STIBO SYSTEMS
MASTER DATA MANAGEMENT

sitation

Turn Data Chaos into a **Competitive Edge** in High-Tech and Electronics Manufacturing

A Stibo Systems + Sitation White Paper

Introduction

High-tech and electronics manufacturing companies operate in one of the most complex and data-intensive environments. The ability to effectively manage growing volumes of data, ranging from product specifications and materials to supply chain logistics and regulatory compliance, has become a competitive necessity.

Yet, ever-increasing disconnected legacy systems, siloed data and inefficient syndication processes have created new levels of data chaos. This can make it challenging for manufacturers to get a unified, accurate view of product information and related data, significantly impacting how quickly they can go to market.

Difficulty managing data complexities has become a common challenge for manufacturers. According to recent research conducted by **Forrester Consulting**, 98% of manufacturers surveyed are experiencing at least one data challenge, which can impact workplace collaboration, productivity and time to market. In fact, the global survey found that 40% of manufacturers

are lagging behind competitors who are focused on implementing data-driven productivity and automation.

To reduce this data chaos and improve time to market, high-tech and electronics manufacturers and distributors require a modern data strategy that enables data interoperability, governance and syndication. This is where master data management (MDM) can drive significant business value.

Stibo Systems and **Sitation**, as industry leaders in MDM and product information management (PIM) implementations, have collaborated to address these critical challenges. This white paper explores the pain points of electronics manufacturers, outlines key capabilities required to overcome these barriers, and shares a real-world success story. Read on to learn how a leading Fortune 500 semiconductor company with 25,000+ parts in siloed legacy systems leveraged MDM to significantly reduce time to market for new parts.

Critical data challenges in the **electronics** and **high-tech industry**

The journey to centralized product data management begins with recognizing the systemic challenges that manufacturers and distributors face. These include:

1. Legacy systems and fragmented data

Many electronics manufacturers experience frustration relying on homegrown, legacy IT systems or siloed solutions that lack the ability to standardize, integrate or syndicate data across channels. Disconnected systems create inefficiencies, leading to inconsistent product data, slow time to market, and challenges in executing digital transformation initiatives.

2. Lack of interoperability between systems

Data is typically scattered across various solutions, such as product lifecycle management (PLM), enterprise resource planning (ERP), manufacturing execution system (MES) and customer relationship management (CRM), often with each one operating independently. Without seamless data integration, manufacturers

> **"** 98% of manufacturers are experiencing at least one data challenge.
>
> - Forrester Consulting

struggle with misaligned bill of materials (BOMs), enriched descriptions, supplier discrepancies, inefficient inventory management, or centralizing the data for analytics, ultimately impacting revenue.

3. Complex product structures and high data volume

High-tech and industrial automation products have dense engineering and manufacturing-driven attribution that are in order of magnitude more complex than other consumer products. These attributes must be structured and managed at scale, often spanning millions of SKUs across multiple channels, suppliers and distributors. A scalable MDM solution is critical to ensure efficient attribute management without performance degradation.

4. Engineering asset management and syndication challenges

The management and distribution of intricate engineering assets pose major difficulties to manufacturers. The sheer volume and intricacy of digital files, which can include 360° product images, detailed circuit diagrams, critical compliance documents and material safety data sheets (MSDS), require sophisticated metadata management.

Accurately tagging and linking these assets to specific products is a painstaking process, further complicated by the need for seamless syndication across specialized distribution and aggregator-based syndication endpoints (e.g., Findchips, Octopart, ECIA, Supply Frame, etc.) that ensure rapid turnaround times.

5. BOM and fitment management complexity

Manufacturers face significant hurdles in managing complex product lists for specialized applications while working with commerce platforms to provide real-time availability and pricing. Similarly, a robust data management system is needed to handle the vast number of cross-references to offer visibility into competitor and alternate fitment information to optimize inventory decisions and enhance conversion rates.
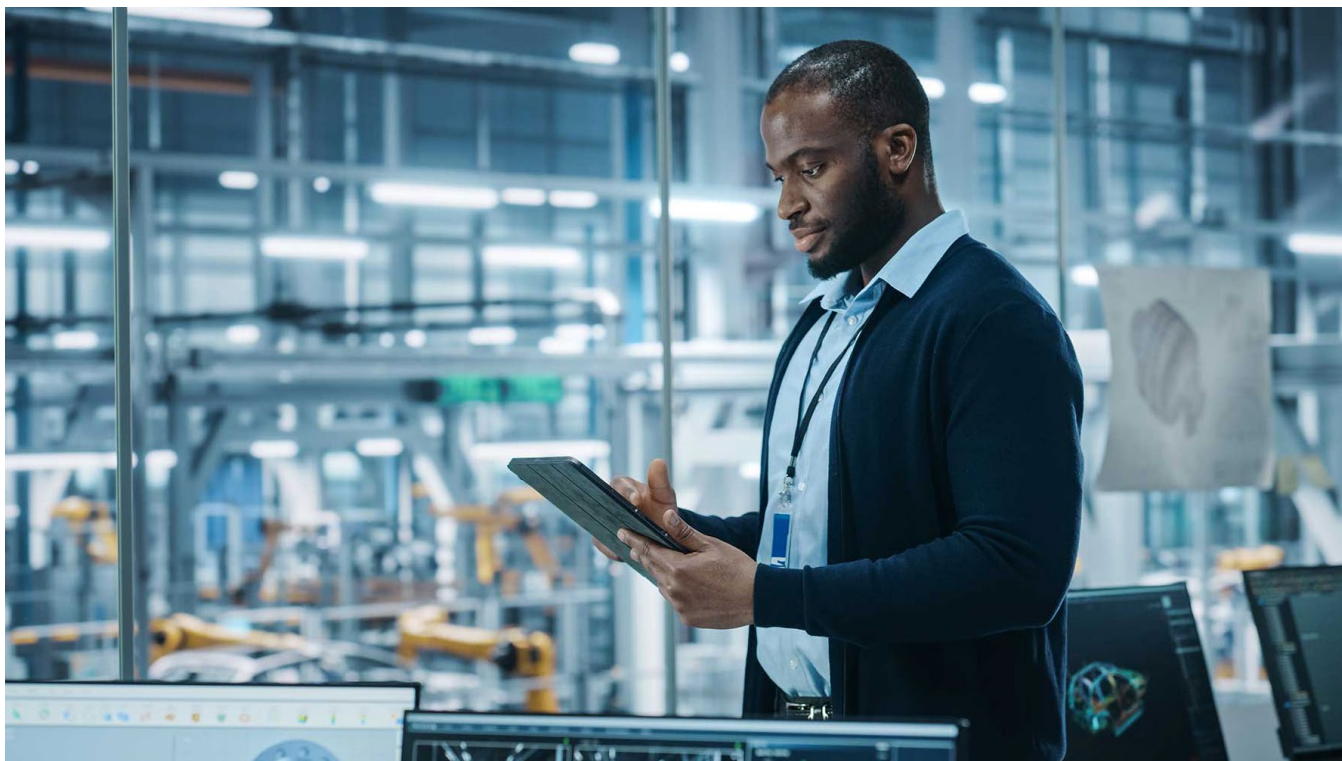
Core capabilities of an **effective data strategy**

To address these industry challenges, high-tech and electronics manufacturers need a modern MDM strategy.

An MDM solution creates a scalable data foundation through connecting, managing and sharing master data, all on a single platform. This centralized approach enables seamless interoperability between systems, enabling companies to maximize current infrastructure investments without overhauling existing systems or requiring extensive retraining.

MDM synchronizes and standardizes data across all systems, ensuring that every department works with a single, authoritative source of information. This eliminates duplicate records, reduces errors and makes sure all business units are making decisions based on accurate, up-to-date information. Near real-time information synchronization creates a seamless process, regardless of the different formats or systems.

Key capabilities to look for when evaluating MDM providers:

Unified data governance and interoperability

- Standardizes and integrates PLM, ERP, CRM and MES data

- Ensures a single, consistent and authoritative view across the enterprise

BOM and fitment intelligence

- Enables cross-referencing of compatible components

- Optimizes inventory planning and supply chain resilience

Scalable data and asset management

- Supports millions of SKUs and product attributes without performance loss

- Manages complex engineering assets, compliance documents and metadata tagging

Real-time syndication to distribution channels

- Ensures seamless content delivery to aggregators, marketplaces and direct channels

- Reduces delays and errors in time-sensitive, competitive markets

AI-driven insights and future scalability

- Facilitates advanced analytics and AI-powered automation

- Ensures adaptability to emerging business and compliance needs
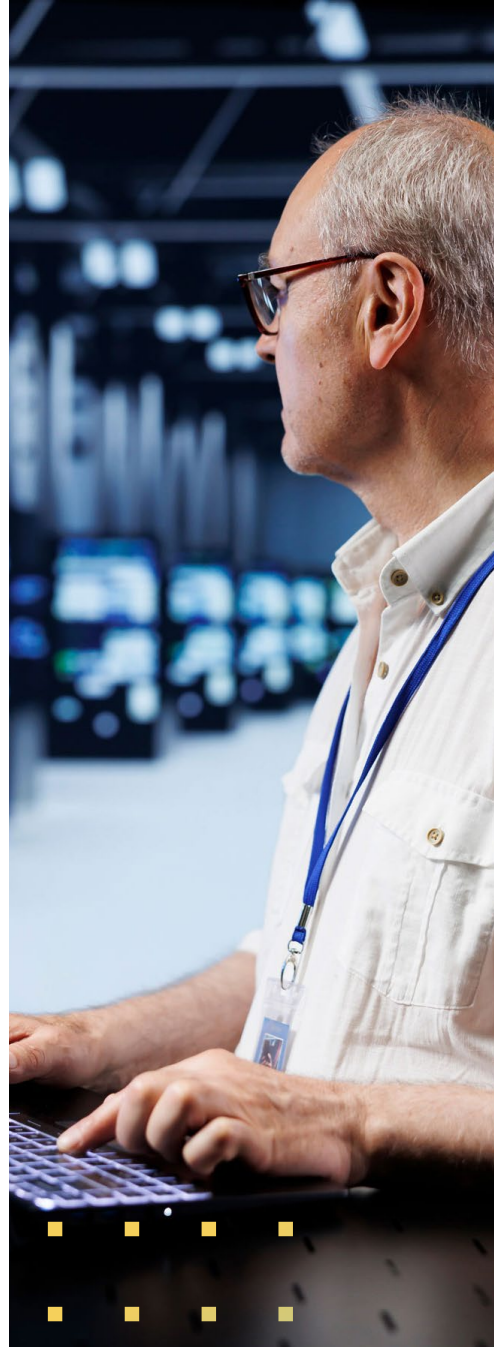
An effective MDM strategy enables companies to drive operational efficiency, business agility and digital transformation. In fact, implementing standardized data exchange protocols has led to efficiency improvements and cost reductions of up to 40% in certain production activities.

With scalable data governance, seamless integration and automation, manufacturers can improve data accuracy, accelerate time to market and optimize decision making, ensuring long-term growth and competitiveness.

Strategic advantages of an experienced solution provider

To maximize the value of an MDM solution, high-tech and electronics manufacturers need more than just technology; they need a provider with deep expertise in implementation, optimization and industry-specific problem-solving. The right partner can ensure seamless integration across MDM and adjacent systems, delivering long-term business value.

Key questions to consider when evaluating implementation partners:

Do they have experience **implementing** MDM and **integrating** with other systems?

Look for a partner who has experience:

- Deploying MDM alongside PLM, ERP, CRM and ecommerce systems, enabling seamless interoperability and data governance

- Adapting implementation strategies to support complex product structures, ensuring scalability and compliance

Do they provide **ongoing optimization** and **performance enhancement**?

Look for services that:

- Provide continuous monitoring, tuning and post-implementation support to align with evolving business needs

- Scale solutions for expanding product catalogs, new markets and regulatory updates

Do they offer custom-built solutions for **specialized use cases**?

Electronics and high-tech manufacturers need partners who can:

- Develop tailored tools for BOM management, engineering asset tracking, and AI-driven automation

- Create industry-specific connectors for syndication channels like Findchips, Octopart, ECIA, and SupplyFrame

Is their **industry expertise** from practitioners-turned-solution experts?

Look for a partner who:

- Leverages real-world experience from former high-tech and electronics professionals

- Provides strategic guidance on MDM's role in driving efficiency, growth and digital transformation

A trusted implementation provider ensures not only a successful MDM deployment but also long-term system value through continuous optimization, seamless integration and tailored solutions. By partnering with technology and implementation providers that have deep industry expertise and technical innovation, manufacturers can improve data governance, accelerate time to market and scale digital transformation.

25,000 parts, zero clarity:
The MDM fix that transformed
a semiconductor giant

Challenge

A leading Fortune 500 electronics and industrial manufacturer struggled to govern and integrate product data across multiple siloed IT and business systems. With over 25,000 parts housed in homegrown legacy systems, the company faced:

- Delays in releasing new part indicator (NPI) products to market due to manual data standardization and syndication

- Slow time-to-site for new SKUs, delaying revenue realization across ecommerce, aggregator and distributor platforms

- Lack of a centralized data governance model, making advanced analytics and future digital initiatives unscalable

Solution

Stibo Systems **Product Experience Data Cloud**, implemented by Sitation, enabled the following transformative improvements:

- **Centralized MDM:** Migrated fragmented data from multiple legacy systems into a single source of truth. This ensures accuracy, consistency and reduced complexity, allowing for easier data governance.

- **Automated and faster product syndication:** Established streamlined syndication workflows from engineering systems to ecommerce and other channels, significantly reducing time to market for NPIs.

- **Enhanced digital asset management:** Implemented a metadata-driven engineering asset management system, linking circuit diagrams, 3D images and compliance documents to products, resulting in improved time-to-site and revenue realization.

- **Leveraged proprietary implementation strategy:** Executed Sitation's proprietary iterative priority implementation strategy to deliver the project on time and under budget, while establishing a solid foundation for activating future Stibo Systems' capabilities.

- **Future-ready data foundation:** Developed a scalable MDM architecture, allowing for advanced AI-driven analytics and automation initiatives.

> " We reduced time-to-site for new parts and updates from a week to just one day, achieving an 85% improvement in speed and efficiency.
>
> Pramit Rajkrishna, Director of Solution Consulting, Sitation

Results

The implementation significantly improved efficiency and scalability, enabling the company to realize the following results:

- **Reduced time to market for new parts and updates from a week to a day** – accelerating revenue realization and improving market responsiveness.

- **Activated a new data model with automated workflows and enrichment processes** – accelerating campaign execution by enabling business divisions to rapidly launch newly manufactured and targeted part categories online, maximizing ROI on manufacturing investments.

- **Sunset legacy ERP and homegrown PIM platforms** – streamlining operations, reducing technical debt and enabling a more scalable, efficient data management ecosystem.

- **Enhanced data governance with structured attribution and taxonomy alignment** – reducing manual errors, improving syndication accuracy and enabling streamlined product management across business divisions.

- **Stronger distributor, aggregator and parametric syndication relationships with enhanced product data accuracy** – including Arrow, AVNET, DigiKey, Mouser, FindChips, Octopart and SiliconExpert.

> "We established a scalable data foundation that will support many of their future transformation initiatives, resulting in continual revenue growth for their online shop.

James Van Pelt,
Manufacturing Practice Lead,
Stibo Systems

Conclusion:
Why Stibo Systems + Sitation?

The high-tech and electronics industry requires a modern, scalable and intelligent data management strategy to maintain competitive advantage in this dynamic sector.

Stibo Systems provides highly flexible, AI-powered MDM capabilities designed to manage the complex and specialized data needs of high-tech and electronics companies, with its MDM platform offering greater adaptability than its competitors. Complementing this technology, Sitation accelerates adoption through its proprietary iterative priority implementation strategy, ensuring rapid and effective deployment.

By partnering with Stibo Systems and Sitation, manufacturers can cut through the data chaos to:

Eliminate inefficiencies from legacy systems and accelerate digital transformation

Improve time to market for NPIs and optimize syndication workflows

Ensure interoperability across PLM, ERP, supply chain and other systems for better decision making

Leverage AI-powered insights for smarter inventory, pricing and compliance strategies

An effective MDM solution and implementation strategy enables manufacturers to compete at the highest level. As the industry continues to evolve, having a strong data foundation will be the difference between leading the market and falling behind.

Learn more at **stibosystems.com/manufacturing**.