and prevention.

Equally transformative is ZhenHua Oil's real-time gas lift metering and control system, which uses sensor networks, multi-phase meter, machine learning, and dynamic modelling to continuously optimise well performance. Traditional gas lift operations rely on manual adjustments and delayed feedback, but ZhenHua's AI-based approach provides adaptive optimisation in real time, adjusting lift parameters autonomously to maximise production and optimise gas consumption.

Together, these technologies form an integrated intelligence ecosystem, one that links monitoring, prediction, and control.

Across Zhenhua Oil's key assets, these solutions are delivering measurable improvements in efficiency, visibility, and environmental performance, redefining what operational excellence means in a digital era.

Digitalisation and the future of energy

ZhenHua Oil views digitalisation not merely as a tool for efficiency, but as a foundation for the next phase of energy evolution. Artificial intelligence, automation, and data-driven decision-making are redefining how energy is discovered, produced, and delivered.

By embedding intelligence into every layer of its operations, ZhenHua Oil is transforming complexity into clarity. This fusion of technology and human expertise is where ZhenHua Oil's true differentiation lies.

Collaboration for scalable and sustainable solutions

ZhenHua Oil recognises that the energy transition cannot be achieved alone. Cross-sector collaboration between energy, technology, and finance is essential to scaling impact and accelerating real-world progress.

Through strategic partnerships with national oil companies, technology leaders, and global research institutions, ZhenHua Oil continues to champion collaborative innovation.

Its partnership with ADNOC Onshore serves as a prime example, integrating global expertise with local operational excellence to deliver tangible outcomes. By aligning investment, innovation, and implementation, ZhenHua Oil is helping to create a future where energy systems are smarter, emissions are lower, and progress is shared.

SPONSOR | **CLEANCONNECT.AI** AI ZONE | STAND AI P23

ACHIEVING OGMP GOLD: AI SOLUTIONS CAN EMPOWER OIL AND GAS LEADERSHIP

CleanConnect.ai offers a competitive edge for resilient, low-emission operations with its innovations in smart methane emissions management

As the world accelerates toward a sustainable energy future, ADIPEC 2025 emerges as a pivotal platform where energy and intelligence intersect.

With the focus on decarbonisation, digitalisation, and resilience, CleanConnect.ai proudly sponsors the AI & Energy Pavilion, showcasing how AI can drive measurable impact in methane emissions management. At the heart of our exhibit is ProveZero, a unique platform that helps oil and gas producers achieve the coveted OGMP 2.0 Gold Standard (Level 5) for methane reporting in an era seeking real solutions for sustainable energy production.

Dealing with methane emissions

Methane emissions from oil and gas operations represent a critical environmental challenge. The United Nations Environment Programme's Oil and Gas Methane Partnership (OGMP) 2.0 sets rigorous benchmarks for measurement, monitoring, reporting, and verification (MMRV).

While Levels 1-3 rely on estimates, Levels 4 and 5 demand empirical, high-quality data: source-level quantification (bottom-up) at Level 4, and site-level reconciliation (top-down) at Level 5. Standalone continuous monitoring (CM) systems, such as point sensors or optical gas imaging (OGI), often fall short due to limitations in detection reliability, quantification accuracy, and sensitivity to meteorological conditions. As outlined in OGMP's April 2024 recommendations, these tools alone cannot deliver reliable site-level estimates.

What is ProveZero?

ProveZero by CleanConnect.ai presents a certification-neutral automation system that integrates AI-powered CM with rigorous mass balance methodologies to overcome these hurdles.

CleanConnect.ai

Deployed in partnership with PureWest Energy, ProveZero leverages direct meter measurement and ProMax 6.0 simulation software to model thermodynamic, fluid dynamic, and chemical properties of gas streams from wellhead to sales meter. This approach combines empirical data from Industrial Internet of Things (IIoT) sensors (for example, pressure, temperature, flow) with our Minerva continuous OGI camera for real-time leak detection.

How does ProveZero meet OGMP 2.0 Gold requirements?

ProveZero tackles strict requirements on several levels.

Level 5: Site-level mass balance

Empirical data from IIoT sensors (such as pressure, temperature, flow meters) and sales meter reconciliation to compute mass and energy balances across the entire facility. This approach calculates emissions per MMBtu of delivered gas, ensuring product-level traceability and CO_2eq savings verification. The mass balance reconciles daily production data with emissions, addressing ISCC-CFC v1.3 requirements for batch-level allocation and exceeding OGMP's call for multi-tiered monitoring.

As described in PureWest's MMRV white paper, this mass balance forms the core of the measurement phase, providing a reliable baseline using EPA-accepted methodologies under the Greenhouse Gas Reporting Programme (GHGRP).

Level 4: Source-level non-fugitive emissions

ProMax simulates emissions from specific sources such as dehydration units, regenerators, combustors, and fuel gas systems using site-specific inputs (including glycol circulation rates, reboiler temperatures). This bottom-up modelling draws from environmental permit simulations and vendor data, providing reproducible calculations for VOC, HAP, CH_4, CO_2, and N_2O emissions.

Level 4: Source-level fugitive emissions

Operators integrate Minerva continuous OGI cameras into their systems for real-time leak detection. Daily average emissions detected by Minerva are imported into ProMax (in MSCFD of methane), supplementing modelled emissions. This addresses intermittent leaks that point sensors might miss, while the mass balance ensures overall site reconciliation.

Reconciliation between Levels 4 and 5

ProveZero inherently reconciles bottom-up (source-level) and top-down (site-level) data via ProMax's mass/energy balance solver. Discrepancies (such as, unmodelled intermittents) are flagged through fidelity scoring, which evaluates data quality and encourages iterative improvements. For example, visual emission rates from Minerva are added to modelled non-fugitives, with the total reconciled against sales meter data.

Third-party validation

Third-party validation underscores ProveZero's robustness: Spirit Environmental attested PureWest in May 2024 emissions under ISO 14067 with mass balance, confirming material correctness. Spirit used the ISO 14064-3 framework, which is the likely protocol for third party validation of EU Methane Regulations.

PureWest's MMRV framework positions ProveZero as a foundation for accountable emissions strategies, expanding OGMP principles. By automating MMRV, ProveZero reduces costs, enhances auditability, and scales across certifications like ISO 14067, ISCC-CFC, MiQ, and OGMP.

> "In a defining decade for energy, achieving OGMP Gold isn't just compliance - this is a competitive edge for resilient, low-emission operations."

Meet us at ADIPEC 2025

At ADIPEC's AI & Energy Pavilion, CleanConnect.ai invites producers to explore ProveZero demonstrations. In a defining decade for energy, achieving OGMP Gold isn't just compliance - this is a competitive edge for resilient, low-emission operations. Join us in Abu Dhabi to transform dialogue into delivery.

SPONSOR | **DATA BRIDGE**

BORN IN THE UAE, BUILT FOR THE WORLD – REDEFINING HOW AI TRANSFORMS ENERGY, WORKFORCE, AND SUSTAINABILITY

Data Bridge delivers solutions that showcase technological brilliance while presenting a vision of safer workplaces, greener operations, and more resilient industries

As the energy industry enters a new era defined by intelligence, sustainability, and efficiency, one company stands at the intersection of innovation and impact.

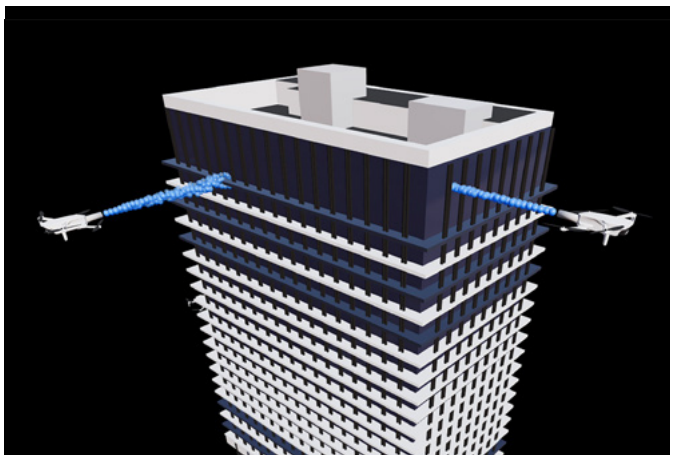
Data Bridge, a UAE-born technology company, has rapidly emerged as a catalyst for digital transformation, building solutions that not only enhance operations today, but also lay the groundwork for tomorrow's intelligent energy ecosystem. At ADIPEC 2025, Data Bridge is demonstrating how locally engineered, globally scalable solutions can transform workforce management, operational safety, and sustainability across the energy value chain.

AI and energy transformation

The relationship between AI and energy is no longer theoretical; it is a proven driver of efficiency, safety, and environmental impact. By harnessing AI-powered intelligence, companies are reducing downtime, optimising resources, and lowering risks in ways previously unimaginable.

Data Bridge's solutions embody this transformation. Its flagship HRMS platform, Mawaridna, is already redefining workforce management for mega-projects, enabling enterprises to manage tens of thousands of employees across complex sites with precision. By digitising scheduling, payroll integration, and compliance, Mawaridna reduces inefficiencies that have historically cost energy companies millions.

Similarly, Sky Shine, Data Bridge's aerial drone cleaning division, introduces AI-powered autonomy to one of the most labour-intensive and hazardous processes in the built environment: façade cleaning. Leveraging obstacle-detection AI, eco-friendly deionised water technology, and precision navigation, Sky Shine drones eliminate risks to human workers while dramatically reducing water consumption – a priority in the Gulf region and beyond.



Showcasing solutions for real-world impact

At ADIPEC 2025, Data Bridge is not only presenting technology; it is showcasing impact at scale.

- Sky Shine is trialling with leading hotel and infrastructure groups, demonstrating how autonomous aerial cleaning can maintain high-rise assets safely, sustainably, and cost-effectively. With expansion plans targeting hundreds of towers across the UAE, the solution is primed to redefine asset maintenance in energy, hospitality, and real estate.
- Mawaridna has already onboarded 25,000 users in its first year, making it one of the fastest-growing HR platforms in the Middle East. By providing AI-driven workforce intelligence, it empowers energy companies to manage diverse, multi-site teams with unmatched clarity and speed.
- YENA, Data Bridge's hospitality automation platform, complements this portfolio by reimagining how human capital interacts with digital systems, proving that AI-driven transformation spans every vertical, from oil and gas to tourism.

These solutions are not isolated tools; they represent a connected ecosystem designed to enhance efficiency, safety, and sustainability simultaneously.

AI-driven energy trends

The next decade will be defined by convergence; where AI-driven insights, autonomous systems, and sustainable practices combine to form the backbone of global energy. Data Bridge anticipates three transformative trends:

- Workforce intelligence at scale – AI will power predictive labour optimisation, ensuring energy projects run on time and on budget.
- Autonomous maintenance – Drones and robotics will become mainstream for hazardous, repetitive tasks, reducing both risk and cost.
- Green AI Optimisation – Intelligent systems will help reduce energy and water consumption across operations, contributing to global sustainability goals.

By aligning its roadmap with these trends, Data Bridge is positioning itself not only as a solution provider but as a regional leader in shaping energy's digital future.

Intelligent solutions at ADIPEC 2025

Visitors to ADIPEC 2025 will experience Data Bridge's innovations first-hand:

- A Sky Shine drone simulator showcasing autonomous façade cleaning.
- A live demo of Mawaridna HRMS, highlighting real-time workforce management and analytics.
- YENA self-check-in kiosks, bridging automation in hospitality and beyond.

These showcases embody Data Bridge's mission: 'Connecting Data, Bridging Insights.' They demonstrate how intelligence is applied not just in theory but in practice, transforming safety, efficiency, and sustainability across sectors.

Cross-sector collaboration for global impact

Data Bridge understands that no transformation happens in isolation. Its partnerships with leaders such as Target Engineering, Rotana Hotels, and many more, demonstrate the power of collaboration between energy, technology, and finance. By working across industries, Data Bridge helps accelerate scalable solutions that can expand from the UAE to the world.

This collaborative mindset is rooted in the UAE's vision of becoming a global hub for innovation; a vision Data Bridge proudly carries forward on every project and partnership.

Conclusion

At ADIPEC 2025, we are not simply showcasing technology, we are presenting a vision: a future where AI-driven solutions enable safer workplaces, greener operations, and more resilient industries.

With a mission defined by its tagline, 'From UAE to the World,' Data Bridge is accelerating energy's digital future; one innovation at a time.

> "Data Bridge, a UAE-born technology company, has rapidly emerged as a catalyst for digital transformation, building solutions that not only enhance operations today, but also lay the groundwork for tomorrow's intelligent energy ecosystem."

SPONSOR | **GAIN.ENERGY** AI ZONE | STAND AI P9

HOW THESE SPECIALISED AI AGENTS ARE TRANSFORMING OIL AND GAS OPERATIONS IN OUR CHANGING WORLD

Gain.Energy is preparing to showcase a suite of intelligent solutions that can solve technical bottlenecks and optimise the entire value chain

The global oil and gas industry loses about US$20 billion every year due to inefficiencies and outdated practices. It is estimated that AI can potentially reduce that by 30-40%.

The energy industry is at a turning point. Artificial intelligence (AI) has emerged as one of the most powerful tools to meet head-on the rising complexities and challenges in operations. While generic platforms like ChatGPT and Copilot offer impressive general capabilities, they often fall short in handling the specialised requirements of oil and gas engineering tasks. These limitations become particularly apparent in critical areas such as well design, drilling optimisation, and reservoir management, where precision, consistency and domain expertise are essential.

Gain.Energy has spent 21 months on R&D and developed a unique approach - a platform of specialised, task-specific and data-driven AI agents, named Upstrima Marketplace. These agents are not one-size-fits-all; they are custom-built, use-case specific and designed to automate engineering tasks, boost accuracy, and enable better decisions faster.

How energy and AI are reshaping the future

Energy projects, especially in oil and gas, generate massive amounts of technical, operational, and financial data. Traditionally, much of that data remained underutilised because of the time and expertise needed to analyse it. AI changes that equation. By automating data-heavy tasks and surfacing insights in real time, AI is accelerating project delivery, reducing risks, and improving asset performance.

Our company provides a structured way for operators and advisors to access AI agents tailored to their workflows. Instead of generic solutions, each agent is built with deep domain knowledge - whether it's well design, reservoir modelling, drilling optimisation, or investment evaluation. This ensures that AI is not just a buzzword but a practical enabler of performance and value.

A closer look at an AI-powered solution

One example of this innovation is an AI agent built for automating well planning and drilling engineering tasks. Traditionally, preparing well plans requires significant manual effort - collecting offset data, running simulations, validating casing design, and ensuring compliance with safety standards. With Upstrima's specialised AI agents, much of this work can be automated. Engineers receive instant recommendations, automated error checks, and scenario comparisons that once took days to compile.

Our 'secret sauce' is staying focused on very specific and pragmatic tasks, rather than broad but shallow capabilities.

The result: faster turnaround times, reduced engineering hours, and higher confidence in the design. This agent doesn't replace human expertise - it augments it, freeing engineers to focus on critical judgment calls while letting the AI handle repetitive, error-prone tasks.

Transformative AI-driven trends in energy

Today, the most transformative AI technologies in oil and gas are those that combine data integration, predictive analytics, and automation. Predictive maintenance for drilling rigs and surface facilities, AI-powered reservoir simulations or automated financial modelling have a potential to save millions, cut cycle times, and reach unprecedented accuracy.

Looking ahead to the next decade, the industry will see even deeper integration of AI into real-time operations and decision-making. Agents capable of continuously learning from live field data will create self-optimising systems - reducing drilling risks, improving recovery factors, and optimising capital allocation. As regulations tighten and sustainability expectations grow, AI will also play a critical role in emissions tracking, compliance, and reporting.

Intelligent solutions being showcased at ADIPEC 2025

At ADIPEC 2025, Gain.Energy is preparing to showcase a suite of intelligent solutions from the Upstrima AI Marketplace. Highlights will include:

- Drilling AI agents, such as Drilling Complications Analysis Agent, reduce non-productive time and improve accuracy at well design and planning stage.
- Logistics AI agents, such as Rig Move Optimisation Agent, deliver real-value optimisation suggestions for cutting costs and improving performance.
- Financial AI agents, such as Spend Cube Analysis Agent, integrate years-worth of your financial data and streamline investment decisions.

What excites us most is the ability to demonstrate not just individual agents, but the ecosystem effect of connecting them. When drilling, logistics and financial agents work together, they create a seamless decision-support environment that accelerates project timelines and improves outcomes across txhe board. This is the kind of integrated intelligence that can move the industry forward.

Cross-sector collaboration for scalable impact

No single sector can solve the energy industry's challenges in isolation. Collaboration between operations, technology, and finance is essential. AI agents can solve technical bottlenecks but also can optimise the entire value chain - from subsurface to surface, from project execution to capital markets.

Gain.Energy is committed to fostering this cross-sector collaboration via scalable AI solutions with real-world impact.

> "What excites us most is the ability to demonstrate not just individual agents, but the ecosystem effect of connecting them."

SPONSOR | **GECKO ROBOTICS** AI ZONE | STAND AI P35

HOW AI CAN POWER THE NEXT LEAP IN ENERGY PRODUCTION

AI holds enormous potential, but Gecko Robotics says many entities struggle to turn that promise into performance because of weak data - so it is here to help

As the world gathers for ADIPEC, the energy industry finds itself at a crossroads. Global power demand is surging and the explosive growth of artificial intelligence is one of the biggest drivers.

AI data centres alone are projected to double their energy consumption by 2030. Meeting that need will require an estimated US$1.5 trillion in annual global investment through 2050 to build the necessary infrastructure.

But amid the rush to expand supply, we're missing a larger opportunity. The real story isn't just how we create the energy to enable AI, it's about how AI can help us get there.

At Gecko Robotics, we're proving that transformation is already underway. Through our partnership with ADNOC, we're showing how AI and robotics can make energy systems smarter, safer, and more reliable, unlocking new levels of performance and productivity across the sector.

Getting the equation backwards

The conversation about energy and AI often starts with one question: how do we generate enough power to meet AI's rising demand? It's an important question, but it gets the equation backward.

Yes, AI needs energy. But energy needs AI even more. Across production facilities, refineries, and power plants, AI can eliminate downtime, optimise operations, and recover enormous amounts of previously wasted energy.

Consider the unseen inefficiencies that drain energy systems daily; a small pipeline leak, a compressor running slightly off balance, or a heat exchanger accumulating micro-defects. Each one may seem minor, but together they represent massive losses across the global energy system.

AI can find and fix those inefficiencies in real time. When applied at scale, those small wins multiply, translating into billions of dollars saved, fewer emissions, and more reliable energy for millions of homes.

Data: the real fuel of AI

While AI holds enormous potential, many companies struggle to turn promise into performance. A recent MIT study found that 95% of generative AI pilots deliver zero return on investment. The problem isn't weak algorithms, it's weak data.

Poor data quality, missing context, and lack of ground truth make it nearly impossible to build models that reflect real-world conditions. As any engineer knows, the best algorithm in the world can't run on an empty tank.

That's where Gecko's approach stands apart. Our field robots collect vast amounts of high-fidelity data from critical infrastructure, refineries, power plants, and industrial facilities. These robots don't just capture photos or surface-level scans. They gather millions of data points that feed into our AI-powered software platform, Cantilever, creating a precise digital understanding of physical assets.

The result is a living, breathing digital record of infrastructure performance, one that replaces binders of paper inspection reports with comprehensive, visualised models that show every inch of an asset in crystal clarity. With this data, operators can predict failures before they happen, extend asset lifespans, reduce emissions, and avoid costly shutdowns. The implications stretch far beyond efficiency: we're talking about billions saved, trillions unlocked.

> "At ADIPEC and beyond, the energy conversation must expand. We need to talk not only about megawatts and molecules but also about datasets, algorithms, and predictive models."

Safety and workforce empowerment

Beyond efficiency and reliability, AI's most profound contribution to the energy sector is safety.

In environments where extreme pressure, heat, or chemical exposure pose constant risks, AI and robotics can take humans out of harm's way. Robots equipped with AI-driven vision systems can inspect confined spaces, analyse high-temperature surfaces, or detect micro-cracks invisible to the human eye.

At the same time, AI is democratising expertise. Historically, mastering roles like turbine maintenance or pipeline diagnostics took decades of experience. Now, AI-powered tools can deliver real-time insights, simulations, and step-by-step guidance to any technician, anywhere.

This combination of robotics and intelligence doesn't just protect workers, it empowers them. It allows a new generation of energy professionals to contribute faster, safer, and more effectively, helping to close the industry's growing skills gap.

Leadership and vision

This transformation isn't happening in isolation. It's being championed by visionary leaders who understand the energy transition requires both ambition and pragmatism. Dr. Sultan Al Jaber has shown exceptional foresight in uniting global energy stakeholders around practical innovation. His leadership ensures that ADNOC remains at the forefront of integrating advanced technologies.

Through partnerships like Gecko's collaboration with ADNOC, we see what's possible when data, technology, and leadership align toward a shared goal: creating safer, smarter, and more sustainable energy systems.

AI won't replace the need for reliable energy infrastructure, and it won't erase the hard engineering challenges of producing and distributing power. But it can, and must, make those systems more intelligent and efficient.

At ADIPEC and beyond, the energy conversation must expand. We need to talk not only about megawatts and molecules but also about datasets, algorithms, and predictive models. Because the next great leap in global energy capacity may not come from discovering new fuel sources, it may come from harnessing the intelligence of the data we already have.

The equation is changing. Energy doesn't just power AI — AI can, and should, enable energy.

SPONSOR | **GEMINUS** AI ZONE | STAND AI P14

ENERGY'S NEXT BREAKTHROUGH IS NOT SIMPLY MORE INFRASTRUCTURE - IT IS INTELLIGENCE FOR SMARTER WORKING

Geminus's physics-informed computational autonomy platform delivers double-digit performance gains in weeks, without costly infrastructure or new investment, turning complexity into clarity at enterprise value chain scale

McKinsey reports 85% of AI pilots never scale. Why? Companies gravitate to small, easy wins instead of big, high-value optimisation problems - because they're seen as too complex. Geminus AI solves this problem head-on.
By combining proprietary ML training techniques with existing computational assets such as simulators and historian data - and applying advanced uncertainty quantification and reasoning - Geminus AI generates robust, reliable intelligence that scales across large systems of assets. Intelligence that is practical, repeatable, and deployment-ready.
Unlike traditional approaches where deployment times are measured in years, our solutions deploy disruptively fast, driving ROI in weeks, or months. Built to serve field operators, engineers, subject matter experts, and executives alike, the Geminus platform embeds directly into existing workflows and IT infrastructure. The result: intelligence that scales across the energy enterprise - upstream, midstream and downstream - to deliver double digit production increases without new capital expenditures.

From automation to autonomy

The first wave of digital transformation focused on automation and visibility. Data collection exploded, sensors multiplied, and dashboards crowded screens. But visibility without action changes little.

Geminus takes a different path. By leveraging existing physics-based computational assets such as simulators and levering proprietary ML training and AI reasoning algorithms, we eliminate need for massive datasets or long, costly integrations. Our AI deploys rapidly, adapts seamlessly to system changes, and performs even in data-sparse environments. The result is true autonomy - industrial systems that optimise themselves continuously and at scale.

Geminus flare reduction as a case example

Eliminating natural gas flaring shows just how much impact is possible when Geminus takes on complex industrial systems. Every year, an estimated 150 million cubic meters of natural gas is burned off globally, despite huge financial, operational, and environmental incentives to stop. Traditional fixes require expensive infrastructure projects, and years of work.

A Bakken operator turned to Geminus to break that cycle. In just weeks, the Geminus AI platform built a model of their field - spanning hundreds of well pads and dozens of compressors - using only existing physics-based simulations and field data. Engineers and field teams could immediately run 'what-if" scenarios and push-button optimisations within operational limits. The payoff: millions of dollars in gas preserved and major CO2 reductions.

Within 12 months, an AI application covering the entire field was in production - no new infrastructure, no extra capital spend. This is what industrial AI at speed and scale looks like.

The energy story of the next decade won't be about collecting ever more data - it will be about leveraging all of an organisation's computational assets, at scale. The winners will be those whose systems adapt in real time and deliver measurable impact.

> The convergence of energy and AI isn't about tinkering at the edges - it's about scale.

Three forces are driving that shift:

System-level optimisation

Today, most tools still optimise one asset at a time. But energy doesn't flow in silos, it flows through networks. The breakthrough comes when intelligence spans entire systems, balancing constraints and opportunities across the value chain. The payoff: massive efficiency gains and measurable sustainability wins.

Computational autonomy

The future is computational autonomy: AI created by fusing data, and computational assets such as simulations with advanced training and reasoning algorithms to automatically propose strategies, test them virtually, and then deploy them enterprise-wide. It's the leap from isolated design tools to true system-level intelligence.

Algorithmic co-design

Full autonomy may still be on the horizon, but adaptive intelligence is already here. AI systems that leverage existing computational assets and automatically select the best training, optimisation, uncertainty quantification and reasoning algorithms to self-adjust and improve without new infrastructure or retraining are helping operators build resilience, boost performance, and move decisively from reactive to proactive.

These aren't abstract predictions. They're already in the field, reshaping how energy systems run. The next decade will belong to companies bold enough - and fast enough - to scale them.

In focus at ADIPEC

Geminus is showcasing intelligence that scales beyond pilots and delivers results. In the AI Zone, a demonstration with Bapco Upstream will show how Geminus AI cuts flaring and optimises networks in real time, producing double-digit performance gains in weeks, without new infrastructure or added investment.

Visit us to see how it can help you unlock hidden value across operations.

Conclusion

The convergence of energy and AI isn't about tinkering at the edges - it's about scale, breaking free from pilot purgatory, and proving that flaring, inefficiency, and waste can be eliminated without billions in new infrastructure. Geminus is proving this, now. Physics-informed models adapt quickly, deploy rapidly, and deliver results in weeks, not years. Scaled across the industry, solutions like Geminus could recover vast amounts of gas while cutting millions of tonnes of emissions.

This impact requires collaboration. Together, solutions scale faster and impact becomes real - the future Geminus is driving.

SPONSOR | **GEO CRUISER DIGITAL** AI ZONE | STAND AI P26

AI-DRIVEN OILFIELD SOLUTIONS THAT REVOLUTIONISE WELLBORE MANAGEMENT AND INDUSTRIAL SOFTWARE AUTOMATION

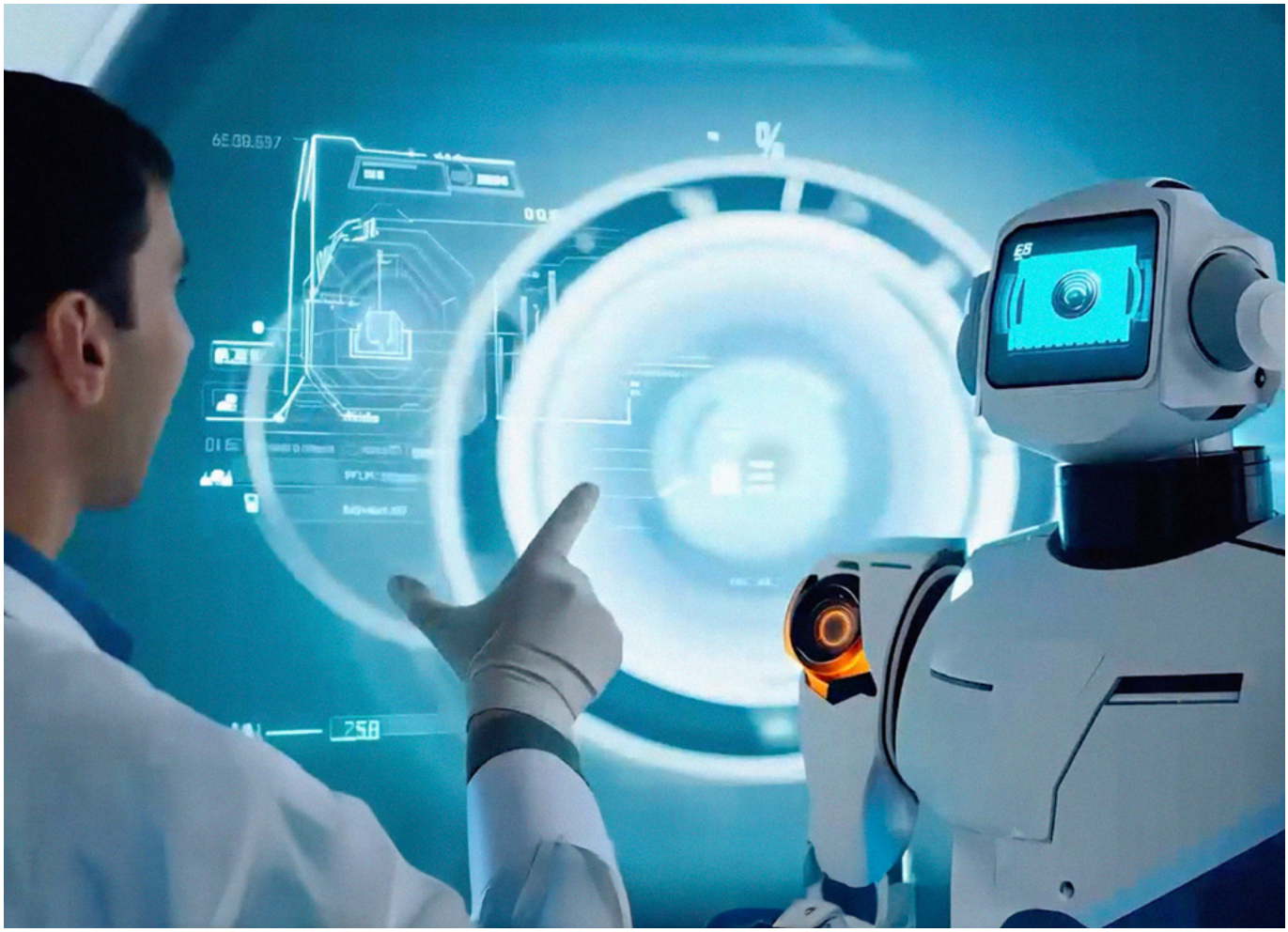
Show spotlight will shine on Geo Cruiser Digital solutions that cut costs, boost efficiency, and drive innovation

The integration of artificial intelligence (AI) with petroleum energy is redefining operational efficiency in the oil and gas sector. For decades, the industry has grappled with challenges like inefficient manual wellbore diagnosis, prolonged reservoir simulation cycles, and error-prone geological modelling processes. AI, however, is turning these pain points into opportunities, transforming massive, fragmented oilfield data into precise, actionable insights - laying the groundwork for a shift from 'experience-dependent' to 'data-intelligent' operations.

As a key enabler of this transformation, our organisation focuses on developing two core AI-powered solutions tailored to address critical oilfield needs, directly addressing inefficiencies in wellbore management and industrial software workflows.

Potent impact of a flagship innovation

Our first flagship solution is the Wellbore-Reservoir Intelligent Agent Platform, designed to cover the full spectrum of wellbore operational scenarios.
For rod pumping wells, it integrates Multi-Source Data



Fusion and CNN-LSTM deep learning models, achieving over 95% accuracy in dynamometer card diagnosis. It automatically collects and preprocesses data - including dynamometer curves, load, and stroke rate - and outputs real-time fault analysis (eg., gas locking, valve leakage) with recommended actions.
For flowing wells, it uses a 'Multi-Parameter Coupling + Dynamic Threshold Early Warning' model to identify sand production precursors (for example, sudden pressure drops, yield fluctuations) and trigger graded alerts, shifting sand production management from 'passive detection' to 'active prevention'.
For electric submersible pump (ESP) wells, it builds a health assessment model that monitors over 10 parameters (current, voltage, downhole temperature) to generate a zero-100 health score, enabling fault localisation and remaining life prediction - reducing unplanned downtime by 30%. Additionally, it analyses well group connectivity using numerical simulation and machine learning to optimise injection-production parameters, boosting well group output by five-10%.
Critically, this platform leverages Large Language Models (LLM) and Model Context Protocol (MCP) technology: MCP solves integration challenges between LLM and existing oilfield IoT systems, enabling seamless data querying and analysis, while integrating algorithms like CNN-LSTM to automate potential production issue detection.
Once issues are identified, the agent sends detailed analysis results to relevant engineers via an AI-powered email agent, slashing fault response time by 60%.

AI automatically identifying geological features

Our second solution is the Oil and Gas Industrial Software AI Transformation Platform, focusing on optimising numerical simulation (via MCP) and geological modelling (via RPA).

> Cross-industry collaboration between energy, tech, and finance is pivotal for scaling these solutions.

For numerical simulation software, MCP-driven intelligent transformation addresses inefficiencies in complex reservoir modelling. AI automatically identifies geological features (including reservoir heterogeneity, fluid distribution) from historical data (covering diverse reservoir types) and matches initial simulation parameters to cut model construction time by over 50%.
For multi-scenario development plan verification (for example, water flooding, fracturing), AI enables intelligent parameter iteration, compressing simulation cycles from weeks to days.
For geological software, RPA already streamlines core software operations like data import, formation query, and model updates, cutting data loading time from eight-12 hours to 45 minutes, boosting formation query efficiency by 70%, and reducing new well data integration from three-five days to six hours.
To further enhance RPA's software automation capabilities, we are exploring Microsoft's Omniparser project - a forward-looking software automation technology that addresses key RPA limitations. Traditional RPA often struggles with dynamic software interfaces (for example, updated geological software dashboards, custom control elements) and cross-software operation consistency, requiring frequent reconfiguration.
Omniparser excels at precise identification of dynamic interface elements - such as custom chart controls, pop-up buttons in geological tools - and ensures consistent operation across different software versions or vendors.
It also simplifies complex automation workflows by eliminating the need for extensive script writing, allowing RPA to cover more advanced software operations (for example, batch adjustment of geological model parameters, automated triggering of data flow between multiple tools). This integration makes our RPA-driven software automation more adaptable, reliable, and future-ready for evolving oilfield software ecosystems.

Forward thinking for industry gains

Looking ahead, three AI-driven trends will reshape the industry: AI-integrated IoT for real-time predictive maintenance; AI-enhanced digital twins for holistic oilfield scenario testing; and autonomous decision systems for routine operational optimisation.
At ADIPEC 2025, we aim to showcase how these solutions cut costs (for example, 80% lower manual verification costs for abnormal dynamometer card analysis results), boost efficiency, and drive innovation.
Cross-industry collaboration between energy, tech, and finance is pivotal for scaling these solutions. Tech firms provide tools like Omniparser; energy companies offer on-site expertise; and financial institutions fund R&D.
This synergy accelerates adoption, ensuring AI's transformative impact reaches every corner of petroleum operations.

SPONSOR | **GLOBAL MARITIME** HALL 16 | STAND 16180

HOW AI CAN POWER THE NEXT LEAP IN ENERGY PRODUCTION

Marine consultancy Global Maritime explains how it can help clients in the sector navigate towards a more sustainable and financially robust operating model for their fleet

Currently the energy industry is in a hyper cycle of activity - technologically, ethically, and geopolitically.

At no time in history has there been so many variables at play that influence society, security and the economy.

Over the past five years Global Maritime has seen a steady rise in decarbonisation across the maritime sector. Initially this was focused on the build out of fixed offshore wind; the expectation is that the industry will migrate to deeper water and into floating wind developments.

Although it must be recognised that the floating sector has faced some headwinds recently.

As a marine consultancy built on decades of experience, Global Maritime has supported the offshore floating wind market.

Most recently performing the disconnect and tow of the Hywind Scotland floating wind turbines for maintenance.

The Hywind turbines - co-owned by Masdar and Equinor - required an agile execution and project delivery model.

This ensured all five turbines were disconnected, towed to port, repaired, towed back on location prior to hook up and commissioning.

This offshore execution was undertaken in one summer campaign, which was an essential project success factor.

Ultimately the project was delivered on time, to budget, and to the client's satisfaction.

As a business, Global Maritime is seeing an increased shift in maritime decarbonisation, driven by regulation and an increased focus on sustainability.

This October, it is widely expected that the International Maritime Organisation, (IMO), Net Zero Framework, (NZF) will be implemented.

This is a global plan by the IMO to make international shipping reach net zero for GHG emissions by 2050.

It also sets fuel efficiency and emissions rules for ships greater than 5,000GWT and introduces a payment system where cleaner ships are rewarded and higher-emitting ships must pay into a fund that supports greener technology and developing countries.

This framework will legally take effect in 2027, and ships will need to start following the new rules from January 2028.

Once implemented this will be a game-changer for maritime shipping. Now vessel owners will look to futureproof their fleets to be more sustainable.

Global Maritime also appreciates the responsibility it has as a marine consultancy to support clients in this transition.

We have developed digital tools to support environmental management. Our Pollution Prevent Management System (PPMS) provides assured MARPOL compliance and establishes a baseline for the environmental compliance of marine assets.

The purpose of the PPMS is not only to identify environmental gaps but to provide the feedback on areas of improvement that reduces operating costs, minimises environmental impact and verifies compliance.

As a business, our opportunity is to help clients navigate their way to a more sustainable and financially robust operating model for their fleet.

We are seeing an increased trend in the use of alternative marine fuels in shipping. The three main alternative fuels are green hydrogen, green methanol and green ammonia.

Although there is often heated debate over which provides the best solution for the maritime sector, it is

> "The maritime industry stands at a defining moment where sustainability, innovation, and regulation intersect to reshape the future of global shipping."

important to recognise that both methanol and ammonia are derivatives of hydrogen.
So, regardless of your loyalty to one fuel type or another, the baseload stock is green hydrogen.
It is also important to recognise that when it comes to alternative fuels there is no 'silver bullet'.
Alternative fuels will only work when partnered with fuel efficiency. Managing your vessel efficiency can be delivered through digital solutions to optimise your route selection, digital port operations which facilitates "just in time" management of vessel movements, thus decreasing fuel burn.
Finally, propulsion technologies such as rotate sails for wind assist are becoming more commonplace.
By utilising these technologies, we can optimise operations, increasing fuel efficiency, paving the way for alternative fuels such as green hydrogen or its derivatives.
In conclusion, the maritime industry stands at a defining moment where sustainability, innovation, and regulation intersect to reshape the future of global shipping.

As the IMO Net Zero Framework approaches implementation, the sector's collective drive toward decarbonisation will accelerate the adoption of clean fuels, digital optimisation, and efficient vessel management.
Global Maritime remains committed to guiding clients through this transformation by combining decades of operational expertise with advanced environmental and digital solutions.
Our focus extends beyond compliance — we aim to enable a resilient, future-proof maritime ecosystem that supports economic growth while safeguarding the environment.
Whether through pioneering projects like Hywind Scotland, advancing digital environmental management systems, or supporting the adoption of green fuels, Global Maritime continues to play a pivotal role in shaping a cleaner, more efficient maritime future.
The journey to net zero is well underway, and collaboration will be key to achieving it.

IMPACT CHAMPION SPONSOR | **HEXAGON** HALL 15 | STAND 15250

ENERGY ORGANISATIONS USE AI AS A FORCE MULTIPLIER TO PUT DATA TO WORK

In an industry besieged with data, Hexagon is using AI to help the energy sector create smarter digital realities where data is connected and actionable

Energy companies face a common challenge. Data is everywhere, but it's fragmented, underutilised and often challenging to extract and connect – particularly if it's unstructured or inconsistently formatted.

AI is key to addressing this, and it is rapidly changing the way the energy sector designs, operates and sustains critical assets.

For example, integrating large volumes of documentation into engineering systems has long been such a time-intensive and manual process that many companies have partly renounced digitising project files.

AI is removing that barrier with new capabilities that make it possible to ingest troves of documents with minimal or no configuration, automatically identify document types, extract relevant data and associate it with existing asset models.

This makes historical documents actionable in a modern environment, such as a digital twin or an enterprise asset management platform. The efficiency gain here is substantial.

At Hexagon's Asset Lifecycle Intelligence division, we use AI to help the energy sector create smarter digital realities where data is connected and actionable.

Drawing on extensive industry knowledge, our technologies drive efficiency for more than half of all oil, gas and chemicals processed globally - we enrich legacy data and unlock the value in documents, 3D models and other data sources.

By using AI to 'smartify' data, we build a robust asset information foundation that turns fragmented data into a trusted knowledge base and enables safer operations, reduced downtime and measurable productivity gains.

In our solutions, AI serves as a 'force multiplier', enabling the workforce to achieve more, faster and with higher-quality outcomes.

A practical example is piping design. While it plays an outsized role in the success of an energy project and the safe operation of a facility, it often remains a manual, error-prone process.

We leverage AI for predictive pipe routing, using algorithms to create optimal pathways for pipes in 3D plant models. This significantly reduces design time and total project costs, and eliminates costly errors through automated collision detection. Just as importantly, AI frees engineers from tedious tasks for higher-value design activities.

The benefits of AI in piping do not stop at designing the new, it can solve major pain points energy companies experience at existing facilities.

For example, it can be used to digitise, contextualise and verify existing documents, such as piping and instrumentation diagrams (P&IDs). P&IDs exist in nearly every project, but often in inconsistent formats - some are easy to interpret, others not.

For years, technology that helps extract tag data from these documents to make them more intelligent and visual has been available.

But we now go further. Using symbol recognition, our tools can extract not just tag numbers but their classes. The system can identify, verify and associate tags with high accuracy, learning over time. A dedicated interface allows users to review the output, confirm compliance and assess the confidence level of each extracted item.

> "Our clients can now leverage multiple specialised AI agents that can understand technical questions and engineering contexts and deliver highly reliable responses through advanced data contextualisation and relationship mapping."

HEXAGON

The benefits are significant: faster validation of existing assets, fewer errors from manual interpretation, smoother compliance audits and a reliable digital foundation for operations and future upgrades.
In the near term, AI-powered predictive and prescriptive maintenance is already driving significant impact by reducing unplanned downtime, extending asset life and enhancing safety.
Over the next decade, the convergence of AI, digital twins and autonomous operations will be transformative. Intelligent twins will evolve into dynamic, learning systems that continuously contextualise data, recommend proactive actions, and advance decarbonisation and sustainability objectives.
We are already seeing the problems it can solve with HxGN Alix, our AI-powered assistant.
It saves energy professionals significant time that was previously wasted on searching through complex asset data or looking for regulatory or process guidance.
Our clients can now leverage multiple specialised AI agents that can understand technical questions and engineering contexts and deliver highly reliable responses through advanced data contextualisation and relationship mapping. The possibility to offer on-demand expert advice at any time is extremely valuable: it can drive major improvements in performance, safety and workforce self-sufficiency.
Equally, the future will be shaped by human - AI collaboration, where embedded intelligence acts as a force multiplier - freeing the workforce from routine tasks and enabling focus on higher-value decisions.

Cross-sector collaboration is essential

Energy operators have the data and invaluable domain expertise. Technology providers like Hexagon help them 'make data make sense', using it to design, construct and operate better facilities.
For example, AI algorithms can automatically extract information from thousands of scanned blueprints, turning them into a searchable database.
When a tech provider demonstrates measurable outcomes, it provides the clear business case that finance partners need, accelerating adoption and reducing financial risk.

SPONSOR | **IKM SUBSEA** HALL 16 | STAND 16066

REDEFINING SUSTAINABLE SUBSEA OPERATIONS FOR FUTURE CHALLENGES

IKM Subsea discusses how its Merlin Next Gen ROV and advanced Onshore Control Centres redefine how subsea operations are executed and set new benchmarks

A leading independent operator in the global ROV and subsea services industry, IKM Subsea is distinguished by its pioneering use of electric Work-Class ROVs (WROVs) and a proven track record of operational excellence.

As the first company to successfully develop and deploy electric WROVs, IKM Subsea has consistently led the way in technological innovation, sustainability, and remote capability.

With a workforce of approximately 400 skilled professionals and a fleet of more than 30 ROV systems, IKM Subsea is recognised as one of the world's foremost ROV operators.

Headquartered in Bryne, Norway, the company has expanded its global footprint to include offices in the UK, Brazil, the Middle East (UAE), Malaysia, Indonesia, and Singapore, thereby ensuring high-quality service delivery across all major offshore markets.

Since founding in 2007, IKM Subsea has executed more than 1,000 projects across a wide spectrum of subsea operations.

These include engineering, survey, drill support, inspection, maintenance and repair (IMR), installation and intervention, decommissioning, anchor management, SURF, cable installation, renewable energy, and ROV tooling. This breadth of experience has positioned IKM as a trusted partner for both traditional energy and emerging offshore sectors.

Innovation for global subsea missions

A cornerstone of IKM Subsea's innovation strategy is its Onshore Control Centre (OCC), which enables remote ROV operations from land-based facilities in Norway and Singapore.

These OCCs operate 24/7, 365 days a year, coordinating global subsea missions with precision and reliability. By eliminating the need for offshore personnel deployment, the OCC model significantly reduces operational costs and carbon emissions.

When paired with electric WROVs, the OCC system delivers up to **95%** lower emissions compared to traditional hydraulic ROVs - saving approximately 100-600kg of CO_2 per day.

Over the course of a year, this translates to more than 100,000kg of CO_2 savings per ROV system, underscoring IKM's commitment to environmental stewardship and sustainable operations.

The OCC has also demonstrated its technological robustness and scalability by executing remote ROV operations over 2,700km via satellite communication to vessels operating globally.

This milestone showcases the reliability of IKM's remote operations software and its ability to support complex, long-distance missions with minimal environmental impact.

Beyond sustainability, the OCC model enhances safety, reduces offshore headcount, and improves rig utilisation. It also facilitates cross-training and smart ROV deployment, contributing to more resilient and efficient operations.

With plans to expand OCC infrastructure - including potential new centres in the Middle East - IKM Subsea is poised to redefine how subsea operations are conducted: remotely, intelligently, and sustainably.

> "As the offshore industry continues to evolve, IKM Subsea remains firmly committed to driving innovation, sustainability, and operational excellence."

Next generation technology

Complementing the OCC is IKM's latest technological breakthrough: the Merlin Next Gen ROV.

This next-generation electric WROV builds on the legacy of the WR200 model and represents a bold leap forward in subsea capability. The Merlin Next Gen is part of a comprehensive refurbishment and new-build programme that will expand the fleet to 32 vehicles by 2026.

Technically, the Merlin Next Gen boasts a depth rating of 3,000 metres seawater (msw), extendable to 4,000 msw, and horizontal thrust of up to 1,200 kgf. This makes it ideal for high-current environments and demanding subsea missions.

It supports over-the-horizon remote control via IKM's OCC and delivers hydraulic flow rates up to 160 litres per minute, ensuring robust tooling capabilities.

The fleet upgrade includes the refurbishment of 17 WR200 units and the addition of new builds, each equipped with advanced manipulators, high-definition cameras, and modular valve packs.

The design addresses previous limitations in size, hydraulic output, and maintenance accessibility, offering improved performance and serviceability.

Merlin Next Gen is engineered for versatility and reliability across a range of applications, including IMR, construction, drill support, and renewable energy projects.

Its high uptime, remote operability, and technical superiority make it a compelling choice for clients seeking efficient and future-ready subsea solutions.

Future-ready commitment

As the offshore industry continues to evolve, IKM Subsea remains firmly committed to driving innovation, sustainability, and operational excellence. With the Merlin Next Gen ROV and our advanced Onshore Control Centres, we are not only redefining how subsea operations are executed but also setting new benchmarks for environmental responsibility and remote capability.

Our global presence, proven track record, and forward-thinking technology position us as a trusted partner for the future of subsea services.

Whether supporting traditional energy or renewables, IKM Subsea is ready to meet the challenges ahead - efficiently, intelligently, and sustainably.

SPONSOR | **INNOBAYT** AI ZONE | STAND AI P33

AI + ENERGY + SAFETY: REIMAGINING INDUSTRIAL HSE WITH INTELLIGENCE

As the energy industry moves toward its next frontier, Innobayt says it is proud to be enabling a future that's not only smarter - but safer

As the energy sector undergoes rapid digital transformation, a new kind of intelligence is reshaping how we protect people, safeguard operations, and ensure compliance - even in the most extreme environments.

Artificial intelligence (AI), when combined with real-time industrial IoT, enables energy companies to shift from reactive safety management to proactive, predictive, and automated HSE ecosystems.

We are proud to be building this future. Our AI-powered platforms are already redefining how large construction sites, oil and gas operations, and industrial facilities manage heat stress, worker health, emergency response, and compliance - all in real time.

A platform approach

Our journey began with a focused problem: managing thermal stress in high-heat job sites. We developed a real-time Thermal Work Limit (TWL) monitoring system that uses environmental sensors to calculate risk, trigger alerts, and log all safety actions for compliance and audit trails.

It didn't stop there. Today, we offer a modular, scalable smart HSE platform that includes:

- TWL monitoring for heat stress prevention
- Emergency evacuation system (PA, tracking, incident replay)
- Access control integrations with existing contractor systems
- PPE compliance using computer vision at entry gates
- Multi-language text-to-speech PA system
- Wearables for real-time heart rate, SPO2 and BP tracking, in addition to GPS for real-time location services
- Smoke level monitoring across industrial zones
- Alcohol breath analyser integration for site entry compliance
- AI-powered HSE dashboards with real-time health and safety KPIs

Each module operates autonomously, logs detailed safety records, and contributes to a single command centre for real-time HSE intelligence.

INNOBAYT

Driving measurable impact in the field

In partnership with a major EPC contractor in the Middle East, our integrated platform has delivered measurable results, namely 70% reduction in heat-related incidents, 40% faster emergency drill response times, and multiple smoke hazard mitigations through air quality alerts.
This is AI in action, driving real-world outcomes across safety, efficiency, and compliance.
We believe the energy industry's most transformative AI trends can be viewed in two phases.
Now:

- Edge AI for safety devices - enabling real-time decisions even in offline environments
- Computer vision for PPE compliance - ensuring standards without manual checks
- Sensor-driven risk monitoring - TWL, smoke levels, gas leaks, fatigue

Next decade:

- Digital twins for emergency simulation
- AI-driven incident prediction models
- Integrated safety and insurance ecosystems where premiums adapt to real-time compliance data

These technologies will redefine not just HSE but operations, insurance models, and ESG compliance across the industry.

Showcasing and exploring at ADIPEC 2025

Innobayt will unveil a powerful visual experience of our full-spectrum Smart HSE Intelligence Platform - bringing to life real-world safety scenarios, predictive analytics, and AI-powered workflows through interactive dashboards and immersive video simulations.

TWL monitoring and environmental risk intelligence
Experience how our AI engine processes real-time weather inputs, calculates TWL, and automatically triggers compliance alerts - ensuring heat stress risks are mitigated before incidents occur.

Emergency response and smart evacuation flows
See multi-language text-to-speech (TTS) broadcast logic and evacuation routing in action - simulating live incident scenarios with automated alert escalation across zones.

Unified HSE command dashboards
Explore a real-time control tower view of safety KPIs, compliance status, health alerts, and historical safety insights - enabling proactive, data-driven HSE management.

AI-powered PPE detection and compliance automation
Watch renderings of our vision-based PPE detection system ensuring helmets, vests, safety shoes, and glasses are worn - preventing non-compliance before entry.

Smart smoke detection and air quality escalation
Observe how AI-driven smoke level monitoring and trend analytics can instantly trigger area-based alerts and pre-defined evacuation protocols.

Alcohol screening intelligence and compliance analytics
Gain insights into how breath analysis data integrates with access control, offering proactive safeguards against intoxication-related risks on site.

Worker wearable integration with GPS and health monitoring insights
Visualise how real-time biometric data - including heart rate, oxygen levels, and blood pressure - combined with GPS-based location tracking, feeds into our HSE dashboards to prevent fatigue-related incidents, monitor on-site safety, and enable faster emergency response.

Cross-sector collaboration for scale

Solving safety at scale requires more than intelligent systems - it demands meaningful collaboration across energy, technology, and finance.
We see growing opportunity in building performance-linked safety frameworks, where real-time compliance data from AI-driven platforms could inform insurance premiums, ESG-linked financing, or investment in proactive risk reduction technologies.
The foundation is in place; the next leap forward lies in co-creating these scalable models with ecosystem partners - helping shift the economics of safety from cost-centre to value-creator.
At Innobayt, we don't just build AI, we build intelligence that protects lives, preserves uptime, and empowers safety leaders to do more with less.
"AI in the energy industry is not about automation for the sake of convenience - it's about using intelligence to reduce risk, enhance compliance, and safeguard human lives in unforgiving conditions," adds Shamlia Shukkur, Co-Founder and CTO.

> AI in the energy industry is not about automation for the sake of convenience - it's about using intelligence to reduce risk, enhance compliance, and safeguard human lives in unforgiving conditions.

SPONSOR | **KOREA EHT** AI ZONE | STAND AI P22

SMARTRACE: AI-POWERED OPTIMISATION FOR ELECTRICAL HEAT TRACING

AI Zone sponsor Korea EHT discusses how its SMARTRACE AI-powered optimisation software is fundamentally changing the way electrical heat tracing design is conducted

The relationship between energy and artificial intelligence is transforming the future of industrial operations.

In the energy sector, the demand for efficiency, safety, and sustainability continues to grow, while projects become increasingly complex and cost-sensitive.

Artificial intelligence offers a way to bridge these challenges by enabling data-driven design, predictive analysis, and optimised decision-making. At Korea EHT, we are leveraging AI to reshape how electrical heat tracing (EHT) systems are designed and operated.

Enhancing delivery of a critical technology

EHT is a critical technology for industrial plants, ensuring freeze protection, temperature maintenance, and process integrity in environments ranging from LNG terminals to petrochemical plants and power stations.

Traditionally, designing EHT systems requires engineers to evaluate large volumes of mechanical and piping data, apply safety margins, and manually configure heating cables, junction boxes, and accessories. This process is not only labour-intensive but also prone to inefficiencies such as over-design, excessive energy consumption, and increased project costs.

To address these challenges, Korea EHT has developed SMARTRACE, an AI-powered optimisation software that fundamentally changes the way EHT design is conducted.

KOREA EHT
Electric Human Technology

SMARTRACE integrates engineering knowledge, real-time data, and AI algorithms to automate the entire design process - from mechanical drawing interpretation to optimised cable routing and load calculation.

The advantages of optimisation software
One of the key strengths of SMARTRACE is its ability to interpret isometric piping drawings and automatically identify the optimal placement of heat tracing cables and accessories.
Instead of relying on manual engineering, the software processes mechanical inputs, environmental conditions, and material properties to generate a design that meets performance requirements with maximum efficiency.
The result is a heat tracing system that not only ensures safety and compliance, but also reduces total installed cost and operating energy consumption.

Real-world testing illuminates SMARTRACE benefits
In pilot projects, SMARTRACE has demonstrated significant impact. Compared to traditional manual design, the AI-driven approach has reduced engineering time by more than 60% and minimised material waste by identifying the exact cable type, output, and quantity required.
For end-users, this translates to faster project execution, lower capital expenditures, and reduced operational costs throughout the lifecycle of the plant.
Another innovation within SMARTRACE is its predictive maintenance capability.
By integrating sensor data and operational feedback, the system can continuously monitor cable performance and detect early signs of degradation or abnormal operation. This enables plant operators to perform targeted maintenance before issues escalate, reducing downtime and ensuring uninterrupted operations.
For industries such as oil and gas and LNG, where even minor failures can lead to costly disruptions, this capability provides immense value.

Transformative potential for a changing industry
Looking ahead, we believe AI-driven solutions such as SMARTRACE will have a transformative impact on the energy industry.
And in the coming decade we expect three major trends:

- AI-enhanced engineering automation - reducing manual design workload and allowing engineers to focus on higher-level problem-solving.
- Energy optimisation through predictive intelligence - lowering carbon footprints by precisely matching energy usage to process requirements.
- Cross-sector collaboration between energy, AI, and finance - enabling large-scale deployment of intelligent solutions with shared benefits across industries.

SMARTRACE in the exhibition spotlight
At ADIPEC 2025, Korea EHT is excited to showcase SMARTRACE in the AI Hall as one of its flagship innovations. Visitors will get to experience how our solution enables EPC contractors and end-users to achieve smarter, safer, and more sustainable plant operations. Beyond technology demonstrations, we also look forward to engaging with industry leaders to explore new collaborations that accelerate the adoption of AI in energy projects worldwide.

Energy, intelligence, and impact - this is the guiding principle behind our innovation.
With SMARTRACE, Korea EHT is committed to leading the transformation of electrical heat tracing from a manual engineering process into an AI-driven discipline that ensures efficiency, reliability, and sustainability for the global energy industry.

> “Korea EHT is committed to leading the transformation of electrical heat tracing from a manual engineering process into an AI-driven discipline that ensures efficiency, reliability, and sustainability for the global energy industry.”

SPONSOR | **MCDERMOTT**

READY TO EXPLORE AI SOLUTIONS THAT CAN SCALE ACROSS GLOBAL OPERATIONS

McDermott outlines how it is leveraging AI to drive the transformation by capturing operational gains and delivering efficiencies for real impact

How is the relationship between energy and AI transforming the future? What role does your organisation play in shaping that transformation?

AI is redefining the energy sector by unlocking new levels of efficiency, safety, and sustainability. Its impact spans critical domains such as safety, project management, fabrication, and engineering, from predictive analytics that prevent incidents to intelligent planning tools that optimise schedules and resources.

McDermott's role is to lead this transformation by capturing productivity gains while ensuring operational excellence through robust AI governance.

Can you briefly describe one of your AI-powered or digital solutions and how it is driving efficiency, innovation and impact in the energy industry?

Our AI Project Assistant solution chatbot for contract requirements is a domain-specific AI solution that enables our revenue project teams to interact with complex EPC contracts and specifications in natural language. It dramatically reduces the time spent searching through vast document sets which accelerates decision-making and improves the efficiency of the compliance process.

Which AI-driven energy technologies or trends do you believe will have the most transformative impact on the industry – both now and in the next decade?

Autonomous and AI-assisted construction will be game-changing, with robotics revolutionising welding, inspection, and other critical tasks in the EPCI industry.

For example, AI-enhanced robotics in fabrication yards could optimise welding precision and speed, while drones equipped with AI could perform inspections and maintenance tasks at heights, reducing human risk and improving operational efficiency.

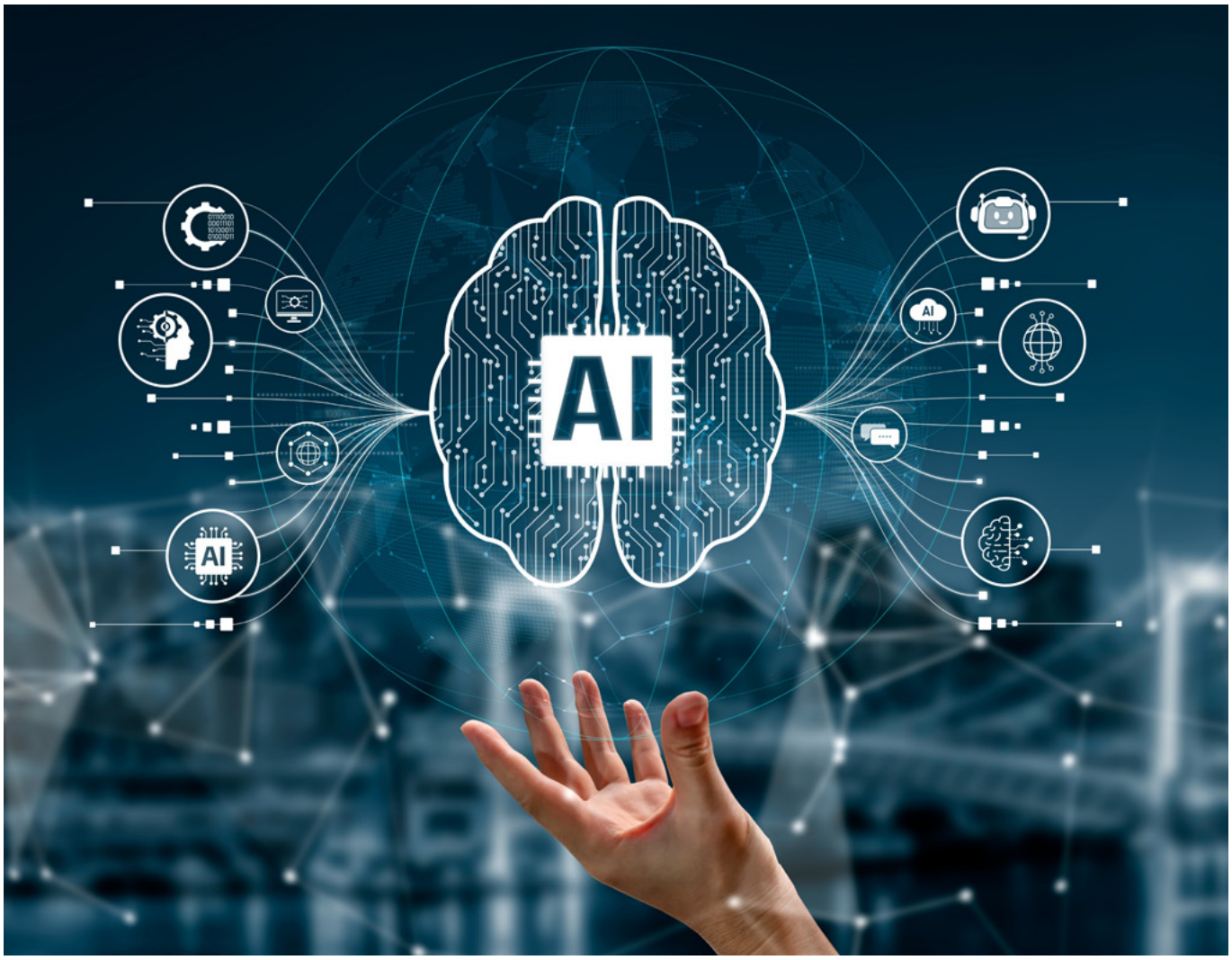
Beyond that, AI will permeate every phase of the project lifecycle, from generative AI for design, project planning and scheduling, procurement optimisation, and construction. Agentic AI, which enables systems to act autonomously with goal-directed behaviour, will further amplify this transformation. When implemented at scale, Agentic AI can drive intelligent decision-making across engineering design, supply chain logistics, and back-office functions such as legal, finance, and HR.

> "Agentic AI solutions are especially exciting as they offer the potential to autonomously manage complex workflows and make decisions across engineering, operations, and enterprise functions."

What intelligent solutions are you most excited to both showcase and explore at ADIPEC 2025? How do you think they will accelerate the industry's progress?

We are particularly interested in exploring AI solutions that can scale from proof-of-concept to full production across global operations. Many promising technologies demonstrate value in controlled environments, but the real challenge and opportunities lies in scaling them effectively. Agentic AI solutions are especially exciting as they offer the potential to autonomously manage complex workflows and make decisions across engineering, operations, and enterprise functions.

MCDERMOTT



We are also keen to explore technologies that enable autonomous operations. We believe they will be pivotal in transforming how we approach inspection, maintenance, and construction to improve safety by reducing human exposure to hazardous task or environments.
Finally, we will explore and discuss intelligent solutions that enhance sustainability, such as AI-driven energy optimisation and emissions tracking at ADIPEC this year.

How can cross-sector collaboration – between energy, technology and finance – help accelerate scalable solutions and real-world impact?
Breakthrough innovation requires the convergence of domain expertise, cutting-edge technology, and capital. Energy companies bring operational knowledge, technology partners deliver advanced capabilities, and financial institutions provide the investment needed to scale. By aligning these forces, we can accelerate innovation, de-risk large-scale projects, and deliver solutions that drive both business value and societal impact.

> Breakthrough innovation requires the convergence of domain expertise, cutting-edge technology, and capital. Energy companies bring operational knowledge, technology partners deliver advanced capabilities, and financial institutions provide the investment needed to scale.

SPONSOR | **MITSUBISHI HEAVY INDUSTRIES** HALL 7 | STAND 7152

POWERING PROGRESS AND IMPACT WITH FUTURE-READY TECHNOLOGIES

MHI Group is preparing to highlight how its integrated solutions deliver the kind of real-world impact the evolving energy industry requires now and going forward

The global energy system is being reshaped by profound shifts - surging electricity demand, climate imperatives, and the digital revolution. From the explosive growth of data centres and AI infrastructure to the accelerating electrification of transport and industry, power systems must evolve rapidly. At Mitsubishi Heavy Industries (MHI) Group, we see this transformation an opportunity - to deliver intelligent, high-impact solutions that enable cleaner, more resilient energy systems.

Leading change with proven and emerging technologies

As one of the world's most trusted technology partners, MHI brings deep expertise in delivering reliable, scalable solutions for the energy sector.

We are supporting customers worldwide in navigating the energy transition - pursuing decarbonisation without compromising on energy security and economic growth. Our portfolio is designed to serve both immediate needs and long-term ambitions. With over 1,700 Mitsubishi Power gas turbines delivered across more than 50 countries, our fleet underpins electricity systems globally.

Today, these turbines are increasingly delivered 'hydrogen-ready', capable of co-firing hydrogen - helping future-proof energy infrastructure for coming decades. From hydrogen-ready turbines to harnessing waste heat, our technologies are built for today's demands and tomorrow's ambitions.

Crucially, our turbines provide flexible, dispatchable power - a vital complement to variable renewable energy sources. In an age where stability is paramount, particularly for data centres and industrial hubs, thermal generation with a low-carbon footprint becomes indispensable.

Innovation with impact

One standout example of innovative energy use comes from our subsidiary, Turboden, which specialises in Organic Rankine Cycle (ORC) systems.

These solutions can capture waste heat from industrial processes, engines and turbines - including those powering data centres - and convert it into additional electricity.

This not only enhances energy efficiency but also reduces emissions, offering customers a clear return on sustainability and operational performance.

What's shaping the future

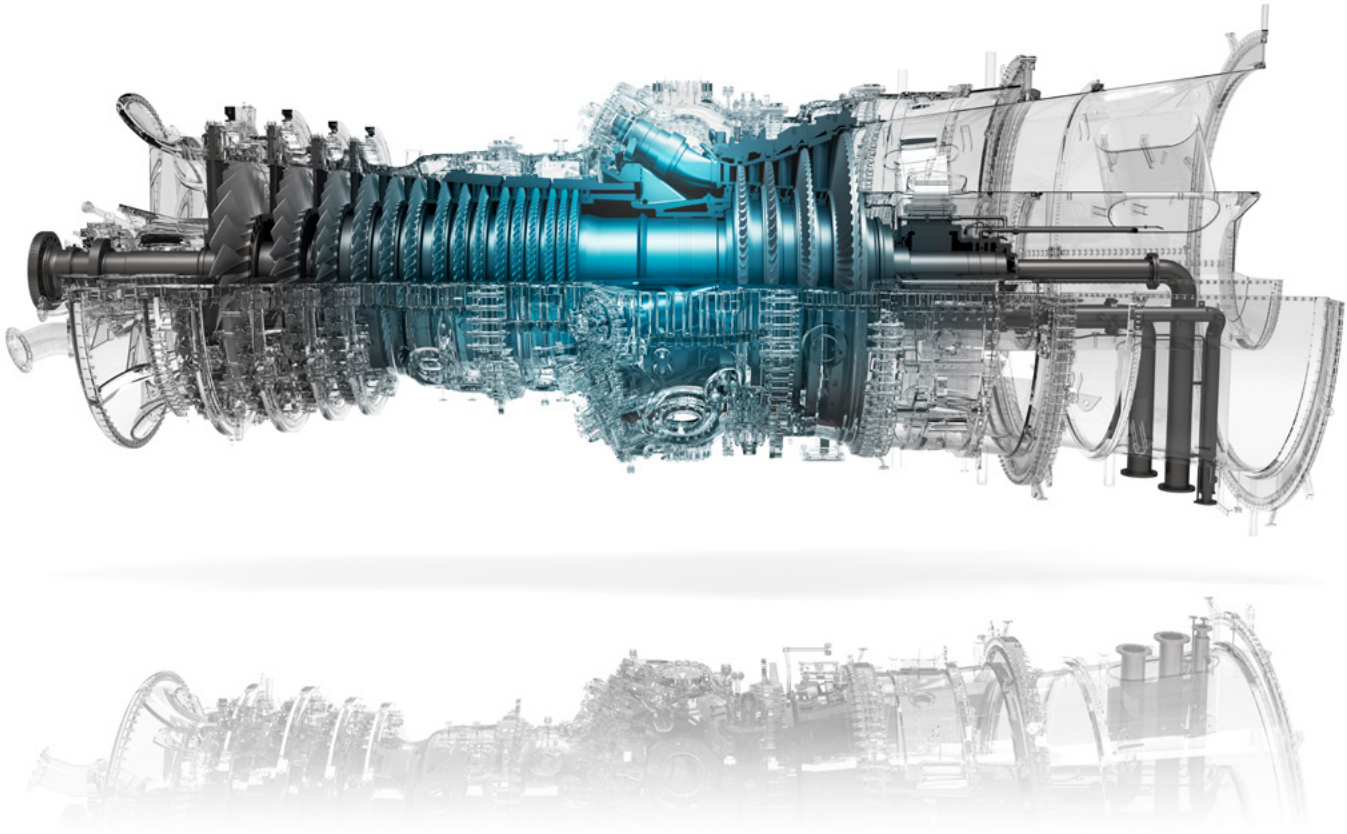
Several transformative trends stand out. The need for long-duration energy storage will become more urgent as renewable penetration increases. Hydrogen offers a compelling solution, not just as a fuel, but as a means of storing excess renewable energy at scale. Our hydrogen-capable gas turbines are already enabling this future, and we are also exploring 100% hydrogen-fuelled engines for distributed applications.

At our Takasago Hydrogen Park in Japan, we are advancing the next generation of hydrogen technologies - from hydrogen production R&D to hydrogen-fired turbine testing. This end-to-end approach helps de-risk the hydrogen economy and provides reliable solutions for our partners.

Meanwhile, CCUS continues to gain momentum as a pragmatic, near-term solution for decarbonising thermal power and industrial emissions. Our proprietary KM CDR Process™ has been proven across 18 commercial plants, with the latest project, the Ravenna CCS hub in Italy, capturing

> "The energy system is being reshaped by electrification, climate imperatives and the rise of AI - placing new demands on how we produce, manage and deliver power."

MITSUBISHI HEAVY INDUSTRIES



CO_2 even from low-concentration gas turbine flue gas streams. We continue to develop modular, cost-effective CCUS solutions to accelerate deployment.
In tandem, we offer highly efficient CO_2 compressors through Mitsubishi Heavy Industries Compressor Corporation. These systems are engineered to support carbon transport across sectors such as petrochemicals, oil and gas, and power generation - reinforcing our commitment to building a full decarbonisation value chain.

Showcasing at ADIPEC 2025

MHI Group will highlight how our integrated solutions deliver real-world impact - especially in meeting the soaring energy demands of fast-growing sectors like digital infrastructure. From our large-frame gas turbines with hydrogen and ammonia firing capability to Turboden's ORC waste heat recovery systems, to our carbon capture and CO_2 compression solutions - each reflects our commitment to decarbonisation through innovation.
Visitors can also explore our hydrogen engines and generator sets, currently under trial, which promise reliable backup power and distributed generation with zero-carbon fuels.

Accelerating progress through collaboration

No single sector can solve the energy challenge alone. Cross-sector collaboration among energy, technology, and finance is vital. MHI advocates for partnerships that integrate policy, technology, and investment.
By aligning interests and sharing risk, we can accelerate the development of infrastructure such as CO_2 transport and storage networks, and hydrogen supply chains.
As a key example, we are already working closely private-sector partners to develop CCUS hubs in Europe, with emitters and governments investing in shared infrastructure. These partnerships are critical to ensuring breakthrough technologies reach commercial scale.
At MHI Group, we are guided by a simple belief: energy must be cleaner, more secure, and affordable for all. As global demands rise, our role is to supply the intelligent solutions that power progress - reliably, sustainably, and at scale.
ADIPEC 2025 is a platform to share this vision and to engage with partners across the energy ecosystem. Together, we can turn today's energy challenges into tomorrow's opportunities - creating real impact for industries, communities, and the planet.

SPONSOR | **NMDC ENERGY** HALL 6 | STAND 6130

DRIVING THE FUTURE OF ENERGY THROUGH AI AND INNOVATION

NMDC Energy explains how it is continuing to expand its physical infrastructure to meet the region's growing energy demands alongside its role of digital leadership in the industry

With more than 50 years' experience in the market, NMDC Energy continues to evolve and lead the energy industry by harnessing innovative technologies and artificial intelligence (AI).

At ADIPEC 2025, under the theme 'Energy. Intelligence. Impact,' NMDC Energy is demonstrating how digital transformation and AI are reshaping project delivery, safety, and sustainability across the global energy sector.

The organisation believes that success in the future will ultimately be defined by its progress across four critical areas: energy, intelligence, transition, and impact.

As digitalisation accelerates, NMDC Energy recognises that AI is no longer a future concept but a present-day facilitator of operational excellence.

In the exhibition spotlight

At this year's ADIPEC, NMDC Energy is showcasing projects and immersing visitors with live demonstrations of its intelligent solutions, allowing them to experience first-hand how AI is powering its operations in real-word scenarios.

Among its most transformative innovations are:

- NMDC GPT, an AI-powered, voice-activated virtual agent that leverages large language models to deliver instant answers and insights from company data.
- Digital Twin technology, enabling real-time simulations to optimise designs, improve safety, and accelerate virtual training.
- AI-powered safety systems, including site safety analysers and blind spot detection, that continuously monitor worksites to prevent incidents and protect workers.
- Connected Worker solutions, using wearable devices and location systems to enhance workforce protection and efficiency.
- Drawing Trace Agent, which instantly compares technical drawing revisions, reducing human error and speeding up project delivery.
- Tendering Analysis Bid Matrix Agent, which analyses complex tender documents within minutes to streamline decision-making and reduce project risks.

Keeping ahead in a changing industry

These technologies play a crucial role in enabling NMDC Energy to redefine its approach to safety, efficiency, and sustainability, so that it can stay ahead in the rapidly evolving industry.

In addition to its digital leadership, NMDC Energy continues to expand its physical infrastructure to meet the region's growing energy demands.

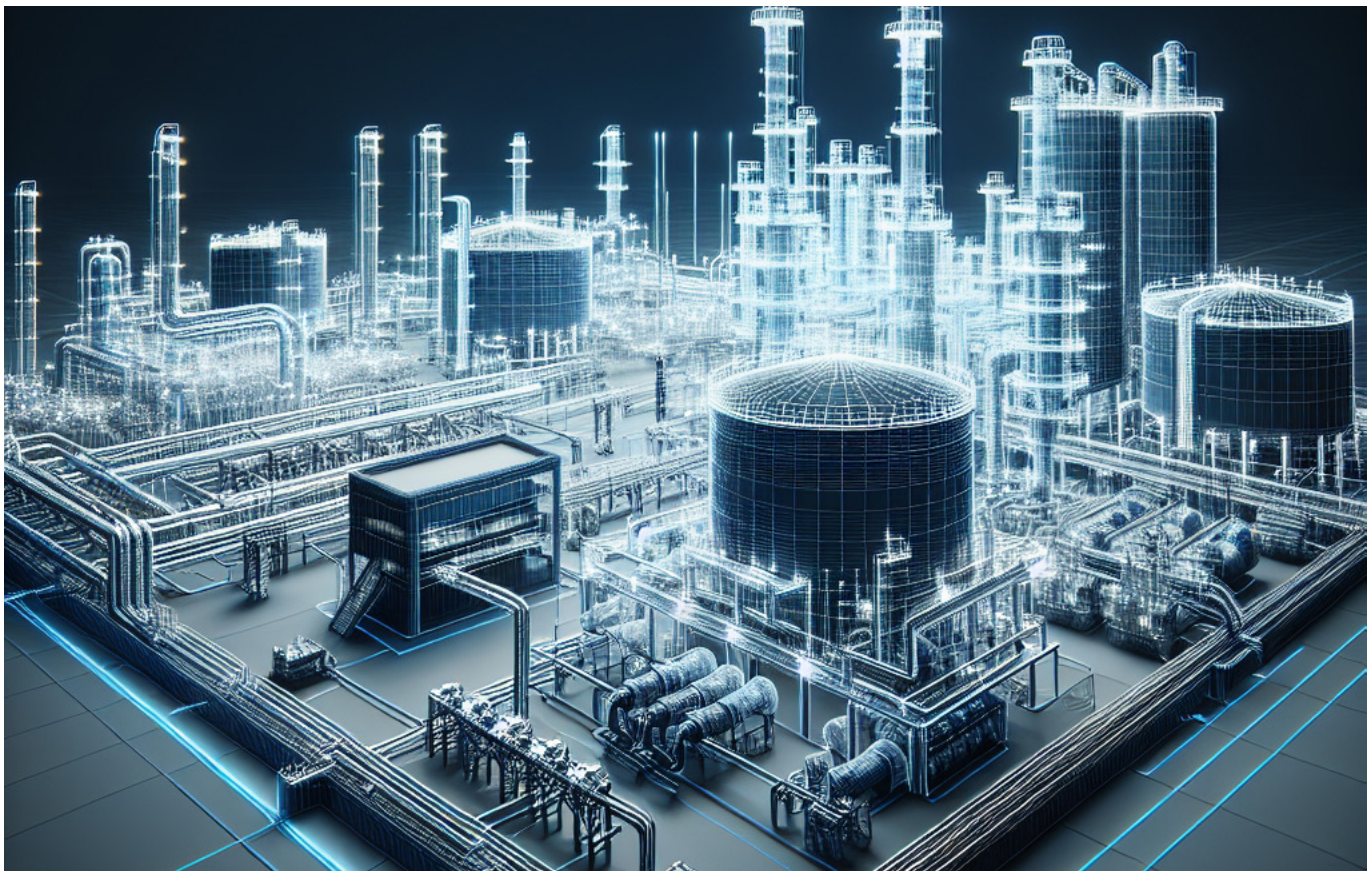
With state-of-the-art yards in Abu Dhabi, ICAD, and the newly opened Ras Al Khair Yard in Saudi Arabia, the company delivers mega-projects with unmatched speed, scale, and precision.

At the conference, NMDC Energy is highlighting its role as a trusted EPC partner capable of executing complex, large-scale projects, while its investments in automation and digital systems ensure maximum efficiency and quality.

Real-world energy progression from intelligence

Going further, AI also plays a pivotal role in accelerating the global energy transition.

> From real-time digital twins to predictive AI-driven safety analytics, attendees can witness how NMDC Energy delivers world-class projects with precision and impact, solidifying its reputation as a global leader in energy innovation.



Through NT Energies, a joint venture with Technip Energies, NMDC Energy advances blue and green hydrogen, carbon capture and storage, and renewable energy projects, including significant offshore wind developments in Taiwan and beyond.
These projects align with the UAE's Net Zero 2050 ambitions and global sustainability targets.

What ADIPEC visitors can expect from the stand

Visitors to the NMDC Energy stand will embark on a dynamic, interactive journey through the company's intelligent technologies.
The experience brings AI-powered tools to life, demonstrating how they optimise time, cost, and safety while transforming the future of energy.
From real-time digital twins to predictive AI-driven safety analytics, attendees can witness how NMDC Energy delivers world-class projects with precision and impact, solidifying its reputation as a global leader in energy innovation.

Collaboration for greater advances

NMDC Energy also champions cross-sector collaboration between energy, technology, and finance.
Through partnering with global leaders such as Technip Energies and e&, the company integrates advanced AI capabilities like 5G-enabled operations, ensuring that NMDC Energy's projects are technologically advanced and economically sustainable.
These partnerships accelerate the deployment of scalable solutions that address some of the world's most pressing challenges, from decarbonisation to energy security.
As NMDC Energy continues to push boundaries with AI-driven innovation, its vision is clear: to lead the energy industry into a smarter, safer, and more sustainable future.
The company's work at ADIPEC 2025 demonstrates that artificial intelligence is not just a tool for efficiency, it is the key to unlocking the next era of progress in global energy.

SPONSOR | **PORTO MARINE SERVICES** HALL 16 | STAND 16181

REINVENTING INTEGRITY MANAGEMENT WITH AI-POWERED RISK-BASED INSPECTION

Porto Marine Services is bringing smarter offshore operations with an empowering solution that applies advanced analytics and predictive modelling to structural integrity

As the global energy landscape undergoes rapid transformation, the integration of artificial intelligence (AI) into critical operational processes is becoming a defining force in driving efficiency, safety, and sustainability.
At Porto Marine Services, we are proud to be at the forefront of this evolution, leveraging AI to deliver measurable impact where it matters most: the integrity and reliability of offshore structures.
At ADIPEC 2025 we are thrilled to introduce our latest innovation, an AI-powered Offshore Structure Integrity Management System designed to revolutionise risk-based inspection (RBI) across the offshore energy sector.

AI and energy: a strategic alliance for transformation

The relationship between AI and energy is not just a technological convergence it's a strategic alliance that is shaping the future of offshore operations. Harsh marine environments, aging infrastructure, and increasing regulatory demands make asset integrity a complex challenge. AI provides the tools to turn vast amounts of data into actionable insights, enabling smarter, safer, and more cost-effective decisions.
Porto Marine Services has developed an AI-driven solution that applies advanced analytics and predictive modelling to offshore structural integrity empowering operators to make informed, risk-based decisions throughout the asset lifecycle.

> "Our AI-powered RBI system is more than just an innovation, it's a strategic tool designed to drive safety, sustainability, and long-term value across the offshore energy sector."

Introducing offshore integrity management with AI-driven RBI

At the heart of our solution is an intelligent risk-based inspection (RBI) framework, enhanced with AI algorithms that analyse structural health data, inspection history, and operational parameters.
By integrating multiple data sources including sensor data, corrosion rates, fatigue assessments, and environmental loads the system dynamically calculates probability of failure (PoF) and consequence of failure (CoF).
The result is a real-time, data-informed risk profile for each asset component. This enables precise prioritisation of inspection activities, focusing resources on the most critical areas while reducing unnecessary inspections saving time, lowering costs, and improving safety outcomes.
Additionally, the system features computer vision capabilities for automated analysis of visual inspection data from drones and ROVs. These AI models detect corrosion, cracks, and structural anomalies with high accuracy, transforming traditional inspection methods into proactive, digital workflows.

Driving efficiency and impact across the industry

Porto Marine Services' AI-powered integrity management platform is already making a tangible impact by shifting the industry from reactive maintenance to predictive operations.
Key benefits include:

- Operational efficiency: reduced downtime and optimised inspection schedules
- Enhanced safety: less human exposure in hazardous environments through remote data collection and AI analysis
- Cost reduction: targeted maintenance lowers OPEX and maximises asset life
- Sustainability: prolonged asset performance and minimised environmental impact

Looking forward, we see this system evolving alongside emerging technologies such as digital twins, edge computing, and generative AI, which will further amplify insight generation and autonomous decision-making offshore.

Leading the way in offshore integrity innovation

As the offshore energy sector looks to future-proof its infrastructure, Porto Marine Services is proud to contribute a solution that delivers measurable impact where it's needed most. Our AI-powered risk-based inspection platform is not just a technological advancement, it's a strategic shift in how offshore integrity is managed.

By aligning data, intelligence, and engineering best practices, we're helping operators to:

- Transition from time-based to risk-based inspection planning
- Reduce unnecessary maintenance costs and operational downtime
- Improve safety by minimising human exposure to hazardous environments
- Enhance compliance with industry standards such as API 580/581 and DNV-RP-C210

We believe intelligence should be embedded into every stage of asset management from design to decommissioning empowering operators to make faster, smarter, and more confident decisions.

The role of collaboration: technology, energy, and finance

We firmly believe that the future of offshore asset management depends on cross-sector collaboration, so Porto Marine Services works closely with:

- Technology providers to ensure the integration of cutting-edge AI tools and machine learning algorithms
- Energy operators who guide system customisation based on field conditions
- Financial stakeholders focused on optimising asset value and investment through digital performance monitoring

Together, these collaborations create a unified ecosystem capable of delivering scalable, intelligent solutions that meet real-world industry challenges.

Energy. Intelligence. Impact

In line with this year's ADIPEC theme Energy. Intelligence. Impact., Porto Marine Services is proud to offer a forward-thinking solution that empowers offshore operators to transition toward smarter, data-driven integrity management.

Our AI-powered RBI system is more than just an innovation, it's a strategic tool designed to drive safety, sustainability, and long-term value across the offshore energy sector.

We invite you to discover how our intelligent solutions are setting new standards for offshore integrity, and helping to shape the future of energy.

IMPACT CHAMPION | SPONSOR | **PTTEP** | HALL 5 | STAND 5240

AI VISION FOR A SMARTER AND SUSTAINABLE FUTURE OF ENERGY

PTTEP outlines how it is committed to long-term sustainability and a focus on affordable and cleaner gas by decarbonising and enhancing operation resiliency

Today, artificial intelligence (AI) is emerging as a cognitive engine powering the future. As AI becomes increasingly embedded in daily life and industry, its role in shaping the energy sector is becoming strategic and transformative.

AI and energy share a deeply interconnected relationship. Energy powers the infrastructure that enables AI, while AI enhances energy productivity, efficiency, and resilience. With rising global energy demand and the urgency for sustainable production, AI is becoming foundational for future energy systems.

The sector is at a pivotal turning point, where AI is transforming operations and redefining how energy is explored, developed, produced, managed, and consumed across the energy value chain from upstream operations to end users.

PTT Exploration and Production Public Company Limited (PTTEP), an upstream flagship of PTT Group in Thailand, plays not just a vital role in ensuring energy security for Thailand but also growing internationally to create sustainable value to stakeholders.

Committed to long-term sustainability, PTTEP continues focusing on affordable and cleaner gas by decarbonising and enhancing resiliency of its operation using digital as a key enabler for business.

To address complex energy challenges, PTTEP is leveraging data through digital solutions and AI to transform high-impact value chain processes.

Its digital transformation strategy is built on four pillars: resilient digital infrastructure, trustworthy data, impactful digital solutions, and people competency within a thriving digital ecosystem.

In line with its forward-thinking approach, PTTEP launched its in-house Enterprise AI Engine – X.brain, which functions as the 'Central Intelligence System' of PTTEP's AI initiatives, including AI agents and digital solutions. These agents are trained by disciplines on PTTEP-specific knowledge and integrated with internal data to perform complex tasks such as analysis, prediction, and strategic recommendations tailored to operational contexts.

By 2025, PTTEP plans to deploy eight specialised AI agents across critical business domains to automate and enhance decision-making.

These agents will support operations ranging from subsurface exploration and drilling to production, supply chain management, and corporate functions which empower teams to make faster, smarter decisions.

X.brain is also designed to be embedded into digital solutions, transforming traditional applications into advanced intelligent, adaptive systems capable of thinking, analysing, and acting based on PTTEP's internal environment.

A recent standout example is the Drilling Operation Real-Time Analyses (DORA) system. Using machine learning and physics-based simulations, DORA predicts and helps prevent stuck pipe incidents - a major source of non-productive time.

With 'Balanced Accuracy', DORA enables proactive adjustments to drill parameters, improving safety, reducing downtime, and saving millions of US dollars annually.

Other AI-powered innovations at PTTEP include:

- Automated log interpretation (LogSight): Uses AI for petrophysics log interpretation, improving consistency and saving interpretation time up from two days to one hour.

> "The sector is at a pivotal turning point, where AI is transforming operations and redefining how energy is explored, developed, produced, managed, and consumed across the energy value chain from upstream operations to end users."

- Advanced Production Excellence (APEX): Maximises condensate and oil production while maintaining steady gas output under challenging subsurface conditions.
- AI for Inventory Management: Improves material demand forecasting, reducing inventory values and operational expenses.
- AI for Bid Evaluation and Contract Management: Streamlines procurement and contract workflows, enhancing efficiency and compliance.

Looking ahead, AI-driven energy technologies are set to reshape the industry. AI is already transforming exploration and production by enabling faster analysis and more accurate decision-making. PTTEP's X.brain connects internal knowledge and data to power intelligent workflows. Its multi-agent architecture acts as a team of digital workforces, each specialising in a dedicated domain.

Over the next decade, AI will enable PTTEP to redesign work processes previously considered unattainable - reducing costs, increasing efficiency, improving exploration success, shortening time-to-market, and accelerating decision-making with greater precision. This transformation will also free up employee time for higher-value tasks.

As part of its innovative commitment, PTTEP will showcase its intelligent energy solutions at ADIPEC 2025, with emphasis on X.brain and its intelligent agents.

These tools accelerate industry progress by:

- Equipping employees with AI-driven insights and automation
- Enhancing operational agility and resilience
- Supporting sustainability goals through optimised production and reduced emissions
- Delivering measurable results, such as cost savings, improved safety, and better compliance

Achieving real-world impact in the energy transition requires more than technology that demands collaboration. No single entity can drive this transformation alone.

Cross-sector partnerships between energy companies, tech providers, and financial institutions are essential. Energy companies bring domain expertise and scale; tech providers contribute cutting-edge AI and infrastructure; financial institutions offer capital and innovative financing to de-risk investments.

By pooling resources and sharing innovation, these partnerships help overcome challenges, accelerate adoption, and deliver on the promise of a smarter, more sustainable energy future.

SPONSOR I **ROCK RIGID INTELLIGENCE** AI ZONE I STAND AI P8

ENSURING MEASURABLE AND RELIABLE PROGRESS IN THE TRANSFORMATION TO AN AI-POWERED AND SUSTAINABLE FUTURE

Production data verification solutions specialist **Rock Rigid Intelligence** outlines how it is making the path to an AI-powered, sustainable energy future not just visionary, but achievable

How is the relationship between energy and AI transforming the future? And what role does your organisation play in shaping that transformation?

We see the future is being redefined at the intersection of energy and AI. It is:

Emissionless - driving towards zero emissions through advanced monitoring and carbon offsetting.

Cost-effective - AI automates complex tasks, unlocking major efficiency gains and cost savings.

AI-empowered - AI tools enhance SMEs, fostering creativity and synergy.

Digitally twinned - Digital twins improve decision-making with a "what-if" playground.

Less manual - with unmanned and remote-controlled operations becoming the new standard.

Continuously evolving - data-driven leadership enhances efficiency and competitiveness.

At the centre of this transformation, our role is to ensure progress is measurable and reliable. With Rock Rigid, every step forward is tracked and validated, making the path to an AI-powered, sustainable energy future not just visionary, but achievable.

Can you briefly describe one of your AI-powered or digital solutions and how it is driving efficiency, innovation and impact in the energy industry?

Until recently, production planning could take weeks. Engineers had to run multiple "what-if" simulations in Petex's Digital Oilfield, each lasting up to 20 hours. Decisions usually took up to two weeks, limiting agility. Neuronet - our physics-informed AI engine - changed that. Respecting the physics of the field, but delivering results in just five minutes, it integrates seamlessly with Petex and accelerates scenario analysis from weeks to hours.

Now, engineers compare options and make production calls the same day. That speed drives efficiency and resilience, thereby helping operators respond to field dynamics and shifting market conditions with confidence. Neuronet isn't just an optimisation tool - it's a catalyst for innovation and agility in the energy sector.

Which AI-driven energy technologies or trends do you believe will have the most transformative impact on the industry - both now and in the next decade?

From our perspective, the next big leap will come from physics-aware AI agents - single or multi-agent systems that can calculate, cross-check, and keep results consistent. Think of them as a well-engineered blend of advanced language models, physics, domain expertise, solid data architecture, and efficient algorithms.

These agents should question themselves: reason, test assumptions, and verify their answers before they reach decision-makers. Building this won't be easy, but it is exactly what the industry needs.

There are real constraints - computing power and energy use. Solving these will unlock wider adoption and bigger impact. That's why now is the time to experiment across many use cases to find the most effective combinations of technologies.

> "With Rock Rigid, every step forward is tracked and validated, making the path to an AI-powered, sustainable energy future not just visionary, but achievable."

ROCK RIGID

What intelligent solutions are you most excited to both showcase and explore at ADIPEC 2025 - and how do you think they will accelerate the industry's progress?

We are excited to present our field-proven Derek Suite platform, designed to streamline oilfield calculations with a next-generation data reconciliation algorithm. Unlike traditional solutions, Derek Suite delivers unparalleled precision by accounting for both measured values and uncertainties, achieving a new level of accuracy in mass balance calculations.

Our Mass Balance tool - also known as the 'Mathematical Twin' - plays a crucial role in digital twin technology. Real-time calculations ensure complete transparency in production, emissions, and losses, grounded in the law of conservation of mass, guaranteeing data integrity.

We are also introducing Neuronet, a deep learning tool for engineers requiring no coding. It handles tasks like anomaly detection, virtual flow metering, and virtual sensing, effectively combining roles of an SME, coder, and data scientist in one person.

Additionally, the Virtual Multiphase Flow Meter (MPFM) helps operators unlock MPFM potential, streamlining well testing, metering, and allocation to optimise operations and reduce complexity.

How can cross-sector collaboration - between energy, technology and finance - help accelerate scalable solutions and real-world impact?

ADIPEC brings NOCs, IOCs, and innovators together to explore technologies and inspire breakthroughs. Our company, Rock Rigid, supports this by offering AI tools for precise production data verification, empowering businesses with accurate, sustainable decisions.

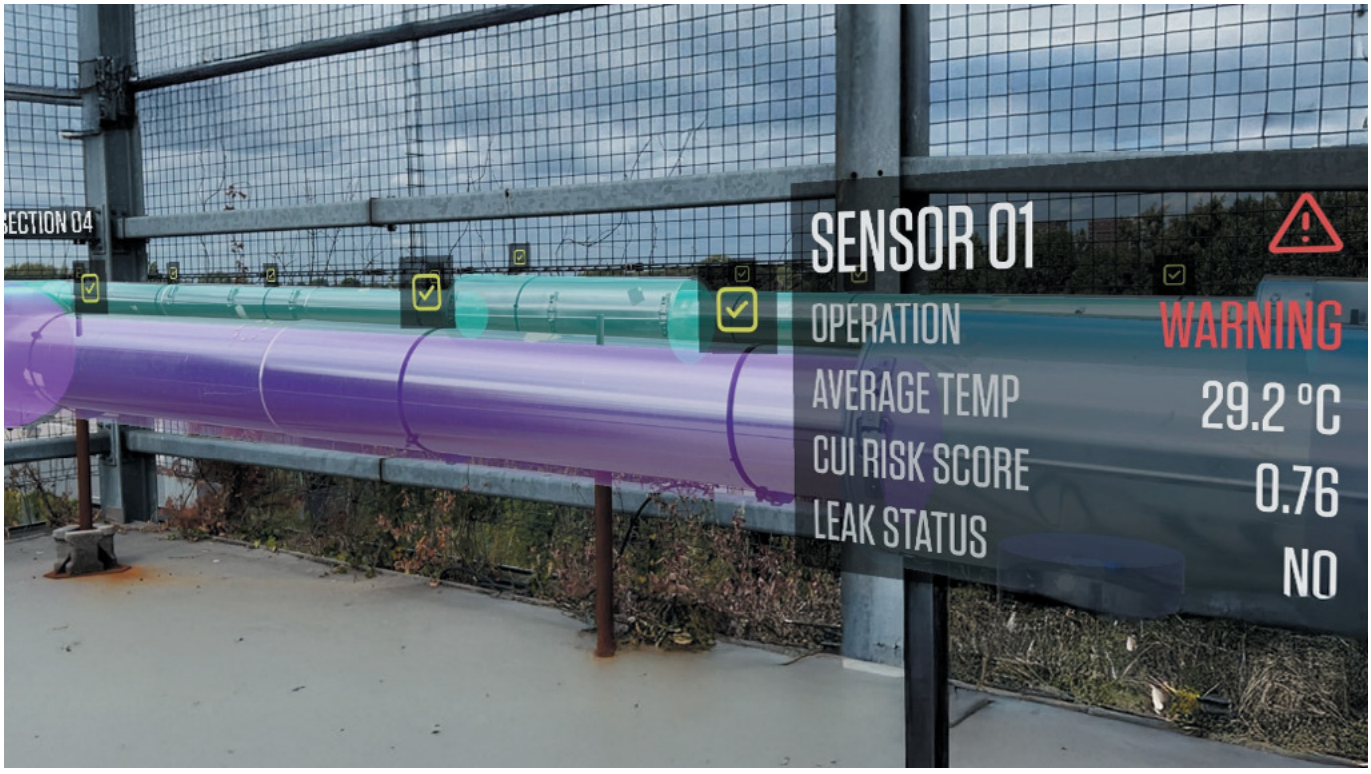
SPONSOR I **SENERGETICS** AI ZONE I STAND AI P5

TACKLING A HIDDEN THREAT AND HOW AI AND SENSORS ARE TRANSFORMING ASSET HEALTH IN AN EVOLVING ERA

Corrosion under insulation is a persistent problem and long-standing challenge that Senergetics says it is addressing with a continuous monitoring solution that is both simple and smart

For decades, one persistent problem has quietly undermined safety, reliability, and efficiency across the process industries - that is corrosion under insulation (CUI).
It is a hidden threat, difficult to detect until it causes leaks, energy loss, or dangerous failures. Traditional mitigation methods, costly shutdowns, scaffolding, and spot checks are outdated, reactive, and inefficient.
Senergetics was founded by co-founders Frank Jacobs and Anitha to change exactly that.
By combining advanced IoT-based sensors with AI-driven diagnostics, the company offers continuous insight into the health of industrial assets, without disrupting operations.
This shift from reactive to predictive maintenance is already proving itself by saving on costs, cutting CO_2 emissions, and improving operational performance - thereby embodying the ADIPEC 2025 theme: Energy. Intelligence. Impact.

The problem: outdated methods for a persistent risk
CUI is a silent and expensive issue. In industries such as chemicals, petrochemicals, and oil and gas, hundreds of thousands of kilometres of pipelines are covered in insulation to manage extreme temperatures. But once insulated, those pipes are no longer visible.
Over time, moisture can seep in, triggering corrosion that often goes undetected until it is too late.
Current inspection methods are both labour-intensive and intrusive.
Plants may need to build scaffolding, strip insulation, and halt production to check for corrosion.
Even advanced techniques provide only momentary snapshots, requiring skilled operators to interpret complex



SENERGETICS
SENSE IN DATA

data. This results in high costs, limited coverage, and often late detection.
The outcome is increased safety risks, unnecessary energy losses, and major financial burdens for industries that are already under pressure to meet sustainability targets.

The solution: continuous AI-powered monitoring
Senergetics addresses this long-standing challenge with a continuous monitoring solution that is both simple and smart.
Small, robust sensors are mounted externally on pipelines, without the need to penetrate insulation or disturb processes. Once placed, they begin collecting data on temperature, moisture, and other conditions, creating a dense monitoring network across assets.
These sensors are designed to last at least 10 years and are ATEX-proof, so ensuring reliability in harsh industrial environments. Every one to two metres, a sensor builds part of a comprehensive digital picture of the system.
Here's where AI makes the difference: the data collected is analysed by trained models that detect patterns, predict issues, and provide actionable insights through an intuitive dashboard.
Instead of vague risks, operators can see exactly where problems are forming, what is causing them, and when to act.
Beyond corrosive environments, the system already enables additional functions, including leak detection and Insulation Performance Scanning (IPS). With IPS, facilities can map their energy performance with precision, identifying underperforming areas and revealing opportunities for up to 10% of energy savings, and significant CO_2 reductions.

The impact: safety, efficiency and sustainability
The results of this approach are striking. Field tests - including a major trial in Germany where eight inspection methods were compared - showed Senergetics outperforming other technologies.
Accuracy has reached 95% and continues to improve, while client pilots demonstrate real-world enthusiasm and adoption.
The impact can be measured on multiple levels:
Cost savings: Continuous monitoring reduces unnecessary shutdowns and inspections, cutting CUI management costs by up to 60%.
Energy efficiency: IPS data enables companies to save up to 10% in energy use by improving insulation performance, directly reducing CO_2 emissions.
Productivity: By minimising disruptions and enabling targeted interventions, facilities maintain smoother, safer, and more reliable operations.
This combination of benefits illustrates the powerful interplay of energy and intelligence, leading to tangible impact across industries.

During ADIPEC 2025
At ADIPEC 2025, Senergetics will launch its AI-powered asset health monitoring solution.
Visitors can see how continuous sensing, predictive diagnostics, and energy performance mapping transform maintenance into a proactive, data-driven discipline.
The future of asset health lies in staying ahead of issues, and at ADIPEC, that future begins.

> By combining advanced IoT-based sensors with AI-driven diagnostics, the company offers continuous insight into the health of industrial assets, without disrupting operations.

SPONSOR | **SENSIA** AI ZONE | STAND AI P20

SMART INFRARED IMAGING FOR TRACEABLE AND ACTIONABLE IMPACT

SENSIA outlines how it goes 'beyond the invisible' with RedLook, ground-breaking technology that empowers operators to better track emissions and meet sustainability and efficiency ambitions

At SENSIA, we turn the invisible into measurable. Our advanced infrared (IR) imaging platforms give industrial operators the power to see emissions in real time, quantify gases such as methane with precision, detect anomalies automatically, and monitor flare performance efficiently.

By accessing a spectral band never before available to operators, our technology reveals what has long remained unseen in their operations, from hidden leaks to the thermal behaviour of components.

This new perspective delivers immediate awareness, driving smarter, safer, and more sustainable management. The result is greater operational efficiency, reduced costs, prevention of failures, and minimised environmental impact.

RedLook™ has become essential for asset management. What began as a detection tool has evolved into an AI-powered ecosystem that connects every layer of decision-making, from the field to the boardroom, delivering traceable and certified insights across handheld, fixed, and robotic-mounted platforms.

Trusted worldwide, from the Middle East to America, SENSIA helps operators meet demanding regulatory frameworks while improving efficiency and sustainability. By transitioning from reactive monitoring to proactive

stewardship, our technology ensures that every action is supported by evidence, accountability, and measurable impact.

A multifunctional and intelligent ecosystem

At the heart of our portfolio lies a comprehensive range of IR imaging technologies designed to address every stage of emissions detection and asset monitoring.
Combining advanced sensing with AI analytics, RedLook™ unifies capabilities that traditionally required multiple systems: gas detection and quantification, flare monitoring and efficiency analysis, flame detection, intelligent thermography, tank level assessment, furnace inspection, and site surveillance.
Through RedLook™'s customisable architecture and SENSIA's in-house development and manufacturing, we adapt our technology to the specific needs of each operator.
Whether for LDAR programmes or continuous emissions monitoring, our optical gas imaging technologies enable precise, traceable, and certified performance in any operational context.
Together, these systems form a connected, AI-enhanced ecosystem that transforms infrared data into actionable insights, giving operators a complete view of their assets to detect emissions, verify performance, and make informed decisions.

Hyperfunctional solution delivers actionable intelligence

At the heart of our portfolio lies RedLook™, an AI-powered platform that integrates a wide range of IR imaging functions traditionally requiring multiple systems: gas detection and quantification, flare efficiency monitoring, flame detection, intelligent thermography, tank level assessment, furnace inspection, and site surveillance.
Thanks to its customisable architecture and SENSIA's in-house development, RedLook™ adapts to each operator's needs, enabling precise, traceable, and certified performance across LDAR programmes or continuous emissions monitoring.
RedLook™ delivers actionable intelligence. Its advanced algorithms show not only where emissions occur but how they evolve, and which actions matter most.
This shift from periodic inspections to continuous, proactive stewardship reduces risks, prevents downtime, and cuts operating costs by embedding automation and digitalisation at the core of asset management.
Collaboration is central to scaling this impact. The energy transition depends on operators who define challenges, technology providers who deliver solutions, and financial institutions that link investment to measurable results.
By serving as the technological backbone of this ecosystem, SENSIA ensures that every decision and every claim is backed by certified evidence. In doing so, RedLook™ is not just a monitoring system, but a strategic tool for operational efficiency and sustainable value creation across the energy sector.

Energy, intelligence and impact

This philosophy comes to life at ADIPEC 2025, under the theme Energy, Intelligence, Impact. The energy industry is entering an era where data must be not only measurable but also trustworthy, certified, and decision-ready.
In this new landscape, certified data becomes the currency of energy - empowering operators to prove impact, regulators to ensure accountability, and investors to channel capital toward credible, sustainable outcomes.
As digitalisation and sustainability converge, technologies such as AI-powered monitoring, digital twins, blockchain certification, and predictive maintenance will define the next decade of energy innovation. SENSIA is proud to be at the forefront of this transformation, delivering the intelligence that makes energy cleaner, safer, and more efficient.
At a time when intelligence is reshaping how energy is produced and managed, SENSIA provides the visibility and confidence operators need to act with certainty.
Our mission is not only to measure, but to enable meaningful change - turning data into decisions, and decisions into measurable progress. Through innovation, collaboration, and trusted intelligence, we help industries operate responsibly today while building the foundations of a sustainable energy future.

> “Our mission is not only to measure, but to enable meaningful change - turning data into decisions, and decisions into measurable progress.”

SPONSOR | **TOPSOE** HALL 17 | STAND 17151

REFINERIES CAN GRASP OPPORTUNITIES IN A CHANGING ENERGY LANDSCAPE

The future of refining will be defined not by a single blueprint, but the agility to adapt, diversify and innovate. For Middle Eastern frontrunners, the path forward is clear: harness technology, catalysis and technological collaboration to transform challenges into strategic advantages, write Topsoe's Adam Kadhim and Mohammed Benchekchou

As the world energy landscape evolves, the refinery sector stands at a moment of opportunity. For senior decision-makers in the Middle East, where hydrocarbon resources and infrastructure remain world-class, the question is not whether to optimise, transform or diversify, but how to do so with maximum strategic outcomes.

Technology the catalyst for change

Meeting the demands of an evolving energy landscape demands a portfolio approach. Leveraging a wide range of technologies, solutions and catalysts allows for optimised feedstock conversion, minimised emissions and, crucially, the ability to unlock new revenue streams.

We are at the heart of this transformation. Our long history as a catalyst and technology leader with deep R&D focus has helped shape the optimisation of today's refinery.

And while traditional refineries remain our core business, this foundation enables us to invest in Power-to-X, blue hydrogen and renewable fuels, ensuring both traditional and emerging fuels are produced efficiently, cleanly and profitably.

Strategic diversification from molecules to markets

Middle East refineries are uniquely positioned to lead energy diversification, given their access to low-cost natural gas, renewable energy sources, robust infrastructure and geology suited to carbon capture and storage (CCS). This is good news as it also opens new opportunities and revenue streams through the

TOPSOE

employment of innovative technologies and knowledge-based partnerships.
Topsoe's HydroFlex technology exemplifies how technology is enabling this shift. Over 30% of global sustainable aviation fuel (SAF) projects now use HydroFlex, with many more in the pipeline.
This technology enables refineries to produce renewable diesel and SAF from a range of feedstocks (including virgin oils, used cooking oils and other waste) either as standalone units or via co-processing. Co-processing, in particular, offers a comparatively rapid, low-CAPEX route to SAF and renewables production.

Low-carbon hydrogen as a decarbonisation backbone

Hydrogen is crucial to hydroprocessing, yet conventional production is a major source of CO_2 emissions.
Transitioning from grey to low-carbon/blue hydrogen, enabled by CCS, is a viable and mature solution. In low-carbon hydrogen production, Topsoe's SynCOR autothermal reforming (ATR) technology is a game-changer: with a single-train capacity up to 820 kNm^3/hour and the ability to capture >99% of process-side CO_2, SynCOR delivers the lowest levelised cost of hydrogen among blue hydrogen solutions.
Unlike conventional steam methane reformers (SMR), SynCOR captures CO_2 at higher pressure and concentration, dramatically reducing CAPEX and OPEX for carbon capture. The technology also consumes less water and allows for internal steam generation, further optimising operational efficiency.
For Middle Eastern refineries, the strategic benefits are clear: leveraging abundant natural gas and CCS-ready geology, blue hydrogen production can decarbonise core processes and open new export markets (for low-carbon ammonia, and hydrogen).
Topsoe's hydrogen colour-agnostic approach (spanning grey, blue and green pathways) ensures refineries can adapt to regulatory, market and feedstock dynamics with flexibility and confidence.

Power-to-X and next-gen fuels

Power-to-X is a gamechanger for energy production.
Topsoe's industrial-scale solid oxide electrolyser cell factory in Denmark, operational in 2025, will deliver electrolysers for production of e-fuels such as e-ammonia and e-methanol.
These solutions will be critical for decarbonising sectors such as heavy industry and long-distance transport. Again, with geographical advantages, the Middle East is well-place to take advantage of emerging market opportunities.

Actionable insights for Middle Eastern refineries

Refining's future will be shaped by agility, diversification and innovation. ME refinery leaders can harness technology and collaboration to turn challenges into strategic advantage. With deep expertise and proven, flexible solutions, Topsoe is ready to partner in building the refinery of tomorrow. Here is how it can happen:

- Optimise traditional operations: Continue to invest in catalyst upgrades, process optimisation and clean air technologies to maximise profitability and minimise emissions from conventional fuel production.
- Prioritise low-CAPEX co-processing: Implement co-processing of SAF and renewable diesel using advanced catalysts to open up new markets with minimal capital outlay. Explore standalone renewables units.
- Target new markets: Explore the market impact of new catalyst technologies, such as Topsoe's dewaxing catalyst TK-930, which allows refiners to produce winter diesel for more cold regions.
- Leverage regional advantages for blue hydrogen: Deploy advanced and efficient hydrogen technology like SynCOR ATR, combined with CCS, to produce cost-competitive blue hydrogen that can help decarbonise refinery operations and unlock new export opportunities in low-carbon fuels.
- Invest in Power-to-X readiness: Position your refineries for green energy competitiveness by exploring partnerships and pilot projects in green hydrogen and e-fuels, leveraging Topsoe electrolysers and e-fuel expertise.
- Collaborate: Engage in meaningful, transparent partnerships with technology providers like Topsoe to ensure solutions are tailored, tested and future-proofed for evolving market and regulatory landscapes.

> "Middle East refineries are uniquely positioned to lead energy diversification, given their access to low-cost natural gas, renewable energy sources, robust infrastructure and geology suited to carbon capture and storage."

SPONSOR | **TRIDIAGONAL.AI** HALL AI ZONE | STAND AI P18

AI PLANTOPS – THE DOMAIN-AI OPERATING SYSTEM FOR INDUSTRY

Tridiagonal.ai is a pioneer in industrial AI transformation, unlocking interconnected industrial intelligence. With deep process expertise and advanced AI engineering, it enables industries to build intelligent, adaptive, and connected operations at scale

Industries face rising complexity, energy transition pressures, and volatile markets. Despite heavy digital investments, decision-making remains fragmented—models, optimisers, and dashboards work in silos. AI PlantOps was built to change this.
As the Domain-AI Operating System for Industry, AI PlantOps fuses process intelligence, machine learning, symbolic reasoning, and physics validation into one connected fabric. It transforms operations into unified, intelligent, and traceable ecosystems - where every process is linked, every decision validated, and every outcome optimised.

How it works
AI PlantOps integrates plant knowledge, optimisers, and AI models through three cohesive layers:

- Foundation Layer – Knowledge & Models: a process-aware knowledge graph forms the plant's digital DNA, combining physics and data-driven insights.
- Enablement Layer – Orchestration Fabric: connects existing APC, RTO, ML, and control systems for coordinated, plant-wide optimisation.
- Application Layer – PlantOps Intelligence: operator and leadership dashboards enable cognitive decision-making across efficiency, reliability, and emissions.

Core value enablers
- Process-Aware Knowledge Graph for contextual reasoning
- Machine & Context-Aware AI for predictive and cognitive insights
- Physics-Augmented AI ensuring actions are physically valid
- Control Twin validating every recommendation

This architecture powers a shift from isolated optimisation to plant-wide intelligence, giving industries a unified framework to drive productivity and sustainability.
Unlocking value across workflows
AI PlantOps transforms key workflows into interconnected, high-value levers:
- Maintenance & Planning: predictive reliability models integrate with planning agents for proactive scheduling and longer asset life.
- Energy & Utilities: cross-optimisation aligns process demand with energy supply to reduce costs and emissions.
- Process Optimisation: unified reasoning across APC, RTO, and ML tools boosts throughput and yield.
- Emissions & Compliance: intelligent agents embed compliance into every operational decision.

Each workflow is no longer isolated: it draws knowledge from a shared intelligence layer, ensuring that every operational move contributes to the plant's larger performance goals.

Value across industries
- In oil and gas, it links reservoir, surface, and processing systems for reliability and energy efficiency.
- In refining, it unifies hydrogen, utilities, and conversion units for crude-to-product optimisation.
- In energy and utilities, it orchestrates supply and demand for lower fuel use and emissions.

AI PlantOps embodies interconnected, validated intelligence, turning industrial complexity into coordinated, plant-wide performance.

How is the transformation of energy influencing the future? What role does Tridiagonal.ai play leading that change?
The energy landscape is rapidly evolving to prioritise efficiency, reliability, and sustainability. This transformation is driven by the integration of advanced digital tools and AI, enabling real-time optimisation of energy usage, lower emissions, and resilient operations.
Our organisation is at the forefront of this change with our deep domain expertise and our flagship solution, AI PlantOps, an operating system designed specifically for industry. By unifying fragmented systems and embedding intelligence across plant operations, we empower energy producers to optimise resources, reduce carbon footprint, and meet evolving regulatory.

How is AI PlantOps driving efficiency, innovation and impact in the energy industry?
AI PlantOps is our flagship solution, purpose-built to orchestrate and optimise industrial plant operations. It

connects every process — energy generation, utilities, reliability systems, emissions control — and breaks down operational silos. Through machine learning, process-aware knowledge graphs, and agentic AI, AI PlantOps delivers end-to-end visibility, predictive insights, and validated decision support. This drives higher energy efficiency, reduces costs and emissions, and creates sustainable impact across the energy value chain.

Which technologies or trends will have the most transformative impact on the industry – now and in the next decade?
The most transformative technologies are those that unify intelligence across the plant — such as domain-specific AI, process-aware knowledge graphs, and physics-augmented multi-agent systems. These enable real-time, plant-wide optimisation and proactive decision-making. Over the next decade, AI-driven orchestration, cross-industry data integration, and sustainable automation will be critical trends shaping more adaptive, efficient, and decarbonised energy systems.

What solutions are you most excited to both showcase and explore at ADIPEC 2025? How will they accelerate the industry's progress?
We are excited to showcase AI PlantOps, especially its applications in energy optimisation, reliability, emissions management, and cross-plant orchestration. By connecting utilities with process clusters and embedding validated AI decision-making, AI PlantOps accelerates the industry's shift toward holistic efficiency, sustainability, and regulatory compliance. These solutions pave the way for smarter, more resilient operations and set new standards for excellence in the energy sector.

How can cross-sector collaboration between energy, technology and finance help accelerate scalable solutions and real-world impact?
True transformation requires deeper collaboration between energy, technology, and financial stakeholders. Partnerships enable faster adoption of solutions sharing of best practices, optimised investment, and reducing risk. By aligning technology advancements with financial incentives and operational expertise, we can accelerate the scaling of impactful solutions — creating tangible value for industry and society.

> "True transformation requires deeper collaboration between energy, technology, and financial stakeholders."

SPONSOR I **WEATHERFORD** HALL 4 I STAND 4340

INTELLIGENCE AT THE EDGE: TRANSFORMING ENERGY THROUGH CONNECTED OPERATIONS

Weatherford Industrial Intelligence portfolio demonstrates how technology can turn complexity into clarity, and how collaboration can turn potential into progress

In an industry defined by volatility, problem-solving remains the only constant. Before first production, operators wrestle with geology, logistics, and economics. Afterward, they must sustain safe, efficient operations across aging assets and shifting markets. The solution lies not in incremental change but in intelligence—transforming raw field signals into better decisions at every level of operation.

That is the foundation of Weatherford's Industrial Intelligence portfolio—an integrated ecosystem of edge computing, unified data modelling, and advanced software designed to transform information into action. It enables operators to sense what matters, decide quickly, and act safely, delivering measurable improvements in performance, safety, and sustainability.

At ADIPEC 2025, the conversation centres on how advanced technology, AI, and cross-sector collaboration can unlock a more resilient, data-driven energy future. For Weatherford, that transformation is already underway.

Building a unified control fabric

The architecture behind Industrial Intelligence is driven by connecting the wellsite to the enterprise, translating high-frequency field data into real-time insight. Smart controllers and an edge-compute layer gather and clean signals where they originate. Distributed fibre sensing adds acoustic and thermal context, while vision systems integrate camera feeds for site-wide awareness.

Supervisory control provides stable human–machine interfaces across large fleets, and an applications layer turns data into physics-informed models and machine learning (ML) analytics. The result is not a one-size-fits-all platform, but tailored, outcome-based solutions designed to improve uptime, optimise production, and reduce emissions.

"Sense what matters, decide quickly, and act safely"—that principle defines every system layer. By combining automation with insight, operators gain a reliable control fabric that moves at the speed of the field.

Behind every intelligent workflow lies a simple premise: data must speak a common language. Weatherford's unified data model normalises signals from legacy, and modern equipment, enabling older infrastructure to interact seamlessly with new applications.

The cadence is straightforward—Collect, Contextualise, Compute, Control—a continuous loop closing the gap between field events and decision-making. Open interfaces make it possible to integrate third-party applications, historical systems, or proprietary models, fostering collaboration rather than competition.

This openness ensures what must run at the edge stays there, while tasks that benefit from scale migrate to the cloud for agility without lock-in and intelligence without isolation—a foundation for tomorrow's autonomous operations.

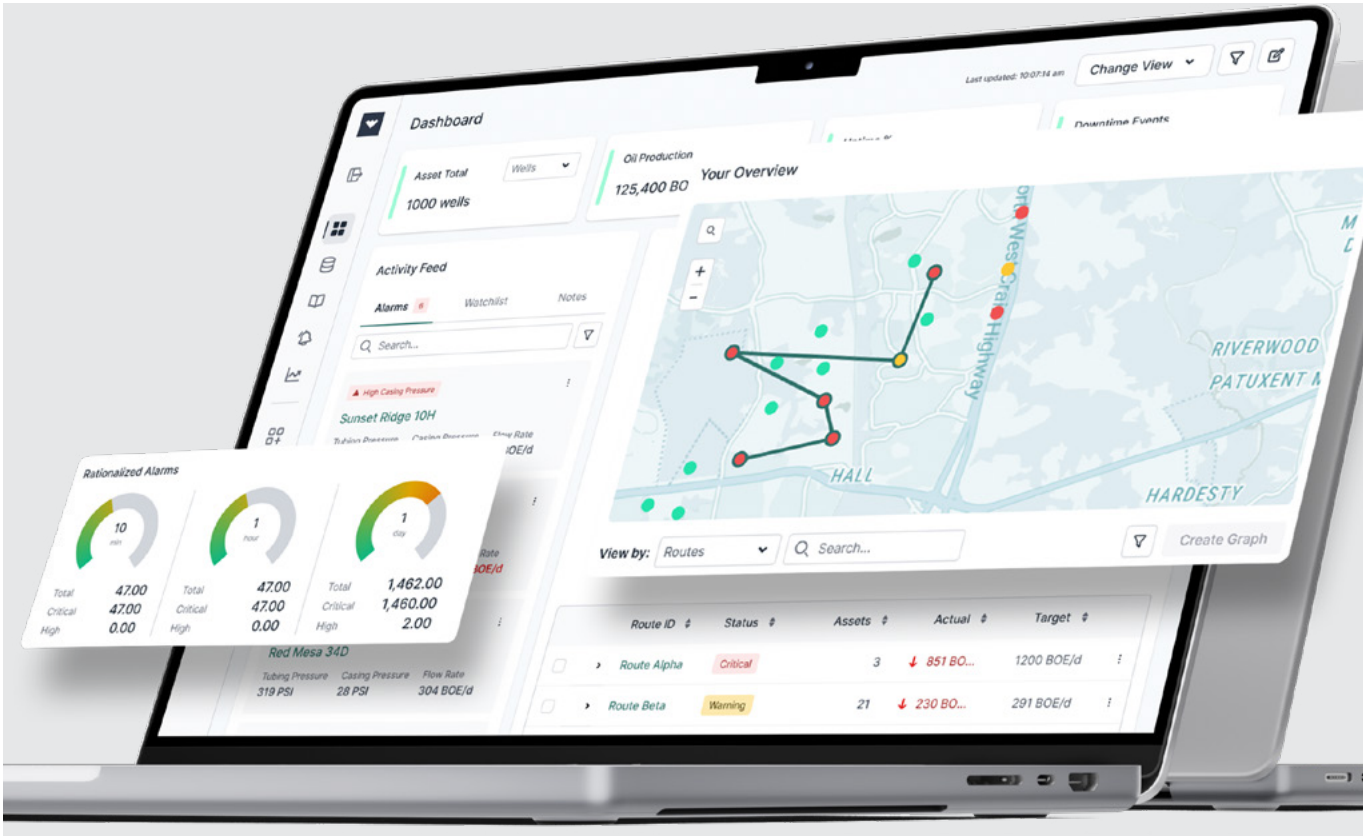
Real-time intelligence across well lifecycle

Digital systems increasingly augment human expertise. Real-time drilling analytics monitor pressure, torque, vibration, and mud properties to help crews maintain borehole stability and optimise penetration rates. Managed-pressure workflows continuously balance downhole conditions, reducing influx and loss risk.

Once the well transitions to production, data continues to drive value. The Weatherford hybrid virtual and multiphase flow metering blends first-principles physics with ML to

> "The trajectory is clear: control environments are becoming more autonomous, transparent, and data driven."

Weatherford



estimate phase rates without intrusive sensors. These adaptive models refine artificial-lift setpoints, detect anomalies such as sand ingress or leaks, and forecast production trends—without slowing operations. Computer vision and fibre sensing automate routine surveillance, freeing personnel to focus on exceptions. Across the field, adaptive control continuously fine-tunes setpoints to maintain drawdown, protect equipment, and maximise recovery.

Safety, sustainability, and the human element

Safety underpins every workflow. Real-time alarms, interlocks, and automated shutdowns reduce exposure for personnel and enable early intervention. Audit trails and digital procedures ensure compliance and repeatability - crucial for regulatory integrity, and environmental performance. Optimisation is more than efficiency; it is sustainability in action. Reducing fuel burn, minimising waste, and automating repetitive tasks all contribute to lower carbon intensity and improved resource use. Amid the dual challenge of meeting demand while advancing decarbonisation, digital precision becomes indispensable.

At the same time, human roles evolve—not replaced but empowered. Engineers, geoscientists, and operators gain access to shared dashboards and predictive insights that elevate decision-making.

The path to autonomous operations

ML and AI are the connective tissue of modern energy systems. Models learn from each well, continuously refining predictions and isolating real risks from background noise. Drilling advisors adapt to local rock behaviour, while production algorithms self-correct as fluid properties change.

The trajectory is clear: control environments are becoming more autonomous, transparent, and data driven. Digital twins replicate physical assets for "what-if" planning, while predictive analytics anticipate equipment failures before they occur.

Weatherford is investing in research, partnerships, and workforce training to ensure these tools serve performance - and progress. Its Industrial Intelligence framework moves data from signal to strategy.

As the transition accelerates, success will depend on technology and cross-sector collaboration. Shared standards, interoperable platforms, and collective innovation will define the next decade of upstream and production excellence.

Weatherford developed Industrial Intelligence in under a year. Crucial to that was and remains working directly with operators, partners, and technology innovators toward autonomous operations—where data, intelligence, and collaboration come together to shape a smarter energy future.

SPONSOR I **WOOD** HALL 6 I STAND 6350

ENGINEERING THE COMPETITIVE EDGE BY APPLYING INNOVATION WITH PURPOSE TO SOLVE COMPLEX CLIENT CHALLENGES

Amid a changing energy sector, **Wood** explains how its strategic use of digital innovation is redefining performance and efficiency

Digital tools are no longer a futuristic concept in the energy sector, they are a present-day imperative. As global reliance on oil and gas endures, the challenge isn't simply adopting new technologies, but applying them in ways that deliver tangible, measurable outcomes.
Diversifying and modernising energy infrastructure demands more than innovation for innovation's sake - it requires strategic, effective deployment that drives real value.

Applying digital to optimise delivery

Wood may not be a traditional technology firm, but its strategic use of digital innovation is redefining performance and efficiency across the energy sector. Wood's consultants and engineers combine deep domain expertise with advanced digital tools to enhance performance and bring greater certainty to investment decisions. Their agile, technology-agnostic solutions can be deployed individually or in combination - at any stage of the asset lifecycle - to maximise value, reduce risk and accelerate delivery.
By embedding digital capabilities at the core of projects and operations, Wood helps clients move beyond conventional approaches by applying innovation with purpose to solve their most complex challenges.
Wood is bringing its global operations and maintenance expertise to clients across the Middle East. This offering is bolstered by maintAI - Wood's AI-powered asset maintenance optimisation tool. For one client, maintAI reduced asset and equipment maintenance costs by 25% while saving more than 100,000 annual execution hours, in turn significantly lowering operational risk exposure. In another deployment, the tool delivered 30% savings in inventory costs and helped reduce downtime. These examples demonstrate maintAI's potential to drive efficiency and resilience, especially as time and cost pressures intensify globally.
Beyond critical asset maintenance, Wood's AI-based tools drive positive outcomes for clients across the full project lifecycle. Examples of their solutions delivering reduction in work hours and manual processes are abundant, notably reducing them by 80% by applying a greenhouse gas monitoring tool on two projects - one in the Middle East.
Applying their tools in tandem can help maximise impact. For example, by using maintAI alongside digital twin capabilities eliminated the need for more than 500 visits to a client's offshore sites annually. That same digital twin technology is responsible for mitigating $1 billion of design discrepancies at the earliest stages of complex project development for one client alone.
The bottom line? Effective digital application can mean the difference between a project getting the green light or not going ahead at all.

Quality data: the critical foundation

High-quality data is the building block for true digital transformation and for the productive application of AI in the energy sector. Achieving this isn't easy, but Wood has

> “Wood's consultants and engineers combine deep domain expertise with advanced digital tools to enhance performance and bring greater certainty to investment decisions.”

responded with a game-changing approach - a dynamic project benchmarking framework that turns complex project data into actionable insight. It equips energy operators with a clear view of not only what's happened across their infrastructure, but what's likely to happen next and how to influence it.

Wood has shifted from anecdotal insight to data-driven intelligence, empowering the business and its clients to act with clarity and confidence. Whether planning, executing or closing out a project, their tools enable decisions based on evidence, not assumptions. This isn't just about building data infrastructure, it's about creating a strategic advantage that drives smarter investment and sustained performance: it's the competitive edge.

Future trends and investing in the Middle East

Looking ahead, AI will continue to play a critical role in the sector's evolution, but its true value lies in its ability to enhance human expertise.

From subsurface modelling to grid optimisation, oil and gas systems are complex and interconnected. Traditionally guided by deterministic models and human expertise, AI is now being used to simulate scenarios, generate insights, and propose real-time solutions. Wood is exploring its use in predictive maintenance through maintAI and automated design, augmenting human judgement, not replacing it.

AI will continue to boost the performance of carbon capture and hydrogen systems. With experience on more than a third of global carbon capture projects, Wood uses tools like Virtuoso to support hydrogen blending studies, helping clients make informed investment decisions and plan next steps.

Launching two specialist hubs in the Middle East, Wood is harnessing the power of its world-renowned subject experts to help energy companies solve complex challenges. The Energy Transition and Digital & AI Hubs provide centralised and dedicated resources, drawing upon global experience and deep local expertise to enhance delivery while maintaining that essential human touch.

Visit us at ADIPEC in Hall 6, stand number 6350. Wood subject matter experts will be sharing digital insights during the Technical Conference.

SPONSOR | **WRENCH SOLUTIONS** HALL AI ZONE | STAND #AI -13

THE NEW REALITY OF PROJECT DELIVERY – ENERGY. INTELLIGENCE. IMPACT.

Wrench Solutions helps engineering consultants, EPC contractors, and owner organisations transform project execution by capturing live data, turning it into intelligence, and delivering it instantly to decision-makers

Get Ahead of Project Delays with AI – Act Smarter, Sooner, Faster

The global energy sector is accelerating faster than ever. As nations commit to energy transition targets and new investments surge across renewables, hydrogen, and low-carbon infrastructure, project execution windows are tightening. The pressure is relentless: deliver complex capital projects faster, safer, and at lower cost.

Amid this rush to build the future, delays remain one of the industry's most stubborn challenges. Every missed milestone impacts energy security, investor confidence, and market timelines. The real question for project leaders today is no longer "Can we deliver?" but "Can we deliver on time, every time?"

At Wrench Solutions, we believe the answer lies in 'Intelligence' built on Project data.

From effort to intelligence

Modern capital projects generate more information than any human team can process. Engineering, procurement, construction, quality, safety, and contracts – each function contributes to a torrent of digital data. Despite sophisticated systems, project teams often struggle to connect these dots in real time.

Delays are not caused by lack of skill or commitment; they are caused by information lag. Critical insights arriving too late to act upon.

At Wrench, our mission #ZeroToleranceForDelays was born from this realisation. Over the past two decades, we've helped engineering consultants, EPC contractors, and owner organisations transform project execution by capturing live data, turning it into intelligence, and delivering it instantly to decision-makers.

AI: the new source of project 'Energy'

In today's environment, Artificial Intelligence (AI) is no longer a futuristic enhancement – it is the core energy source powering faster and smarter execution.

AI enables foresight. It connects the dots that humans can't, detects risks before they escalate, and accelerates actions that keep projects on track. With AI, project intelligence becomes continuous, predictive, and actionable.

This philosophy drives Wrench AI Advisor (WAA) – our agentic AI framework built directly into Wrench SmartProject, the cloud-based Project Management Information System trusted across global energy and infrastructure programs.

WAA delivers Intelligence that drives Impact.

Wrench AI agentic capabilities

1. **KPI Analyzer – Decide Smarter**

   The KPI Analyzer transforms how project leaders monitor performance. Instead of static monthly reports, it delivers dynamic insights:

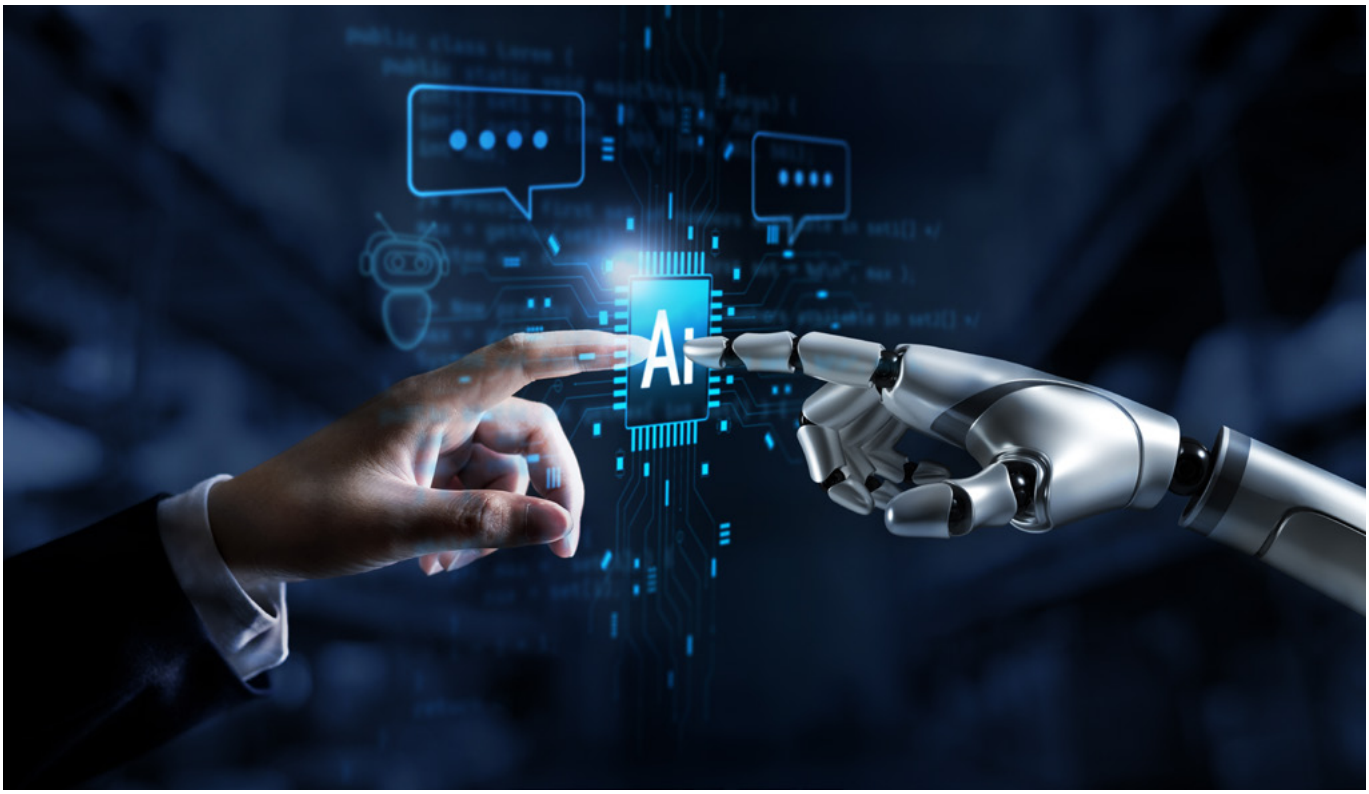
   - Retrieve any KPI instantly – cost, schedule, productivity, quality, or safety – through natural-language queries.
   - Visualize trends with on-demand charts and dashboards.
   - Drill into causes behind variances and forecast outcomes using live data.
   - When intelligence is this immediate, decisions become sharper, corrective actions quicker, and leadership more confident.

2. **Project Watchtower – act sooner**

   Every project needs a vigilant sentinel. The Project Watchtower keeps a constant eye on your project's

> "In today's environment, Artificial Intelligence (AI) is no longer a futuristic enhancement – it is the core energy source powering faster and smarter execution."

wrench



health, scanning for early warning signs and alerting stakeholders before issues escalate. It can:

- Detect schedule slippage, non-compliance, and scope deviation early.
- Flag risks hidden in delayed reviews or vendor performance trends.
- Auto-notify responsible teams with actionable insights.
- Track lead indicators, not just lagging metrics.

The Watchtower ensures teams act sooner – before delays become visible, before impacts spread.

3. **Action Accelerator – deliver faster**
   The Action Accelerator energises project execution by taking on high-stakes, time-critical tasks with speed and precision. It can:

- Review contract documentation and mark them up for further human action.
- Intercept and analyse project correspondence, draft responses, and assign trackable actions to the right stakeholders.
- Generate reports, specifications, and recovery plans in minutes.
- Run "what-if" schedule analyses to simulate alternate scenarios.

By removing documentation bottlenecks and compressing review cycles, the Action Accelerator gives teams the momentum to maintain schedule integrity.

From intelligence to impact

Together, these three agents – KPI Analyzer, Project Watchtower and Action Accelerator – deliver measurable impact where it matters most:

- Smarter decisions.
- Sooner interventions.
- Faster, data-driven collaboration.

This isn't about replacing human capability; it's about amplifying it. AI handles repetitive, laborious and time-sensitive tasks so human teams can focus on creative and critical thinking driven work on strategy, innovation, and leadership. The result? Projects that don't just meet deadlines – they define them.

At Wrench, we continue to work closely with organisations and forward-thinking leaders who share our belief that AI is not optional; it's essential to achieving #ZeroToleranceForDelays.

A call to the industry

As ADIPEC 2025 shines a spotlight on Energy. Intelligence. Impact, it's clear that the next generation of energy projects will not be defined by scale alone, but by how intelligently and efficiently they are executed.

It's time to move from hindsight to foresight, from data overload to decision clarity, from effort to impact.

Get ahead of delays with Wrench AI Assistance

Act Smarter. Sooner. Faster.

Deliver with Zero Tolerance For Delays.

EXHIBITOR I **ACME ENGINEERING** HALL 3 I STAND 3157

ELECTRIC BOILERS HASTEN EUROPE'S CLEAN ENERGY TRANSFORMATION

High-voltage electrode boilers are poised to play a innovative role by converting surplus renewable electricity into heat, says Acme Engineering

Finland is at the forefront of the EU's transition accelerating its clean energy agenda by deploying high-efficiency electrode boilers across critical heat networks.
Across Europe, high-voltage electrode boilers are quietly impacting the clean energy transition.
These boiler systems are being deployed to support decarbonisation goals, reduce emissions from heating networks, and help stabilise power grids increasingly powered by variable renewable sources.
"As the EU advances its green initiatives, technologies like high-voltage electrode boilers provide a practical way to convert surplus renewable electricity into useful heat while supporting the shift away from fossil fuels," explains Robert Presser, President of Acme Engineering Products.
Modern high-output electrode boilers are CE-marked systems designed to generate steam or hot water using high-voltage electricity, with output capacities reaching up to 60MW, and steam production pressures as high as 32 barg.
These systems deliver zero emissions at the point of use, offer full modulation from zero to 100% output, and feature flexible configurations suitable for both new installations and retrofit projects in industrial and district heating applications.
Electrode boilers are being installed across district heating networks to help decarbonise thermal energy production, offset fossil-fuelled heat sources, and absorb excess electricity.
Their integration not only supports emissions reduction but also strengthens grid stability, making them a strategic investment in a broader path to carbon neutrality.
To accelerate deployment, CT Industrial Oy (CTI) has teamed up with Acme Engineering to expand electrode boiler implementation across Finland and other European markets.
Together, CTI and Acme form a highly nimble and technically capable partnership, offering customised solutions, rapid modifications to existing equipment, and a high degree of responsiveness to customer requirements.
The European market for decarbonisation technologies remains resilient, driven by sustained municipal investment in clean energy infrastructure.
As demand rises, high-voltage electrode boilers are poised to play a innovative role by converting surplus renewable electricity into heat, supporting grid stability and emissions reduction efforts, and creating energy ecosystems that are agile during fuel price fluctuations.

EXHIBITOR I **AISUS** HALL 6 I STANDS 610, 614, 620

TRANSFORMING ON-SITE ROBOTIC INSPECTIONS INTO ACTIONABLE DATA

AISUS transforms asset integrity with AI and data intelligence to deliver safer operations, smarter insights, and sustainable performance

The relationship between energy and AI is reshaping the future of asset integrity. As offshore infrastructure ages across platforms and wind farms, operators face increasing pressure to optimise performance and reduce carbon impact. AI enables faster, safer, and more sustainable decisions. At AISUS, we bridge the gap between robotic-led inspections and intelligent data management, moving operators beyond static reports to real-time, actionable insights.

AISUS' AI-powered, cloud-based platform transforms inspection data into interactive intelligence. By combining robotics with computer vision, automated defect detection, predictive modelling, and 3D visualisation, we deliver insights in a single, consolidated system. Offshore operators can pinpoint corrosion, cracks, and weld defects with greater accuracy, forecast degradation trends, and plan proactive maintenance strategies. Replacing traditional reports with real-time dashboards and VR interfaces makes inspection data both accessible and meaningful.

Looking ahead, predictive modelling and immersive data visualisation will have the greatest impact on the energy sector. The ability to compare inspection results with historical insights, forecast degradation, extend asset life, and optimise pre-maintenance interventions, reduces cost and downtime while lowering emissions by maximising asset use. Over the next decade, AI-driven platforms will shape how operators balance efficiency with sustainability.

At ADIPEC 2025, AISUS will showcase its latest advancements in interactive inspection data, including 3D photogrammetry models from ultrasonic testing and stereoscopic imaging, along with immersive VR experiences. These innovations place intelligence directly in the hands of operators, enabling real-time decision-making in the most challenging offshore environments.

Cross-sector collaboration will be critical to scaling these solutions. By aligning energy expertise with technological innovation and investment, the industry can harness AI-driven integrity solutions globally. For AISUS, collaboration is both an opportunity and a responsibility to drive efficiency, safety, and sustainability across the energy sector.

AISUS is committed to helping the industry achieve greater efficiency, enhanced safety, and reduced downtime while supporting the transition to lower-carbon operations through optimised asset integrity.

EXHIBITOR | **ALI & SONS OIL & GAS** HALL 6 | STAND 6150

SMART SOLUTIONS FOR EFFICIENT AND SUSTAINABLE DEVELOPMENT

Ali & Sons Oil & Gas drive the UAE's energy progress through intelligence, partnerships, and strategic growth

> We recognise that scaling innovation requires proprietary solutions. To achieve this, the company is prioritising acquisitions of international OEMs – strengthening its product portfolio, broadening service offerings, and expanding its presence beyond the UAE.

The integration of AI into the energy sector is transforming the global landscape – delivering greater efficiency, improving safety, and accelerating the shift toward sustainable operations. For Ali & Sons Oil & Gas, this transformation is essential, reflecting the UAE's strategic vision and the industry's evolving demands.

In response to the rapid growth of AI, the company has embedded intelligent systems across its operations. Partnerships with robotics firms and consultancy providers are enabling automation in critical areas, while AI-powered monitoring systems installed in vehicles are enhancing safety by tracking driver behaviour and detecting fatigue. These innovations improve efficiency and strengthen long-term resilience across projects.

At the operational level, we are deploying AI-powered predictive maintenance, redefining asset management. By combining IoT sensors with real-time analytics, we can anticipate equipment issues before they occur, minimising downtime, extending lifecycles, and delivering measurable value to clients. This fusion of technology and energy demonstrates how smart solutions generate immediate efficiency while laying a foundation for sustainable growth.

Beyond energy operations, the company has introduced EDPx, its next-generation Employee Digital Platform. At its core is ASHGPT, the company's in-house AI assistant built on OpenAI's large language model and securely embedded within its ecosystem, designed to meet internal needs. EDPx and ASHGPT are foundational to embedding AI at the centre of how we operate. These tools are not just about automation – they are enablers of agility, intelligence, and competitive advantage. This platform marks a bold step toward the future of work at Ali & sons.

Looking ahead, we recognise that scaling innovation requires proprietary solutions. To achieve this, the company is prioritising acquisitions of international OEMs – strengthening its product portfolio, broadening service offerings, and expanding its presence beyond the UAE.

This forward-looking strategy aligns with the theme of ADIPEC 2025: Energy, Intelligence, and Impact. The event provides a platform to showcase AI-driven solutions, robotics-enabled operations, and digital innovations that accelerate industry progress. By connecting intelligence to value creation, pursuing strategic partnerships, and leveraging acquisitions, Ali & Sons Oil & Gas continues to support the UAE's energy leadership while positioning itself as a forward-thinking player in the industry's transformation.

EXHIBITOR I **AL GHARBIA PIPE COMPANY** HALL 10 I STAND 10612

PIPELINES SHAPING THE ENERGY TRANSITION

Al Gharbia Pipe Company will showcase its future-ready pipeline solutions, end-to-end digital traceability systems, and the UAE's manufacturing excellence

As the world shifts toward cleaner, more efficient energy sources, the infrastructure that supports it must also evolve accordingly. At Al Gharbia Pipe Company (AGPC), we recognise that robust, high-performance Longitudinally Submerged Arc Welded (LSAW) steel pipes are critical to building the resilient energy systems of tomorrow. We are a recognised Industry 4.0 Digital Leader, and we play a pivotal role in supporting the energy transition by delivering advanced large-diameter pipes used in oil, gas, and water transmission, as well as structural tubulars for offshore platforms and wind farms. Our corrosion-resistant pipes are custom-engineered to project specifications.

Our Industry 4.0 manufacturing processes utilise artificial intelligence (AI) to collect and analyse data across the entire manufacturing process, ensuring quality and traceability from plate to pipe. Our Smart Manufacturing Execution System (MES 4.0) executes, monitors, tracks and reports operations on the plant floor in real-time. By integrating cutting-edge manufacturing technologies and rigorous quality standards, we ensure that our products meet the evolving demands of both conventional and renewable energy sectors.

Looking ahead, we believe that hydrogen infrastructure, carbon capture, utilisation and storage, advanced material science, digital twins, and AI-driven predictive intelligence will be among the most transformative trends shaping the energy industry over the next decade. These are areas where Al Gharbia is actively innovating.

At ADIPEC 2025, we will showcase our future-ready pipeline solutions, end-to-end digital traceability systems, and the UAE's manufacturing excellence. These innovations reflect our commitment to ensuring operational resilience. These innovations not only support sustainability goals but also accelerate the deployment of scalable, future-ready energy systems. Guests can experience a visual tour of our factory through an interactive screen showing the plate to pipe process, as well as an AI-powered digital human assistant that communicates in both English and Arabic.

True transformation, however, requires collective action.

By fostering collaboration between the energy and technology sectors, we can accelerate scalable solutions that deliver real-world impact. AGPC is proud to be part of this shared journey, strengthening the pipelines of progress for a sustainable energy future.

EXHIBITOR I **AL KHAMIS EQUIPMENT TRADING** HALL 16 I STAND 16029

DRIVING ENERGY EFFICIENCY WITH PUMPS SOLUTIONS

Al Khamis Equipment's details a mission beyond supplying advanced equipment to empowering energy businesses with smarter, safer, and more sustainable solutions

Al Khamis Equipment plays a vital role in the energy efficiency evolution.

It does this by supplying cutting-edge HP/UHP water blasting pumps and centrifugal systems that optimise operational efficiency across the energy value chain - from upstream exploration to downstream refining and petrochemical processing.

Our ultra high pressure pumping solutions - capable of reaching pressures up to 3,000 bar - are revolutionising critical maintenance operations, including surface preparation, heat exchanger cleaning, tank cleaning, and hydrotesting.

These technologies eliminate traditional mechanical methods, reducing downtime by up to 60% while significantly lowering water consumption and environmental impact.

By enabling faster, safer, and more cost-effective operations, our solutions directly support the industry's push toward sustainable practices and enhanced productivity.

Looking ahead, we believe intelligent automation, predictive maintenance technologies, and eco-efficient pumping systems will fundamentally reshape energy operations.

The integration of IoT-enabled monitoring with high-performance pumping equipment will enable real-time optimisation, thereby preventing failures before they occur and maximising asset longevity.

Additionally, robotic surface preparation systems like our VertiDrive magnetic crawlers represent the future, by combining operator safety with precision performance in confined and hazardous environments.

At ADIPEC 2025, we're excited to showcase our comprehensive portfolio including Hughes Pumps UHP technology from the UK, UDOR's High Pressure units from Italy, Verti Drive's robotic crawlers from Netherlands, plus - from the US - Turtle Skin's Protective Suit, APS Shape Technologies Accessories, and Lansas pipeline testing equipment.

These solutions demonstrate how specialised equipment partnerships accelerate industry progress by addressing today's most pressing challenges: maximising uptime, ensuring operator safety, and minimising environmental footprint.

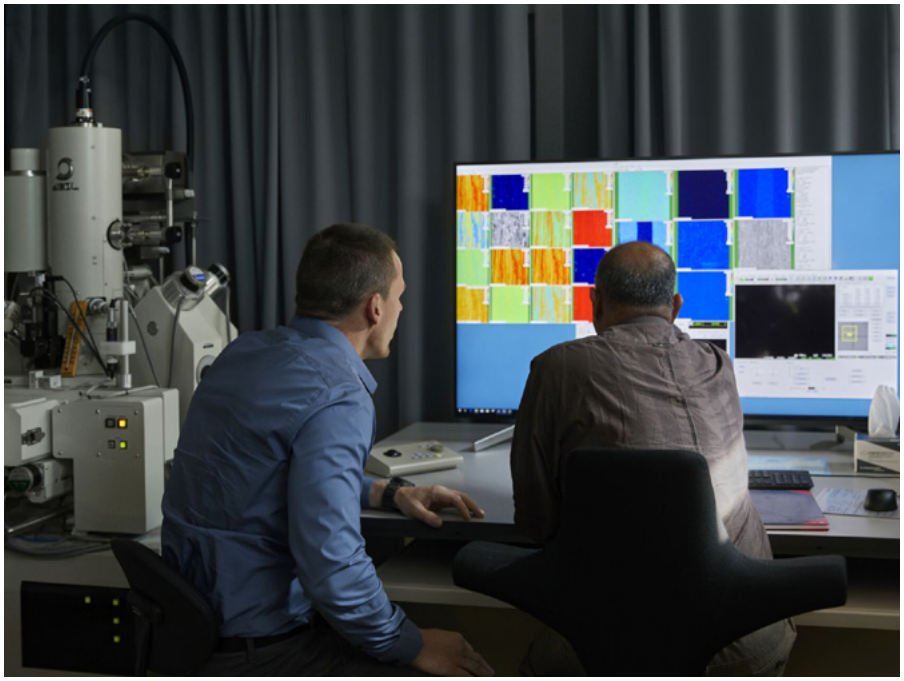
At Al Khamis, our mission goes beyond supplying advanced equipment: we aim to empower the energy industry with smarter, safer, and more sustainable solutions.

By driving innovation and forging global partnerships, we are proud to play our part in shaping the future of energy operations, where efficiency, reliability, and sustainability go hand in hand.

EXHIBITOR I **ALLEIMA** HALL 3 I STAND 316

ADVANCING EFFICIENCY IN MATERIALS MANAGEMENT THROUGH GENERATIVE AI

Alleima - manufacturer of high-value-added products in advanced stainless steels, special alloys and industrial tubing - explains its new generative AI solution



For more than 100 years Alleima has conducted research and compiled information in almost 60,000 reports.

It's invaluable knowledge, but difficult to overview. However, new, generative AI solution Alleima Guru makes searching the material easier and more efficient to manage.

Alleima has long explored how generative AI can be used to enhance operations, making them smarter, better, and more efficient.

The company's products are often used in extreme environments, which places high demands on its R&D to deliver the best solutions. Today, Alleima has about 900 active recipes for various alloys, and about 250 employees working in R&D globally, the majority in Sweden.

It has collected thousands of research reports in its archive. These will now live in a smart, digital system, which could potentially double research efficiency.

> "Alleima Guru is the first project where we use generative AI, but we have already identified several other areas where we can develop new solutions."

"Many times, it can be challenging for researchers to find documents with facts about what was done in the past," says Tom Eriksson, Executive Vice President and Head of Strategic Research.

"With Alleima Guru, it will be easier and faster to get access to previous research. "The aim is also to identify discrepancies in the conclusions of previous years, in order to obtain an even better basis for today's development projects."

Mathias Johansson, CIO, adds: "We explore all technologies that can make us a smarter, better, and more efficient company. Alleima Guru is the first project where we use generative AI, but we have already identified several other areas where we can develop new solutions."

There are plans to develop the concept further to improve processes in other parts of the company, such as purchasing, HR, finance, or production.

Alleima Guru is built on a closed private platform with the same information and security classification as the existing system environment, which gives control over information and how it is used by the algorithm.

At ADIPEC, Alleima will showcase several of its advanced materials technologies that accelerate energy progress. These include SAF 3006 and SAF 3007, and the super-austenitic stainless steel alloy Sanicro 35. Alleima will also highlight its wider family of tube products for the energy industry, including heat exchanger (HX) tubing, hydraulic and instrumentation (H&I) tubing, high temperature tubing, OCTG tubing, and control lines.

EXHIBITOR I **AL BADRI TRADERS** HALL 7 I STAND 7270

PROGRESS THROUGH INTELLIGENT SOLUTIONS

Al Badri Traders Company LLC will showcase calibration systems, test pumps, precision measurement tools, and industrial fittings, highlighting how integrated solutions can drive both operational excellence and sustainability

BICS - Compression Fittings & Manifolds

WIKA

For over two decades, Al Badri Traders Company LLC has been a trusted partner in the UAE's oil, gas, and energy sectors. As the industry advances toward smarter and more sustainable systems, we play a vital role in bridging technology, innovation, and reliability through intelligent sourcing and technical support for critical industrial equipment and instrumentation.

Leading change in energy transformation
The global energy transition demands precision, quality, and trust. Al Badri Traders Company LLC proudly serves as an Authorized Distributor and Service Centre for WIKA, a global leader in pressure, temperature, and calibration technology. Our portfolio also includes Kyowa test pumps, Mitutoyo measuring instruments, Molykote lubricants, and BICS fittings, ensuring our clients receive comprehensive solutions that meet the highest international standards for efficiency and safety.

Driving efficiency and innovation
Our Accredited Pressure Calibration Services form the backbone of our quality assurance offerings. Through advanced WIKA pressure calibrators and certified reference standards, we provide precise, traceable, and reliable calibration for all process instruments. Combined with our smart instrumentation and maintenance programs, we help clients enhance equipment performance, extend service life, and ensure full regulatory compliance.

Technologies shaping the future
As digital automation, AI-based predictive maintenance, and green energy systems redefine industrial operations, Al Badri Traders Company LLC continues to adapt, offering advanced monitoring, control, and calibration technologies aligned with the UAE's energy transformation goals.

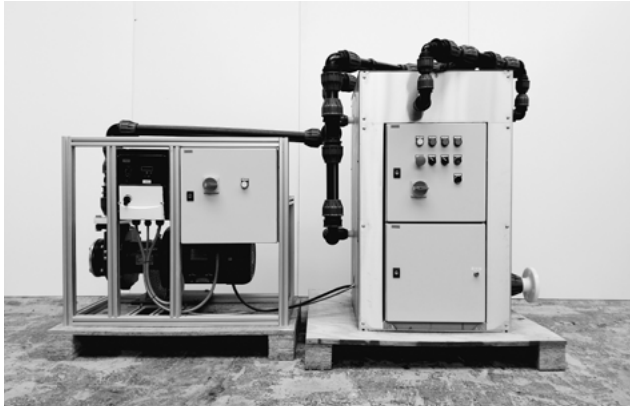
Showcasing at ADIPEC 2025
At ADIPEC 2025, we are proud to showcase our WIKA calibration systems, Kyowa test pumps, precision measurement tools, and industrial fittings, highlighting how integrated solutions can drive both operational excellence and sustainability.

Collaborating for real-world impact
We believe that collaboration between energy, technology, and finance sectors is essential to achieving real-world impact. By uniting innovation with experience, Al Badri Traders Company LLC continues to power a smarter and more sustainable energy future.

EXHIBITOR I **AQUAB** HALL 17 I STAND 17312

TECHNOLOGY TO DRIVE THE ENERGY WATER NEXUS

AquaB is pioneering membrane-free, low-maintenance nanobubble technology that enhances process efficiency, reduces chemical dependency, and lowers energy consumption across industrial applications



As the global energy landscape transitions toward sustainability, the interconnection between water, energy, and technology has never been more critical. AquaB stands at the forefront of this transformation, pioneering membrane-free, low-maintenance nanobubble technology that enhances process efficiency, reduces chemical dependency, and lowers energy consumption across industrial applications — from oil recovery and produced-water treatment to agriculture and environmental restoration.

At the heart of AquaB's innovation lies its patented electrostriction-based nanobubble generator, a compact, chemical-free system capable of producing nanobubbles at densities far beyond conventional methods while consuming a fraction of the energy. In the energy sector, this translates into measurable impact: improved oil recovery, more efficient water separation, reduced chemical use, and significant operational savings across the production cycle.
AquaB's technology embodies the future of integrated, low-carbon solutions. By optimizing water management processes, it supports cleaner production and enables industries to advance toward net-zero operations without compromising performance. Looking ahead, AquaB sees the convergence of clean-tech innovation,

AI-driven process control, and sustainable water technologies as the key to reshaping the global energy system over the next decade.
Participating in ADIPEC 2025, AquaB will showcase its latest industrial scale nanobubble systems, highlighting real-world success stories in wastewater treatment and enhanced oil recovery. These systems are designed for seamless integration into existing infrastructure, offering operators a practical and scalable path toward ESG-aligned performance.

For AquaB, collaboration is central to impact. Through partnerships bridging energy, technology, and finance, the company continues to expand the reach of its solutions, accelerating innovation that benefits both industry and society. By combining scientific expertise, sustainable engineering, and strategic investment, AquaB demonstrates how clean innovation can power progress — transforming not just the future of energy, but the health of the planet itself.

EXHIBITOR I **ALMANSOORI PETROLEUM INDUSTRIES (AMPI)** HALL 6 I STAND 6531

ENGINEERING EXCELLENCE MEETS DIGITAL INNOVATION

AlMansoori will demonstrate how digital collaboration, predictive insights, and workflow automation are transforming operational performance at ADIPEC 2025

> We operate two manufacturing entities, Specialised Oilfield Products (SOP) and Micoda Process Systems International, both strategically located in the Industrial City of Abu Dhabi.

Founded in 2008 in Abu Dhabi, AMP is a subsidiary of AlMansoori Specialised Engineering. Our mission is to establish local manufacturing capabilities and form strategic partnerships with global leaders to bring advanced oilfield technologies to the UAE.

AMPI combines engineering expertise with digital innovation to deliver smarter, more efficient, and highly reliable solutions for our clients. We operate two manufacturing entities, Specialised Oilfield Products (SOP) and Micoda Process Systems International.

Specialised oilfield products (SOP)

SOP designs and manufactures wireline and well-service equipment Leveraging Artificial Intelligence (AI), SOP transforms wireline operations by integrating intelligent, adaptive systems that enhance performance and safety:

- Predictive Maintenance: Using AI to analyse equipment health and sensor data, enabling early fault detection and reduced downtime.
- Anomaly Detection: Advanced monitoring of hydraulic systems to predict malfunctions and manage pressure-control risks.
- Autonomous Operations: Development of semi-autonomous winches and intelligent control systems, offering greater operational flexibility.

The result is safer, faster, and more reliable well interventions, maximising operational efficiency and performance.

Micoda process systems international

Micoda specialises in the design, engineering, procurement, manufacturing, installation, and commissioning of pressure vessels, process equipment and integrated process packages. By integrating Energy and AI, Micoda is reshaping the oil and gas landscape through smarter and faster operations:

- Digital Transformation: Introduction of CRM systems, cloud collaboration platforms, and AI-driven project management tools to optimise resource allocation and delivery timelines.
- Client-Centric Engagement: Targeted digital campaigns and interactive platforms enhance customer experience, allowing direct feedback and knowledge sharing.
- Sustainability & Transparency: Implementation of paperless initiatives and digital feedback solutions ensures cost-effective operations and stronger client relationships.

The result is safer, faster, and more reliable pressure vessels and process equipment, maximising operational efficiency and performance.

Our vision at ADIPEC 2025

At ADIPEC 2025, AMPI, together with SOP and Micoda, will showcase how digital collaboration, predictive insights, and workflow automation are redefining operational excellence.

EXHIBITOR I **ARABIAN OCEAN MARINE** HALL 6 I STANDS 610, 614, 620

PROTECTING PEOPLE AND PLANET THROUGH INNOVATION

Arabian Ocean Marine Services harnesses AI to transform HSE systems, driving safer workplaces and stronger ESG performance in energy

The energy sector is entering a new era where artificial intelligence is driving safer, smarter, and more sustainable operations. At AOS-Sensori, we see AI not only as an efficiency tool but as a vital enabler of protecting the most valuable asset of any organisation – its people. By embedding AI and digital solutions into Health, Safety, and Environment (HSE) systems, we help energy companies anticipate risks, enhance worker well-being, and strengthen ESG performance.

AI in action

AOS-Sensori integrates IoT sensors, wearables, and AI-driven analytics into a comprehensive HSE ecosystem. Real-time data combined with predictive insights enables organisations to prevent incidents before they occur, minimise downtime, and optimise ESG reporting with verifiable, transparent metrics. This shift from reactive to predictive safety management marks a fundamental transformation in how the industry safeguards its workforce.

Future technologies

We believe predictive worker safety, AI-powered environmental monitoring, and intelligent PPE systems will be the most transformative technologies of this decade. These innovations will help organisations move beyond compliance toward proactive, sustainable operations that protect both people and the planet.

Showcasing at ADIPEC 2025

AOS-Sensori will spotlight two pioneering solutions:

- Personalised safety footwear programme: Using plug-and-play gait and balance testing, this system identifies the right footwear for each worker to reduce fatigue, improve posture, and prevent injuries. Continuous monitoring ensures timely replacement, cutting downtime and HSE costs.
- Wearable health & fitness monitoring: A medical-grade wearable that tracks vital signs including heart rate, SpO_2, temperature, blood pressure, sleep, and activity patterns. With real-time alerts and early warning scores, it provides actionable insights to safeguard worker well-being in demanding environments.

Collaboration for impact

True transformation requires cross-sector collaboration. By aligning the expertise of energy, technology, and finance, solutions like AOS-Sensori's digital HSE ecosystem can scale rapidly across industries, accelerating measurable impact on safety, sustainability, and workforce resilience.

At ADIPEC 2025 we are excited to demonstrate how intelligence and innovation converge to create a lasting impact for the energy sector and beyond.

EXHIBITOR I **ARVA AI** HALL 1 I STAND 1130

DATA-DRIVEN CONNECTIONS FOR A CLEANER PLANET

Arva AI: A new standard in environmental projects assessment

AI is rapidly transforming the oil and gas industry. As an innovation-driven company, Arva Greentech Remediation AG is shaping the future of environmental services by integrating artificial intelligence and machine learning into polluted site rehabilitation. Our mission is to turn environmental challenges into data-driven opportunities, helping industries, governments, and communities achieve cleaner land, water, and air.

We have developed breakthrough AI-driven software that sets a new standard in environmental restoration. It processes data from diverse projects, unlocking the most effective strategies for contaminated sites. More than a tool, it is a knowledge engine – a neural network powered by a unique database gathering years of Arva's R&D. It guides scientific exploration toward smarter, faster, and more sustainable solutions.

With capabilities in forecasting, Life Cycle Assessment, and scenario modelling, our system anticipates both immediate and long-term impacts of remediation technologies. It recommends optimal strategies – during treatment and long after – ensuring stable recovery.

Integrated with GIS platforms, satellite monitoring, remote emission tracking, and other intelligence systems, Arva AI builds a connected, data-driven ecosystem for a cleaner planet.

Building on early test successes, we are now designing a scalable IT product that will position Arva as a recognised environmental-tech leader. It simulates impacts on land, water, and air, identifying effective and accessible sustainability solutions. Powered by AI and advanced analytics, it delivers actionable insights that help institutions – private, state-owned, and governmental – move from data to decisions faster, and with greater confidence. Designed for interoperability, it connects seamlessly with enterprise and government systems, from emission monitoring to oil spill detection and emergency response.

A key innovation is the monetisation of sustainability. Our algorithms convert toxic, climate, and biodiversity impacts into standardised CO_2-equivalents. This creates a common metric aligned with ESG benchmarks and opens access to carbon-credit markets – turning ecological progress into measurable, tradable value.

For the Middle East, where resource management and resilience are strategic priorities, Arva AI provides next-generation infrastructure for environmental oversight – a bridge between industry and regulation, enabling sustainable growth, reducing risks, and strengthening environmental protection.

EXHIBITOR I **AQUANESS** HALL 1 I STAND 11470

A FOCUS ON PRACTICAL SOLUTIONS FOR RADIUM REMOVAL IN OILFIELD WATERS

Aquaness will showcase an advanced formulation that addresses some of the industry's most persistent challenges — including handling the safe treatment of contaminated produced water

Aquaness is a UAE-based company supplying specialty chemicals and process solutions to the oil and gas industry across the Middle East and international markets.
Our focus is on delivering reliable, research-informed technologies that enhance operational efficiency, safety, and environmental performance.
As the global energy sector in 2025 continues to balance production growth with sustainability, the need for efficient, field-ready environmental solutions has never been greater.
Aquaness contributes to this transition by developing and supplying advanced formulations that address some of the industry's most persistent challenges — including the safe treatment of contaminated produced water.

> Aquaness provides customised, scalable, and regulation-compliant solutions that help operators achieve higher standards of safety, sustainability, and performance.

At ADIPEC 2025, Aquaness will showcase one such innovation: a barite (barium sulphate) co-precipitation system designed for radium removal in oilfield water streams. Radium, originating from the decay of uranium in subsurface formations, dissolves into produced and formation waters, creating radioactivity and environmental risk.
Aquaness recommends a controlled co-precipitation solution, introducing barium and sulphate ions that react to form insoluble barium–radium sulphate. This process efficiently traps radium within a stable solid matrix, enabling its safe separation from the treated water. Integrated solid–liquid separation and compliant waste management ensure that the resulting NORM (Naturally Occurring Radioactive Material) residues are handled and disposed of safely.
This system builds on well-established scientific principles of barite co-precipitation, a proven approach in the removal of radium from aqueous systems, while integrating modern process control and formulation design to meet today's oilfield demands.
With its proven chemistry, operational simplicity, and adaptability to existing field systems, barite co-precipitation represents one of the most practical and cost-effective technologies for mitigating radium contamination.
By aligning scientific understanding with real-world application, Aquaness provides customised, scalable, and regulation-compliant solutions that help operators achieve higher standards of safety, sustainability, and performance.

EXHIBITOR I **AUTOCHIM SYSTEMS** HALL 15 I STAND 15118

INTELLIGENT OPERATIONS IN HAZARDOUS ENVIRONMENTS

Autochim Systems delivers industrial-grade connectivity solutions bringing real-time intelligence to frontline operations

Energy. Intelligence. Impact. - The energy sector's digital transformation depends on a critical requirement often overlooked: industrial-grade technology capable of operating reliably in explosive atmospheres. While AI, IoT, and analytics dominate industry discussions, these capabilities require purpose-built devices certified for hazardous areas—technology that can withstand the demanding realities of oil and gas field operations.

Connecting field operations to enterprise intelligence - Industrial-grade connectivity solutions are bringing real-time intelligence to frontline operations. Intrinsically safe 5G-enabled smartphones and tablets provide field personnel access to equipment diagnostics and operational data in Zone 1 and Zone 2 environments. Industrial wireless infrastructure supports reliable connectivity across facilities. Assisted reality headsets deliver remote expert guidance directly to technicians, keeping their hands free for critical work. Since 2020, we have been supporting the industry's largest private 5G network åreality. These field-proven solutions deliver the stable and secure connectivity required for faster response times, improved predictive maintenance, and enhanced safety protocols across large-scale energy operations.

Technologies defining the next decade - Private 5G networks are giving energy operators direct control over connectivity infrastructure, enabling ultra-reliable industrial IoT at scale without dependence on public networks. Edge computing is processing time-sensitive data where it's generated rather than in distant data centres, critical for applications requiring immediate response. Assisted reality is capturing operational knowledge as experienced workers retire, transferring decades of expertise to newer personnel in real-time.

These technologies converge to enable new operational models. Predictive maintenance becomes proactive rather than reactive. Safety monitoring identifies risks before incidents occur. Knowledge transfer happens continuously through hands-on work rather than classroom training.

Demonstrating practical applications at ADIPEC 2025

At ADIPEC, operational hardware will be demonstrated in simulated hazardous conditions. These field-proven solutions show how intelligent edge technology functions under industrial requirements—not as concept demonstrations, but as deployable systems operating in demanding environments today.

Accelerating industry progress requires collaboration across traditional boundaries. Energy operators understand processes. Technology providers understand industrial requirements. Network specialists understand connectivity architecture. Software developers understand applications. When these capabilities integrate effectively, the result is solutions addressing real operational challenges with measurable impact across global energy operations.

EXHIBITOR I **BEAMEX** HALL 8 I STAND 8554

PREDICTIVE TECHNOLOGIES WILL NEED CALIBRATION

Beamex works across both calibration software and hardware, envisioning a future where predictive systems identify when calibration is needed and accurate calibration data improves the models themselves

Finland's northernmost utility, Tunturiverkko, ensures power supply in near-Arctic conditions—an environment where component failures are common. By leveraging predictive technologies, advanced sensors, and machine learning, they built an intelligent grid system that successfully predicted three insulator failures in one week, saving over €40,000.

This is just one example of how predictive technologies can dramatically improve safety, reliability, and efficiency in energy operations.

Globally, the predictive maintenance market is expected to exceed USD 70 billion by 2032. These technologies typically fall into three categories: failure prediction, anomaly detection, and estimating remaining useful life. While already valuable, these capabilities are just beginning to show their full potential.

As predictive systems evolve, they are increasingly powered by real-time data from connected sensors. Rather than relying solely on historical information, future applications will fine-tune predictions and allow maintenance to be scheduled years in advance. Real-time monitoring will enhance anomaly detection, helping businesses adapt strategies and maintain peak performance.

However, despite successful pilots, many companies are struggling to scale these solutions. A major challenge is the gap between IT and OT systems, often made worse by legacy infrastructure, manual processes, or concerns about cloud connectivity.

At Beamex, we work across both calibration software and hardware and consistently see that data quality and trust are fundamental to predictive success. No algorithm can provide accurate insights if the underlying data is flawed. Human input errors, environmental factors, and uncalibrated measurements all affect data quality.

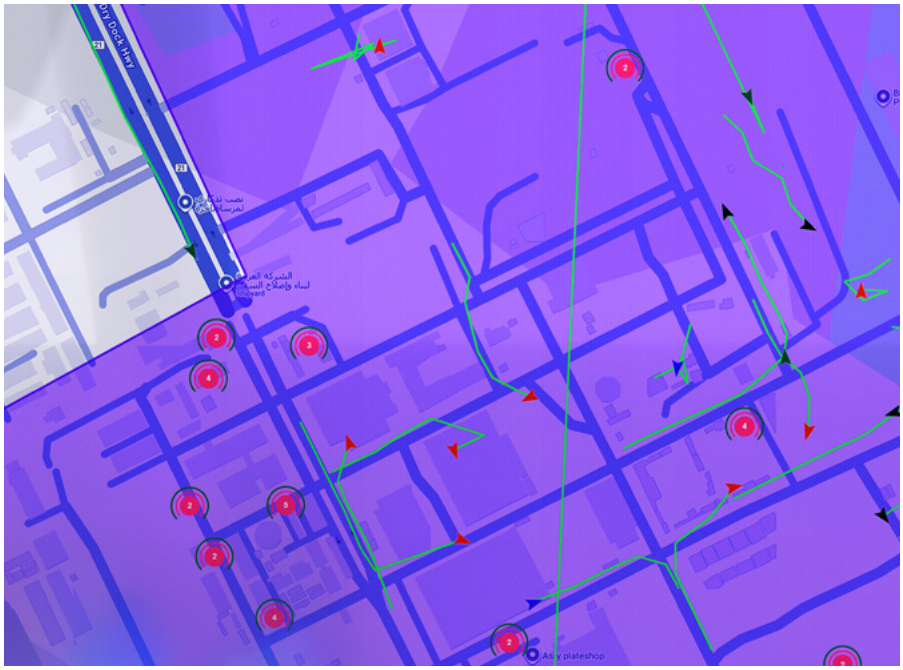
Calibration plays a critical role in validating this data and maintaining system integrity. We envision a future where predictive systems can identify when calibration is needed, and accurate calibration data improves the models themselves.

Ultimately, trust and willpower are key. The technology works. Now it's up to businesses to scale it—with the right tools, people, and shared vision. The convergence of predictive technologies and calibration will shape a safer, more reliable, and data-driven energy future.

EXHIBITOR I **ASRY** HALL 16 I STAND 16305

EXPLORING ADVANCED TECHNOLOGIES TO ENHANCE SUSTAINABILITY AND EFFICIENCY

Implementing AI-powered energy optimisation and exploring advanced technologies such as the Artificial Intelligence of Things, digital twins, drones, robotics, and augmented reality is enabling **ASRY** (Arabian Shipbuilding & Repair Yard) to further enhance its operations in an evolving industry climate



Artificial intelligence is transforming how industries manage energy, shifting from reactive approaches to predictive, data-driven decision-making. AI enables better monitoring, optimisation, and automation, helping reduce waste, cut costs, and improve sustainability. In energy-intensive sectors like shipbuilding and repair, this shift is especially critical.

At ASRY, we've embraced this transformation by migrating 99% of our IT workload to the cloud, in line with Bahrain's Cloud First Policy. This includes ERP, Microsoft 365, and telecom systems, forming a scalable digital foundation for AI-powered energy optimisation.

Cybersecurity is a key part of our strategy. Our AI-driven platform protects data, email, and network infrastructure, ensuring operational integrity as systems become more digitised and interconnected.

> We are currently exploring advanced technologies such as the Artificial Intelligence of Things (AIoT), digital twins, drones, robotics, and augmented reality (AR) to further enhance our operations.

We've also deployed a cloud-based fleet management system to monitor fuel usage, idle time, and maintenance needs across our equipment.

This enables predictive maintenance and smarter scheduling, reducing fuel waste and improving asset longevity, supporting both efficiency and sustainability goals.

Our Live Dashboard provides real-time visibility into energy consumption and operational performance.

It helps engineers detect anomalies, forecast trends, and make faster, informed decisions.

We are currently exploring advanced technologies such as the Artificial Intelligence of Things (AIoT), digital twins, drones, robotics, and augmented reality (AR) to further enhance our operations. These tools are redefining how inspections, maintenance, and training are conducted — making them safer, more precise, and more energy-efficient.

Through AR and digital twin integration, engineers can visualise real-time data directly on physical assets, improving accuracy and reducing errors.

Cross-sector collaboration is vital to scaling these innovations.

At ASRY, we work closely with technology, energy, and finance partners to co-create solutions that deliver measurable impact and support Bahrain's national sustainability goals.

Through these efforts, ASRY is not only embracing digital transformation, but we're also helping lead the way toward a smarter, greener maritime industry.

EXHIBITOR I **BEIJING MUCHEN** HALL 9 I STAND 9534

AI-LED MODELS THAT EMPOWER RISK DETECTION AND PROTECTION

MUCHEN is combining their materials knowledge with smart technologies to provide safer, more sustainable protection for the future

As technology advances, AI is becoming a powerful tool to improve safety and efficiency in daily operations across many industries. For more than 15 years, Beijing MUCHEN Fireproof Insulation Special Materials Co., Ltd. has focused on passive fire protection (PFP) and anti-corrosion solutions in the oil and gas sector, delivering successful projects worldwide. Some of our coating systems have delivered zero-maintenance performance for 13 years, demonstrating both the outstanding quality of our products and our proven application expertise. Today, we are combining this materials knowledge with smart technologies to provide reliable protection for oil and gas facilities, offshore platforms, and other extreme working conditions.

Our work covers three key areas:

- Smart checks: Drones and remotely-operated vehicles (ROVs) capture high-resolution images and video. These are analysed by computer systems to detect coating issues such as blistering, cracking, or corrosion. Alerts highlight critical risks, enabling teams to focus on priority areas while reducing the need for staff to enter hazardous environments.
- Check-before-fail: By integrating environmental data (temperature, humidity, salt, UV) with material performance data (expansion, adhesion, chemical resistance), we create detailed service-life curves and prediction models. This shifts maintenance from 'fixing after failure' to planned, condition-based strategies that reduce costs and improve long-term performance.
- Digital workflow: Inspection results are linked with project management systems, forming a clear 'detect–assess–plan–verify' cycle. This digital integration improves preparation, execution, and cost control, while supporting faster and more reliable decision-making.

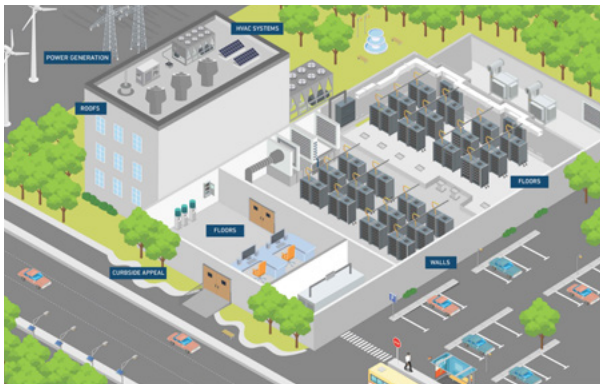
In harsh environments such as desert heat, offshore humidity, salt spray, and extreme cold, AI monitoring can track coating performance in real time and detect risks early. Long-term data collection allows us to build stronger predictions of material life, helping customers lower maintenance costs and enhance the reliability of critical assets. This approach not only improves safety in daily work but also supports the energy sector's transition toward safer and more sustainable operations.

Looking ahead, MUCHEN is actively developing AI-driven monitoring and predictive maintenance methods, with the goal of applying them to more projects and environments. By combining advanced material life models with common performance standards, we see major opportunities to drive efficiency, reliability, and sustainability in the global energy industry.

EXHIBITOR I **BELZONA** HALL 15 I STAND 15515

SOLUTIONS FOR REPAIR AND MAINTENANCE IN AI DATA CENTRES

Belzona helps data centres stay ahead of the curve by extending the life of critical assets, reducing unplanned downtime, and improving efficiency



Industries have increasingly adopted advanced technologies to improve their operations and manufacturing processes for building future economies - using automation for precision and agility while also shaping sustainability.
This shift is closely tied up with the rising demand for AI, cloud computing, and digital infrastructure. Data centres have become essential to keeping the modern world connected and online.
This digital shift also brings new challenges: maintaining resilient infrastructures for supporting growing demands while ensuring efficiency and sustainability.

Proactive maintenance for data safety
Belzona supports this growth and transformation by providing repair composites and protective coatings to safeguard the long-term performance of data centres and digital infrastructures.
The solutions help prevent outages, extend asset lifespan, and maintain critical performance in a rapidly evolving digital landscape.
With the rise of AI - which consumes up to five times more energy per query than traditional searches - data centres face increased operational strain.
In this high-load environment, protecting assets through proactive maintenance is essential to avoid costly failures and maintain efficiency.

HVAC maintenance, key to data centre reliability
Temperature and humidity control - vital to data centre performance - typically relies on HVAC systems.
These systems operate around the clock. Their components are exposed to significant wear, corrosion and aggressive chemicals, leading to metal loss, leaks, and system inefficiency.
Belzona provides high-performance polymeric coatings engineered to resist these harsh conditions, restoring structural integrity and delivering long-term protection against corrosion and leaks.

Solutions for data centre infrastructures
Beyond HVAC, Belzona has a proven track record in safeguarding data centre infrastructures, ensuring maintenance and safety on roof elements, walls, floors, stairs, ramps, HVAC, pipework, and power generators and transformers.
By extending the life of critical assets, reducing unplanned downtime, and improving efficiency, Belzona offers solutions that support the digital future. Belzona helps data centres stay ahead of the curve, empowering innovation, protecting digital infrastructures, and supporting growth in the technology sector.

EXHIBITOR | **BILFINGER** HALL 13 | STAND 13473

LEVERAGING AI FOR A RELIABLE, EFFICIENT AND SUSTAINABLE PROCESS INDUSTRY

By combining its traditional product portfolio with digital solutions, **Bilfinger** says it helps customers to enhance their energy efficiency and become more sustainable

At Bilfinger, we view artificial intelligence (AI) not merely as a technological tool, but as a driver for achieving a more efficient, resilient, and sustainable process industry in the future.

At the same time, we recognise the critical importance of energy security during this transition.
The synergy between AI and energy is accelerating the shift toward decarbonisation, operational excellence, and innovative business models.
Bilfinger is leveraging digitalisation to optimise asset performance, reduce emissions, and enhance reliability for our customers.
By combining our traditional product portfolio with digital solutions, we help customers to enhance their energy efficiency and thus become more sustainable.

Innovation in action
A standout example of Bilfinger's innovation is the Bilfinger Collaboration & App Platform (BCAP), a cloud-based solution that integrates data from IT, operational technology, and engineering.
BCAP empowers clients with predictive analytics, process optimisation, and real-time decision-making, leading to enhanced plant efficiency, reduced downtime, and lower energy costs.
By harnessing advanced data analytics, we unlock new levels of operational excellence and sustainability for our customers.

Collaboration and innovation are key
Each industry sector presents distinct challenges and opportunities for AI adoption.
Looking ahead, AI-driven predictive maintenance, AI/optimised production processes, smart energy optimisation, and decentralised energy management will redefine the industry.

AI's ability to enable real-time forecasting, optimise energy storage, and integrate renewables will be pivotal in shaping the energy landscape over the next decade.
At Bilfinger, we believe that cross-sector collaboration and innovation are key to unlocking AI's full potential, driving a sustainable and secure energy future for all.

> By harnessing advanced data analytics, we unlock new levels of operational excellence and sustainability for our customers.

EXHIBITOR | **BLACKLINE SAFETY** HALL 9 | STAND 2460

STRATEGIC CONSIDERATIONS FOR EHS LEADERS

Safety data specialist Blackline Safety, highlights three key considerations for adopting AI tools

Adopting AI tools can seem daunting. Blackline Safety recommends that a business aims to approach it like any other data-related project by considering three key project management principles.

• Define your purpose for integrating AI and set clear goals: AI is most effective when applied to specific, well-defined goals. Instead of starting with a broad question, such as 'How can I use AI?' focus on identifying the problems you want to solve.

For energy professionals, questions to ask might include: Where do we struggle with incident management, risk assessment, or emergency response?

For example, an EHS compliance officer at a hydrogen facility might struggle to keep SOPs audit-ready amid fast-changing regulations. Failure to comply could result in fines, legal consequences, and operational delays. By understanding the specific challenges before turning to AI – in this case, ensuring safety documentation is current – EHS leaders can more effectively determine how AI can drive improvements and ensure compliance.

• Manage your data well: AI is only as good as the quality of data it processes. If the input is poor, then the output will be poor. Good data management is a key foundation.

• Exercise good judgement: AI is a valuable decision-support tool, not a replacement for human judgment. In safety, particularly, it's crucial to recognise both the strengths and limitations of AI, as these decisions directly affect human lives and infrastructure.

The safest approach is to use AI to assist decision-making, not make decisions on its own.

To summarise, AI has enormous potential in EHS with the ability to help leaders better manage compliance, assess risk and predict incidents, strengthen training, develop policies and create in-depth reports. It works best when applied to well-defined challenges, backed by quality data, and used as a support tool.

While safety professionals don't need to be AI experts, they do need to understand their own challenges, data, AI's capabilities, and their own responsibility in driving AI transformation. Partnering with a safety data expert, like Blackline Safety, can help too.

EXHIBITOR | **CANNON ARTES** HALL 2 | STANDS 2112

SMARTER SOLUTIONS FOR WATER MANAGEMENT

As global experts in water treatment, Cannon Artes combines proven experience with advanced innovation to create smarter, more sustainable systems

At Cannon Artes, we believe that digitalisation can help reshape the way industries think about sustainability and efficiency. It is enabling us to manage increasingly complex systems with precision, and our role is to translate this technological potential into concrete solutions that drive measurable impact in water management.

One of the areas where we see digital solutions delivering the greatest benefits is in the remote control and monitoring of water treatment plants. By integrating advanced sensors, data analytics, and cloud-based platforms, we allow operators to monitor performance in real time, anticipate fluctuations in demand, and react proactively to potential inefficiencies. This ensures higher reliability, reduced downtime, and optimised energy consumption across facilities.

Another critical application is in water reuse. As water scarcity becomes a pressing global challenge, industries are under growing pressure to reduce freshwater intake and maximise recycling. Our systems continuously process real-time operational data to optimise every stage of the reuse cycle. By dynamically adjusting process parameters, we can maximise the reuse of treated water while simultaneously reducing overall energy and chemical consumption. This creates a virtuous circle where sustainability and efficiency reinforce each other.

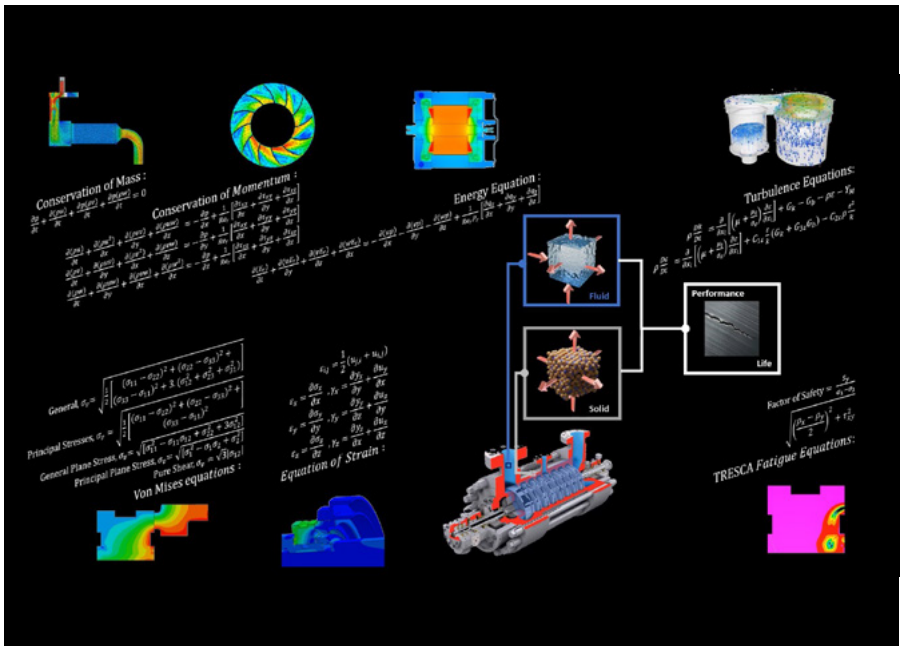
Equally transformative is predictive maintenance. Traditional maintenance approaches are often reactive or time-based, leading either to unexpected failures or unnecessary costs. With predictive models fed by machine learning algorithms, we can analyse historical and live data from pumps, membranes, and other critical assets to forecast maintenance needs well before issues occur. This not only prevents costly interruptions but also extends equipment lifespan and reduces waste.

Looking ahead, we see digital solutions as one of the most transformative drivers in the energy industries. As a global water treatment expert, Cannon Artes combines decades of experience with cutting-edge innovation to deliver smarter, more sustainable systems. At ADIPEC 2025, we look forward to showcasing how intelligent technologies can accelerate decarbonisation and boost resource efficiency, while delivering scalable solutions that create tangible, real-world impact.

EXHIBITOR I **BOSCH** HALL 2 I STAND 2310

PHYSICS-INFUSED DIGITAL TWINS THAT REDEFINE RELIABILITY IN PRESSURE AREAS

Bosch details real-world applications for its technology as physics and AI converge to unlock the next frontier of operational excellence in areas where reliability is crucial



The oil and gas industry is entering a new era where physics-infused AI is not just optimising operations - it is reimagining how critical assets are conceived, managed, and evolved.

At Bosch Digital Twin Industries, we merge the power of high fidelity physics-based simulations with adaptive artificial intelligence to create dynamic, self-learning twins of critical infrastructure that predict, adapt, and collaborate in real time.
This vision came alive at one of the largest oil and gas organisation's offshore critical infrastructure.
One such example is Sulphate Reduction Plant (SRP), a vital node safeguarding injection water quality for enhanced oil recovery.
By leveraging high-fidelity CFD and FEA simulations with live sensor data and AI, our digital twin replicated complex multi-phase flow and chemical kinetics with unprecedented precision.
When stress-tested with simulated anomalies, pump cavitation, structural integrity, chemical dosing imbalance etcetera, the twin anticipates cascading impacts across the network and autonomously recommends optimal responses, thereby improving the filtration capacity by thousands of barrels a day.
Positive gains that prompt progress
The result was not a marginal gain but a fundamental shift in operational philosophy: the organisation is now embarking on making proactive, future-informed decisions instead of relying on anomaly-based alerts.
Downtime once considered inevitable is now predicted, prevented, and leveraged as a source of competitive advantage.
Looking forward, physics-infused AI powered digital twins are poised to enable self-regulating, failure-resistant energy systems – offshore platforms, subsea pipelines, and various rotating and static equipment that autonomously harmonise production efficiency with sustainability goals.
As climate targets and market pressures converge, such intelligence is poised to redefine reliability as a strategic differentiator, not merely an operational metric.
At ADIPEC 2025, Bosch Digital Twin Industries invites you to experience how these predictive nervous systems become reality, where physics and AI converge to unlock the next frontier of operational excellence.
Visit our stand to witness the future of intelligent energy systems in action.

> "Looking forward, physics-infused AI powered digital twins are poised to enable self-regulating, failure-resistant energy systems – offshore platforms, subsea pipelines, and various rotating and static equipment."

EXHIBITOR I **CHINA CLASSIFICATION SOCIETY** HALL 16 I STAND 16273

PROMOTING A LOW-CARBON SHIFT IN OCEAN TRAFFIC FLOWS

China Classification Society details what it describes as its crucial role in leading the transformation of marine engineering amid the energy transition

China Classification Society (CCS) was founded in 1956 and is a full member of the International Association of Classification Societies (IACS).

Headquartered in Beijing, it provides classification services to ships, offshore installations and related industrial products by furnishing world-leading technical rules and standards.

CCS also provides statutory surveys, impartial and integral classification, verification, certification and accreditation and other services in accordance with international conventions, regulations and the related rules and regulations of the authorising flag states or regions.

Energy transition will have a profound impact on the future. It will reshape the energy supply and demand pattern, promote the growth of emerging energy industries such as electric vehicles and energy storage, and reduce the proportion of fossil fuels.

This will help reduce greenhouse gas emissions and mitigate environmental pollution. At the same time, energy transformation is conducive to enhancing energy self-sufficiency and ensuring national energy security.

CCS plays a crucial role in leading the transformation of marine engineering. As a technical service window of CCS in the South China Sea area, CCS has completed the certification and inspection work of many offshore carbon dioxide capture, utilisation and storage projects of China National Offshore Oil Corporation (CNOOC), contributing to the green and low-carbon transformation of the marine field.

For example, it participated in the certification inspection of the Huizhou 32-5 platform associated gas recovery and carbon dioxide storage project, which can recover more than 18 million cubic metres of associated gas and store 6,000 tons of carbon dioxide annually.

In addition, CCS provides international-leading technical rules, specifications and standards for ships and marine facilities, and promotes the application of new energy in marine engineering through the certification of new energy-powered ships such as hydrogen fuel cell-powered ships.

Essentially, the energy transition is redefining ocean sustainability, and carbon capture and storage technology plays both a leading and driving role by setting standards, conducting technological validation, and building ecosystems.

Its efforts not only promote the low-carbon transformation of China's oceans, but also provide valuable experience for the global shipping industry to move towards a greener future.

EXHIBITOR I **DYNAMICS SCIENTIFIC** HALL 13 I STAND 13691

MAKING OPERATIONS SAFER WITH REAL-TIME

Dynamics Scientific leverage their flagship solution, COMPACS to monitor and protect critical equipment

The energy industry is changing rapidly. Artificial intelligence is not just about new technology; it's about addressing real problems that operators face daily: sudden equipment failures, safety hazards, and high maintenance costs.

The connection between energy and AI is obvious – using intelligence helps companies to operate plants more profitably, safely, efficiently, and with less environmental impact. At Dynamics Scientific, we focus on bringing practical AI into daily operations. Our flagship solution, the real-time diagnostic COMPACS system, is a digital reliability platform that monitors pumps, compressors, heat exchangers, vessels, and other rotating and static equipment. By analysing vibration, acoustic emission, and other parameters, the system can detect very early signs of emerging defects long before they cause breakdowns. For our customers, this means safer operations, fewer emergency shutdowns, and reduced maintenance costs and time.

This approach changes the way plants are managed. Instead of repairing equipment only after it fails, or maintaining it on a fixed schedule, enterprises can now act at the right time, based on the actual technical state of the machine. This saves energy, reduces emissions caused by accidents, and increases the lifetime of expensive equipment. For many plants, this intelligence leads directly to lower costs and higher reliability.
We believe the future of AI in energy is not just about single machines. The real impact will come when intelligent systems connect across entire plants and enterprises, helping managers make the best decisions for safety, efficiency, and sustainability. To accomplish this, energy companies, technology providers, and investors need to collaborate to scale these solutions.
At ADIPEC 2025, we are presenting how real-time diagnostics can make operations safer and more reliable, and how intelligence can be transformed into real business impact.
Visit us to see how energy and intelligence come together.

EXHIBITOR I **CANNON BONO** HALL 2 I STAND 2112

SOLUTIONS THAT BRING EFFICIENCY GAINS IN ENERGY GENERATION MANAGEMENT

Cannon Bono is ready to showcase OPC at ADIPEC 2025 as living proof of how predictive control is driving progress in the energy sector as it transitions for the future

At Cannon Bono, we focus on developing smart solutions for the management of energy generation processes. Our patented Optimal Predictive Control (OPC) system is specifically designed for steam generators, introducing advanced predictive intelligence into boiler operation.

OPC is based on Model Predictive Control (MPC), an advanced mathematical model that simulates multiple future scenarios and continuously adjusts boiler operating parameters such as pressure, levels, and flue gas temperature, to achieve a faster response and a greater stability while maximising efficiency. Unlike traditional PID systems, OPC minimises variability and errors, ensuring stable, accurate, and energy-efficient operation.
By learning from a comprehensive database of process requests, OPC anticipates conditions rather than simply reacting to them. The result is a boiler that consumes less energy, operates with greater precision, and maintains optimal conditions over time, reducing variability and minimising errors compared to traditional control systems.
This intelligent control system is designed for our HE Smart boilers, seamlessly integrating with Industry 4.0 and IIoT infrastructures. It enables boilers to operate at the customer's optimal point in every situation, adapting to nonlinear and complex dynamics. The result is a self-optimising boiler that maximises performance, reduces human error, and extends the life of critical components.

> "These outcomes demonstrate how AI-driven control delivers both immediate operational gains and long-term benefits for efficiency, reliability, and sustainability."

The performance improvements achieved by OPC are striking:

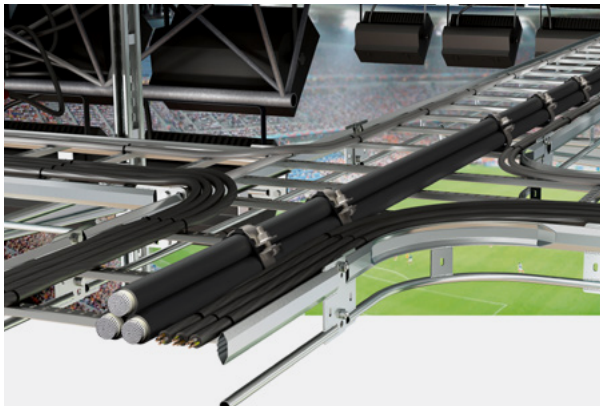
- Reduction of average error from the set point: -67% for level, -80% for pressure, -53% for flue gas temperature.
- Reduced stress on moving parts, ensuring longer component life.
- Energy savings of 0.5–1%, thanks to lower flue gas temperatures and optimised combustion.

These outcomes demonstrate how AI-driven control delivers both immediate operational gains and long-term benefits for efficiency, reliability, and sustainability.
We are excited to showcase OPC as a tangible example of how advanced predictive control accelerates progress in the energy sector. By bridging energy expertise with AI innovation, we enable industries to unlock smarter, cleaner, and more resilient operations. The future of energy is digital, and Cannon Bono is at the forefront of shaping it.

EXHIBITOR | **ELLIS PATENTS LIMITED & WIBE GROUP** HALL 16 | STAND 16094

FOCUSED ON HOLDING POWER SAFELY AND SECURELY

Ellis Patents Limited and Wibe Group explain how their key partnership is helping in the powering of AI's energy transformation



The global energy industry is undergoing a profound transformation, driven not only by the transition to cleaner sources but also by the rapid adoption of artificial intelligence. AI is enabling smarter, more efficient networks and accelerating the development of future-ready infrastructure.

Yet at the core of these innovations lies a fundamental requirement: safe, reliable, and resilient electrical systems. This is where Ellis, in partnership with Wibe, plays a crucial role.

Ellis' cable cleats - including the Vulcan, Emperor, Solus, and Trident ranges - and Wibe's Cable Management system – including onshore/offshore cable ladders, trays, installation systems, and support solutions - together are designed to securely fix, protect and effectively route high-voltage cables in the most demanding environments.

While AI is reshaping how energy is generated, stored, and distributed, these advances rely on physical infrastructure that can withstand fault conditions and ensure continuous operation. By combining Ellis's expertise in engineered cable cleat solutions with Wibe's proven cable ladder systems, operators gain a digitally ready foundation for the intelligent energy systems of tomorrow.

Enabling AI-drive innovation

Although Ellis and Wibe products are not 'AI-powered' in themselves, they are enablers of AI-driven innovation. For example, digital grid management and predictive fault detection depend on uninterrupted power, and robust cable containment. A secure cable system reduces the risk of downtime, ensuring that advanced analytics, automation, and predictive maintenance tools can function without disruption.

In this sense, Ellis's and Wibe's solutions support the efficiency and resilience required by AI-powered energy networks.

Future progress

Looking forward, the integration of AI into energy systems - from smart grids to predictive asset management - will only increase. The industry will see transformative gains in safety, efficiency, and sustainability over the next decade.

At ADIPEC 2025, we are excited to explore how partnerships across energy, technology, and finance can accelerate this change. By collaborating across sectors, the industry can ensure that intelligent solutions are scalable, impactful, and backed by the resilient infrastructure they require.

As the energy sector embraces AI, Ellis and Wibe remain focused on holding power safely and securely - providing the essential backbone on which the digital future of energy is built.

EXHIBITOR | **ENERWHERE** CONCOURSE | STAND CN34

MITIGATING SOLAR CURTAILMENT IN INDUSTRIAL APPLICATIONS

A recent study by Enerwhere has implications for solar energy adoption and optimisation as solar hybridisation expands in industrial settings such as oil rigs

Enerwhere has revealed the detail of a study that examined solar curtailment across two industrial solar sites over five months.

Carried out between October 2024 and February 2025, it focused on the breakdown of curtailment into soiling and activity-related components.

By applying K-means clustering to classify load patterns, the methodology identified operational inefficiencies driving curtailment, offering recommendations to maximise solar utilisation.

This has implications for industrial settings such as oil rigs, where solar hybridisation is increasingly being adopted to support decarbonisation.

The objective of this study was to assess solar curtailment by distinguishing soiling and activity-driven losses, identify load patterns that most impact curtailment using clustering techniques, and provide actionable recommendations to reduce curtailment, enhance solar adoption, and lower diesel reliance, thereby accelerating decarbonisation in industrial applications.

The procedure for the study

Solar curtailment was first assessed and broken down into soiling and activity-related components, revealing that activity-driven losses dominate, while soiling impacts steadily decreased due to cleaning efforts.

Daily median load profiles were generated, and K-means clustering was applied to classify these profiles into distinct patterns: normal operation, off-days, maintenance, and slow-days.

For each pattern, curtailment was analysed, identifying off-days and slow operations as the most significant contributors to activity-related losses.

This enabled targeted recommendations to clients, such as shifting loads during normal operations and reducing off-days, to minimise curtailment and improve solar utilisation.

Novel information that promotes scale

This study introduced a novel application of K-means clustering to identify load patterns that drive solar curtailment, offering a scalable framework for industrial solar applications.

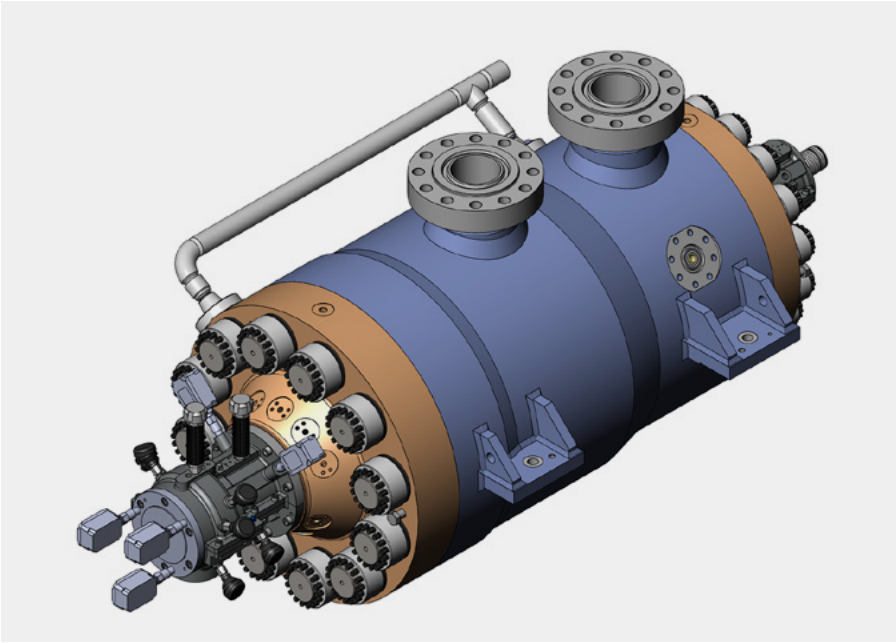
By pinpointing high-impact patterns like off-days and slow operations, the methodology provided actionable insights to enhance solar energy adoption.

As solar hybridisation expands in industrial settings like oil rigs - where variable loads are expected to amplify curtailment challenges - this data-driven approach can optimise operations, significantly reduce diesel dependency, and accelerate the energy sector's transition to net-zero, therefore demonstrating its potential for widespread application.

EXHIBITOR I **CELEROS FLOW TECHNOLOGY** HALL 4 I STAND 4470

FUELLING EFFICIENCY WITH AI IN TENDER MANAGEMENT FOR IMPACTFUL BENEFITS

Celeros Flow Technology outlines how AI is bringing efficiencies to the area of request for proposals, freeing up staff to perform other duties, so making better use of manpower



> The AI platform can be used to automatically analyse, rename, and organise large numbers of complex technical tender documents, perform intelligent searches, and provide a succinct summary of a project's scope.

AI can deliver significant operational efficiencies in the energy sector - and its impact is already being felt. In the area of tender management, AI-inspired platforms are already helping commercial operations teams to respond to request for proposals (RFPs) in a more efficient manner.

Indeed, these streamlined solutions mean RFPs can be organised and actionable within as little as 10 minutes, in lieu of days spent going through the hundreds of pages of an RFP. They have been shown to deliver a 95% reduction in RFP sorting time, a three time increase in output capacity, and a 200% increase in legal review output.
Celeros Flow Technology (Celeros FT) has been at the forefront of deploying AI-powered tender management solutions, with notable success. It has codeveloped and deployed a software platform with in-built AI agents to win more deals by accelerating document reviews, reducing risk, and delivering real-time insights for tendering.
The AI platform can be used to automatically analyse, rename, and organise large numbers of complex technical tender documents, perform intelligent searches for vital information, review terms and conditions, and provide a succinct summary of a project's scope. This capability allows our team to focus on other areas, such as design and quoting.
Most recently, the platform supported an RFP to supply two high-pressure injection packages for the ADNOC carbon capture and storage initiative. This initiative will capture CO_2 from Habshan gas plant and transport it by pipeline to the Bab Far North Full Field. Celeros FT was awarded the contract and will supply high-pressure BB5 pump technology from its ClydeUnion Pumps brand, including electric motors, variable frequency drives, dry gas seal and dry gas seal systems. Each pump train will be capable of injecting 1.5 million tonnes of CO_2 per annum at the ADNOC CCS installation.
This project acts as an exemplar for AI-assisted efficiency in the energy industry. The AI platform was developed in collaboration with a number of global organisations, showing how cross-sector collaborations can accelerate scalable solutions for real-world impact.
Celeros FT sees AI having a significant impact across the energy value stream, with more streamlined analysis of geological and seismic data, plus more predictive maintenance scheduling at offshore platforms and refineries.

EXHIBITOR I **ENAPROM GAS & OILFIELD** HALL 17 I STAND 17014

TECHNOLOGY FOR HYDROGEN STORAGE AND TRANSPORT

Enaprom introduces Jiaxing Subsea Engineering Products and highlights the benefits of its AI-based inspection solution in the hydrogen storage and transportation sector

Artificial intelligence is increasingly becoming a key driving force in the energy sector. We believe AI can enhance decision-making and management through data-driven approaches, accelerating the industry's digital and intelligent transformation.

Jiaxing Subsea Engineering Products (SEP) Co., Ltd. is committed to introducing this concept into the field of hydrogen storage and transportation, exploring its application in the inspection and lifecycle management of hydrogen storage cylinders.

A route to reliable assurance and economic viability

Hydrogen storage and transportation is a domain with extremely high demands for safety and efficiency, where any abnormality requires rapid response and timely decision-making.

Our ongoing AI-based inspection solution is designed around the principles of in-service monitoring and full-lifecycle assessment.

By integrating embedded fibre-optic sensors, strain and temperature acquisition technologies, as well as ultrasonic and stress-wave nondestructive testing methods, the system - empowered by intelligent algorithms - can automatically detect abnormal patterns and fatigue cracks.

In this way, it enables real-time data analysis and rapid risk identification, significantly reducing reliance on manual inspection and minimising delays. This not only improves efficiency and safety but also provides reliable assurance and economic viability for the large-scale deployment of hydrogen-powered transportation.

Enhancing safety and sustainability

In the coming decade, AI-driven safety inspection and intelligent decision-making technologies will become transformative trends in energy equipment operations.

Specifically, in the hydrogen storage and transportation area, their applications in service-life prediction, fast-fill thermal simulation, and risk early-warning will greatly enhance the industry's safety and sustainability.

At ADIPEC 2025, the team from Jiaxing Subsea Engineering Products looks forward to probing practical intelligent inspection and monitoring solutions for hydrogen storage systems.

By integrating materials science with AI algorithms, we aim to offer scalable pathways to accelerate the adoption of hydrogen technologies.

We firmly believe that cross-sector collaboration among energy, technology, and finance will further drive this innovation into reality, advancing industry-wide digital intelligence and creating tangible impact.

EXHIBITOR I **ERGIL** HALL 11 I STAND 11118

LIGHTWEIGHT MONITORING FOR STORAGE TANKS

Energy. Intelligence. Impact – ERGIL's practical AI for cleaner, safer operations

AI is reshaping energy by turning real-time data into better decisions. ERGIL's role is to make this practical at the asset level. We pair proven tank equipment and emission-control hardware with a simple digital layer that improves safety, compliance and uptime – without adding complexity.

Our solution in brief

ERGIL Insight is a lightweight monitoring and analytics suite for storage tanks and emission controls. It ingests sensor and control-system data from floating roof seals, venting devices and scrubbers, then applies AI models to spot anomalies, predict failures and recommend set-point adjustments. Operators get early warnings on seal degradation and fugitive emissions, suggested maintenance windows, and auto-generated compliance reports. Results: fewer leaks, fewer unplanned shutdowns, and lower operating cost.

What's next?

Three AI trends matter most now and over the next decade:

- Autonomous optimisation of critical equipment (staying in spec as feed and ambient conditions change).
- Predictive maintenance that prioritises the right intervention at the right time, reducing solvent and spare-parts consumption.
- Measurement & verification that quantifies emissions reductions with audit-ready data.

At ADIPEC 2025

We will demo ERGIL Insight working with our latest floating roof sealing systems and emission-control devices. Visitors will see live dashboards, anomaly alerts, and one-click reports that shorten investigations from days to minutes. The focus is practical: how to deploy fast, connect to existing PLC/SCADA, and show impact within a single turnaround cycle.

Collaboration to scale impact

Real progress needs energy operators, technology providers and finance to align on outcomes. Standard data models, open interfaces and performance-based contracts can fund upgrades from verified savings and avoided emissions, accelerating rollouts across fleets – not just at a single site.

EXHIBITOR I **CITECH** HALL 1 I STAND 1130

THE STEAM GENERATOR THAT CAPTURES WASTED ENERGY FOR A WISER PROCESS

CiTECH is ready to reveal how its Once Through Steam Generator (OTSG) is specifically designed to create superheated steam by harnessing the wasted heat produced by a gas turbine

In addition to compressing natural gas or generating electricity, gas turbines also release enormous quantities of high temperature exhaust gas into the atmosphere.

Together with the huge economical benefits of capturing this otherwise wasted energy, the impact on the environment is substantial.
By installing a specially designed high efficiency heat exchanger into the exhaust flow, the system efficiency can be almost doubled.
CiTECH designs and manufactures innovative and patented equipment for just this purpose.
Based on our innovative and patented compact CiBAS WHRU technology, the CiTECH Once Through Steam Generator (OTSG) is specifically designed to create superheated steam by harnessing the wasted heat produced by the gas turbine.
Due to the lower size, weight and cost, these types of steam providers can now be used on smaller GTs – that would be unsuitable for conventional Heat Recovery Steam Generators (HRSGs).

CiTECH's OTSGs offer significant advantages to the operators

Operational Flexibility: Due to the smaller size, rapid start-ups and shutdowns are possible with swift response times to changing GT loads.
Compact: The high efficiency heat exchanger, internal bypass path and integral silencer result in an extremely compact and efficient unit. The low weight and small footprint are ideal for new-build and retrofits both onshore and offshore.
Installation: Supplied as a single complete unit, site construction is not required - facilitating fast and economical installation. For sites with restricted access or crane limitations, the unit can be partially disassembled if required.

High reliability & low maintenance: The single moving part within the unit contributes to exceptional reliability and extremely low maintenance requirements.

The unique design and operating philosophy of a CiBAS OTSG means that gas turbines which previously have not been able to utilise the enhanced operating efficiencies of a CCGT system can now do so.
This modular and scalable solution can be integrated on to new build projects and also retrofitted onto existing gas turbines. Why waste energy?

> "This modular and scalable solution can be integrated on to new build projects and also retrofitted onto existing gas turbines. Why waste energy?"

EXHIBITOR I **EXERTHERM** HALL 1 I STAND 1410

THE BENEFITS OF AI-POWERED ELECTRICAL ASSET MAINTENANCE

With cutting-edge continuous thermal monitoring, Exertherm is transforming safety, intelligence, and sustainability in energy

Artificial Intelligence (AI) is revolutionising the energy sector by transforming how electrical assets are maintained. The relationship between energy and AI is reshaping operational strategies, enabling organisations to make better data-driven decisions, minimise downtime, and optimise resources. As digitalisation becomes essential for efficiency and sustainability, Exertherm plays a key role in this transformation by supporting predictive maintenance through continuous thermal monitoring.

Exertherm's digital solutions utilise sensors embedded in electrical equipment to enable 24/7 monitoring of parameters such as temperature, vibration, and power consumption. These sensors feed real-time data into machine learning algorithms that detect anomalies and forecast failures. This predictive maintenance model replaces traditional reactive approaches – reducing unplanned downtime, improving reliability, and extending asset lifespans.

Among the most transformative AI-driven technologies in the energy industry are predictive analytics and the integration of Industrial Internet of Things (IIoT). These innovations allow for continuous feedback from critical electrical assets, enabling proactive interventions and smarter maintenance strategies. Over the next decade, the evolution of machine learning, real-time data analysis, and computerised management software (CMS) will continue to redefine asset management and facility operations.

At ADIPEC 2025, Exertherm is excited to showcase its advanced continuous thermal monitoring solutions. These solutions help identify early indicators of deterioration, optimise maintenance schedules, and ensure assets operate within ideal parameters – accelerating progress toward safer, more efficient, and sustainable operations.

Cross-sector collaboration between energy, technology, and finance is essential to scaling these intelligent solutions. By providing advanced sensor technology that feeds critical data into AI systems, Exertherm empowers stakeholders to unlock efficiencies, reduce risk, and deliver measurable impact. The continuous development of AI in electrical asset maintenance promises a more responsive and resilient future.

Exertherm remains committed to driving innovation in predictive maintenance – empowering organisations to protect infrastructure, enhance performance, and adapt to the ever-evolving digital landscape.

EXHIBITOR I **GERAB NATIONAL ENTERPRISES** HALL 1 I STAND 1111

COLLABORATION AND INNOVATION POWERING THE TRANSITION PATH

Gerab will showcase innovations for projects across the Middle East, Africa, and Asia including reliable piping solutions, hydrogen-ready materials, and corrosion-resistant products that meet the demands of modern energy systems

The global shift toward cleaner energy is transforming industries, with hydrogen, solar, and new infrastructure leading the way. At Gerab, we are proud to be part of this journey. For over 40 years, we've supported projects across the Middle East, Africa, and Asia by delivering reliable piping solutions, hydrogen-ready materials, and corrosion-resistant products that meet the demands of modern energy systems. Our end-to-end supply chain from sourcing and inspection to logistics and last-mile delivery gives customers the confidence that their projects will run smoothly and on time.

Our strength lies in an integrated supply chain model that makes complex projects easier to manage. With strong mill partnerships, a wide inventory, advanced logistics, and in-house technical expertise, we help EPCs and operators stay on schedule and within standards. This approach cuts lead times, reduces risk, and ensures compliance with the latest requirements for hydrogen and renewable energy projects.

The industry itself is undergoing a major transformation. Green hydrogen, hybrid solar systems, digitalisation, advanced materials, and carbon management are all shaping the future. Technologies like AI, predictive analytics, and digital twins are improving performance, while new coatings and materials make infrastructure safer for hydrogen and low-carbon fuels. Gerab supports this evolution by supplying hydrogen-ready piping systems and partnering with industry leaders to deliver solutions that are built for the future.

At ADIPEC 2025, we will showcase innovations that reflect both our technical focus and our collaborative spirit. This includes valves manufactured locally by Samamat to strengthen regional energy infrastructure, actuation technologies from ZhongFlow Control for improved automation, upstream solutions from Al Madar, and advanced drone systems for faster inspection and monitoring. These innovations reduce downtime, improve safety, and help projects move forward more efficiently.

We also believe that the energy transition requires collaboration across industries. That's why our group companies' ecosystem brings together multiple areas of expertise: Gerab Energy Systems advancing solar and hydrogen projects, Gerab Systems driving digital transformation, Datacom building networking infrastructure, and Ampconnect delivering smart connectivity. Together, these capabilities connect engineering, technology, and capital to build supply chains and infrastructure that are ready for the energy systems of tomorrow.

EXHIBITOR I **DOLPHIN ENERGY LIMITED** HALL ATRIUM I STAND A130

UNIQUE DIVERLESS SUBSEA TECH QUICKLY RESTORES PIPELINES TO ORIGINAL STATE

Dolphin Energy explains how its ASSIST pipeline repair system is poised to have a potent impact on the oil and gas industry and the region

> ASSIST offers economic and strategic value by protecting asset integrity, driving technical innovation, and ensuring skills and competencies continue to develop.

Dolphin Energy's state of the art Advanced Subsea Intervention Support & Technology (ASSIST) pipeline repair system features unique diverless subsea technology that can restore pipelines to original condition in months rather than years.

ASSIST has been designed to minimise disruption from accidental damage sustained to the company's offshore pipelines – the 36 inch twin sea lines and 48 inch subsea export pipeline.

Dolphin Energy collaborated with international contractors, partners and specialised companies to develop the latest proven designs for subsea repair.

This is first-of-its-kind technology for the region. ASSIST offers economic and strategic value by protecting asset integrity, driving technical innovation, and ensuring skills and competencies continue to develop.

ASSIST includes equipment, systems and processes to decommission the pipeline, isolate it to create a safe working environment, and repair and recommission the pipeline to resume gas supply services.

This includes large bespoke subsea repair equipment to handle the pipeline on the seabed and carry out several repair welds in a hyperbaric condition, allowing the pipeline to be welded back to its original condition.

While ASSIST covers Dolphin Energy's system, it can be utilised on other pipelines ranging from eight-48 inches.

Furthermore, the equipment can be used for a wide range of subsea works carried out by contractors and other pipeline operators, such as pipeline repair, subsea tie-ins and tie-backs, hot tap and major inspections.

Most equipment is designed to work remotely without divers, helping maximise safety and minimise cost.

To support ASSIST, Dolphin Energy entered into a strategic agreement with KEZAD and Khalifa Port and constructed a custom made 45,000m2 Marine Base at KEZAD's facilities that serves as a hub for subsea repair equipment and offshore mobilisation.

ASSIST is poised to have a strong, positive impact on the oil and gas industry and the region across three key areas:

Asset integrity - subsea repair helps reduce pipeline exposure to seawater, protects onshore assets and eliminates leak risks (by returning the pipeline to its original state)

Technical innovation - diverless subsea launcher and receiver design already covers 36-inch and 48-inch pipes but can be replicated for smaller sizes, significantly reducing the investment required

Competence development - ASSIST has brought together many industry subsea expert companies and operations, ensuring development and retention of subsea repair competence and expertise for the local market.

EXHIBITOR I **HEILONGJIANG** HALL 13 I STANDS 13053

PIONEERING THE NEXT CHAPTER OF GLOBAL DRILLING TOOL VARIETIES

NSJ's professional oil drilling tools support efficient operations across domestic onshore/offshore fields

Heilongjiang North Shuangjia Drilling Tools Co., Ltd (NSJ) has passed the ISO9001–2015 and API Spec Q1 quality system certification, and obtained the user license of API Monogram, including API Spec7-1, API Spec 5CT and API Spec 5DP.

Proven history
Since the 1970s, the predecessor of NSJ has made itself conspicuous in the oil drilling tools industry. In 2001, NSJ was established.
It occupies an area of more than 20,000m2, and houses a machining and heat treatment production line with more than 300 sets of various types of equipment including CNC lathe, CNC machining centre, CNC deep hole drilling machine and heat treatment equipment.

Huge capacity advantage
As the largest professional manufacturer of oil drilling tools in China, it has formed more than 10 product series, including casing running tools, inside blowout tools, jars, drill-stem tools, cleaning tools, and incident handling tools. With more than 100 varieties and more than 1,000 specifications, it has an unmatched comprehensive supporting capacity.
NSJ adheres to an international vision and has a global layout. Its products are distributed in dozens of countries and regions worldwide. And it is a member of the supply network of CNPC, Sinopec and CNOOC.

Global influence in sight
From offshore to onshore, from R&D to sales, from tradition to innovation, NSJ is always committed to achieving a higher level of open cooperation worldwide. It accelerates the construction of a platform for innovation in drilling tools production, builds a global community of interests in oil drilling and production, creates a new situation for world-class drilling and production equipment enterprises, and writes a splendid chapter of the times with an aggressive attitude. In the future, NSJ will continue to uphold the pioneering spirit to create a brilliant future.

EXHIBITOR I **I.SAFE MOBILE** HALL 15 I STAND 15118

INTELLIGENT EDGE COMPUTING TO TRANSFORM OPERATIONS

i.safe MOBILE demonstrates how intelligent mobile platforms enable "operational sovereignty" – the ability to maintain functionality regardless of infrastructure constraints

Our certified intrinsically safe i.safe MOBILE devices serve as intelligent orchestration nodes in hazardous environments. These platforms process data locally, enabling real-time decision support without reliance on constant connectivity to central systems.
In upstream operations and refinery settings, this architecture has demonstrated remarkable resilience, maintaining critical functions during network interruptions and reducing response times by eliminating communication bottlenecks.
The innovation lies in collaborative intelligence: multiple devices forming temporary networks that assess complex situations collectively. When sensors detect anomalous conditions, these systems exchange information autonomously, propose coordinated responses, and execute actions within predefined parameters, always preserving human oversight for exceptions.

Transformative technologies shaping tomorrow
Edge computing combined with certified AI agents represents the most significant technological shift facing our industry. Over the next decade, we anticipate widespread adoption of autonomous systems that enhance rather than replace human expertise. This hybrid model, marrying distributed intelligence with centralized governance, addresses both operational efficiency and the industry's imperative to operate safely in increasingly complex environments.

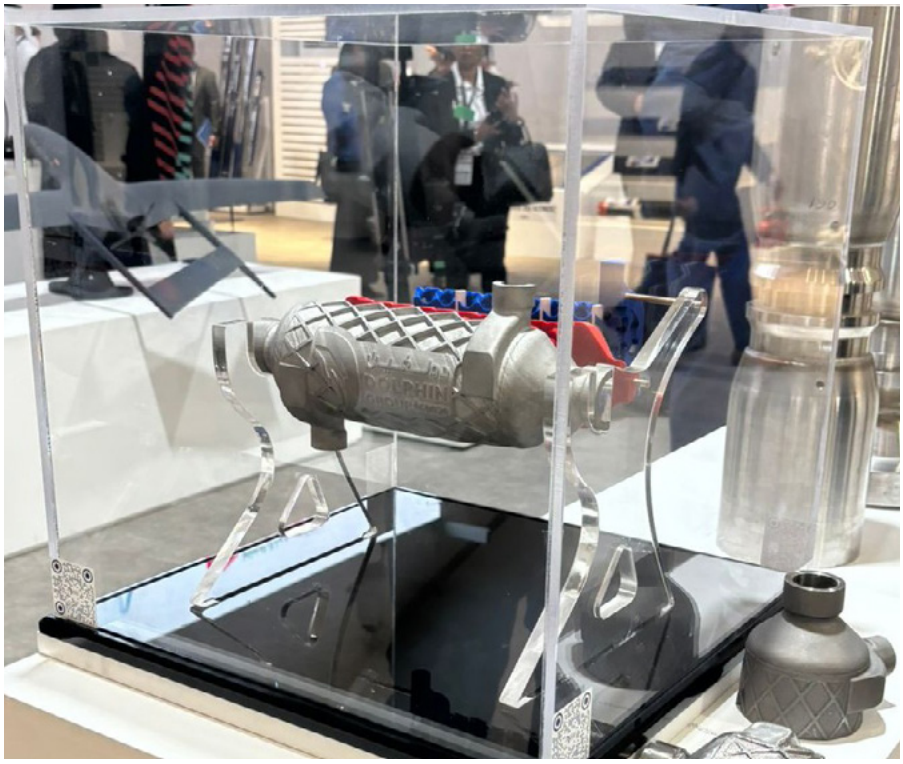
Showcasing operational sovereignty
At ADIPEC 2025 we're demonstrating how intelligent mobile platforms enable what we term "operational sovereignty", the ability to maintain functionality regardless of infrastructure constraints. Our solutions showcase practical applications of AI-driven automation in Zone 1 and Division 1 environments, proving that advanced intelligence and intrinsic safety certifications need not be mutually exclusive.

Collaboration: the catalyst for scale
Cross-sector partnerships between energy operators, technology innovators, and financial institutions are essential for accelerating deployment of transformative solutions. By sharing insights from operational environments with technology developers and aligning investment strategies with practical implementation timelines, we can bridge the gap between proof-of-concept and industry-wide adoption.
The energy transition demands not just new power sources, but fundamentally reimagined operational intelligence: distributed, resilient, and human-centred.

EXHIBITOR | **DOLPHIN** HALL 15 | STAND 15541

THE THERMAL SYSTEMS PUSHING THE BOUNDARIES OF EFFICIENCY

Dolphin is ready to share its 3D-printed prototype heat exchanger with exhibition visitors, underlining a vision for safety and cost-effectiveness



Artificial intelligence is rapidly transforming the energy industry by improving efficiency, safety, and sustainability.

At Dolphin, we see AI as a catalyst for operational excellence and innovation.
Our role in this transformation is reflected in the development of a state-of-the-art AI-enabled heat exchanger facility in Abu Dhabi, designed with automated and semi-automated systems.
This facility will enhance scalability, precision, and reliability, positioning Dolphin as a leader in applying AI to industrial energy solutions.
At ADIPEC 2025, Dolphin is excited to be showcasing our major innovations: a 3D-printed prototype heat exchanger. The prototype is smaller, more efficient, and designed to demonstrate how advanced manufacturing techniques can complement AI-driven automation to deliver next-generation energy solutions.

> "AI is not just transforming how we operate, it's redefining what's possible. At Dolphin, intelligent automation drives precision, efficiency, and sustainability across every stage of energy innovation."

This intelligent technology highlights Dolphin's vision to redefine safety, cost-effectiveness, and turnaround times while pushing the boundaries of design and efficiency.
Our new AI-powered heat exchanger facility will optimise fabrication and maintenance processes through automation and smart analytics.
By reducing shutdown durations, it directly delivers significant value to operators, helping them maximise uptime and improve asset reliability.
Every reduction in downtime represents tangible financial and operational gains, and Dolphin's solution ensures these benefits are achieved while maintaining 100% HSE compliance.
Over the next decade, AI will also become an enabler of energy transition technologies such as hydrogen, renewables, and carbon capture.
By aligning with this long-term vision, Dolphin is helping the industry balance operational excellence with sustainability goals.
Collaboration is essential to scaling solutions that matter.
By bringing together energy expertise, technological innovation, and financial frameworks, the industry can accelerate deployment of intelligent solutions. Dolphin actively fosters such partnerships, ensuring that AI and automation are not just innovative concepts, but scalable tools with real-world impact for clients and communities.

EXHIBITOR I **ILT TECNOLOGIE** HALL 2 I STAND 2135

BLENDING YEARS OF TRADITION WITH INNOVATION

ILT Tecnologie combines craftsmanship with AI to shape the future of turbine manufacturing

For more than 70 years, ILT Tecnologie has specialised in the manufacturing of hot gas path components for turbines serving both the energy and aerospace industries. These highly demanding applications require advanced nickel and cobalt-based superalloys such as Hastelloy®X, Inconel®, and Nimonic®. The company has consistently pursued innovation, with a particular focus on the digitalisation of its production processes since 2019.

The first step in this journey was the interconnection of production machinery to the company network. Initially, a five-axis CNC machine was connected, followed by the integration of the vertical warehouse for sheet metal management, which allowed for real-time inventory monitoring and streamlined workflow. Further investments included state-of-the-art Industry 4.0-compliant equipment, such as a laser cutting machine, a parallel lathe, an advanced extraction system, and a liquid penetrant inspection booth for non-destructive testing. All these systems were integrated into a cloud-based platform, enabling real-time monitoring of energy consumption, production schedules, and machine performance.

Currently, ILT is working on integrating IoT devices across its production line. This ongoing project aims to ensure full visibility of processes, improve energy efficiency, and strengthen reliability. At the same time, the company is developing a workforce management system based on the Tdox app, which will replace traditional paper timecards with barcode and QR code scanning directly linked to the company's management system. Once fully implemented, this innovation will allow for accurate tracking of operations and real-time monitoring of work cycle progress.

Looking ahead, Artificial Intelligence represents the next strategic milestone for ILT Tecnologie. By embedding AI into both machinery and management systems, the company aims to leverage predictive analytics and preventive maintenance to maximise efficiency and reduce downtime. More importantly, ILT believes that AI will play a decisive role in integrating manual, niche, and highly skilled operations with intelligent machinery. For a company whose core expertise relies on craftsmanship and precision in complex alloys, this synergy between human know-how and advanced technologies is key to shaping the future of manufacturing.

At ADIPEC 2025, ILT Tecnologie will highlight how continuous investments in digitalisation and AI are enabling the company to combine tradition and innovation – ensuring that specialised manual processes remain at the heart of turbine component manufacturing, while being enhanced and supported by intelligent technologies.

EXHIBITOR I **JANA MARINE SERVICES** HALL 6 I STAND 16217

AI AND CYBER RESILIENCE REDEFINE ASSETS

Jana Marine Services leads the way in offshore intelligence

As offshore operations become increasingly digitalised, the intersection of artificial intelligence (AI) and cyber resilience is redefining how assets are managed, protected, and optimised.

At the forefront of this evolution is Jana Marine Services, which has set a global benchmark by becoming the first company in the world to receive the CR(Ex) cybersecurity notation from the American Bureau of Shipping (ABS) for its jack-up units JANA 505, JANA 508, and JANA 509.

The CR(Ex) notation is a pioneering ABS classification that recognises robust cybersecurity frameworks onboard offshore and maritime assets. It certifies that critical control systems are designed, monitored, and maintained to withstand, recover from, and adapt to cybersecurity threats – ensuring uninterrupted operations in an increasingly interconnected ecosystem.

AI plays a central role in this strategy. By enabling predictive analytics, anomaly detection, and automated decision-making, AI enhances situational awareness, reduces response times, and minimises human error – strengthening both system integrity and operational continuity.

This achievement builds upon Jana Marine's earlier distinction of securing the ABS SMART Notation, which focuses on data analytics, condition-based monitoring, and digital asset management.

Together, SMART and CR(Ex) represent a layered, future-ready digital architecture: SMART delivers operational intelligence, while CR(Ex) fortifies the cybersecurity backbone of intelligent systems.

By integrating AI with CR(Ex)-certified platforms, Jana Marine Services is driving a proactive cybersecurity posture – where machine learning algorithms continuously monitor system behaviours and pre-empt threats in real time.

Jana's leadership in achieving the world's first CR(Ex) certification underscores its commitment to pioneering intelligent, secure, and resilient offshore operations.

As the global energy sector navigates a new digital frontier, this fusion of AI and cyber assurance sets a new benchmark – reinforcing safety, enhancing reliability, and safeguarding critical assets and infrastructure.

EXHIBITOR | **EBARA ELLIOTT ENERGY** HALL 12 | STAND 12340

HARNESSING THE POWER OF AI INSIGHTS TO BOOST COMPRESSION PERFORMANCE

Ebara Elliott Energy is shaping tomorrow's energy with digital intelligence that empowers its solutions to move the industry closer to a more resilient, efficient, and smarter future

In today's fast-evolving energy landscape, the convergence of AI, advanced diagnostics, and data-driven operations is redefining how turbomachinery systems are managed. At Ebara Elliott Energy, we are leveraging intelligent control technologies to turn complexity into clarity, maximising uptime, efficiency, and insight. One of our most forward-leaning developments is the Gemini Compressor Performance Monitoring System (CPMS), built in collaboration with Tri-Sen Corporation. Gemini is more than a monitoring tool – it's a comprehensive ecosystem of hardware and software that integrates high-resolution compressor data, vibration analytics, and predictive maintenance through physics-based digital twins. At the heart of Gemini is a digital replica of each compressor, dynamically calculating real-time performance using actual operating data. This digital twin helps operators pinpoint degradation, detect anomalies early, and simulate 'what-if' scenarios to optimise system parameters. With web-based dashboards and mobile-accessible interfaces, Gemini provides users with secure, real-time insights – anytime, anywhere. Looking ahead, the AI-driven technologies poised to transform our industry include adaptive performance modelling, remote fleet diagnostics, and non-linear surge control systems. These advancements offer operators unprecedented control over operational health and decision-making – from the plant floor to a mobile device.

> With web-based dashboards and mobile-accessible interfaces, Gemini provides users with secure, real-time insights – anytime, anywhere.

At ADIPEC 2025, Ebara Elliott Energy will showcase how smart control platforms like Gemini are not just digitising compressors – but digitising decision-making. By combining remote diagnostics, vibration intelligence, and integrated plant controls, we help our customers push the boundaries of what's possible in asset reliability and lifecycle performance. As energy systems grow more interconnected, collaboration between technology, energy, and finance becomes crucial. Open data protocols, cybersecurity standards, and shared digital platforms are enabling scalable, intelligent solutions with real-world impact.

For Ebara Elliott Energy, the journey toward energy intelligence is already underway. And with every compressor we digitise, we move closer to a more resilient, efficient, and intelligent energy future.

EXHIBITOR I **JEREH GROUP** HALL 10 I STAND 10430

EMBEDDING AI TO REVOLUTIONISE OIL AND GAS OPERATIONS

Jereh Group charts a clear course to a safer, more efficient energy solution

AI is becoming the backbone of safer, cleaner, and more efficient oilfield operations worldwide, from predictive drilling optimisation to autonomous wellsite management.

Jereh has embedded AI across its electric-driven equipment and digital platforms, creating a unified ecosystem where hardware and intelligence operate as one. The company's flagship solution, AI·R FRAC, delivers three major breakthroughs in smart fracturing:

Precision control (97.8% accuracy): Real-time anomaly detection and predictive pump monitoring shift operations from human-dependent oversight to AI-enabled reliability.

Efficiency gains (up to 45%): Intelligent coordination of pumps, manifolds, and blending systems increases efficiency by 45% while reducing manpower by 40%. Embedded decision models enable near-instant anomaly response and 'one-click' operations.

Safety assurance (100% coverage): Integrated detection for leaks, flames, and personnel intrusion ensures comprehensive protection, complemented by predictive maintenance and risk management to minimise downtime.

Powered by self-developed turbine generators and advanced energy storage, AI·R FRAC supports fully electric, off-grid wellsite operations, reducing fuel consumption and emissions by up to 15%. Instead of standalone units, the system transforms the fracturing spread into an intelligent, adaptive fleet that responds in real time to subsurface and safety conditions.

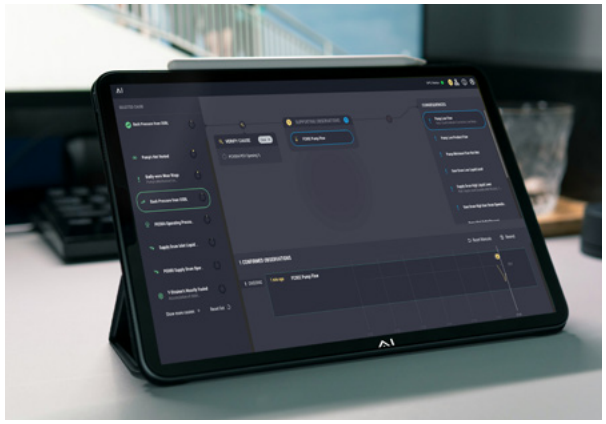
Beyond fracturing, Jereh applies AI to gas compression with its Compressor Intelligent Diagnostic System, which predicts failures through vibration and load analysis, extending equipment life and cutting downtime by up to 30%.

As the industry gathers at ADIPEC 2025, AI emerges as a central enabler of digital transformation, safety, and decarbonisation. Jereh's AI-integrated solutions show how the oilfield of the future can achieve zero unplanned downtime, reduced emissions, and higher productivity while protecting both people and assets.

EXHIBITOR I **KAIROS TECHNOLOGY AS** HALL 8 I STAND 8934

SMARTER TOOLS FOR FASTER, SUSTAINABLE PROGRESS

Kairos Technology AS is excited to showcase the HAZOP Assistant, Control Room Assistant, and Emissions Radar at this year's ADIPEC



AI is turning plants into continuously learning, self-optimising systems with real-time hybrid models digesting sensor streams, flagging root causes before they escalate, and steering operators toward the best trade-offs across safety, production, energy use, and emissions. Kairos's Control Room Assistant (CRA) and Emissions Radar do exactly this: bringing explainable, forward-looking guidance into the control room so emissions and energy optimisation can be prioritised alongside production and safety, helping embed a culture where GHG outcomes are part of the day-to-day decisions.

Our Emissions Radar provides operators with a live 'radar'of where emissions are being created and which parameters to adjust to reduce them, while maintaining safe, stable production. It ingests real-time control and safety systems data, applies emissions objectives, and surfaces prioritised actions. Measured benefits from Kairos deployments include 3–7% higher production efficiency and >10% lower maintenance cost, alongside reduced energy use and emissions.

We believe real-time, explainable operator decision-support across complex processes will have a significant impact in the future, as it will be moving from alarms to root-cause and action guidance (CRA/Emissions Radar style). Over the next decade, we expect deeper autonomy with clearer safeguards. Predictive maintenance and reliability of AI will be cutting unplanned downtime and energy waste while protecting safety margins.

This year, we are excited to present the HAZOP Assistant, CRA, and Emissions Radar. These tools are designed to accelerate progress by enhancing efficiency, ensuring compliance, and driving sustainability. We look forward to engaging with industry peers to explore how cross-sector collaboration can unlock scalable, real-world impact.

Cross-sector collaboration between energy, technology, and finance drives scalable solutions by merging expertise, innovation, and resources. The energy sector identifies challenges and provides real-world data, while technology delivers advanced tools like AI and digital twins to address these needs. Finance supports scaling by de-risking projects and funding innovation. Together, they accelerate sustainable, efficient solutions, and real-world impact, exemplified by tools like HAZOP Assistant and CRA that enable smarter operations and measurable progress across the energy industry.

EXHIBITOR | **EMDAD** HALLS 2 & 3 | STAND 2430, 3130

EMDAD DRIVES RESILIENT AND SUSTAINABLE ENERGY TRANSFORMATION

EMDAD will showcase its latest initiatives in energy efficiency, data-driven maintenance, and carbon management, alongside strategic partnerships that bring cutting-edge global innovations to the UAE

> A standout innovation includes our UAE manufactured high pressure hoses, engineered solar-powered solutions for cathodic protection (CP) operations, and proprietary Hydraulic Whipstock design.

As the global energy landscape undergoes an unprecedented transformation, the future is being shaped by those who combine operational excellence with sustainable innovation.

For nearly five decades, Emdad has been a trusted partner to the region's energy industry, supporting Upstream and Downstream operations with integrated services and solutions. Now, as part of the NMDC Group, we are leveraging this heritage with forward-looking investments in advanced technologies, automation, and low carbon operations ensuring our clients remain competitive in a fast-evolving market.

A standout innovation from Emdad includes our UAE-manufactured high-pressure hoses, engineered solar-powered solutions for cathodic protection (CP) operations, and our proprietary Hydraulic Whipstock design, all fully compliant with API standards, ensuring the highest levels of safety, reliability, and operational excellence. These locally developed solutions significantly reduce carbon emissions, lead times, and costs while enhancing overall performance and In-Country Value (ICV).

Another key area of innovation is our Oil-Based Mud (OBM) cuttings and sludge treatment solution, which utilises the thermal desorption method to minimise net waste and recover reusable fluids. By applying indirect heat, the process removes up to 99.9% of hydrocarbon content, delivering both cost efficiency and environmental sustainability.

Looking ahead, we believe renewable geothermal energy to power data centers, hydrogen value chains, and AI-enabled asset management will have the most transformative impact over the next decade.

At ADIPEC 2025, we are excited to showcase our latest initiatives in energy efficiency, data-driven maintenance, and carbon management, alongside strategic partnerships that bring cutting-edge global innovations to the UAE. We also look forward to engaging with peers and clients to explore how emerging technologies can unlock measurable progress toward net-zero ambitions.

Ultimately, the energy transition requires more than technology; it demands collaboration across sectors. By bridging expertise between energy, technology, and finance, we can accelerate scalable, commercially viable solutions that deliver both profitability and sustainability.

Through this integrated approach, Emdad continues to play its part in shaping a smarter, cleaner, and more resilient energy transforming collective vision into impactful energy transformation.

EXHIBITOR I **KIRLOSKAR PNEUMATIC COMPANY LIMITED** HALL 13 I STAND 13295

GAS SOLUTIONS WITH GROWING FOOTPRINT AND STRONG ROOTS

KPCL details how it continues to build on its strengths and history to position itself as a trusted leader in gas solutions worldwide

Founded in 1888 by Shri Laxmanrao Kirloskar, the Kirloskar Group has been a pioneer in India's industrial journey.

For more than 130 years, it has been synonymous with innovation, quality engineering, and customer satisfaction. From mechanising agriculture to establishing Toyota-Kirloskar, the group has consistently shaped India's growth while diversifying into gas, cooling, power, water, and air solutions.

Kirloskar Pneumatic Company Limited (KPCL), established in 1958 in Pune, began as a compressor manufacturer and has grown into a leading provider of total gas compression solutions for both offshore and onshore operations. Initially focused on India, KPCL now serves markets in the Middle East, Africa, and Asia, offering customised CNG packaging and gas compression applications.

Specialising in upstream, midstream, downstream, and gas distribution solutions, KPCL designs tailor-made, engine- and motor-driven packages that adhere to global standards like API, ISO, ASME, and OSHA.

Its robust compressor series supports applications such as flare gas recovery, gas lift, gas gathering, transmission, fuel gas boosting, and unmanned offshore operations.

Recently, KPCL expanded its portfolio by adding diaphragm-type compressors designed for high-pressure hydrogen compression and other industrial gas applications, strengthening its role in advancing clean energy and sustainable industries.

The 1990s marked KPCL's transition from compressor manufacturing to complete gas solutions. Partnerships with Howden (1990s), Ariel (2010) and PDC (2024) enhanced its technological edge and broadened its global presence. Embracing digitalisation, KPCL also pioneered IoT-enabled packages, redefining efficiency and reliability in gas compression systems.

To strengthen its global footprint, KPCL has significantly expanded into the Middle East markets, alongside Africa and Southeast Asia, delivering comprehensive solutions and services for energy and industrial sectors.

At the core of KPCL's growth is its state-of-the-art manufacturing facility at Saswad, near Mumbai. Spread over 60 acres, it is one of India's largest gas package facilities, capable of manufacturing one CNG compressor per day. Equipped with advanced machining, testing, and pre-treatment shops, as well as CNC and NDT labs, the facility ensures world-class quality.

With strong roots in India and expanding global ambitions, KPCL continues to build on its strengths - advanced engineering, world-class facilities, strategic partnerships, and a dedicated global service network - positioning itself as a trusted leader in gas solutions worldwide.

EXHIBITOR I **L&T VALVES** HALL 10 I STAND 10215

VALVES APP THAT PROMISES TRUST AND TRACEABILITY

The new ValvTrac app from L&T Valves accesses authenticity, traceability and installation information to protect customers from inferior products

Timely access to product documentation is vital to successful installation, commissioning, operation and maintenance of industrial assets - as well as the productivity and profitability of facilities.

In this era of digital transformation, L&T Valves is leading the way in the flow-control domain with ValvTrac, a revolutionary digital traceability app empowered by QR-code technology.

Every L&T valve carries a unique, durable QR code, which - when scanned using the ValvTrac app - gives users instant access to information fetched directly from L&T Valves ERP system.

This includes:

- Authenticity documents.
- Traceability documents - product specifications and quality certificates.
- Installation, operation and maintenance manuals.

So what are the security benefits of using the ValvTrac app:

- Easy and instant access to authenticity documentation that protects your installations from spurious/duplicate valves.
- It is tamper-proof and trustworthy.
- Eliminates manual errors.
- Installation, commissioning, operation and maintenance tips are at your fingertips.

Smart valve management from a trusted partner

ValvTrac demonstrates L&T Valves' commitment to digital innovation and creating lasting customer value.

By combining certified authenticity and ironclad security, ValvTrac is setting a new benchmark in smart valve management and solidifying L&T Valves' position as the most trusted partner in flow control.

ValvTrac also includes strong in-app security features that prevent downloads and screenshots, thereby ensuring document confidentiality and the foiling of unauthorised sharing.

This layer of security preserves the integrity of proprietary content and safeguards both customers and L&T Valves.

Our roadmap includes integrating advanced analytics for lifecycle tracking, incorporating predictive maintenance features, and utilising augmented reality (AR) tools to provide on-site guidance.

The goal is to develop ValvTrac into a comprehensive product companion that supports the valve throughout its operational life.

You can find out more information about ValvTrac by visiting the L&T Valves team on the company stand during ADIPEC, or by emailing ContactUs@Lntvalves.com

EXHIBITOR | **FROGMEN TECHNOLOGIES** HALL 16 | STAND 16217

DIVE DEEPER WITH THIS CUTTING-EDGE INTELLIGENCE FOR SUBSEA INSPECTIONS

Frogmen Technologies will be showcasing its innovative Chasing X platform with a dynamic real-time live water-tank demonstration for visitors at ADIPEC 2025

The energy transition is pushing subsea operations to be safer, faster and more data-driven, and AI is the force multiplier enabling that shift. In the Gulf, where offshore assets span vast, harsh environments, the combination of intelligent robotics and analytics is redefining how integrity is assured.

As the GCC distributor and manufacturer-approved training partner for Chasing Innovation, Frogmen Technologies helps operators accelerate this transformation by deploying the Chasing X ROV as an open, API-first platform for underwater intelligence.

The focus solution is the Chasing X ROV equipped with modular payloads (DVL for station-keeping, USBL for navigation, and imaging sonar for turbid water) and a robust API/SDK. The API allows clients to script missions, stream synchronised video/sonar/telemetry, and push/consume metadata in real time. Critically for Middle East conditions, Chasing X is field-proven with DVL-assisted station-keeping in stronger currents. Building on this foundation, Chasing Innovation is piloting AI capabilities that automate routine inspection tasks. Outputs are geo-referenced, time-stamped, reducing human error, standardising reporting quality and turning a day at sea into actionable decisions onshore. ROV deployments are also radically more energy-efficient than traditional diver-based spreads. Electric propulsion, compact launch gear and smaller support vessels mean no large compressors, hot-water units or extensive life-support vans — cutting deck power draw, mobilisation footprint and fuel burn. Shorter on-site windows and leaner crews further reduce emissions while improving HSE by keeping people out of harm's way.

> "Critically for Middle East conditions, Chasing X is field-proven with DVL-assisted station-keeping in stronger currents. Building on this foundation, Chasing Innovation is piloting AI capabilities that automate routine inspection tasks."

Looking ahead, Frogmen Technologies see three AI trends reshaping subsea work now and over the next decade: (1) onboard inference and autonomy — AI copilots that hold position, follow structures and maintain optimal standoff while prioritising risk zones; (2) multimodal data fusion — blending video, sonar and inertial navigation into consistent 3D maps and asset digital twins; and (3) predictive integrity — models that learn from prior campaigns to direct the next inspection, not merely document it.

At ADIPEC 2025, a live demonstration of the Chasing X platform will be presented. Visitors can see the vehicle in real time and review curated sample videos from recent inspections that illustrate data quality and reporting flow. Walk through training, after-sales support, local warranty and capabilities, will also be available.

EXHIBITOR I **LISEGA** HALL 8 I STAND 8852

POWERING THE RISE OF THE ENERGY AND AI RELATIONSHIP

LISEGA is transforming the future with efficiency, transparency, and sustainability at its core

LISEGA is actively developing digital solutions that optimise processes and reshape the interface between people, machines, and data.

One example is LISEGA's digital nameplate which allows customers to access relevant documents, download manuals, and view important technical information directly on-site via QR-code attached to the nameplate. This solution increases efficiency, reduces paper consumption, simplifies maintenance processes, and fosters innovation within the energy sector. By digitising, updating and making information accessible anywhere, we create genuine benefit for operators and end users.

We particularly anticipate significant growth in AI-powered predictive maintenance solutions, intelligent grids, and data-driven platforms for energy optimisation over the coming decades. These technologies enable cost savings and operational reliability, and support more sustainable resource use.

In the show spotlight

At ADIPEC 2025, we plan to present our digital nameplate alongside other intelligent solutions that will significantly enhance transparency and traceability within the industry. We are convinced that such innovations will accelerate progress in the sector by providing faster access to information, simplifying processes, and fostering greater trust across the entire value chain.

Collaboration is key

Crucial to scaling these solutions is cross-sector collaboration. The energy, technology, and finance sectors must collaborate closely together to pool investments, develop standards, and drive global implementation. A prime example of this is the international IEC 61406 standard for digital nameplates, which was developed by a consortium of industry representatives. Such alliances demonstrate that collaboration can accelerate innovation, creating solutions that are globally accepted and have a real-world impact.

EXHIBITOR I **LMW** HALL 12 I STAND ELP

INTELLIGENT MANUFACTURING IS THE KEY TO THE FUTURE

LMW is driving the energy transition by embedding intelligent systems into its CNC machines

AI is becoming the backbone of efficiency and sustainability in the industry. From predictive maintenance to process optimisation, AI helps reduce energy waste and improves overall productivity. At LMW, we play a role in this transformation by embedding intelligent systems into our CNC machines – enabling manufacturers serving the wide sectors to produce more efficiently, reliably, and with lower energy consumption.

One of our key digital solutions is live monitoring and predictive analytics. By analysing real-time data, our system detects potential issues before they cause downtime. This not only increases uptime but also reduces unnecessary energy consumption, material waste, and costs. For manufacturers, this translates into higher efficiency, optimised resource use, and measurable sustainability impact.

Right now, predictive maintenance and digital twins are already reshaping operations by improving reliability and reducing waste. Looking ahead, autonomous process optimisation and energy-aware manufacturing systems will be game changers – creating interconnected ecosystems where every step is continuously optimised for energy efficiency and sustainability.

Cross-sector collaboration between energy, technology, and finance is crucial for accelerating sustainable solutions. Technology firms provide reliable, low-intervention solutions like AI-powered automation, which reduce operational costs and enhance safety. This synergy transforms environmental responsibility into a profitable, real-world reality, driving both sustainability and economic viability.

At ADIPEC 2025, we're excited to showcase intelligent solutions driving the energy transition. LMW's intelligent CNC machines exemplify this progress, focusing on unmanned operations, process optimisation, and predictive maintenance. These innovations will accelerate the industry's shift toward safer, more efficient, and sustainable operations, proving that intelligent manufacturing is key to the future.

EXHIBITOR I **FUGRO** HALL 4 I STAND 4420

TRANSFORMING OFFSHORE OPERATIONS WITH INTELLIGENT DATA THAT HAS IMPACT

Fugro discusses why it believes intelligent data is the key to unlocking faster decisions for a safer, increasingly efficient, and more sustainable energy future for all

> We're passionate about helping our clients make smarter decisions, whether that's identifying early corrosion or planning for tomorrow's infrastructure.

What if we could see an oil platform not as steel and bolts, but as a living digital model that constantly updates itself?

This question captures the spirit of Fugro's vision for offshore energy.
As the industry embraces Uncrewed Surface Vessels (USVs), we are not just adapting to their limitations, we are unlocking new possibilities in how we gather, interpret and deliver data.

Bringing the change
Traditional vessels carried heavy payloads and onboard teams. USVs, by contrast, require precision: leaner, smarter datasets that deliver high value without the bulk.
This shift has accelerated our move towards digital deliverables, not just reports, but immersive, intelligent tools.
At ADIPEC 2025, Fugro will showcase innovations such as:

- 3D Point Clouds: High-resolution spatial data that replaces static drawings.
- Digital Twins: Living replicas of offshore assets, accessible anytime, anywhere.
- AI-Driven Insights: Automated corrosion detection, anomaly flagging and predictive maintenance.

Improved decision-making
Imagine replacing a 400-page inspection report with a virtual model where clients can 'walk' around a platform and instantly identify areas of concern. This isn't digitalisation for its own sake, it is about risk reduction, cost avoidance, and better decision-making.
With USVs enabling more frequent, less intrusive inspections, data builds into a rich backlog that trains AI systems for smarter predictions.
The result? Faster decisions, lower operational costs, and a shift from reactive repairs to proactive maintenance. And the sustainability impact is real: fewer offshore mobilisations mean lower CO_2 emissions and safer operations.
The benefits extend beyond operations. Remote inspections mean fewer offshore mobilisations, reducing CO_2 emissions and improving safety.
Intelligent data also supports long-term asset integrity, helping clients transition towards more sustainable practices.

Embracing the future
At Fugro, we believe intelligent data is the key to unlocking a safer, more efficient and more sustainable energy future.
We're passionate about helping our clients make smarter decisions, whether that's identifying early corrosion or planning for tomorrow's infrastructure.
The question isn't whether this change is coming. It is: how quickly are you ready to adapt?

EXHIBITOR I **LUFTSIS** HALL 13 I STAND 13214

SMART OFFSHORE HVAC SOLUTIONS DRIVE PROGRESS

LUFTSIS is dedicated to shaping a future where energy, intelligence, and impact come together

At LUFTSIS Klima Sistemleri A.Ş., we believe that the convergence of energy and intelligence is redefining the future of critical infrastructure. In the oil and gas and offshore sectors, HVAC systems are not just comfort solutions – they are essential for safety, operational reliability, and energy efficiency. By integrating digital intelligence and AI-driven technologies into our offshore-grade HVAC equipment, we enable our partners to achieve more sustainable, cost-efficient, and dependable operations.

One of our key innovations is predictive maintenance. Traditional HVAC systems often operate until failure, leading to costly downtime and risks in offshore environments. By embedding IoT sensors and machine learning algorithms into our air handling units, chillers, and condensers, we continuously monitor performance indicators such as vibration, temperature, and energy use. AI models analyse these data points to predict wear, optimise fan speeds, and automatically adjust cooling capacity. This prevents unplanned outages, reduces energy consumption, and extends equipment lifetime.

AI also plays a critical role in dynamic energy optimisation. Offshore platforms face highly variable conditions, from fluctuating thermal loads to extreme marine environments. Our intelligent control systems adapt HVAC operation in real time to ensure optimal efficiency and reliability. At the same time, our units are certified to EN 1886 standards (TB1, T2, D1, L1, F9), guaranteeing superior mechanical integrity, low thermal bridging, and long-term durability.

Looking ahead, we see AI-powered HVAC solutions – combined with low-GWP refrigerants and advanced corrosion protection – as some of the most transformative technologies for the energy industry. These innovations will cut carbon emissions, strengthen resilience, and accelerate the transition toward smarter, greener energy systems.

At ADIPEC 2025, we are proud to showcase our stainless steel, explosion-proof HVAC units for harsh environments, as well as precision cooling solutions for data centres. By combining advanced engineering with intelligent technologies, LUFTSIS is committed to supporting EPC contractors and operators in building a future where energy, intelligence, and impact truly converge.

EXHIBITOR I **MARLINK** HALL 15 I STAND 15182

BRIDGING IT AND OPERATIONAL TECHNOLOGY

Marlink is securing energy operations in an increasingly connected world

As the oil and gas sector rapidly evolves, drilling contractors and operators face mounting pressure to maintain operational reliability amid accelerating technological change and rising cyber threats. Traditionally confined to IT systems, cyber risks now extend to operational technology (OT) as digital transformation integrates OT with corporate IT infrastructure.

With increased connectivity across rigs, platforms, FPSOs, and OSVs, OT systems are exposed to internet and cloud-based threats. The growing use of bandwidth to connect sensors for data collection, machinery control, and remote maintenance also introduces vulnerabilities, especially in legacy systems that cybercriminals can exploit. The convergence of IT and OT expands attack surfaces, threatening safety, productivity, and profitability.

To mitigate these risks, Marlink supports energy stakeholders with tactical security guidance and hybrid networking solutions. Reliable satellite connectivity, available via GEO, MEO, and LEO constellations from operators such as Starlink and OneWeb, enables secure, high-speed communications even in remote locations. By orchestrating hybrid networks that combine satellite, fibre, and LTE technologies, Marlink delivers seamless, high-speed, and secure communications networks that ensure both critical operations and worker welfare needs are met, even in the most isolated locations.

Bridging the IT and OT security gap

As a recognised network integrator, Marlink designs and manages segmented IT/OT networks, ensuring asset visibility and robust cyber protection. Marlink Cyber delivers full-spectrum defence, including audits, penetration testing, and Unified Threat Management to uphold data confidentiality, integrity, and availability.

Required entities must meet global regulations such as SOCI Act, NIS 2, Singapore CSA, IMO MSC.428(98), US CISA, and India's CERT-In or face severe penalties. Frameworks like NIST CSF 2.0, ISO/IEC 27001, ISA/IEC 62443, and International Maritime Organisation's IMO MSC support best practices and regulatory alignment. Marlink's 150 cyber experts help clients stay ahead of evolving threats and regulatory requirements.

AI-driven predictive maintenance, autonomous drilling, and real-time environmental monitoring are already reshaping energy operations, reducing downtime, enhancing safety, and advancing sustainability. Over the next decade, these technologies will scale further, with AI becoming deeply embedded across IT and OT to enable fully integrated, self-optimising energy networks. Visit us to explore how hybrid networks and advanced cyber strategies can safeguard your assets and empower your teams.

EXHIBITOR I **GE VERNOVA** HALL 7 I STAND 7135

PROVIDING ADAPTIVE SOLUTIONS FOR THE ELECTRIFICATION SYSTEMS OF TOMORROW

GE Vernova delivers adaptable, efficient, and sustainable electrification systems that can yield widespread and measurable benefits leveraging the power of artificial intelligence capabilities

> AI is embedded across our electrification portfolio to help our customers navigate the energy transition with solutions that are more adaptive, secure, and sustainable.

Artificial intelligence (AI) is rapidly evolving from a supporting technology into the foundation of smarter, more resilient electrification systems. Across the entire value chain – generation to transmission and distribution – AI is revolutionising how power is produced, delivered, and consumed.

As utilities and industries confront accelerating renewable integration, expanding distributed resources, and an increasingly complex threat landscape, AI's ability to learn, predict, and act in real-time is reshaping the backbone of the modern energy landscape. At GE Vernova, AI is embedded across our electrification portfolio to help our customers navigate the energy transition with solutions that are more adaptive, secure, and sustainable.
GE Vernova's GridBeats and GridOS use AI-driven capabilities to deliver a unified grid intelligence platform that transforms how utilities manage increasingly complex power systems. GridBeats delivers automation, control, protection, and monitoring at the substation and grid edge, empowering operators to turn data into decisive action. Its Zonal Autonomous Control (ZAC) offering is designed to enable grid sections to respond to disruptions, using AI/ML-driven commands to help balance demand and restore reliability during events such as storms. GridOS extends the use of AI/ML to the control room, orchestrating automation across transmission, distribution, and distributed energy resources, leveraging GridOS Data Fabric to help integrate energy data from OT, IT, and external sources. Together, GridBeats and GridOS are designed to offer a more comprehensive solution for central data management, helping to ensure the grid remains reliable, resilient, and adaptable.
Equally transformative is CERius, GE Vernova's platform for energy producers and energy-intensive industries that delivers near-continuous, auditable measurement of greenhouse gases and costed abatement pathways. Where emissions reporting was once annual and retrospective, CERius links plant-level data with enterprise strategy, accelerating decisions and aligning decarbonisation with financial performance. In today's landscape, greenhouse gas carries cost – impacting compliance, trading positions, and access to capital. Managing emissions with the discipline of capital is fast becoming a defining skill for industry leaders.
The future of AI in energy depends on five essential capabilities: turning raw data into actionable insights, nowcasting demand and renewable output, predicting long-term trends, optimising distributed resources, and enabling autonomous local control.
GE Vernova is at the forefront of this transformation – delivering adaptable, efficient, and sustainable electrification systems.

EXHIBITOR I **MAXIMATOR** HALL 8 I STAND 8738

PIONEERING BREAKTHROUGH IN HIGH-PRESSURE VALVE TECH

Maximator is ready to showcase technology that updates tried and tested valve solutions

With ValvolutionX, Maximator GmbH is now presenting a pioneering solution that revolutionises the high-pressure valve technology that has been around for 50 years. The new valves in the series are designed to be ultra-compact and developed for flow rates from 9/16" to 1" connections. Thanks to a new operating principle, the air actuator can be reduced to a diameter of 3 inches. As a result, the size of the compressed air actuator for shutting off and relieving high-pressure applications with hydrogen and inert gases up to 1050 bar can be realised in an unprecedentedly compact size.

Reducing installation space and weight for greater efficiency
The installation space of the valves in the ValvolutionX series has been reduced by more than 50 per cent compared to the market standard of a 1' needle valve with compressed air actuator. The compact design not only saves space in the overall system, but also makes it easier to implement the valve. Users can therefore save considerable costs.

The use of cartridge technology developed by Maximator enables an ultra-compact valve design and reduces the number of valve components. This reduces the overall weight of the valve by up to 75%.

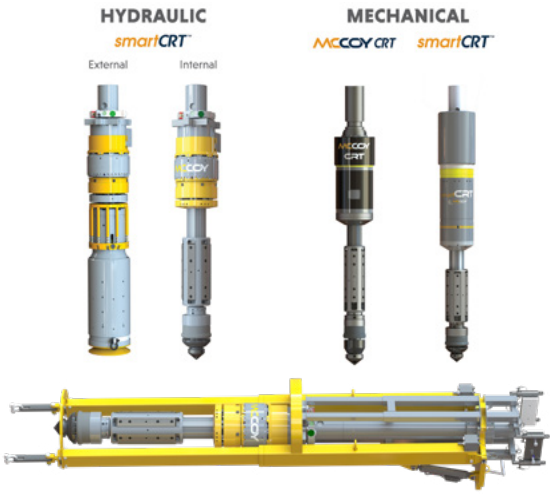
Long service life and 60% reduction in maintenance time
With ValvolutionX, users not only benefit from precise flow control, simplified installation processes and extended application options, but also receive a solution that can be seamlessly integrated into existing systems. ValvolutionX delivers a long service life even under extreme conditions. This results in less downtime and maintenance costs for users, greater efficiency and productivity thanks to longer uninterrupted use and lower operating costs thanks to the longer service life of the valve.

Compact high-pressure solution for hydrogen applications
In the hydrogen economy in particular, high-pressure technology plays a central role in storage, compression and refuelling. Large nominal diameters are crucial for supplying hydrogen efficiently and quickly in large quantities - they enable a high volume flow at a low flow rate and minimise pressure losses.
The ValvolutionX series is fully equipped for this with separate connections for leakage tubing. Additional leakage holes with corresponding threaded connections ensure the controlled discharge of potential high-pressure leaks.

EXHIBITOR I **MCCOY GLOBAL** HALL 3 I STAND 3152

ADVANCING WELLBORE CONSTRUCTION

McCoy Global's smarTR solution automates tubular-running using real-time data and digital controls



The intelligent solution that McCoy Global is excited to showcase at ADIPEC 2025 is the new Smart Tubular Running system (smarTR) that revolutionises casing running operations through modular compatibility, wireless control and integrated technology. smarTR is designed to automate tubular-running operations using real-time data monitoring and digital control technologies. This innovation tackles longstanding inefficiencies and drives significant operational improvements.

The smarTR system features advanced sensors in the Casing Running Tool (CRT), Flush Mounted Spider (FMS), and Dynamic Bails that provides real-time torque, hook load, RPM, pressure, and operational status data via wireless telemetry. Advanced logic in the smartHUB provides an innovative control and interlock system with redundant activation conditions, ensuring precise tool engagement and operational safety. Enhanced situational awareness is achieved through real-time data communication to the driller, allowing for immediate access to vital information during drilling operations. This innovation ensures precise decision-making and operational efficiency. By integrating advanced sensors and analytics, the system minimises error, optimises torque application, and improves the overall well integrity and performance. This results in safer and more effective casing make-up and drilling processes.

The future development of smarTR will incorporate artificial intelligence and machine learning (AI/ML) to enhance anomaly detection, operational repeatability, and efficiency optimisation. As performance data accumulates across deployments, AI models will be trained to analyse each element in the casing sequence, identifying inefficiencies, detecting outliers, and recommending real-time adjustments to sequence execution.

smarTR marks a significant advancement in wellbore construction by introducing a logic-driven interlock system that fundamentally departs from conventional methods. This technology removes personnel from hazardous red zones and enables precise, repeatable operations through sensor-based validation. By improving safety, enhancing operational efficiency, and supporting more informed decision-making in real time, smart tubular running benefits tubular service providers, drilling operations, and E&P companies alike. The integration of digital technologies allow for predictive maintenance, reduces non-productive time, and ensures optimal tubular placement, leading to lowering costs and improving overall well performance in complex drilling environments. Discover how our solutions can effectively enhance operational performance, improve safety, and drive efficiency at ADIPEC 2025.

EXHIBITOR I **HEXAGON** HALL 15 I STAND 15250

EMPOWERING THE WORKFORCE TO DELIVER FASTER AND BETTER WITH AI POSSIBILITIES

Hexagon discusses how energy organisations can use AI as a 'force multiplier' to put their data to work with tangible results that can bring major benefits to both workforces and companies

Energy companies face a common challenge: data is everywhere, but it's fragmented and underutilised. AI is key to addressing this, redefining how the energy sector designs, operates and sustains critical assets.

At Hexagon's Asset Lifecycle Intelligence division, we use AI to help the energy sector create smarter digital realities where data is connected and actionable. Drawing on extensive industry knowledge – our technologies drive efficiency for more than half of all oil, gas and chemicals processed globally – we enrich legacy data and unlock the value in documents, 3D models and other data sources.

By using AI to 'smartify' data, we build a robust asset information foundation that turns fragmented data into a trusted knowledge base and enables safer operations, reduced downtime and measurable productivity gains.

In our solutions, AI serves as a force multiplier, enabling the workforce to achieve more, faster and with higher-quality outcomes.

A practical example is piping design. While it plays an outsized role in the success of an energy project and the safe operation of a facility, it often remains a manual, error-prone process. We leverage AI for predictive pipe routing, using algorithms to create optimal pathways for pipes in 3D plant models. This significantly reduces design time and total project costs and eliminates costly errors through automated collision detection. Just as importantly, AI frees engineers from tedious tasks for higher-value design activities.

AI-powered predictive maintenance already has a significant impact on downtime, asset life, safety and efficiencies.

Over the next decade, the convergence of AI, digital twins and autonomous operations will be transformative. Intelligent twins will evolve into dynamic learning systems that continuously contextualise data and recommend actions.

Cross-sector collaboration is essential. Energy operators have the data and invaluable domain expertise. Technology providers like Hexagon help them 'make data make sense,' using it to design, construct and operate better facilities. For example, AI algorithms can automatically extract information from thousands of scanned blueprints, turning them into a searchable database.

When a tech provider demonstrates measurable outcomes, it provides the clear business case that finance partners need, accelerating adoption and reducing financial risk.

> "Over the next decade, the convergence of AI, digital twins and autonomous operations will be transformative."

EXHIBITOR I **MEGA PIPES** HALL 13 I STAND 13778

YOUR TRUSTED PARTNER IN PIPES THAT ARE BUILT FOR THE FUTURE

Mega Pipes explores its vision to build infrastructure that is stronger, smarter, and ready for the challenges of the next decade

The future of energy infrastructure depends on solutions that are not only reliable, but also intelligent.

At Mega Pipes, innovation runs through every stage of our operations - from design and manufacturing to quality assurance and performance monitoring - ensuring that our steel pipes meet the growing demands of energy, oil, gas, and water projects worldwide.

Specialising in helical submerged arc welded (HSAW) and high frequency welded (HFW) pipes, we manufacture products ranging from 18 to 100 inches in diameter, capable of withstanding pressures up to 350 bar. These pipes are built for projects where performance under extreme conditions is critical, forming the backbone of essential energy networks.

Behind this capability is a deep commitment to quality. Automated mills equipped with inline radiography and ultrasonic testing scrutinise every weld and seam, while a NABL-accredited laboratory provides independent validation of material and product standards. Raw materials are sourced from trusted suppliers, every pipe is tested to API-5L benchmarks, and hydrostatic testing ensures strength and durability before delivery.

How AI can help pipe progress

The adoption of AI and digital intelligence is further enhancing how Mega Pipes serves the energy industry. Real-time monitoring and predictive analytics help optimise production, reduce waste, and ensure consistency, while intelligent quality control systems deliver confidence that every pipe leaving our facilities performs to expectation.

Looking ahead, emerging technologies such as advanced material traceability, and innovative coatings are set to redefine how pipelines are designed, monitored, and maintained. These advances will extend asset life, improve environmental resilience, and support the energy sector's transition toward lower-carbon, more sustainable operations.

At ADIPEC 2025, Mega Pipes will showcase its advanced HSAW and newly launched HFW/ERW pipes, together with intelligent coating systems. These innovations underscore our vision: to build infrastructure that is stronger, smarter, and ready for the challenges of the next decade.

Progress at scale requires collaboration. By working across energy and technology, Mega Pipes believes the industry can unlock solutions that are not just technically advanced, but also sustainable and accessible.

Mega Pipes is your trusted partner for welded pipes.

EXHIBITOR I **MONITRA** HALL 1 I STAND 1410

DECODING PD SIGNALS TO GIVE ACTIONABLE EARLY INSIGHTS

Monitra's monitoring solutions enable predictive maintenance at scale

AI is the biggest technological change since Manhattan. The development of silicon chips, computing, the internet, and genome sequencing all pale in comparison. This revolution is transforming every sector, from healthcare to cybersecurity. Yet it is the energy sector, in synergy with AI, that promises the greatest gains for humanity. Optimising production and delivery of energy in the era of climate change is key to securing our future. Monitra plays its part in maximising system integrity in electrical systems, with AI as a core component of its digital solutions.

Monitra maintains uptime of high-voltage (HV) power systems by detecting Partial Discharge (PD) signals – critical indicators of insulation deterioration. PD arises from imperfections in insulation and, if left unchecked, can lead to catastrophic breakdowns, production losses, and costly unplanned repairs. The IEC recognises PD as the most reliable early warning indicator in HV systems.

With a long-established track record in developing instrumentation for HV motors, generators, cables, switchgear, and transformers, Monitra transforms PD signals into actionable insights. These signals act as unique signatures that, when deciphered, pinpoint maintenance activity, enabling contiguous production and intelligently directed maintenance actions. Monitra's patented monitoring solutions, including deployments in ATEX environments, leverage its proprietary AI system, ML42, to decode complex PD signals amid industrial noise (EMI), classify incipient faults, and enable predictive maintenance at scale.

The integration of digital twin and AI in predictive maintenance is increasingly critical. These technologies reduce manpower requirements, enhance training efficiency, simultaneously improving safety and lowering mobilisation costs. All this while driving improvements in ROI, uptime, efficiency, and overall cost savings.

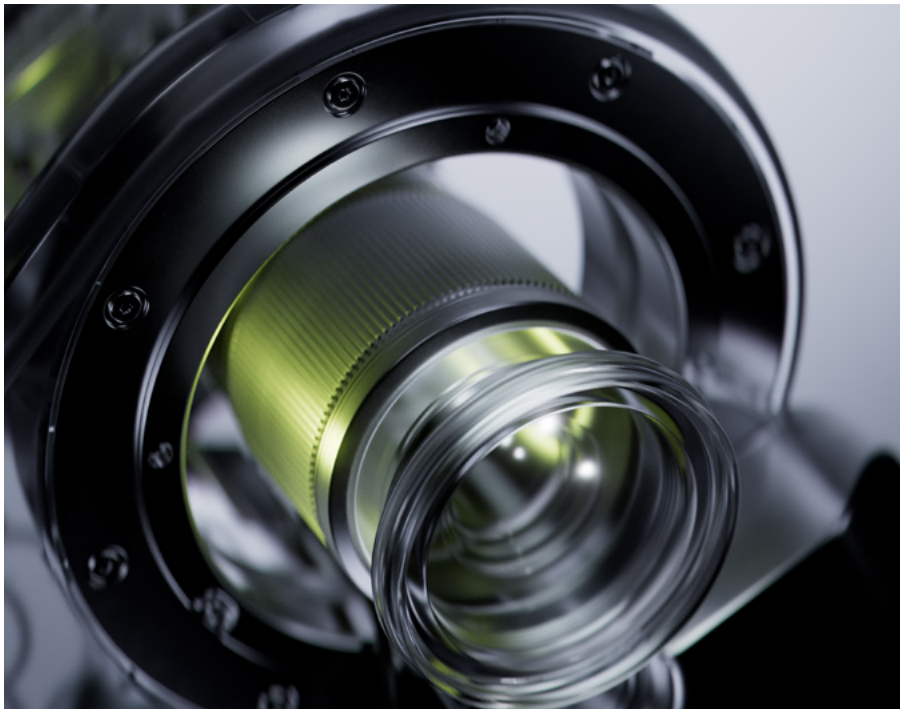
Emerging technologies, such as autonomous vehicles, further reduce the need for human presence in hazardous zones. Collaboration across transportation, defence, and energy sectors is driving the next wave of innovation, delivering safer, more efficient, and resilient power operations.

Current AI models are limited to patterns recognition and generation. In the future, when next-gen AI can understand the physical world (physics, chemistry, electronics, etc) then limitless opportunities for energy discovery and innovation will follow.

EXHIBITOR | **KONGSBERG** HALL 9 | STAND 9112

ACCELERATING ENERGY RESILIENCE WITH DIGITAL IDEAS TO FUEL SMARTER DECISIONS

Kongsberg Digital enables operators to build truly resilient energy systems by connecting data, people, and workflows through its Industrial Work Surface



> As the region advances toward net-zero ambitions, digital twins are becoming a cornerstone for safer, leaner, and lower-carbon operations.

Kongsberg Digital, headquartered in Norway, is a global leader in industrial software and digital twin technology, empowering energy and heavy-asset industries to transform the way they design, operate, and optimise assets.

Part of the KONGSBERG Group, the company serves leading operators across oil and gas, LNG, chemicals, and power/utilities sectors—delivering advanced simulation, AI-driven analytics, and its flagship Kognitwin digital twin platform. With a growing footprint across the Middle East, Kongsberg Digital partners with operators to enhance efficiency, reduce emissions, and drive safer, more autonomous and more productive operations.

Outlook on the 2025 energy market

The global energy landscape in 2025 is marked by dual priorities: sustaining energy security and accelerating decarbonisation. The Middle East continues to play a pivotal role, balancing expansion in traditional hydrocarbons with massive investment in renewables, hydrogen, and digital transformation. In this environment, data and collaboration are the new energy sources—fuelling smarter decisions and more resilient operations.

Building resilient energy systems

Kongsberg Digital enables operators to build truly resilient energy systems by connecting data, people, and workflows through its Industrial Work Surface. From predictive maintenance and performance optimisation to integrated operations centres, the company's technologies turn complex plant data into actionable insight—ensuring reliability, transparency, and agility across value chains. As the region advances toward net-zero ambitions, digital twins are becoming a cornerstone for safer, leaner, and lower-carbon operations.

Why ADIPEC matters

ADIPEC is a critical platform for Kongsberg Digital to engage directly with national and international energy leaders. The company will showcase how its digital twin and AI technologies are helping global and regional operators maximise production performance while reducing emissions. ADIPEC also offers an opportunity to strengthen collaborations that drive innovation across both brownfield optimisation and new capital projects.

Technologies transforming the industry

Key enablers shaping the next decade include digital twins at scale, real-time simulation, AI copilots, and integrated data platforms. Kongsberg Digital's upcoming innovations will deepen these capabilities—advancing the digital foundation that underpins a smarter, more sustainable energy future.

EXHIBITOR I **NANJING IRON AND STEEL GROUP** HALL 16 I STAND 16163

MODEL IMPROVES ACCURACY IN UNDERSTANDING PROPERTIES

NISCO showcases China's first Intelligent Metallography Lab System

Nanjing Iron and Steel Group's, (NISCO) Intelligent Metallography Lab System is the first fully automated and intelligent metallography platform in China capable of executing the end-to-end process of sample preparation, microscopic imaging, analysis, and result grading. The system has been honoured as a 'Typical Application Case of AI Empowering New Industrialisation,' by China's Ministry of Industry and Information Technology (MIIT).

Metallographic analysis is essential for understanding the mechanical properties of materials, including their grain size, crystal structure, and the presence of any defects such as cracks or non-metallic inclusions. Metallography plays a crucial role in many fields, including aerospace engineering, automotive engineering, and industrial manufacturing.

A metallographic experiment is composed of three core steps: sample preparation, imaging, and rating. During sample preparation, the material's true internal structure is revealed through systematic cutting, polishing, and etching processes. Imaging subsequently documents the microstructure with high-resolution microscopy, providing crucial visual evidence for further assessment. Rating then involves evaluating the specimen's attributes – such as grain size and inclusion content – against established standards to verify compliance with specified requirements. These steps are interconnected: preparation is the foundation, imaging provides documentation, and rating serves as the ultimate goal – each critically influencing the accuracy of the final result.

Now, the system independently developed by NISCO is capable of completing the steps automatically. It integrates software control, precision grinding and polishing equipment, robotics, and multi-modal analysis algorithms. At a push of a button, the fully automated process completes sample preparation, microscopic imaging, analysis and grading of the results. Furthermore, it addresses issues such as heavy reliance on manual labour, high subjectivity, and poor traceability in traditional metallographic testing.

The system is built on a multi-modal metallographic vision model, incorporating international standards, expert diagnostic data and other multi-modal information which comprehensively analyses microscopic images. It enables detection of non-metallic inclusions, decarburised layers, and grain size, and generates inspection reports automatically. The accuracy rate has reached 90% and the grading consistency is as high as 99%. Additionally, the platform is equipped with a cloud-based management system that allows for real-time data storage, intelligent alerts, and has significantly improved laboratory management efficiency – while minimising human error.

EXHIBITOR I **NEXT ENGINEERING EQUIPMENTS** HALL 11 I STAND 11640

DIVE INTO DIGITAL INNOVATION AND VALVE INTELLIGENCE

Next Engineering introduces Bray International, pioneers of cutting-edge flow control solutions for diverse applications

Our integrated valves, actuators, and accessories ensure peak uptime, safety, and efficiency globally. Renowned for advanced R&D, rigorous design validation, and extensive testing, Bray delivers optimal engineering solutions, consistent quality, and unmatched product reliability. Our evolving product portfolio features isolation & control valves, actuators, positioners, switches, sensors, and accessories.

Bray at ADIPEC 2025

Bray presents a world class showcase at where cutting-edge technologies and future-forward thinking meet real-world industrial challenges. At the heart of Bray's exhibition lies an immersive VR experience, inviting visitors into an interactive digital world. Step into this virtual environment to explore Bray's complex portfolio, walk through animated process flows, and witness behind-the-scenes functionality in stunning 3D. It's a hands-on invitation - come experience Bray's engineering brilliance up close and in full immersive detail.

Complementing digital immersion is the revolutionary Digi-ID Cx Range. Bray's Cx Line - engineered for safety, reliability, and sustainability in chemical and process industries - is now enhanced with the Digi-ID digital asset tag. Each valve, from PTFE-lined 2-Cx and resilient-seated 3-Cx to double-offset 4-Cx, Tri Lok-Cx triple-offset, and flanged ball valve KM 20/21, comes fitted with a QR code tag compliant with IEC 61406.

A simple scan provides instant access to data sheets, installation/maintenance manuals, certifications, and conformity documentation, making regulatory compliance and lifecycle management seamless and smartphone-simple.

Valve health monitoring

Adding another layer to Bray's narrative is the spotlight on wireless IoT valve health monitoring powered by IIoT and predictive diagnostics.

Using real-time sensor connectivity and analytics, Bray enables predictive maintenance and risk management - allowing operators to monitor valve health remotely, predict potential issues, and intervene before downtime occurs. This intelligent, wireless insight into operational condition transforms maintenance from reactive to proactive, thereby reducing unplanned outages, extending valve service life, and supporting smarter, more efficient operations.

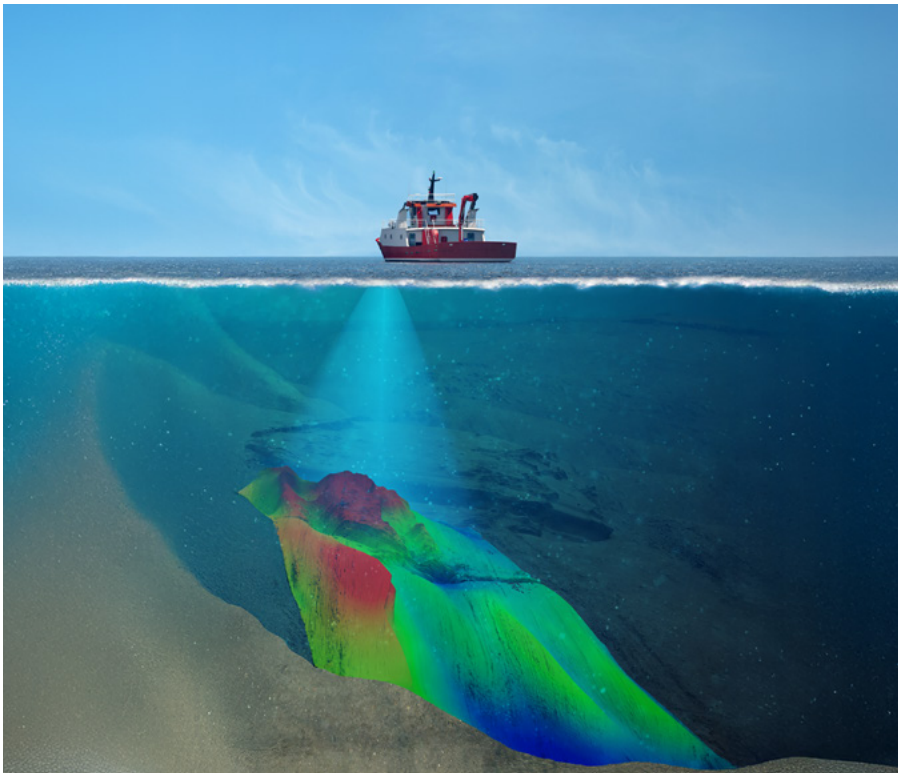
As smart industry converges in Abu Dhabi, Bray's ADIPEC booth offers more than a product - it offers an experience. From VR immersion to data-rich Digi-ID valves and insightful IoT monitoring, Bray invites every attendee to step into a smarter future.

Visit the booth, don a VR headset, scan a valve, and see how step-change innovation is redefining flow control.

EXHIBITOR | **MER MARINE TECHNOLOGIES** HALL 16 | STAND 16110

SETTING NEW STANDARDS IN BATHYMETRY FOR OFFSHORE COST AND TIME SAVINGS

MER Marine Technologies outlines how its GeoSwath 4 technology unlocks real-time bathymetry with AI to bring greater efficiencies to the offshore segment



With phase-measuring bathymetric systems (PMBS) like GeoSwath 4 from established UK sonar manufacturer GeoAcoustics Ltd, the volume and density of soundings can easily surpass that of traditional multibeam echosounders, especially in shallow water or complex environments.

While such resolution delivers high quality data, filtering has usually been a manual task, requiring experience, time, and budget.

Intelligent model for swift progress

GeoSwath 4 changes this by embedding AI directly into the equipment, and the survey workflow. Instead of relying on operators to tweak filters, the system applies an intelligent model to automatically identify outliers and inconsistencies as the data is collected. The result is a quality-controlled stream of the seafloor, generated in real time, aboard the survey vessel. Surveyors can now monitor surveying progress live. Post-processing, which could take days of office work, can now be done quickly… even on the journey back to port.

With GeoSwath 4, final data products, DTMs, backscatter mosaics, and coverage statistics, are ready quickly, with minimal need for third-party cleaning - though seamless integration with the Beamworx AutoClean is standard.

GeoSwath 4 can bring regional benefits

For offshore operators in the Middle East, GeoSwath 4 is a cost-effective and simple to operate solution for shallow waters. As the only bathymetric system with AI-powered data quality control onboard - without the need for connectivity to the cloud - it's ability to inform decision making in real-time makes marine surveys faster and more efficient.

The result is lower costs and optimised use of marine assets, as surveys can be completed in record time, and with better quality data.

Knowing that data is already IHO-compliant, before returning to port, adds certainty in an uncertain environment, and means that return trips to fix anomalies and missing data are essentially a thing of the past.

GeoSwath 4 and its AI functions have already been proven on both crewed and uncrewed survey platforms, mapping the seabed in depths to 200 metres and features like harbour walls, globally.

Visit the MER Subsea team during ADIPEC to find out how GeoSwath 4 and AI are setting new standards in bathymetry for the offshore energy sector.

> “Surveyors can now monitor surveying progress live. Post-processing, which could take days of office work, can now be done quickly… even on the journey back to port.”

EXHIBITOR I **NOV** HALL 7 I STANDS 7520

DRIVING ENERGY INTELLIGENCE AND IMPACT THROUGH AI

During ADIPEC 2025, NOV will highlight Drilling Beliefs & Analytics as proof that intelligence embedded in daily operations elevates performance

The energy industry has long relied on experience and established processes. Artificial Intelligence (AI) is now reshaping that approach by unlocking data and converting it into actionable insights at scale. NOV develops digital solutions that solve operational challenges, streamline workflows, and reduce costs, giving customers the ability to make faster and more confident decisions.

Drilling Beliefs & Analytics demonstrates this impact. The system tackles data overload in oil and gas operations by combining physics-based models with Bayesian networks and decision trees. It embeds decades of engineering knowledge into a single platform that detects early warning signs, pinpoints optimisation opportunities, and has already saved operators millions of dollars while strengthening decision quality.

AI is also redefining how energy companies use existing infrastructure. As global data volumes grow, legacy systems cannot keep pace. NOV addresses this by integrating advanced analytics directly with rig sensors, electronic drilling recorder (EDR) systems, and other industrial platforms. Engineers receive AI-driven insights through the tools they already use, which accelerates adoption and drives measurable results.

The next frontier is AI as a workflow engine. Custom models and intelligent agents are advancing beyond narrow tasks to deliver end-to-end solutions that reduce cognitive load and amplify human expertise.

"The next industrial revolution will come from systems that do more than process information," says Chuck Wright, NOV. "They will anticipate needs, execute tasks, and eliminate the wasted time spent conditioning data before analysis. When machines and humans work together at this level, we can uncover insights that drive real operational impact."

At ADIPEC 2025, NOV will showcase Drilling Beliefs & Analytics as proof of how intelligence embedded in daily operations transforms performance. By integrating AI with energy workflows and building collaboration across energy, technology, and finance, NOV drives safer, more efficient, and more responsible outcomes.

EXHIBITOR I **NOVOSOUND** HALL 8 I STAND 8450

REVOLUTIONISING ULTRASOUND SENSING WITH AI

How Novosound's Ceilidh platform is transforming infrastructure management

The energy industry is entering a decisive decade. Rising global demand, ageing infrastructure, and net -zero commitments mean operators cannot afford yesterday's approaches to monitoring. What the sector needs is intelligence. At novosound, we are building it today.

Our Ceilidh platform represents a breakthrough in AI-enabled ultrasound sensing. Using our flagship Ceilidh Platform, networks of IoT-connected ultrasound sensors are deployed across pipes and critical assets. These sensors provide persistent integrity data, continuously streaming to the cloud where AI models identify patterns and flag warnings.

This is more than incremental improvement; it is a fundamental shift:

From scheduled inspection to informed decision making

From siloed data to continuous IoT ecosystems

From high-cost surveys to efficient, scalable monitoring

For operators, the benefits are profound. Ceilidh delivers safer, smarter, and more sustainable infrastructure management. Early intervention prevents costly shutdowns. Predictive oversight extends asset lifespans. Optimised maintenance strategies support environmental and net zero goals.

Looking forward, we understand the most transformative AI trend in energy will be the rise of predictive integrity ecosystems where sensors, analytics, and decision support systems converge to deliver a single, intelligent view of infrastructure health. Novosound's Ceilidh platform is already delivering this future today.

ADIPEC 2025 provides the perfect opportunity to share this vision with global energy leaders. The exhibition is not just about showcasing technology; it is about building the partnerships that will accelerate deployment at scale. By collaborating across energy, technology, and finance, we can ensure these intelligent solutions achieve maximum impact.

As a Scottish deep-tech scale-up with global reach, novosound is proud to be pioneering this new era of digital infrastructure intelligence. We look forward to showcasing Ceilidh; the intelligent monitoring solution the industry cannot afford to overlook.

Energy. Intelligence. Impact. For novosound, it's not just the ADIPEC theme, it is part of our mission.

EXHIBITOR I **NESMA & PARTNERS** HALL 5 I STAND 5354

DRIVING EFFICIENT AND SMARTER ENERGY PROJECTS IN A FAST-CHANGING INDUSTRY

Through advanced project control centres, **Nesma & Partners** is contributing to energy's transformation by ensuring operations are safer and more efficient

Artificial intelligence is reshaping how energy projects are delivered, operated, and secured.

In complex and large-scale developments, integrating AI with real-time monitoring and predictive intelligence ensures operations are efficient, safer, and more sustainable.
Nesma & Partners contributes to this transformation through advanced project control centres (PCCs).
These digital hubs integrate, analyse, and act on vast streams of project and safety data.
The PCC combines AI-powered dashboards, predictive analytics, and smart alarms to provide stakeholders with full visibility across mega-projects.

Bringing improved efficiency and reliability
By consolidating data from construction progress, logistics, workforce, and safety systems, the centres allow stakeholders to anticipate risks, optimise schedules, and uphold the highest safety standards.
AI tools embedded in these systems can detect early signs of equipment stress, unsafe site conditions, or potential project delays and trigger proactive responses before issues escalate.
This shift from reactive to predictive project management improves efficiency and reliability across client portfolios.

> "Real transformation requires collaboration. By uniting energy leaders, technology innovators, and financial stakeholders, scalable solutions like the PCC can be deployed across multiple sectors, multiplying their impact."

Future potential from AI
The most transformative AI-driven technologies will emerge from digital twins, predictive maintenance, and integrated safety intelligence.
In the near term, these systems reduce downtime and accidents. Over the coming decade, they will support autonomous project ecosystems capable of learning and self-optimising.
These intelligent PCC platforms connect physical operations with digital foresight, helping clients accelerate delivery, reduce costs, and protect people and assets across the energy sector.

Working together drives progress
Real transformation requires collaboration. By uniting energy leaders, technology innovators, and financial stakeholders, scalable solutions like the PCC can be deployed across multiple sectors, multiplying their impact.
Nesma & Partners is committed to advancing this vision, ensuring AI-powered intelligence becomes a cornerstone of safe, efficient, and sustainable energy projects in Saudi Arabia and beyond.

EXHIBITOR I **NUMERO UNO** HALL 17 I STAND 17309

INTELLIGENT TRAINING BRINGS OPERATIONAL EXCELLENCE

Numero Uno is revolutionising energy sector training with digital and data-driven innovation

At Numero Uno, we are reimagining training for the energy sector with digitally enabled, data-driven methods that cut emissions and elevate performance. By replacing paper workflows with tablets and secure platforms, we reduce waste, accelerate information flow, and give learners instant access to curated content, assessments, and records supporting the UAE's decarbonisation vision.

Virtual reality training

Virtual reality puts learners in lifelike, risk-free scenarios, rig floor operations, emergency response and lifting activities where decisions matter and consequences can be safely explored. Our VR modules deepen situational awareness, boost retention, and shorten time to competency while minimising disruption to live assets.

Artificial intelligence integration

Artificial Intelligence is the engine that personalises learning at scale. We use AI to translate and localise content, adapt to each trainee's pace, diagnose skill gaps, and generate targeted feedback. Analytics dashboards highlight readiness indicators for supervisors, helping allocate mentoring where it delivers the greatest impact. The result is training that is more inclusive, precise, and measurable.

A closed loop of improvement

Our approach integrates digitalisation, VR, and AI into a continuous improvement loop: design, simulate, measure, and refine. Digital records feed models that refine scenarios; simulator outcomes inform micro-lessons; feedback drives rapid updates. This loop converts intelligence into tangible impact higher safety performance, fewer incidents, and better workforce readiness.

Certified quality – ISO 21001:2018

Numero Uno is proud to be the only training & consulting centre in the UAE certified to ISO 21001:2018, an internationally recognised Educational Organisation Management System. This prestigious status reflects the strength of our Quality Management System, emphasising learner-centred design, equity of access, and continuous improvement. Accreditation assures clients that our programmes address diverse needs and go beyond classroom theory to deliver field-ready practice.

Visit us at ADIPEC to experience how intelligent training becomes operational excellence – turning energy into action, data into decisions, and learning into lasting impact.

EXHIBITOR I **OCA GLOBAL** HALL 17 I STAND 17331

REDEFINING ENERGY SECTOR INDUSTRIAL INSPECTIONS

OCA GLOBAL is employing artificial intelligence and robotics alongside cutting-edge drones and robotic systems to redefine how inspections are executed

Oil and gas facilities are among the most complex and demanding environments in the industrial world.

Safety, operational continuity, and decision-making accuracy rely heavily on periodic inspections that, for decades, required professionals to access hard-to-reach or high-risk areas.

These processes were not only costly and time-consuming but also produced limited insights, often delaying the detection of critical failures.

In this context, OCA GLOBAL is redefining how inspections are carried out. By applying artificial intelligence and robotics, we deploy cutting-edge drones and robotic systems equipped with advanced sensors to capture high-precision data in hazardous areas without exposing human teams.

Combining advanced technology with deep industry expertise

The real innovation comes in the next step: we integrate all this information into AI-driven digital platforms, ensuring full data traceability, analysing it in real time, and turning it into actionable intelligence.

Inspections are no longer a reactive obligation, they become predictive and strategic tools that drive performance, reliability, and resilience.

Building on this foundation, OCA GLOBAL combines advanced technology with deep industry expertise. With a proven track record in industrial inspection, testing and certification, we extend far beyond conventional drone flights or routine scanning procedures.

Our teams deliver a new level of outputs, enhanced through digitalisation, the creation of digital twins, and the progressive automation of processes with AI. This approach delivers insights that empower teams to optimise performance, strengthen safety, and maximise efficiency.

Working with an industry in transformation

Looking ahead, the trend is clear: autonomous drones operating 24/7, digital twins becoming standard practice, and cross-sector collaboration between energy, technology, and finance unlocking scalable solutions with real-world impact.

OCA GLOBAL brings excellence, proximity, agility, and uncompromising quality to this journey, positioning itself as a trusted partner for an industry in full transformation.

At ADIPEC 2025, we will present our most innovative intelligent solutions, designed not only to optimise inspection processes but also to reinforce the sector's commitment to safety, efficiency, and sustainability.

EXHIBITOR | **NOVELTECH SURVEYS** HALL 16 | STAND 16186

HOW LASER SCANNING IS BUILDING THE INTELLIGENT ASSET THAT ENERGY NEEDS

Noveltech Surveys explains how it is "digitalising reality" by using high-fidelity digital twin technology to deliver advantages that are transformative for an industry undergoing change

The global energy transformation is a shift not just in fuels, but in intelligence. The future belongs to those who can optimise existing assets with unparalleled precision and foresight.

At Noveltech Surveys, we are leading this change by building the foundational layer of the digital energy ecosystem: the high-fidelity digital twin.

Through advanced 3D laser scanning, we are turning complex physical infrastructure into intelligent, actionable data, enabling a safer, more efficient, and sustainable energy industry.

Our solution provides comprehensive asset digitalisation. We capture millions of data points per second to create a precise "as-built" digital twin of any facility.

> We believe the strategic adoption of digital twins is the most critical trend for the next decade, forming the backbone for predictive maintenance, remote operations, and the seamless integration of new energy systems.

This is far more than a simple model; it is a single source of truth that drives real-world impact.

The advantages are transformative. We deliver unmatched accuracy, eliminating costly design errors and ensuring modifications are executed right the first time, which dramatically reduces material waste and supports ambitious carbon policy goals.

Furthermore, this approach is a game-changer for efficiency and safety. Projects that traditionally took weeks for manual surveys are now completed in days, offering significant time and cost savings. Crucially, by allowing engineers and planners to identify and resolve conflicts in the digital realm, we help them to avoid potential HSE incidents before anyone sets foot on-site, fundamentally enhancing operational safety.

Digital twin intelligence for future decisions

We believe the strategic adoption of digital twins is the most critical trend for the next decade, forming the backbone for predictive maintenance, remote operations, and the seamless integration of new energy systems.

At ADIPEC 2025, we are excited to demonstrate how this intelligence provides unparalleled engineering support for life-cycle management, from revamps to decommissioning.

The ultimate benefit is empowered decision-making, allowing the industry to navigate its transition with confidence. This progress hinges on cross-sector collaboration. When energy experts define the challenge, technology firms like ours provide the digital backbone, and finance partners trust the data to de-risk investments, we can collectively accelerate the scalable, intelligent solutions the world needs.

EXHIBITOR I **OCEANALPHA** HALL 16 I STAND 16187

THE AI-DRIVEN USV TECH ENHANCING ENERGY SECTOR EFFICIENCIES

OceanAlpha's breakthrough solutions mark the first engineering application of USV technology for deepwater pipeline monitoring in China

OceanAlpha was founded in 2010 as a manufacturer of Uncrewed Surface Vehicles (USVs) and has since grown to more than 500 staff with offices in mainland China, Hong Kong, Singapore, and Qatar.

OceanAlpha is at the forefront of the USV industry, dedicated to providing a comprehensive range of USV products and industry-specific solutions. We have successfully developed and standardised a full suite of proprietary USVs, including environmental monitoring USVs, marine survey USVs, and public safety and rescue USVs.

OceanAlpha's USVs are revolutionising the energy sector by enhancing efficiency, safety, and sustainability in offshore operations. Our solutions address critical challenges in offshore oil and gas, and renewable energy, as demonstrated by two key projects.

First, our M75 USV system, deployed by the CNOOC, integrates autonomous navigation, modular payloads, and AI-driven decision-making to optimise logistics and security. Over four years of field trials, the M75 proved its reliability in extreme weather, reducing annual operational costs by $1.41 million compared to tugboats, cutting labour needs by 80%, and eliminating 100% of anchor-dragging risks to subsea pipelines.

It also achieved a remarkable 4,461 tonne CO_2 reduction annually. The system's hybrid mission framework allows seamless switching between material transport and security patrols, while its AI-powered anomaly detection reduces false security alerts by 95%. These innovations support long-term applications in offshore oil maintenance and emergency response, aligning with global net-zero goals.

Second, OceanAlpha's 18-metre-long V35 USV, developed in partnership with CNOOC Engineering, enables real-time monitoring of deepwater pipeline installations. Equipped with USBL high-precision positioning, relay communication modules, and a customised winch system, the V35 acts as a surface power and data hub, ensuring stable communication between underwater devices, mother ships, and control centres. This breakthrough marks the first engineering application of USV technology in deepwater pipeline monitoring in China.

EXHIBITOR I **OFFSHORE MARINE TRADING** HALL 16 I STAND 16162

ILLUMINATING THE FUTURE OF ENERGY WITH SMART LIGHTING

Offshore Marine Trading engineers luminaires that offer up to 70% energy savings, exceptional luminous efficiency, and a long maintenance-free lifespan

In a rapidly evolving energy landscape, where sustainability, safety, and smart efficiency define the future, WISKA continues to lead innovation through intelligent lighting solutions designed for the most demanding industrial and marine environments. As a trusted name in electrical installation materials, lighting, and cable management systems, WISKA's latest 4000 and 4010 Series represent a new generation of LED luminaires that embody the essence of Energy. Intelligence. Impact.

The WISKA 4000 and 4010 Series are purpose-built to deliver maximum performance in offshore platforms, refineries, and other harsh environments. Engineered with advanced LED technology, these luminaires offer up to 70% energy savings, exceptional luminous efficiency, and a long maintenance-free lifespan—contributing to lower operational costs and reduced environmental impact. Their robust IP66/67-rated design ensures durability against corrosion, vibration, and extreme temperatures, making them the ideal choice for marine and oil & gas sectors.

The 4010 Series further enhances efficiency through modular intelligence, allowing for flexible configurations and integration with smart monitoring systems. This makes real-time diagnostics, predictive maintenance, and energy management more effective—empowering operators to make data-driven decisions that align with the global transition towards intelligent, connected infrastructure.

At ADIPEC 2025, WISKA will showcase the 4000 and 4010 Series in Hall 16, Stand 16162 (Marine/Offshore Zone), where visitors can experience first-hand how these luminaires redefine industrial illumination standards. Designed not just for performance but for progress, these lighting solutions reflect WISKA's commitment to innovation that drives tangible impact—enhancing safety, efficiency, and sustainability across the energy ecosystem.

WISKA firmly believes that cross-sector collaboration—between energy, technology, and engineering experts—will be the cornerstone of the industry's transformation. By combining robust German engineering with forward-looking design, WISKA continues to power the next generation of intelligent energy infrastructure—illuminating the path toward a safer, smarter, and more sustainable future.

EXHIBITOR I **OGS** HALL 4 I STAND 4420

REAL-TIME MEASUREMENT ACCURACY CAN DELIVER TRANSFORMATIVE EFFECTS

OGS shares details about its newest innovation and the development of a state-of-the-art OGSI manufacturing and calibration facility in Dubai that brings benefits for the region

> We believe technologies that enhance real-time measurement accuracy and provide localised high-integrity services will have the most transformative impact on the industry, ensuring precision and trust across all energy streams.

OGS - with more than three decades of expertise in bespoke engineered metering and process systems for the oil, gas, and power industries - is driving efficiency and innovation in the energy sector through strategic regional expansion and a focus on both conventional and future energy streams.

Our commitment to the ADIPEC theme - Energy. Intelligence. Impact. - is demonstrated by our latest venture: OGSI in the UAE.

The conventional measurement of oil and gas remains critical for global energy operations, particularly for fiscal metering and custody transfer applications.

OGS has built a reputation for providing unparalleled quality in these high-stakes applications for major global operators and EPC companies.

As the globe shifts to using greener forms of energy, our focus is now expanding to different types of packaged solutions.

While we have provided measurement and process systems within the traditional liquid and gaseous hydrocarbon industry for more than three decades, we are now applying this experience and expertise to the measurement of hydrogen and CO2.

We are actively involved in several hydrogen projects and CCUS projects requiring fiscal metering packages.

Our most exciting innovation being showcased at ADIPEC 2025 is the development of the new, state-of-the-art OGSI manufacturing and calibration facility in Dubai.

This 21,000Sqm facility is the first commercial calibration centre for liquid flow meters using hydrocarbon liquids in the GCC. This strategic capability addresses a critical calibration gap in regional infrastructure for both traditional oil and gas companies.

It eliminates the need for companies to send equipment to Europe for calibration, providing a convenient and cost-effective service that saves time, resources, and emissions.

The facility is a powerful example of how OGS is driving efficiency and local impact. By providing world-class, local calibration services, OGSI will positively impact regional delivery and logistics processes. Furthermore, this strategic investment aligns with in-country value programmes, stimulating local economies, and developing a skilled local workforce.

We believe technologies that enhance real-time measurement accuracy and provide localised high-integrity services will have the most transformative impact on the industry, ensuring precision and trust across all energy streams.

We look forward to connecting with our partners to discuss cross-sector collaboration that accelerates scalable solutions, particularly in flow measurement for both traditional and new energy carriers.

EXHIBITOR I **OMAL** HALL 15 I STAND 15390

MAPPING OUT THE PATHWAY FOR INTELLIGENT FLOW CONTROL

OMAL brings RACKON-X to ADIPEC 2025 as a breakthrough solution in modern actuators

In today's fast-evolving industrial landscape, the convergence of smart equipment and artificial intelligence is reshaping how critical assets are managed. At the heart of this transformation lies OMAL's RACKON-X intelligent actuator – a breakthrough solution that combines mechanical precision with digital intelligence to deliver superior performance, reliability, and insight.

Traditional actuators have long played, and keep playing, a vital role in fluid control across energy, oil and gas, petrochemical, and industrial applications. However, as operators face increasing pressure to maximise uptime, reduce emissions, and optimise energy efficiency, the industry demands more than mechanical functionality – it requires intelligence.

RACKON-X answers this call. Built on OMAL's decades of engineering excellence, the pneumatic actuator integrates advanced sensors, wireless connectivity and data transfer, along with diagnostics to monitor key parameters such as position – opening and closing angle, cycle count, opening and closing time, and temperature. All this intelligence is seamlessly accessible through OMAL's X-Easy cloud platform, providing operators with a user-friendly interface for continuous monitoring and performance analysis. By capturing and analysing these data points, RACKON-X enables predictive maintenance strategies to replace traditional reactive approaches – reducing unplanned downtime, extending equipment lifespan, better vision on process, and optimising efficiency.

Instead of relying on scheduled inspections, operators can leverage data generated by RACKON-X with AI-driven analytics to forecast anomalies before they occur, optimise actuation cycles for specific process conditions, and even model future system behaviours. This makes RACKON-X not just a piece of equipment, but a decision-support tool for plant operators.

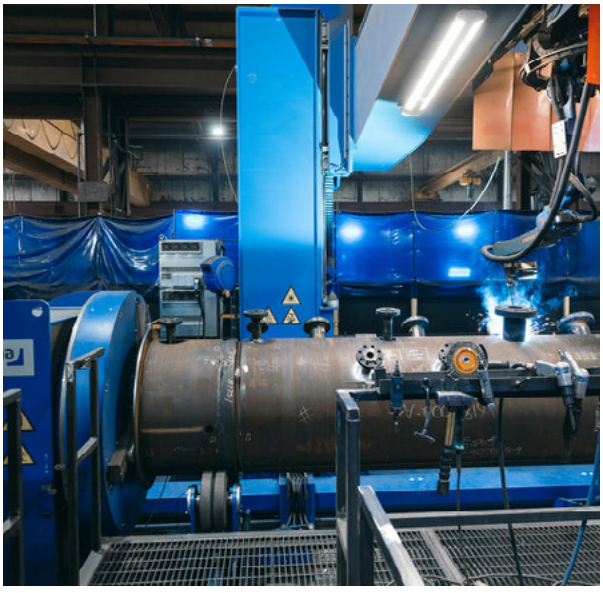
In the era of digital transformation, intelligent equipment like RACKON-X is a cornerstone of future of Industry. They bridge the gap between mechanical reliability and data-driven intelligence – offering a platform where performance meets foresight. For industries in transition toward lower-carbon and more efficient operations, the ability to align hardware with AI unlocks both economic and environmental benefits.

At ADIPEC 2025, OMAL is proud to showcase how RACKON-X redefines the role of actuators in modern industry – delivering smarter, safer, and more sustainable control solutions for the industry future.

EXHIBITOR I **PEMAMEK** BOOTH 9574

TRANSFORMING ENERGY WITH AI

Pemamek redefines pressure vessel manufacturing with the WC500



Energy and AI: powering tomorrow

AI is revolutionising energy by optimising grids, predicting maintenance, and cutting emissions. From smarter renewable integration to greener data centres, the shift is transformative. Pemamek drives this with automated welding and manufacturing solutions for pressure vessels, wind towers, offshore platforms, and power plants, enabling sustainable, reliable infrastructure.

WC500: revolutionising pressure vessel manufacturing

Our WC500 digital solution transforms pressure vessel fabrication. Using AI-driven laser scanning and adaptive programming, paired with the tandem LSO welding process, it automates complex welding, boosting precision and cutting production time by 30-40%. The WC500 delivers high-quality, cost-efficient pressure vessels for offshore and power applications, minimising environmental impact.

AI-driven trends for the next decade

AI-optimised manufacturing and predictive analytics will dominate through 2035. Expect advancements in battery tech, smart grids, hydrogen solutions, and small modular reactors to meet data centre demands. In fabrication, AI will enable zero-defect welding and adaptive robotics, making renewables like offshore wind and hydrogen more scalable and cost-effective.

Cross-sector collaboration: scaling impact

Collaboration across energy, tech, and finance sectors accelerates scalable solutions. Joint investments fuel R&D, such as AI-driven automation, turning innovations into global realities. This synergy delivers profitable, planet-friendly solutions to achieve net-zero goals.

Showcasing our solutions at ADIPEC 2025

We're excited to showcase our advanced pressure vessel manufacturing solutions. The WC500 ensures precision welding, reducing fabrication costs and critical weld imperfections to near zero. The CM55 milling system for groove preparation delivers perfect weld-ready surfaces, slashing manufacturing time by up to 90% compared to traditional methods, boosting weld quality, efficiency, and safety. Our assembly line streamlines production, cutting project timelines by 20%, enabling customer growth. Our intelligent robotic solutions for large-scale topside manufacturing triple production output while enhancing worker safety through automation.

EXHIBITOR | **OSECOELFAB** HALL 8 | STAND 8435

DRIVING PRESSURE RELIEF PERFORMANCE FOR AN INCLUSIVE AND CLEANER FUTURE

OsecoElfab is preparing to showcase its next-generation pressure relief solutions and a new innovation that has reduced emissions in its sights for an era of transformation

As the global energy landscape shifts toward lower emissions and more sustainable operations, pressure management technologies must evolve to meet higher safety and efficiency demands.

At OsecoElfab, we're proud to support this transformation with next-generation pressure relief solutions that enable cleaner operations, faster installs, and longer uptime.
Our latest innovation, the LoKr Duo Safety Cartridge, is engineered to simplify installation, reduce emissions, and optimise plant performance.
This breakthrough design consolidates the traditional three-part rupture disc and holder into a streamlined, two-piece, pre-assembled unit—delivering the safety of a welded cartridge with the flexibility of a modular system.
We're excited to showcase the LoKr Duo at ADIPEC 2025 as it demonstrates how rupture discs are evolving beyond pressure safety to support operators in meeting emissions goals, efficiency targets and budget constraints.
For example, the LoKr Duo's leak-tight design minimises potential emission paths, while its low KR value ensures efficient pressure relief across a range of applications.
This field-ready solution helps operators reduce downtime, lower total cost of ownership, and meet stringent regulatory targets—making it a powerful ally in achieving safer, cleaner, and more efficient energy systems.
Based on the activity we're seeing, we predict that hydrogen production, carbon capture, and battery energy storage will drive the next wave of change in the energy segment, alongside digital monitoring and predictive maintenance.

> "Based on the activity we're seeing, we predict that hydrogen production, carbon capture, and battery energy storage will drive the next wave of change in the energy segment, alongside digital monitoring and predictive maintenance."

Precision safety devices and sensors that integrate with smart plant systems will be essential to these technologies to ensure resilience, compliance, and operational continuity in an increasingly data-driven energy landscape.
In addition to this, collaboration between the energy, technology, and finance sectors is key to unlocking innovation at scale.
By combining operational expertise, engineering excellence, and strategic investment, sectors can accelerate the deployment of cleaner, safer, and more efficient energy systems—turning ambitious net-zero targets into practical, measurable outcomes.

EXHIBITOR | **PESCO HOLDING** HALL 17 | STAND 17328

HOW AI-DRIVEN WELDING MOVE IS SPAWNING DUAL RESULTS

PESCO Holding has modernised its fabrication operations with AI and robotic welding automation, placing it ahead in industrial innovation in the region

By integrating ABB six-axis robotic welding cells into its fabrication shops, PESCO has redefined how complex steel assemblies — ranging from pipes and pressure vessels to structural components — are produced.

These robotic cells excel at high-precision and repetitive welds, executing them continuously with a level of speed and accuracy that surpasses manual welding. The impact was immediate: throughput significantly increased as each robot could lay welds consistently without fatigue, while maintaining the strict quality standards demanded by large-scale energy and industrial projects. According to PESCO's QA/QC reports, the introduction of robotic automation drove a measurable reduction in weld defects, cutting down on rework and reinforcing client trust in the company's commitment to quality excellence.

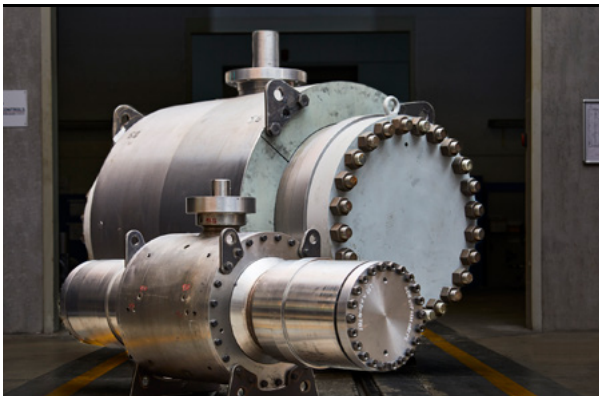
Equally important, the shift was not merely about replacing human effort but about elevating the role of PESCO's skilled workforce. Welders previously tied to repetitive, labour-intensive tasks were redeployed to higher-value functions such as complex fit-ups, inspection, and quality oversight. This strategic workforce reallocation boosted overall shop productivity, ensuring that PESCO's human capital is focused where critical judgment and expertise matter most. Safety also saw major improvements: by assigning hazardous welding tasks — particularly those in confined or fume-intensive environments — to robotic systems, PESCO significantly reduced occupational health risks for its workforce. The adoption of AI-driven welding solutions thus creates a dual impact: it enhances operational efficiency and safeguards employee well-being.

Ultimately, PESCO's AI adoption in fabrication is more than a technological upgrade — it represents a forward-looking philosophy that balances innovation, quality, and human potential. By fusing robotics with human expertise, PESCO is setting a new industry benchmark in the MENA region, ensuring it remains a reliable partner for complex EPC and fabrication projects. This evolution demonstrates how AI is not only redefining industrial processes but also enabling organisations like PESCO to deliver higher value to clients while fostering safer, smarter, and more sustainable operations.

EXHIBITOR | **PETROLVALVES** HALL 2 | STAND 2350

VALVE CUSTOMER PROXIMITY AND LIFECYCLE VALUE AS KEY STRATEGY

PetrolValves provides BRAVA and VALVE NEW LIFE, a pioneering revitalisation programme designed to extend the lifecycle of valves



PetrolValves reaffirms its commitment to shaping the future of the oil and gas industry through sustainable, efficient, and forward-thinking solutions. In a rapidly evolving global energy landscape, our strategy is built on adopting technologies that reduce time and cost while ensuring high performance and minimising environmental impact.

At the forefront of this approach is BRAVA (Boltless Reliable Advanced Valve) — a next-generation valve that redefines industry standards. BRAVA is more than a product; it's a breakthrough concept that addresses the evolving needs of the market and our customers. It offers significant advantages in terms of weight reduction, simplified assembly and on-site installation, shorter lead times, enhanced serviceability, and improved lifecycle management. All of this is delivered with a strong regional focus, enabling faster execution and better alignment with local requirements.

Alongside BRAVA, PetrolValves introduces another key innovation: VALVE NEW LIFE, a pioneering revitalisation programme designed to extend the lifecycle of valves nearing end-of-life. This game-changing service enables the refurbishment and upgrade of existing valves, cutting costs by up to 40% and eliminating replacement lead times. It's a sustainable, cost-effective solution that reinforces our commitment to responsible asset management.

PetrolValves also showcases its drive for business innovation through its Regionalisation Strategy, a cornerstone of our customer-centric vision. This localisation initiative enhances customer support by bringing services closer to key markets and empowering local capabilities. Already underway with service centres in Saudi Arabia, Kazakhstan, and Guyana, this strategy continues to expand, targeting additional strategic regions to further strengthen our global presence.

Through advanced product development, circular service models, and localised operations, PetrolValves is proud to serve as a trusted partner, delivering tangible value and leading the way toward a more efficient, responsible, and sustainable energy future.

EXHIBITOR I **PERGAM** HALL 4 I STAND 4210

METHANE LEAK DETECTION THAT GRASPS THE POWER OF AI FOR GREATER DETAIL

Powered by four integrated AI modules, **Pergam's** airborne methane laser detector sets a new standard for safe, precise, and remote monitoring when accuracy is key

The ALMA G5 airborne methane laser detector, developed by Pergam Group, is a remote sensing system designed for methane leak detection with deep AI integration.

The system operates on the principle of tunable diode laser absorption spectroscopy (TDLAS). Mounted on either a helicopter or UAV, the detector emits a laser beam at a wavelength of 1.65 µm, which is absorbed by methane molecules. By measuring the intensity of the signal reflected from the ground, the system calculates methane concentration in the atmospheric column.
One of the key limitations of conventional systems is the high rate of false alarms. Surfaces such as water, vegetation, and asphalt reflect laser beams differently, introducing interference and spectral artifacts that can be mistaken for methane leaks. To address this challenge, the ALMA G5 incorporates the AistroSpace AI software suite, and an onboard computing unit built on the Nvidia Jetson hardware platform, which integrates four dedicated AI modules. The first module processes spectroscopic data in real time, compensating for the effects of different surface types. The second manages self-diagnostics and automatic calibration. The third applies machine learning to filter out false positives, delivering 100% selectivity in methane detection. The fourth generates geospatial leak maps with GPS tagging and 4K image capture, while the algorithm automatically distinguishes between natural and anthropogenic methane sources.
The AI algorithm operates in real time, handling several critical functions. It segments objects and classifies underlying surfaces by analysing characteristics of the reflected signal. This enables the system to adapt its processing algorithms to a wide range of surfaces, from wetlands to agricultural fields. It also includes an anomaly detection module that identifies and rejects spurious signals caused by water glare or abrupt changes in reflectivity, ensuring they are not confused with true methane absorption.
The described approach delivers a significant improvement in monitoring reliability. AI integration minimises false positives, reducing unnecessary ground crew dispatches and associated costs. At the same time, sensitivity is enhanced over complex, low-reflectivity surfaces, lowering the risk of missing actual leaks. After processing, the AI normalises the data and automatically generates a detailed report for each detected leak, including GPS coordinates, concentration estimates, and linked 4K image. This level of automation ensures efficient and reliable inspections of pipelines, compressor stations, underground storage facilities, gas processing plants, and other critical linear and aerial assets.

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EXHIBITOR I **PREMABERG** HALL 15 I STANDS 15541

HOW A SAND TRAP CAN EXTEND THE LIFESPAN OF KEY EQUIPMENT

Premaberg explains the value of sand traps in the prevention of equipment and system damage

In the right conditions it is essential to have a sand trap in a sandy environment. The term 'sand trap' can refer to several different devices, but they all serve the same core purpose: to separate and remove sand from an air flow to prevent damage to equipment or systems.

In a sandy environment, where sand is abundant and easily mobilised by wind, these devices are crucial for protecting infrastructure.

How sand traps work

Sand traps - also known as sand separators or sand catchers - operate on the principle of gravity and momentum. They are designed to slow down the flow of air, allowing heavier, suspended particles like sand to settle out.

In HVAC systems and industrial buildings in sandy regions, a sand trap louvre is used.

These have a specialised design, often with a double U-blade, that causes a sharp change in the direction of the incoming air. The air can change direction easily, but the heavier sand particles, due to their momentum, are unable to make the turn and fall into a collection area at the base. This protects the main air filtration stages and prevents sand from entering the building's ventilation system.

The benefits in a sandy environment:

• Prevents equipment damage: sand is abrasive and can cause significant wear and tear on machinery, pipes, and other components. By trapping sand, these devices extend the lifespan of expensive equipment.

• Reduces maintenance: sand traps reduce the load on filters and other downstream systems, minimising the frequency of cleaning, repair, and replacement. Premaberg sand traps are designed to be self-cleaning, making maintenance simple.

• Maintains system efficiency: by preventing blockages and wear, sand traps ensure that systems like HVAC operations run smoothly and at peak efficiency.

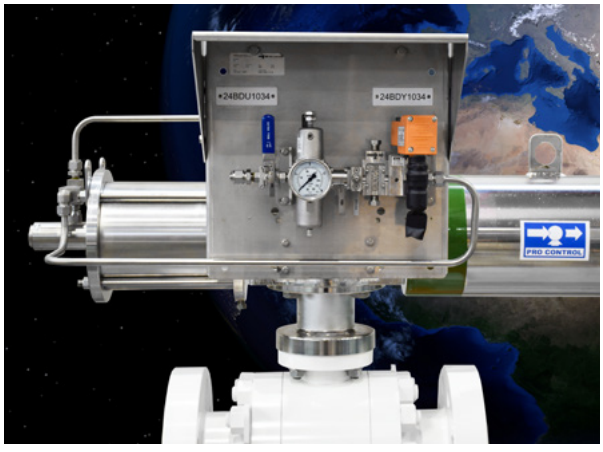
• Improves safety: In industrial settings, keeping sand out of equipment helps prevent operational failures that could lead to safety hazards.

Visit us at ADIPEC where our team will be available to discuss your specific requirements. And discover our full range of Premaberg's products, designed to deliver high performance and reliability across a variety of applications.

EXHIBITOR I **PROCONTROL** HALL 2 I STANDS 2136

OPERATIONAL CONTINUITY IN AGGRESSIVE ENVIRONMENTS

PROCONTROL's explains how the 316SS actuator plays a central role in its sustainability strategy



As the energy industry pivots toward a data-driven, AI-powered future, we must first ask: can intelligence thrive without robust, future-ready infrastructure? At PROCONTROL, we believe that before digital transformation can truly deliver, the physical foundation must be sustainable, resilient, and circular.

That's why we're showcasing our next-generation SIL3-certified 316SS actuator at ADIPEC 2025 – equipped with a 3D-printed hydraulic manifold developed through Powder Bed Fusion technology. This is a leap toward intelligent durability. With over 60% weight and dimensional reduction, our compact design supports smarter layouts and faster deployment, reducing emissions and improving field performance.

But innovation doesn't stop at functionality. Our 316SS solutions are at the heart of our sustainability strategy. Fully recyclable and compatible with predictive maintenance systems, they are engineered to extend asset life, cut lifecycle costs, and minimise unplanned downtime. By reusing decommissioned client materials in powder form, we create a closed-loop supply chain – a true circular economy in action.

Looking ahead, we see AI-driven asset optimisation, remote diagnostics, and autonomous maintenance as transformative forces. However, their success depends on components that can keep pace. Our actuators are smart-ready by design and built to perform in harsh environments while seamlessly integrating into digital ecosystems. This makes them especially suited for offshore and severe service applications, where corrosion from saltwater exposure and extreme temperature swings can compromise conventional materials. 316SS offers superior resistance, maintaining structural integrity over time and ensuring operational continuity. PROCONTROL solutions perform reliably even in the most aggressive environments, reducing intervention frequency and extending maintenance cycles – a key advantage in remote or hard-to-reach installations.

At ADIPEC 2025, we're excited to connect with pioneers across energy, finance, and technology. Cross-sector collaboration is not optional – it's the catalyst for scalable, impactful change. Together, we can embed intelligence not only into systems, but into the very materials that support them. Let's redefine durable performance – sustainably.

EXHIBITOR | **ROCKWELL AUTOMATION** HALL 15 | STAND 15140

ACCELERATING ENERGY INNOVATION WITH EXPERTISE, TECHNOLGY AND PARTNERS

Rockwell Automation highlights the PlantPAx distributed control system, which delivers integrated process and power control across the enterprise, unifying traditionally siloed systems

At ADIPEC 2025, Rockwell Automation is proud to showcase solutions that reflect this year's theme: Energy. Intelligence. Impact. As the energy sector accelerates its transformation, we're excited to present technologies that not only optimise operations but also drive measurable sustainability and efficiency gains.

A highlight of our booth is the PlantPAx distributed control system (DCS), which delivers integrated process and power control across the enterprise. By unifying traditionally siloed systems, PlantPAx enhances operational efficiency, reduces energy consumption, and supports predictive maintenance, delivering real-world impact for producers navigating complex energy landscapes.
These innovations are backed by Rockwell Automation's deep industry knowledge, built over decades of working alongside energy leaders worldwide.
Our expertise enables us to tailor solutions that meet the unique challenges of upstream, midstream, and downstream operations, delivering smarter, safer, and more sustainable outcomes. With decades of experience in industrial automation, Rockwell Automation brings unmatched domain expertise to every solution. Combined with the global reach and specialised capabilities of our PartnerNetwork, we help energy leaders deploy smarter systems faster—delivering results that scale across operations and geographies.
We recognise that no single company can solve the energy transition alone. That's why we're proud to bring the power of our global partnerships to ADIPEC. This global ecosystem of best-in-class technology providers, system integrators, and distributors helps accelerate scalable solutions and achieves seamless integration across platforms and geographies.
Beyond technology, cross-sector collaboration between energy, technology, and finance is essential to unlocking scalable innovation.
By aligning operational goals with digital transformation strategies and investment priorities, we can accelerate the deployment of impactful solutions across the globe.
Whether you're modernising legacy infrastructure or building new greenfield operations, Rockwell Automation provides the intelligence to make energy decisions smarter and the tools to make them actionable.
Join us at ADIPEC to explore how Rockwell Automation is helping shape a more connected, efficient, and sustainable energy future.
Let's discover what's possible when innovation meets collaboration.

> By aligning operational goals with digital transformation strategies and investment priorities, we can accelerate the deployment of impactful solutions across the globe.

EXHIBITOR I **PROMETHEUS GROUP** HALL 15 I STAND 15650

FROM INSIGHT TO ACTION: HOW AI IS REDEFINING ENERGY ACTION

Focussing on purpose-built vertical AI, Prometheus Group delivers intelligent solutions with a difference

The relationship between energy and AI is creating a new frontier for operational excellence. As the industry seeks greater efficiency and reliability, AI has become a vital tool for delivering tangible results.

At Prometheus Group, we are leading this charge by developing practical AI solutions that empower teams with the insight and flexibility to plan effectively, resolve issues quickly, and prevent costly downtime. Our focus is on turning complex data into clear, actionable intelligence.

Unlike general-purpose, horizontal AI platforms that offer broad solutions, Prometheus Group focuses on vertical AI – intelligence purpose-built for the specific needs of energy operations. Horizontal AI might tell you what needs to be done, but vertical AI goes a step further by actually doing it for you. Our vertical AI understands the nuances, language, and workflows unique to the energy sector, and is built to actively execute tailored actions, not just recommend them. This approach turns insights into real results, delivering solutions that integrate seamlessly with industry processes and address real-world challenges as they happen.

For instance, our GWOS-AI for planning and scheduling revolutionises maintenance by providing step-by-step guidance and automating routine tasks. It moves beyond simple analysis, learning from completed work to continuously improve plan accuracy. This allows planners to build constraint-aware, crew-ready schedules in minutes, not hours, confidently avoiding crises and executing work with precision.

Similarly, RapidAPM leverages predictive analytics to identify potential equipment failures in real-time. RapidAPM's AI provides diagnostic assistance with suggestions for root causes and corrective actions, transforming an early alert into a proactive resolution. This means teams can move from detection to diagnosis faster, preventing unplanned downtime before it impacts production.

Underpinning these solutions is our MDaaS-AI. It automates the critical but often time-consuming process of cleansing, standardising, and enriching master data. By building accurate bills of materials (BOMs) and consistent material masters, MDaaS-AI ensures that the data fuelling your maintenance and reliability programs is trustworthy, enhancing the effectiveness of every decision. As we prepare for ADIPEC 2025, we are excited to showcase how these intelligent solutions accelerate progress.

EXHIBITOR I **REDA** HALL 9 I STAND 9534

NURTURING OF A NEW ERA FOR OPERATIONAL EXCELLENCE

How REDA is driving AI-powered efficiency and sustainability in the chemicals supply chain

For more than three decades, REDA has embraced innovation as a cornerstone of its growth journey. Building on its legacy as an early digital pioneer in the UAE, REDA is once again at the forefront – this time with artificial intelligence. At ADIPEC 2025, REDA highlights how Energy, Intelligence, and Impact, come together through its transformation journey, shaping a new era of operational excellence and sustainable value delivery across the energy and chemicals supply chain.

As part of this journey, REDA has dedicated a full-time team to developing proprietary supply chain solutions powered by AI technologies, ensuring long-term competitiveness and value creation.

REDA's AI systems are designed to streamline operations, minimise inefficiencies, and empower teams across the organisation. By reducing delays and repetitive tasks, these systems allow employees to focus on higher-value priorities. The result is faster, more reliable performance that contributes directly to cost savings while reducing wasted effort and energy consumption – an important step toward sustainable business practices.

At the same time, REDA's AI platforms are redefining decision-making by making information more accessible, responsive, and actionable. Leaders are now better equipped to act with agility in a fast-changing global market, ensuring that REDA remains both competitive and resilient while creating tangible value for stakeholders.

Importantly, REDA's adoption of AI is not confined to pilots or isolated initiatives. The company actively encourages integration across departments, embedding digital innovation into its culture and reinforcing its DNA as a forward-looking organisation. Over the next three to five years, REDA envisions its AI systems forming the foundation of an integrated, highly efficient, and sustainable operational ecosystem.

REDA's transformation also supports broader sustainability objectives. As a Gold Medal EcoVadis awardee and recipient of HSBC's green accreditation, REDA is recognised for its sustainable practices, including double-digit reductions in greenhouse gas emissions over the past two years. These efforts align with the UAE's Net Zero 2050 strategy and the UN Sustainable Development Goals, underscoring REDA's commitment to impactful change.

As the energy and chemicals sector faces increasing pressure to deliver both efficiency and sustainability, REDA's digital transformation demonstrates what is possible when innovation and responsibility move hand in hand. By setting new benchmarks in operational excellence, REDA is not just preparing for the future – it is actively shaping it.

EXHIBITOR | **SCHNEIDER ELECTRIC FZE** HALL 4 | STAND 4250

SCHNEIDER ELECTRIC DELIVERS AI-POWERED OUTCOMES

Walid Sheta, Regional Leader – Middle East & Africa, **Schneider Electric,** discusses AI-powered solutions and transformative technologies to meet rising MEA power demand

How is the relationship between energy and AI transforming the future? What role does your organisation play in shaping that transformation?

At Schneider Electric, we connect energy, automation, and software so that AI delivers tangible outcomes with the smallest possible footprint. Our open, software-defined automation creates intelligent environments where AI safely optimises energy use and uptime at scale. As the MEA region invests over US$60 billion annually in networks, storage, and low-emissions technologies by 2035 (IEA), AI-ready digital grids will be critical to integrating renewables, electrified desalination, and emerging industrial loads.

Can you briefly describe one of your AI-powered or digital solutions and how it is driving efficiency, innovation and impact in the energy industry?

Our EcoStruxure™ Industrial Advisor – Predictive Energy uses machine learning to forecast and optimise plant energy use, detect anomalies, and drive measurable energy and CO_2 reductions – linking power data, process conditions, and maintenance actions in one platform.
By enhancing efficiency and anomaly detection, we free capacity faster than adding new generation. Our AI Hub develops "frugal AI" solutions that balance intelligence with responsible energy use, ensuring AI's benefits outweigh its power requirements.

Which AI-driven energy technologies or trends do you believe will have the most transformative impact on the industry – both now and in the next decade?
Three key trends stand out.
First, software-defined automation is replacing rigid control systems with open, adaptable architectures; our EcoStruxure Automation Expert enables this shift toward autonomous operations.
Second, AI-enhanced grid and demand intelligence will help manage MEA's surging electricity peaks, supporting smarter, flexible systems.
Third, diversified low-emissions generation – as seen in the UAE's nuclear and renewables portfolio – shows how AI, automation, and digitalisation can decarbonise and strengthen energy systems.

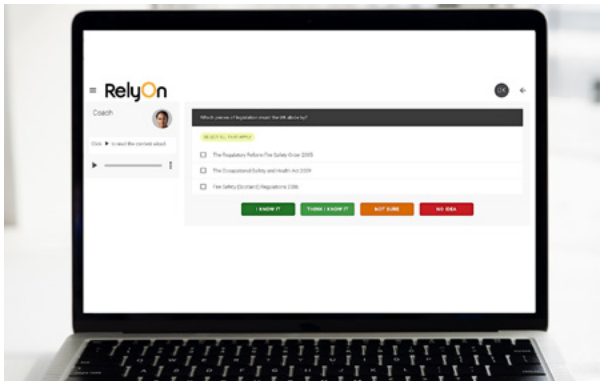
What intelligent solutions are you most excited to both showcase and explore at ADIPEC 2025? How do you think they will accelerate the industry's progress?
We'll highlight our AI-Driven Root Cause Analysis (RCA), which accelerates understanding and prevention of process upsets. In large industrial facilities such as LNG plants – where a single trip can cost US$5 million – this solution applies hybrid AI methods and retained human expertise to improve reliability and operational performance.

> "Our AI Hub develops "frugal AI" solutions that balance intelligence with responsible energy use, ensuring AI's benefits outweigh its power requirements."

EXHIBITOR | **RELYON** HALL 11 | STAND 11310

ROLE OF ADAPTIVE LEARNING IN SHAPING FUTURE ENERGY TRAINING

RelyOn explains how adaptive learning can be a faster route to training that builds confidence and strengthens workforce safety



Artificial Intelligence is reshaping how the energy industry develops its workforce.

Beyond automation and predictive analytics, AI is transforming the way people learn, practice, and prepare for the realities of high-risk environments.

At RelyOn, we deliver this transformation through our suite of digital training solutions, which includes adaptive learning courses.

Adaptive learning uses AI to personalise the training journey for every participant. Instead of presenting the same content to all learners, it continuously adjusts based on individual responses. This ensures employees spend more time on areas where they need development, while progressing quickly through what they already know.

Less time required to learn

The benefits are measurable. Training time can be reduced by up to 50% while retention and confidence increase significantly. For energy operators, this means less downtime and more consistent performance. For employees, it means discovering and addressing gaps that might otherwise remain hidden and gaining the assurance that they are ready to perform safely in critical environments.

Adaptive learning is already proving valuable across RelyOn's global customer base. For example, oil and gas workers can complete digital adaptive modules ahead of on-site or simulation-based training. Instructors then receive detailed data on each learner's knowledge profile, enabling them to focus practical training on the areas that matter most. This combination of digital and hands-on learning strengthens both individual and team readiness.

Preparing people for new energy challenges

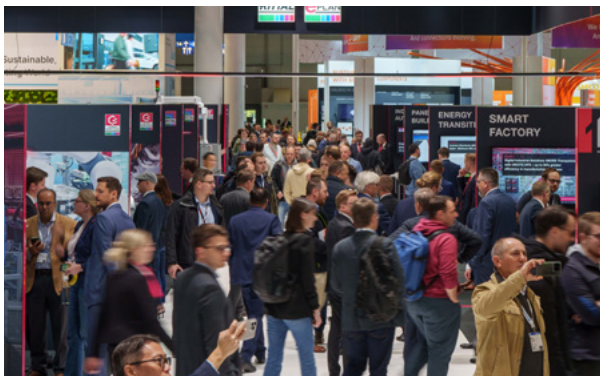
At ADIPEC 2025, we will highlight how adaptive learning sits within RelyOn's broader digital ecosystem, alongside simulation, workforce management, and training management solutions, to deliver end-to-end workforce competence.

As industry navigates the dual challenges of safety and energy transition, AI-powered solutions like adaptive learning are key to preparing people faster, reducing operational risk, and ensuring safer outcomes. Because when every worker feels confident and capable, organisations can achieve stronger results.

EXHIBITOR | **RITTAL** HALL 17 | STAND 17272

GIVING AI THE QUALITY DATA IT NEEDS TO MAKE INDUSTRY IMPACT

Eplan & Rittal highlights AI-driven industrial automation beside innovations in Eplan software, Rittal power distribution, and enclosure technology



Eplan and Rittal have put together real-life project case studies, like the AI-assisted generation of mounting plate layouts based on Microsoft Azure Open AI Service. Eplan is working with Siemens on extensive end-to-end integration that will digitise and automate the entire engineering process in the future. "AI-assisted tools allow developers to simulate a variety of different scenarios in just a few minutes, something that would previously have taken days or even weeks. This not only saves time but also significantly and consistently improves the quality of the outcomes," says Sebastian Seitz, CEO of Eplan.
The ambition and objective is quite clear: to utilise AI in current solutions to meet industry's specific requirements and to automate the entire engineering process.

AI needs data – of the highest quality and in standardised formats

The basis for any automation solution, even if using AI, is first-class data. This challenge is met by the requirement that Eplan established years ago with the EDS data standard, i.e. fully detailed, documented and standardised article data. Now, the Eplan Data Portal contains over four million data records for users.

Is current IT infrastructure AI-ready?

Rittal is showcasing a completely new type of Coolant Distribution Unit (CDU) that uses direct water-based chip cooling to deliver over 1 megawatt of cooling output, thereby enabling data centres to be used for AI applications.

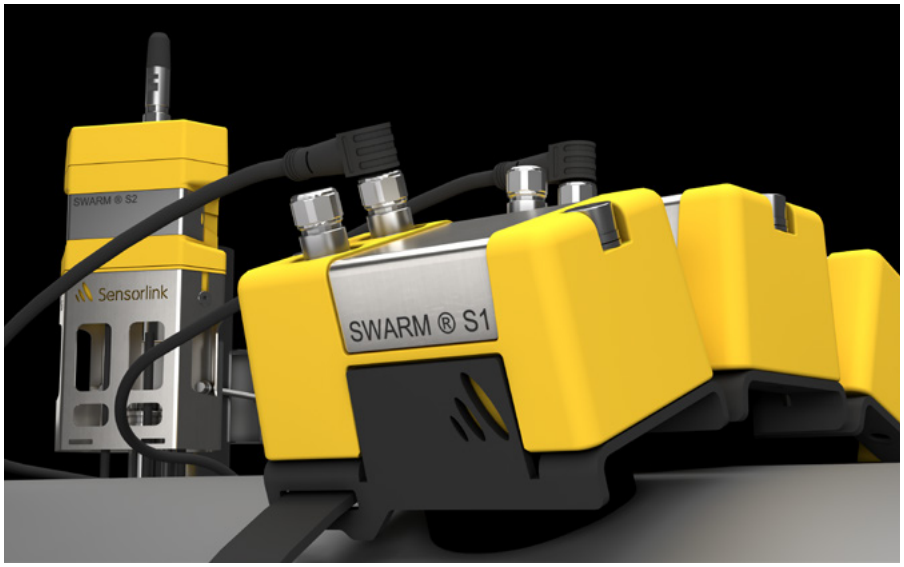
Consistent standardisation accelerates power distribution

Digital transformation and energy transition require electrical power – and lots of it. The new RiLineX system platform speeds up the production of power distribution in control and switchgear construction, so that time savings of up to 75% can be achieved during assembly. With a systemised platform approach, Rittal is driving forward international standardisation. It has launched a network of technology partners who are developing 'Ready for RiLineX' components that can be directly connected through a click system to the distribution board.

EXHIBITOR I **SENSORLINK** HALL 9 I STAND 9530

ULTRASONIC SOLUTIONS FOR CORROSION MONITORING CAN TAKE FIRMS FORWARD

Sensorlink's AI-driven, non-intrusive monitoring exemplifies how technology ensures a resilient, sustainable energy future as companies walk the low-carbon pathway



> Cross-sector partnerships amplify AI's impact by combining energy expertise with technological advancements.

AI-powered non-intrusive corrosion monitoring Sensorlink, a Norwegian leader since 1997, pioneers' non-intrusive corrosion and erosion monitoring for the energy sector. Its ultrasonic solutions, like Swarm Topside and UltraMonit Subsea, deliver real-time pipeline and vessel wall thickness data, enhancing safety and sustainability in oil, gas, and CO_2 transport without operational disruptions.

Energy-AI synergy and Sensorlink's role

The fusion of AI and energy is transforming the industry by enabling predictive maintenance, optimising operations, and supporting decarbonisation. AI analytics can cut energy consumption by 10-20% and reduce downtime by up to 50% through early fault detection. Sensorlink drives this transformation by providing high-precision corrosion data that fuels AI models, enabling proactive asset management and minimising environmental risks.

AI-powered solution: Swarm

Sensorlink's Swarm is a wireless, non-intrusive monitoring system using ultrasonic sensors for continuous wall thickness tracking. Integrated with AI, it analyses data in real time, predicting corrosion trends and eliminating costly manual inspections. This drives efficiency by reducing downtime, fosters innovation through seamless digital platform integration, and extends asset lifespan, significantly lowering operational and environmental costs.

Transformative AI-driven trends

Today, AI-powered corrosion detection and predictive maintenance are revolutionising asset integrity, with machine learning models improving accuracy by 30-40%. In the next decade, digital twins and AI-driven renewable energy integration will dominate, enabling autonomous operations and zero-emission energy systems. These advancements will optimise resource use and enhance grid reliability, reshaping the energy landscape.

ADIPEC 2025 showcase

At ADIPEC 2025, Sensorlink will highlight Swarm and explore AI-enhanced corrosion monitoring solutions. By leveraging AI to predict corrosion patterns and optimise maintenance, these technologies will accelerate progress toward safer, more efficient, and decarbonised energy systems, showcasing Sensorlink's commitment to innovation.

Collaboration for impact

Cr oss-sector partnerships amplify AI's impact by combining energy expertise with technological advancements. Sensorlink collaborates with tech innovators to refine AI algorithms for corrosion monitoring, ensuring scalable, low-carbon solutions for global energy challenges.

EXHIBITOR | **SAP & KAPS PETROLEUM SERVICES** HALL 8 | STAND 810

ACHIEVING OPERATIONAL EXCELLENCE

Sap & Kaps Petroleum Services – LLC supports energy companies with innovative, field-proven services with its expertise in pipeline, tank, and anti-corrosion repair solutions

The global energy transformation is rapidly reshaping the future, driving a shift toward cleaner, safer, and more efficient energy systems. At Sap & Kaps Petroleum Services – LLC, we play an essential role in this transition by supporting energy companies with innovative, field-proven services that enhance asset integrity, reduce environmental impact, and extend the life of critical infrastructure. Our expertise in pipeline, tank, and anti-corrosion repair solutions directly contributes to safer operations and lower emissions.

One of our key solutions is our composite wrap repair system and viscous elastic coating for pipelines and tanks. This high-strength repair method allows clients to restore the structural integrity of their assets without full replacement or shutdowns. By minimising downtime and avoiding the need for extensive metalwork or welding, we help clients reduce operational costs, improve safety, and support sustainability goals. This solution is not only cost-effective but also significantly reduces waste and emissions, making it a smart choice for operators aiming to balance performance with environmental responsibility.

Looking ahead, we believe that digitisation, predictive maintenance, and advanced materials will have the most transformative impact on the energy industry. Technologies like real-time monitoring, and AI-driven inspection tools will enable smarter, more proactive asset management, leading to fewer failures, optimized maintenance schedules, and enhanced safety.

At ADIPEC 2025, we are excited to showcase our latest innovations in Volatile Corrosion Inhibitor Comprehensive Solutions. These solutions reflect our commitment to helping clients achieve operational excellence while meeting their sustainability targets. We look forward to engaging with industry leaders, exploring emerging technologies, and identifying new partnerships to accelerate impact.
Cross-sector collaboration is essential for scaling effective solutions. By aligning the strengths of the energy, technology, and finance sectors, we can drive investment in innovation, reduce barriers to adoption, and bring practical, scalable solutions to market faster – benefiting not only the industry but the planet as a whole.

EXHIBITOR | **QYSEA** HALL 16 | STAND 16005

DISCOVER AGILE TECH RESHAPING VITAL SUBSEA INSPECTION TASKS

QYSEA is ready to showcase its latest compact and mid-sized ROV innovations for intelligent inspection solutions that are empowering the industry

Artificial intelligence is unlocking a new era for the energy sector, where operations are smarter, safer, and more efficient than ever before.
In subsea environments, the combination of AI and robotics is proving especially transformative, enabling inspections that are faster, more data-rich, and fully automated, all while reducing the risks for human divers.
At QYSEA, we are proud to be at the forefront of this movement, delivering intelligent solutions that empower the energy industry with greater insights, efficiency, and safety.
At the centre of this innovation is our flagship FIFISH X1. Lightweight and compact, it can be deployed by just two-three people, making it far more agile and cost-effective than traditional work-class ROVs.
Despite its size, the X1 is packed with intelligence: smart measurement tools, 3D modelling, precise navigation with location-tagged inspections, real-time water quality monitoring, and manipulators for complex tasks.
Its integrated sensors enable automated navigation and inspections, seamlessly covering the seafloor, vessel hulls, and offshore structures in a single mission. This versatility empowers operators to achieve high-quality results at a fraction of the cost and complexity.
We believe that compact AI-powered ROVs, real-time smart measurements, 3D imaging, and modular tool integrations will be among the most disruptive forces in the energy sector.
These technologies will reshape how subsea inspections are carried out, boosting accuracy, enabling predictive maintenance, and supporting the continuous monitoring of critical offshore assets.
At ADIPEC 2025, we are thrilled to showcase our latest compact and mid-sized ROV innovations, including live pool demonstrations that will give attendees a first-hand look at their capabilities.
These solutions represent not just incremental improvements, but a leap forward in how energy companies can conduct safe, efficient, and sustainable operations.
Cross-sector collaboration will be key to unlocking this future. By working closely with global leaders such as Saudi Aramco, and connecting with partners in technology and finance, we are accelerating the deployment of intelligent subsea solutions across the Middle East and beyond.
Together, we can deliver scalable, AI-powered innovations that redefine what's possible for the energy industry - driving efficiency, safety, and sustainability to new heights.

EXHIBITOR | **SINOPEC** HALL 6 | STAND 16145

AI AND BUSINESS PRESENT A POWERFUL DUAL APPROACH THAT CAN BRING IMPACT

Sinopec is advancing its AI strategy to drive new industrialisation that is delivering real-world results

Sinopec is implementing its strategic plan to promote the development of artificial intelligence and accelerate the empowerment of new industrialisation.

With the Group's development strategy as its primary focus, Sinopec adheres to the dual-drive approach of 'AI + business,' focusing on industry upgrades, enterprise transformation, and the cultivation of strategic emerging industries. It is comprehensively promoting the deep integration of artificial intelligence and the company business operations, effectively enabling the innovative development of core businesses such as scientific and technological research and development, exploration and development, refining and chemical engineering, safety and environmental protection, and corporate operations, and forming a full-stack AI application ecosystem encompassing the three major elements of 'computility, algorithm, and data.' At present, a total of 16 smart factories, four smart oil and gas fields, more than 150 smart petrol stations and three intelligent research institutes have been built, and rich experience in smart scene construction has been accumulated.

In the upstream sector, Sinopec Shengli Oilfield is promoting the development of two intelligent scenarios: intelligent decision-making for exploration and development — based on transparent basins and digital reservoirs, and intelligent production operations — based on the oil and gas production Internet of Things. Using large geological models, a multidisciplinary collaborative work model centred on 'transparent basins' and 'transparent reservoirs' is being constructed.

In oil and gas exploration, multiple intelligent application scenarios have been developed, including fault layer interpretation and reservoir prediction, increasing fault interpretation efficiency by more than 10 times. In oil and gas development, intelligent applications such as development indicator prediction and intelligent solution optimisation have been implemented, increasing efficiency by more than five times.

In the downstream sector, Sinopec Zhenhai Refining & Chemical Company, is continuously upgrading and building a 'smart factory,' deeply integrating AI technology with petrochemical production scenarios. This has resulted in significant progress in areas such as equipment safety, production optimisation, quality control, and warehousing and logistics. The company has established an Equipment Health Management Centre, integrating various intelligent modules to provide a comprehensive, multi-dimensional intelligent display and early warning for over 100 installations and 520,000 pieces of equipment. Based on this foundation, the company is implementing Reliability-Centred Maintenance (RCM) through AI-based data regression models, establishing a proprietary knowledge base encompassing 46 different types of rotating equipment, and laying a solid foundation for subsequent reliability analysis and improving maintenance efficiency.

> "In oil and gas exploration, multiple intelligent application scenarios have been developed, including fault layer interpretation and reservoir prediction, increasing fault interpretation efficiency by more than 10 times."

EXHIBITOR I **SHIPWORKZ MARINE SERVICES** HALL 16 I STAND 16206

HARNESSING INTELLIGENCE TO DELIVER LIFETIME ASSET VALUE

Shipworkz Marine Services will be showcasing their advanced digitalisation and monitoring solutions at ADIPEC 2025

The relationship between energy and AI is rapidly reshaping the future of global industries. In maritime, where offshore vessels form the backbone of energy supply chains, the integration of intelligent solutions is unlocking new levels of efficiency, safety, and sustainability. At Shipworkz Marine Services, we are at the forefront of this transformation, preparing to deploy digital and AI-powered solutions that directly support the energy ecosystem. We are redefining offshore vessel management, operational safety, and sustainability, delivering smarter, safer, and greener outcomes.

One of our many initiatives is the proposed development of an in-house digital lifecycle vessel management platform. Our solution proposes to introduce predictive analytics, real-time visibility, and AI-driven planning tools that enable shipowners to anticipate issues before they arise, optimise project timelines, and reduce unplanned downtime. This is not only driving efficiency and cost savings but also reducing the carbon footprint of marine operations – an impact felt across the wider energy supply chain.

Looking ahead, we believe the most transformative AI-driven technologies will be those that combine predictive intelligence with sustainability outcomes, such as energy-efficiency monitoring systems, smart retrofits, and digital twins for vessels. These innovations will redefine how ships consume fuel, manage emissions, and interact with the energy infrastructure of tomorrow.

At ADIPEC 2025, we are excited to showcase our unique capabilities, which offers the potential of advanced digitalisation and monitoring capabilities to the industry. Together with our clients, we aim to accelerate progress by making vessels smarter, safer, and more environmentally responsible.

We also recognise that real-world progress cannot be achieved in isolation. Cross-sector collaboration between energy players, technology innovators, and financial stakeholders is essential to deliver scalable solutions. By bridging these worlds, Shipworkz is helping to release trapped value in the maritime industry, ensuring that innovation translates into practical, lasting impact.

For us, the journey is clear: leverage intelligence to empower maritime operations, support the global energy transition, and contribute to a more sustainable future.

EXHIBITOR I **SKF MAGNETIC MECHATRONICS** HALL 9 I STAND 9239

IMMERSION POWERED BY INNOVATION

SKF Magnetic Mechatronics are redefining customer service with mixed reality, artificial intelligence, and condition monitoring

Imagine a future where maintenance, troubleshooting, and training are not just tasks but immersive, intuitive experiences. At SKF S2M, that future is already here. By integrating mixed reality (MR) and artificial intelligence (AI) into our Active Magnetic Bearing (AMB) digital solutions, we are setting a new standard, delivering premium experience in serving our customers.

With MBVision, customers move beyond the limitations of traditional 2D documentation. Through holographic 3D guidance, operators gain real-time, hands-free support directly in their field of view. This not only reduces the time and effort required for complex procedures but also minimises human error, improves safety, and significantly cuts production downtime.

Our approach turns service and training into a continuous learning journey. Operators can instantly access interactive instructions and knowledge resources, learning at their own pace anytime, anywhere. Mixed reality devices are equipped with advanced sensors and smart tracking cameras, allowing customers not only to visualise but also to interact with turbomachinery and AMB systems, building deeper understanding and autonomy in the field.

The power of AI integration takes this further. By enabling the AI to see what the operator is seeing and to respond to their natural, multilingual voice queries, MBVision provides the most relevant instructions in real time, even in challenging environments. It delivers step-by-step 3D guidance, highlighting tools, modules, hazards, and best practices exactly where and when needed.

Beyond service and training, predictive intelligence ensures reliability. SKF's advanced condition monitoring algorithms process high-speed data streams, up to 14 kHz, to monitor and detect potential failures before they occur. This proactive approach optimises maintenance schedules, maximises uptime, and secures operational performance.

At SKF Magnetic Mechatronics, we are shaping the future of AMB technology. By combining mixed reality, AI, and predictive condition monitoring analytics, we deliver customer experiences that are more immersive, efficient, and intelligent than ever before.

With MBVision, every task becomes an opportunity to learn, adapt, and excel. This is more than innovation; it is a new standard for reliability, autonomy, and customer empowerment in the energy sector.

EXHIBITOR I **STONE RIDGE TECHNOLOGY** HALL 16 I STAND 16186

CAPTURING THE POTENCY OF GENERATIVE AI FOR THE FUTURE ENERGY PATHWAY

SRT delivers GPU-native simulation at scale and pairs it with agent-driven generative AI that makes advanced workflows easier to use, explain, and trust

Generative AI is set to reshape subsurface decision-making by shortening the path from data to action.

For operators balancing complex reservoirs, decarbonisation targets, and capital discipline, the opportunity is not simply more automation; it is agentic intelligence that works alongside physics; interrogating inputs, checking assumptions, tracing causes in simulation runtime behaviour, and returning quantitative answers quickly. When AI can converse in the language of reservoir engineering and produce code, plots, and evidence, not just prose, it lowers barriers to adoption, accelerates scenario work, and makes decisions easier to defend.

Stone Ridge Technology (SRT) comes to this moment with a clear-eyed vision and deep and relevant expertise.

For two decades, we have built applications for speed, scalability, and performance, culminating in ECHELON, our high-performance reservoir simulator engineered from inception for GPUs.

By designing for accelerators from the outset, ECHELON delivers industry-leading performance on complex, field-scale, multi-million-cell models, giving engineers a compute foundation they can trust and iterate on quickly.

Our next chapter adds an intelligence layer to that foundation. We are integrating agentic workflows directly into the steps engineers already take: asking questions in natural language, building and vetting inputs, monitoring runs, and interpreting results.

The aim is to compress the loop from question → model → run → interpretation while keeping engineers firmly in control and tying guidance back to model evidence.

Envoy is SRT's agentic AI assistant designed for reservoir-aware engineering work. Agents can examine input decks, interpret logs and runtime behaviour, and elicit actionable issues with clear context. Typical interactions include identifying conflicting PVT usage across regions or explaining what is constraining field oil production; responses are designed to point back to the underlying artefacts and numbers. In practice, this closes feedback loops and improves model quality while maintaining velocity.

A high-performance, GPU-based, AI-supported visual analytics workspace complements this experience. It imports ECHELON outputs, supports rich 2D/3D interaction, and bridges natural-language prompts with embedded analyses so an explanation can arrive together with the plots and metrics that support it.

These capabilities are converging toward a single, fluid experience by blending conversational guidance, visual context, and code-backed results in one place.

> "We are integrating agentic workflows directly into the steps engineers already take: asking questions in natural language, building and vetting inputs, monitoring runs, and interpreting results."

EXHIBITOR I **SORB®XT** HALL 6 I STANDS 8816

GERMAN MADE EFFICIENT BINDER COMBATING LEAKS

German firm SORB®XT transforms asset integrity with AI and data intelligence to deliver safer operations, smarter insights, and sustainable performance

SORB®XT is a German company that has been producing products for use in the event of leaks or spills for almost nine years. This is specifically for hazardous substances such as oils, chemicals/acids and many other substances, but not water, in the B2B sector.

Based close to Duesseldorf, we are committed to marketing biological or biodegradable products with the best possible efficiency wherever possible.

Our core product is the natural multi-absorbent SORB®XT. Certified for use on all surfaces and effective within seconds, it absorbs up to 10 times its own weight with easy and inexpensive disposal.

Over time, the product range has been adapted to the wishes of our trading partners and users:

SORB Stain Solution Pro ECO - biological, pH-neutral cleaners for cleaning surfaces and removing (old) oil stains in all areas, even suitable for food industry/ gastronomy (NSF). It also removes dirt, green algae etc.

SORB Containments - mobile, foldable and space-saving folding tray systems with a point load of up to 55 tons and in almost all sizes, including antistatic versions.

SORB Stripper - biodegradable, pH-neutral remover for difficult substances, eg. paints, varnishes up to 3cm thick, resins, adhesives, even asbestos - without generating dust and covering up to several hundred square metres per day.

SORB MS - the comprehensive portfolio for use after accidents involving water, including (reflective) barriers, solid systems, skimmers, boats and ships and many more.

SORB Bioremediation project - fibre plus self-created micro-bacteria help to recultivate oil-contaminated soil (> C12) on site easily in a biological way.

Application segments include disaster control, energy, chemical industry, automotive, maritime and shipping, food, and large-scale industry. SORB is used by many major oil and industrial companies worldwide.

SORB®XT - the company behind Allegro Capital, Logistics, Services & More GmbH - has been successfully participating at ADIPEC since 2021 as an exhibitor on the German Pavilion.

Our target is to approach the big players in the oil and chemical industry, such as the pipeline operators in the Middle East and African area (EMEA), to establish our certified SORB® products there, together with our regional partners.

EXHIBITOR I **SPECTRUM GROUPE** HALL 15 I STAND 15471

POWERING THE FUTURE THROUGH PARTNERSHIP

Spectrum Groupe helps energy leaders streamline complex workflows, enhance team collaboration, and ensure seamless project delivery across the entire value chain

As the energy industry accelerates toward digital transformation, Spectrum Groupe stands at the intersection of technology and innovation, empowering organisations to build smarter, faster, and more connected operations.

Through our partnership with Atlassian, Appfire, and GitLab, we help energy leaders streamline complex workflows, enhance team collaboration, and ensure seamless project delivery across the entire value chain, from exploration and production to sustainability and innovation.

Partnership for tomorrow

Our solutions enable companies to adopt agile methodologies, automate processes, and integrate intelligence into every stage of their digital journey. Using tools like Jira Service Management, Appfire's automation and reporting apps, and GitLab DevSecOps, energy organisations can monitor performance, strengthen cybersecurity, and accelerate the deployment of sustainable technologies that drive real-world impact.

At ADIPEC 2025

Spectrum Groupe is excited to showcase how its technology-driven frameworks powered by Atlassian, Appfire, and GitLab are shaping the future of energy through smarter collaboration and continuous improvement. By bridging the gap between IT and operations, we help enterprises enhance resilience, reduce downtime, and optimise performance at scale.

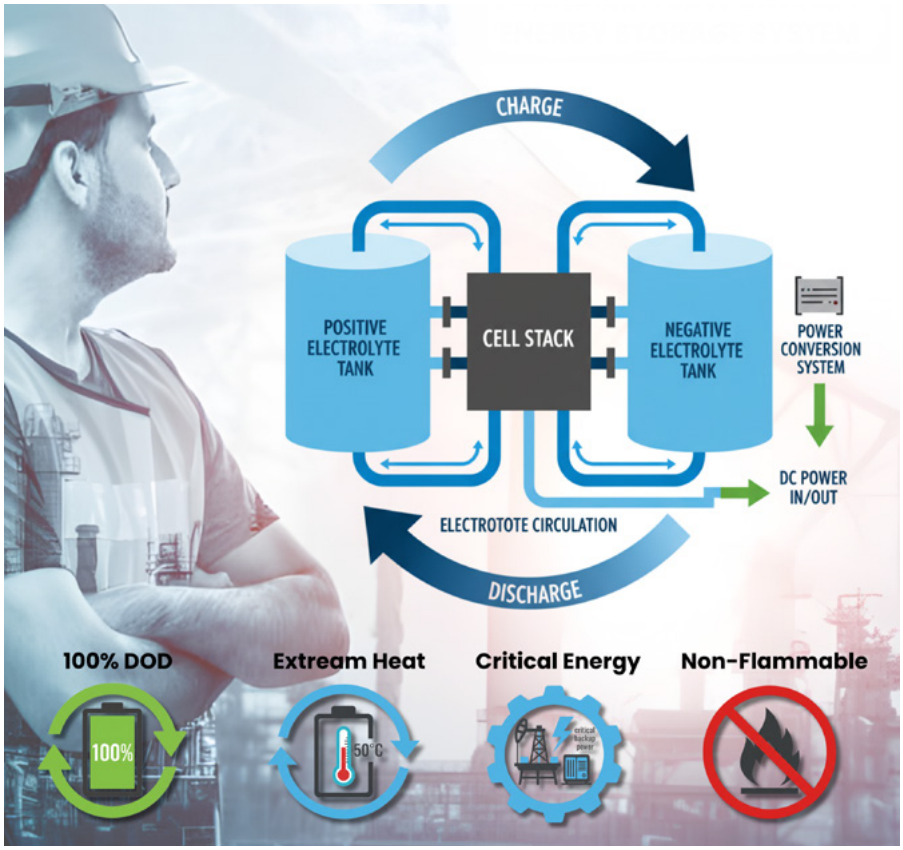
Energy. Intelligence. Impact.

We believe that collaboration across energy, technology, and finance is the key to achieving global energy goals. Spectrum Groupe's mission is to empower this collaboration with intelligent platforms that turn innovation into measurable impact, creating a more efficient, sustainable, and connected energy ecosystem.

EXHIBITOR I **SUPERTECH GROUP** HALL 3 I STAND 332

REVOLUTIONISING ENERGY STORAGE WITH A SYSTEM THAT THRIVES IN TOUGH PLACES WITH VANADIUM FLOW BATTERIES

Supertech Group will showcase its latest innovations that are tailored for off-grid oilfield sites and microgrid applications by enhancing battery storage for tough environments



> The future of energy demands collaboration across sectors. By uniting energy, technology, and finance, we can accelerate the deployment of scalable, high-impact solutions.

The energy transition is not just a global imperative; it's a race to redefine what's possible. At the heart of this transformation is the need for safer, smarter, and more resilient energy storage.

That's where we come in.

Our Vanadium Flow Battery Energy Storage System is engineered to thrive in the toughest oil and gas environments, offering non-flammable chemistry, 100% depth of discharge, and zero performance derating up to 50°C. It's not just a solution, it's a game-changer.

Designed for long life and uncompromising safety, our system delivers full charge–discharge cycles without degradation. That means greater efficiency, lower operating costs, and a bold step forward in sustainability.

Whether powering remote oilfields or stabilising microgrids, our technology is driving real-world impact where it matters most.

Looking ahead, the energy industry is poised for a seismic shift.

Long-duration storage, AI-driven optimisation, and deep renewable integration will define the next decade, and Vanadium Flow Batteries are uniquely positioned to enable this future. Our technology isn't just keeping pace; it is setting the standard.

At ADIPEC 2025, we're proud to showcase our latest innovations tailored for off-grid oilfield sites and microgrid applications. These solutions dramatically reduce diesel reliance, enhance energy security, and support aggressive decarbonisation goals. It's a bold vision and we're delivering it today.

But innovation doesn't happen in isolation. The future of energy demands collaboration across sectors.

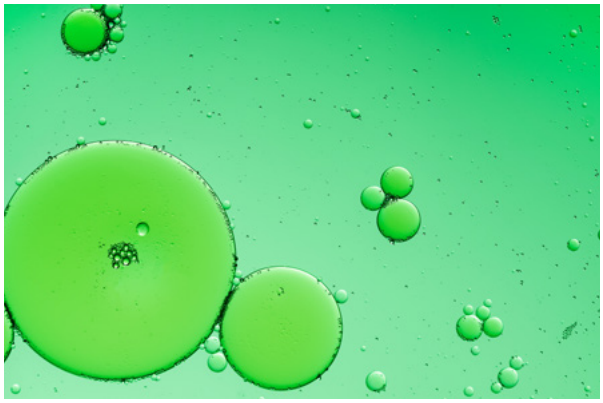
By uniting energy, technology, and finance, we can accelerate the deployment of scalable, high-impact solutions.

Together, we're not just imagining a cleaner future, we're building it.

EXHIBITOR I **SULNOX** HALL 17 I STAND 17348

ENGINE FUEL SOLUTIONS FOR A CLEANER TOMORROW

Sulnox is committed to developing its successful product line to meet the rising demand for emissions cuts



AI offers the potential to significantly accelerate energy efficiency. Data-driven insights and predictive intelligence, particularly causal AI that also harnesses a business's deeper sector knowledge, can help optimise energy usage, fuel blends, emissions monitoring, engine health and R&D efficiency across several industries.

Following the success of our core product, Sulnox Eco, the company is expanding its product innovation pipeline to meet growing demand for technologies that cut emissions and costs – without disruptive change or material capex. Sulnox Innovations will develop and commercialise next-generation solutions that support all engine fuels on the route to net zero and beyond, including enhanced biofuel performance and oil reclamation efficiency.

At its core is green emulsification: the proven combustion improvement mechanism behind Sulnox Eco. This will remain central to Sulnox's IP and innovation strategy, supported by a growing patent portfolio, plus insight and R&D capacity from Sulnox's strategic partners and scientific institutions.

The emergence of powerful AI-driven simulation platforms will be critical to taking innovation such as ours to new levels. They can demonstrate in granular detail how our product might behave under a variety of environmental conditions: for example, the development of a new formulation at a molecular level and modelling its performance across various forms of combustion engines in different industries, including shipping, rail, mining and road transport.

Supported by High Performance Computing, AI will provide faster processing capacity to solve complex calculations for energy optimisation. In turn, this will dramatically improve decision making in energy supply chains. For those evaluating our innovation ahead of adoption, it will offer more accurate and consistent test results, providing greater confidence in scaling the product's rollout. Sulnox will be excited to engage with AI-driven simulation platforms at ADIPEC, as well as other machine learning related routes to scaling and speeding our experimentation.

Transformative progress towards reconciling energy efficiency, fuel security, lower costs and reduced emissions will need a better-connected ecosystem of funders, innovators, energy providers and major industrial users. Migrating the narrative from regulation to sustainable mutual benefits is a good place to start.

EXHIBITOR I **SYNECTICS** HALL 15 I STAND 15548

AI-POWERED RISK DETECTION DRIVING ENERGY'S SAFER FUTURE

Synectics supports global operators in unlocking AI's potential to create intelligent, secure, and future-ready energy systems

AI enables energy operators to anticipate risks, respond faster, and work more efficiently, paving the way for a safer future. At Synectics, we are proud to help global operators harness AI for smarter, safer, and more resilient energy infrastructure.

One of our most impactful innovations is Synergy DETECT. Integrated into our Synergy security and surveillance software, it gives operators the ability to activate AI-driven tools – from PPE and Fall Detection to Intrusion and Loitering Detection – ensuring that risks to workforce safety and site security are flagged instantly. Whether identifying unauthorised vehicles at an onshore facility or ensuring workers remain protected in hazardous zones, Synergy DETECT enables rapid intervention, reduces false alarms, and delivers meaningful operational efficiencies.

Looking ahead, we believe AI-driven surveillance, video analytics, and automation will have the greatest impact on the industry. These technologies enhance real-time monitoring, streamline operations, and minimise downtime. As energy landscapes grow more complex, AI's adaptability will be vital in creating security and surveillance systems that evolve with the sector.

At ADIPEC 2025, we are excited to showcase Synergy DETECT alongside our COEX cameras, which deliver enhanced protection in the toughest environments. Built-in edge analytics provide intelligent surveillance that automatically monitors, detects, and alerts in real time. By processing data at the source, edge analytics reduces bandwidth demand, speeds up response, and ensures critical events are not missed. From perimeter protection and traffic management to workplace compliance, COEX cameras offer reliable, flexible performance and are fully compatible with a wide range of VMS platforms through ONVIF Profile S, G, and T compliance.

Together, these technologies enable operators to protect critical assets with greater precision and confidence, accelerating progress towards safer, smarter, and more sustainable operations.

True transformation requires collaboration. When energy and technology sectors unite, scalable AI solutions can be deployed quickly, delivering measurable impact where it matters most: protecting people, assets, and the environment. Synectics is committed to ensuring our solutions deliver real-world value for the global energy industry.

EXHIBITOR I **WEG MIDDLE EAST** HALL 11 I STAND 11420

EXTENSIVE OIL AND GAS EXPERIENCE HAS INFORMED THESE NEW ENERGY SOLUTIONS

Visitors to ADIPEC 2025 will find **WEG** spotlighting high-efficiency motors, smart drives, and integrated automation systems designed to accelerate decarbonisation digital transformation

> Decades of collaboration with leading operators have given us unique insight into the demands of high-performance, mission-critical environments.

As the global energy landscape undergoes rapid transformation, the shift toward electrification, renewables, and digitalisation is redefining how we generate, distribute, and consume power. At WEG, we believe energy transformation is not just a trend—it's a responsibility. Our mission is to lead this change by delivering intelligent, efficient, and sustainable solutions that empower industries and communities worldwide.

One standout example is our WEG Motor Scan, a smart sensor solution that enables real-time monitoring of electric motors. By collecting performance data and predicting maintenance needs, it reduces downtime, optimises energy use, and extends equipment lifespan. This innovation exemplifies how WEG combines efficiency with digital intelligence to drive measurable impact across sectors.

WEG's extensive global experience in the oil and gas industry has deeply informed our approach to future energy solutions. Decades of collaboration with leading operators have given us unique insight into the demands of high-performance, mission-critical environments. This knowledge has shaped our commitment to developing technologies that not only meet today's industrial standards but also support the transition to cleaner, more sustainable energy systems.

Looking ahead, we see electrification, AI-driven automation, and energy storage as the most transformative forces in the industry. These technologies are reshaping operational models, enabling decentralised energy systems, and unlocking new levels of resilience and flexibility. Over the next decade, their integration will be critical to achieving net-zero goals and ensuring energy equity. At ADIPEC 2025, we're excited to showcase our high-efficiency motors, smart drives, and integrated automation systems—solutions designed to accelerate decarbonisation and digital transformation. We're equally eager to explore emerging innovations in hydrogen, grid-edge technologies, and AI-powered asset management, which promise to redefine energy infrastructure.

Cross-sector collaboration is key to scaling these solutions. By bridging energy, technology, and finance, we can unlock new investment models, foster innovation, and deliver real-world impact faster. WEG actively partners across industries to co-create solutions that are not only technically advanced but also economically and environmentally sustainable.

EXHIBITOR I **TELEDYNE** HALL 9 I STAND 9413

FIELD DATA ANALYSIS, SIMPLIFIED FOR EFFICIENCY

Teledyne GDCloud turns everyday field data into the actionable insights that drive safer, more efficient gas detection

Teledyne GDCloud is a comprehensive cloud solution that elevates gas detection measurement by recording hazardous events, ensuring regulatory adherence, and streamlining safety programmes.

The ability to visualise detailed gas sensor readings from field sessions is among Teledyne GDCloud's most powerful capabilities. Users can trace the route taken by each technician during investigations by utilising its advanced location mapping functionality, enabling breadcrumb mapping to show the precise locations that correspond to all gas readings logged within the GS700 detector. When looking to pinpoint leaks, analyse hazards and document sources of emissions, this location intelligence is invaluable. Additionally, users can interact with dynamic charts and tabulated data displays to reveal further insights into field activity and events.

With powerful tools that track and analyse, Teledyne GDCloud can also support a cost-effective, efficient, condition-based fleet management programme. Functions include equipment status, fault reporting and remote diagnostics from Teledyne experts. Notably, the availability of alarm prioritisation ensures that 'important and urgent' data can be actioned before lower-level risks.

With its intuitive and customisable dashboard, Teledyne GDCloud provides total visibility into the operational and compliance status of all gas detectors within a user's fleet. Configurable widgets facilitate the organisation of key information in accordance with user preferences, while colour-coded indicators immediately highlight significant field events. These indicators highlight instruments that require imminent calibration or functional bump testing to maintain instrument performance and guarantee the ongoing capture of accurate readings.

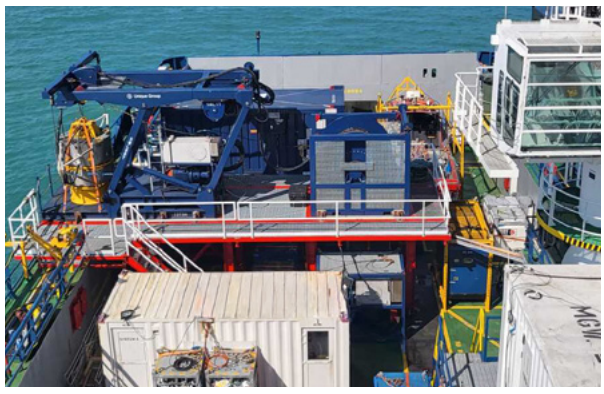
Teledyne GDCloud offers a user-friendly cloud solution for gas detection programs, featuring comprehensive compliance monitoring, visualisation of field events, and projected gaseous hazards based on location-mapped readings. It also includes meticulous record-keeping and intelligent fleet tracking. The secure and reliable cellular solution operates independently of the end user's IT infrastructure and can be quickly retrofitted to existing GS700, GS500, Shipsurveyor or PS200 instrument fleets.

During ADIPEC 2025, visitors can experience free live demos of Teledyne GDCloud and witness firsthand how it's transforming the industrial landscape.

EXHIBITOR I **UNIQUE GROUP** HALL 16 I STAND 16050

SMARTER SUBSEA RENTAL SERVICES FOR SUSTAINABLE OPERATIONS

Unique Group is delivering energy solutions, enabling operators to meet decommissioning obligations while advancing offshore renewables projects



Decommissioning has become one of the defining challenges of the offshore energy lifecycle.
It is no longer simply about removing infrastructure, but balancing safety, cost efficiency, and environmental care.
Unique Group brings an integrated approach to this critical phase.
By offering subsea assets such as Mass Flow Excavation (MFE) systems, diamond wire saws, Seaflex buoyancy lifting bags, and survey tools on a rental basis, we help operators to reduce project costs, minimise waste, and lower carbon emissions.
This shared-use model extends equipment lifecycles, avoids unnecessary manufacturing, and ensures technology is deployed only when and where it is needed, creating measurable impact across operations.

A company that is enabling sustainable progress
The global energy sector is also in transition, with cleaner and more sustainable sources reshaping offshore practices.
Unique Group stands at the intersection of this change, enabling operators to meet their decommissioning obligations while also advancing new projects in offshore renewables.
Our solutions support development, installation, and integrity management-bringing intelligence and innovation to every stage of the subsea lifecycle.
At the core of our capability is an integrated service model that connects engineering expertise, advanced subsea technology, and strategic partnerships.
From Mass Flow Excavation, cable lay, and pipeline shore pulls to subsea asset clearance and removal, our turnkey offering reduces complexity, enhances safety, and drives efficiency.
By aligning our services with evolving industry needs, we ensure that operators can meet both regulatory and sustainability expectations.

Ready to showcase services for a changing era
During ADIPEC 2025, Unique Group will highlight the latest advancements in subsea decommissioning frameworks and excavation technologies - demonstrating how integrated services are helping reshape offshore operations.
Whether through safe end-of-life solutions in oil and gas or enabling growth in renewables, our focus remains clear: delivering energy solutions with intelligence, responsibility, and impact.

EXHIBITOR | **WINTER INSTRUMENTS** HALL 3 | STAND 3570

RELIABLE DATA CENTRE PROTECTION FOR WHEN THE HEAT IS ON DURING AI'S BOOM

A regular exhibitor at ADIPEC, **Winters Instruments** will be introducing the WinSMART TY52 Smart Explosion Proof Temperature Transmitter on its stand during this edition

In recent years, AI's explosion in resource demands have pushed data centre servers to run hotter and hotter, straining their cooling systems to their absolute limits. If these cooling systems fail, overheating can shut down entire data centres. As we've already seen in the past, overheating-induced outages can have catastrophic results.

With the stakes so high, count on the WinSMART TY52 Smart Explosion Proof Temperature Transmitter as your data centre's last line of defence against a heat-induced outage. Featuring HART compatibility and Modbus communications, the TY52 is engineered to deliver precise results in even the harshest operating environments.

How WinSMART protects the heart of the AI revolution

Most data centres cool their servers by circulating chilled water in their server rooms. To keep this water cold, it needs to be constantly refrigerated with in-house HVAC systems.

But what happens when the power goes out and these refrigeration systems shut down? In most data centres, a backup system kicks in with a reserve store of cool water to keep server heat under control until power returns.

This reserve store of water is typically held in giant containers, called Thermal Energy Storage Tanks (TES tanks).

> "Our established expertise uniquely positions us as a trusted partner for scaling data centre backup systems."

This reserve store isn't constantly refrigerated – it is kept just cool enough with periodic chilling during off-peak hours to reduce energy costs.

This requires precise and accurate temperature measurement. And that is where the WinSMART TY52 shines.

Being able to precisely measure temperature is critical to helping TES technicians decide when refrigeration systems should be turned on to keep this reserve cache of water at an acceptably cool level.

If this backup water is ever needed, the TY52 ensures your data centre's last line of defence can reliably take the heat.

Scale your success with WinSMART in the AI construction boom

Amid this AI boom, the Winters team has already built a strong portfolio of experience in many data centre TES systems. Our established expertise uniquely positions us as a trusted partner for scaling data centre backup systems.

EXHIBITOR I **WIKA** HALL 10 I STAND 10850

EMPOWERING TRANSITION WITH INTELLIGENT MONITORING

In a world that demands greater efficiency, WIKA reveals how it leverages the latest technology, including AI, to deliver advanced and impactful solutions

As the energy industry undergoes rapid transformation, the need for smarter, safer, and more sustainable operations is more critical than ever.
At WIKA, we are driving this change by delivering intelligent, wireless monitoring solutions that enhance efficiency, reduce environmental impact, and support predictive maintenance across industrial environments.

Smart detection where it is most needed
Our Wireless Condition Monitoring for Rotating Machines uses tri-axial vibration, sound, and ultrasound sensors to monitor equipment in real time — regardless of age or model. It detects machine drift from a learned baseline, enabling early anomaly detection and reducing downtime.
The system integrates up to nine physical parameters and visualises insights through WIKA Advisor, empowering operators with actionable diagnostics and automatic alerts.

Applying the latest solutions to leak detection
Complementing this is our Wireless Valve Monitoring solution, developed to address a critical need in industrial operations: leak detection.
Internal valve leaks can compromise process quality, increase energy costs, and pose environmental risks.
WIKA's non-intrusive, ultrasonic-based system adapts to any valve type and fluid condition.
After a brief learning phase, it provides real-time diagnostics and alerts for suspected leaks, enabling proactive maintenance and improving operational safety.

Leveraging the power of AI
These solutions exemplify how AI-powered analytics, IoT-enabled instrumentation, and edge computing are transforming the energy sector.
Over the next decade, such technologies will enable autonomous operations, smarter asset management, and more resilient infrastructure.

Putting WIKA's latest solutions into the spotlight
At ADIPEC 2025, we're excited to showcase these innovations alongside advancements in smart instrumentation, sustainable process control, and digital integration.
These technologies will accelerate the industry's journey toward decarbonisation and digital transformation.
We believe that cross-sector collaboration — between energy, technology, and finance — is essential to scaling impactful solutions.
By aligning innovation with investment and operational expertise, we can unlock real-world change and build a more sustainable industrial future.

EXHIBITOR I **WUHAN EASTAR TOOL CO.** HALL 13 I STANDS 13614

DRILLING SOLUTIONS FOR THE GLOBAL ENERGY SECTOR

Innovative drill bits from Wuhan Eastar Tool are engineered for maximum performance in the toughest environments

Wuhan Eastar Tool Co., Ltd. is a high-tech manufacturer specialising in diamond drill bits for the oil and gas industry. Established in 1987 and headquartered in Wuhan's East Lake High-Tech Development Zone, Eastar combines decades of expertise with cutting-edge R&D to deliver reliable, high-performance drilling solutions. With ISO 9001:2015 and API certifications, our products are trusted by leading energy companies, including CNPC, Sinopec, and CNOOC, and are exported to over 20 countries worldwide.

Meeting energy challenges in 2025 and beyond
As the global energy landscape undergoes a significant transformation, Eastar is committed to advancing drilling efficiency, safety, and sustainability. Our drill bits are engineered to maximise performance in the most challenging environments, reducing non-productive time (NPT) and lowering overall operational costs. We support the industry's strategic objectives of decarbonisation and operational excellence through innovative, long-lasting tools that enhance performance while minimising environmental impact.

Why visit Eastar at ADIPEC 2025?
Join us to discover our latest generation of PDC Bits and Down Hole Tools, designed for today's complex and demanding reservoirs. Our experts will be on hand to discuss your specific project challenges and demonstrate how our precision engineering can optimise your drilling operations.

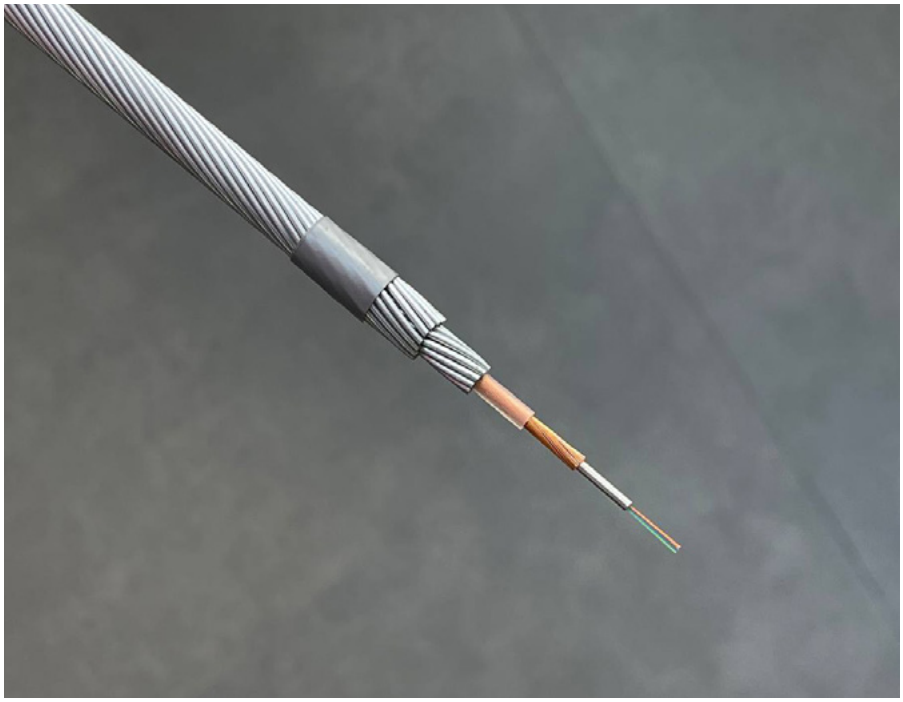
Mr. Guo Zili, Deputy General Manager, says: "ADIPEC is a premier global event for the energy industry. It provides the ideal platform to connect with international partners and showcase how Eastar's technology is driving efficiency and supporting the future of energy exploration and production."

Driving industry progress
Through AI-optimised designs, advanced materials, and a relentless focus on quality, Eastar continues to push the boundaries of drilling technology. We invite you to discuss how our tailored solutions can enhance your operational performance and contribute to a more sustainable energy future.

EXHIBITOR I **WIRES&BYTES** HALL 15 I STAND 15312

SMART SENSING FOR THE HEART OF WELL INTERVENTION THANKS TO FIBRE OPTICS

SlickLight is a smart solution from **Wires&Bytes** that embeds distributed fibre-optic sensing directly into a traditional slickline cable, letting operators perform real-time measurements during interventions



The energy landscape is evolving faster than ever. As the world transitions toward a more sustainable and data-driven future, one truth is becoming clear: intelligence is now as valuable as energy itself. At Wires&Bytes, we believe that every well, every reservoir, and every operation can – and should – think smarter.

Our role in this transformation is simple but powerful: to make intelligent sensing a reality at the core of the energy system. Through advanced fibre-optic technologies, we're helping the industry shift from reactive responses to proactive intelligence – turning the invisible into insight.

One of the most exciting innovations driving this change is SlickLight, our smart slickline solution that's redefining how well interventions are done. By embedding distributed fibre-optic sensing directly into a traditional slickline cable, SlickLight lets operators perform real-time measurements of temperature, acoustics, and strain during interventions. The result? A single, efficient run that delivers both operational performance and a live data stream from deep within the well.

SlickLight brings efficiency by reducing non-productive time, innovation by merging legacy intervention tools with modern fibre optics, and impact by improving safety and decision-making in high-risk operations.

It's a glimpse of what the intelligent oilfield – and the intelligent energy system – will look like.

As we look ahead, we see transformative technologies shaping the next decade: distributed sensing, edge analytics, AI-powered predictive modelling, and digital twins that connect every stage of the well's life. Together, they will redefine what's possible in efficiency, sustainability, and insight.

At ADIPEC 2025, we're thrilled to showcase the next generation of SlickLight – stronger, smarter, and ready for the challenges of geothermal wells, carbon storage, and advanced completions.

But more than technology, we're excited about collaboration. Real change happens when energy operators, technologists, and financiers unite to share data, de-risk adoption, and scale innovation.

Because when energy meets intelligence, the result isn't just progress – it's impact. And that's the future Wires&Bytes is building, one intelligent fibre at a time.

> When energy meets intelligence, the result isn't just progress – it's impact. And that's the future Wires&Bytes is building, one intelligent fibre at a time.

ADIPEC Venue Map

1 17 Exhibition halls

- Registration Points
- Global Energy Club
- Low Carbon & Chemicals Exhibition
- Maritime & Logistics Zone
- Digitalisation Zone
- Decarbonisation Zone
- AI Zone
- P Press Centre
- VIP Majlis - ICC (Hall 12)
- Al Maa'red Hall Delegate Lunch & Networking Area
- S Speaker Room Locations

Strategic Conference Locations

- ICC Hall
- Conference room A
- Conference room B

Technical Conference Locations

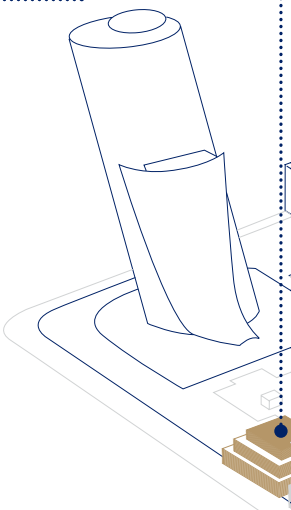
- Capital Suites - Mezzanine Floor
- Conference room A - Part A (panel sessions)

Conference Room A

- Strategic Conferences
- Technical Panel Sessions

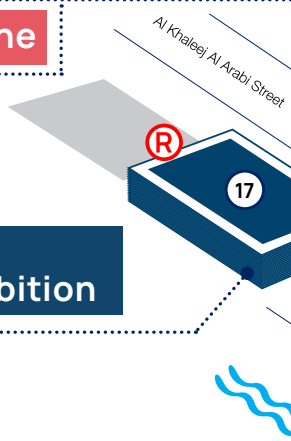
Global Energy Club

Leadership Roundtables



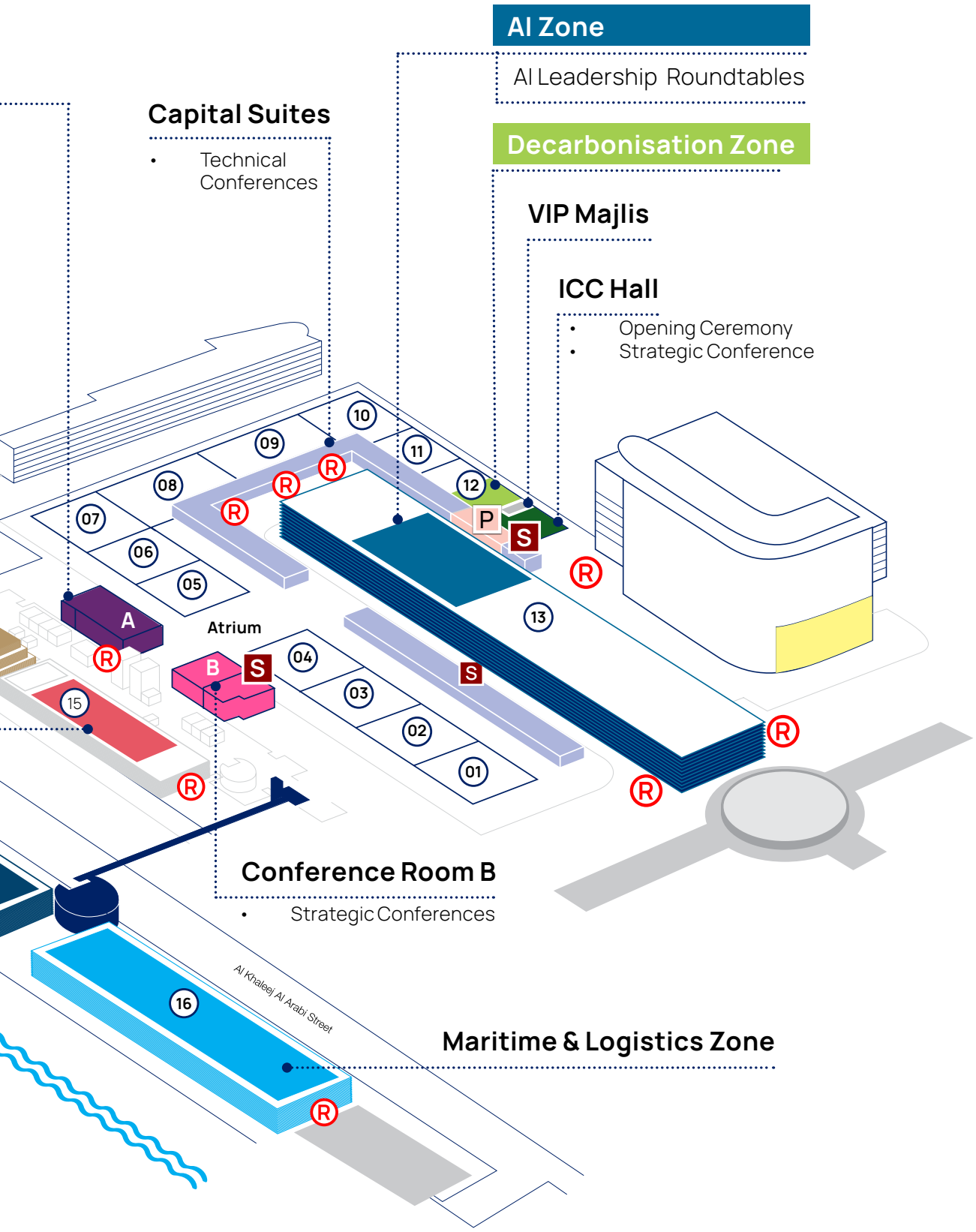
Chevron Hall

Digitalisation Zone



Low Carbon & Chemicals Exhibition

Water Front


AI Zone
AI Leadership Roundtables
Capital Suites
• Technical Conferences
Decarbonisation Zone
VIP Majlis
ICC Hall
• Opening Ceremony
• Strategic Conference
Atrium
Conference Room B
• Strategic Conferences
Al Khaleej Al Arabi Street
Maritime & Logistics Zone

Products & Solutions Guide

PAGE	SPONSORS	HALL	STAND
	62 - 120 Sponsors		
62	ABB Transmission & Distribution Ltd Llc	3	3110
64	Ali & Sons Oil Field Supplies & Services Company	6	6150
66	Arab Development Company (Ardeco)	5	5240
68	Avaxia International Technologies	Al Zone	Al P32
70	Bechtel Energy Inc.	Al Zone	Al P15
72	China Zhenhua Oil (Hong Kong) Limited	3	3220
74	CleanConnect.ai	Al Zone	Al P23
76	Data Bridge		
78	Gain.Energy Inc.	Al Zone	Al P9
80	Gecko Robotics	Al zone	Al P35
82	Geminus	Al Zone	Al P14
84	Geo Cruiser Digital For Cloud Consultancy	Al Zone	Al P26
86	Global Maritime Consultancy Ltd.	16	16180
88	Hexagon PPM Middle East FZ-LLC	15	15250
90	IKM Subsea Middle East DMCC	16	16066
92	Innobayt Innovative Solutions L.L.C	Al Zone	Al P33
94	Korea EHT Co., Ltd.	Al Zone	Al P22
96	McDermott		
98	Mitsubishi Heavy Industries, Ltd.	7	7152
100	National Marine Dredging Company	6	6130
102	Porto Marine Services L.L.C	16	16181
104	PTT Exploration & Production Public Company Limited	5	5220
106	Rock Rigid Intelligence	Al Zone	Al P8
108	Senergetics	Al Zone	Al P5
110	Sensia Solutions Sl	Al Zone	Al P20
112	Topsoe A/S	17	17151
114	Tridiagonal.ai Pvt. Ltd.	Al Zone	A1 P18
116	Weatherford	Hall 4	4340
118	Wood	6	6350
120	Wrench Solutions Private Limited	Al Zone	Al P13

PAGE	EXHIBITORS	HALL	STAND
	122-143 Exhibitors		
122	Acme Engineering Products Ltd.	Hall 3	3157
122	Aisus	Hall 8	8450
123	Ali & Sons Oil Field Supplies & Services Company	Hall 6	6150
124	Al Gharbia Pipe Company LLC	Hall 10	10612
124	Al Khamis Equipment Trading LLC	Hall 16	16029
125	Alleima Tube AB	Hall 3	316
126	Al-Badri Traders	Hall 7	7270
126	Aquab Nanobubble Innovations Limited	Hall 17	17312
127	Almansoori Petroleum Industries	Hall 6	6351
128	Arabian Ocean Marine Services LLC	Hall 6	610,614,620
128	Arva Greentech Remediation AG	Hall 1	1130
129	Aquaness Chemicals-Sole Proprietorship L.L.C.	Hall 11	11470
130	Autochim Systems Abu Dhabi	Hall 15	15118
130	Beamex	Hall 8	8554
131	Arab Shipbuilding and Repair Yard (ASRY)	Hall 16	16305
132	Beijing Muchen Fireproof Insulation Special Materials Co., Ltd	Hall 13	13653
132	Belzona Limited	Hall 15	15515
133	Bilfinger	Hall 13	13473
134	Blackline Safety	Hall 2	2460
134	Cannon Artes Spa	Hall 2	2112
135	Bosch	Hall 13	13471
136	China Classification Society CCS - Dubai Branch	Hall 16	16273
136	Dynamics Scientific, Inc.	Hall 13	13691
137	Cannon Bono	Hall 2	2112
138	Ellis Patents	Hall 16	16094
138	Enerwhere Sustainable Energy Limited	Concourse	CN34
139	Celeros Flow Technology, LLC	Hall 4	4470
140	Eniprom Gas & Oilfield Equipment and Services LLC	Hall 17	17014
140	ERGIL	Hall 11	11110
141	CiTECH Energy Recovery Solutions (UK) Ltd	Hall 1	1130
142	Exertherm by Eaton	Hall 1	1410
142	Gerab National Enterprises LLC	Hall 1	1111
143	Dolphin Energy Limited	Atrium	A130

PAGE	EXHIBITORS	HALL	STAND
	144-189 Exhibitors		
144	Heilongjiang North Shuangjia Drilling Tools Co.,Ltd.	Hall 13	13053
144	I Safe Co-Exhibitor (Autochim Systems Abu Dhabi)	Hall 15	15118
145	Dolphin Oilfield Equipment Services Company LLC	Hall 10	10212
146	ILT Tecnologie	Hall 2	2135
146	Jana Marine Service Co.LLC.	Hall 16	16065
147	Ebara Elliott Energy	Hall 12	12340
148	Jereh Group	Hall 10	10410, 10430
148	Kairos Technology AS	Hall 8	8934
149	Emdad LLC	Hall 2, Hall 3	2430,3130
150	Kirloskar Pneumatic Company Limited	Hall 13	13295
150	L&T Valves Limited	Hall 10	10215
151	Frogmen Technologies Diving Services LLC OPC	Hall 16	16217
152	Lisega	Hall 8	8852
152	LMW Global FZE	Hall 12	ELP
153	Fugro	Hall 4	4420
154	Luftsis	Hall 13	13214
154	Marlink SAS	Hall 15	15182
155	GE Vernova	Hall 7	7135
156	Maximator Abu Dhabi	Hall 8	8738
156	Mccoy Global	Hall 3	3152
157	Hexagon PPM Middle East FZ-LLC	Hall 15	15250
158	Mega Pipes Private Limited	Hall 13	13778
158	Monitra	Hall 1	1410
159	Kongsberg	Hall 9	9112
160	Nanjing Iron and Steel Group Co., Ltd.(NISCO)	Hall 16	16163
160	Next Engineering Equipments Trading	Hall 11	11640
161	Mer Marine Technologies	Hall 16	16110
162	NOV	Hall 7	7250
162	Novosound Ltd	Hall 8	8450
163	Nesma & Partners Contracting Company UJSC	Hall 5	5354
164	Numero Uno Training and Consulting LLC	Hall 17	17309
164	OCA GLOBAL	Hall 17	17331
165	NOVELTECH SURVEYS	Hall 16	16186
166	OceanAlpha	Hall 16	16187
166	Offshore Marine Trading LLC	Hall 16	16162
167	OGS / Oil & Gas Systems Limited	Hall 4	4420
168	OMAL SPA SOCIETA' BENEFIT	Hall 15	15390
168	Pemamek	Hall 9	9574
169	OsecoElfab	Hall 8	8435
170	Pesco Holding	Hall 17	17328
170	PETROLVALVES SPA	Hall 2	2350
171	PERGAM GROUP	Hall 4	4210
172	Premaberg Manufacturing Ltd	Hall 15	15541
172	PROCONTROL SRL	Hall 2	2136
173	Rockwell Automation Europe B.V.	Hall 15	15140
174	Prometheus Group	Hall 15	15650
174	Reda Materials & Equipment LLC	Hall 9	9534
175	Schneider Electric FZE	Hall 4	4250
176	RelyOn	Hall 11	11310
176	RITTAL FZE	Hall 17	17272
177	SENSORLINK	Hall 9	9530
178	Sap & Kaps Petroleum Services - LLC	Hall 8	810
178	QYSEA Technology	Hall 16	16005
179	Sinopec Group Middle East Office	Hall 16	16145
180	Shipworkz Marine Services LLC	Hall 16	16206
180	SKF Magnetic Mechatronics	Hall 9	9239
181	Stone Ridge Technology	Hall 15	15268
182	SORB ®XT - Allegro Capital, Logistics, Services & More GmbH	Hall 8	8816
182	Spectrum Groupe	Hall 15	15471
183	Super Technical FZCO	Hall 3	332
184	Sulnox Group Plc	Hall 17	17348
184	Synectics	Hall 15	15548
185	WEG Middle East FZE	Hall 11	11420
186	Teledyne Oldham Simtronics	Hall 9	9413
186	Unique Group FZC	Hall 16	16050
187	Winters Instruments Ltd	Hall 3	3570
188	WIKA Middle East FZE	Hall 10	10850
188	Wuhan Eastar Tool Company Limited	Hall 13	13614
189	Wires&Bytes	Hall 15	15312

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