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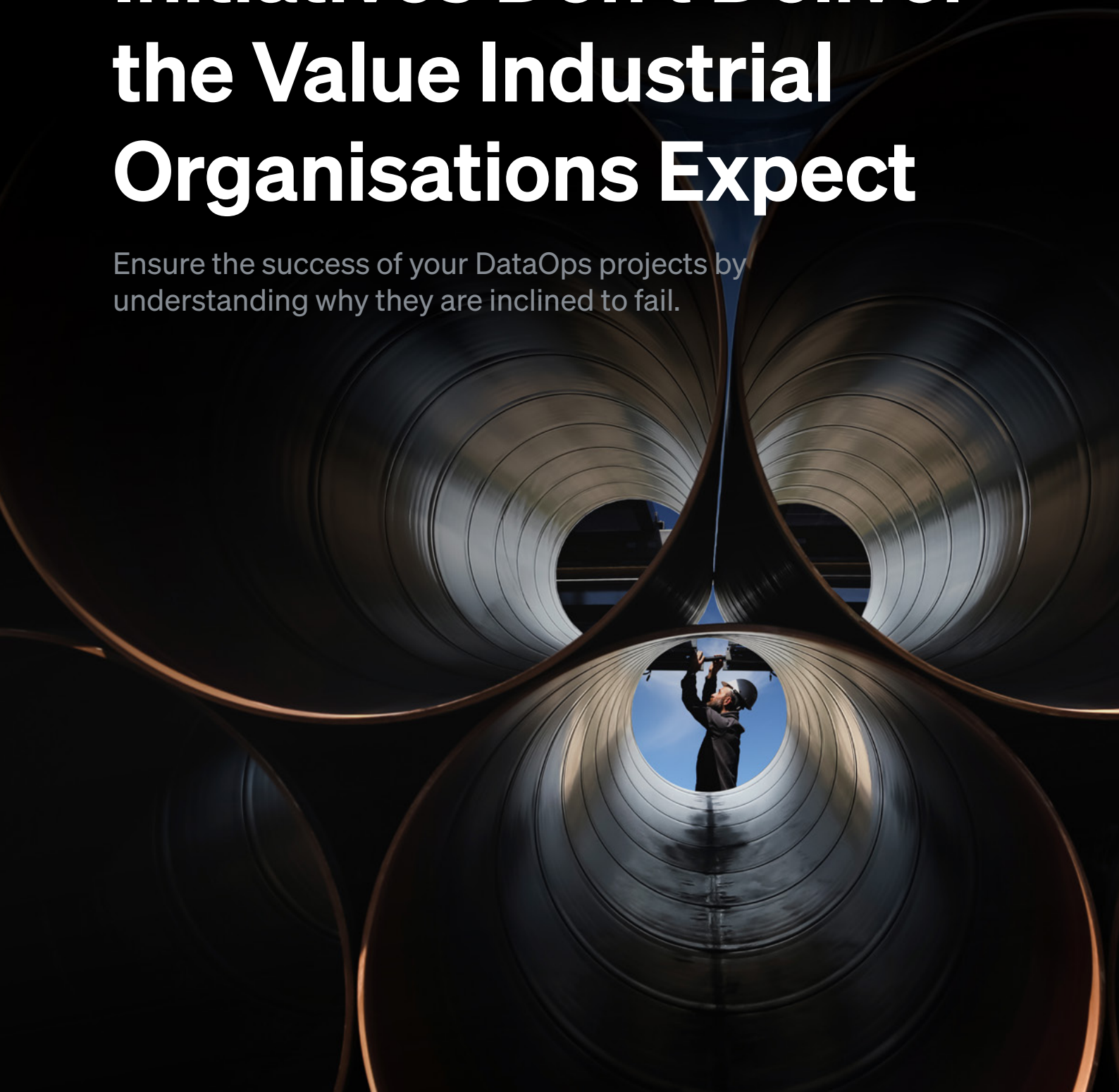
Why DataOps Initiatives Don’t Deliver the Value Industrial Organisations Expect

Ensure the success of your DataOps projects by understanding why they are inclined to fail.



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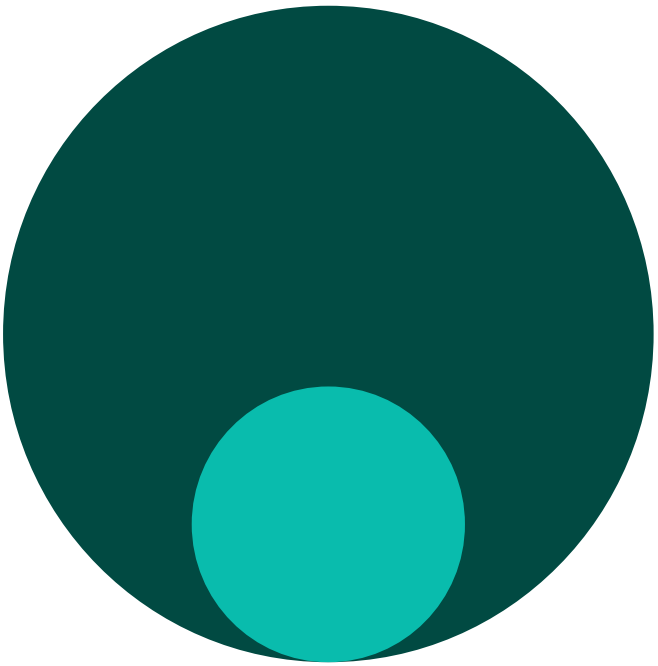
Introduction

In an age where organisations must expedite intelligent decision-making to better compete, getting more value from your data is paramount. Leveraging data and insights from that data to optimise processes is especially critical in industrial sectors like energy, manufacturing, utilities & renewables, and maritime, where asset investments are significant.



28%

of professionals in heavy-asset industries say that decisions for important initiatives aren't made quickly enough because critical information has still not been digitised.[1]

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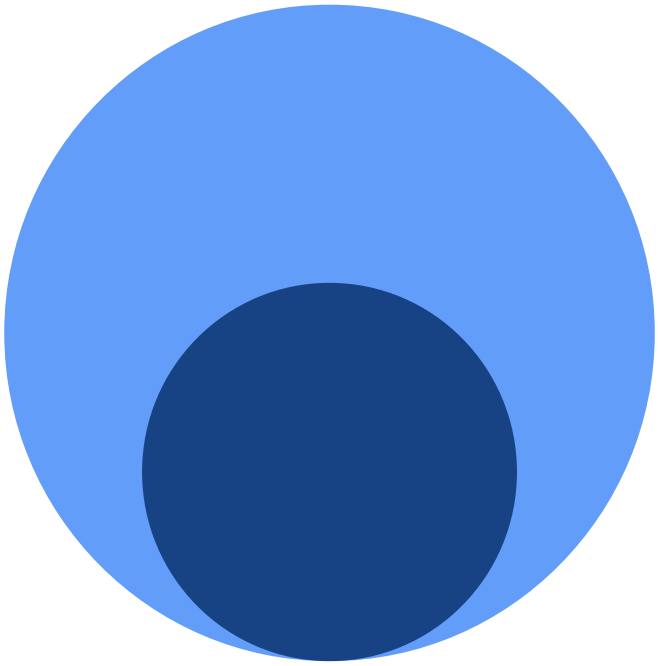
Though many organisations operating in heavy-asset industries have been slow to digitalise, most are now better positioning themselves amidst the ongoing energy transition. In some cases, the success of Industry 4.0 principles forced internal re-evaluations as business leaders realised the actual value of their data and how it could be applied to their operations.

Considering all this, it's no coincidence that we are witnessing the rise of DataOps.

DataOps – short for data operations – is a collection of practices, principles, and technologies meant to improve the efficient handling of data. DataOps enables the timely and seamless flow of high-quality data within your organisation — in the formats each user needs. To be sure, DataOps is not a one-time project with a beginning and end; it's a continuous improvement program supported by platforms and tools. The resulting data refinement helps business teams access the information they need without having to wait for a time-consuming request process that would otherwise need to go through IT.



41%

of professionals in heavy-asset industries say that decisions for important initiatives aren't made quickly enough because much of their data lacks the quality they need.[2]

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The DataOps approach aims to revolutionise data management, processing, and usage so organisations can generate maximum value from their data. DataOps practitioners achieve that value by streamlining data-related processes, promoting more effective automation, fostering internal collaboration, and helping all authorised stakeholders to access and leverage data more effectively.

For instance, DataOps enables people in critical industrial roles to:

- Accelerate time to value
- Reduce busywork
- Boost productivity
- Enhance collaboration and transparency
- Generate more value from AI efforts
- Reduce costs
- Reduce errors
- Get products and solutions to market faster
- Improve performance
- Improve business outcomes

"To truly thrive and stay competitive (in today's data-driven world), IT leaders must adopt a data-centric mindset and focus on data management."[3]

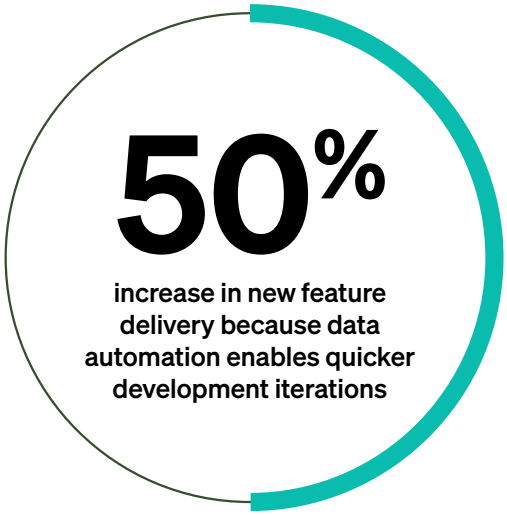
Aron Brand in Forbes

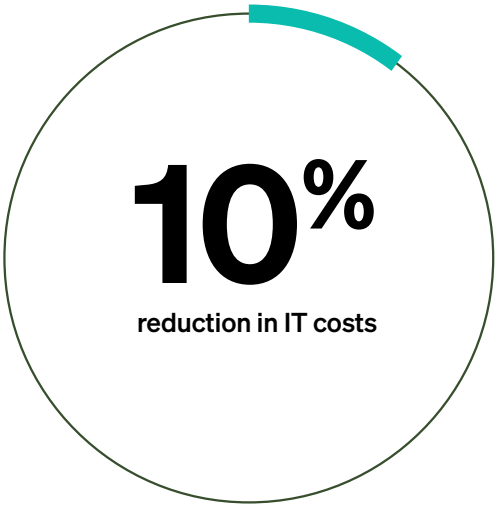
Forward-looking businesses understand that high-quality data fuels an accelerated path to value. So, many leaders in industrial sectors want to take that to the next step.

Combining high-quality data with technologies like machine learning (ML) and artificial intelligence (AI) helps them make sense of the vast amounts of information passing through their businesses.

Here, the brave fight to break down business silos goes on. Making higher-quality and more reliable data available to internal data consumers allows these businesses to deliver valuable products and solutions faster. And as the need to train more accurate and efficient solutions – like Agentic AI, for example – grows, data quality becomes more critical.

Effective DataOps can deliver significant benefits[4] like:





Ultimately, organisations that apply sustained DataOps practices will be in a better position to operate efficiently, deliver better-quality results, scale to handle large (and growing) volumes of data, and improve data pipeline reliability.

Why do DataOps initiatives fail?

Leaders in heavy-asset industries know how important it is to leverage their data effectively. But for many, the promise of DataOps remains unfulfilled. Why?

People in critical roles don't appreciate the value of DataOps

Businesses that have yet to realise measurable gains from data-driven insights may struggle to understand the importance of DataOps. And if there is no perceived value, there will be no meaningful buy-in. But at the same time, a routine boardroom decision to deploy a "DataOps solution" does not guarantee success.

Though not unique to organisations in heavy-asset industries, key leaders and internal experts are so in-demand, busy, and heavily scheduled that they consistently must focus on the work in front of them. If the perceived value of DataOps can't rise above their day-to-day work, potential practitioners won't appreciate the benefits as fully as they should.

DataOps efforts seem too complex

Your IT infrastructure includes many disparate applications, data sources, and technologies. Bringing these together will require an immensely complex pipeline — and that's before you start trying to automate your data processes. So, despite the costly labour needed to keep things running (less efficiently), many leaders defer adopting DataOps practices due to their seeming complexity.

Teams don't identify meaningful business objectives to reach for

Implementing DataOps is not an end unto itself. If a DataOps project isn't clearly connected to business goals and value, it can lead to failure. Your leadership team must decide what it wants to achieve once key stakeholders have better access to data and analytics.

Aim to find answers to your key business questions (KBQs) to drive genuine business value. Once you outline the business objectives that can deliver the most value from DataOps, you have charted a more straightforward pathway to success.

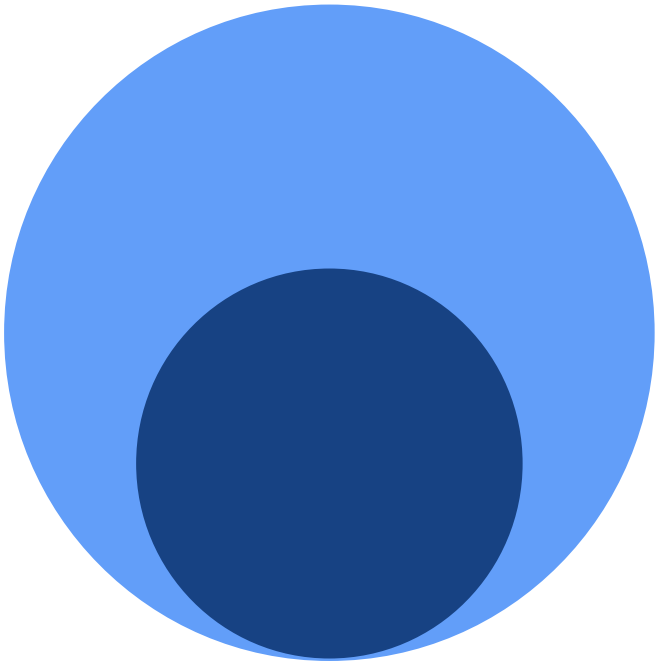
Companies don't have the right mix of talent on board

Implementing a DataOps approach requires a range of IT skills from various specialists.

Meanwhile, data engineers, data scientists, and cloud architects are in short supply worldwide. So, the chance your team will have the right blend of in-house talent is slim — and for some organisations, this early hurdle is enough to kill enthusiasm for the project.

Projects that look abstract or overwhelming don't get prioritised

Your stakeholders may have a high-level understanding of what they want to achieve. But who will lead and champion the effort? What's the first step? Who will measure progress and hold various business leaders accountable for their contributions? These are valid concerns, but researching best practices, partnering with experts, outlining clear goals, and starting small puts you in a position to build on those efforts.



46%

of industrial professionals in organisations with up to 500 employees report the biggest threats as a lack of qualified staff.[5]

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Internal stakeholders need more education on data fundamentals

DataOps workflows and processes must be designed to deliver the right information to the right internal data consumers at the right time. When project leaders don't fully understand what data assets they have, how that data flows through their organisation, what silos might exist, and what technology they have to support DataOps initiatives, it's challenging to move forward. Another way of looking at this problem is that it's hard to move data consumers to DataOps practitioners if you haven't built an internal data culture.

Managing change remains incredibly difficult

For many key business leaders, adopting a DataOps approach isn't just a slight adjustment to their routines. It can fundamentally change their work and disrupt their momentum in other areas. For DataOps to work, data leaders must help prospective practitioners adjust their mindsets and adopt new skills.

Leadership sets unrealistic or unachievable goals

Setting goals that challenge your teams is good, but some leaders may need to temper their expectations in an environment where the latest technology buzzword generates too much hype. An effective DataOps program will meet your business's specific needs and provide a solid foundation for future success.

Scaling ideas into production is more complex than anticipated

With today's modern technology, devising a proof-of-concept (POC) can be quick and relatively straightforward. However, scaling POCs up for production use may not go as smoothly as project leaders envision, and any perceived shortcoming may discourage stakeholders from continuing with the DataOps project. Here again, choosing a DataOps partner with domain expertise can help you properly assess what projects can be scaled up effectively and how.

Being aware of these pitfalls is the beginning of the story. Now, your business needs to plan how it will avoid them. Aligning people, processes, and technology is critical.

"(DataOps) requires a cultural shift — one that promotes data sharing, transparency, and collaboration across teams and departments. It requires empowering data teams to quickly and effectively respond to changes in business needs and priorities. And it requires a commitment to data literacy and education so that all employees understand the value and power of data."[6]

Aron Brand in Forbes

How can your team overcome these challenges?

Defining the ground rules for your DataOps project from the beginning is imperative.

Include all stakeholders

Becoming a data-driven business means providing all your stakeholders with accurate, timely data. So why would you choose to build pipelines and processes without the input of those it will affect? Every DataOps project must include everyone who works with data to ensure the program is fit for purpose and delivers the outcomes everyone needs.

Adopt a laser-like focus on your goals

Many of the issues behind DataOps project failure are related to a need for more clarity. What changes are required? What can we achieve? How can we measure success? Try to imagine the industrial-related insights your teams can use going forward to help you set direction and goals for your DataOps efforts. Working with a domain expert gives you a better chance of understanding the answers to these questions.

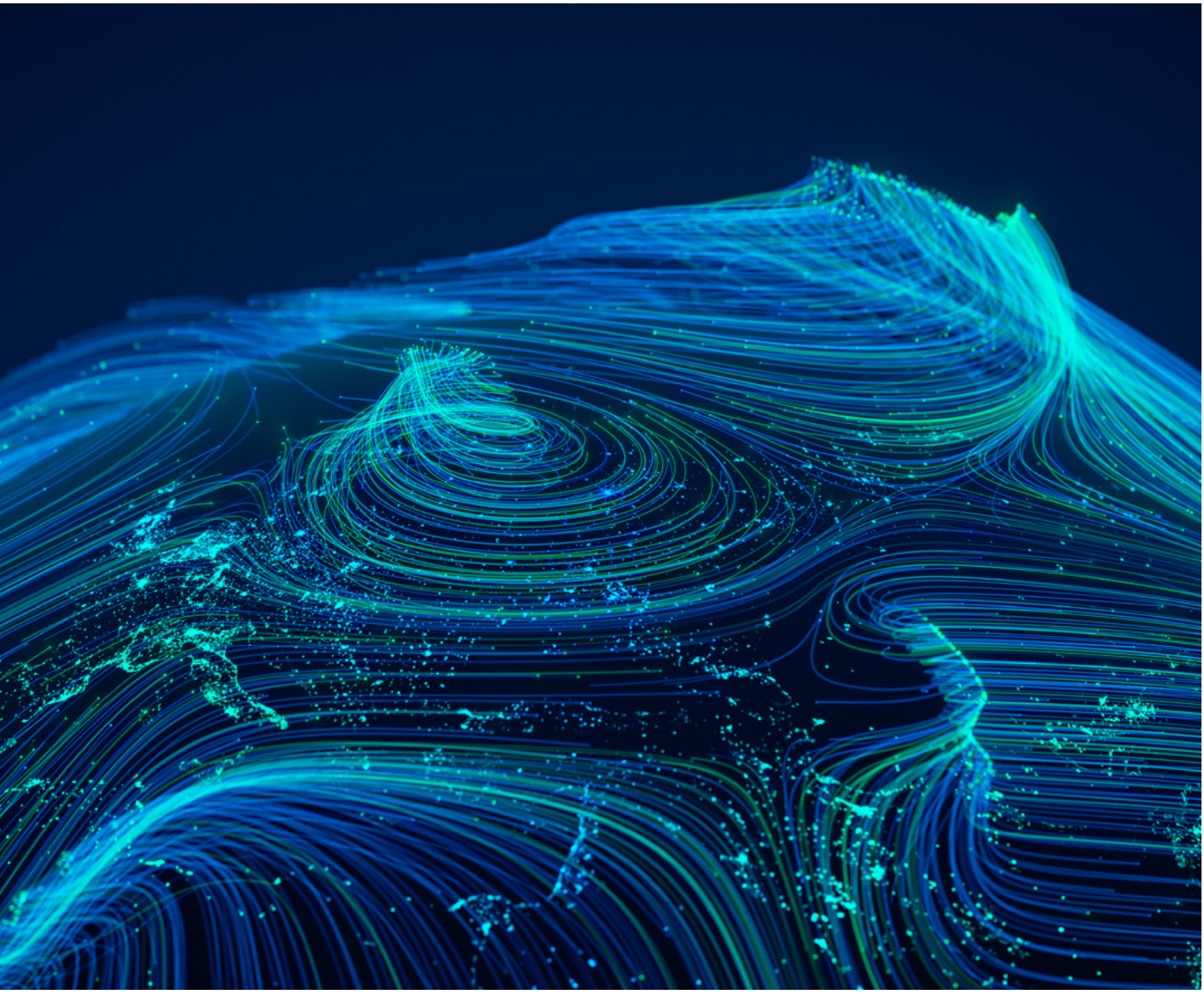
Plot a roadmap and milestones that guide you towards a successful project outcome. Planning, as with any other transformational IT project, will be critical. A complete understanding of your goals is the only way to position your organisation to make improvements. More on this ahead, but remember that AI can be leveraged to provide insights into the quality of data needed to achieve your industrial-related goals.

Make high-quality data everyone's priority

DataOps is about making valuable insights available to your organisation's right people and processes. Help key stakeholders and prospective DataOps practitioners understand the value of prioritising high-quality data — and follow through with guidelines on best practices.

Aim to automate data management processes

Once more stakeholders across your organisation have access to higher-quality data, they can use it to improve existing processes and help automate data management efforts.



DataOps and AI Complement One Another

How DataOps can make your AI more valuable and efficient

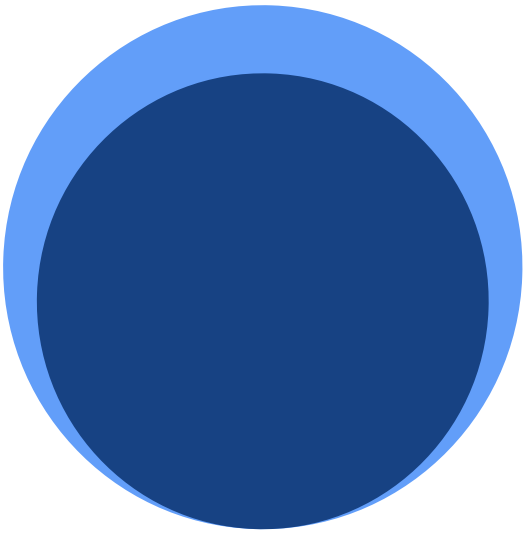
Data is the fuel that powers AI and ML models. Training and developing accurate and effective models is only possible with enough high-quality, relevant data. However, cleaning and integrating data is labour-intensive.

DataOps in Artificial Intelligence (AI) is a set of practices and processes that aim to optimise the management and flow of data throughout the entire AI development lifecycle. One of the primary goals of DataOps is to improve data speed, quality, and reliability in AI systems.

"Business success depends on harnessing data well and creating trust in that data to accelerate an organization's journey to AI."[7]

Lokesh Anand in Forbes

Cleaning data is essential to avoid erroneous outcomes caused by bias in data, algorithms or the teams responsible for managing them.



According to one Gartner estimate, issues with training data can cause

85%

of AI projects to fail.[8]

How AI can assist with your DataOps efforts

DataOps and AI are complementary technologies, creating a circle of continuous improvement. Once your DataOps efforts have reached a certain level of maturity, you can leverage AI to help further automate and improve your DataOps efforts.

AI and ML can be used to help speed up and automate related DataOps processes, such as:

Automating data preparation for new data sets

Scaling data observability and continuous monitoring

Improving data analysis and classification

Providing faster access to cleansed data

Lowering the cost and increasing the benefits of data cleansing

AI and machine learning DataOps techniques shift data operations from manual- and rule-based approaches toward intelligent automation that is faster, more efficient and more accurate. Going forward, the cleaner data that results from your DataOps approach will enable Agentic AI applications to optimise industrial operations even further.

"Enterprises can deploy AI for quick data discovery, cataloguing, and rapid data profiling, while ML can detect anomalies, identify inconsistencies, and enrich data. Together, AI, ML, and automation can help generate improved data quality, harmonize master data, and create the fabric for building data products and effective data teams."[9]

Sunil Senan in InfoWorld

Leverage the power of the Industrial Work Surface

Kongsberg Digital's digital twin technology brings data together from multiple sources to deliver data contextualisation, making it easier for stakeholders to interpret. By creating predictable delivery and change management of data and data models, your business has a solid foundation for a data-driven future. The Industrial Work Surface is a self-service solution for all your stakeholders — internal teams, external domain experts, third parties, systems integrators and customers. It integrates with other key tech solutions to help ensure data is captured from the most relevant sources, providing granular, actionable insights.

Learn more about this powerful new digital solution

Partner with an organisation that understands your business

If you want more from your DataOps efforts in heavy-asset industries, it's worth speaking with an expert at Kongsberg Digital. Through a combination of deep domain expertise and constant use of our own tools, our team is well-positioned to help you craft practical DataOps plans that deliver maximum value. Every engagement is fully tailored to each client to address the specific layering and architecture they have in place and how the solutions can meet those requirements.

Summary and Takeaways

For most organisations, driving more value from data is paramount. But it can be critical for businesses operating in heavy-asset industries — especially if they are looking to further automate and leverage advances like LLMs, machine learning, AI — and Agentic AI.

DataOps is a collection of practices, principles, and technologies that help improve the efficient handling of data so business leaders can accelerate time-to-value, enhance collaboration, reduce costs, and improve business outcomes.

However, implementing a DataOps program can be challenging. It's not a project with a start and finish that you can just check off a list and then relax. It's a continuous improvement program that often requires some culture change.

To help ensure you maximise returns from your DataOps processes:

- **Secure buy-in and input from all key stakeholders.**
- **Establish how value is defined by identifying business priorities and how your DataOps processes deliver against them.**
- **Identify what information is most valuable and where it is needed — then define the processes to make it happen automatically.**
- **Investigate ways to clean incoming data. Higher-quality data will help you make smarter strategic decisions faster and pave the way for better AI outcomes.**

Successful DataOps doesn't just happen. But with careful planning and expert assistance, you can avoid the pitfalls that derail many projects.

About Kongsberg Digital

Kongsberg Digital is an industrial software company shaping the future of work by changing how businesses design, operate, and maintain their assets. Businesses trust us for our innovative carbon capture and storage technology, new energy ventures towards net-zero, voyage optimisation, emissions reduction, and technology to help balance grids and complex power systems. We are transforming carbon-intensive industries by providing industry-leading solutions that extract value from industrial data. We enable businesses to connect physical assets to an industrial work surface, serving as one common infrastructure for decision-making across the value chain.

Sources

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To learn more about successfully implementing DataOps, download a copy of our playbook,

"How to Implement a Successful DataOps Program"

Learn more

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