

CUSTOMER REFERENCE

TADANO

Moving up – thanks to perfect processes and maximum quality

Tadano achieves higher efficiency and quality in engineering and production thanks to perfect BOM management and introduction of SAP GSS



Moving up could be a description of what Tadano is all about:

For around 75 years, the Japan-based company group has been making cranes and hoisting machines that now play a major role at building sites around the world – office towers, highways and wind power plants all need Tadano equipment. The company is proud of its lifting devices that work reliably even in the most demanding conditions, and it has its sights set on becoming the global #1 in the industry. Tadano also has a local presence in Germany, with about 1,800 employees working at two plants in Zweibrücken and Lauf an der Pegnitz. These plants make up Tadano Group's Competency Center for the development and manufacture of all-terrain, city and crawler cranes. Tadano's involvement in Germany arose from the acquisition of two local crane makers, Faun and Demag.



In October of 2020, during the process of integrating Demag into Tadano Group, the company initiated a so-called “One ERP” project, aimed at harmonizing the ERP systems at the two locations into a consistent whole and getting the plants ready for future challenges.

The harmonization project meant taking a close look not only at the ERP and SAP systems at both locations, but also the processes managed by these systems. The overall goal: Enabling seamless coordination and collaboration between all upstream and downstream processes and functions.



CORE OBJECTIVE: OPTIMUM BOM MANAGEMENT

One focal aspect proved to be the management of Tadano's bills of material (BOMs): Given the complexity of the data, efficient handling of the BOMs was decisive for quality, cost and efficiency. However, up to this point the Tadano plants in Germany had worked with a single-BOM approach: Engineering and manufacturing worked together to manage all the data and information contained within an individual BOM.

This was a challenge for both sides because in process terms, the two units had different requirements regarding the structure, scope and type of information contained in the BOMs. It was a recipe for conflict and required complex reconciliation procedures.

The agreed solution: A switch from the single-BOM method to an eBOM (engineering BOM) and mBOM (manufacturing BOM) approach, i.e. separate bills of material for each unit. The expectation was that a function-oriented engineering view and a process-oriented manufacturing perspective of the products would best serve the needs of both sides.

SAP GSS was selected as the ideal technology support for this scenario: With “Guided Structure Synchronization” (GSS), source structures can be transferred from one field of application (e.g. engineering) to target structures in another (e.g. manufacturing).

GSS supports an ongoing synchronization process in which every synchronization takes all changes in structure into account and updates the target structure accordingly. Tadano believed this to be the best way to tackle not just the separation of the BOMs but also the handover to manufacturing.



STRATEGIC GOALS — PRACTICAL BENEFITS

For Tadano, the eBOM / mBOM approach was not just an operational matter. The change was also intended to support overarching strategic objectives: Greater price efficiency thanks to improved process flows in engineering and manufacturing as well as shorter time-to-market cycles thanks to faster, higher-quality results in both divisions.

And, fundamentally, improved collaboration thanks to higher levels of team autonomy in engineering and production. Expectations were that this would also minimize process time and cost for the company as a whole.

“We understood our challenges, and we had a clear set of goals regarding technology and outcomes. But it was equally clear to us that for implementation purposes we would need a strong partner who could ferry us securely through the introduction process, and the migration as well,” says Thorsten Hemmer, IT Project Manager at Tadano.

“We were aware that Coristo, a member company of CENIT Group, had extensive expertise in the SAP GSS field, and so we sat down with them directly.”

For all the faith Tadano had in their capabilities, the Coristo experts first had to develop a proof of concept to demonstrate the feasibility of specific project aspects. Thorsten Hemmer explains: “Even before project kickoff, we were aware of three main challenges: We needed to generate different bills of material – i.e. mBOM and eBOM – from a single BOM and then migrate the data to the new architecture.

Add to that the fact that with our BOMs, we operate with what we call parameter-valid assessments – a function which SAP GSS does not support in the standard version. From a technology point of view, we therefore needed to know that this aspect could be implemented as well.”

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**Thorsten Hemmer, IT-Project Manager
Tadano**



FOUR WAVES TO THE GOAL: STRUCTURED PROJECT EXECUTION WITH A FOCUS ON MIGRATION

Having defined and approved the introduction cum migration project, the partners had to decide how to implement it in a way that would maximize the technology and process benefits. They agreed to subdivide the process into four separate project phases, or “waves,” as the project managers liked to call them, with each wave containing a variety of targets and milestones.



The first wave focused primarily on conceptual aspects: “The main goal was to lay the groundwork for the introduction of SAP GSS and obtain a precise definition of the relevant tool functionalities,” Hemmer recalls.

At the same time, the project team also had a closer look at the eBOM / mBOM process, especially with a view to process definition and identification of critical use cases at Tadano.

The process of migrating the BOMs was a particularly important project segment for all stakeholders. This was the main focus of the second wave: The actual introduction of eBOM / mBOM separation at Tadano. Here an important aspect was to take specific eBOM / mBOM constellations into account during the mapping process, the software- and process-related support for the migration project, as well as the consolidation of eBOM and mBOM within the target system.

“Migration was a hot topic for a whole six months,” says Christian Markus, Senior PLM Consultant at Coristo. No surprise there, because this phase would be crucial to the success of the entire project.

The third project phase was dedicated to validation via an in-depth review of use cases within the context of the overall process. The Tadano and Coristo experts defined specific test cases, ran the respective tests and thoroughly documented the process. The declared goal of this phase was to optimize defined processes and tools. Core use cases like bulk changes, corresponding requests, SPLIT position scenarios (and conflict resolution for them) were all addressed during this wave.

“As it turned out, we actually had to do quite a bit of development work on GSS.”

Christian Markus, Senior PLM Consultant
Coristo

The testing process incrementally produced additional requirements and specifications which also had to be incorporated into the software solution. “Here we again relied heavily on Coristo’s expertise and consulting. It wasn’t as though we could just implement GSS and be done with it. For specific needs and use cases, we had to tweak the software separately,” says Thorsten Hemmer.

“As it turned out, we actually had to do quite a bit of development work on GSS. That meant intervening in the solution at certain junctures and compiling the relevant reports – all of it

directed at achieving maximum coverage of all processes related to BOM handling and monitoring at Tadano. About 70 to 80 percent of our adaptations related to user and process aspects,” Christian Markus recalls.

It was clear from the outset that real live people, i.e. Tadano’s users, would play a key role in project success. The project team therefore devoted a great deal of energy to training the future SAP GSS users and building acceptance. This was not just a matter of introducing a new type of BOM, but also about the fact that BOM management had traditionally been engineering’s job. Following migration to the eBOM / mBOM scenario, these tasks would become the remit of the production planning unit. In other words, not only the processes would change, but also the task allocation for the processes.

“We had to make sure that our colleagues would accept the new tool. Abolishing the single BOM approach and introducing eBOM and mBOM lists meant changing the way people thought. That also meant that we needed to integrate this new way of thinking into our new tool.

Therefore, topics like acceptance and usability were hugely important to us,” Thorsten Hemmer confirms.

On July 1, 2022, about a year after the collaboration began, SAP GSS and the eBOM / mBOM concept went live at Tadano. And building on their highly detailed project preparation and implementation, the project teams pulled off a “first time right” result.

“We then supported Tadano in “hypercare mode” for about two months, and we’re still consulting with them on an everyday basis. For example, we continue to collaborate on additional process and tool adaptations, though now without the pressure of a go-live deadline,” says Christian Markus.

“We had to make sure that our colleagues would accept the new tool.”

**Thorsten Hemmer, IT-Project Manager
Tadano**

BOM SEPARATION AND SAP GSS: THE FOUNDATION OF FUTURE-PROOF PRODUCTION

So, about 15 months after the introduction, what’s the current status of GSS and BOMs at Tadano? Did the project meet expectations? Were the targets achieved? “The benefits of GSS introduction and BOM separation extend far beyond a simple implementation of new technology: Since the BOM really is the crux of any and all of our products, introducing eBOM and mBOM was the key to a new, viable production setup, and today it’s an important component of that setup.

Every engineering output has to go through SAP GSS,” is Thorsten Hemmer’s initial summary. However, he underlines that change management remains an important consideration even after go-live. It will simply take some more time before all users are fully in control of all that the tools and processes have to offer.

“Apart from software and process competency, a major aspect of project success has always been the active involvement of all stakeholder units, especially production planning,” says Thorsten Hemmer.



The introduction of SAP GSS entailed enormous adjustments for engineering, production and production planning. But today, GSS is indispensable – a mainstay of production at Tadano.

Another project outcome is that Tadano's teams continually benefit from a sustainable reduction in technology and process interfaces. For one thing, this is owed to the overarching "one ERP" principle, i.e. the use of a single ERP system throughout the company.

“The two divisions can now collaborate more efficiently.”

**Thorsten Hemmer, IT-Project Manager
Tadano**

For another, the teams recognize that the structural separation has given them elbow room and qualitative benefits. Also, the roles within those structures are now clearly defined.

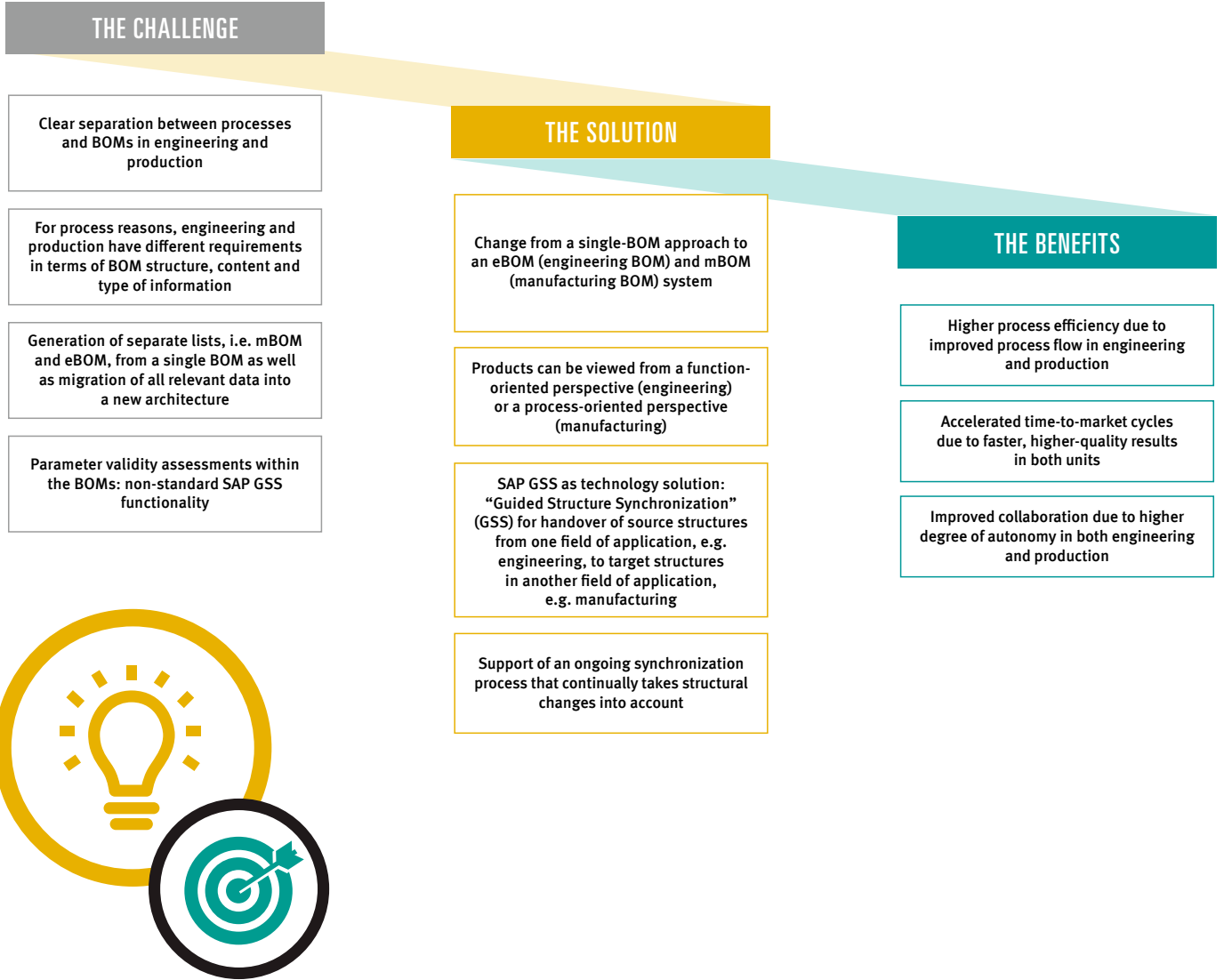
An example: “By separating eBOM and mBOM, engineering releases can be detached from the running-in time in production. The two divisions can now collaborate more efficiently because they don't continually have to reconcile their activities,” says Hemmer.

Now, roughly 18 months after the project went live, the partners are ready to discover what tangible benefits the project has produced. Now the processes are spot on, now improvements can take hold, now benefits can be reaped.

And what about the relationship between Tadano and Coristo? “Well, I have to say that it couldn't have gone more smoothly,” says a satisfied Thorsten Hemmer. There were some heated debates of course, but they always stayed fair and focused on the common goal. And that's what distinguishes a collaborative, productive partnership, Christian Markus and Thorsten Hemmer agree.



SUMMARY



ABOUT CENIT

CENIT empowers sustainable digitalization. With a broad solutions and services portfolio, CENIT enables clients to optimize their horizontal and vertical business processes. Our solutions are based on innovative technologies in: product lifecycle management, the digital factory and enterprise information management. With interdisciplinary knowledge of the processes involved and their considerable expertise in the field, CENIT consultants provide customers with end-to-end advice to ensure that solutions are implemented with an understanding of the entire value chain.

With a holistic approach and based on trusted partnerships, CENIT takes responsibility for solutions on behalf of our clients. From the initial consultation to the introduction of innovative IT solutions, right through to ensuring a cost-effective operation. The CENIT team adapts to each client, taking a practical approach, which enables measurable operational optimizations. CENIT has been helping prestigious customers in key industries to gain competitive advantages for over 30 years.

CENIT has nearly 900 employees worldwide who work with customers from: automotive, aerospace, industrial equipment, tool and mold manufacturing, financial services, and trade and consumer products industries.

ABOUT CORISTO GMBH

Coristo GmbH, a member of the CENIT Group, is characterized by established consulting and technology services in the SAP PLM environment.

With a focus on SAP Product Lifecycle Management (PLM) and the integration into logistics and production processes within SAP ERP, Coristo enables an efficient and user-friendly design of business processes - whether in R/3, S/4 or in the cloud.

Coristo's comprehensive expertise is based on over twenty years of experience in the SAP and PLM segment, which flows into innovative software solutions that extend the SAP standard in line with the clean core approach and, if necessary, extend it in a meaningful way. On the basis of SAP, Coristo's experts create a digital foundation to provide transparent data across all specialist disciplines, processes and locations.

Coristo stands for partnership-based support on the path to digital transformation, with the aim of successfully mastering current and future challenges together with its customers.

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ABOUT TADANO EUROPA

The Tadano Group operates 11 plants worldwide. It has a global network of more than 50 distribution companies and branches and employs over 4200 ambitious and experienced people.

Tadano in Europe is the Tadano Group's center of excellence for the development and production of Tadano all terrain, City, crawler, and truck-mounted cranes. By combining German engineering and innovation with the strictest Japanese quality standards, the company produces cranes that enjoy an extraordinary reputation worldwide.

Tadano has two production facilities in Europe. Tadano Faun GmbH, which is headquartered in Lauf, has been part of the Tadano Group since 1990, while Zweibrücken-based Tadano Demag GmbH was acquired in 2019.

Together, the two plants have an area of 240,000 m² available for production, warehousing, and testing operations. The cranes produced in Europe are delivered to satisfied customers across the globe through the Tadano Group's worldwide distribution and service network.

The companies that make up Tadano Europe embody the Tadano Group's values with its philosophy of "Creation, Contribution, and Cooperation." The core values of safety, quality, and efficiency, with compliance as an underlying foundation, are an integral part of all Tadano products and services. Against this backdrop, our worldwide distribution and service networks enable all Tadano companies to provide unrivalled customer satisfaction, perfect reliability, and extremely fast response times. More information can be found on www.tadanoeurope.com, [LinkedIn](#), [Facebook](#), [Instagram](#) and [Twitter](#).