EBOOK

Accelerate your digital transformation journey to operational excellence

Connected data. Confident operations.
Stronger performance.

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Introduction

Accelerate continuous improvement at scale with a connected, enterprise-ready digital transformation strategy.

Strengthen safety, workforce performance and asset productivity, giving your business a clearer competitive edge.

Octave solutions turn disconnected information into actionable insights across systems and data sources.

By connecting and contextualizing data, Octave helps organization reduce duplication, improve efficiency, minimize downtime and support compliance.

In this eBook, see how Octave helps bring your operational excellence roadmap to life, one step at a time.

Step 1
Digitalize operational processes, procedures and permits

Creating a strong operations management data ecosystem by digitalizing operational processes, procedures and permits is an important step in advancing digital transformation. Critical asset, situational, qualitative and quantitative information should be captured, structured and stored digitally and, more importantly, organized and made accessible to support safety-critical operational processes.

Octave Tempo Operations Management (formerly 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 for improved safety and productivity, reduced operational risk and a more empowered workforce. Tempo Operations Management offers a unique, straightforward digitalization approach with its 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. It accelerates continuous operational improvement ensuring information collection and sharing stays current and aligned with operations. This makes Tempo Operations Management a quick-time-to-value investment, with high flexibility and a lower cost of ownership.

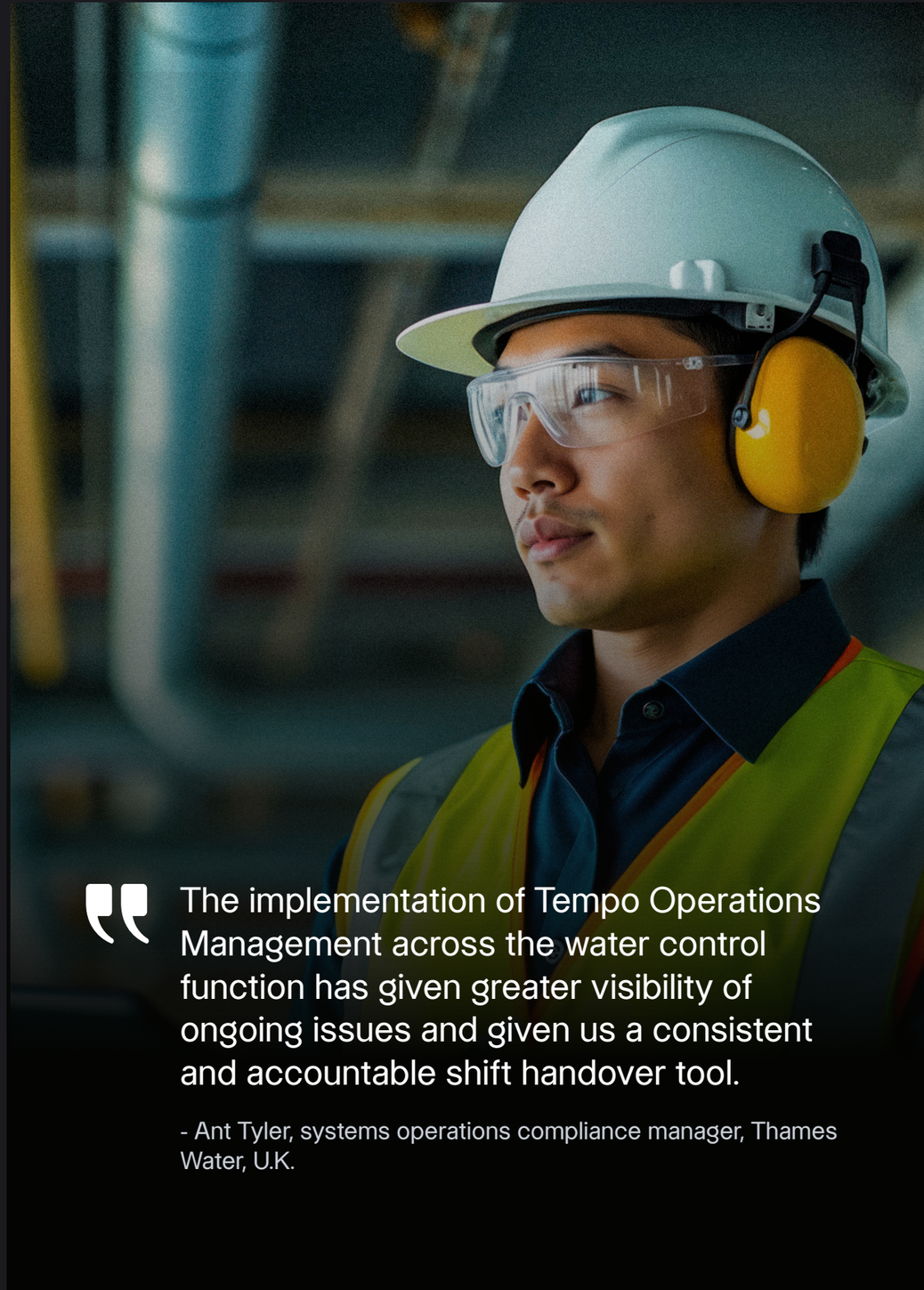
Reinforcing this first step with an industry-leading knowledge management suite designed to improve human performance through digital tools and connected process industry solutions is critical.

Octave Tempo Operating Procedures (formerly AcceleratorKMS) is an industry-leading solution that accelerates the digital transformation of paper-based, high-risk operational procedures and work processes. It enables organizations to manage, govern and distribute the up-to-date critical operational content that field workers require to keep operations running and learn faster. Tempo Operating Procedures is a purpose-built 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 capabilities help address critical operational challenges faced by workplaces around the world. The system delivers an integrated digital content ecosystem in an intuitive, easy-to-use solution designed to simplify complexity.

Proven business outcomes

These are quantitative benefits that were reported by surveyed Tempo Operations Management customers:

- Enhanced situation 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 Tempo Operations Management 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.

Step 2
Connect operational data

Organizations must connect critical information and records across disconnected systems and formats by digitally linking them to operational processes, procedures, permits and data. This helps reduce operational risk, improve efficiency, minimize downtime, eliminate value leaks and meet compliance. With Octave Tempo Alarm Management (formerly PAS AlarmManagement) you can easily implement industry-wide best practices to streamline and improve your alarm systems and operator effectiveness.

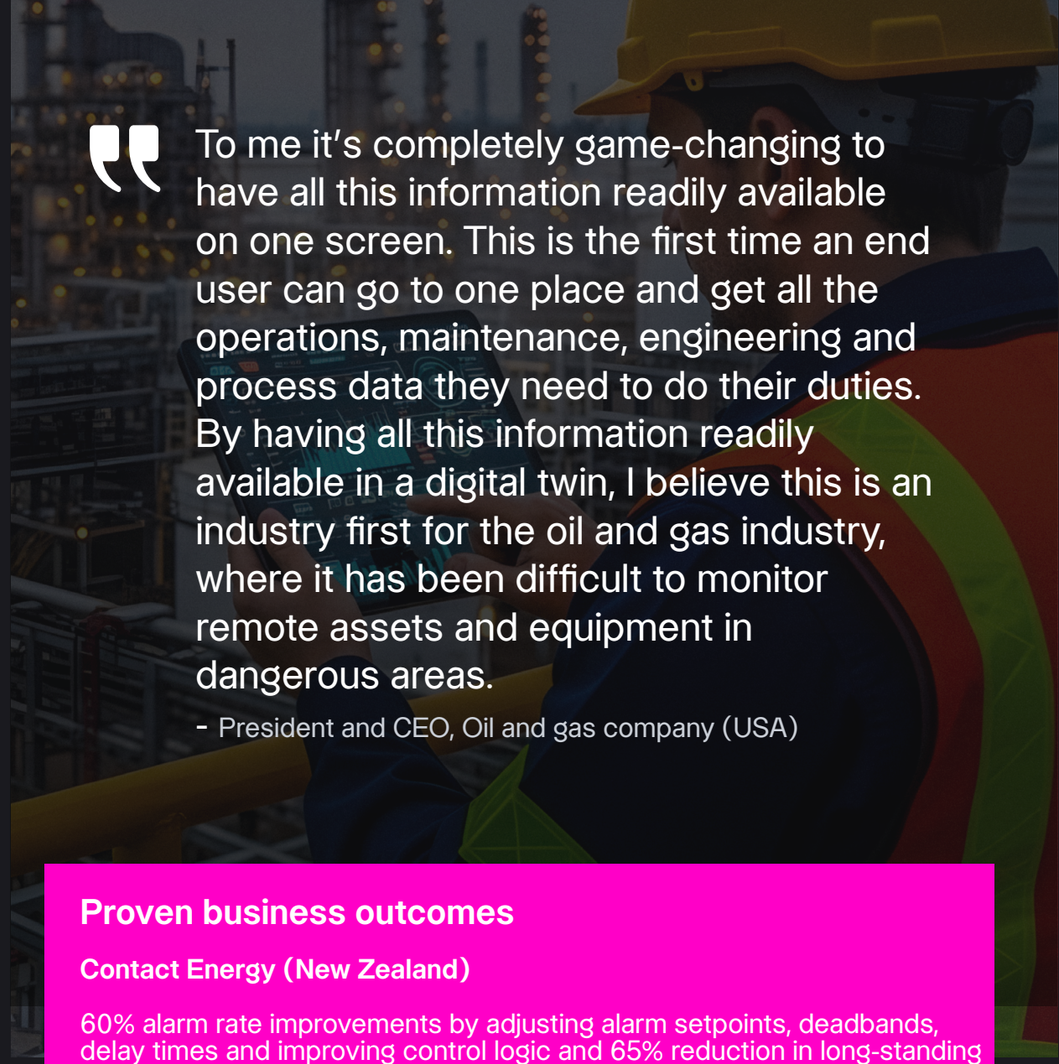
Octave Tempo Control Loop Performance (formerly PAS ControlWizard) and Octave Tempo Control Loop Tuning (formerly PAS TuneWizard) work together to monitor, assess and tune your control loops to ensure optimal performance, robust control and improve overall safety and reliability.

Octave Tempo Boundary Analytics (formerly PAS InBound) helps you create a master database of operational limits ensuring alignment across all sources of record and analyzes performance against those limits.

Octave Tempo Safety System Performance (formerly PAS IPL Assurance) provides visibility into your independent protection layers (IPL), making it easier to ensure your operations are safe to run.

The Octave Tempo Control System Effectiveness (formerly PAS PlantState Integrity) platform is interoperable with Tempo Operations Management, adding further value to organizations investing in a digital transformation roadmap guided by Octave.

Companies can enhance information connection and interoperability by aggregating operational data and enabling a digital thread framework with Octave InConcert (formerly HxGN SDx2). This digital information solution is designed to capture, organize and link large volumes of information in context and provides web-based access to authorized personnel. As a cloud-native, SaaS solution, it can be adopted by any facility without introducing new software or investments in IT infrastructure. InConcert is CFIHOS-compliant and consolidates and unifies operations maintenance, safety, engineering and real-time data. InConcert can be connected to Octave technology such as Tempo Operations Management 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.



> 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.
>
> - President and CEO, Oil and gas company (USA)

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

Oil and gas company (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

Keeping your operations running safely, smoothly and protected from cyber threats is vital to preventing unnecessary interruptions. There is no shortage of reports or news outlets raising the alarm on cybersecurity awareness. The ARC Advisory Group (2019) reported that "many industrial operations remain at risk of costly, disruptive cyber incidents." ARC analysts recommended that "all industrial companies consider software such as Octave Cyber Integrity (formerly PAS Cyber Integrity) as a foundational element of a defense-in-depth cybersecurity strategy." This solution provides significant benefits such as: discovering and automatically maintaining a complete inventory of OT assets and enabling workflows and documentation for vulnerability remediations and compliance with ISA/IEC 62443, ISO 27001/2, NERC-CIP, 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 capabilities for maintaining asset inventories, managing vulnerabilities, detecting unexpected system changes and gaining clear visibility into system security risks.

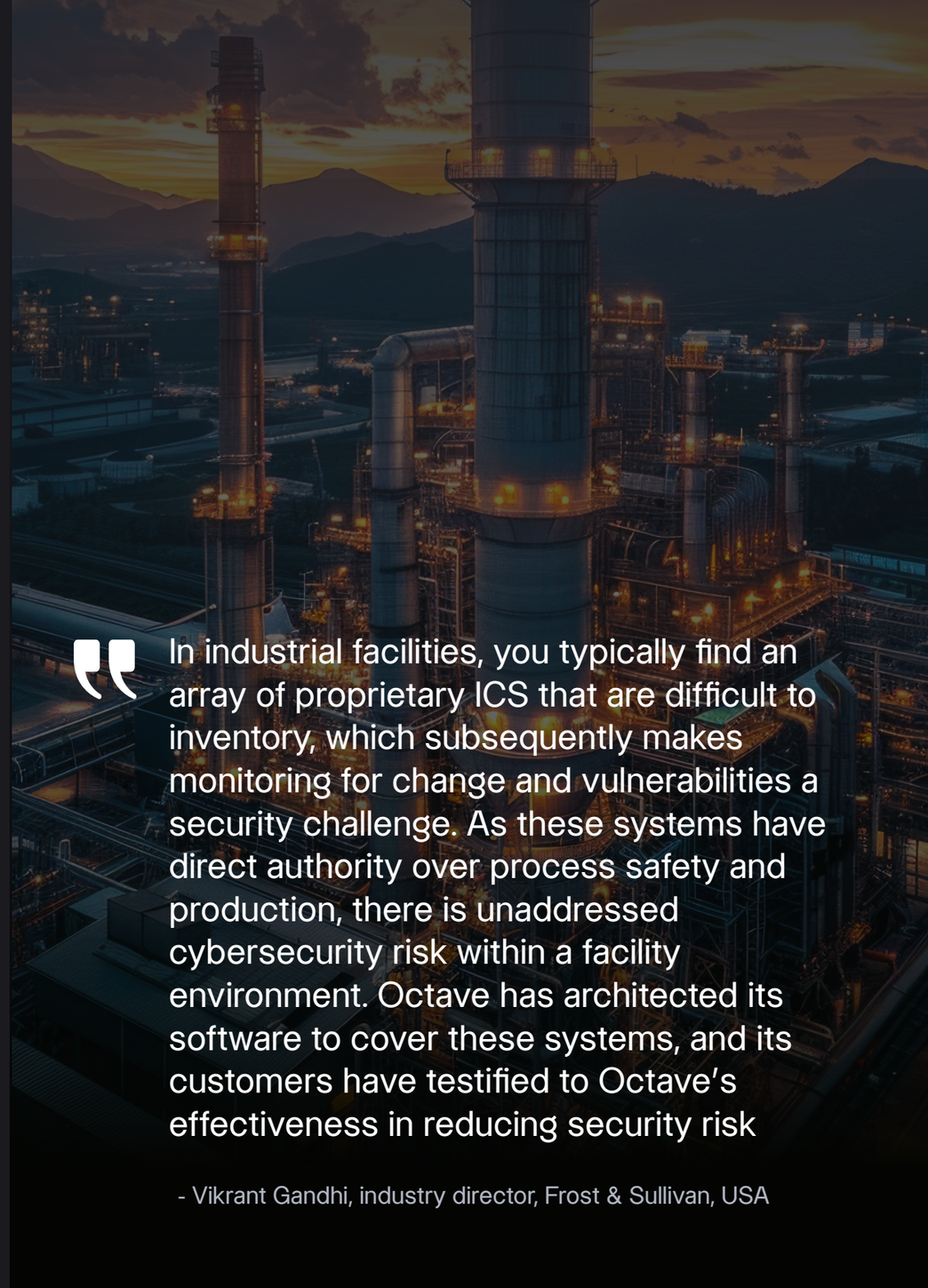
Proven business outcomes

Contact Energy (New Zealand)

Capture a holistic view of your asset inventory – gain visibility into industrial assets from Purdue Level 3.5 to 0.

View risk in context - identify, evaluate, and prioritize OT cybersecurity risk across multiple domains.

Decrease mean time to recovery - ensure operational resiliency by having a complete backup and restore point.



> 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. Octave has architected its software to cover these systems, and its customers have testified to Octave's effectiveness in reducing security risk
>
> - Vikrant Gandhi, industry director, Frost & Sullivan, USA

> Using the Octave 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 owner operators to build and maintain a connected information ecosystem across the asset lifecycle, allowing for a continuous journey of operational excellence. By deploying a comprehensive digital twin, complex data can be transformed into actionable information.

This ultimate digital platform helps organizations unlock greater values and gain a competitive advantage made possible by using predictive and prescriptive analytics, artificial intelligence (AI), machine learning and automated decision-making across the value chain. It empowers the workforce with timely, data-driven insight into past performance, current operations and potential future conditions to improve situation awareness and decision-making.

Octave solutions connect 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 to support a robust enterprise wide digital twin. The result is a connected operational environment designed to help organizations scale across the asset lifecycle.



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 digitalized processes, critical information is always accessible. There's no need to search for paperwork from a previous shift or track down a co-worker for answers while they're on break or away.



Employee safety and fatality prevention: Meet compliance

When you need clear, concise and up-to-date records for local, state or federal regulatory compliance requests and procedures, having your data locked in a paper trail can lead to unnecessary delays and misinformation. Digital records allow you to instantaneously deliver accurate 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 valuable time searching through paper documents or disconnected systems to access and manage critical operational information, personnel can focus on applying their expertise to optimize performance and improve operations.

Asset productivity: Reduce operational risk

Workforce safety improves when reliance on physical paper is reduced, especially for equipment inspections and shift handovers where human error can introduce risk. Digitalized processes ensure the right equipment and readings are inspected at the right time while making it easier for personnel to identify when equipment is operating outside specified ranges.

Octave delivers more than software. We bring the expertise and services needed to put your systems into action.

With deep industry experience, we help you deploy quickly, apply proven practices and resolve complex operational challenges.

Together, our software, expertise and services help you modernize and simplify operations, support your operators and deliver actionable information where it's needed, ensuring reliable, compliant performance.



Working with a trusted digital transformation partner

As your trusted digital transformation partner, we deliver solutions that support the full asset lifecycle, from design and engineering to operations and maintenance.

Backed by advanced technology and global expertise, we help you create solutions that improve today, scale for tomorrow and adapt to change.

Putting data to work to improve safety, efficiency, productivity and quality isn't just what we do - it's a commitment 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 a strong focus on R&D and a history of innovation, 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

Supported by industry experience, customer partnerships and deep technical expertise across global operations

Intelligence at scale

Octave turns vast data into decisive action for diverse customers around the world. Our adaptive solutions unleash intelligence at scale - enabling smarter decisions, sharpening performance, elevating efficiency and amplifying our customers results at every step. Our solutions simplify complexity, helping customers to design, build, operate and protect people, property and assets. We work alongside our customers to optimize outcomes and take on challenges together.



Awarded solutions provider

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

R&D focused

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

Global presence

With more than 7,000 employees across 45 countries

Innovative

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

About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property, and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency, and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.

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