

# How SAP PLM Addresses the Mid-Market

## Key Takeaways

Mid-market companies need robust cost-effective, easy to implement PLM, deployed on the cloud.

PLM solutions from SAP provide SaaS-based cloud offerings based on microservices making them cloud-native as opposed to just hosting on-premises software in the cloud. In addition, they can be directly connected to S/4HANA, or ERP and other PLM solutions based on the needs of the company

SAP's PLM software provides all the core PLM capabilities product-centric companies require including idea campaigns (including voice of customers), requirements/specification management, CAD integration, recipe formulations, collaboration, BOM management, document management, variant management, change management, portfolio and project management, systems engineering, product visualization, and collaboration with procurement and other departments, even beyond the enterprise with suppliers.

SAP provides a comprehensive set of integrations to support a company's ecosystem including to multiple mechanical computer-aided design (MCAD), electronic computer-aided design (ECAD), ERP, and PLM integrations.

## Introduction

Product Lifecycle Management (PLM) is a strategic business approach that holds great promise for mid-market companies, helping streamline their product development processes. Despite the potential benefits, these companies often encounter myriad challenges in adopting and effectively using PLM-enabling software. These challenges include high costs, complexity, lack of user-friendliness, and integration issues, coupled with a deficiency in awareness and expertise. Mid-market companies require an affordable PLM solution that can deliver tangible benefits in a short timeframe, enabling them to keep pace with larger competitors and evolving market demands.<sup>1</sup>

Mid-market companies frequently cite several objections to implementing PLM software. High cost is a primary concern, as these companies often operate on tight budgets and cannot afford the substantial investment required for PLM software, customization, and ongoing support. Complexity is another major

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hurdle; PLM software can be overly intricate, making it difficult for smaller teams to manage it effectively. Not all PLM solutions are user-friendly, posing a significant barrier to widespread adoption within an organization. Additionally, the lack of flexibility in some PLM-enabling solutions makes it challenging for mid-market companies to tailor the software to their specific needs. Finally, these systems are often not open to integrating with existing systems, which is a serious obstacle to driving efficiencies across their business.

Mid-market organizations are not strictly defined by their size, but rather by the complexity of the products they produce and their budget constraints for software and support. These companies often have limited internal IT resources to support PLM implementations and maintenance. Today, many mid-market PLM users restrict their use to Product Data Management (PDM) functionality, such as document management, CAD management, Bill of Materials (BOM) management, and change management within engineering. This narrow use of PLM indicates a gap between the potential of PLM-enabling solutions and their actual utilization in mid-market companies.

There are several factors that contribute to the limited use of PLM-enabling solutions as an engineering PDM tool, rather than a comprehensive solution for PLM. Different disciplines within a company may have evolved separately, leading to fragmented PLM adoption. Historically, PLM-enabling solutions have been mechanical in nature, but there is now a shift towards smart, connected products, which mid-market companies may not be fully equipped to handle. Mergers, acquisitions, and reorganizations further complicate PLM implementations.

The technology infrastructure of mid-market companies presents additional challenges. Many still host PLM technologies on-premises, leading to difficulties in managing disconnected, outdated, and vulnerable systems. The lack of IT resources and expertise exacerbates these challenges, preventing effective management and optimization of PLM software.

A significant obstacle for mid-market companies to overcome is the lack of awareness of the potential PLM benefits. Suboptimal PLM strategies often result in fragmented product data across departments, lack of visibility across the product lifecycle, and challenges in cross-functional collaboration both within the company and across the supply chain. CIMdata's experience is that many mid-market companies face time-to-market delays, experience inconsistent product quality, deal with inefficient change management, and struggle to meet regulatory requirements. Resource allocation issues and difficulties in managing sustainability further compound these problems.

## **Key Mid-Market Requirements for PLM**

Mid-market companies seek PLM solutions that are affordable, scalable, easy to implement and use, are modular and flexible, and can seamlessly integrate within their existing environment. The rise of cloud-native software-as-a-service (SaaS) offerings has made it easier for companies to achieve these objectives. SaaS solutions provide a cost-effective, scalable, and user-friendly approach to PLM, allowing mid-market companies to adopt the best possible infrastructure without the need for extensive IT infrastructure or expertise. Cloud-based PLM solutions offer several advantages, including reduced IT maintenance, automatic updates, and improved security. This approach allows mid-market companies to leverage state-of-the-art technology without the burden of managing and maintaining complex IT systems.

Budgetary constraints are a significant concern for mid-market companies. They seek PLM-enabling solutions that offer competitive pricing models such as subscription-based pricing or flexible licensing options. While mid-market companies do not operate on the scale of larger companies, they still require PLM-enabling solutions that can grow with their business. Scalability ensures that the PLM solution can

accommodate increasing product functionality, user counts, and data volume without significant disruption or cost escalation.

Ease of implementation and use is critical for mid-market companies, which typically have smaller IT teams and may lack extensive dedicated PLM expertise. As a result, they value PLM solutions that are easy to implement, configure, and maintain without requiring extensive technical knowledge. User-friendly interfaces and intuitive workflows are essential for ensuring widespread adoption across different departments, minimizing the learning curve and enabling greater adoption.

Mid-market companies require PLM solutions that can seamlessly integrate with their existing business applications, such as ERP, CRM, and CAD software. Modular architectures and configurable capabilities are highly desirable for mid-market companies, as they allow these businesses to tailor the PLM system to their specific needs without unnecessary complexity or overhead.

Collaboration and the ability to streamline processes across the product lifecycle is critical for all companies. Mid-market companies look for PLM-enabling solutions that can facilitate collaboration across cross-functional teams and throughout the product lifecycle including suppliers, partners, and customers.

Historically, mid-market companies have not managed product data effectively outside of engineering. As their products become more complex, they are now looking to expand their PLM capabilities to cover the entire product lifecycle, from concept via re-use until disposal, including areas such as requirements management, systems engineering, and sustainability.

Given their limited IT resources, mid-market companies value responsive customer support and comprehensive training programs. They are looking to maximize the value of their PLM investment by addressing technical challenges as quickly as possible.

## SAP's Approach to Mid-Market PLM

SAP's approach to PLM offers a comprehensive product data backbone and an integrated collaboration environment, enabling companies to define, develop, deliver, and manage products efficiently across the extended enterprise. As depicted in Figure 1, PLM from SAP enhances efficiency, transparency, and decision-making throughout the product lifecycle. It manages product data and assets end-to-end, supporting the creation of innovative and sustainable products.

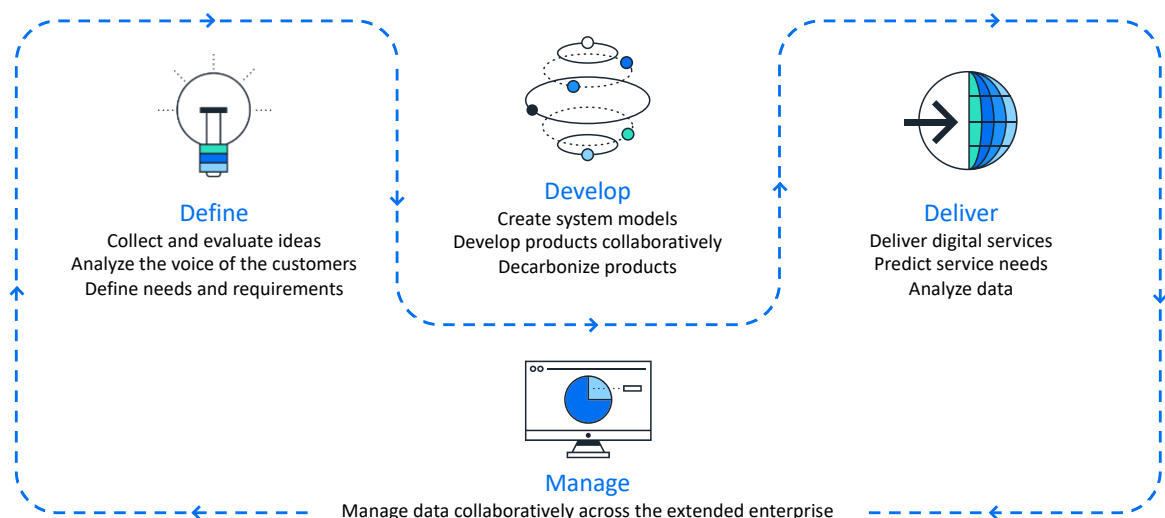


Figure 1—SAP's PLM Framework  
(Courtesy of SAP)

The framework for PLM solutions from SAP is structured around three key business process phases and one cross-layer:

- Define: Collect ideas, prioritize needs, and define product and project requirements based on customer feedback and market insights.
- Develop: Develop and industrialize intelligent and sustainable products across the extended enterprise.
- Deliver: Leverage product information across the enterprise to support digital thread initiatives and closed-loop feedback processes.
- Manage: Design with cost, compliance, and sustainability in mind throughout the entire product development lifecycle.

PLM from SAP provides foundational PDM capabilities such as BOM management, document management, variant management, change management, portfolio and product management, enterprise visualization, and product compliance. It integrates seamlessly with both CAD and PLM systems, ensuring comprehensive support for product data management.

Mid-market companies cannot afford to ignore the shift to the cloud. They lack the resources to provide the IT infrastructure, services, and security that public cloud providers offer. Additionally, they often do not have the capacity to adequately support the on-premises hardware needs of their PLM user base. SAP, traditionally known for its leadership in the ERP market with solutions like S/4HANA, has pivoted to support mid-market companies with more affordable SaaS offerings targeting both ERP and PLM. These cloud-native applications, built with microservices offer a significant advantage over merely hosting an on-premises version in the cloud. By architecting cloud-native applications with microservices, SAP's PLM can offer improved scalability, flexibility, resilience, and optimized performance, which translates to faster and more flexible updates, consistent performance, and reliability for the end-user.

The PLM solutions from SAP are supporting extensive design tool integrations through SAP PLM as well as through SAP's Engineering Control Center (ECTR). This includes MCAD integrations with tools like NX, Creo, CATIA, Autodesk Inventor, Solid Edge, and SOLIDWORKS, as well as ECAD integrations with Altium, Cadence, and Siemens Mentor. The PLM system integration also enables bi-directional engineering data exchange between S/4HANA and Siemens Teamcenter, PTC's Windchill, Dassault Systèmes 3DEXPERIENCE platform, and Autodesk Vault (planned for end Q3/24).

SAP PLM software can take advantage of S/4HANA for ERP and enable procurement, manufacturing, supply chain planning, logistics, and operations leveraging the same PLM data via a digital thread along the digital supply chain. Moreover, SAP offers SAP GROW, which includes adoption acceleration services, community, and learning, so any size company can be successful adopting cloud ERP to accompany their mid-market SAP PLM.

As mid-market companies' product offerings grow more complex, they need to enhance their product data with additional PLM capabilities. The solutions for PLM from SAP provide all the core PLM capabilities product-centric companies require including idea campaigns (including voice of customers), requirements/specification management, CAD integration, collaboration, BOM management, document management, variant management, change management, portfolio and project management, systems engineering, product visualization and collaboration with procurement, and other departments, even beyond the enterprise with suppliers. SAP's PLM offers these capabilities, enabling full traceability and transparency by connecting requirements to business and product data. Additionally, SAP's PLM supports systems modeling, helping engineering teams maintain a common reference point for all system models to improve communication and collaboration.

In addition to discrete manufacturing industries, SAP's PLM also caters to process industries such as Consumer Products, Chemicals, Oil & Gas, and Life Sciences. It includes capabilities for recipe formulation and managing and comparing specifications in a central repository, serving as the source of truth for product, raw material, and packaging properties with the support of AI functionality from Joule.<sup>2</sup>

With sustainability and regulatory compliance becoming critical concerns, solutions for PLM from SAP drive product innovation and transformational sustainability through a broad application portfolio. This includes environmental, social, and governance (ESG) reporting, carbon footprint tracking from operations including Scope 1, Scope 2, and Scope 3 product carbon footprint (PCF) and the SAP Sustainability Control Tower (SCT), which integrates reporting and performance to enable customers to set and monitor sustainability targets. Stakeholders want to know the origin and sustainability of their products. SAP Green Token supports material traceability and transparency with segregation or mass balancing, tokenization, and a blockchain-based chain of custody for trust and compliance using recognized standards: ISCC, RSPO, REDcert, and EUDR.<sup>3</sup>

Directly integrated AI with SAP's PLM can combine market trends, customer feedback, and competitive information with the structured data from PLM to iterate product designs much faster. The use of AI is transformative as it enhances decision-making by providing data-driven insights that enable routine tasks to be automated, driving innovation and increasing efficiency and productivity. SAP's AI capabilities can help companies quickly identify exceptional features faster, enabling them to deliver unique and competitive products to market faster giving them a competitive edge.

SAP PLM's SaaS cloud offering empowers mid-market companies by creating closed-loop processes and a digital thread from idea to disposal while enabling circular products. Mid-market companies can quickly collect actionable insights across functions to accelerate product development that produce high-quality, sustainable, and innovative products at a reasonable cost.

## Conclusion

SAP addresses the needs of mid-market companies by providing SAP PLM, a robust cost-effective, and easy-to-implement solution that leverages the advantages of cloud technology. CIMdata is impressed with SAP's cloud-native SaaS offering based on microservices, rather than merely hosting on-premises software in the cloud. This approach ensures scalability, flexibility, seamless updates, which are important consideration for mid-market companies that cannot afford to manage on-premises enterprise solutions.

CIMdata believes mid-market companies can benefit significantly from SAP PLM, as it encompasses all core PLM capabilities essential for product-centric businesses from idea and concept through life via re-use until disposal enabling seamless interactions not only within the enterprise but also with the extended supply chain.

CIMdata is impressed with SAP's extensive set of integrations that support a company's existing environment. This includes integrations out-of-the-box with various MCAD and ECAD solutions, as well as S/4HANA or other ERP and enterprise solutions including other PLM-enabled software. These integrations ensure that all relevant data and processes are interconnected, enhancing efficiency and reducing the risk of errors. By providing a comprehensive, cloud-based PLM solution that is both cost-effective and easy to implement with robust integration capabilities, SAP helps mid-market companies

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<sup>2</sup> Joule is the AI Co-Pilot from SAP. (2024: SAP <https://www.sap.com/products/artificial-intelligence/ai-assistant.html>)

<sup>3</sup> See: <https://www.sap.com/products/scm/green-token.html>

achieve their product lifecycle management goals effectively and efficiently. CIMdata recommends that any mid-market company considering PLM include SAP in their technical evaluation.

## About CIMdata

CIMdata, a global strategic management consulting firm, provides services designed to maximize an enterprise's ability to design, deliver, and support innovative products and services. For more than forty years, CIMdata has provided industrial organizations, providers of digital technologies and services, and investment firms with world-class insight, expertise, and best-practice methods on a broad set of product lifecycle management (PLM) topics and the digital transformation they enable. CIMdata also offers research, subscription services, publications, and education through certificate programs and international conferences. To learn more, visit [www.CIMdata.com](http://www.CIMdata.com) or email [info@CIMdata.com](mailto:info@CIMdata.com).