



SUCCESS STORY

MAYER & CIE.

A knitting pattern for digitalization
Mayer & Cie. – Global market leader for circular knitting machines introduces digital thread from development to production



Yes, they still exist – those family-run businesses that have been developing solutions for decades that are so good that they set global standards. The Swabian global market leader in the field of circular knitting machines, Mayer & Cie., is one of them: family-owned for about 100 years and four generations, the company based in Albstadt has evolved into an innovation driver employing 400 employees. More than once, Mayer & Cie. has reinvented circular knitting by developing new procedures and materials and ramping up its manufacturing depth and market knowhow.

The portfolio of the mid-size business contains about 50 different machine types; it's considered the widest on the market. However, the truly special aspect is that the machines are always tailored to the specific needs of each and every client, anywhere in the world. Since Mayer & Cie. offers around 10,000 individual parts, this means that the company has to manage about 60 million possible machine variants. An immense achievement that demands maximum innovative strength – and which, incidentally, is completely home-grown. Whether you're looking at T-shirts, sportswear, car headliners, curtains or even mattress covers – all of them may have been produced by a Mayer machine. What's endearing despite all the superlatives is that Mayer & Cie. remains Swabian: down-to-earth, partnership-based and always open to sustainable progress.

This innovative spirit has now triggered a full-scale digitalization journey, aimed at expanding and securing Mayer & Cie.'s market lead in the years to come.

BOOSTING EFFICIENCY ALONG THE ENTIRE VALUE CHAIN

In part, Mayer & Cie.'s digitalization voyage resulted from the company's decision to adopt a consistent PLM philosophy that would provide a digital thread stretching along the entire value chain – pure “DESIGN TO OPERATE”, in effect. Among other goals, the company wanted to eliminate the hard media and data break that separated its engineering and production segments. The connection between the PDM system used by Mayer's engineering unit and the SAP ERP system was essentially a manual one. These “separate worlds” meant that the many interrelationships between business processes in engineering, order management, purchasing, manufacturing, assembly, maintenance, quality assurance, etc. were literally hanging by a thread. As in many business landscapes that have evolved over a period of decades, Mayer's employees compensated for the shortcomings of the IT

landscape with their strong commitment, but at what cost? Data redundancies, insecurity about data currency, repeated data generation in downstream processes instead of consistent enhancement of a data model available to all disciplines – all these factors hindered true operational excellence at Mayer & Cie., as in many other long-running businesses. In fact, the legacy SAP landscape was so customized that it was no longer release-capable and in effect frozen in time.

In short: to continue to manage the variant complexity as well as the frequent change cycles in a competitively meaningful way, and to become ready for the future, the company had to rethink matters from the ground up.



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- Sebastian Mayer

The basis for this rethinking process is the big picture which Mayer & Cie. painted to make its objectives, challenges, task fields, business processes and key applications visible at a glance. The template for cutting the digitalization into small steps is contained in this big picture, together with the phased plan that represents the guideline for the company's digitalization initiatives. The relevant components of this plan were brought into a logical context to define a series of task fields which were and still are being addressed incrementally. "We thought long and hard about our digital processes and how we could make them more efficient", says Sebastian Mayer, Chief Digital Officer at Mayer & Cie.

To best implement the sub-projects within the overall context, Mayer & Cie. needed an integrative solution for end-to-end digital support of its complex business processes. Here a major role played the "single source of truth" principle which relies on cen-

tral data management to offer process stakeholders a complete, high-quality information and decision-making basis at all times. An efficiency boost along the entire (digital) value chain – that was the declared goal. In other words, the essence of sustainable PLM.

THE SAP PLM FOUNDATION: A SOLID PROCESS AND DATA FOOTING

In selecting the ideal partner, a partner who would be able to supply the defined task fields with the right digital underpinnings, Mayer & Cie. opted for the IT and software provider CENIT. The Stuttgart-based experts convinced the Swabians on the strength of their end-to-end approach and their clear understanding of the machine maker's needs and core processes.

Even at the start of the joint venture, it was clear that the SAP platform would act as the lead system and thus provide the basis for

the intended data and process continuity. Wisely, the legacy SAP system had already been upgraded to the most recent version by this point.

Based on its medium- and long-term goals, Mayer & Cie. and CENIT conducted a joint assessment of the identified search fields and defined the required processes and system components. For implementation purposes, CENIT developed a multi-phase plan that systematically addressed the processes and use cases and determined phase goals logically. This was decisive in achieving productive use quickly rather than fall into the trap of endless conceptualization without any concrete implementation.

“DESIGN TO OPERATE relates to the entire value chain within manufacturing enterprises. Implementing this philosophy is a process that takes years. The art lies in designing the individual phases in such a way that the results become operatively embedded and can therefore be used to generate added value. For many businesses, a worthwhile initial step is integrating engineering with the central SAP system because it turns the source of many product data into an integrative component of everyday business processes. The SAP PLM Foundation features a best-practice package for precisely this approach, and it proved to be valuable to Mayer & Cie. as well. In combination with the second important component, which is directed at the control of release and change processes, we achieved efficient, flexible and secure workflow guidance based on high-quality data”, says Horst Heckhorn, Senior Vice President, SAP Solutions at CENIT, in describing the task field. “The first phase was thus about eliminating the media break between engineering and ERP, as well as using the new data basis for best-possible release and change management support.”

To replace the narrow bridge that Mayer & Cie. had previously been forced to rely on with a secure data highway between en-

gineering and production, the engineering unit's PDM system had to go. This move also freed up the path to transitioning the CAD landscape to the latest version of CATIA.

The SAP Engineering Control Center (ECTR) enabled a lean and cost-effective integration of the CATIA V5 users with SAP, where they now find a modern working environment and all the functions they need to perform their duties.

The legacy CAD/PDM data was migrated to SAP using CENIT System Migration Services and CENIT ETL Runtime. Migration is always a critical topic in such projects, and its complexity is often underestimated. Not at Mayer & Cie., as a series of clear KPIs had been defined for this project aspect and CENIT was committed to fulfill them. Now, Mayer & Cie.'s users have access to current, logically connected master data which is consistent across systems.

The second major milestone of the first digitalization phase was the introduction of cenitCONNECT APM (Advanced Process Management) for the control of release and change processes at Mayer & Cie. “Unlike pure workflow solutions, cenitCONNECT APM supports the management of data objects within the process. Since our solution was born in the engineering world, it is very comfortable with dynamic workflows in development environments”, explains Horst Heckhorn. “That lets us pursue a two-phase approach which has proven helpful to many of our clients. During the first phase, we map many of the existing processes and therefore achieve results quickly. As soon as the processes go live, they leave traces in the system, and we use these in cenitCONNECT APM Monitoring&Reporting to identify process weaknesses and define ways to counteract them. During the second phase we then actually go into these task fields and conduct process optimization – by means of configurative adaptation of process templates, not via tedious workflow programming.”

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our digitalization partner.«*

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That's exactly what's planned for the next stage at Mayer & Cie.

Now for a quick look at the timeline: following the start of project collaboration in early 2019, Mayer & Cie. and CENIT completed the initial project phase in early 2020 – just in time for the start of the Covid pandemic. “This is significant, because the optimal availability of all data and information actually lets us keep going more or less as before, even though many of us were working remotely. Otherwise, we would not have been able to wrap up the pandemic year so successfully and help keeping our staff safe at the same time”, says Sebastian Mayer.

In the course of 2020, the processes and workflows within the new system components were embedded in Mayer & Cie.'s operative business. The knowhow gained from its implementation was used to optimize the application configurations. “Everyday use of the new system helped us formulate clear requirements for the development of our monitoring and reporting scheme”, says Sebastian Mayer, who personally became deeply involved in this matter. “Because everyone is working in SAP and the major processes are controlled and mapped via cenitCONNECT APM, we have an ideal data foundation for comprehensive monitoring and reporting. That has given Mayer & Cie. a great boost in enterprise transparency.”

IN TIME, IN BUDGET, IN QUALITY

What then are the tangible results of the digitalization partnership between Mayer & Cie. and CENIT?

“In true partnership spirit, we teamed up with CENIT in phase 1 to create a forward-looking, integrated and stable system landscape consisting of SAP ECTR, CATIA and cenitCONNECT APM, achieving a degree of process transparency that we couldn't even have imagined”, reports Sebastian Mayer. “We are proud of having reached our phase goal in time, in budget and in quality. Both partners had to stretch themselves to make that happen, because in projects like this you always end up having to call in backup resources which are at the end of their capacity too. It was clear to us that we could only be successful if management not only stood by the project but took an active role in driving it forward. That is also my clear recommendation to other businesses that plan to embark on the digitalization journey: get management on board. We've done our homework, now we want to get into the next phases and exploit the enormous potential that the DESIGN TO OPERATE (D2O) strategy has for our added value.”

ADDED VALUE AT MAYER & CIE.

What added value is meant? The focus of phase 2 is probably the most complex PLM topic of all: integrated variant and configuration management.

For a manufacturer of high-variant machinery, the integrated continuity of variant, configuration, release and change management represents the greatest challenge and simultaneously the greatest potential for competitive benefits. Any company that succeeds in fulfilling its clients' specific wishes and does so with



maximum efficiency will have the competitive edge.

Viewed holistically, this means thinking and acting end to end, from the CAD methodology to aftermarket processes. “In most businesses, this approach represents a true paradigm shift. It often demands entirely new ways of looking at things, fundamental changes in attitude as well as procedural and organizational transformation. All this is not possible without a full buy-in of the management. Mayer & Cie. has ideal prerequisites in this respect because the managing director and the owner of the family business not only stand behind the strategy – they are prepared to contribute actively to the frequent meetings of the project bodies and to decide important issues at short notice. For us, these are ideal conditions for a successful project,” adds Heckhorn.

The digitalization partners point to another absolutely key aspect that is closely associated with the one described above: the fundamental philosophy of how a business copes with change. At first, any change represents a disruption of business workflows. That puts the spotlight on questions like “What are we going to achieve with this change?” and “When should we make this change?”

“At Mayer & Cie., as in many other businesses, effective clustering of change proposals into packages and optimal integration of these packages with manufacturing will likely be key factors in developing leaner, more secure and more economical change cycles”, Horst Heckhorn says. Huge potential is just waiting to be exploited – that's the expectation of both partners.

In addition to going treasure hunting, Mayer & Cie. needs to examine the issue of future competitive benefits. “It's actually quite simple: in future, we want to keep doing precisely what has been the secret of our success up until now: giving each and every customer the machine they want”, says Sebastian Mayer. But – and this is the decisive aspect – the company wants to be able to offer that great variety of variants in a more efficient, innovative and self-assured way, even if business continues to scale up. “Otherwise, we would not have gone the distance”, Mayer adds.



Understood and operatively implemented the right way, the digitalization of value-adding processes is a reliable basis for sustainable competitiveness. Digitalization doubtless entails process and organizational changes and demands a readiness to think and rethink. That is why digitalization is a management issue, and why it needs truly trust-based partnerships rather than merely client-supplier relationships. “In CENIT, we have found our digitalization partner”, confirms Sebastian Mayer, “and we for our part have found a client with whom the entire team enjoys working every single day, implementing the big picture together”, adds Horst Heckhorn.

AT A GLANCE

THE CHALLENGE

- Media and data break in system landscape between engineering (PDM) and production (SAP ERP)
- Redundant and inconsistent data and information within processes and business units including high manual maintenance effort
- Activities based on a non-release-capable SAP landscape
- Need to establish a PLM approach based on a digital backbone along the entire value chain

THE SOLUTION

- Big picture of targets required for end-to-end digitalization; definition of challenges and task fields coupled with an integrative solution approach for digital support of business processes based on central data management
- SAP PLM Foundation approach to integrating engineering with the core SAP system: replacement of engineering PDM system by SAP ECTR, including CATIA V5 integration into a state-of-the-art SAP landscape
- Introduction of cenitCONNECT APM (Advanced Process Management) for the control of release and change processes
- Next step / outlook: optimization of variant and configuration management

BENEFITS (AS OF CURRENT PROJECT STATUS)

- Complete, high-quality information and decision-making basis thanks to central data management
- Future-oriented and stable systems landscape consisting of SAP ECTR, CATIA and cenitCONNECT APM
- Maximum process and data transparency including comprehensive real-time business process reporting and monitoring
- Trust in data quality as a key aspect of the digitalization strategy

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.

www.cenit.com

ABOUT MAYER & CIE.

Mayer & Cie. (MCT) is a leading international manufacturer of circular knitting machines. The company offers the entire range of machines required for making modern textiles. Fabrics for home textiles, sportswear, nightwear and swimwear, seat covers, underwear and technical uses are made on MCT knitting machines.

Furthermore, Mayer & Cie. regularly develops new approaches underlining its leadership in technology. Since 2019, Mayer & Cie. has augmented its portfolio by braiding machines which produce sheathings for hydraulic tubes used in aviation, automotive industry as well as in further, very specific fields of applications. Founded in 1905, Mayer & Cie. generated sales of around EUR 72 million in 2020 with about 400 employees worldwide, according to preliminary figures. In addition to its headquarters in Albstadt, Germany, where around 300 people work, and subsidiaries in China and the Czech Republic, sales partners for circular knitting and braiding machines in around 80 countries represent Mayer & Cie.

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