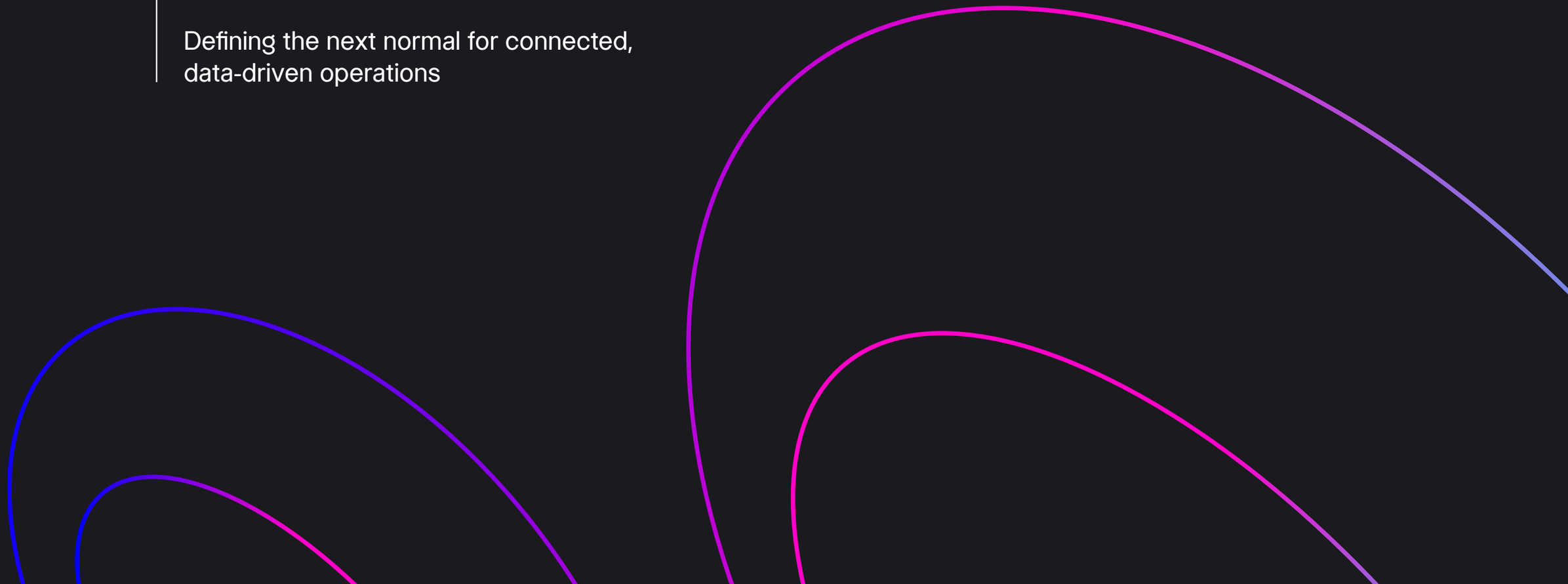
EBOOK

Advancing operations through digital transformation

Defining the next normal for connected, data-driven operations



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. Octave exists for moments like this.

Empowering an autonomous future

Octave 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.

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

Octave has a bold vision where business, industry and humanity sustainably thrive.

Digitally transforming how business gets done

Octave is the leading global provider of enterprise engineering software, enabling smarter design and operation of plants, ships and offshore facilities. With more than 50 years delivering innovative industrial software, Octave solutions transform unorganized data into intelligent, actionable information that enables better outcomes across the entire industrial 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. IDC predicted that the digital universe would grow to an incredible 175 zb by the year 2025[1]. It's time to use your data and benefit from the value of a comprehensive digital twin to optimize the design, engineering, construction, operation and maintenance of your industrial assets.

[1] IDC, "How IDC's Industry CloudPath & SaaSPath Surveys Can Inform Your Cloud/SaaS Strategy," September 2019.

Design

- Schematics and 3D
- Engineering analysis
- Engineering info management
- Geospatial

Supports 3D modeling, engineering analysis, simulation and geospatial intelligence. Allows teams to create information-rich digital representations that serve as the basis for downstream activities.

Build

- Construction
- Project performance
- Supply chain management
- Completions

Connects engineering, procurement, fabrication, construction and commissioning workflows. Octave solutions coordinate materials, track progress, manage changes and improve cost and schedule predictability.

Operate

- Enterprise asset management
- Asset performance
- Quality assurance
- Operations optimization

Unifies operational data, historical information, maintenance activities, quality systems and worker tools. This enables real-time insight, predictive intelligence and improved asset and system performance.

Protect

- Public safety
- Inter-agency collaboration
- Physical security
- Industrial cybersecurity

Elevates public safety, physical security and industrial cybersecurity. This includes incident response, emergency management, situation awareness, digital security and regulatory compliance.

Effecting change in disruptive times

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

Challenges

- Project delays and losses
- Declining productivity
- Lost contracts and 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. Octave 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

Octave Forte *formerly Design & Visualization*

Octave Facets *formerly Engineering & Schematics*

Octave BricsCAD *formerly Bricsys BricsCAD*

Schematics and 3D modeling

Octave Aspect *formerly Engineering Analysis*

Engineering analysis

Octave InConcert *formerly Information Management*

Engineering information management

Octave GeoMedia *formerly GeoMedia*

Octave Alto *formerly Luciad*

Octave Imagine *formerly ERDAS IMAGINE*

Geospatial intelligence

Build

Octave OnSite *formerly Construction Suite*

Octave Loop *formerly HxGN Supply Chain*

Construction and supply chain management

Octave Sequence *formerly EcoSys & Projectmates*

Project performance

Operate

Octave InService *formerly HxGN InService*

Octave Tempo *formerly Operations Mgmt*

Octave NetWorks *formerly HxGN NetWorks*

Operations optimization

Octave Attune *formerly HxGN EAM / HxGN APM*

Octave Reliance *formerly ETQ Reliance*

Asset performance and quality assurance

Protect

Octave OnCall *formerly HxGN OnCall*

Octave Coda *formerly HxGN dC3*

Public safety and physical security

Octave Cyber Integrity *formerly PAS Cyber Integrity*

Industrial cybersecurity

Operations solutions

Many companies still use paper, spreadsheets and word processor documents to record 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. Octave Tempo Operations Management (formerly j5 Operations Management Solutions) enables industrial facilities to reduce operational risk, digitalize operations and meet internal and external regulatory compliance.

Digitalize human operations processes and procedures

Key benefits

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

Proven outcomes:

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

Our smart solutions

Tempo Operations Management

Engineering Information Management solutions

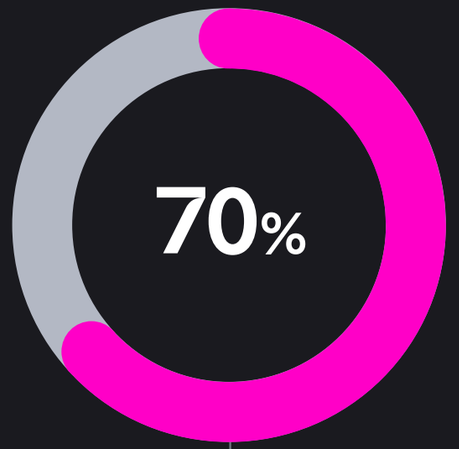
Octave InConcert Core (formerly HxGN SDx) uniquely combines human operations processes and procedures, maintenance work orders, real-time and historical process data, engineering schematics and technical documentation with 3D models and laser scans, enabling a comprehensive digital twin for operations.

Connect operational data

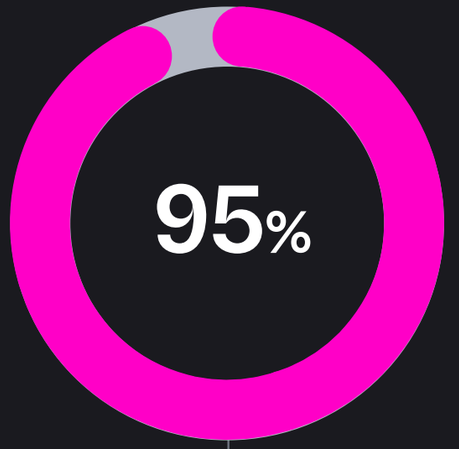
Key benefits

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

Proven outcomes:



productivity savings in documentation and completion of inspections by a US-based Oil and Gas company



savings in time retrieving and searching for quality evidence post-inspection

Our smart solutions

InConcert Core

Engineering Information Management solutions

InConcert Core can be connected to Tempo Operations Management and third-party industrial data sources such as Aspen InfoPlus.21® (IP.21), IBM Maximo®, SAP® PM and the Aveva™ 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 capabilities of Octave Tempo Control System Effectiveness (formerly PAS PlantState Integrity) add further value and interoperability to organizations investing in a digital roadmap guided by Octave.

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:

60%
improvement

Tempo Control System Effectiveness 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

Reduction in long-standing “stale” alarms, contributing to improvement of operators’ alarm-related workload

Our smart solutions

InConcert Core
Tempo Operations Management
Tempo Control System Effectiveness

Operations solutions

Octave Tempo Automation Integrity (formerly PAS Automation Integrity) is an enterprise application for automation asset management at industrial plants. It aggregates and contextualizes configuration databases and programs and simplifies the visualization and management of information in automation systems.

Protect your digital investments

Key benefits

- Improves ICS engineering productivity by 20% to 50%
- Improves plant performance with fewer trips because of bad configurations
- Reduces sensor configuration drift and errors by more than 40%
- Reduces documentation efforts by 70% or more
- Minimizes human error

Proven outcomes:

Leveraging Tempo Automation Integrity, a global leader in the crude oil, natural gas, petroleum products and petrochemical industries minimized lost production after a major unplanned outage.

Our smart solutions

Tempo Automation Integrity

Operations 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 and evolve a digital twin

Key benefits

- Advanced artificial intelligence (AI)
- Connect workers
- Interoperability
- Intelligent documentation
- Enhance situation awareness and visualization

Proven outcomes:

"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

Our smart solutions

Octave Tempo Operating Procedures
(formerly AcceleratorKMS)
InConcert Core
Tempo Operations Management
Octave Alto ***(formerly Luciad)***
Tempo Control System Effectiveness
Octave Cyber Integrity ***(formerly PAS Cyber Integrity)***

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.

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

Digital transformation case studies

Leading companies partner with Octave to achieve their digital transformation. Octave's operations solutions are used by companies worldwide, such as:

AGL Energy	Contact Energy	Resonac
AISIN North Carolina	ENEOS	Salt River Project
Calpine	ESRF	Saudi Aramco
City of London Wastewater Treatment	Infineum	SLNG
CNRL	INPEX	Thames Water

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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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