

Intelligence Spanning the Lifecycle: SAP Infodays for PLM

CIMdata Commentary

Key takeaways:

- *SAP Infodays for PLM's focus on PLM and advances in the portfolio makes it a much more informative event for SAP customers than other venues.*
- *SAP is rapidly enhancing their PLM offering with support for authoring tools spanning the full product lifecycle, enhanced by elements from SAP Leonardo.*
- *Customers are driving this innovation pace, helping define necessary enhancements.*

CIMdata attended the SAP Infodays for PLM event, held in St. Leon-Rot, Germany on 8-9 May 2018. This session brings together SAP customers, primarily from Germany and Central Europe, SAP partners, and SAP staff to highlight on-going developments, strategies, and futures and showcase leading customers' work in developing and deploying SAP's solutions. CIMdata has attended a number of SAP events before but the customer presentations at this event were much more informative than many others heard in the past.

SAP has been in the PLM market since the phrase was coined.¹ For many years, mechanical computer-aided design (MCAD) data was referred to as "CAD documents" by SAP. The SAP PLM Alliance, a group of SAP development partners, have worked hard to change that, replacing the old CAD Desktop MCAD interface with the Engineering Control Center (ECTR), which provides a standard framework and look and feel for authoring tool integrations (initially with MCAD). PLM Alliance partners CENIT, CIDEON, DSC, EPLAN, and Triess engineering offer integrations with the leading MCAD solutions, and SAP plans to use the ECTR approach for MCAD, ECAD, and Electronic Design Automation (EDA) integrations. ECTR will be the approach used to support additional integrations, e.g., with simulation and analysis tools. At events, CIMdata often polls the integration partners to understand just how many SAP PLM customers are managing engineering work-in-process data. These discussions at Infodays suggest that interest and implementations are way up.

Over the last several years, SAP has emphasized their planned support for other authoring tools and processes that support engineering work-in-process in other domains besides mechanical design. Just as with MCAD integration, the pace of innovation by SAP to fulfill these needs has increased over the last couple of years. SAP's product vision for discrete industries is shown in Figure 1. Using intellectual assets and expertise from their Sybase acquisition, SAP has rapidly introduced a solid requirements management offering and tools for 0D and 1D modeling. Their requirements management offering supports the ReqIF interchange format and traceability to functional and logical models. Going forward, SAP will need to support full traceability to mechanical, electrical/electronic, and software components, as will their PLM competitors claiming to support model-based systems engineering. The Open Services for Lifecycle Collaboration (OSLC) specification is one option for enabling this capability.

¹ SAP was one possible source for the phrase, but Dassault Systèmes and IBM are also mentioned as defining PLM.

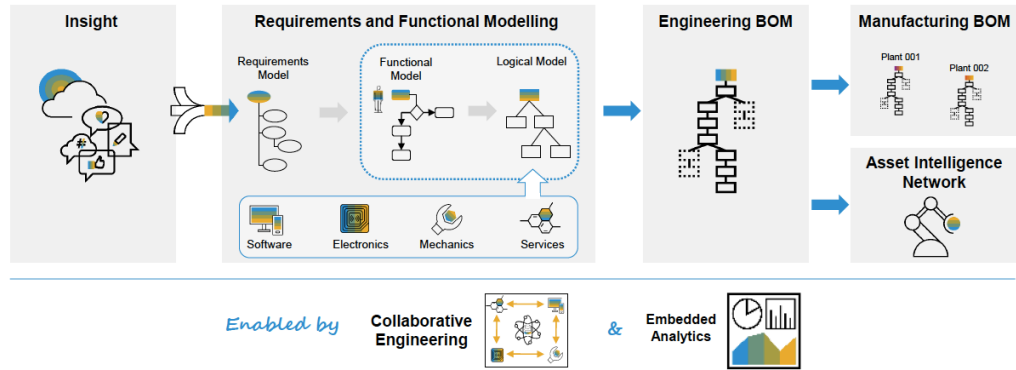


Figure 1—SAP’s Product Vision for Discrete Industries
(Image Courtesy of SAP)

This broader product vision is necessary to support developing and deploying smart connected products and to support Industry 4.0, originally Industrie 4.0 in Germany. SAP was a key player in helping to define Industrie 4.0² and helping their lead customers reach that vision, often leveraging the use of smart connected products. One defining aspect of that vision is the ability to quickly reconfigure global value chains “with App Store simplicity.”³ SAP plans to meet this need by supporting commerce networks using technology based on Ariba, their 2012 acquisition.⁴ Ariba was a leader in cloud-based business commerce. Figure 2 shows how SAP is evolving to span the lifecycle and value chain. Elements of SAP Leonardo like the Internet of Things (IoT) and analytics are helping customers like KAESER KOMPRESSOREN change their business model from selling or leasing equipment to providing “Compressed Air 4.0.” Their Sigma Smart Air architecture relies on SAP Leonardo IoT, with Smart Asset Management enabled by SAP Manufacturing Execution and the SAP Asset Intelligence Network. Companies that used to buy or lease KAESAR equipment now purchase the needed compressed air at a pre-agreed price per cubic meter.

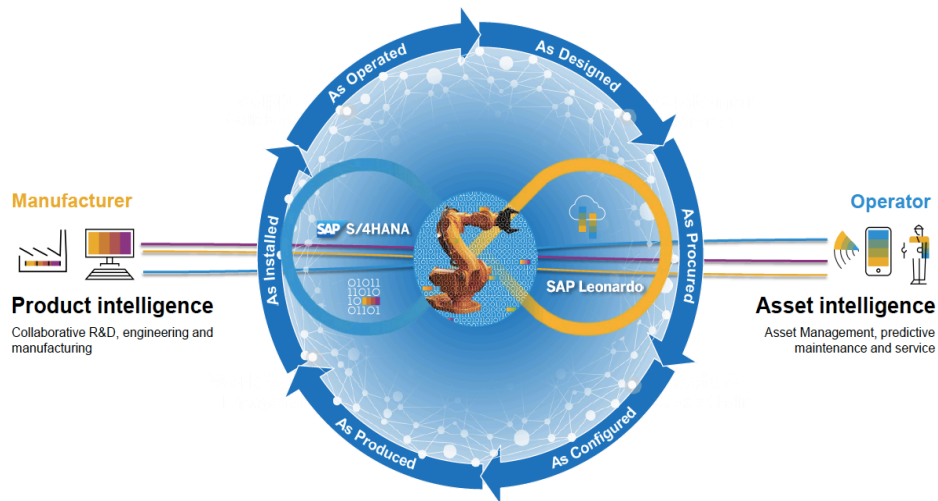


Figure 2—Spanning the Lifecycle and Value Chain
(Image Courtesy of SAP)

² SAP was part of the team that worked with the German government, academia, industry, and Germany’s labor unions that defined Industrie 4.0, and continues to play a key role in a range of related initiatives in Germany and around the world.

³ Recommendations for implementing the strategic initiative INDUSTRIE 4.0, Final report of the Industrie 4.0 Working Group.

⁴ <https://news.sap.com/sap-to-expand-cloud-presence-with-acquisition-of-ariba/>

SAP's vision also relies on another hot PLM related topic: the digital twin. Many providers in the PLM market are promoting their support for digital twins, but while they are using the same phrase, each company means something quite different. These differences are partly a function of how much of the full lifecycle, from idea through life, is supported by that company's offerings (and those of their partners). SAP's historical strength was management after the product was defined, i.e., from enterprise resource planning through manufacturing and into the field. SAP PLM pushed them upstream, and with their recent enhancements and planned roadmap they are working to cover the engineering work-in-process space for mechanical, electrical/electronic, and software components. As discussed above, they are also working to support requirements and model-based systems engineering use cases. SAP's digital twin vision, shown in Figure 3, includes a network of twins spanning the lifecycle from digital prototypes in the digital world, to twins in production, installation, and operation. This broad vision is similar to the approach described by Siemens PLM Software.

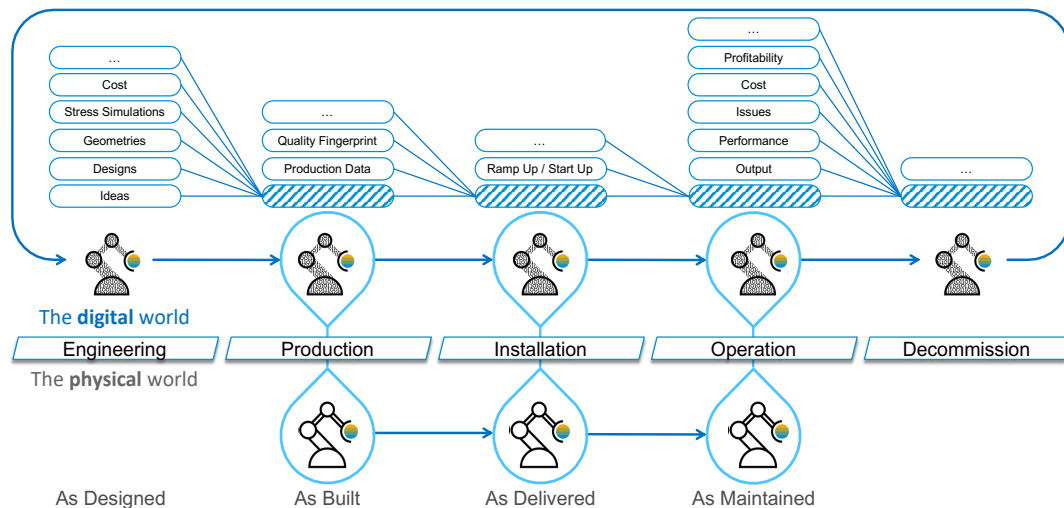


Figure 3—SAP Envisions a Network of Digital Twins
(Image Courtesy of SAP)

SAP Visual Enterprise, leverages their Right Hemisphere acquisition and gives them solid visualization and digital mock-up capabilities (DMU) to support this critical aspect of digital twins. One Infodays session highlighted how an SAP customer plans to use SAP's variant configuration capabilities to support complex multi-CAD DMU sessions. SAP can also use this to support augmented reality use cases important for in-service applications.

Day 2 of SAP Infodays focused more on SAP futures. While these topics are under non-disclosure, given where SAP is and where they plan to go as described in this commentary, many of the topics could be readily inferred.

One thing driving the rapid innovation pace is SAP's move to S/4HANA, their in-memory database offering, and the SAP Cloud Platform. SAP unveiled their cloud strategy in 2012⁵ and in their last fiscal year, cloud revenues were 16% of their total revenue. SAP has adopted a "cloud first" development strategy. What this means in practice is that new cloud releases emerge quarterly. For on-premise customers, SAP is packaging up the four quarterly cloud releases into one annual update. They are supporting a range of deployment options, with SAP S/4HANA available on-premise, Infrastructure as a Service (IaaS) from SAP and partners, and

⁵ <http://news.sap.com/sap-unveils-accelerated-cloud-strategy/>

on private and public clouds. According to SAP, their SAP PLM offering is available on the cloud today.

In conclusion, the SAP Infodays for PLM event was an incredible source of information on SAP's status and roadmap, and a showcase for leading customers. While this commentary focuses on discrete products, SAP's vision for formulated products is equally as expansive and is being worked just as hard. Their leading customers are reaching aspects of Industry 4.0 with some, like KAESER, almost completely driven by SAP offerings. As with their earlier offerings, SAP is developing "rapid start" packages to minimize time to value for their customers. CIMdata was impressed with the depth and breadth of their current offering, and with their expansive roadmap. SAP is being driven to these innovations by their lead customers and are showing some great results to date. They face a strong market challenge to increase adoption of SAP PLM for engineering work-in-process use cases, as many of their discrete customers have well-entrenched solutions from SAP's competitors. But the vision shown at Infodays illustrated how they plan to "play nicely with others" and to position SAP to provide team data management (TDM) functionality surrounded by their PLM offerings. If they can replicate the success illustrated at the SAP Infodays event across a wider swath of their global customers it will be a great start.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at <http://www.CIMdata.com> or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.