Defining the Next Normal

for Operations & Maintenance

HEXAGON

As digital disruption continues to alter how and where work gets done, it is more important than ever to make bold, strategic moves to not only survive but to sustainably thrive by changing the rules of the game.

Industry fundamentals have changed. The rules of the next normal will be defined by the companies that embrace digital transformation — those who invest in innovation, pivot their operating models and outperform the competition by leveraging data to its full potential.

Hexagon's PPM division exists for moments like this.

Empowering an Autonomous Future

Hexagon is a global leader in sensor, software and autonomous solutions.

▶ We put data to work to boost efficiency, productivity and quality across industrial, manufacturing, infrastructure, safety and mobility applications.

▶ Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon is committed to a simple, yet powerful purpose: Putting data to work to empower an autonomous future.

Hexagon has a bold vision where business, industry and humanity sustainably thrive.
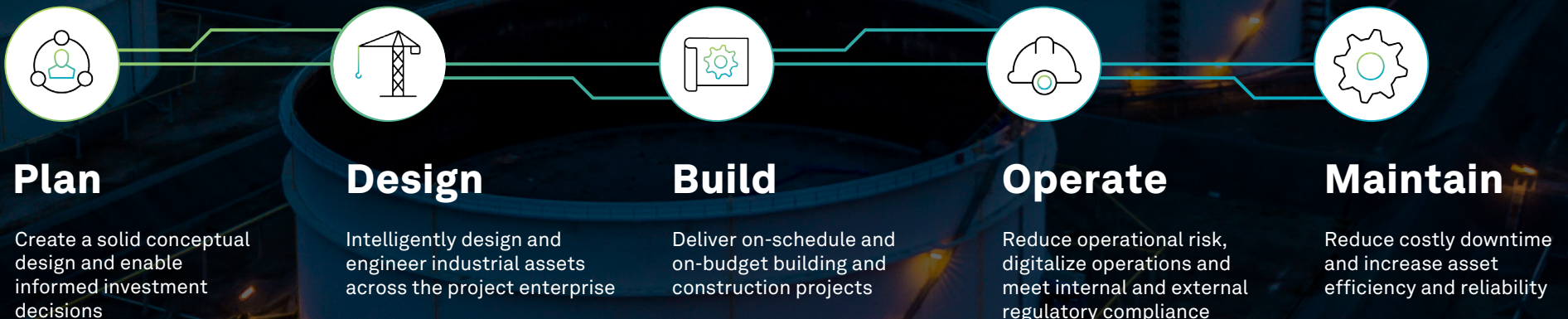
Digitally Transforming How Business Gets Done

Hexagon's PPM division is the leading global provider of enterprise engineering software, enabling smarter design and operation of plants, ships and offshore facilities. With 50+ years of experience in delivering innovative industrial software, Hexagon solutions transform unorganized data into intelligent, actionable information that enables smarter design, construction and operation of industrial projects across the asset lifecycle.

Our solutions are **changing the conditions under which business is done**, in ways that transform the expectations for every stakeholder.

Putting unused data to work is your industry's greatest opportunity. **In 2013, SINTEF — one of Europe's largest research organizations — reported that 90% of the world's data had been generated over the last two years.** In 2014, International Data Corporation (IDC) predicted that the digital universe would grow by a factor of 10, from 4.4 ZB in 2013 to 44 ZB in 2020; in 2018 IDC also predicted this would rise to an incredible 175 ZB by 2025! It's time to utilize your data and quickly benefit from the value of a comprehensive digital twin to optimize the design, engineering, construction, operation and maintenance of your industrial assets.

Plan
Create a solid conceptual design and enable informed investment decisions

Design
Intelligently design and engineer industrial assets across the project enterprise

Build
Deliver on-schedule and on-budget building and construction projects

Operate
Reduce operational risk, digitalize operations and meet internal and external regulatory compliance

Maintain
Reduce costly downtime and increase asset efficiency and reliability

Visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operations throughout the entire asset lifecycle.
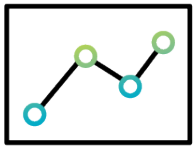
Effecting Change in Disruptive Times

Hexagon is uniquely positioned to enable customers to seize this historic opportunity to define and create the next normal through digital transformation.

Your Challenges:

Project Delays and Losses

Declining Productivity

Lost Contracts/Bids

Disconnected Data and Processes

Increasing Operational Risk and Cost
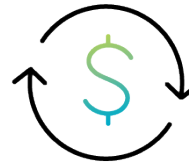
Our Proven Outcomes:
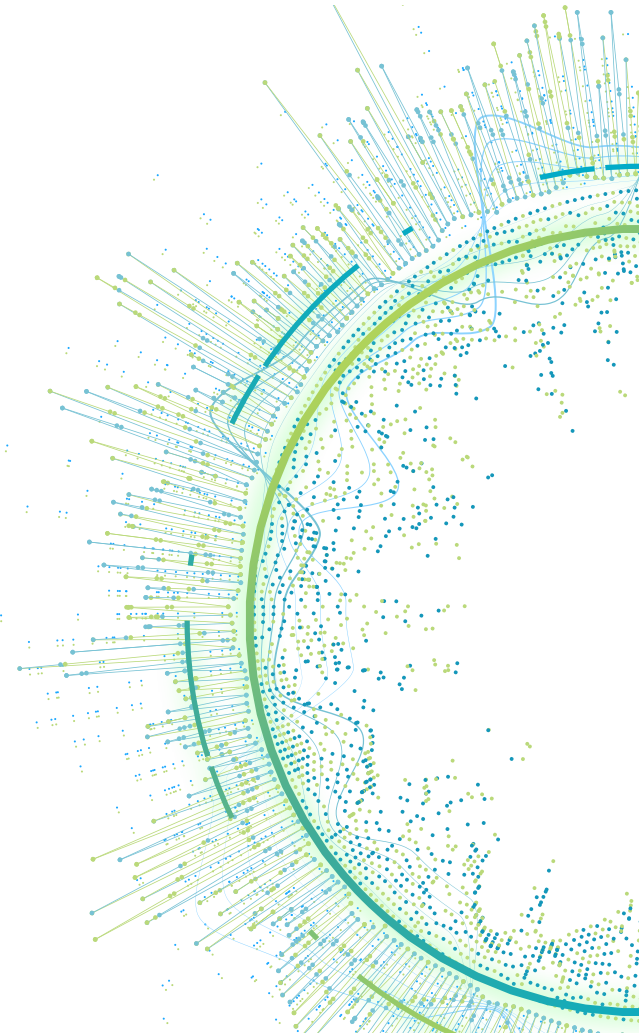
20-30%
Increased
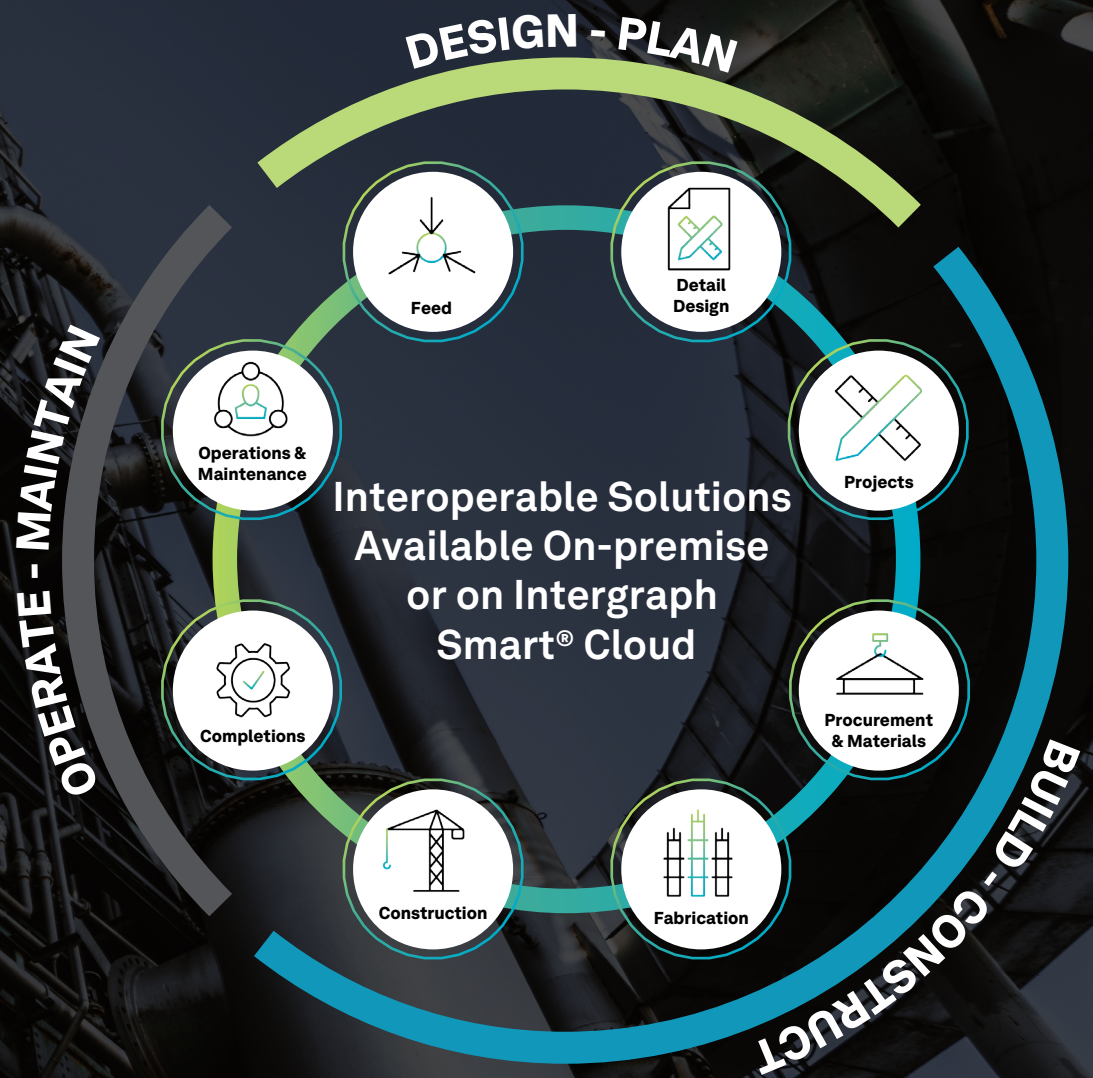Productivity

15-25%
Schedule
Compression

10-15%
CapEx
Savings

Solutions for the Complete Asset Lifecycle

In any large engineering project, we see discrete roles within a connected ecosystem. From concept and design through to plant operations, maintenance and decommissioning. Hexagon enables data governance of a plant's engineering information, connecting it across the physical asset, through to process and regulatory requirements. Our technology portfolio can scale across any project, offering a full suite of solutions for projects of all sizes and varying complexities.

DESIGN - PLAN

OPERATE - MAINTAIN

BUILD - CONSTRUCT

Feed

Detail Design

Projects

Procurement & Materials

Fabrication

Construction

Completions

Operations & Maintenance

Interoperable Solutions Available On-premise or on Intergraph Smart® Cloud

Operations & Maintenance Solutions

Many companies are still using paper, spreadsheets and word processor documents to document and manage the execution of safety-critical industrial processes such as control of work, operator rounds, shift handover and the capture of operator shift logs. j5 Operations Management Solutions enable industrial facilities to reduce operational risk, digitalize operations and meet internal and external regulatory compliance.

Digitalize Human Operations Processes & Procedures
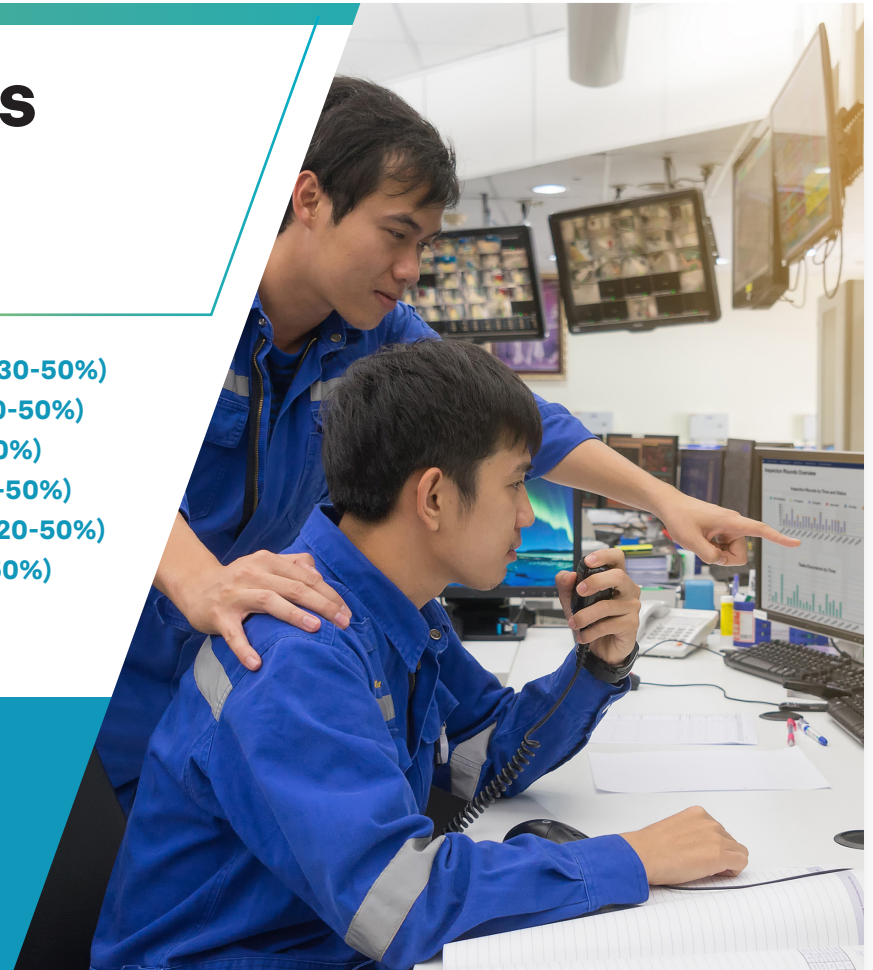
KEY BENEFITS

- Reduce operational risk
- Digitalize operations
- Meet compliance
- Decrease downtime
- Quick-time-to-value

PROVEN OUTCOMES

- ▶ Enhanced situational awareness **(30-50%)**
- ▶ More accurate shift handovers **(30-50%)**
- ▶ Increased asset availability **(20-50%)**
- ▶ Better workforce productivity **(20-50%)**
- ▶ Improved regulatory compliance **(20-50%)**
- ▶ Reduced maintenance costs **(10-50%)**

OUR SMART SOLUTIONS

≫ **j5 Operations Management Solutions**

Operations & Maintenance Solutions

HxGN SDx® uniquely combines human operations processes and procedures, maintenance work orders, real-time and historical process data, engineering schematics and technical documentation with 3D models and laser scans, enabling a comprehensive digital twin for operations.

Connect Operational Data

KEY BENEFITS

- Reduce operational risk
- Increase asset efficiency
- Enhance productivity
- Decrease OpEx
- Interoperability

PROVEN OUTCOMES

▶ **70%** productivity savings in documentation and completion of inspections by Deepwater Subsea, USA

▶ **95%** saving in time retrieving and searching for quality evidence post inspection

OUR SMART SOLUTIONS

》 HxGN SDx

Operations & Maintenance Solutions

HxGN SDx can be connected to j5 Operations Management Solutions and third-party industrial data sources such as Aspen InfoPlus.21®, IBM Maximo®, SAP® PM and the OSIsoft™ PI System™ to provide a consolidated, role and context relevant view of information. The Alarm Management, Boundary Management, Control Loop Performance, IPL Assurance and High Performance Human-Machine Interface (HPHMI) capabilities of PAS PlantState Integrity™ adds further value and interoperability to organizations investing in a digital roadmap guided by Hexagon.

Interoperability: The Key to a Digital Twin for Operations

KEY BENEFITS

- Data-driven decision making
- Single pane of glass
- Reduce data silos
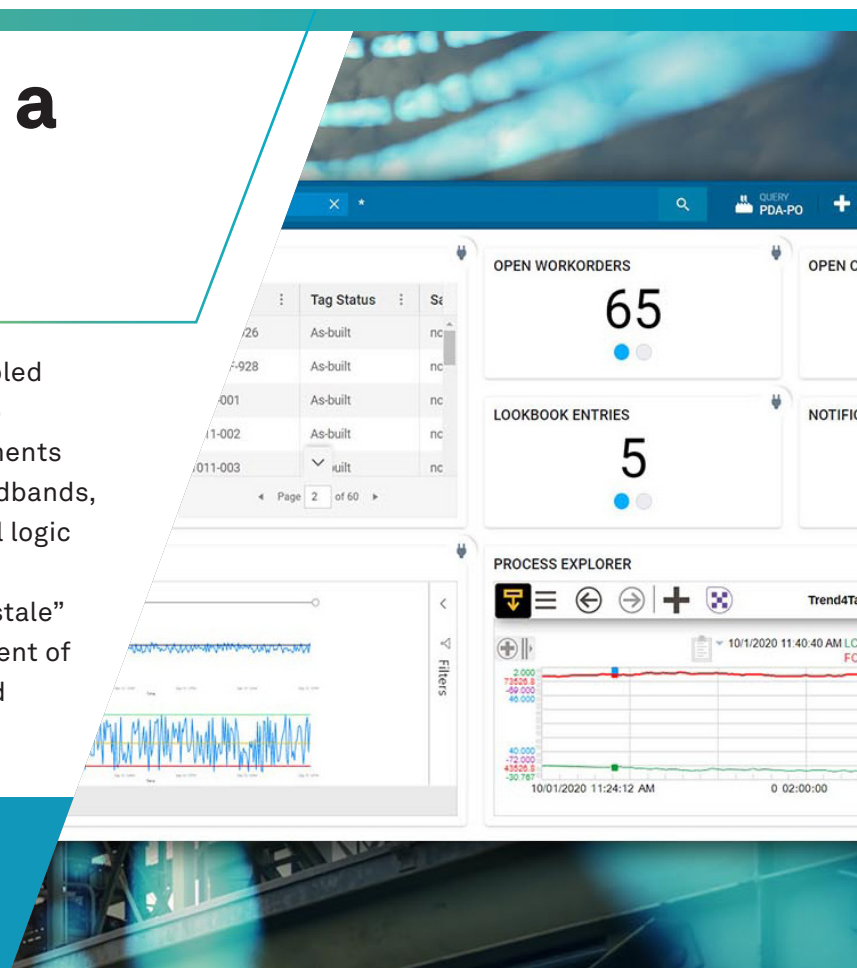- Quickly find related information
- Connect industrial software

PROVEN OUTCOMES

▶ PAS PlantState Integrity has enabled Contact Energy in New Zealand to achieve **60%** alarm rate improvements by adjusting alarm setpoints, deadbands, delay times and improving control logic

▶ **65%** reduction in long-standing "stale" alarms, contributing to improvement of operators' alarm-related workload

≫ **HxGN SDx**

≫ **PAS PlantState Integrity**

≫ **j5 Operations Management Solutions**

Operations & Maintenance Solutions

On the journey to digital maturity, keeping your operations running safely and smoothly — and protected from cyber threats — is vital to prevent unnecessary interruption to your enterprise.

Protect Your Digital Investments

KEY BENEFITS

- Protect industrial control systems against cyber threats
- Identify critical endpoint vulnerabilities & risks
- Accelerate forensic analysis & incident response
- Prevent unplanned shutdowns
- Enable rapid recovery

PROVEN OUTCOMES

▶ A Fortune 500 downstream oil and gas company in the USA is reducing inventory, vulnerability and compliance documentation efforts by **70%** percent or more

OUR SMART SOLUTIONS

»» **PAS Cyber Integrity™**

Operations & Maintenance Solutions

A digital twin enables asset owners and operators to build and maintain an information management data ecosystem throughout the asset lifecycle, allowing for a continuous journey of operational excellence.

End Goal: Build, Maintain & Evolve a Digital Twin

KEY BENEFITS

- Advanced artificial intelligence (AI)
- Connect workers
- Interoperability
- Intelligent documentation
- Enhance situational awareness & visualization

PROVEN OUTCOMES

▶ "Using the Hexagon technology, we built a 3D model of our plant that's so up-to-date, no one else has the equivalent in our industry. That's a definite competitive advantage, that somebody sitting at their desk can pull out engineering information instantly in a 3D visualization."

Alan Keith Chan
Controls, Information Management and Automation Manager
CNRL

OUR SMART SOLUTIONS

- **HxGN SDx**
- **j5 Operations Management Solutions**
- **Luciad**
- **PAS PlantState Integrity**
- **PAS Cyber Integrity**
- **Xalt**

Data Leverage:
Prepare for the Next Normal

Companies can choose to fall back on their old status quo, or they can adjust to the changing environment and reinvent themselves to seize the opportunities created by digital transformation.

When data is leveraged, transformative change happens.

Hexagon solutions are empowering customers to accelerate their digital transformation and gain the competitive advantage they need to thrive in the next normal.

Digital Transformation Partners

Leading companies partner with Hexagon to achieve their digital transformation.
Hexagon's operations and maintenance solutions are used by companies across the world such as:

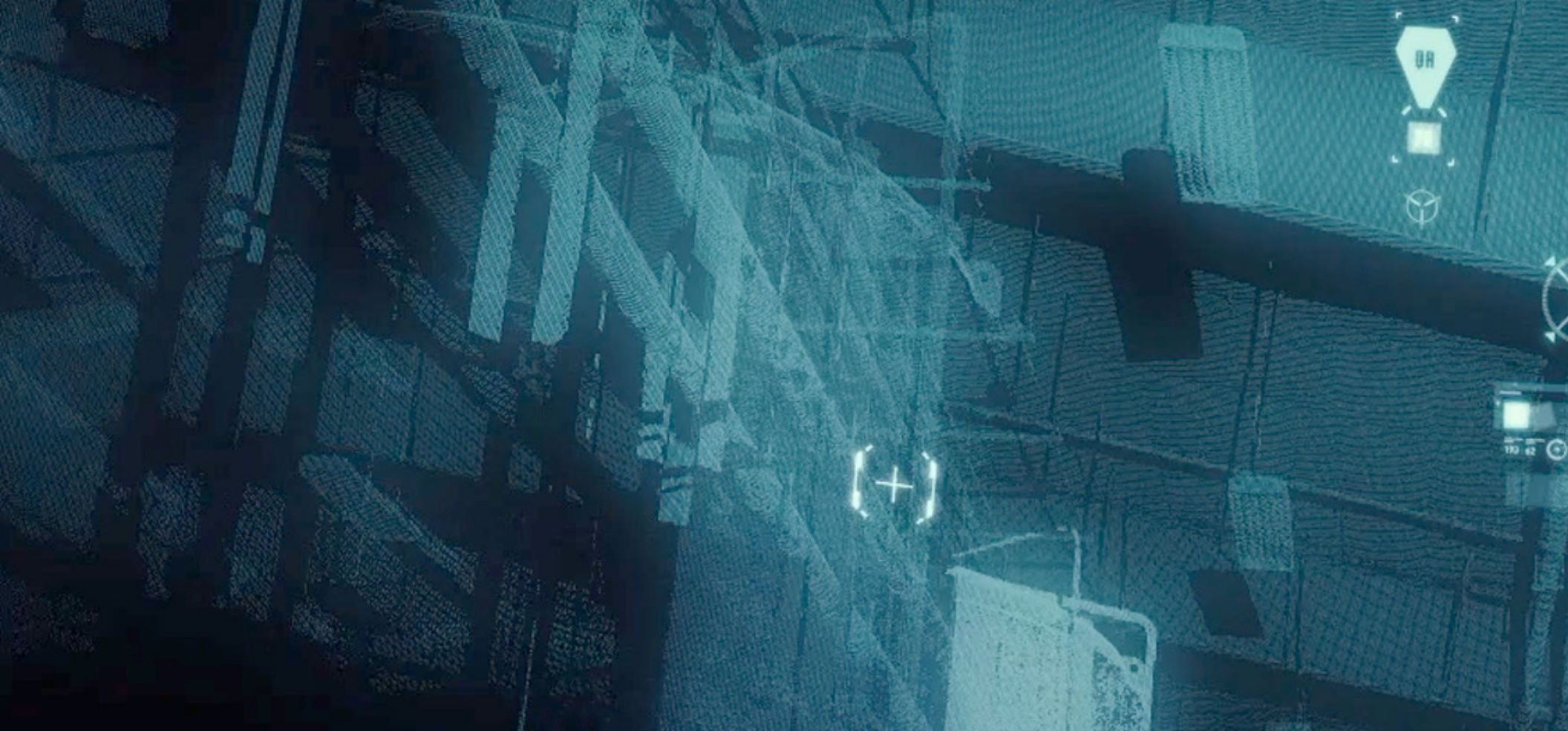|		
AGL Energy	Contact Energy	INPEX
AW North Carolina	Deepwater Subsea	Salt River Project
Calpine	DSM	Saudi Aramco
City of London Wastewater	ENEOS	Showa Denko
Treatment	ESRF	SLNG
CNRL	Infineum	Thames Water

About Hexagon

Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity and quality across industrial, manufacturing, infrastructure, safety and mobility applications.

Learn more at **hexagonppm.com**   Follow us at **@HexagonPPM**

Contact us **here**