



DIGITAL INDUSTRIES SOFTWARE

Integrate enterprise BOM and
supply chain management for
accelerated product development

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In today's global supply chain network, organizations must carefully manage material sourcing, product design, manufacturing and delivery to remain competitive.

Achieving speed without compromising on quality, cost and efficiency requires a unified approach that seamlessly integrates a company's bills of materials (BOM) along with its broader supply chain processes.

In this brief, we will explore how enterprise BOM can eliminate inefficiencies, reduce risks and improve visibility across global supply chain networks — ultimately driving faster time-to-market, reduced costs and enhanced sustainability.

The challenges of siloed supply chain management

Many companies today struggle with disconnected product development and sourcing workflows, leading to a range of challenges. Without tight integration between these functions, design decisions are often made without full visibility into supplier specifics, constraints and supply chain risks. This can result in delays, material shortages and a heavy reliance on single-source

suppliers — all of which expose the organization to significant supply chain vulnerabilities.

Additionally, the lack of alignment between design and sourcing makes it difficult for companies to accurately predict the cost and environmental impact of their products. When design teams work in isolation from supply chain data, they lack the insights needed to make informed decisions that balance factors like material costs, logistics and carbon footprint.

Bridging the gap with a digital thread backbone

To address these challenges, the Siemens Xcelerator open digital business platform offers the most comprehensive digital twin of the product, supported by the robust Teamcenter digital thread backbone solution.

This powerful digital thread backbone connects data seamlessly across the lifecycle — including supply chain processes — integrating the different BOMs across the enterprise to define a unified product.

By serving as a centralized repository for product data, the PLM-driven digital thread backbone enables secure collaboration between internal

teams and external partners, ensuring that everyone is working from a single source of truth.

Part of the digital thread backbone solution, Teamcenter Supplier Connect, enables original equipment manufacturers (OEMs) to selectively share product information with suppliers and other partners, maintaining control over what data is accessible and for how long. This enhances collaboration without compromising sensitive intellectual property or risking data leaks.

Leverage real-time supply chain intelligence with BOM data

The digital thread backbone also delivers real-time supply chain intelligence, connecting design BOM data with supplier insights. This integration enables comprehensive BOM analysis during the design phase, enabling teams to proactively assess supply chain risks, flexibly react to changes, improve sustainability and confidently make informed sourcing decisions early in the process when the cost of changes is significantly lower.

The digital thread backbone further strengthens this alignment by linking design BOM configurations to the supply chain. This ensures that up-to-date and accurate product information is readily accessible across global operations, reducing data silos and supporting real-time information sharing. This, in turn, helps organizations improve supply chain resilience and responsiveness.

Optimizing sourcing decisions with Supplyframe integration

To further enhance sourcing capabilities, the digital thread backbone integrates the enterprise BOM with Supplyframe, a leading provider of design-to-source intelligence. This integration enables users to validate part numbers, identify at-risk components, find alternative parts and generate requests for quotation (RFQs).

By combining enterprise BOM data with Supplyframe's extensive market insights, organizations can make more informed and cost-effective sourcing decisions. This not only reduces the time spent on sourcing activities, but also helps companies better manage costs and mitigate supply chain risks.

Customer success: Workhorse Group's transformation

[Workhorse Group](#), an American electric vehicle startup, has adopted the Siemens Xcelerator portfolio to streamline its product development and supply chain operations.

By implementing Teamcenter X for cloud-based PLM and NX for vehicle engineering, Workhorse has been able to tightly integrate its design, engineering, and supply chain functions.

"Previously, our multi-CAD environment was costly and required extra resources. With Siemens, we've eliminated these inefficiencies and can focus on building complex electric trucks more effectively," said Jeff Mowry, Chief Information Officer at Workhorse Group.

"Using Siemens tools, we are able to effectively manage our intricate bill of materials and engineering change notices, which is key given the dynamic nature of electric vehicle production," Mowry added. "This strategic move has not only lowered our operational costs but also strengthened our ability to protect intellectual property and ensure cybersecurity."

Conclusion

In today's complex, global business environment, companies must prioritize the integration of their BOM management and supply chain processes to remain competitive.

By leveraging the enterprise BOM and supply chain management capabilities of the Teamcenter digital thread backbone, organizations can eliminate inefficiencies, reduce risks and improve visibility across their global supply networks — ultimately driving faster time-to-market, reduced costs and enhanced sustainability.

[See how your organization can benefit from the digital thread backbone and the Siemens Xcelerator open digital business platform.](#)

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Gain greater visibility over global supply chain networks with the **digital thread backbone**.

[See how](#)

