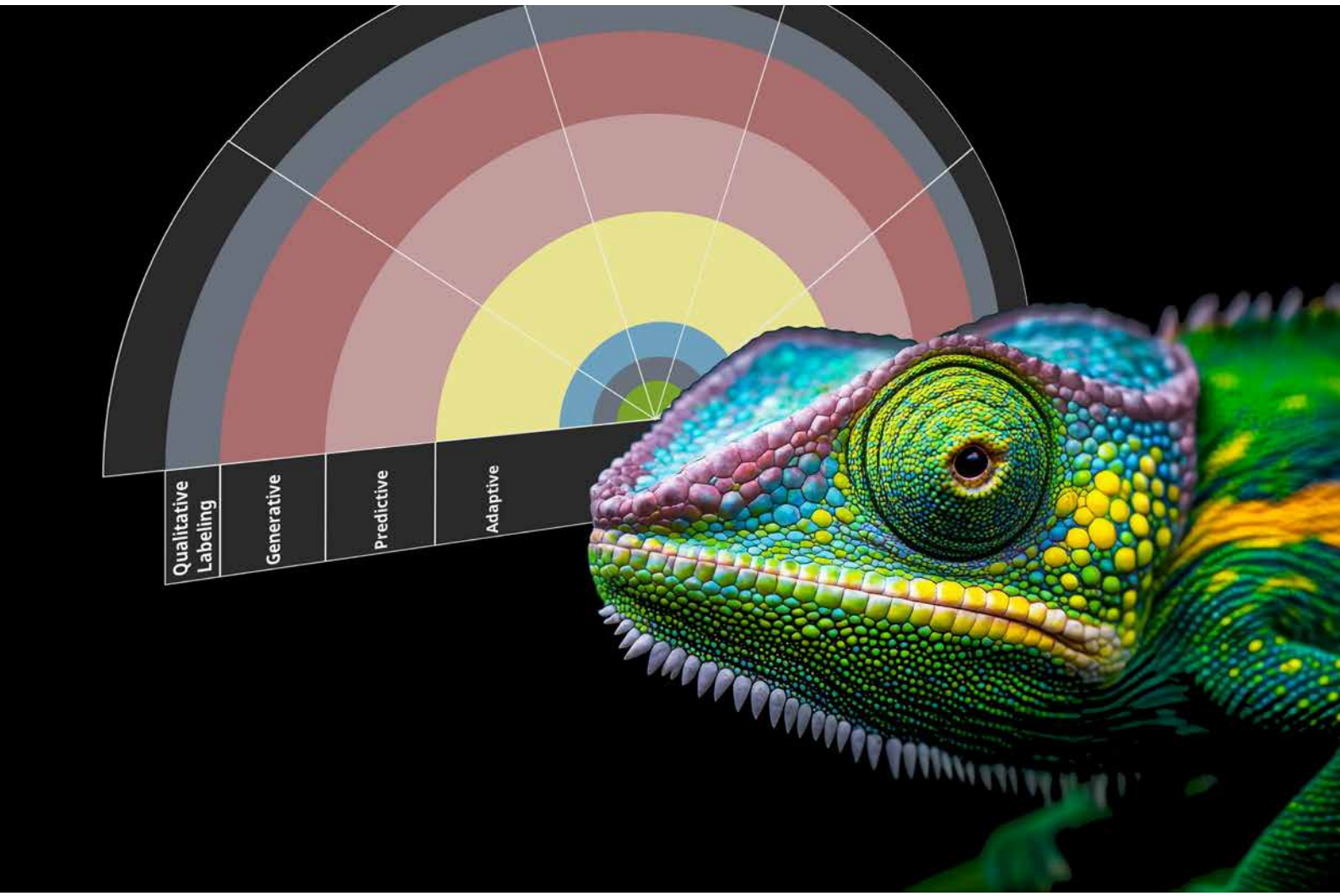
4/2024

PRODUCTION manager

Magazine for production & logistics



Core property of AI-based decision and optimization algorithms

Autonomous Operation by Adaptive AI

User report

AMA Anlagen- und Maschinenbau Amberg GmbH relies on PSIpenta
Automation with ERP: Key Figures with a Mouse Click

Page 6

Interview

Pascal Moinier provides insights into the PSImetals Demand Manager
Reliable Supply Chain—Part 2 of 3

Page 8

User report

Optimization of the logistics network at Viessmann Climate Solutions
Efficient and Sustainable Supply Chain with PSIglobal

Page 12

PSI

EDITORIAL

Dear Readers,

ADAPTIVE | PREDICTIVE | GENERATIVE
With our Trinity, we communicate the underlying characteristics of the decision and optimization processes, as well as the AI methods, that are based on the PSI Industrial AI Framework and are already in productive use in a number of PSI software products in various industries. Thus, with Artificial Intelligence, the PSI Group is focusing on the important link between AI methods and learning processes for optimizing industrial processes. This is where business process data becomes value-adding information.

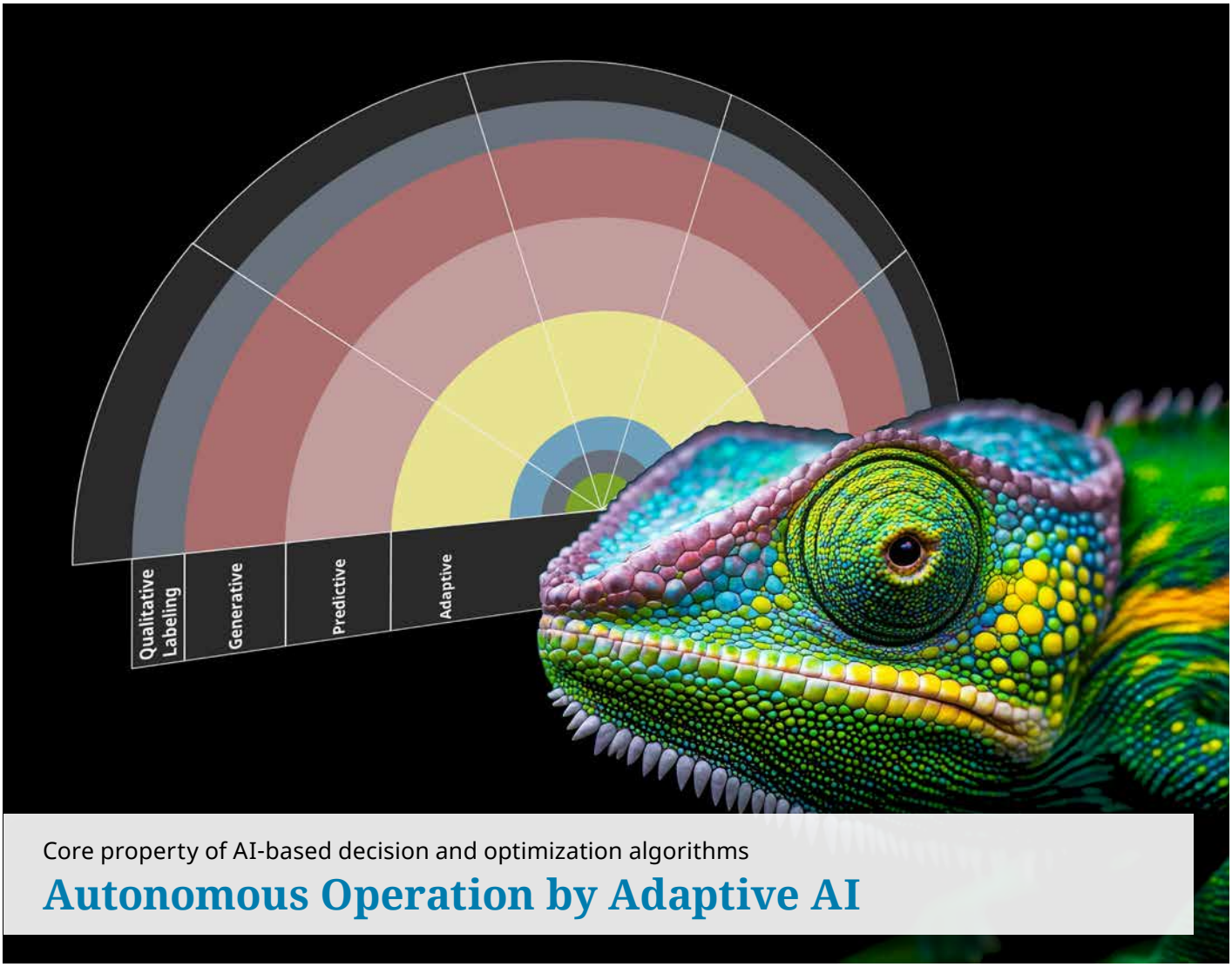
In this edition, in the lead article you can read about the importance of self-learning, automated Qualitative Labeling of business process data for the industrial use of adaptive, AI-based decision and optimization algorithms and how logics make it possible to learn by machine from the adaptation of one's own algorithmic behavior. Find out more about case studies from fieldforce management in the energy sector and from scheduling in metal production and sequencing for automotive production.

We also report on other current developments, for example the opportunities offered by production optimization with PSIpenta/MES. In addition, the interview series continues with a focus on the PSImetals Demand Manager. Further articles from the manufacturing, logistics and metals industries report on interesting customer experiences and the associated new trends.

I hope you enjoy reading this issue and look forward to receiving your feedback.

Kind regards,
ppa. Dr. Rudolf Felix
PSI Software SE | Industrial Artificial Intelligence

CONTENTS



Core property of AI-based decision and optimization algorithms

Autonomous Operation by Adaptive AI

Contrary to conventional optimizations, adaptive AI optimization algorithms not only react to data, but also adapt their own behavior to current data, draw conclusions from it and are able to intelligently predict how to generate the optimization solutions being sought. Being adaptive is therefore a core property of AI-based decision and optimization algorithms and the first step towards autonomous operation. The fact that this is advantageous has also been reported several times in earlier issues of this magazine.

Accordingly, adaptive AI optimizations are an integral part of the PSIqualicision-AI framework. As sequencing and scheduling tools, they are used in discrete manufacturing, in the process industry and in the energy sector at many decision points in customer business processes.

Qualitative Labeling

In this process, adaptivity is achieved by the self-learning, automated Qualitative Labeling of business process data with KPI evaluations. The input for the software essentially consists of two main components: on the one hand, data streams of the business process to be analyzed are written and automatically converted into time series using time stamps.

On the other hand, Key Performance Indicators (KPIs) are agreed with the process owners, on the basis of which the related business process is to be analyzed. In addition, the value ranges of the KPIs are divided into desired and undesired value ranges. For example, if the capacity utilization of a plant and the set-up times are considered as KPIs for a plant in a manufacturing company, a percentage greater than 85 percent can be set as desirable and positive for the capacity utilization. In contrast, values below 85 percent are negative and are viewed as increasingly unfavorable the further they deviate downwards from this minimum target size.

Comprehensive visualization of the optimization AI

Figure 1 shows the GUI of a PSIqualicision AI sequencing system as used by automotive OEMs and operated by the control personnel in control rooms. The system forms, optimizes and visualizes production sequences in automotive factories by ensuring a desired distribution of orders over selected periods of time (week, day, shift or the next X minutes in real-time mode). As illustrated in the line graph, the lines show the order properties (right-hand drive, convertible, panorama roof, hybrid engine, etc.) and the columns show the orders placed in sequence.

The task solved here is similar to generating a series of decisions (in the context of board games like chess, you could also call them moves) that together schedule the volume of orders to be produced into the production line in such a way that the sequence meets the technical and capacity conditions of the production line and optimally achieves business goals (KPIs).

This adaptability is so important in a sequencing AI because production conditions in the factory are constantly changing, so the AI optimization algorithm must monitor its own behavior and continuously adapt it as well.

Figure 1: Line graph with order properties (rows) and orders placed in sequence (columns).

Qualitative Labeling of business process data

AI learning methods for optimizing business processes and real-time decision support require automatically prepared data. This means that they must be assigned a meaning even before the learning process. Unlike speech or image recognition, for example, new data patterns are constantly emerging here that need to be continuously learned. This can only be done automatically by software.

Qualitative Labeling is one such method. With its help, connections can be automatically recognized in historicized and current data by means of goal conflict analysis—in the form of self-calculated classes of data patterns. These are presented to the users for confirmation or correction. Qualitatively labeled data thus bridges the gap between data patterns in the raw data and their meaning in the real world of the related process. This creates the conditions for continuous process improvement in combination with qualitative, optimization-based AI methods (PSIqualicision AI).

In contrast to classical AI systems in which the connotation is carried out once or a few times in advance and the labels then remain valid for a long time, the labeling of data with regard to its meaning (semantics) for industrial business processes must be performed flexibly and automatically due to the continuous change of production parameters, such as a daily changing order mix. In the field of industrial AI, Qualitative Labeling must also be done algorithmically for reasons of efficiency—a strength of PSIqualicision AI.

Transferability of the optimization AI

The optimization AI is used in a similar way in scheduling scenarios in metal production or in field force management in the energy industry. Here, optimization is carried out at the level of Gantt charts using a comparable process (see Figures 2 and 3). The principle of the adaptive optimization AI remains the same.

Scheduling in metal production and engineering

Companies depend on the appropriate use of their data to optimize process KPIs in order to systematically manage their strategic production and business objectives. PSIqualicision AI was developed specifically for this purpose and en-

sures the optimization of the underlying processes through intelligent data collection, analysis and comparison between conflicting goals and criteria.

This includes the automatic, AI-based analysis of the inputs and the definition of restrictions and business goals. It is also possible to link classic economic optimization goals with sustainability goals along energy consumption and scenarios for resource conservation which is highly important in the energy-intensive processes of metal production.

Figure 2: Gantt diagram with scheduling scenarios as well as the KPI achievement levels and goal relations.

Scheduling in the energy sector

Fieldforce management of a transmission network in the grid area of a federal state is usually in the hands of a few hundred maintenance teams who perform more than a hundred thousand maintenance operations per year. In this scheduling scenario, daily operations are carried out that are optimally coordinated and planned.

Using a suitable PSIqualicision AI-based adaptive optimization as part of the PSIcommand software, the business process has been improved to such an extent that the same workload can be handled with 15 percent reduction in use of resources.

Adaptive and predictive for generative

With PSIqualicision AI-based logic, the adaptation of one's own algorithmic behavior is machine-learned. After the results of this learning logic have been stored in connection with the behavior patterns of the AI optimization algorithm, the algorithm itself generates further qualitatively labeled behavior data which, with a classifying AI, leads to the learning of long-term prediction patterns (predictions) for the business process to be optimized.

Possible classifiers based on deep neural networks, gradient boosting or methods such as reinforcement learning are also useful here. In the future, the aim will be to have adaptive and predictive AI optimization algorithms become the input suppliers for the generative AI component in the PSIqualicision-AI framework. This will further automate the use of adaptive AI optimizations and take their explainability and controllability to a new level.

Figure 3: PSIcommand with PSIqualicision AI-based adaptive optimization.

Sources:
Production manager (PM)
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PM 4/2023: Label. Recognize. Optimize.
PM 3/2024: Adaptive—Predictive—Generative

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User report: AMA Anlagen- und Maschinenbau Amberg GmbH relies on PSIpenta

Automation with ERP: Key Figures at Mouse Click

AMA Anlagen- und Maschinenbau Amberg GmbH (AMA) has set out to comprehensively modernize its IT infrastructure by implementing a new ERP system including time tracking. The increased level of automation has led to significant efficiency gains, which are particularly noticeable in the time saved in central processes.

Over time, several stand-alone IT solutions had become established at AMA, and these did not allow direct exchange with each other. In addition to an ERP system for financial accounting, a tool for production data acquisition (PDA) and a tool for asset accounting were in use, with no direct interfaces between these systems.

Initial situation: historically grown, stand-alone solutions

In addition, there was a specially developed database for evaluations and post-calculations, as well as a series of lists outside the ERP system. As a result, a lot of data had to be maintained manually, and important key figures were often only available with delays or incompletely. The consequence: it became increasingly difficult to create precise and timely evaluations.

Objective: a central data hub for all business processes

AMA manufactures components for machines, engines and turbines in small and medium-sized series, particularly for the mechanical engineering, rail vehicle and shipbuilding, and energy technology sectors. The primary aim of introducing a new ERP system was to consolidate all relevant information for a customer order at a central point. Another key selection criterion was the provision of a simple way to transfer proven, individual processes to the ERP standard and to be able to adapt them flexibly—especially for post-calculation. These serve the classic contract manufacturer as a basis for future quotation calculations.

Implementation: Consistent mapping of the order process

The choice fell on the PSIpenta ERP system, which is specialized for discrete manufacturing. In conjunction with an integrated module for time and attendance recording and a document management system (DMS), it maps the entire order process at AMA. An important step in this process was the introduction of a clear article structure with unambiguous article numbers, which has gained in importance particularly due to the larger proportion of repeat parts.

Individual processes, such as quotation costing, are carried out outside the ERP system, but thanks to the link with the DMS, this information can also be traced at any time in the customer order. “This makes the entire process transparent and traceable,” explains Alexander Albrecht, project manager at AMA. The DMS also simplifies the checking of order confirmations across several instances and is completely paperless.

Enormous time savings and improved data quality thanks to PSIpenta/ERP.

Flexibility through Groovy scripts: adaptations without system discontinuity

From the outset, it was important for AMA to be able to adapt the ERP system flexibly to its own processes

without deviating from the system standard. The solution: Groovy scripts. Alexander Albrecht has written corresponding scripts, for example, for post-calculation and various plausibility checks. “This gives us a precise post-calculation at the push of a button and allows us to define clear input rules that reliably eliminate sources of error,” says Albrecht.

The project manager has also optimized some user interfaces in the software terminal using Groovy. For example, input masks in production have been reduced to a few relevant fields, which considerably reduces the workload for employees and significantly speeds up workflows. Albrecht emphasizes: “These processes are so intuitive that no training is required.”

Central processes are automated at AMA.


AMA can access important key figures at the push of a button with PSIpenta/ERP.

Efficiency gains: Key figures at mouse click

With the new ERP system, AMA can now access important key figures such as incoming orders, workshop inventories or invoice outflows at the push of a button and in real time. Thanks to the approximately 50 percent increase in automation, the month-end closing process is significantly faster, and creating customer orders or determining the workshop inventory takes up to 60 percent less time than before. “The time savings and improved data quality are extremely valuable to us,” emphasizes Albrecht. Cost allocations from cost accounting and financial accounting can now also be determined more precisely and automatically.

A further advantage is that the data collected by the BDE module is available in the ERP system almost in real time. This makes it possible for AMA to check the current status of an ongoing order at any time and to intervene quickly if necessary. “This interaction of different modules provides us with an extremely high level of transparency regarding our processes,” adds Albrecht.

System expansion: detailed planning

Instead of isolated systems, AMA now has integrated digital processes. By implementing a modern ERP-MES solution, the machine manufacturer has automated and accelerated central processes while also gaining access to key performance indicators for corporate management. And, the next step in automation and the further expansion of the system are already planned: the implementation of a module for detailed planning.

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Resilient Supply Chain—Part 2 of 3

Managing forecasted demands for steel and aluminum products can be complex. Supply chain managers have to analyze and merge forecasts from different sources into a single accurate prediction. They have to align with stakeholders to agree on the most likely sales market scenario and with that on the consensus forecast. In this part two of a three-part interview, the Production manager asked Pascal Moinier, Senior Consultant at PSI, about the features and key aspects of the PSImetals Demand Manager.

What is PSImetals Demand Manager?

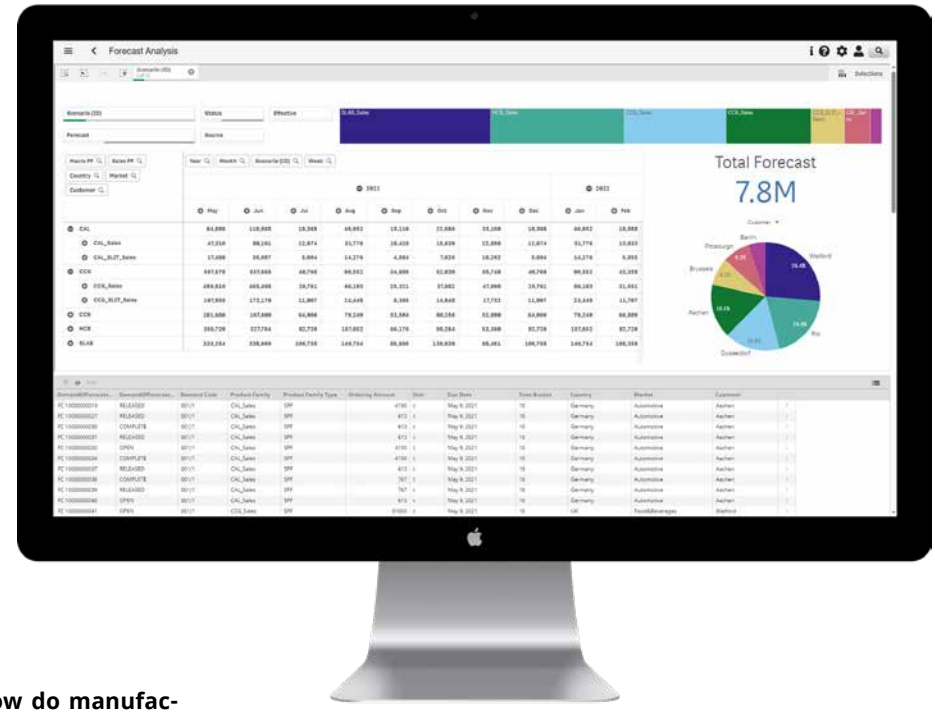
Pascal: PSImetals Demand Manager is the backbone of managing market demands and customer orders in PSImetals. It seamlessly integrates with Enterprise Resource Planning systems, providing advanced forecasting management and demand fulfilment monitoring features tailored to the metals industry. The forecast management functionality empowers planners to create and consolidate consensus demand plans using scenario-based analysis to support the sales & operations planning process. In the order acceptance process, it ensures smooth operations by tracking quota consumption, coordinating production order elaboration and due date quoting and manages demand status across all order types. Thus, it keeps your production aligned and responsive to market needs.

To elaborate more on order type, how do manufacturers handle demand variability for custom metals products?

Pascal: When a product is technically feasible, it is generally possible to produce it. The next challenge, however is making it commercially viable. In scenarios where orders are technically challenging, with low demand volumes and limited repeatability, the greatest difficulty arises. One of the most effective strategies to address this is using decoupling stock. This approach involves processing a coil generically to an intermediate stage, allowing it to be finished later based on specific customer requirements. This method helps mitigate the impact of demand fluctuations, enhancing flexibility and efficiency.

How does the Demand Manager react when there's an unexpected spike in demand?

Pascal: An unexpected spike can be a challenge, but it's manageable. Manufacturers might need to run overtime or expedite raw material deliveries. The beauty of simulation-based systems such as our Demand Manager is that we can simulate these different scenarios, helping managers see the most efficient way to increase production without bottlenecks. PSImetals can even prioritize urgent orders and reconfigure the production schedule to make sure high-demand products are at the front of the line. To avoid a bullwhip effect in the medium term, these measures have to be taken with care.



Forecast "What-if" Scenario Analysis.

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Enhanced Product Portfolio for the Metals Industry

PSI and qoncept technology GmbH, an Austrian software development and digitalization company, have entered into a strategic partnership. As part of this, the next generation raw materials optimization software qontrol maps will be integrated into PSI's product suite to advance digitalization and decarbonization in liquid metals production. This will enable PSI to offer customers a comprehensive product portfolio tailored to the evolving needs of the metals industry.

qontrol maps will be seamlessly integrated into the PSImetals Service Platform as a standard business component. Specifically designed for metals producers, the software qontrol maps offers real-time scrap quality assessment, automated charge mix optimization for melting furnaces and optimized alloying strategies across the complete steelmaking process from melting to casting. It also enables the optimization of entire production campaigns by taking into account fluctuating energy prices, availability of raw materials, and other critical production parameters.

The steel industry faces mounting pressure to control scrap quality and optimize the total raw material input for their transition towards more sustainable production methods, such as electric arc furnace (EAF) technology. In addition to managing energy consumption, these changes are crucial for reducing CO_2 emissions. With the new qontrol maps component, PSImetals addresses these needs by incorporating deep metallurgical insights, e.g. related to EAF and basic oxygen furnace processes, including usage of DRI, hot heel operations, as well as chemical energy

qoncept delivers advanced software and engineering solutions for the steel industry, driven by a passion for metallurgy. With a head office in Leobon, Austria, it supports global clients with Industry 4.0-compliant software, engineering to enhance safety and productivity, and expert consulting. With about 40 employees, qoncept enables intelligent, efficient and optimized production through in-depth know-how and innovative process management.

Thomas Quinet (Executive Vice President, PSI Software—Process Industries & Metals), Robert Pierer (Managing Partner at qoncept technology GmbH), Jörg Hackmann (Executive Vice President, PSI Software—Process Industries & Metals), Sebastian Michelic (Managing Director & Co-Founder qoncept technology GmbH), Harald Henning (Executive Vice President, PSI Software—Process Industries & Metals) (from left to right).

> *By forming a partnership with PSI, we have achieved one of our key strategic objectives, namely to identify a multiplier partner for our solutions with a view to expanding our customer base. We are eager to work together on projects where, in addition to software implementations, we can leverage our experience and metallurgical competence.*
>
> **Dr. Stefan Griesser, Head of Sales and Business Development at qoncept technology GmbH**

and slag control, without the need to install additional sensors.

"PSI is a well-established company with a proven track record in providing software solutions for the metals industry. We have been interested in partnering with PSI since our foundation in 2018. By forming a partnership with PSI, we have achieved one of our key strategic objectives, namely to identify a multiplier partner for our solutions with a view to expanding our customer base. We are eager to work together on projects where, in addition to software implementations, we can leverage our experience and metallurgical competence to help our customers achieve their goals quickly and efficiently," adds Dr. Stefan Griesser, Head of Sales and Business Development at qoncept technology GmbH.

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PSI will be presenting bundled software intelligence for optimized and sustainable production and energy supply at the Hannover Messe from March 31 to April 4, 2025.

HANNOVER MESSE

PSI at the Hannover Messe 2024.

We look forward to your visit at our booth G24 in hall 10.

A Fireside Chat with qoncept

Last month, PSI and qoncept entered a partnership to integrate their next generation raw material optimization software, qontrol maps, into PSI's product suite. In a fireside chat, Robert Pierer, Managing Partner at qoncept shares his thoughts.

Where do you see the most need with qontrol maps?

qontrol maps is a sophisticated software solution designed to optimize material usage in metals production. The solution is unique because it integrates metallurgical process knowledge with mathematical algorithms and metallurgical models. All metals producers that melt 100 % scrap or scrap in combination with DRI, HBI with an electric arc furnace will benefit from cost-optimized processes and competitive, efficient production. Its numerous integrated features, particularly those pertaining to DRI/HBI, CO_2 emissions, slag metallurgy, and temperature, make it the ideal choice for the ongoing transformation of metals production.

Robert Pierer, Managing Partner at qoncept technology GmbH.

How optimistic are you about qontrol maps adding value to metals producers?

I am very optimistic because qontrol maps is a dynamic, knowledge-based solution that targets the most important process and economic factors in metals production to improve decision-making and process efficiency. Metals producers are under increasing pressure to reduce costs, improve sustainability, secure raw materials and meet high market expectations. This is where we come in, providing them with a tool to optimize their processes and overcome the challenges ahead. Also, transforming the metals industry into a more scrap-based production will greatly increase the need for an enhanced optimization of the raw material chain—precisely where qontrol maps adds value. And the feedback we've received from early adopters has been overwhelmingly positive.

If you possessed a superpower, how would you use it to improve the global metals industry?

I would create a level playing field for all metals producers. This is the only way to solve the two most pressing challenges: decarbonization and supply chain efficiency. I believe that solutions in these areas will have a profound impact—not just for metals producers, but for the entire planet.

Apart from coffee, what keeps you awake?

As neither coffee nor other circumstances keep me awake, I will answer this question in the context of what drives us as a young company in times like these:

What keeps us on our toes and drives us is both a challenge and an opportunity. In an industry that is under great pressure, we want to drive sustainability, efficiency and profitability in order to stay ahead as a company. It is important and a top priority for us to offer our customers solutions that create added value and meet their needs.

Business Unit Process Industries & Metals
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User report: Optimizing the logistics network at Viessmann Climate Solutions

Efficient and Sustainable Supply Chain with PSIglobal

Viessmann Logistik International GmbH, responsible for the global transport network and the Viessmann Climate Solutions sites, relies on PSIglobal to optimize its logistics network. This software for supply chain network design offers continuous planning and analysis of logistics sites, as well as the optimization of transport routes for a strategic alignment of the network with market requirements.

The focus of the network design is on efficiency and sustainability. Reducing transport mileage through optimized site distribution lowers CO_2 emissions while simultaneously increasing the efficiency of the supply chain.

View of the Viessmann warehouse.

As a leading manufacturer of heating technology systems, the sustainable transformation of energy supply plays a significant role for the global player Viessmann Climate Solutions. The company manufactures sustainable solutions for heating, cooling, water and air quality at 22 locations in 11 countries. Viessmann Logistik International, based in Allendorf, manages the transport network for the global locations, organizes and optimizes the flow of goods, and delivers to customers in the respective countries.

Successful launch with pilot project

In addition to the warehouses in Hanover and Augsburg, the central logistics center for Germany is located at the company headquarters in Allendorf. The product portfolio includes around 70000 items, from heating boilers to small sealing rings. The main warehouse alone serves 62 percent of the German market. In total, the network includes 49 sales companies, 35 sales partners in 58 countries, and sales activities in 74 countries.

In the past, Viessmann used external service providers for location analyses and optimizations, which was time-consuming and costly. To reduce dependency and costs, the decision was made to implement suitable software and carry out the analyses internally. After a market analysis and call for tenders, a decision was made in favor of PSIglobal in 2022 after a successful three-month pilot project. The support and assistance provided by the developers during this phase were also crucial.

Strategic analysis and scenario technology as the key

PSIglobal is designed to optimally plan logistical locations and transport networks. The software processes data from various formats and visualizes these in an integral

model using maps, graphics and dashboards. This comprehensive visualization allows the entire supply chain to be checked and put to the test. Moreover, functions are available for strategic supply chain net design. Data is processed using modern algorithms for optimizing multi-level and multi-modal logistics networks.

The system takes into account production capacities, transport routes, material flows and storage costs. If-then scenarios can be used to simulate and analyze the effects of changes to the supply chain. The software also provides forecasting for transport and storage requirements and supports the determination and reduction of the CO_2 footprint.

With PSIglobal, Viessmann can independently perform scenario calculations and continuous supply chain optimization. Two central users work strategically in logistics to create country-specific location analyses and adapt the warehouse structures to market demand and capacities. Realignments, volume changes and other adjustments are evaluated on the basis of project-related analyses. The software helps Viessmann to efficiently optimize locations and evaluate the cost-benefit effects of relocations or new start-ups.

Flexible data integration for smart decisions

Required data is entered into the system and uploaded from CSV, TXT or Excel files. A plausibility check ensures data quality, and the scenario technology allows the analysis and optimization of the locations. Single and two-stage calculations compare the actual state and indicate optimization potential.

PSIglobal's calculated potential for optimized location decisions leads to cost savings as additional consulting costs are eliminated. The continuous network optimization promotes sustainability and reduces transport and energy costs, which contributes to customer satisfaction through shorter transport times. Managed from Allendorf, the network covers around 70 inbound and outbound routes, with an annual transport volume of around 12 000 full truck loads (FTL). The software system enables Viessmann to effectively plan capacities and evaluate and optimize the approximately 25 active warehouse locations.

Conclusion

With the analysis function, it was possible to reduce transport requirements by around 30 per cent in one sales country. The transparency and visualization options provided by the software offer a solid basis for decision-making and support an efficient cost structure. The versatile functions allow Viessmann to make strategic decisions and increase cost efficiency and sustainability.

Cost comparison with PSIglobal.

With PSIglobal, Viessmann Logistik International has implemented a high-performance tool for strategic site and transport network optimization that helps to reduce costs and implement the sustainability strategy of Viessmann Climate Solutions: within two years the software has been implemented, the flow of goods has been transparently visualized and optimized based on various criteria.

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Production Planning and Optimization of Resources

NOYEN Sp. z o.o. has decided to implement the PSIpenta/MES Scheduling system. The system's powerful APS and MES modules offer precise production planning, optimization of resources and continuous process monitoring. This will enable Noyen to respond even faster to market changes, minimize downtime and better control production. The MES system will be integrated into the existing ERP solution.

Industrielle Reinigungsmaschine NOYEN EXPERT C.

Noyen, a manufacturer of modern industrial cleaning machines, systems and industrial chemicals based in Lublin, Poland, has chosen PSIpenta/MES Scheduling because of its functions for precise planning and real-time monitoring of production processes. The software integrates operations management at all production levels, optimizing operational planning and significantly reducing response times in the event of unforeseen disruptions. By implementing PSIpenta/MES Scheduling, Noyen is taking a further step towards digital transformation as part of its corporate strategy.

> *After a thorough analysis, we chose PSIpenta/MES Scheduling, which offers advanced APS and MES.*
>
> **Zbigniew Kurant, CEO of NOYEN Sp. z o.o.**

"Our strategy for technology and business development is based on implementing Industry 4.0 principles. We are focusing on automation and technologies that have a direct impact on our efficiency. After a thorough analysis, we chose PSIpenta/MES Scheduling, which offers advanced APS and MES functions and is perfectly tailored to our needs," explained Zbigniew Kurant, CEO of NOYEN Sp. z o.o.

The phased implementation of the production management system at Noyen is a step towards the full integration of production processes. The first phase of the project involves creating a prototype that will be implemented in a selected production area to precisely calibrate the planning and monitoring tools. The system is scheduled to go live in August 2025.

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Current Production Data in Real-time

The Polish medical technology manufacturer INMED S.A. has commissioned PSI Polska Sp. z o.o. with the implementation of the PSIpenta/MES system. With the MES and APS modules, the production of customer-specific devices will be managed more efficiently in the future.

INMED S.A., based in Krępice near Wrocław, specializes in high-quality medical devices and gas systems and offers comprehensive services ranging from development, production and assembly to servicing medical devices. The company supplies hospitals, patient rooms, intensive care units and operating theaters.

INMED opted for a multi-stage implementation of the MES and APS modules in the QuickStart implementation model. This offers functionalities in the standard version and significantly reduces time and costs. Following the important validation of the production data, first the MES module for generating reports and checking standards is implemented. The APS module will follow in the next phase. The system will be in full use from the 4th quarter of 2024.

Headquarters of INMED S.A. in Krępice near Wrocław.

PSIpenta/MES offers the visualization of work progress, automatic simulations to evaluate alternative scenarios for production execution and supports the decision whether additional resources are required. Intuitive report evaluation enables access to current production data in real-time and quick identification of potential risks in order processing.

"Our priority is to provide high quality products and good customer service," explains Tomasz Czarnecki, CEO of INMED. "After analyzing the solutions available on the market to support production management, we came to the conclusion that PSIpenta/MES fully meets the range of functions we require and, thanks to the standard functionalities, we were able to implement the system quickly and use proven solutions. The flexibility, configurability and ability to make changes after implementation were also very important to us," says Tomasz Czarnecki.

> *After analyzing the solutions available on the market to support production management, we came to the conclusion that PSIpenta/MES fully meets the range of functions we require and, thanks to the standard functionalities.*
>
> **Tomasz Czarnecki, CEO INMED S.A.**

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“Change and Progress Go Hand in Hand”

An extreme mountaineer, a live hacking demonstration, numerous lectures on theory and practice, and an extraordinary evening event: under the motto “Moving Forward for Discrete Manufacturing”, guests at the 38th IPA Annual Conference in Berlin experienced a unique mix of information, interaction and entertainment.

Over 200 guests accepted the invitation to the traditional conference of the “Interessengemeinschaft der PSIpenta-Anwender” (IPA) on November 14 and 15, which took place at the Steigenberger Hotel am Kanzleramt in the heart of Berlin. Core of the conference were the report and the decisions of the IPA board. With a large majority, the voters confirmed the two board members Diana Neu from Rex Industrie-Produkte Graf von Rex and Philipp Hellwig from Simtec Systems GmbH. Christian Ahnesorg from Groninger & Co. GmbH followed Ralf Klein from teamtechnik Maschinen und Anlagen GmbH, who is leaving the board.

Cloud and AI provide crucial competitive advantages

With insights into the strategy, future plans and visions of PSI Software SE, CEO Robert Klaffus opened the conference on the main stage in the plenary session again this year. Afterwards, Dr. Herbert Hadler, Senior Vice President of the Business Unit Discrete Manufacturing, presented the resulting perspectives for PSIpenta customers. More flexibility and higher scalability will result from the planned migration of PSI products to the cloud. Moreover, the even closer integration of AI solutions can provide a crucial competitive edge.

IPA customer award winner Christian Schulz, managing director FSG.

PSI CEO Robert Klaffus, Senior Vice President of the Business Unit Discrete Manufacturing Dr. Herbert Hadler and IPA board member Diana Neu (from left to right).

IPA board member Diana Neu was impressed: “Every year, the IPA Annual Conference shows how change and progress go hand in hand – especially in the software industry. It is enriching to be part of these constant changes, to experience them and to participate in them.” This year, the IPA also had a tangible practical benefit for participants: “For PSI’s ERP and MES customers, the real added value lies not only in the exchange with other PSIpenta users, but also in the exciting lectures and practical workshops.” The agenda also included numerous specialist lectures, workshops and customer experience reports, accompanied by the

Evening event at the Stadtbad Oderberger.

partner exhibition with a total of 16 stands during the breaks.

Exciting and inspiring lectures

Guests will also remember the two keynote speeches in particular: Sebastian Schreiber, founder and CEO of SySS GmbH, impressively demonstrated in a live hacking the simple methods and speed with which criminals can gain access to wireless keyboards, smartphones and the like today, once again raising awareness of the issue of digital security.

Extreme mountaineer Gerlinde Kaltenbrunner captivated the audience with her visually stunning presentation, in which she talked about conquering the world's eight-thousand-meter peaks, about sacrificial preparation and unconditional dedication, about exhausting setbacks and great gratitude, but above all about treating people and nature with respect. "She impressively conveyed how important it is to trust your own intuition, to dream big and to share visions with others to make the seemingly impossible possible," Diana Neu looked back on the inspiring lecture.

Award ceremony at the swimming pool

The evening at the Stadtbad Oderberger was full of atmosphere. Where Berliners used to go swimming and hotel guests still do so today, the swimming pool was covered so that chairs and tables could be set up for a lively evening. Moderator Robert Esser led through the event, flanked by comedian Andrea Volk from Cologne. A one-man compressed air orchestra provided the background music, before a DJ took over the dance floor at a late hour.

In keeping with tradition, Dr. Herbert Hadler closed the evening with the presentation of the IPA Customer Award, which went to the remote control device manufacturer Kurt Oelsch GmbH (FSG) and was accepted by managing director Christian Schulz. Thus, the prize of the 38th IPA Annual Conference remains in the city on the Spree: FSG is headquartered in a neighboring district of Berlin, only a few minutes by car from the city pool.

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Event: PSI presents first AI platform directly integrated into a WMS at LogiMAT 2025

AI-based Warehouse Optimization with PSIwms AI

PSI will be presenting at LogiMAT in Stuttgart from March 11 to 13, 2025 how logistics processes can be improved with the PSIwms AI platform. Visitors will have the opportunity to test the potential in a showcase at booth D41 in hall 4, using data from their own warehouse environment.

PSIwms AI is the first platform based on Artificial Intelligence that is directly connected to the warehouse management system. The solution, initially available for PSIwms customers, analyzes and optimizes WMS supported logistics processes using a digital twin. Thanks to the direct connection, changes in the physical warehouse are automatically transferred to the digital twin in real time and taken into account in the analysis.

AI-generated picking lists and routes

First presented as a concept at LogiMAT 2024, PSI has extensively developed its AI solution to product maturity over the course of a year, such including the integration of a new visualization function for simulating picking routes. At the showcase at the LogiMAT 2025, interested parties can enter criteria for their own warehouse and order structure and view the results of the AI-generated picking lists and routes live. They immediately receive a comparison of conventional routes and those simulated with PSIwms AI. The calculated time for the respective picking routes is also displayed, along with the percentage of time saved by using the AI solution.

Organize logistics processes more efficiently

The first user is LPP S.A., a leading Polish fashion group that aimed to make its logistics processes more efficient due to a large increase in online orders. With the use of PSIwms AI, picking distances were reduced by more than 30 percent. After the first project in the distribution center in Pruszcz Gdański, LPP is now successfully implementing the solution in three other logistics centers. This practice test has enabled PSI to further develop the platform significantly.

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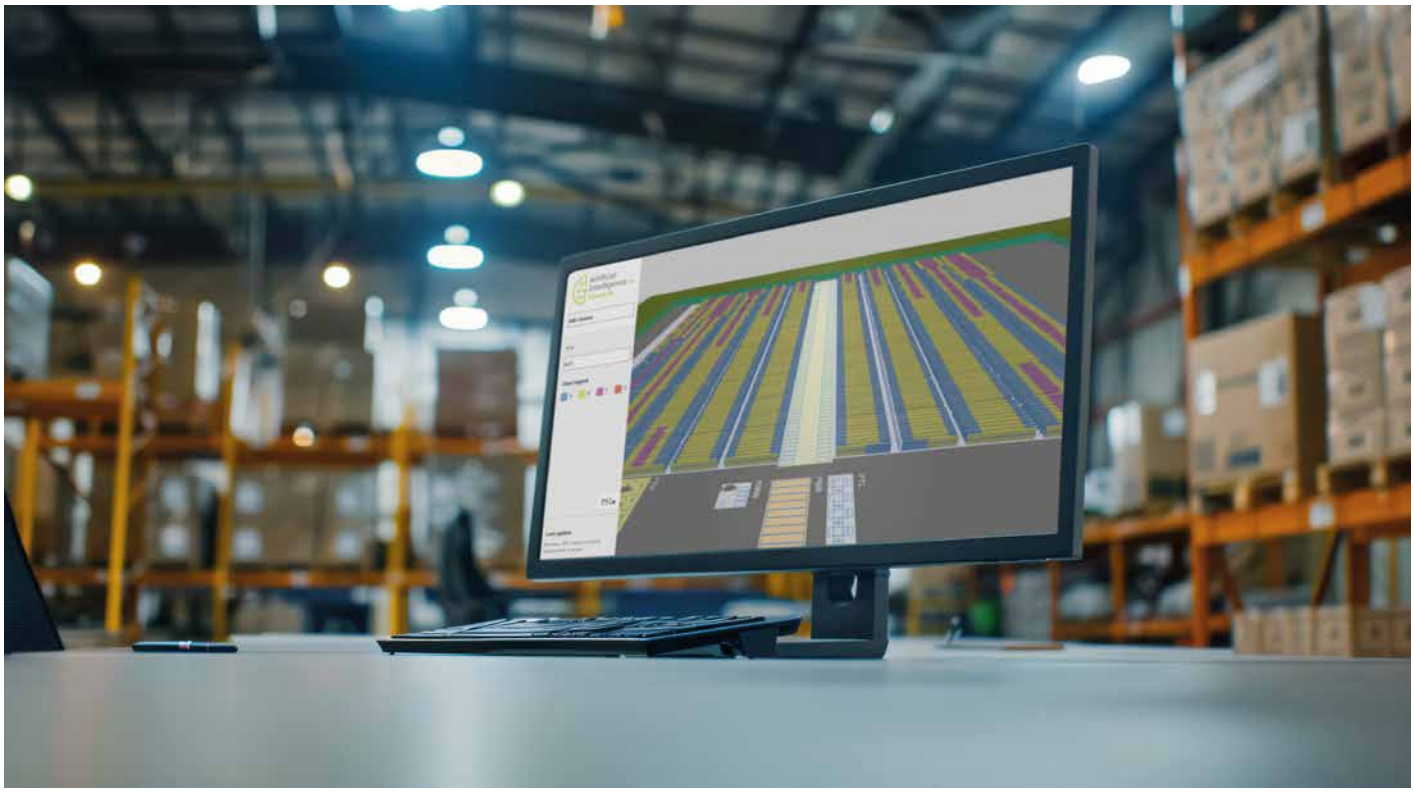

AI-based warehouse optimization can improve processes.

Efficiency Increases and Synergies

PSI appoints Claudio Ranaudo as experienced Head of Sales & Partner Management and fills the position of Head of Operational Excellence with Dr. Martin Neuenhahn. With the implementation of the central function of Sales & Partner Management, the foundations are being laid for the implementation of a uniform sales and partner strategy in the PSI Group, which encompasses all business units and international hubs. The task of the central Operational Excellence function is to define and establish Group-wide rules and standards for efficient project management and the provision of customer services. Both functions will make a significant contribution to increasing efficiency and leveraging synergies across PSI.

Claudio Ranaudo was most recently responsible for the global forcasting and opportunity management process at Siemens AG as Senior Vice President Sales and Marketing in the Digital Industries division. Since 2007, he has held various international positions at Siemens AG, including Head of Industry in the Middle East and Africa. Claudio Ranaudo studied business administration with a master's degree at the Friedrich Schiller University in Jena and energy and resource engineering at the Clausthal University of Technology.

Dr. Martin Neuenhahn, Head of Operational Excellence and Claudio Ranaudo, Head of Sales & Partner Management.

Dr. Martin Neuenhahn has worked for Software AG since 2013, where he was most recently responsible for the redesign and implementation of the new business model as Director Digital Transformation/ Cross Product Strategy. He started his career as a specialist for the development of electronic systems at 3M Germany. Dr. Martin Neuenhahn studied electrical engineering with a degree in engineering at RWTH Aachen University and business administration with a master's degree at the University of Hagen, before completing his doctorate in electrical engineering at Leibniz University Hanover.

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EVENTS

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Under the category "Trends" on our website, you will find further interesting and in-depth articles on production, logistics, energy and AI.

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