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PRODUCTION manager

Magazine for production & logistics



Ready for the Industrial Transformation

ERP + MES Trends 2023

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EDITORIAL

Dear readers,

The term Industry 4.0 is already more than 10 years old. It was defined by German scientists. Since then, there has been a lot of discussion about the concept—including criticism of the proclamation of an industrial revolution. Today, we know that there is no alternative to the digitalization and the interconnection of the industrial production—no matter how we call this development. After all, efficiency gains and new business models generated in the process are crucial to competitiveness.

And where do we find ourselves today? Has Germany really missed out on this development, as some studies claim? No, is our answer. Rather, our daily work with and in your companies proves that this transformation process is in full swing and continues to gain speed: Engineering and digi-



talization are growing ever closer together, paving the way for the establishment of “smart factories”. We are well on our way!

In many companies, our ERP MES solution PSIpenta is taking on the role of the data hub, thus forming the basis for digitalization and networking. Therefore, in 2023, the ERP MES world will continue to be dominated by the digital transformation. Read our cover

story to find out which five trends we think will win the race.

We hope you enjoy reading it

Dr. Herbert Hadler
Managing Director
PSI Automotive & Industry

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Ready for the Industrial Transformation
ERP + MES Trends 2023

Driving the Industrial Transformation will continue to set the tone for developments in the ERP and MES world in 2023. The switches which have not yet been set are now being adjusted: This affects, among other things, the modernization of legacy systems, the establishment of communication structures between manufacturers, suppliers and customers, and the design and implementation of effective sustainability concepts.

1. Modernization of legacy systems: updating the tried and tested

Legacy systems are outdated, do not perform well enough and are not fit for the future: For a long time, the term legacy has had a negative connotation. In the meantime, many are daring to look beyond the horizon and return to the actual meaning of the term. In the true sense of the word, legacy refers to an inheritance or a bequest, which is rarely necessarily negative per se. In fact, many of these tried-and-true systems still serve their purpose in the IT world as well. Well-maintained and regularly updated ERP and MES solutions may

well reflect the state of the art. One indication of this is that the useful life of the systems is continually extending.

Nevertheless, caution is required and those responsible are called upon to watch out for the unmistakable signs that their IT landscape is becoming outdated. The first signals include, for example, that data storage or security requirements can no longer be met and that interface complexity is continually increasing. Both phenomena indicate an outdated system basis and poor integration capability. Here, it is important to take a close look, to question the system support provided

by the vendor and to take action as quickly as possible. After all, once support has been discontinued, it is too late to modernize, and a company will be faced with considerably greater expenses.

Those who recognize the need for a redesign of the IT landscape in good time rely on bridging technologies during the transition phase. One proven solution here is low-code-based system enhancements. These development systems, which are usually graphically oriented, allow even non-experts to adapt and further develop existing systems. Low-code platforms are used for this purpose and are added to

the system. Companies whose providers themselves offer appropriate systems and custom-fit options for the independent and flexible expansion or design of functions and processes are at a particular advantage. Within this context, APIs or integrated workflow manage-

ments and committees are beginning to bear fruit. The focus is now increasingly on monetizing the results. This means, for example, that business models must be developed that generate added value for providers and users at the same time.

3. Smart Manufacturing: ERP MES solutions help to achieve resilience and adaptability

Because the conditions on the sales and procurement markets are characterized by ever greater volatility, the future belongs to flexible or even adaptable (metamorphic) production systems. This means that as supply chains become more unstable, production systems must be able to respond in an appropriate manner. Above all, this includes being able to reschedule orders quickly, taking into account the replenishment situation and available resources. More flexible procurement routines can make a further contribution.

With a higher variety of products, individualized solutions and the balancing of disruptions, new requirements arise for production control, which ERP MES solutions must support. This also includes mapping new manufacturing principles such as swarm or matrix production. The core of swarm production is the distribution of work content to several, if necessary also external production systems. Matrix production is characterized by the fact that the material flow and thus the processing of orders are determined by the means of transport.

Thus, autonomous production islands will be linked with each other.

“Companies with providers who themselves offer appropriate systems and custom-fit options for the independent and flexible expansion or design of functions and processes are at a particular advantage.”

ment systems have long since established themselves as self-evident offerings.

One thing is certain: If people and systems can no longer meet the increased requirements for flexibility, adaptability and supply chain management, a replacement of the system basis is unavoidable and another legacy, the unwritten IT law “Never change a running system” turns into a modernization issue.

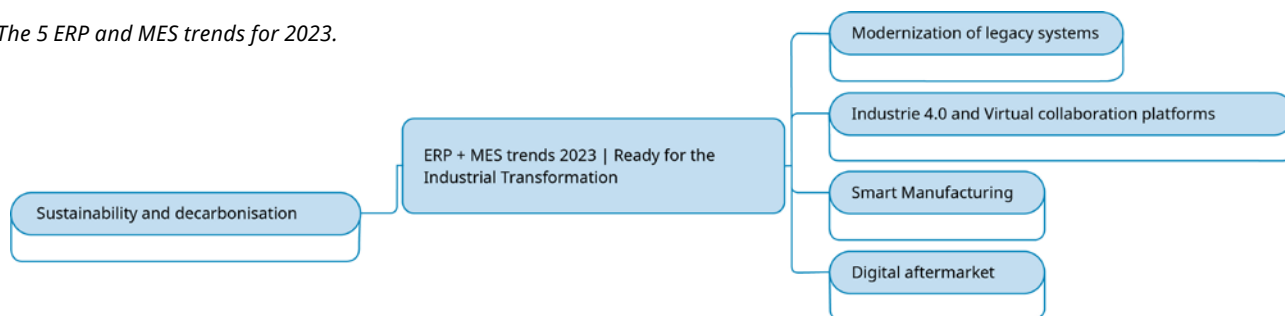
2. Virtual collaboration platforms: standards as digitalization drivers

Contrary to some prophecies of doom, Industry 4.0 concepts are catching on with automation companies and thus also with the suppliers of production systems—slowly but surely. Above all, standardization efforts by researchers in proj-

In this regard, platforms that link partners in value creation networks on a bilateral or multilateral basis are gaining importance. Communication in the virtual networks that have been created is based on the standardized models that are within of the Industry 4.0 concept (I40—component, management shell, I40—language). It is necessary to drive forward the establishment of these platforms in the next step, to which interested companies can link up, such as Manufacturing-X or Catena-X.

However, it is clear that digitalization should not be seen as an end in itself. Rather, it can deliver competitive added value. This requires a market-driven solution approach that focuses on the entire supply chain—with standardization concepts as the catalyst.

The 5 ERP and MES trends for 2023.



Both approaches require solutions that go far beyond conventional planning algorithms. Moreover, the more up-to-date the information about the supply chain and manufacturing itself, the better the concept works. In practice, this requires linking the planning world in ERP and MES with the execution level.

Briefly, the overarching goal is to increase manufacturing resilience to disruptions and support adaptability. At the same time, these features lead to better utilization and higher scalability of production in highly fluctuating order situations.

4. Digital after-market: ERP MES solutions focus on the complete life cycle

Since the very beginning, service offers have played an important economic role, especially in the mechanical and plant engineering sector—if they are not even decisive for the purchase. In today's business sector, non-cash benefits are often only sold in conjunction with services. It is not uncommon for several companies to be involved in the combined offering of goods and services.

On the one hand, this requires ERP systems to be able to collaborate with customers, suppliers and partners and, on the other hand, to provide appropriate process support for the provision of the relevant services. Especially with regard to machine failure and maintenance requirements, this is also imperative. Digital smart services can be used to monitor plants in the field. For example, companies can safeguard operations with suitable services such as predictive maintenance and ensure greater customer satisfaction and customer loyalty. The re-

quired technologies are available in the IIoT environment.

From this perspective, ERP systems no longer only map the actual production process of a product (as-built state), but also the state in the field (as-operated-and-maintained state). The customer relationship itself benefits from efficient service processes, which creates a competitive advantage.

Those who want to fully map the life cycle of a product depend on the continuous availability of all information from engineering to operation in the field. Only then it will be possible to leverage the potential that exists—for example, greater reliability in operation, targeted product improvements or even product innovations.

5. Sustainability and decarbonization: from a problem to being part of the solution


Material production has always consumed vast amounts of resources and energy and emitted pollutants into the environment. Industry is increasingly working to become part of the solution instead of exclusively part of the problem.

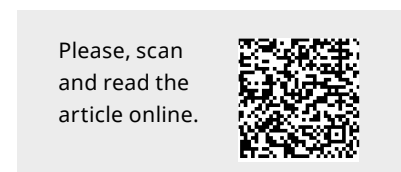
Along this path, ERP and MES solutions are also challenged to perform better in the future in terms of sustainability. First and foremost, this includes increasing energy and material efficiency, supporting a circular economy, and primarily using environmentally friendly types of energy. This requires the use of further data, which will be available as the integration of all applications increases and digitalization progresses. The industry is challenged to generate knowledge about operational relationships and processes

and to use it under sustainability aspects.

Today, advanced algorithms are already available in modern ERP MES solutions, which companies can use to determine quantities and deadlines optimize sequences and make the best possible use of resources, even under environmental aspects. AI-supported forecasts of future requirements help to avoid overproduction and waste.

Beyond the company's own processes, the CO₂ footprint of production and manufactured products is supplemented by data from subcontractors and the entire supply chain. Since the data is collected from a variety of different places, it must be consolidated for realistic assessment and evaluation. The ERP system is ideal for this higher-level data consolidation, as it is the source of most of the data. Based on the results, companies optimize their own processes and comply with sustainability goals (cf. Sustainable Development Goals, SDG).

Resource-saving processes and technologies, up- and recycling as well as the broad use of renewable energies and modern ERP and MES solutions with a sustainable orientation can pave the way to the future. 



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Global Stock and Order Management via Cloud

With the warehouse management system PSIWms, the full-service logistics provider NOSTA Group manages several logistics locations in a comprehensive stock and order management from the cloud. Coordinated process control offers maximum flexibility, transparency and cost benefits. The possibility of self-configuration forms a central building block for customized logistics concepts and customer-oriented solutions.

Founded in 1978, the NOSTA Group has established itself over the past 45 years as a successful logistics service provider with a complete range of services. The Group's twelve own warehouse locations form the basis for contract logistics. There, NOSTA provides individual solutions or cost-efficient multi-user operation for all logistics services, from warehousing and IT-supported order processing and order picking to shipment provision, taking into account specific product and industry requirements.

The warehouse management system PSIWms forms the heart of coordinated logistics processes at the warehouse locations with the most complex material flows. "We previously had bad experiences with small software providers and isolated solutions," explains Rainer Mönning, IT Application Manager Warehousing at NOSTA Group. "We had a lot of unnecessary interfaces and no transparency about stocks and processes. When it came to selecting a new warehouse management system, investment security, future-proofing and the range of functions offered by the product

standard were therefore important decision criteria."

Flexible with custom configuration

Since 2007, the NOSTA Group has relied on the PSI Logistics software

adapt PSIWms exactly to our needs over the years," says the IT Application Manager. Mönning describes the ability to import and use CSV files directly in the standard software as helpful and time-saving.

Assigning clients as desired

Especially in the processes of day-to-day business in its forklift-operated block and rack warehouses, the service provider has come to appreciate the possibilities offered by its own customizing. "For capacity reasons, we may have to move clients from one location to another," says Mönning. "With PSIWms, this is no problem. We can assign clients to locations

at will, track at any time which employee is working on which client at which location, and have a complete view across all locations, for example, of order data and stocks of each individual client."

One WMS for multiple sites

However, the multiuser and multisite-capable PSIWms is only implemented once at the NOSTA Group's headquarters in Osnabrück. From here, the individual warehouses are managed with virtually logi-



Processes coordinated across locations at NOSTA.

system, which functions as a company-wide superordinate WMS. "It's a helpful tool for cross-site process control as well as for designing customized logistics concepts for our customers," says Mönning. In addition, the standard software is geared toward customer-specific configuration. After a training program, users can flexibly design the system to meet individual requirements autonomously and largely independent of the manufacturer. "With our own configuration, we have been able to independently



High-bay warehouse at NOSTA.

cally separate systems. Thus, inadvertent manipulation of other locations is not possible. Advantages that the NOSTA Group has been able to expand even further with the upgrade and release capability. A special feature: PSI Logistics has separated product standards and individual configurations during product development. In the case of an upgrade, the change to the current release, the new functions of the product standard can be used, while the customer-specific customization is retained.

Regular Upgrade-as-a-Service (UaaS)


Against this background, NOSTA decided in 2016 to upgrade to the current version of PSIWms and, moreover, with the Upgrade-as-a-Service (UaaS) offer, “agreed on a cyclical upgrade as an option in the maintenance contract with PSI Logistics,” notes Mönnig. Since then, the lo-

gistics service provider has regularly received the latest functionalities and optimization options of the most recent release every three years. “Configurable clients here, a new standard interface for the shipping system there—sometimes just little things, but they make life much easier in operations,” explains Mönnig.

Future-oriented investment

From Osnabrück, PSIWms is used to “control warehouse logistics company-wide in a private cloud,” adds Mönnig—citing the processes at the Ladbergen warehouse location as an example. Around 40 000 pallets are handled there per month. “A spacious multi-user warehouse that is ideally suited for handling all common B2B and B2C business models in retail logistics, mail order and other industries,” concludes Mönnig. “This allows processes and available resources to be coordi-

nated from Osnabrück, as well as stock transfers, shipments, warehouse and inventory management to be controlled.

Far-reaching management and disposition functions optimize the stock management. With the update and release capability, the flexible system architecture and the options for self-configuration, PSIWms can be conveniently tailored to the respective requirements, changed business processes, new products and client requests. Mönnig sums up: “In this way, the system supports our efficiency and flexibility at both the operational and tactical levels. The decision for PSIWms as a future-oriented investment has been more than confirmed.” 

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Leading in the Digital Transformation Era

Digitalization and decarbonization of the production processes are expensive ventures. Due to their key impact, metals producers need to get them right the first time. To do so, they need the support of experienced consultants to help define clear objectives and measurable targets, and successfully navigate their change management. The consulting business of PSI Metals supports the industry with all the tools and technological expertise and the successful references worldwide speak volume.

Digital transformation projects have very high failure rate. According to an article⁽¹⁾ published by Harvard Business Review, in every 100 digital transformation projects, 87 fail. Some of the causes are over-optimistic expectations, poor execution and change management. Consulting in the metals sector requires deep understanding of industry's challenges, business and production processes in order to deliver maximum value. Through this in-depth experience, the consultants analyse the as-is state, identify improvement areas, define to-be business processes and solution architecture including ERP, PCS, MES, APS systems and AI solutions, build a feasible roadmap, and calculate return on investments for the selected projects in the roadmap. Furthermore, it is also important that consultants have a strategic approach to change management and communicate collaboratively with the key stakeholder.

Consulting facilitates project execution

In consulting, one needs to know the industry, the company, the products and the complexity of the production and business processes. Having consulted for leading metals producers, PSI Metals knows typical challenges of the sector and solutions applied. While PSI has 50 years



PSI Metals team and consultants.

of experience in designing solutions for the metals industry, the consultants have an average experience of 20 years. With these many years of expertise, metals producers can benefit from the industry knowledge and global benchmarks.

Many years of successful co-operation

thyssenkrupp Electrical Steel (tkES) has collaborated with PSI Metals since 1994. According to Robert Gieselmann, Lead Shopfloor System at tkES: "The decision to take PSI Metals was for a long-lasting collaboration as they are a reliable and a strong partner. We wanted a partner that is able to develop the solution and consult as well. We also considered that PSI Metals is competent and has decades of experience in steelmaking, which cover all our project needs."

PSI Metals is further supported by a network of partners like Primetals Technologies for the integration with process automations, IDAP for end-to-end solution with ERP/SAP and PSI FLS for AI based solutions.

KPI-driven business consultancy

In the past, a steelmaker consulted PSI Metals to support them to improve the delivery time of their orders. Luc Van Nerom, Innovation Manager PSI Metals, says: "Right from start, our consultants work with the customer to acquire the data related to current delivery time and determine the pain points. Finally, together with the customers, the measurable goals for the target state are set so that the results can be compared after implementing the recommended solution. By doing this, the engagement process is handled satisfactorily."

⁽¹⁾<https://hbr.org/2022/09/3-stages-of-a-successful-digital-transformation>

87 out of 100 digital transformation projects fail

With changing market dynamics driven by the need for decarbonization measures and the winds of digitalization, the services and products offered by steel and aluminum producers are undergoing radical changes and change management is of paramount importance in projects. Making employees part of the change, getting them to adapt to the change and gaining the support of key stakeholders is difficult but essential for successful projects.

PSI consultants work closely with the key stakeholders, starting from early stages and build the transformation roadmap together with them, which ensures their approval and overall adoption. Furthermore, during implementation projects PSI consultants support customer's change management activities

through initial trainings, after which the team conducts a survey among the key users to measure their acceptance level of the solution.

Michael Umierski, Head of Information Technology Management at tkES says: "We begin working with PSI Metals consultants before the implementation projects start. By doing this, we avoid misunderstandings during the early phases of the projects, we have shorter implementation time and safe go-live is ensured."

Changing the status quo

In an industry where digitalization and decarbonization are key drivers of efficient production and business growth, metals producers need experts to help them tailor a step-by-step transformation plan. There is no automatic approach. It requires



The thyssenkrupp Electrical Steel and PSI Metals teams during the project.

reliable and trusted methods derived from decades of industry experience. PSI Metals consultants provide this experience, ensuring that your transformation projects will be among the group of the successful 13 percent digital transformation projects. 🔄


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PSI  **Software Excellence
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PSIqualicision AI: Web- and Cloud-enabled

Today, companies use decision support software to optimize business process objectives such as short throughput times, balanced utilization of resources or high degree of adherence to delivery dates, which are managed as profitability indicators in the companies. PSIqualicision AI is a web- and cloud-enabled software that can optimize your business process objectives. The software is provided via the PSI Industrial App Store. It offers the Qualitative Labeling of business process data whereby interactions between KPIs (Key Performance Indicators) are machine learned and explainable visualized.

Qualicision AI Technology stands for qualified decision support applied to the business process optimization and to data-based analysis and forecasts. Using adequate AI methods, the web-enabled Qualicision software automatically recognizes interdependencies between performance indicators, balancing goal conflicts while taking into account adjustable optimization priorities.

Decision support by combining process data and process knowledge

Based on the combination of process data and process knowledge, the resulting decision support is able to optimize business goals in real time and for planning.

Since Qualicision generally works with all types of performance indicators, sustainability KPIs are directly considered as optimization goals and, on an equal level with profitability KPIs, can be integrated in the optimization strategy.

With PSIqualicision AI optimization algorithms different individual decisions can be combined into efficient overall KPI decisions. This is done by means of data-based KPI evaluation of automatically machine learned interactions within the business processes to be optimized. From the PSI Industrial App Store the



Figure 1: PSIqualicision AI Web GUI Dashboard.

web-enabled PSIqualicision AI software can be installed and started via the PSI Cloud directly by click, among others.

via drag & drop. The software uses a special machine learning technique to set system parameters as preferences in a way that corresponds to

Advantages of a cloud deployment are obvious for customers:

- No effort for cloud environment setup
- No effort for hardware and cloud infrastructure
- Less to no process intervention of system admins necessary

By means of PSI Click Design, results and modelling can be edited in the PSIqualicision AI dashboard. Special widgets finally allow customizing and visualizing the results

the current data situation, and automatically recommends suitable settings of the criteria to be optimized (see Figure 1). Referring to the current data situation, a goal

conflict matrix explainably visualizes which of the KPIs can be optimized with the remaining KPIs either in a supporting way (green) or in a conflicting way with potential for improvement (red).

Using “Integrated Didactics” (integrated dialogs and exercises) the user is able to test and understand the different application options the PSIqualicision AI software offers (see Figure 2). The exercises and examples supplied in the software provide useful explanations to get familiar with the functionalities of PSIqualicision AI quite easily.

Interactive and explainable AI-based decision support

The software allows defining manually the KPIs that are used to evaluate the business process data. Then, the Qualicision labeling functions for AI-based optimization prepare the KPIs (see Figure 1). The result is an interactive and explainable AI-based decision support that by now is part of a number of PSI use cases. Examples are products for the optimization of production processes in the metal industry or in the au-

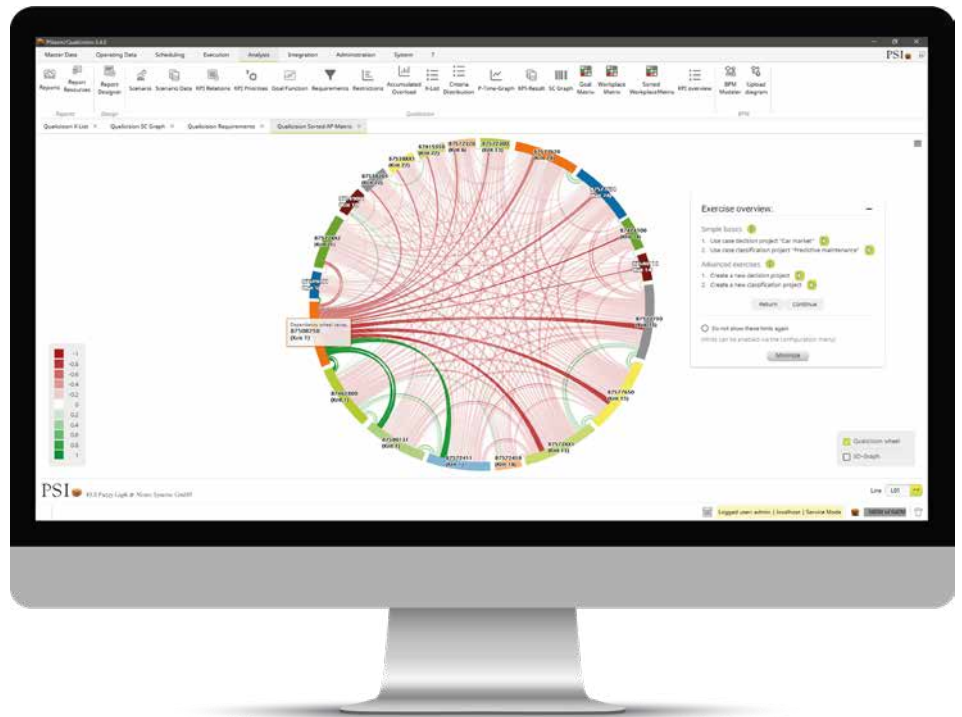



Figure 2: Integrated Didactics and exercise examples.

tomotive OEMs, cyber security applications in network management and optimization in the field of local public transport. A further use case is energy trading in the intraday business and its linkage to production processes and the optimization of energy efficiency.

Integration with further software products like PSIasm/Qualicision or

PSIup/Qualicision for applications in production planning und control as well as for process monitoring and predictive maintenance is in the pipeline. 

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INDUSTRIAL SOFTWARE WITH BUILT-IN QUALICISION AI

PSI presents bundled software intelligence for optimized and sustainable production and energy supply at the Hannover Messe.

We are looking forward to your visit.

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The Future of Production Management Systems

Today's production management systems feature comprehensive process automation that enables almost 100 percent digital transparency of production in the steel or aluminum plant. However, the most important production steps are still carried out by people.

With today's production management systems, experienced plant operators start fully automated processes with a pre-defined and non-adaptive system behavior. Whenever production conditions change, this "hard-coded" behavior must be reconfigured. This

during the industrial revolution of the last century. This led to the successful implementation of automation systems in the Level 1, 2, 3 & 4 sectors of the metals industry. Today, industry-focused B2B software providers offer leading-edge technologies that focus

eration of self-adaptive production management systems is just around the corner.

These seven key functions will support this evolution:

1. Plug-and-play software
2. Model-driven configurability
3. KPI-based production management
4. Machine learning and self-adaptation
5. Expert-assisted machine learning
6. Explainable AI technology
7. Multi-agent systems



Image inspired by M. C. Escher's artwork "Self Drawing hands".

adaptability to changing production conditions is one of the biggest challenges for the next generation of production management solutions.

Evolution of production management systems

The digitalization of business and production processes emerged

on specific levels of the automation pyramid, making a wealth of digital production data available. So what's next?

Seven key functions of future production management systems

With the availability of this digital production data, the next gen-

PSI Metals is well equipped to take the lead in this continuous innovation. The PSImetals Service Platform, PSIJava Framework, PSIQualcision AI Framework, and the PSI App Store form the foundation for creating such self-adapting production management solutions for the metals industry. [🔗](#)

Would you like to read the entire article in the blog? Just scan the QR code!



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PSIwms Omnichannel Optimizes Logistics Processes

PSI Polska sp. z o.o. has been awarded by the Polish distributor of educational books Edu-Książka sp. z o.o. with the implementation of the Warehouse Management System PSIwms 2022 Omnichannel with a focus on e-commerce distribution. The system is based on a pre-configured version for omnichannel processes and will replace the existing legacy system.

Edu-Książka is one of the largest distributors of schoolbooks for education and training in Poland. The company represents, for example, major publishing houses, supplies wholesale and retail customers in Central and Eastern Europe, and also has a network of its own bookstores and one online store.

The warehouse in Lublin handles up to 80 percent of its shipping volume via e-commerce. In order to improve the logistics processes, the existing warehouse management system will be replaced by PSIwms.



Warehouse in Lublin.

PSIwms provides extensive functions for the control of the most important warehouse management


preconfigured version of the software enables efficient implementation and flexible customization as

ERP, BaseLinker and Material Flow Control to control the conveyor system.

“ We were looking for a reliable partner with extensive experience in multi-channel distribution and the replacement of warehouse management systems in large distribution centers. We are convinced that PSIwms will enable us to optimize our logistics processes and give us a competitive edge in the demanding market in the future.

Adam Olesiewicz, CEO at Edu-Książka

The replacement of the previous WMS system with PSIwms is planned for the first half of 2024.

PSI Polska has profound experience in working with large retail groups operating in an omnichannel model. Customers in Poland include LPP, CCC and Empik. 

processes and takes into account the specifics of the e-commerce market as well as the stationary trade and the B2B channel. The

needed. PSIwms will also coordinate the configuration of shipping packages for all courier services. The system will be integrated with

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Data at the Push of a Button

Everyone knows it: If a washing machine is out of level, it gets noisy, plus the constant vibrations can damage the machine itself or the floor on which it stands. What most household appliances lack, unlike industrial equipment, is a system for reducing vibrations.

The relevance of appropriate isolations grew continuously since the beginning of the machine age. On the one hand, they reduce noise and disturbances, and on the other, they protect against damage caused by machines, transport systems and natural disasters.



The production hall at GERB.

In Berlin, such systems have been created for over 100 years. GERB vibration isolators from the company of the same name are installed in impressive facilities all over the world: for example, in New York skyscrapers, under the foundations of the world's largest turbines and concert halls, or along hundreds of kilometers of railroad tracks.

Continuously high data quality

A glance at the reference projects gives an idea of the wide variety of systems GERB develops, produces and puts into operation every year. "We are what is known as a contract-based, one-off manufacturer. It is true that there are standard packages that we install in the

plants. But all in all, each project is unique," emphasizes Dr. Stefan Romberg, who as Managing Director for Corporate Development is responsible, among other things, for setting up and further developing the planning, controlling and reporting system for the group of companies and assists in the further development of the ERP project.

For some time now, GERB has relied on IT support for corporate management and control, which is particularly challenging in view of

the high project complexity and diversity: "With the introduction of the ERP system PSIpenta, we have gained a tool with which we can successively increase the degree of digitalization in all areas of the company. Our goal is to create continuous, cross-departmental processes in order to streamline company processes and make them more efficient, and ultimately to ensure continuously high data quality," says Dr. Romberg.

In the course of a complete mapping of the order processes,

the support of release processes in procurement, quotation workflows for standard articles as well as export control and traceability of materials used are essential. In addition, there are MES modules for recording and evaluating hours, central document management and a multi-level reporting system.

Variant diversity under control

For the Berlin-based company, the ERP project is a long-term undertaking that will be implemented step by step. Therefore, GERB used the migration to the latest version of the ERP solution to set up structures for improved, comprehensive cost accounting. For example, company departments that were still missing were connected and workflows were established that simplify, streamline and shorten the heterogeneous, internal company workflows and processes. "We really benefit from this in particular. Because due to the high vari-



Secure and reliable spring elements are produced by GERB.

ant diversity of our solutions, there is also no classic or identical order flow,” explains Dr. Romberg. Closely related to this is the variant management that GERB is currently establishing.

The module enables the field sales force to configure a product variant directly in the system according

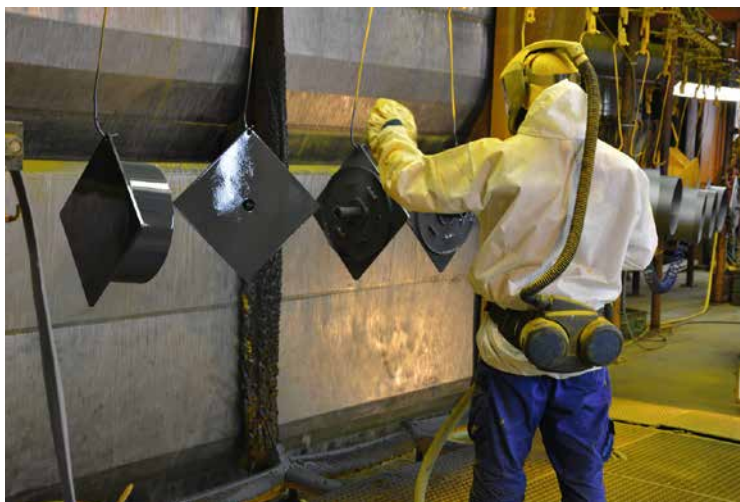
to the customer’s requirements, to receive a calculated price, to issue a corresponding quotation immediately and, in case of an order, to load the created product directly into the demand determination and production process.

Dr. Romberg sums up: “The preparations for using the module are demanding. But once they have been created, several departments will benefit significantly, including considerable time savings.”

Daily work relief

With the help of the PSI Industrial Apps,

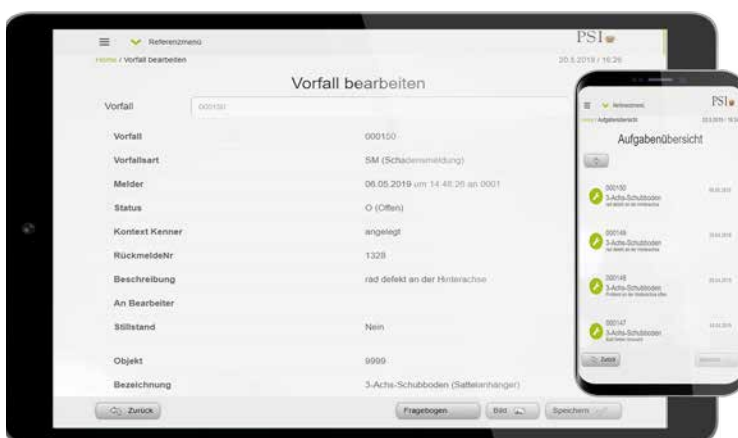
GERB recently closed digital gaps in the interaction between elastomer production and warehouse. Thus, the data from the production processes was transferred to the relevant warehouse segments and is available on an item-by-item basis in the event of necessary build-up processes. “Thanks to the barcodes applied to the workpieces, which can be easily scanned via apps and mobile devices, we meet the strict requirements of our quality management for batch fidelity and trace-



Paint shop in the production halls.

ability with maximum precision and efficiency,” describes the managing director. The background: The production of elastomers—elastically deformable plastics that always return to their original shape—typi-

uations can be determined at the push of a button, thus saving a great deal of time. “Because these changes turn the daily work of many employees upside down and—that is human nature—are not always welcomed, we accompany and support these processes intensively. And this pays off. Because as soon as our colleagues have adjusted to the new conditions, they get on extremely well with the system and would no longer want to do without it. This is one of the greatest motivations to continue on the path we have chosen,” says Dr. Romberg.



Optimal support of your field service with PSI Industrial Apps increases employee satisfaction.

cally takes place in several phases. For example, a produced plastic component must be stored in a further step before it can be cut to size or further processed after a maturing process.

Reliable data at the push of a button

Much of what used to be paper-based and time-consuming at GERB is now automated thanks to the ERP solution and accompanying systems. Now, numerous eval-

Well positioned for the future

As a single manufacturer of highly complex products, GERB is particularly dependent on lean processes and a solid database. The specialist for vibration isolation achieves both with the help of its ERP system, which also offers it the functional and technological scope to be able to further increase the degree of digitization step by step in line with its own needs and circumstances. This means that the long-established Berlin-based company is well-equipped to successfully continue its history of more than 100 years. 🔄

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PSIwms Replaces Legacy Systems


The LGI Logistics Group International GmbH has awarded PSI Logistics GmbH with the delivery of the Warehouse Management System PSIwms 2023. After the initial implementations at two warehouse locations, the rollout of the standard product will take place at additional logistics centers. The order was placed via the PSI App Store.

With LGI Logistics Group International GmbH, Herrenberg, another leading contract logistics company has opted for the warehouse management system PSIwms to manage and control its intralogistics. With its modules and diverse functional scope, the scalable standard software covers all requirements of LGI's diverse business areas.

The contract was awarded in September 2022 after an intensive, detailed evaluation process. Subsequently, two projects were launched in "dedicated warehouses" from the electronics and medical technology sectors at locations in Germany.

After the go-live at the warehouse sites in the second and third quar-

ter of 2023, the rollout is planned for further logistics centers (dedicated and multi-client warehouses). At these sites, PSIwms will be used for the ramp-up of new customers and later also for the migrations of existing WMS systems. The on-site teams of PSI Logistics will initially train, advise and coach around 30 users at each location. In later operating phases, up to 170 users will be working in Hünxe with PSIwms.

LGI Logistics Group International GmbH, founded in 1995 and headquartered in Herrenberg, is a logistics group with around 5000 employees. The contract logistics company operates about 740000 square meters of logistics space at more than 45 locations worldwide. 

PSI Logistics GmbH

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LGI Logistics warehouse at the Ketsch site.



April 25 - 27, 2023
Hall 8, Booth A41

We are looking forward
to your visit in Stuttgart!



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appointment now!

Optimized Production Capacity and Efficiency

Chinese steel manufacturer, Valin ArcelorMittal Automotive Steel Co., Ltd (VAMA), in December 2022, successfully went live with a PSImetals 5.20 software solution at its plant that optimizes and scales-up its production. It covers plant processes like surface treatment, cold rolling, as well as service center.

The implemented software solution is based on multiple PSImetals modules: Planning (Sales & Operations Planning, Order Scheduling and Line Scheduling), Production, Quality (Order Dressing and Quality Execution), Logistics as well as PSIintegration for interfaces with the Level 2 and Level 4 systems.


“After the implementation of PSImetals, our production efficiency improved. Many operations, which originally required manual processes, are currently done automatically, whilst reducing errors, efficiently scaling up our production capacity and increasing production quality and rate of first time right. In addition, our IT team established strong trust in the PSI Metals team during this project and we are very happy with the outcomes.

Gu Li, Chief Technology Officer IT Department Level 3 Supervisor at VAMA



Steel production at VAMA.

VAMA expanded its production lines to optimize and efficiently scale-up their production from 1.5 million to 2 million tons of steel per year. To ensure this, PSImetals is also used for the new Continuous Galvanizing Line and re-coiling and packaging lines as production management system.

VAMA is a joint venture between Hunan Steel Group and ArcelorMittal. It supplies all grades of automotive steels with an annual production capacity of 2 million tons. 

PSI Metals

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Industrial Software with Built-in Qualicision AI

Under the motto “Industrial Software with Built-in Qualicision AI”, the PSI Group will present intelligent software products and AI-based applications for optimized as well as sustainable production and energy supply at this year’s Hannover Messe from 17 to 21 April 2023 (Hall 17, Stand G20). In addition, the PSI App Store and the new PSI Collaboration Space will be presented for customers; and as part of the strengthened partner initiative, also for partners.

Artificial intelligence (AI) is considered a key technology in industry. In this context, PSI is bundling its AI expertise in a group-wide working group. For more than fifteen years, the Qualicision software for decision support and op-


timize the production for example in the automotive sector, as well as the processes for decarbonization in the metal industry and for energy trading. Energy suppliers also use AI-based software for controlling power grids and for systematic grid

network as well as in the optimized charging of electric buses.

AI based research projects

In addition, PSI participates with partners in numerous research projects in which Qualicision AI is also

used, such as IKIGas—Industrial Artificial Intelligence for Safety in Gas Networks. In the ELMAR project, solutions are being developed for AI and cloud-based software for the decarbonization of raw material extraction. Moreover, PSI is developing standardized reference architecture as part of the research project on Standardization of Automotive Data Platforms (STAPL).

PSI is part of the “Guided Tours” organized by Hannover Messe focusing on “AI in Production”. 



PSI at the Hannover Messe 2022.

timization has been integrated into a large number of established PSI products. A number of AI applications are already being used successfully in customer projects in various industries and fields of application.

At this year’s Hannover Messe, PSI will be showing AI applications based on “Qualicision AI”, which op-

monitoring. As part of intelligent maintenance and servicing strategies, energy networks and other processes in the industrial environment can be reliably controlled.

AI-based optimization algorithms are also used for the integration of electrified public transport and the charging infrastructure of individual traffic into the energy supply

More information:
www.psi.de/en/products/artificial-intelligence/



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New PSIWms Editions for Omnichannel

PSI Logistics will present its software products for the planning and control of logistics processes at the LogiMAT from 25 to 27 April 2023 at its new stand A41 in Hall 8 in Stuttgart. The focus will be on further developments in the warehouse management system PSIWms 2023, such as the newly available editions GO, FLEX and PRO for Omnichannel. The processes mapped therein address companies that serve warehouses of varying complexity or want to be flexibly positioned in the future.

The new PSIWms editions are available as GO in the standard version for a quick implementation, FLEX for smaller adjustments and PRO for the use of all existing and expandable solutions in PSIWms. If additional functionality is required, it is possible to migrate from GO to the customizable FLEX and PRO editions. All editions can be ordered in the cloud-based PSI App Store.


In addition, PSIGlobal will be presented in the new release 2.8 with new functions and improvements. Specifically designed for the food industry, the software for intelligent supply chain network design can sustainably reduce the CO₂ footprint for multiple locations through transport and production optimization.

Both in strategic planning with PSIGlobal and with the operational system for route planning and optimization PSITms, electric transports can be optimally planned and controlled with existing charging sta-



PSI Logistics at the LogiMAT 2022.

tions and actual power requirements. PSIGlobal can also be used to determine at which locations additional charging stations can improve logistics processes. In addition, the cloud-based service PSISrs (Smart Routing Services) will be presented, which enables intelligent and proactive route planning with highly precise routing results.

Moreover, new developments from the areas of ERP and MES will be shown. 

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The PSI blog features more interesting and in-depth articles on production, logistics, AI, energy and mobility.



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We are looking forward to your visit.

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