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How to Implement a Successful DataOps Program

Start delivering more value for your business by making your DataOps program a reality.

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Introduction

In the data-driven decision-making era, achieving a high Return on Investment (ROI) from data analytics is paramount for many businesses. Yet DataOps initiatives fail repeatedly because teams don't align programs with the business's strategic goals or cannot adequately measure the value of their efforts.

This Playbook outlines ideas on how industrial organisations can successfully implement and optimise DataOps — and lay the groundwork for future AI deployments.

Aim to Tackle These Tough Issues

Here are some big challenges organisations face on the road to DataOps enablement:

01. **People in critical roles don't appreciate the value of DataOps**
If the perceived value of DataOps can't rise above the urgency of their day-to-day work, the key stakeholders you need on board won't buy into the program.

02. **DataOps efforts seem too complex**
Streamlining a fractured IT environment will appear complex and resource-intensive, dissuading many stakeholders from even starting a project like DataOps.

03. **Companies don't have the right mix of talent on board**
The shift to a DataOps approach requires a mix of skills from different specialists who are generally in short supply. Without the right people, the project may fail or under-deliver.

04. **Projects that look abstract or overwhelming don't get prioritised**
Unable to grasp the details of how the project will deliver on its goals, priorities shift away from DataOps, affecting deliverables and milestones.

05. **Internal stakeholders need more education on data fundamentals**
Unless stakeholders know where their data is, how it flows, and the technology in place to support existing processes, they may not fully appreciate the potential benefits of DataOps.

06. **Managing change remains incredibly difficult**
Adopting a DataOps approach isn't just a slight adjustment to key business leaders' routines. It can fundamentally change their work and disrupt their momentum in other areas.

07. **Leadership sets unrealistic or unachievable goals**
Some leaders may need to temper their expectations in an environment where the latest technology buzzword generates too much hype.

08. **Scaling ideas into production is more complex than anticipated**
With today's tools, it's easier than ever to create a proof-of-concept (POC). But, if scaling POCs up for production doesn't go as smoothly, key stakeholders may give up on DataOps.

Knowing these challenges, how can you overcome them? The starting point is to plan for outcomes.

Build a Strong Foundation for Your DataOps Program

Like any transformational project, strategy and planning are fundamental. And without a strong foundation, your team may only achieve sub-optimal outcomes. Improve your chances of success by working through the following steps:

1. Take stock of your assets

What do you have? What does it do? Where are the gaps? Understanding where your business stands now is fundamental to building out a roadmap of improvement. Your inventory must consider factors like:

- **What data assets you have**
- **The quality of that data**
- **How that data currently flows through the organisation**
- **What data silos may exist and how to eliminate them**
- **How your business wants to use the data now and in the future**
- **What data governance exists**
- **The technology and talent you have to support these initiatives**

The assessment will also be crucial in identifying skills and knowledge gaps — and where a skilled domain expert can assist.

2. Protect your sensitive data

Some of your datasets are more sensitive than others. This information will have additional safeguard requirements to maintain privacy, security, and regulatory compliance. In recognition of this additional sensitivity, you will need to perform a few additional assessments:

- **What types of sensitive data do you hold?**
- **Where is it stored?**
- **What are the compliance requirements?**
- **How can sensitive data be obfuscated whilst still retaining its value?**
- **How can data transformations be rolled back if and when required?**

Effective DataOps will require transformations to unlock new insights and value. However, those transformations must be reversible to ensure data integrity and to roll back quickly when mistakes are (inevitably) made.

3. Adopt a strategic mindset

What do you want to achieve? How do these goals align with the overarching business strategy?

A common goal to strive for is data-driven operations. At the start of the project, you must define what you will do with your new data management processes. Develop a strategy that outlines the specific goals, objectives, and milestones you want to achieve.

One way to approach this is to define your key business questions. KBQs are practical targets and goals which will form your roadmap for analysis, strategy, and action. They drive a more focused, effective, and responsible strategy that leads to better client outcomes and business success.

Try to find examples of what you are trying to achieve before you secure buy-in from leadership.

Having examples that demonstrate how your efforts are going to enable new ways of working can be key to getting decision-makers on board.

You should also consider which people and resources you will need to complete the initial minimum viable product (MVP) project.

"Reach out to the people that the introduction of DataOps will positively impact. Invest in a data literacy program that can foster a healthy data culture."[1]

J.P. Romero, data management practice lead, in TechTarget

4. Secure buy-in from leadership and key stakeholders

Adopting DataOps can lead to so many positives for your organisation, but not everyone will embrace change. In fact, some may actively oppose your efforts. When senior stakeholders focus solely on data strategy without supporting data culture, they create an imbalance that can be fatal to ongoing DataOps success. The same is true when technology and operations are not aligned with strategy or culture.

Because DataOps will affect every aspect of your operations – people, processes, and technology – higher-level support is essential.

You will need to convince senior managers that any potentially significant disruption will be offset by the potential benefits. Here, you can appoint "project champions" who are empowered to align technology, operations, people, and culture. But also, as mentioned above, try to come up with specific application ideas. If you believe that you'll want to improve work planning by organising permissions by location, for example, then try to demonstrate the value of contextualising your engineering data with your 3D, CAD, or spatial data ahead of time.

Remember that DataOps's quality-enhancing effects will also be vitally important for your future AI operations.

Checklist

How to gain buy-in from leadership

Consider that senior managers tend to have two questions about any program you propose:

- **How is it good for the business?**
- **How is it good for me?**

If you are building a case for starting a DataOps program, strengthen your proposal by factoring in answers to questions like these. Have you:

	Yes	No
Clearly spelt out the benefits?	☐	☐
Aligned proposed improvements with business goals?	☐	☐
Outlined the business impact?	☐	☐
Simplified technical jargon?	☐	☐
Highlighted how your business can get ahead of competitors through DataOps?	☐	☐
Articulated the risks of not adopting DataOps?	☐	☐
Emphasised the benefits of a more data-driven internal culture?	☐	☐
Provided a clear implementation plan?	☐	☐
Secured cross-functional support?	☐	☐
Leveraged internal expertise?	☐	☐
Prepared for objections?	☐	☐

Once you have completed these steps, you should have a strong case for adopting DataOps that leadership can buy into.

5. Define your project goals

In order to gain buy-in from leadership, you may have needed to adjust your goals somewhat. The ultimate goal will be the same, however — delivering more value to the business from data. Once your high-level goals are defined, map out some interim goals and milestones to help you measure the progress of your DataOps project later. With concrete goals, you'll be able to recognise where new value is created and head off unrealistic expectations.

"Define what success means to them is where organizations should start."[2]

Ramesh Vishwanathan, IT practice consulting director, in TechTarget

It's important to emphasise to potential stakeholders and practitioners that the DataOps approach can be adopted incrementally. But when you have specific goals or use case examples you are looking to emulate, the chances your program will succeed improve.

6. Build your MVP

Since DataOps is a process of continuous improvement, aim to tackle a smaller project as a starting point. Think in terms of a minimal viable product (MVP) approach. That doesn't mean you can't leverage all the relevant tools and expertise you might have at your disposal, but starting small allows you to achieve early wins and lay the groundwork for the next stage of improvement.

"Focus on a DataOps MVP that addresses a limited set of data use cases from the foundational elements to the value delivery. Once that DataOps minimal viable product has proven its value, scale horizontally by expanding the scope."[3]

Hector Rueda, data science technical manager, in TechTarget

Again, managing expectations will be extremely important. The MVP will not deliver against all of your goals immediately — and your stakeholders must realise that.

7. Refine your data lifecycle

With some projects in place, your DataOps team can shift focus to refining the data lifecycle. This is not to say that these projects are complete by any stretch. DataOps will always require continuous improvement, but by this point, your team is in a better place than when you started.

Factors to consider and improve include:

Design and development of the data pipeline

Your pipeline must be improved to remove bottlenecks and, wherever possible, manual processes. Ultimately, you are seeking to automate as many of your data processes as possible.

Storage

Where is your data stored? Can your storage platform cope with the volume, types, and speed of data being captured? An effective DataOps storage platform will meet a wide variety of needs including security, compliance, availability, scalability, and cost.

Data modelling

Creating analytical models, algorithms, and calculations will enable your business to derive insights and make data-driven decisions. Your DataOps architecture must integrate data science platforms, model management tools, and version control systems to allow you to develop, test, and deploy data models and algorithms quickly and efficiently.

Data consumption patterns

The beauty of DataOps is that it opens many new ways to use and consume data. Once empowered, stakeholders may find new, previously unidentified ways to process information, and by monitoring consumption patterns, you can enhance and improve all of your pipelines.

8. Begin more purposeful implementation

Observations collected from your data lifecycle and the DataOps MVP itself will help you define the next stage of your roll-out. There are three key areas to consider:

Legacy data stacks

Outdated, siloed data stacks will hamper efforts to create end-to-end visibility. Your next round of investment should focus on centralising your important data so all authorised stakeholders can access what they need when they need it.

Data literacy

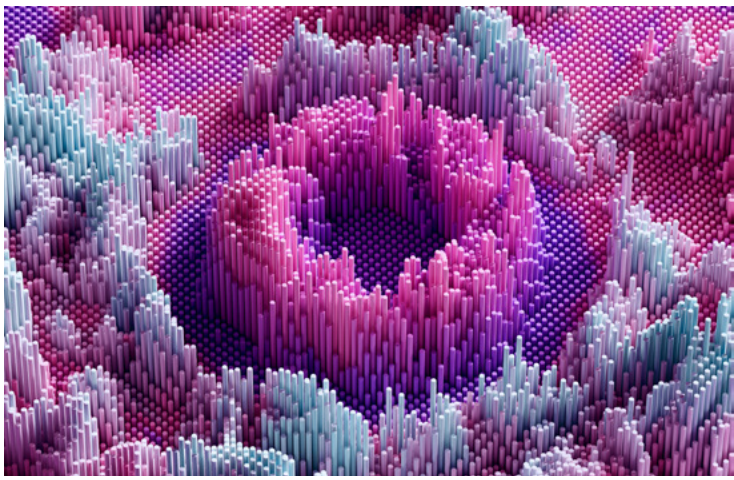
Access to data is just the start. Your employees will need new skills to use it, too. Investing in data literacy across key business and operational areas will ensure maximum value is extracted from your DataOps efforts and that you are not leaving money on the table because of missed insights and opportunities.

Upskill

Data teams will need retraining and upskilling to ensure they are effective and productive in the new environment.

9. Refine, optimise, and repeat

Remember, DataOps is not a destination but a program of continuous improvement. In addition to using the information returned by your DataOps processes to drive new operational efficiencies, you should constantly analyse the processes themselves, looking for opportunities to deliver incremental improvements. Strategic business partners with domain expertise can be quite valuable in these efforts.



How DataOps Helps You Drive More Value From AI

Because of the way it simplifies access to data stores, DataOps has an important role to play in the training and deployment of AI. Most organisations are already building AI services on top of models that they have not trained in-house. However, with a few tweaks, these models can be easily applied to in-house tasks that would normally be classified as “busy work” for a human.

In this context, AI can deliver important new efficiencies and savings, allowing human employees to focus more of their time and attention on strategic activities. The same could be said for DataOps. As you analyse your processes, you will quickly identify a large number of tasks that could also be considered “busy work.” Consider the task of manually adding context to a spreadsheet, for example. By applying AI to your DataOps process, you can streamline and automate these repetitive yet essential tasks for greater efficiency.

How can Kongsberg Digital assist you?

Kongsberg Digital is well positioned to help organisations competing in heavy-asset industries improve their DataOps programs. We have deep experience in sectors like Oil & Gas, Utilities & Renewables, and Maritime. We understand the complexities and unique processes of your business, so we can tailor an approach to your goals and strategy.

The Industrial Work Surface is a self-service solution that gives all your key stakeholders a better way to visualise, orchestrate, and automate complex work. Built with DataOps principles in mind, the Industrial Work Surface helps you generate more productive, cost-efficient, and reliable operations through a single user experience. Having DataOps capabilities “out of the box” will help you achieve things faster.

With the Industrial Work Surface in place, your data teams will be able to move forward on their work faster and more easily. Most engagements will require some initial work to prepare data sets for your DataOps future, but our experts can guide you through the process. In addition to being DataOps ready, the Industrial Work Surface platform can integrate Reasoning Ops, AI Ops, and People Ops into a single system for additional value and greater scale.

With solutions from Kongsberg Digital, you can build, maintain, and govern your data products while always keeping an eye on important use cases. This will allow you to enable data simulation, AI, and reasoning and offer copilots as an integral part of the end-user experience.

Summary and Takeaways

The road to industrial DataOps can be complex and difficult, which is why early projects may have failed to deliver on expectations. But the steps outlined in this playbook should help you avoid the most common pitfalls and lay the foundation for a digitally transformed, data-driven future.

It's imperative to define the ground rules for your DataOps project from the beginning. Remember that every DataOps project must include everyone who works with data to ensure the program is fit for purpose and delivers the outcomes everyone needs. Leadership must also clearly define goals for the program that align with higher-level business objectives.

Help key stakeholders and prospective DataOps practitioners understand the value of prioritising high-quality data — and follow through with guidelines on best practices. 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.

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

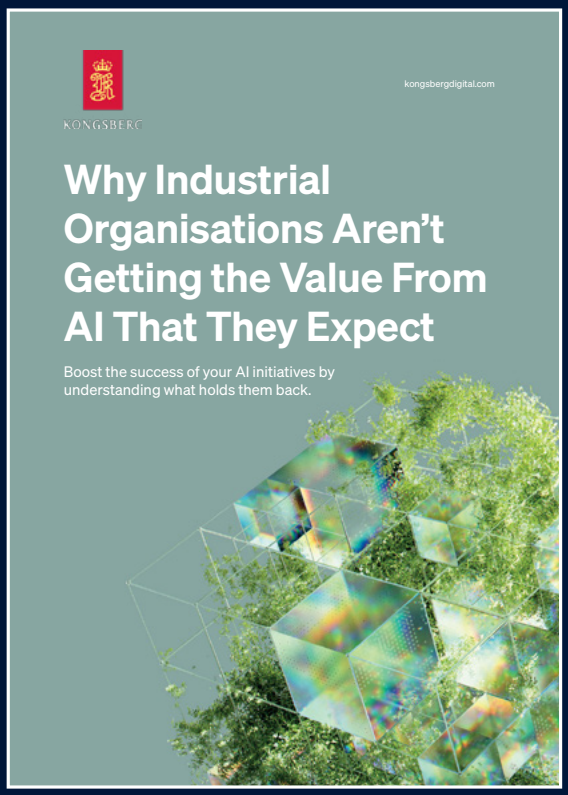
1. “How to overcome the top 5 DataOps challenges,” Mary K. Pratt, TechTarget, October 2022
2. “How to overcome the top 5 DataOps challenges,” Mary K. Pratt, TechTarget, October 2022
3. “How to overcome the top 5 DataOps challenges,” Mary K. Pratt, TechTarget, October 2022

See how AI can assist with your DataOps efforts

As you make plans to implement or enhance your DataOps project, it's helpful to understand how AI can be used to further automate and improve your industrial processes. Learn more from the eBook,

"Why Industrial Organisations Aren't Getting the Value From AI That They Expect."

Learn more



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