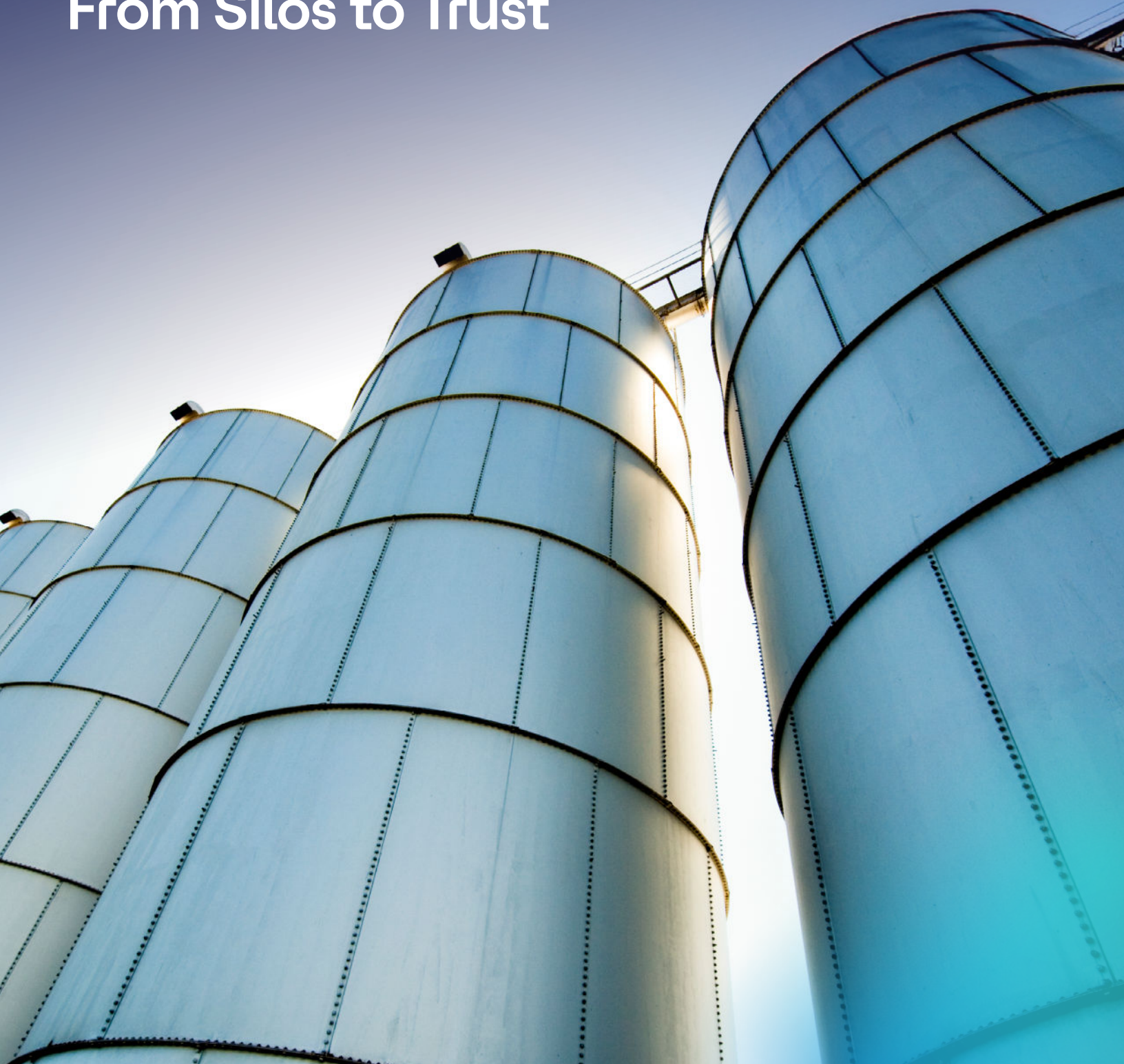


# Overcoming Manufacturing's Biggest Data Challenges: From Silos to Trust



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## The Importance of Holistic Data Management

In today's data-driven manufacturing landscape, inefficiencies in managing and harnessing data are more than just operational headaches—they're incredibly costly. Outdated approaches hinder visibility, slow innovation, and exacerbate the challenges posed by exponential data growth.

Over 53% of manufacturers cite data silos as their top obstacle to data-driven decision-making, with nearly 70% still relying on spreadsheets as their primary data management tool.

If these challenges sound familiar, you aren't alone. Many manufacturers struggle to balance the sheer volume of their data with the need for speed, accuracy, and accountability. The cost of not overcoming these obstacles is steep—lost opportunities, inefficiencies, and increased downtime. Addressing these pains requires a modern approach to data management—one that enables you to break down silos, ensure compliance, and make data-driven decisions with confidence.



## Breaking Down Data Silos for Seamless Data Discovery

Manufacturers often face challenges related to data silos, where essential information is confined within specific departments or systems. This problem typically occurs when data is trapped in isolated systems such as an ERP, CMS, MES, and spreadsheets. As a result, teams struggle to locate and consolidate information across departments, leading to inefficiencies and fragmented insights. Analysts and other data consumers frequently don't know where the data they need is, who owns it, and how to access it. In addition, they face quality issues and must manually reconcile mismatched formats. As a consequence, they waste valuable time and delay crucial decision-making processes.

Analysts can spend up to 60% of their time finding and preparing data, leaving little time for discovering actionable insights.

Breaking down these silos requires the creation of a centralized repository that consolidates metadata from various departments and source systems. By centralizing this information into one accessible platform, manufacturers can ensure that all teams have the insights on the data they need at their fingertips. This approach enhances organizational efficiency and empowers decision-makers to act based on a complete picture, ultimately fostering a more data-driven culture. By doing so, manufacturers can unlock the potential of their data and drive meaningful progress.

An integrated data discovery platform can be invaluable for effectively supporting this move supporting efforts to break data silos. During modernization, it's important to find a data catalog to consolidate and store metadata from various sources, including on-premises and cloud systems. This capability enables fast and comprehensive analytics. By combining integration, data warehousing, and analytics, manufacturers can gain a deeper understanding of their data, leading to quicker and more informed decision-making in the R&D process.



## Ensuring Data Quality and Building Trust

Only 25% of leaders express high confidence in the data they collect, making reliability and trust significant challenges.

Data quality is fundamental to fostering trust within an organization and facilitating informed decision-making. When data is well-documented, easily discoverable, and trustworthy, it empowers users at all levels to make decisions based on accurate and relevant information. A robust data catalog enhances data literacy by clarifying the context, lineage, and quality of data assets. This understanding fosters greater user confidence, enabling them to leverage data effectively in their daily operations.

Without a clear understanding of how data has been collected or transformed, users often worry about its accuracy and relevance. For instance, a production planner may distrust predictive maintenance metrics simply because the processes behind the data remain obscure. This lack of clarity can result in significant decision-making challenges, as the trustworthiness of the data is fundamentally compromised. And when users cannot validate the freshness or origin of data, critical decisions may be delayed or made with considerable uncertainty, posing risks of costly errors. These errors include stockouts and overstocks, unplanned outages, and poor supply chain and vendor management, which can cost manufacturers up to 20% of their annual revenue each year.

Ultimately, the interplay between data quality and trust is crucial. When manufacturers prioritize data quality, they eliminate the confusion surrounding data assets and create an environment where informed decisions can thrive. Manufacturers can mitigate risks and bolster operational efficiency by investing in strategies and tools that enhance data verification and ensure the accuracy of information. This proactive approach to managing data integrity nurtures a culture of trust and fosters a more agile and responsive organization capable of navigating the complexities of modern business landscapes.

## Overcoming Barriers to Collaboration and Self-Service

The ability of business users to independently access and analyze data is crucial for maintaining a competitive edge. Self-service capabilities provided by a data discovery platform and its internal data marketplace play a starring role in this process. Manufacturers can reduce their dependence on IT departments for data access by enabling users to search and discover data quickly, directly requesting the desired data assets from the owner. This shift alleviates the common bottlenecks when business users must wait for IT teams to fulfill their data requests. In many cases, these delays span days or weeks, significantly hindering the speed of decision-making and the agility needed to respond to market fluctuations. As a result, business users often express their frustrations, worrying that they are missing out on critical opportunities.

A data catalog encourages teams to collaborate more effectively. Without a common platform for data discovery, various departments often operate in silos, leading to misaligned insights and redundant efforts. This lack of cohesion wastes time and resources and results in conflicting data interpretations. Teams may be unaware of what others are working on, leading to duplicate reports or varying conclusions based on the same underlying data.

Embracing self-service data access and enhancing collaboration through a shared platform can significantly improve a manufacturer's operational efficiency. By empowering business and non-technical users to take charge of their data needs, companies can accelerate their decision-making processes and become more responsive to changing market demands. Furthermore, breaking down silos and facilitating cross-departmental collaboration ensures that all teams are aligned, ultimately propelling the organization toward achieving its strategic objectives while minimizing wasted resources and effort.

## Centralized Data Governance for Compliance and Efficiency

While 95% of manufacturers have some level of data security policy, only 28% have a formal policy for data quality.

Centralized data governance is crucial for manufacturers as they contend with the complexities of compliance and strive for operational efficiency in a highly regulated landscape. A cohesive governance framework becomes indispensable with a growing array of data regulations—ranging from ISO standards to industry-specific laws like REACH.

Centralizing these efforts helps ensure that data management practices are compliant with legal requirements and conducive to innovation. This coherence enables manufacturers to maintain clear oversight of their data, facilitating the demonstration of regulatory adherence while accessing valuable insights that can drive product development and innovation.

To successfully implement a centralized governance framework, it is vital to strike a balance between local autonomy and central oversight. One effective practice is to create governance committees that involve representatives from various departments, allowing local insights and needs to inform the overarching strategy. This collaboration fosters a sense of ownership among teams while aligning their initiatives with the organization's objectives.

Clearly defining roles and responsibilities within the governance structure is also essential, as it promotes accountability and streamlines decision-making processes. Employing technology, such as data catalogs, can enhance governance efforts by documenting and sharing policies, tagging sensitive information, clarifying data lineage, ownership, and permissions, facilitating compliance, and enabling teams to access the information necessary for innovation.

## Conclusion: The Path to Mastering Data Management

Unplanned downtime can cost manufacturers up to 20% of their annual revenue, while fragmented supply chain data disrupts logistics and inventory forecasting.

The effects of poor data management ripple across every stage of production. With the added challenge of regulatory compliance, the need for effective metadata management has never been greater.

Manufacturers must prioritize key areas such as data quality, governance, integration, and analytics to thrive. However, addressing challenges like data silos and compliance demands a comprehensive strategy that connects these vital elements. By embracing a holistic approach and leveraging metadata, manufacturers can ensure their data is accessible, clean, and secure, paving the way for enhanced decision-making and efficiency.

## About Actian

Action makes data easy. We deliver cloud, hybrid cloud, and on-premises data solutions that simplify how people connect, manage, and analyze data. We transform business by enabling customers to make confident, data-driven decisions that accelerate their organization's growth. Learn more about Action, a division of HCLSoftware: [www.action.com](http://www.action.com)

