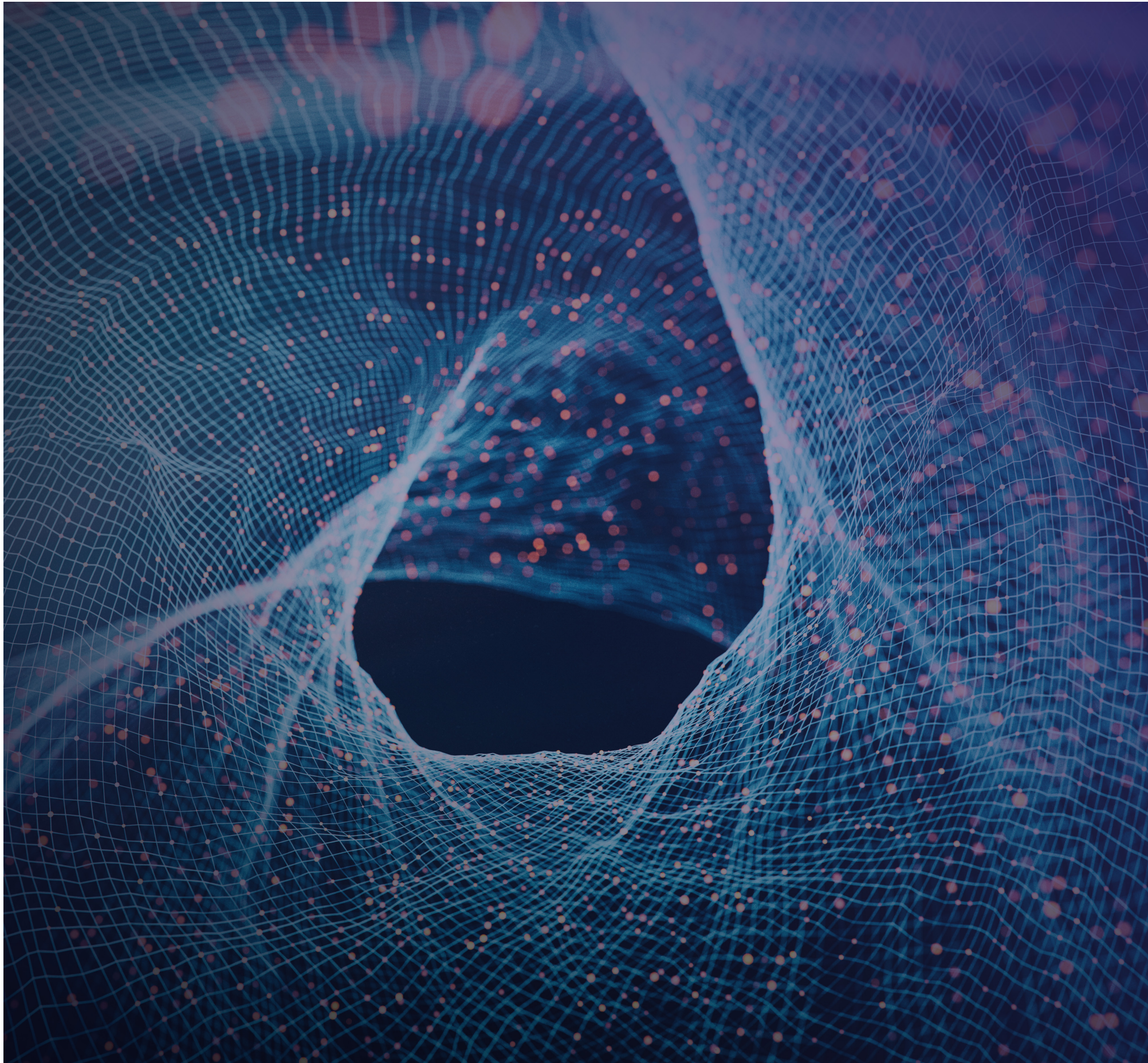




POINT OF VIEW

Modernizing Data Architectures with Data Mesh: A Strategic Imperative for the Digital Era



Traditional centralized data architectures, characterized by monolithic data warehouses/data lakes and rigid data pipelines, are ill-equipped to handle the scale, complexity, and diversity of distributed data sources prevalent in today's digital ecosystem. As organizations increasingly rely on data-driven insights to drive decision-making and innovation, the need for a more scalable, flexible, and resilient data architecture in which business users can own and govern the data has never been more pressing.

Enter Data Mesh – a transformative framework that promises to revolutionize how organizations manage and leverage their data assets.

Data Mesh offers a radical departure from the centralized model by advocating for a decentralized approach to data management. At its core, Data Mesh is built on four principles: domain-driven design/ownership, decentralization of data governance, data as a product, and self-serve data collaboration infrastructure. By organizing data assets around domain-specific data products owned by cross-functional domain teams, Data Mesh enables organizations to democratize data access, promote data ownership, and foster a culture of data-driven collaboration.

KEY PRINCIPLES OF DATA MESH IMPLEMENTATION

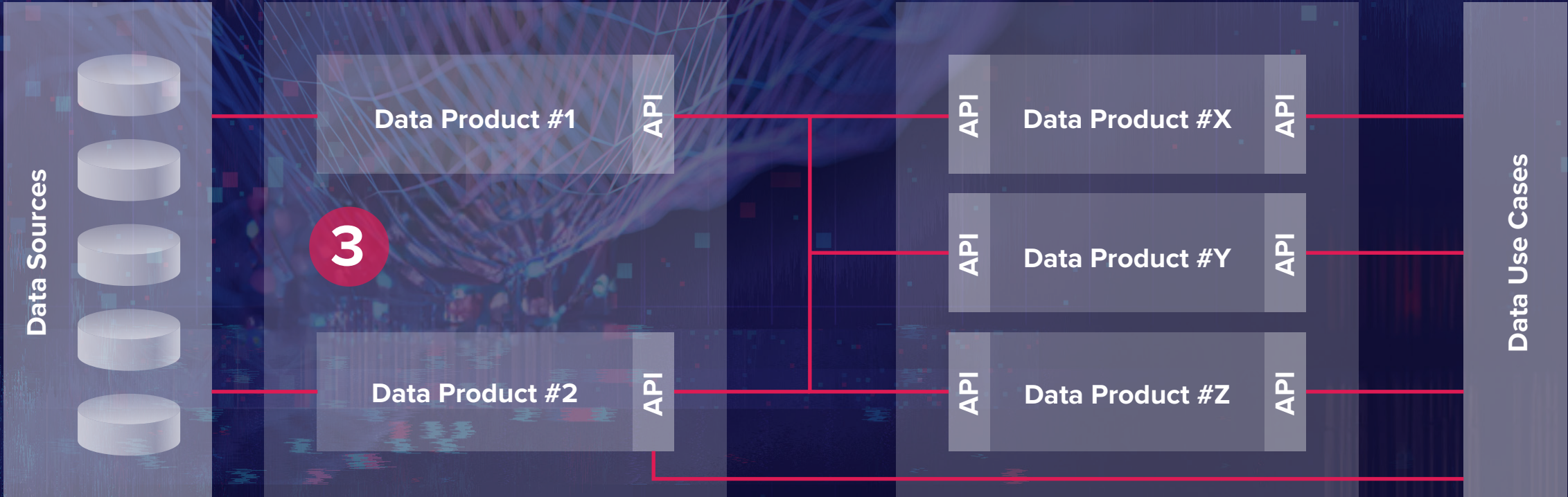
- ① **Domain-driven Design:** In traditional data architecture, data pipelines, transformations, and governance are managed by a central IT or data team. Data Mesh encourages organizations to organize their data assets around business domains rather than technical silos. By aligning data infrastructure with business domains, organizations can better meet the unique data needs of different business units faster, improve data quality, and drive collaboration across multiple domains of the business.
- ② **Decentralization:** In contrast to traditional centralized data architectures, Data Mesh advocates for a decentralized model where domain teams are empowered to own and manage their data products. This distributed approach not only improves data quality and autonomy but also accelerates data delivery and innovation, while eliminating bottlenecks.
- ③ **Data Products:** Data-as-a-Product has gained significance as business users and processes start to shift towards data-driven decision-making. The Data Product Owner (DPO) fully owns the product, its evolution, access and publication, and is responsible for the data quality, ensuring data products are standardized and reusable. This is a stark contrast to traditional data architecture, where data is typically aggregated for reporting in centralized environments, turning data discovery and usability into a challenge.
- ④ **Self-serve Data Collaboration Infrastructure:** Data Mesh promotes self-serve data access by providing domain teams with the tools and capabilities to discover, access, and analyze data independently. By reducing the reliance on centralized data engineering teams, organizations can unlock the full potential of their data assets and drive faster insights and decision-making.

DATA MESH IN ACTION - 4 KEY PRINCIPLES

1 DECENTRALIZED DATA GOVERNANCE:

- Global standards on policies, data catalog, compliance, security
- Domain Autonomy within the overall governance framework - Domains own the data products design and implementation

2 OPERATIONAL DOMAINS (E.G. CUSTOMERS) ANALYTICS DOMAIN(S)



4 SELF SERVICE DATA COLLABORATION INFRASTRUCTURE:

Infra can be shared by multiple domains;
Designed and managed by IT centrally

BENEFITS OF ADOPTING DATA MESH

In addition to the functional benefits, the adoption of Data Mesh principles in organizations can positively impact the bottom line and drive business growth, leading to both cost savings and increased revenue.

Cost Savings

By decentralizing data management and promoting self-serve data access, organizations can reduce their reliance on centralized data engineering teams and streamline data processing workflows. This can lead to cost savings in terms of reduced operational expenses, improved resource utilization, and more efficient data delivery.

Increased Revenue

By leveraging Data Mesh to unlock the full potential of their data assets, organizations can drive more personalized customer experiences, targeted marketing campaigns, and product innovations. This can lead to increased customer engagement, loyalty, and retention, ultimately translating into new revenue opportunities and business growth.

By embracing Data Mesh principles, organizations can transform their data architectures, harness the power of data, and realize tangible benefits that drive business success.

- **Agility and Scalability:** By decentralizing data management and promoting domain ownership, Data Mesh enables organizations to scale their data infrastructure more effectively, adapt to changing data requirements, and accommodate diverse data sources and formats. This scalability and flexibility can support business growth, expansion into new markets, and the development of new products and services, driving revenue generation and market competitiveness.
- **Data Democratization:** Data Mesh empowers domain teams to access, analyze, and derive insights from data autonomously, democratizing data access and fostering a culture of data-driven decision-making across the organization.
- **Innovation and Collaboration:** By breaking down data silos and promoting cross-functional collaboration, Data Mesh stimulates innovation, knowledge sharing, and creative problem-solving, driving business growth and competitive advantage.
- **Enhanced Data Quality:** By enabling domain teams to own and manage their data products, Data Mesh promotes data ownership, accountability, and governance, resulting in higher data quality, accuracy, and reliability. This minimizes errors, redundancies, and inconsistencies that can affect business operations, enabling lower costs for data correction, reduced compliance penalties, and more informed decision-making that drives revenue growth and operational efficiency.
- **Improved Efficiency:** Data Mesh enables organizations to accelerate data delivery, promote data democratization, and foster cross-functional collaboration. This improved efficiency can result in faster decision-making, quicker time-to-insights, and more agile responses to changing business needs, ultimately driving operational efficiency and cost-effectiveness.
- **Risk Mitigation:** Data Mesh promotes data governance, security, and compliance by decentralizing data management and empowering domain teams to ensure data integrity and regulatory adherence. This can mitigate the risk of data breaches, compliance violations, and reputational damage, protecting the organization from financial losses and legal liabilities.

NOTABLE USE CASES

Several enterprises have leveraged Data Mesh principles to modernize their data architectures and scale innovation to drive critical business outcomes. These organizations exemplify how Data Mesh modernizes data architectures, fosters democratization, and drives innovation. By decentralizing data management and promoting collaboration, they unlock data's full potential to deliver transformative outcomes and stay competitive in a dynamic market.

① **Netflix drives customer engagement with personalized content recommendations**

Known for its data-driven personalization, Netflix applies Data Mesh principles to decentralize its architecture. This enables domain teams to manage data products like user preferences and content analytics. This approach powers scalable recommendations, boosting engagement and retention.

② **Spotify powers music discovery and personalized playlists with customer insights**

Leveraging Data Mesh to enhance music recommendations and user experience, Spotify organizes its data infrastructure around domain-specific products owned by cross-functional teams. This approach enables effective analysis of user behavior and trends, powering personalized playlists, music discovery, and increased engagement.

③ **Uber enhances customer experience and drives revenue growth with decentralized data**

Applying Data Mesh principles to decentralize its data architecture, Uber enables domain teams to manage data products like driver performance, rider behavior, and market dynamics. This approach optimizes pricing, route planning, and driver allocation, delivering a seamless, personalized ride-hailing experience to millions globally.

④ **LinkedIn enhances customer engagement and retention with hyperpersonalization**

By decentralizing its data infrastructure around domain-specific products managed by cross-functional teams, LinkedIn leverages Data Mesh principles to effectively analyze user profiles, connections, and interactions. This enables personalized user recommendations such as tailored job suggestions, networking opportunities, and content insights, boosting engagement and retention.

⑤ **Zalando decentralizes people capabilities with an efficient, scalable, and agile approach to data usage**

A leading European fashion retailer, Zalando is an early adopter of Data Mesh, transforming its data architecture through decentralization. Initially reliant on centrally managed data products like customers and deliveries, Zalando faced challenges when operational teams altered data, disrupting other teams reliant on it. Decentralizing high-use datasets addressed these issues, enabling domain experts to manage their data, driving agility, and improving collaboration across the organization.

CHALLENGES TO NAVIGATE

Nonetheless, Data Mesh's advantages outweigh its challenges for many organizations, prompting adoption as a strategic approach to unlocking data value. With proactive planning, robust governance, and effective collaboration, businesses can mitigate risks and harness Data Mesh to drive innovation and achieve success in the digital age.

While Data Mesh offers numerous benefits in modernizing data architectures and promoting data democratization, its implementation can also present potential challenges, including:

- Transitioning to Data Mesh involves cultural, process, and technological shifts, which adds complexity to governance, coordination, and integration, especially in centralized data architectures.
- Decentralized ownership can challenge data consistency, standardization, and quality without robust governance and automated policy enforcement.
- Cross-domain integration of data products requires advanced tools and processes to ensure interoperability, sharing, and consistency.
- Scaling decentralized architecture to accommodate growing data volumes and complexity requires additional investments in infrastructure and technology.
- Decentralized ownership poses risks in meeting regulatory standards, requiring strong privacy, security, and compliance measures, particularly in regulated industries like finance and healthcare.

SUTHERLAND EMPOWERS ENTERPRISES TO HARNESS THE POWER OF DATA

Drawing on our experience leading data transformation for some of the world’s most iconic brands, we understand the hurdles businesses face, from data silos and inconsistent quality to scalability challenges and complex governance. Additionally, we’ve seen first-hand how cultural resistance and operational inefficiencies can complicate the adoption of data-driven practices.

Sutherland empowers enterprises to overcome these challenges by implementing Data Mesh principles and modernizing data architectures to create a scalable, high-quality data foundation. Our tailored solutions enable organizations to unlock the transformative power of data, driving enterprise-wide innovation and growth.

Creating a Blueprint for a Strong Data Foundation

We assess clients' data architectures, capabilities, and readiness for Data Mesh adoption, creating strategic roadmaps and implementation plans tailored to their unique business goals.

Implementing Data Mesh Principles

Our end-to-end services define domain boundaries, design data products, and establish governance frameworks while integrating platforms and tools for scalable decentralized data ecosystems.

Establishing Robust Governance and Security

We build comprehensive governance frameworks and policies, ensuring data quality, privacy, compliance, and security through advanced controls and encryption protocols.

Unlocking Data Value

Our expertise in data engineering and integration enables seamless workflows, high-performance data pipelines, and interoperability across domain-specific products.

Enabling Data-Driven Decisions

By leveraging AI, ML, and advanced analytics, we empower clients to extract actionable insights, enabling predictive analytics, personalization, and data-driven decisions.

Empowering Data Excellence

Through training programs and workshops, we equip teams with the skills and best practices needed to thrive in a Data Mesh environment, fostering data literacy and ownership.

Managing Data Seamlessly

With managed services and ongoing support, we ensure long-term reliability and scalability of Data Mesh architectures through performance optimization and proactive troubleshooting.

CLIENT SUCCESS STORY:
**PREVENTING REVENUE
LOSS THROUGH
ENHANCED DATA
MANAGEMENT**

THE CLIENT:

A \$1 billion global research firm faced data silos, integration challenges, and inefficiencies due to a lack of self-service analytics and a cohesive data strategy.

THE SOLUTION:

Sutherland partnered with our client to develop a unified data strategy, with the goal to eliminate silos, enhance reporting, and establish a governance model with stewardship roles and a data council. Leveraging Data Mesh principles, we implemented comprehensive data policies that ensured consistency, accuracy, and regulatory compliance, while self-service analytics improved collaboration and expedited reporting.

OUTCOME:

Our client prevented a 15% revenue loss, improved data quality by 25%, and strengthened their market reputation through enhanced data management and encryption.

15% *Prevented
Revenue Loss*

25% *Improved
Data Quality*

CONCLUSION:
**EMBRACE THE
DATA MESH
REVOLUTION AND
UNLOCK AGILITY
AND GROWTH**

Modernizing data architectures with Data Mesh emerges as a strategic imperative for businesses looking to take advantage of the full potential of their data assets. By adopting a domain-driven design, embracing decentralization, and fostering self-serve data access, companies can fundamentally transform their data infrastructure and drive sustainable growth.

This shift not only accelerates innovation but also provides the agility needed to stay ahead in an increasingly competitive, data-centric digital landscape. Now is the time to embrace Data Mesh and unlock the strategic value embedded within your data.

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Unlocking Digital Performance. Delivering Measurable Results.

At Sutherland, we are a leading global business and digital transformation partner. We work with iconic brands worldwide in Healthcare, Insurance, Banking & Financial Services, Communications, Media & Entertainment, Technology, Travel & Hospitality, Logistics, Retail, Energy & Utilities industries. We bring our clients a unique value proposition through market-leading technology and business process excellence. Leveraging our advanced products and platforms, we drive digital transformation, optimize critical business operations, reinvent experiences, and pioneer new solutions, all provided through a seamless “as a service” model. For each company, we tailor proven and rapid formulas to fit their unique DNA. We bring together human expertise and artificial intelligence. In short, we do digital chemistry. It unlocks new possibilities, great client partnerships, and transformative outcomes.