Accelerate your digital transformation journey to operational excellence

Hexagon's solutions can help your operations and maintenance teams prepare for tomorrow, today!

Investing in a comprehensive, interoperable and enterprise-scalable digital transformation strategy will accelerate your continuous improvement efforts in this ever-changing economic landscape. It will also promote the long-term resilience of your company's safety performance, workforce and asset productivity and provides your business with the competitive edge it needs to perform at its best. As your trusted digital transformation partner, Hexagon's operations and maintenance solutions can help you create intelligent information from disparate sources including **unstructured** disconnected data, documentation and **structured** digital data sources and existing databases. Hexagon's solutions also help you find and resolve duplicate data and consolidate information to reduce operational risk, increase efficiency, decrease downtime, remove value leaks and meet internal and external compliance. Here is how we can work with you to implement your operational excellence digital transformation roadmap, step-by-step.

Step 1 — Digitalize operational processes, procedures and permits

The creation of a solid operations management data ecosystem by digitalizing your operational processes, procedures and permits is a strong first step on the road to digital transformation. Critical asset, situational, qualitative and quantitative information should be captured, structured and stored digitally and more importantly, organized and made available to support safety-critical operational processes. **j5 Operations Management Solutions** can take your shift, operator rounds, personnel, safety, maintenance and process information and make it visible and viable to users across the entire organization. This on-premise, or SaaS, solution is designed to foster greater communication, coordination, transparency and knowledge transfer between teams that in turn leads to improved safety and productivity, reduced operational risk and a more empowered and engaged workforce. j5 Operations Management Solutions offers a unique, straightforward digitalization approach with its patented spreadsheet-like configuration environment. This distinctive yet familiar low-code/no-code approach enables personnel to quickly manage changes without requiring expensive and slow vendor and IT services, accelerating operational continuous improvement so your information collection and sharing is always up to date and reflective of your operations. This distinction allows j5 Operations Management Solutions to be a quick-time-to-value investment, with high flexibility and a lower total cost of ownership.

Reinforcing this first step with an industry-leading knowledge management suite aimed at making human performance better through digital tools and connection to the modern process industry solutions used today is critical.

AcceleratorKMS is an industry-leading solution that expedites the digital transformation of paper-based, high-risk operational procedures and work processes. However, it also enables organizations to easily manage, govern and distribute the up-to-date critical operational content field workers require to keep operations running optimally and learn faster. AcceleratorKMS is a purpose-built and industry-leading Knowledge Management System for critical operational content. The digital system includes Procedure Lifecycle Management (PLCM), a Connected Worker Platform (CWP), a Learner Experience Platform (LXP) and a Component Content Management System (CCMS). The combined capability facilitates solutions to many critical problems experienced in workplaces across America and around the world. The system provides an integrated digital content ecosystem in an easy-to-use and intuitive package focused on making the complex simple.

Proven business outcomes

These are quantitative benefits that were reported by surveyed j5 Operations Management Solutions customers in 2020:

- 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%**)
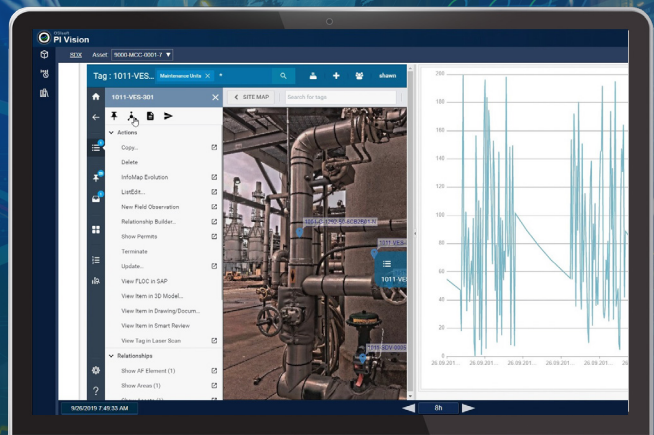- Reduced maintenance costs (**10%-50%**)

> **The implementation of j5 Operations Management Solutions across the water control function has given greater visibility of ongoing issues and given us a consistent and accountable shift handover tool."**
>
> **- Ant Tyler, Systems Operations Compliance Manager, Thames Water, U.K.**

> **To me it's completely game-changing to have all this information readily available on one screen. This is the first time an end user can go to one place and get all the operations, maintenance, engineering and process data they need to do their duties. By having all this information readily available in a digital twin, I believe this is an industry first for the oil and gas industry, where it has been difficult to monitor remote assets and equipment in dangerous areas."**
>
> - Michael Fry, President and CEO, Deepwater Subsea, USA

Next, organizations must bridge the islands of crucial information and records in numerous formats on separate systems and digitally connect them to operational processes, procedures, permits and data to help reduce operational risk, increase efficiency, decrease downtime, remove value leaks and meet internal and external compliance. With PAS AlarmManagement™ you can easily implement industry-wide best practices to streamline and improve your alarm systems and operator effectiveness. PAS ControlWizard™ and PAS TuneWizard™ work together to monitor, assess and tune your control loops to ensure optimal performance, robust control and improve overall safety and reliability. PAS InBound® helps you create a master database of operational limits. With it, you can ensure alignment across all your sources of record and analyze your performance against those limits. PAS IPL Assurance® provides visibility into your Independent Protection Layers (IPL), making it easier to assure your operations are safe to run. And the **PAS Solution portfolio** is interoperable with j5 Operations Management Solutions. Adding further value to organizations investing in a digital transformation roadmap guided by Hexagon. Companies can further enhance information connection and interoperability by aggregating operational data and enabling a digital thread framework with **HxGN SDx®**. This central asset lifecycle information management (ALIM) solution is strategically designed to capture, organize and link large volumes of information, in context and provides web-based access to your authorized personnel. Available as an on-premise, or SaaS solution, it can be adopted by any facility without introducing new software or investments in IT infrastructure. HxGN SDx is a **CFIHOS**-compliant, ALIM digital platform that centralizes and unites operations, maintenance, safety, engineering and real-time data. HxGN SDx can be connected to Hexagon technology such as j5 Operations Management Solutions and third-party industrial data sources such as Aspen InfoPlus.21®, IBM Maximo®, SAP® Plant Maintenance (PM) and the Aveva™ PI System™ to provide a consolidated, role and context-relevant view of information.

Proven business outcomes

Contact Energy (New Zealand)
60% alarm rate improvements by adjusting alarm setpoints, deadbands, delay times and improving control logic and **65%** reduction in long-standing "stale" alarms, contributing to improvement of operators' alarm-related workload

Deepwater Subsea (USA)
70% productivity savings in documentation and completion of inspections and **95%** saving in time retrieving and searching for quality evidence post inspection

Step 3   Protect your digital investments

On the journey to digital maturity, keeping your operations running safely, smoothly and protected from cyber threats is vital to prevent unnecessary interruption to your enterprise. There is no shortage of reports or news outlets raising the alarm on cybersecurity awareness. The ARC Advisory Group[1] (2019) reported that "many industrial operations remain at risk of costly, disruptive cyber incidents." Its analysts recommended that "all industrial companies consider software like **PAS Cyber Integrity™** as a foundational element of a defense-in-depth cybersecurity strategy." This solution also provides numerous significant customer benefits such as: discovering and automatically maintaining a complete inventory of OT assets inventory and enabling workflows and documentation for vulnerability remediations and compliance with ISA/IEC 62443, ISO 27001/2, NERC-CIP,[2] NIST and the NIS Directive, as well as other standards and regulations, accelerating recovery with backups of critical control system data and supporting in-depth forensic analysis. ARC Advisory Group also noted that the solution's capabilities support the execution of critical tasks in the "Secure Systems" and "Incident Management" processes identified in its "Industrial/OT Cybersecurity Maturity Model." This includes functionality for developing and maintaining asset inventories, identifying, evaluating and managing system vulnerabilities, detecting and managing unexpected system changes and analyzing and visualizing system security risks.
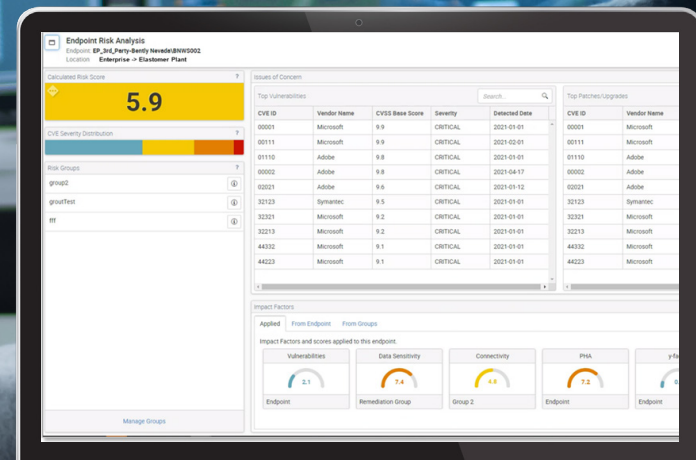
Proven business outcomes

- Speeds time to recovery from major events, cyber incidents and unplanned outages

- Reduces inventory and documentation effort by **70%** or more

- Improves productivity by **20%** to **50%** via always-on change management insight into OT/ICS configurations
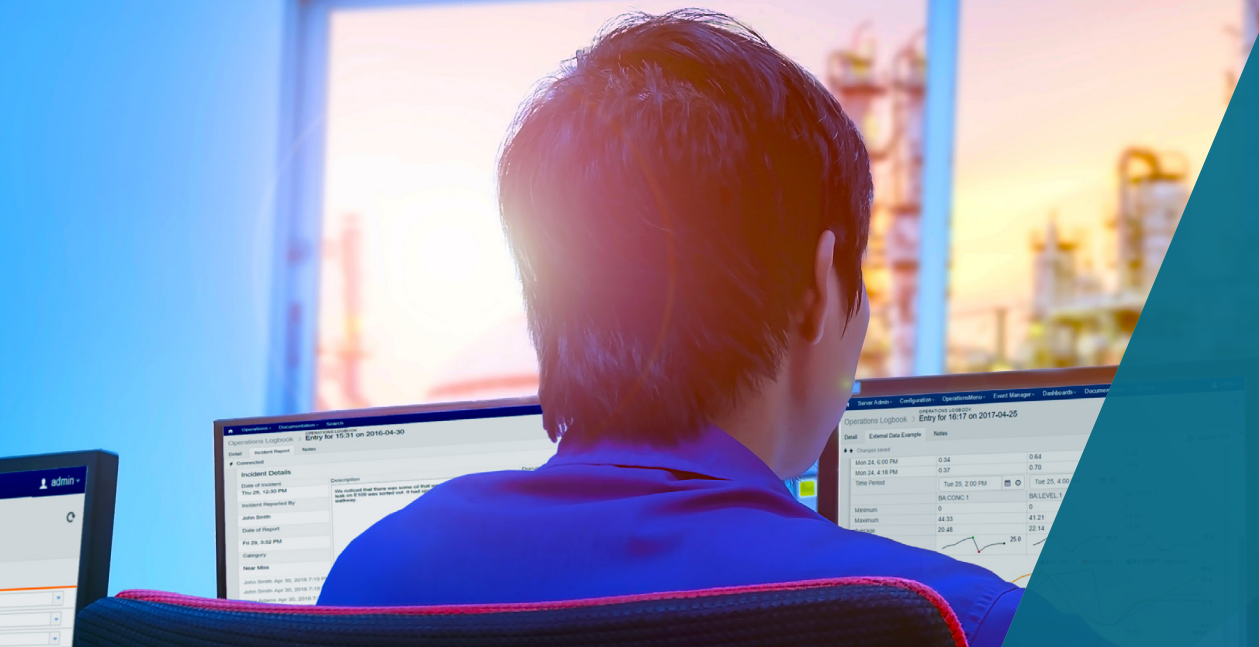
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[1] ARC Advisory Group, "PAS Global Cyber Integrity Helps Secure Industrial Control Systems"
[2] NERC, "CIP Standards"

> ❝ **In industrial facilities, you typically find an array of proprietary ICS that are difficult to inventory, which subsequently makes monitoring for change and vulnerabilities a security challenge. As these systems have direct authority over process safety and production, there is unaddressed cybersecurity risk within a facility environment. Hexagon has architected its software to cover these systems, and its customers have testified to Hexagon's effectiveness in reducing security risk."**
>
> **- Vikrant Gandhi, Industry Director, Frost & Sullivan, USA**

> "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, Canada**

End Goal   Build, maintain and evolve a digital twin

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. By deploying a comprehensive digital twin, complex data can be analyzed and transformed into actionable information. The significance of this ultimate digital platform is that it opens the door to the competitive advantages made possible by using predictive and prescriptive analytics, artificial intelligence (AI), machine learning and automated decision-making across the value chain. **Hexagon's Situational Awareness solution** — powered by **Luciad** — boosts your operations and empowers your workforce by delivering to them a valuable, data-driven experience that encapsulates easily consumable, timely information regarding past events (what's happened), present facts (what's happening now) and future predictions (what could happen/what should happen/what's scheduled to happen). Therefore, seamlessly connecting your safety-critical operations processes, procedures and permits, alarm management methodology, maintenance work orders, real-time and historical process data, engineering schematics and technical documentation with 3D models, laser scans and cybersecurity safeguards enables a robust and comprehensive digital twin for your entire operation.

Accelerate Your Digital Transformation Journey to Operational Excellence

Employee Safety and Fatality Prevention: Risk Mitigation and Workforce Accountability

Digitalizing and automating operational processes such as area and shift handovers, permitting and inspections enables an additional level of situation data to be collected and insights into workforce compliance and efficiency. These new insights help close operational gaps that create safety risks and help improve your operations to save time and money.

Workforce Productivity: Decrease Operating Expenses (OpEx)

Optimized assets, reduced downtime, enhanced productivity and better safety compliance all contribute to lower OpEx and higher profitability. Technology is now allowing a larger percentage of the operational workforce to work remotely, which has been shown to increase employee engagement and happiness while reducing hazard exposure hours.

Asset Productivity: Increase Efficiency

Empower your workforce to make informed decisions in real-time with the information they need, when they need it, and where they need it — via desktop, laptop or mobile devices. With digitalize processes, the information you need is always on hand, there's no need to search for paperwork from a previous shift or interrupt a co-worker who's on break or vacation.

Employee Safety and Fatality Prevention: Meet Compliance

When you need clear, concise and current records for local, state or federal regulatory compliance requests and procedures, having your data locked in a physical paper trail can lead to unnecessary delays and misinformation. Digital records allow you to instantaneously deliver accurate, current and complete information to internal and external regulators.

Workforce Productivity: Save Time

From the office to the field, personnel can save hours each day with digital access to the right information at the right time. Instead of spending precious time sorting through paper documents or multiple systems to track, access and manage vital operational information, your personnel can put your data and their skills to work optimizing and improving operations.

Asset Productivity: Reduce Operational Risk

Workforce safety is improved when you reduce the chances of human error due to reliance on physical paper, especially when it comes to equipment inspections and shift handovers. Digitalizing these processes ensures the right equipment and readings are inspected at the right time and assists employees in quickly highlighting when equipment is operating out of its specified ranges.

Introducing R-evolution

In February 2021, Hexagon launched a new business venture, **R-evolution**, to further develop its sustainability agenda, which include climate goals to significantly reduce its own carbon footprint. R-evolution will invest in and run profit-driven, sustainable projects that leverage Hexagon's technology to accelerate the world's transition to a sustainable economy. The first set of investments, centered around renewable energy, will involve the construction and operation of solar farms in Andalusia, Spain, producing energy with 50,000 tonnes less CO_2 equivalents per annum than the grid's residual mix.

Hexagon offers more than just software. We're there to support you every step along the way of your digital transformation journey with industry leading expertise and an arsenal of services to help you launch initial system deployments in days, adapt industry standards and best practices into your deployments, swiftly resolve complex issues in your core operations such as too many alarms and poorly designed displays. Together software, expertise and services from Hexagon help you modernize and simplify your operations, better support your operators and provide actionable information everywhere its needed to meet your business goals while ensuring reliable and compliant operations.
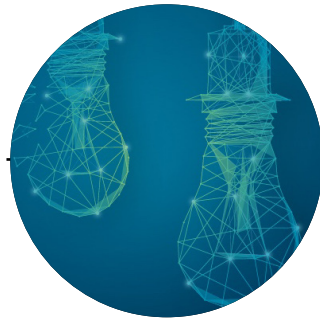
Working with a Trusted Digital Transformation Partner

As **YOUR** trusted digital transformation partner, we provide evolving solutions that allow people to design, engineer, construct, operate and maintain industrial assets with state-of-the-art technology backed by a team of global experts and research. Together, we are co-creators of the smart solutions that improve today, work tomorrow and empower adaptive change. Putting data to work — to boost safety, efficiency, productivity and quality outcomes — are values we share with you.
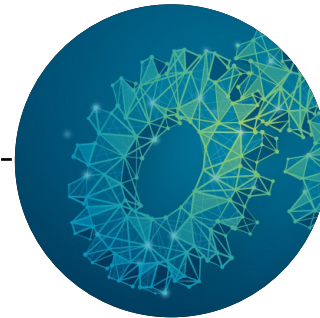
Our focus is on autonomy

Leveraging data to its fullest potential is the outcome we want – **moving beyond automation to autonomy**
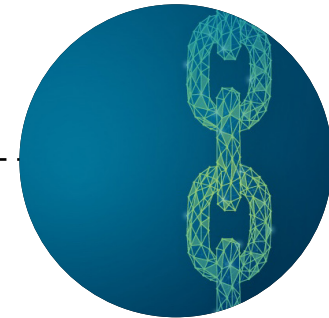
Our commitment is to innovation

With **nearly 4,000 employees in R&D and thousands of active patents** our technology leadership is clear

Our value is strategically vital

Efficiency, **productivity** and **quality** result in scalable sustainability – fewer resources, less waste and less pollution

Our stability is consistently proven

Sales growth from €500 million in 2000 to **€5.2 billion** in 2022 with approximately **24,000 employees** across **50 countries**

About Hexagon's Asset Lifecycle Intelligence division

Hexagon's Asset Lifecycle Intelligence division helps clients design, construct and operate more profitable, safe and sustainable industrial facilities. We empower customers to unlock data, accelerate industrial project modernization and digital maturity, increase productivity and move the sustainability needle. Our technologies produce actionable insights that enable better decision-making and intelligence across the asset lifecycle of industrial projects, leading to improvements in safety, quality, efficiency and productivity, which contribute to Economic and Environmental Sustainability. 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.
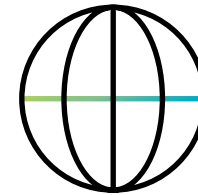
Awarded Solutions Provider

Ranked No. 1 over 13 consecutive years, across **5 different categories,** recognized in 2019 by ARC Advisory Group
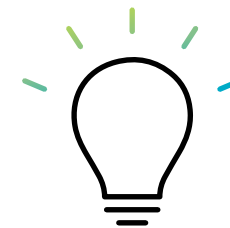
Global Presence

More than **4,000 employees**, with offices in **50 countries**

R&D Focused

More than **19%** of total revenue invested in 2022

Innovative

More than **40 registered patents** around the world

HEXAGON

About Hexagon

Hexagon is the global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Asset Lifecycle Intelligence division helps clients design, construct, and operate more profitable, safe, and sustainable industrial facilities. We empower customers to unlock data, accelerate industrial project modernization and digital maturity, increase productivity, and move the sustainability needle.

Our technologies produce actionable insights that enable better decision-making and intelligence across the asset lifecycle of industrial projects, leading to improvements in safety, quality, efficiency, and productivity, which contribute to Economic and Environmental Sustainability.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 24,000 employees in 50 countries and net sales of approximately 5.2bn EUR. Learn more at **hexagon.com** and follow us **@HexagonAB**.