

**Deloitte.**



## When stars align

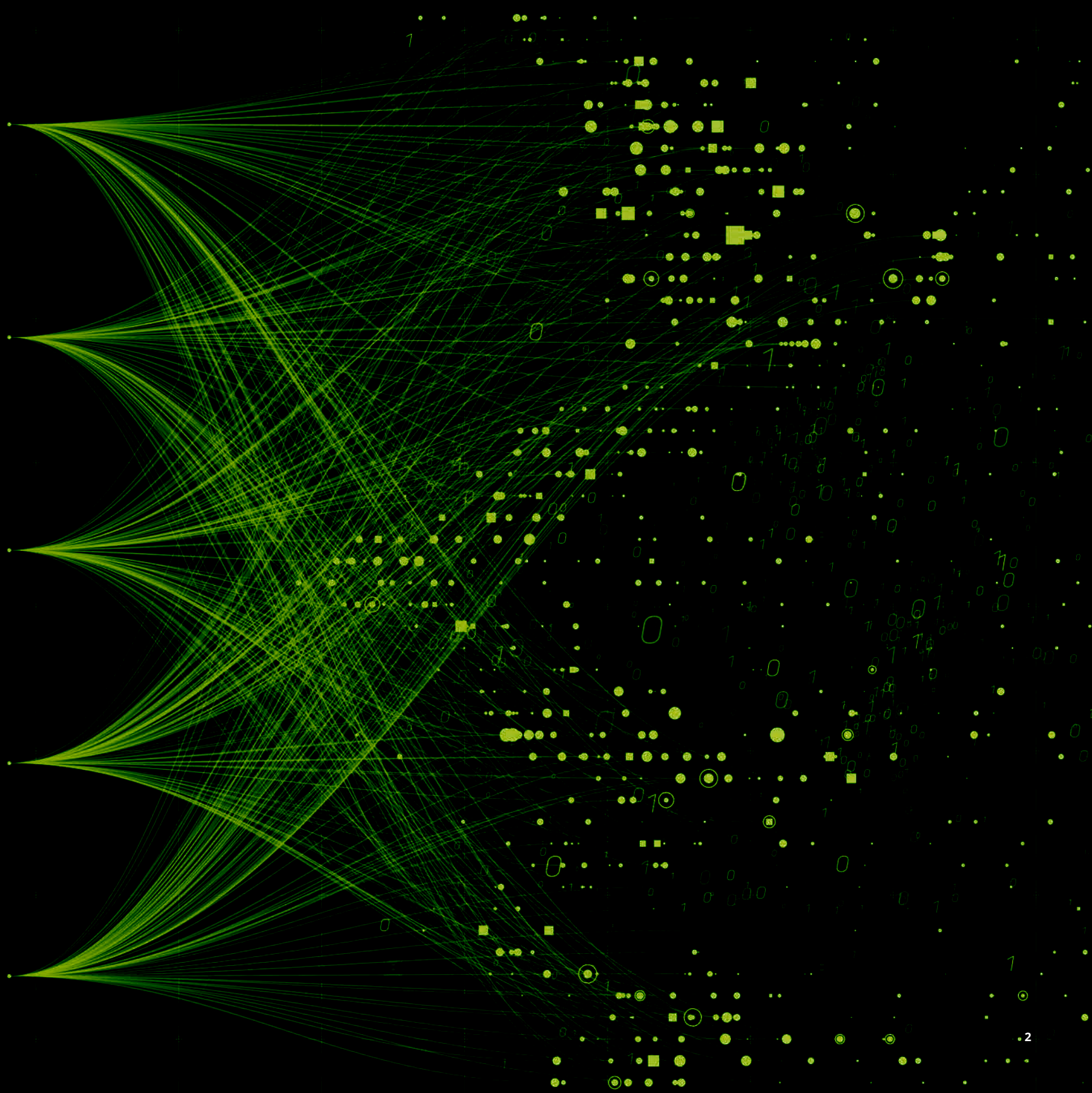
AI, data, and analytics program challenges get easier with more effective data operations in play

# Creating evergreen value with AI, data, and analytics

You know that feeling when spices come together to create the perfect blend, when choir voices harmonize, or when the last piece of a jigsaw puzzle slips into place?

## Satisfaction. Stars are aligned.

Similarly, when effective data management practices are implemented, data becomes a strategic asset that businesses can rely on for insights and competitive edge. If data is made accessible, trusted, and accurate, companies can confidently utilize it to improve business operations, achieve newfound efficiencies, and identify and pursue new revenue streams. **The stars start to align for evergreen growth and value.**



# Effective data operations

**DataOps** is the comprehensive suite of activities and capabilities that enables data to be stored, managed, maintained, and monitored so it is **accessible, trusted, and accurate**. Four key principles drive a strong DataOps program.

First, **the data must be available and accessible**, seamlessly integrated across platforms, and ready to serve up analytics and insights (DataCOREOps). Next, **it must be on reliable, scalable, and efficient infrastructure** (DataINFRAOps). It must meet quality expectations—the data must be clean, trusted, and accurate **with clear governance** policies in place (DataGOVOps). Finally, the process must be **automated** to reduce errors and save time (DataSMARTOps).





## It's an agile and iterative process

High-quality DataOps programs are built on the foundation of DevOps; however, they are geared toward enabling effective data engineering and insights delivery. DevOps is nimble and iterative, and constantly updating. DevOps principles accelerate design, development, deployment, and monitoring of data and analytics applications, while ensuring quality and standardization.

**Once implemented, DevOps principles can help relieve many pain points typical of legacy DataOps programs.**

A complex network visualization consisting of numerous green nodes connected by thin green lines. The nodes are arranged in a dense, somewhat chaotic pattern, with some nodes appearing larger than others. The overall structure is reminiscent of a data graph or a network of interconnected data points. The background is black, making the green elements stand out prominently.

All organizations face data challenges



## Challenge 1

# Managing data volume and enabling accessibility

**Let's face it, there's so much data from so many sources it can be overwhelming to access, track, and store.**

Shortfalls in modern DataOps programs highlight the difficulties in managing scalability, and vague data lineage creates a lack of transparency and traceability from source to end user. Clearer strategies for how data is processed and where it resides, either at the source or in data platforms, often need to be better designed and implemented.

## Challenge 2

# Ensuring the quality of data

Unclear, convoluted, or missing governance policies across organizations can often create ambiguity regarding ownership and accountability when it comes to ensuring the quality of data. **Data duplication, missing data, and other inaccuracies can occur, and no one knows which is correct or the most up to date.** Additionally, changing regulatory expectations may exacerbate complexity via new compliance, privacy, and data handling requirements.





### Challenge 3

## Meeting the demand for analytics

**Every department in the organization would like better insights to make better decisions.** Analytics, from basic reporting to new AI machine learning models, require easily accessible, clean data so an organization can strengthen its decisions, operations, and engagement. After all, organizations can't start from scratch every time. It takes too much time and excess resources to distinctly and uniquely prepare data for individual use cases.



# Good news! It's not crushing

**It may feel that way sometimes,  
but there's a sound solution.**

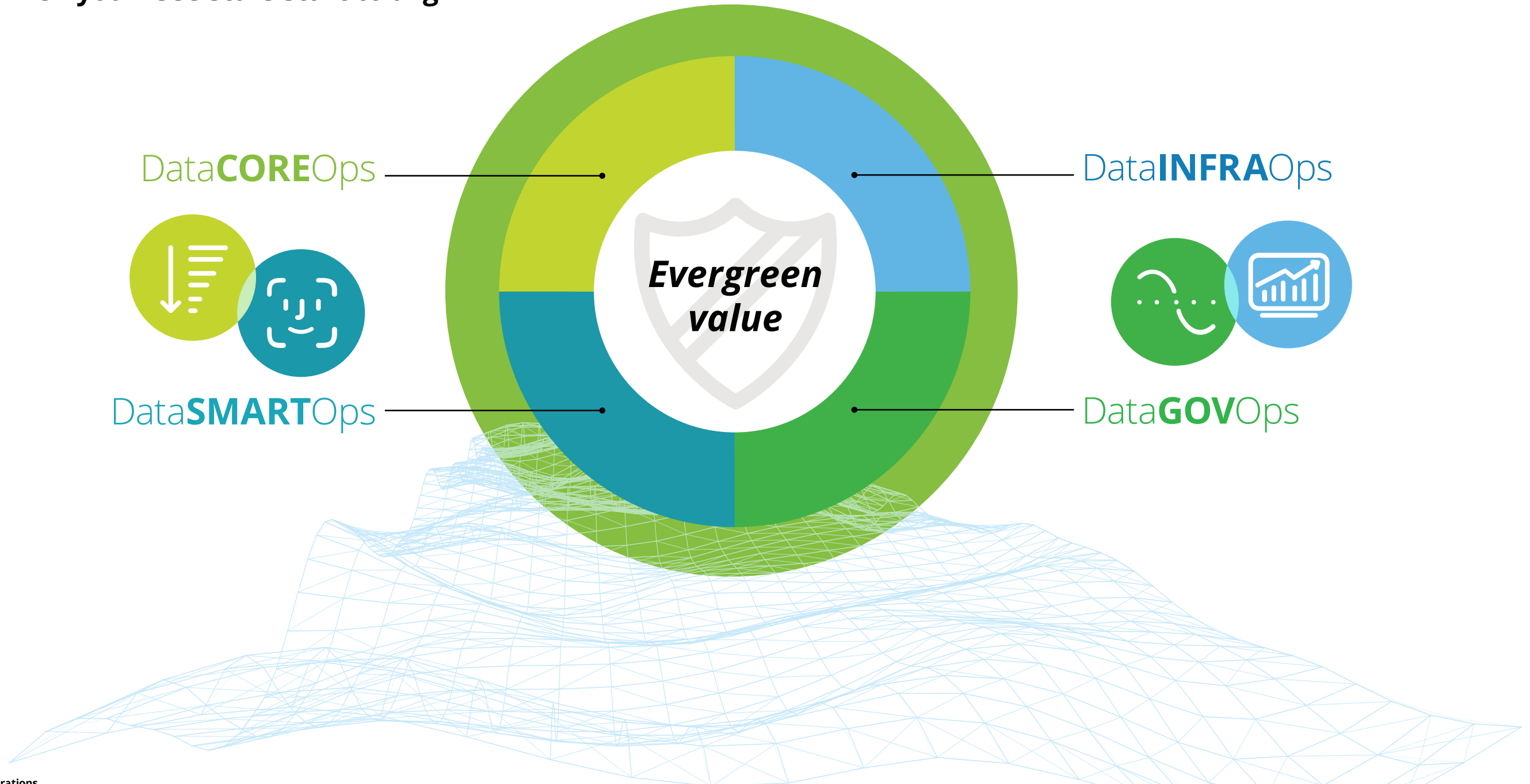
If an organization focuses on available and accessible data, enables scalable infrastructure, governs data with confidence focused on a set of wider objectives, and automates processes for efficiency, then it will deliver insights, and business value with it, elevating data into a strategic business asset for the company.

**Where should companies start?**

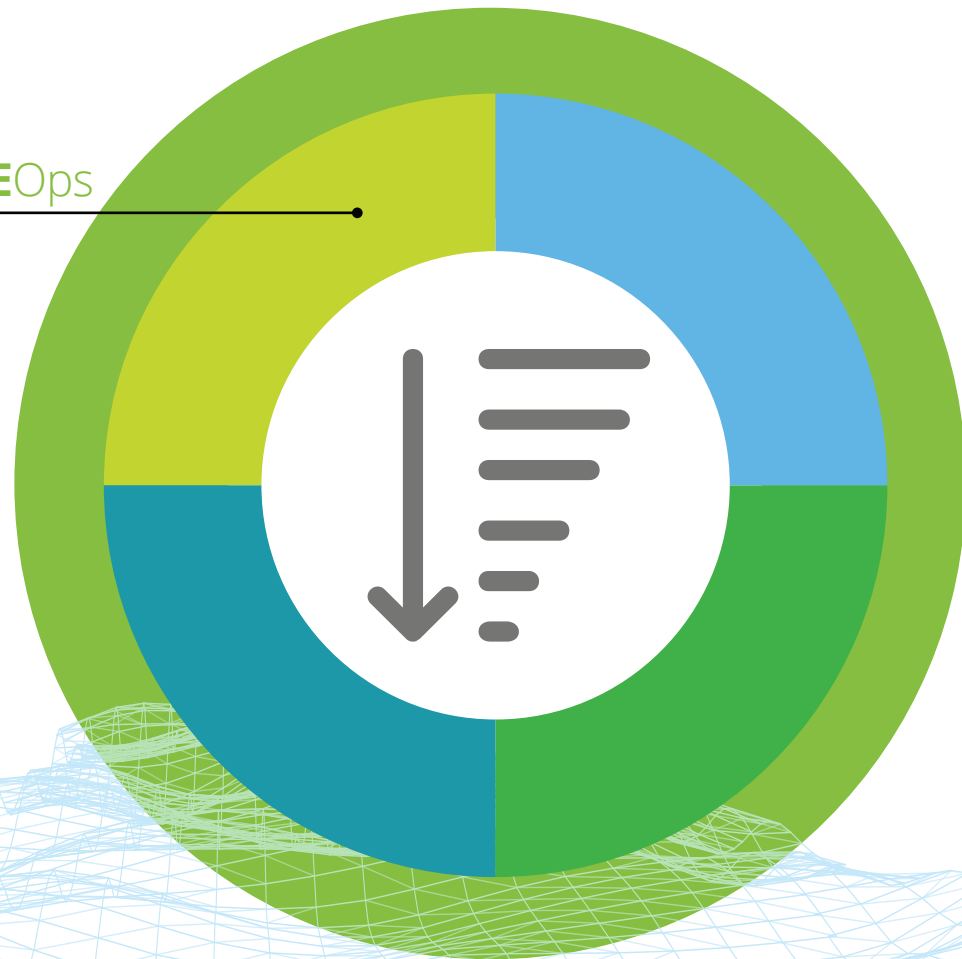


# Take a comprehensive DataOps approach

That's when you'll see stars start to align



Data**CORE**Ops



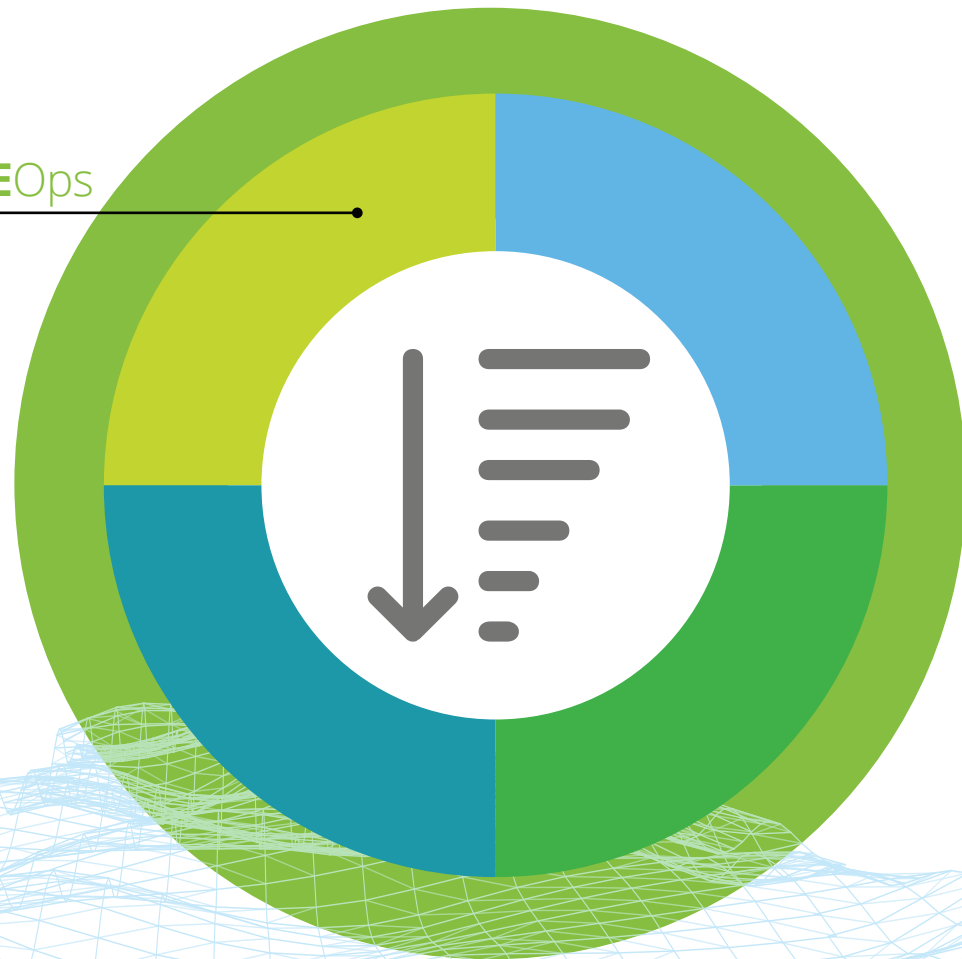
## Step 1

Data**CORE**Ops

# Achieve free-flowing data

Free-flowing data is achieved when data is standardized, enriched, and relevant, and seamlessly integrated across platforms to serve up analytics and insights.

DataCOREOps



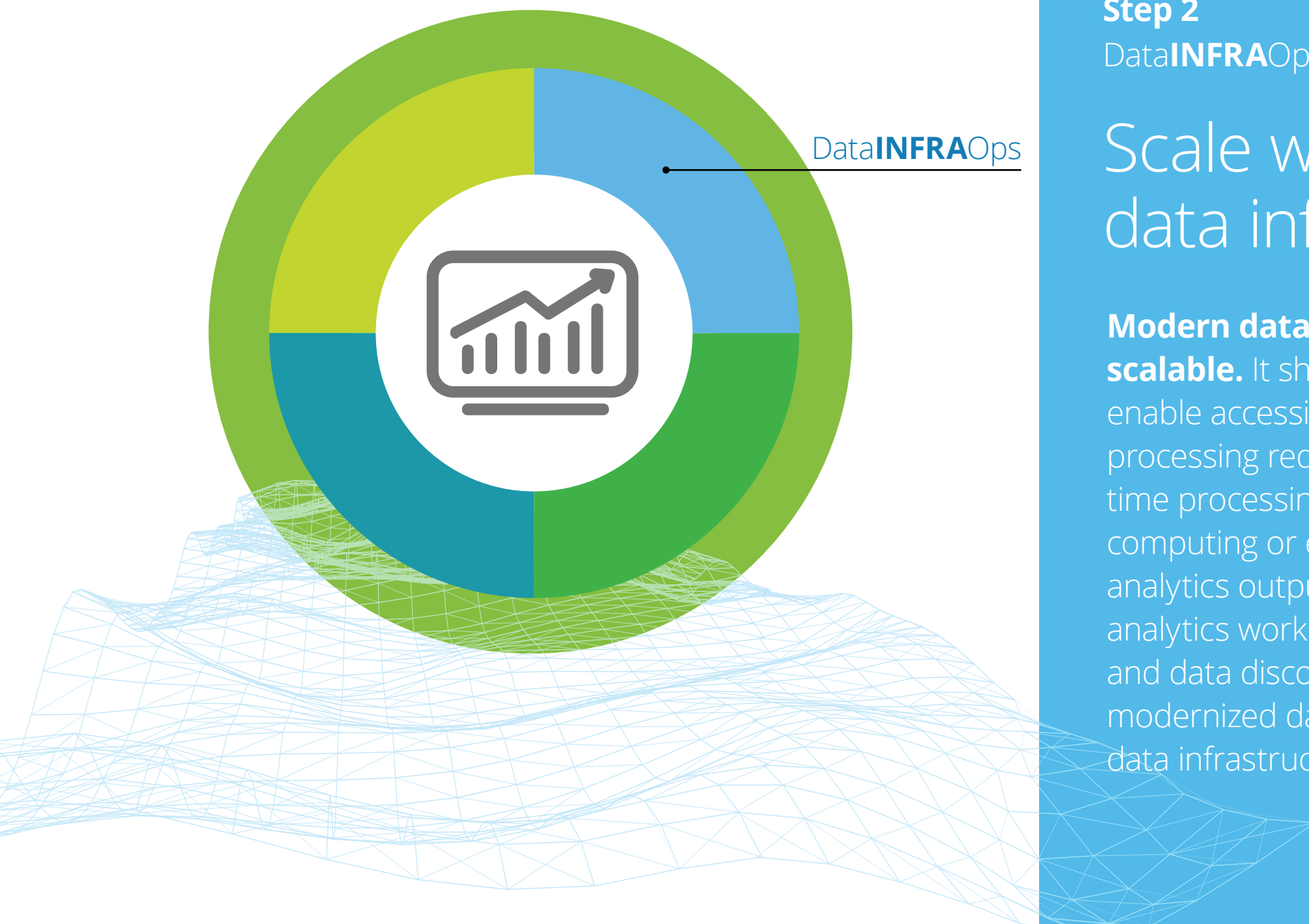
## Step 1

DataCOREOps

# Evolve your approach to DataOps

Optimizing delivery of your current data needs requires organizations to **resolve any fragmented operating models and technical challenges** and drive standardization and compatibility. By establishing a consistent DataOps approach, focused on trusted data enablement that improves data quality, availability, transparency, and usability, data is **ready for use as a strategic asset** and positioned as a driver of evergreen value.

DataOps capabilities should be built to promote data observability and reconcile data inconsistencies. They should also take advantage of support tools to rapidly triage and remediate incidents. Routine evaluation of these capabilities against expected, quality outcomes will drive **opportunities for continuous improvement**. Evolving data workloads based on principles of modularity and reusability can optimize data deployment and delivery as well as enable rapid integration of new, high-value data sets.



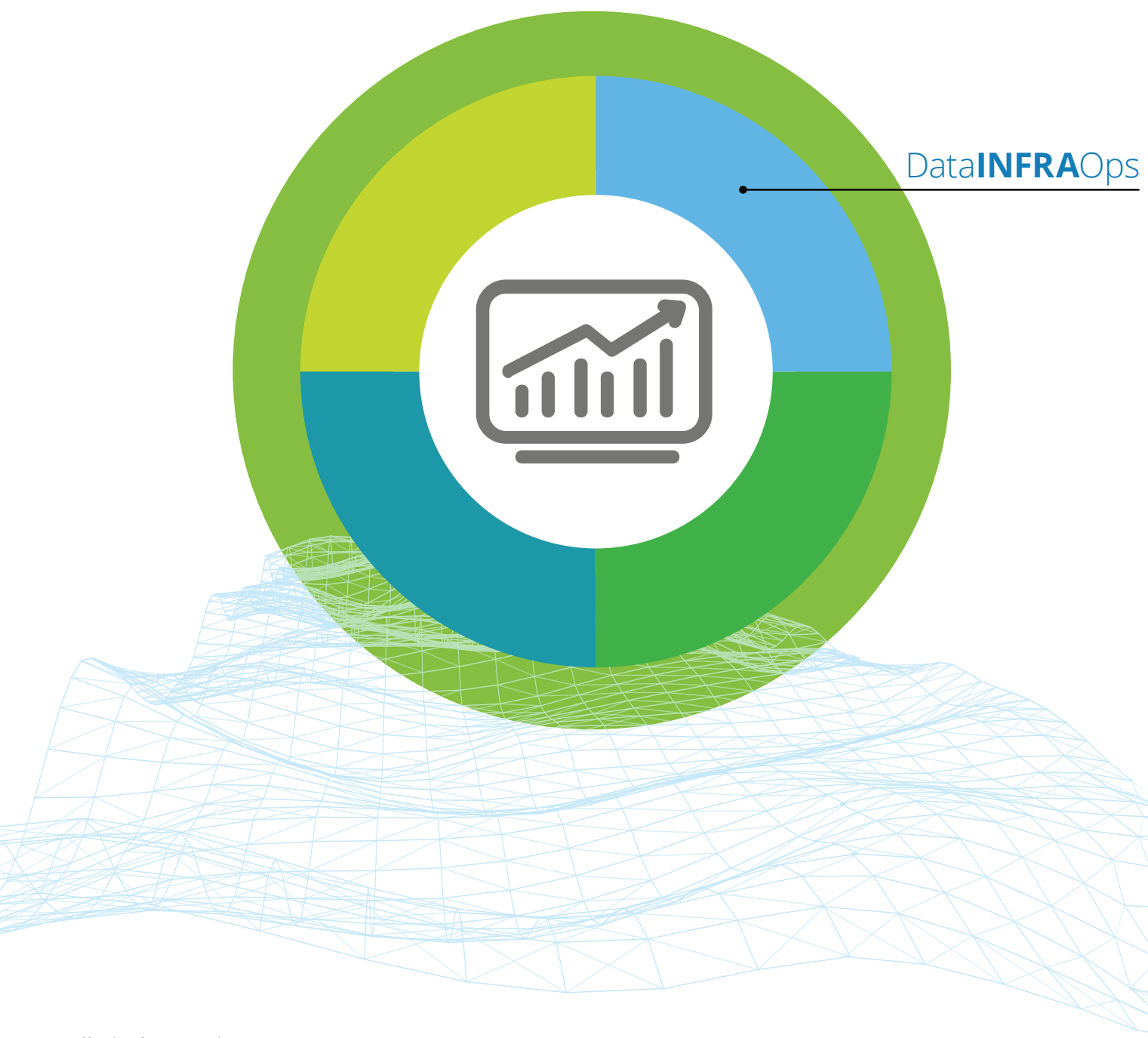
DataINFRAOps

## Step 2

DataINFRAOps

# Scale with reliable data infrastructure

**Modern data needs a platform that is flexible and scalable.** It should facilitate availability, store securely, and enable accessibility. It's important to understand what processing requirements are needed—from batch and real-time processing expectations, to workload location via cloud computing or edge computing—and how to feed high-powered analytics outputs. In addition, organizations may require analytics work benches with the tools to enable self-service and data discovery. These considerations require efficient and modernized data capabilities and careful decisions regarding a data infrastructure.



Data**INFRA**Ops

## Step 2

Data**INFRA**Ops

# The data has the infrastructure it needs to grow

Infrastructure improvement can heighten performance by increasing the speed of processing as well as the reliability of accessibility. Successful DataOps uses built-in resilience in both data infrastructure and data workloads, to handle small setbacks and improve availability. It empowers users to make use of data in everyday decision-making via reliable, recoverable, and resilient platforms, fueling modern analytics and AI use cases. **Companies should prepare for a future that is more and more dependent on an infrastructure—cloud, on-premise, or hybrid—that can effectively manage data at greater scale.**



### Step 3

DataGOVops

## Govern trusted data with confidence

All too often, data sources struggle to meet the quality expectations of the organization. People throughout the organization should have confidence in data governance controls, policies, and decisions—that’s when confidence is achieved. That’s when the data becomes more accurate and trusted. **Data management teams across the enterprise are well staged to protect and maintain the quality and integrity of data products when clear policies exist.**

Employees, too, are better equipped to know how to protect data and where to access it safely and effectively. Trusted AI and data management starts with sound governance and communication practices and is an ongoing process.



### Step 3

DataGOVops

## Where to start

Establish clear and effective governance models that are flexible and responsive to changing conditions, with clear ties between people and their governance role for ownership and accountability.

**Be proactive.** Plan for changes to your governance approach, driven by changing organizational, market, or regulatory conditions. Organizations should understand their own objectives, but maintain compliance to regulation, especially as it relates to privacy or data handling requirements. Privacy laws are already taking shape in some US states as well as the European Union from which to model.

Be prepared for a plethora of data and analytics requests across enterprise departments with a focus on agile delivery. There needs to be a way to fairly govern and prioritize requests given the typical limited supply of very in-demand resources.





Data**SMART**Ops

## Step 4

Data**SMART**Ops

# Automate for efficiency and reliable outcomes

Elements of the DataOps process are automated to reduce errors and save time. The more tasks that can be automated given the volume of data, the better off the program will be. Doing so creates reliability and trust for the business, and puts DataOps teams in a position to deliver more value.

**Data teams should spend 20% of their time on data and 80% on innovation and AI.** Automation is the only way to get there.

Such automation approaches can help with:

- **Data remediation**
- **Data reconciliation and processing**
- **Issue/performance management**
- **Data observability and transparency across the pipeline**



DataSMARTOps

## Step 4

DataSMARTOps

# Service delivery tools help drive automation

Such a platform can integrate with infrastructure, service management tools, and security tools, as well as leverage AI to drive greater automation and enhanced insight into all activities. In turn, these automations and insights can support:

- **Intelligent L1/L2 business support bot activity.** The bot automates redundant, resource-intensive, manual activities in DataOps requiring interaction with multiple applications.
- **Root cause and trend analysis.** It can provide improved code quality, modularity, and design, through common failure points and processing bottlenecks.
- **Problem-solving and incident forecasting.** These insights help with improved risk management, proactive maintenance, out-of-the-box transition plans, and improved release management and hypercare.

## How stars aligned for one company

# Core data operations: TRANSFORMED

With a robust DataOps program in place, a large, national financial services company resolved data latency, increased application stability, and automated data processes.

### CHALLENGE

**Like many companies, it lacked quick, easy ways to manage its data.**

The company struggled with:

- Disparate platforms and an inability to scale capacity
- Lack of clarity and visibility across workstream; more than 300 contractors were working on different projects
- Lack of automation capabilities, data latency, and increased errors

### SOLUTION

**An all-encompassing DataOps program addressed core readiness, infrastructure, governance, and smart automation.**

Deloitte helped reduce redundancies caused by duplicative development efforts and focused on process improvements in looking for ways to plug gaps, gain insights, and maximize data-driven decision-making.

A ticket management system was implemented to expedite requests, and its infrastructure was evaluated to ensure it would support growing data sources on both the cloud and at the edge. Next, attention turned to the creation of both governance policies and service level agreements (SLAs), which would provide insights on application-level metrics and log batch-status across multiple applications.

To better service, remediation techniques were also put into place. Intelligent tools could provide quick resolution to similar problems. That's not all that was automated. **Deloitte helped the company apply automated recovery patterns using real-time IoT data ingestion and processing.** Visualizations and analytics were served up to help in data reconciliation, migration, and code management. Automated testing improved coverage and quality output, and reusable scripts were built to cut down end-to-end implementation time by 40%, improving overall quality with reduced deployment efforts.

### RESULTS

**The company achieved evergreen value, which is built into ongoing operations.**

With a sound DataOps program in place, the company saw the metrics it strove for at the project's onset:

- 99% application stability; 99.98% system availability
- Reduced data latency by 40%
- Reduced interfaces from 70+ to 12
- Decreased Priority One incidents by more than 72%

# The interdependence of data, AI, and value

1 | Data is fueling insight and the pursuit of AI.

2 | AI supports better business decisions, operations, and strategy.

3 | A strong DataOps program delivers evergreen value for the organization.



With a reliable DataOps program in place, organizations can...

## Put data to work

People can access data easily. Operations teams can implement AI, analytics, and Machine Learning **with data that works for them**, intelligently, with scalability and accuracy.



With a reliable DataOps program in place, organizations can...

Increase speed to decisions

Did you know, it is soon expected that:



AI will be capable of **reducing data operations costs** up to **65%**<sup>1</sup>



Organizations that lack sustainable data and analytics operations, could suffer **setbacks** by **up to two years**<sup>2</sup>



**50%** of enterprises will have devised **AI orchestration platforms**, up from less than 10%<sup>3</sup>

**Successful organizations** tomorrow will be those that are proactively evolving their DataOps approaches today.

1 Gartner: Top Trends in Data and Analytics, 2021.

2 Gartner: Top Trends in Data and Analytics, 2022.

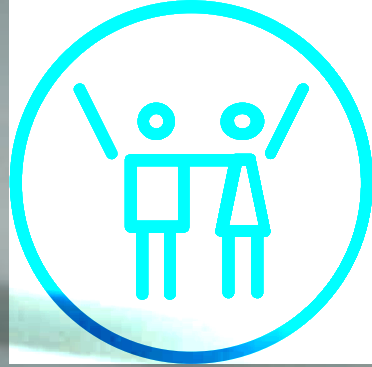
3 Gartner: Top Trends in Data and Analytics, 2021.



With a reliable DataOps program in place, organizations can...

## Create analytics that lead to evergreen business value

Potent data needs to be cultivated and culled to meet the demands put on it. **Once data is a strategic asset, there's no limit to what AI, machine learning, and analytics can yield for your organization.**



## Stars align with an exceptional DataOps program in place

When a company can manage increasing data volumes with ease and still be able to access it efficiently...  
When a company can ensure their data is clean and accurate... When a company can meet the demands for analytics without a wait time as data is scrubbed...stars align. **A strong DataOps program that addresses standardization, infrastructure, governance, and automation can create a new level of evergreen satisfaction and value. It's a gateway to success.**



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