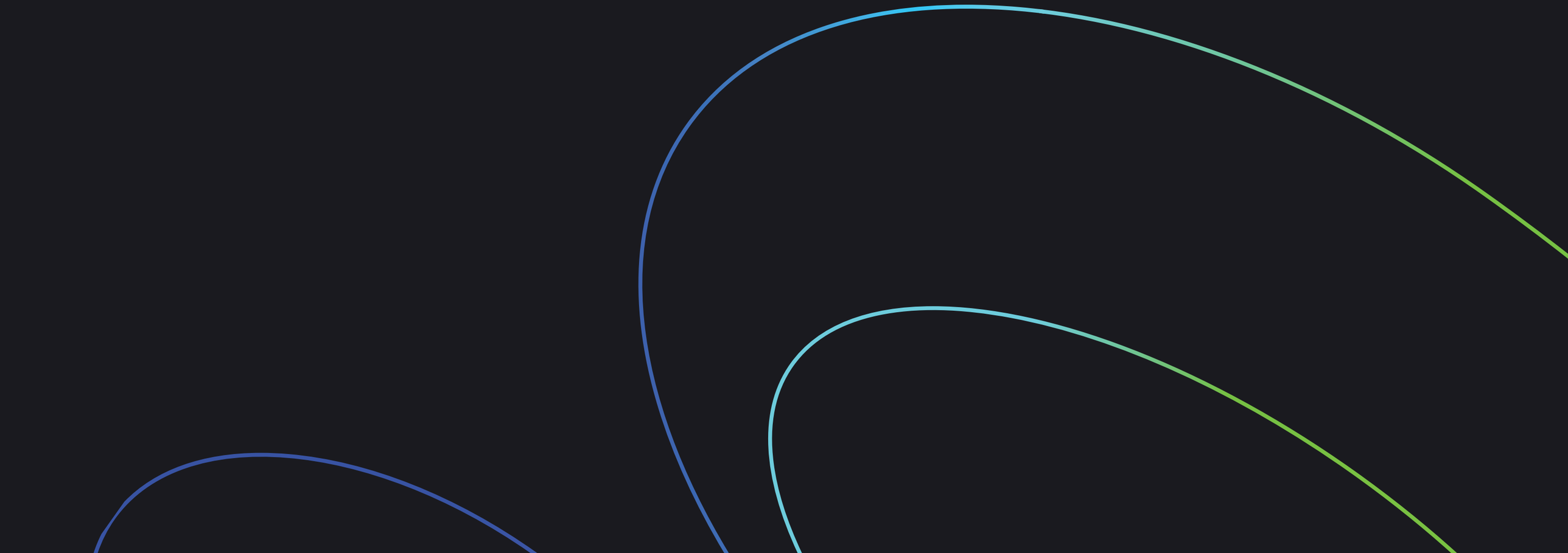
EBOOK

Scalable sustainability makes every bit count



Unlocking sustainability at scale

Business as usual is over. A new era of sustainability has begun.

As the world transitions to a more sustainable economy, companies of all kinds are increasingly looking for innovative ways to do more with less. And when it comes to industrial development, one of the leading generators of global CO2 emissions, the mission is critical.

Embracing sustainability today means leveraging digital tools and real-time data to balance profitability and resource optimization.

"As industry moves away from heavy carbon emission technologies, we will help accelerate long-term decarbonization and sustainable generational growth. We believe technologies must become increasingly connected and autonomous to ensure a scalable, sustainable future."

Mattias Stenberg
President of Octave (formerly Hexagon's Asset Lifecycle Intelligence division)

Contents

01 Harnessing sustainable growth

New project, big goals

As industrial development projects prepare to launch, it's easy to embrace ambitious plans to accelerate growth while managing resources sustainably. But actually making it happen? That's where things get challenging.

For most projects, the reality is far more complex. Work starts to fall behind schedule or exceed its budget, leading to cost overruns and sustainability target setbacks.

Through our work with companies of all kinds, we know this problem isn't limited to industrial projects—and it's rarely caused by a lack of enthusiasm or executive interest. Instead, project leaders primarily point to operational obstacles including:

- Lack of visibility into the industrial supply chain
- Process inefficiencies
- Siloed information and decision-making

Business growth and sustainability have become inseparable objectives. Optimizing for both means reconciling priorities that haven't traditionally worked in sync. But achieving that level of transformation doesn't happen overnight.

More data, more problems?

Large industrial projects generate massive amounts of data every day, including millions of emails, documents, and workflows. But data alone is just data—and experts estimate 95.5% of information captured goes unused.[1]

Many of today's project teams struggle with data-in overload and lack efficient strategies to turn information into practical, real-time insights. And the challenge isn't getting any simpler. New corporate, industry and regulatory requirements are spurring industrial facility managers to tune their operational strategy to hit sustainability targets for decarbonization, waste minimization and the recycling of raw materials. Meanwhile, "net-zero" greenhouse gas emissions reporting requirements, in place in the EU, U.K. and Australia, may soon arrive in the United States.[2]

As the world steadily transitions to a more sustainable economy, companies are looking for innovative ways to manage data across projects and asset lifecycles. Advanced, intelligent digital tools can help.

[1] "Dealing with Data in the Construction Industry." Constructor Magazine. 2019. Accessed March 21, 2022

[2] "The SEC wants all public companies to report their carbon emissions" Fast Company. March 2022. Accessed March 21, 2022

Unleashing intelligence through digitalization

The right systems can unlock the potential of project data, while empowering smarter decision-making that improves resource utilization and reduces waste. Intelligent tools, such as digital twins, provide a unified production view that helps teams identify opportunities for significant or incremental operational improvements. This action also promotes longer asset life by autonomously monitoring performance and predicting the need for preventative maintenance.

Once considered hard to abate, industrial and energy sectors are increasingly seeking meaningful ways to ensure safe and efficient operations. Digitalization can power smarter asset lifecycle decisions by mining new insights in previously untapped data—in any sector.

In the next sections, we'll explore how data helps digitally enable processes that help facility and asset lifecycles operate more efficiently, profitably and sustainably.

02 Sustainability at scale

Every industrial development team wants to boost efficiency and productivity while achieving quality outcomes, including sustainable resource use. The problems often start when attempting to produce those outcomes at scale.

Once organizations start down the path of sustainable industrial development, three things quickly become clear:

1. Sustainability is a discipline that requires considerable data and expertise
2. There's never enough in-house sustainability resources or experience
3. Critical data is often siloed and unavailable on a timely basis to decision-makers

There's no overnight fix for these issues, but conducting a sustainability assessment in the strategy and business planning phase can put projects on the right path. Does your operational team have the right tools to power sustainability at scale?

Three tools for scaling up your sustainability program

01 Digital backbone

Octave InConcert Core (formerly HxGN SDx®) is an engineering information management system (EIM) based in the cloud and built for the full asset lifecycle. Acting as a complete digital backbone, InConcert Core provides all stakeholders with web-based access to real-time information that amplifies efficiency while reducing risk. By enhancing operations and facilitating stakeholder collaboration, InConcert Core doesn't just drive profitability—it supports sustainability goals by reducing waste and optimizing facility lifecycles.

02 Geospatial data

Geospatial (or location-based) technology helps companies track the scale, scope and gravity of greenhouse gas threats. Octave provides measurement, processing and visualization technologies to create smart digital realities that improve efficiency, quality and safety while reducing waste–all crucial parts of a sustainable program.

Today, our geospatial technologies support surveillance of environmental conditions in the Amazon rainforest, helping to safeguard against deforestation. We also provide GIS tools to students and researchers so they can analyze and study pollution and its effects on groundwater. Using this data, scientists can act quickly to stem contamination of local aquifers.

03 Beyond digital twins

Octave's Smart Digital Reality™ builds on the power of digital twin technology by providing teams with a complete line of sight to rapidly changing business conditions. Smart Digital Reality applies real-time data with AI and machine learning to enable operations teams to make faster, smarter business and asset management decisions. Using data gathered from laser scanning sensors on handheld, robotic and drone devices, operational teams can gather location intelligence that facilitates efficiency and sustainability across the board.

Data capture doesn't just show us what's happening in real-time on a large industrial development—it also enables teams to model and better manage facility and asset lifecycles. Until the advent of digital backbones, companies were unable to leverage and handover data gathered in the project phase. Octave's InConcert Core supports a seamless project-to-operations phase handover. We foster autonomy and sustainability by putting project and facility data to work for proactive, predictive and even preventative measures.

Michael Fry, President and CEO of Deepwater Subsea LLC, uses the Janus24 real-time monitoring platform by InConcert Core Operations and OSIsoft™ solutions to connect their operations, engineering and real-time data. Combining these solutions allows relevant real-time data to reach inspectors when and where they work—improving everything from inspection compliance to equipment monitoring.

"To me, it's completely game-changing to have all this information readily available on one screen. 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 of Deepwater Subsea LLC

03 Where to start

The World Counts projects that we would need two planets like ours to support our projected 2030 energy consumption.[4] Fully embracing sustainability means saying goodbye to practices that overwhelm earth's resources and create more waste than we can handle.

The industrial sector is not only a top energy consumer, but it's also the source of more than one-quarter of global CO2 emissions. That means we have a significant role to play in the sustainability revolution.

The good news? Continued growth doesn't have to be at the planet's expense. Industrial companies can make an immediate difference by making existing facilities and assets more efficient and extending their lifecycles. One way to do so is using digital tools to significantly reduce waste created during the construction or refurbishment of industrial facilities.

Octave is committed to doing our part to achieve a net-zero future. One way we are addressing the world's sustainability challenges is by helping industrial facilities limit waste, extend asset performance and efficiency and reduce energy consumption throughout the lifecycle. Our solutions have powered the following outcomes:

- Reduced rework in construction 15% to 1%
- Reduced scrap rate at factories by 20%
- Increased wind turbine efficiency by 30%
- Reduced weight of components by 20%

Results matter. Executing on a defined, long-term strategy is critical to attaining our shared environmental objectives. Octave takes a holistic approach to sustainability, including its environmental, social and governance impacts (ESG) across the value chain. By putting data to work towards an increasingly autonomous future, we drive sustainability through efficiency gains, increased safety, improved productivity and reduced waste. Ultimately, these outcomes are key to achieving both profitability and sustainability alike.

[4] "Global energy consumption only going up" The World Counts. Accessed March 18, 2022.

04 We meet you where you're at

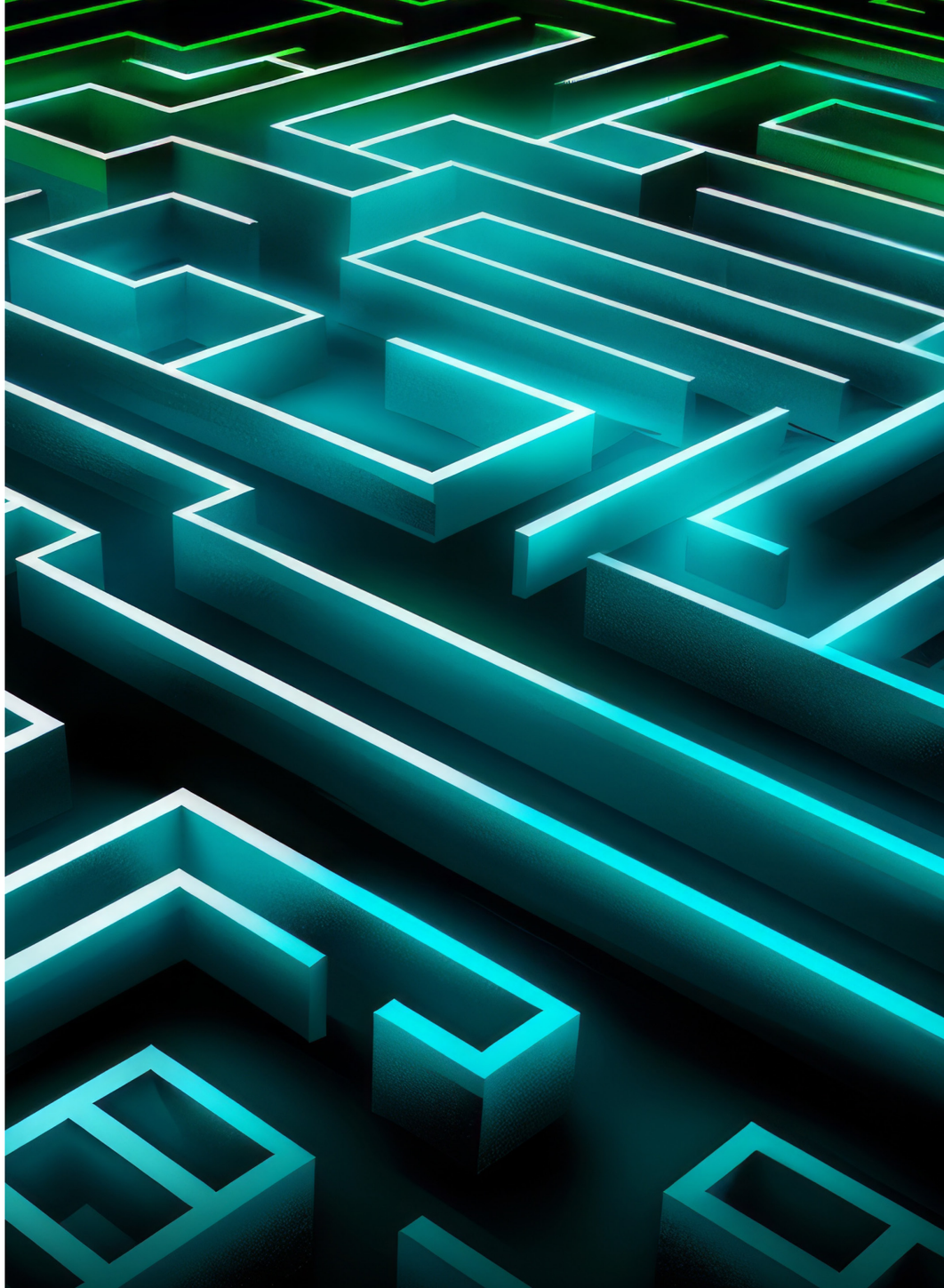
Whether you're beginning a new industrial project or looking to increase efficiency, safety or sustainability at any stage, Octave offers industry-leading solutions that improve outcomes every step of the way.

Octave unleashes intelligence at scale to help you:

- Unlock more insights with data
- Accelerate digital transformation
- Embrace an autonomous future
- Amplify sustainability

No other provider empowers customer choice and flexibility by enabling smarter asset design, planning, construction, operation and decommissioning. When the mission is this critical, the answer is Octave.

Ready to scale up sustainability?
We're here to help.



EBOOK

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.

OCTAVE