Qualicision-based KPI-driven optimisation in the age of Industrial Internet

**New order principle for planning and control**

**User report**
PSI*metals* as MES in the long products plant in Kaluga
Efficient production of steel in the mini mill

**User report**
Hosokawa Alpine synchronises highly complex order networks with PSI*penta*
Production without idle times

**Product report**
Holistic analysis and optimisation of production and logistics processes
Unprecedented savings potentials
Dear readers,

The Internet of Things promises the networking of objects via IT systems. Since people already network via IT systems, this incidentally leads to the networking of individuals, IT systems and objects in any combination. In reality, therefore, the Internet of Things (IoT) should be called the Internet of People and Things (IoPT). The actions that then arise through such networking are the results of networked decision-making processes in which people interact with objects. When considered from this perspective, the IoT should therefore even be called the IoD—Internet of Decisions.

In a self-organising production process of an Industrial Internet scenario, the process and the decision-making paths will be organised differently in future: there will no longer be the fixed physical structure of the assembly line. Instead, partially completed orders will be moved on driverless transport systems. Depending on the situation, the orders themselves will determine “on demand” the workstation to which they are moved next.

What does this mean for the organisation of industrial production processes? Our lead article describes how the PSI Group is prepared for this trend, not least thanks to Qualiciation technology and the overlying KPI-driven optimisation.

Articles focusing on the topics of logistics and the manufacturing and metal industry provide insights into further application areas of the PSI production sector.

Regards

Dr. Rudolf Felix, CEO
F/L/S Fuzzy Logik Systeme GmbH
The Internet of Things is the networking of people and IT systems and between people and objects in all combinations. The hardware of IT systems is becoming ever more powerful and miniaturised. With the performance previously offered only by personal computers, tiny IT systems can today not only be carried around by people in their coat pocket in the form of smartphones, they can even be attached to objects.

This enables any object, as it were, to be equipped with enough computing power to be networked with other objects. Objects and IT systems merge. And that’s not all: decision algorithms can be executed on the IT systems, meaning that local decision-making of objects is possible. This means that in future, it will be possible to network people with objects and with machines, but also objects with each other—in particular, machines. People and machines are networked in the information flow, and in particular, in decision-making processes. In reality, therefore, the Internet of Things (IoT) should be called the Internet of People and Things (IoPT).

### Physical structures determine scope for action

What does this trend mean for the organisation of industrial production processes? At present, industrial production processes are more or less bound to fixed physical structures and hierarchically organised. Their planning is carried out at the top levels of the organisational hierarchy based on few global criteria that tend to roughly allocate larger quantities of objects—generally, semi-finished products mapped to orders (short jobs). The degrees of freedom in the decisions are determined by the physical structures. As such, there is little scope for differentiated shaping of decisions.

### Hierarchical order principle under scrutiny

The advantage of the hierarchical order principle is its simplicity, and the fact that—provided everything runs according to plan—it is known in advance what will happen and precisely when in the production process. The disadvantage is that decisions are only top down and cannot be networked across hierarchy levels, and cannot therefore be rectified, if the current situation means a correction is necessary. Flexibility is lacking. The processes are pre-determined, but at each lower hierarchy level, can barely be steered in more than one direction, that is, from top to bottom.
Networking of future decisions

In terms of information processing capabilities and computer-assisted decision modelling, decisions are becoming networked even today, and certainly more so in the future with the Internet of Things (IoT) or the Internet of People and Things (IoPT). Accordingly, planning and control decisions in production processes are also possible from the perspective of the objects—in this case, orders and resources—and can thus be organised more flexibly.

However, the physical structures of production are currently predominantly determined by the physical arrangement of production resources. For example, the order principle of the assembly line in the automotive industry is decisive for the scope of operations in assembly, and not only influences the intralogistic processes in the factory and the scheduling and sequencing, but also the associated logistics of supplier processes.

In this respect, the physical structure of production on the one hand gives order. And that’s its advantage. On the other hand, it limits the scope for action from the perspective of orders in the competition for resources and which step is “up next” in production. And that’s its disadvantage.

Currently, orders and resources have little or no decision-making capabilities. From the local perspective, an order may be important because it is for the most important customer, who would pay a great deal to speed up the execution of the order. Once the job is scheduled, it is almost impossible to bring it forward because of the fixed physical production structures and the derived hierarchical order principle. Any desired bending of previous decisions is not possible.

To date, hierarchically linked KPIs in optimisation

Let’s consider the situation from the perspective of production processes in the automotive industry. The large number of models is further supplemented by the numerous choices of the customer, leading to an impressive range of possibilities. Depending on the model, a billion and more variants are possible. Hardly any two vehicles are the same.

In order to handle this diversity, processes in the past have tended to be overwhelmingly hierarchical. First, volume-specific monthly planning is carried out. Unit number-specific weekly planning is derived based on this, which involves pre-planning of the production sequence on the production lines. The delivery call-offs at sequence and time slot level are then passed on to the suppliers. Although changes are still possible, the costs in this respect increase. The resources are defined and frozen in the following day planning. For each shift, the sequence of the orders is thus set for the line and the time window. All supplier processes are precisely coordinated to this sequence. Any disruption or any need to change the production sequence on an ad hoc basis requires significant re-planning of the process because all orders and resources are only linked hierarchically. In the case of necessary ad hoc changes, the KPIs suffer considerably.

Self-organising production processes

In a self-organising production process of an Industrial Internet scenario, the process and the decision-making processes could be organised differently. There is no longer the fixed physical structure of the assembly line. Instead, assembly is organised by moving the representational semi-finished vehicles (orders) on driverless transport systems. Depending on the situation, the orders themselves determine the workstation they wish to move to next. From the local perspective, the workstations are supplied with material and parts autonomously, where their needs requirements determine when they are supplied by the likewise driverless transport systems. Of course, all of this can only be possible if all objects can communicate with each other—no problem in the age of Industrial Internet and the Internet of Things. At least, that’s the vision.

However, for this vision to become a reality, and for there to really be no more order-determining assembly lines in the future of Industrial Internet, a new order principle needs to be considered.

Industrial Internet: Hierarchy-free networking of man and machine.
Networked KPIs in the optimisation for Industrial Internet

Even today, production processes are already controlled using KPI-oriented optimisations. Qualicision-based KPI-optimisation is used worldwide in over 50 automotive factories, in the planning and control of production processes through to intercepting fault situations. Generally, the KPIs are still mostly focused on the physical structure of the assembly lines with their technical scopes. For example, they are based on minimum gaps between orders with specific properties in the assembly sequence, or on desired groupings of orders, for example according to colour or body type.

The latest trend already tested in production is that order sequences are no longer mapped to physical order properties as before, but according to the scheduled capacity properties of the resources. For example, they are based on minimum gaps between orders with specific properties in the assembly sequence, or on desired groupings of orders, for example according to colour or body type.

The capacity utilisation of resources as a result of the orders, and not, as previously, KPIs that map the physical properties of the orders and the physical structure of the assembly line. If, as envisioned by Industrial Internet, there are no more assembly lines in future, but instead flexibly arranged resources and semi-finished orders that move autonomously on driverless transport systems, then the Qualicision-based optimisation of order processing can simply be supplied with other KPIs as optimisation targets. The PSI optimisation software for this already exists with Qualicision.

KPI features and optimisation in PSI applications

Optimisations with the widest range of KPIs now work in a range of PSI software products. For example, depot management has been implemented within the framework of PSItraffic, and workforce management within the framework of PSIcommand. The Industrial Internet relevance of the solutions is immediate once the optimised business processes are equipped with IoT hardware. This is only a matter of time.

Project Smart Face

Furthermore, direct testing of the Industrial Internet vision is currently being carried out in automobile production. To this end, a consortium of companies in the automotive and automotive supplier industry as well as the logistics industry, a software manufacturer, and research institutes have launched Project Smart Face. The project is concerned with the organisation of the production of small series of electric vehicles without using an assembly line as an order principle. The production is organised without fixed hierarchies from the perspective of orders and workstations (the objects) that communicate via IoT and autonomously decide who’s “up next” in the manufacturing process. The associated paradigm change is implemented in the project.

Sources: www.smartfactoryplanning.de
www.qualicision.de

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Efficient production of steel in the mini mill of NLMK Kaluga

NLMK operates a modern mini mill in Kaluga, Russia for the regional and demand-driven supply of steel to the construction industry. For optimal utilisation of the new plant and to ensure efficient production, NLMK relies on state-of-the-art IT systems, and therefore commissioned PSI metals with the installation of an integrated and standardised production management solution. PSI metals oversees vertical and horizontal integration in the electric steel plant and rolling mill equipped with the latest plant technology.

The long products division of the NLMK Group operates a mini mill consisting of electric steel plant (Siemens VAI) and a rolling mill (SMS Meer) at its Kaluga site (near Moscow). The annual plant capacity is around 1.5 million tonnes of billets and 0.9 million tonnes of rolled profiles and wire. The factory employs over 1250 employees and mainly supplies the construction industry in central Russia. NLMK Kaluga uses the following PSI metals components: Planning, Production & Quality, Logistics and Energy.

Starting with customer orders from the SAP system, PSI metals handles planning, implementation, quality control as well as logistical handling throughout the entire production chain. There is seamless integration between the ERP and automation levels from the delivery of scrap and alloy materials through to the shipping of the finished products. To enable this, the different automation systems (Siemens VAI, SMS Meer) have been integrated into PSI metals. In addition to checking compliance with the production plan and customer orders, this integrative approach also centres on the utilisation management of raw and other materials, the entry of production and quality data and plant monitoring.

From the raw material to the steel plant

PSI metals creates combined production orders based on the customer and forecast orders received from the SAP system. Production planning creates an optimised production plan for the casting and rolling line, which combines consistent and even utilisation of the steel and rolling mill and delivery of the finished products to the customer. The generated casting and rolling plans are passed on to the lower-level production control systems. Before the casting process, PSI metals checks the availability of the raw materials, from registration of the delivery wagons and trucks to the final location of storage. The storage topology includes bunkers, containers, and bulk storage. The integrated weighing technology of the railway wagons and lorries also allows the weight to be recorded directly in the system including any deviations. A loading plan for each heat is created in accordance with the casting sequence generated from the customer orders. During the furnace loading, the actual transportation of scrap to the basket is registered via touchscreen at the crane terminals. The integrated weight control of the baskets allows the loading progress to be tracked online. It has been possible to automate the process such that shift workers no longer need to be present for weighing.

After the furnace loading, production is checked by the L2 system. PSI metals receives all the necessary information about every production step via a data interface. A heat data sheet is created in PSI metals based on the input data, and the quality of the material is checked. Following the summarising and standardisation, the necessary heat and quality data is automatically sent to the SAP system. NLMK Kaluga can view the ongoing production in the steel plant online via simple web access. The technical personnel can therefore respond to deviations in process data without having to access the subsystems.

Warehouse logistics for billets

The billets and finished products warehouse is also managed by PSI metals, and this ensures the optimal feed of billets for the rolling mill and shipping of finished products to the customer. Thanks to a configurable topology of storage locations, all material warehouse types can be mapped in the plant. The system
also monitors the key position of billets at the location in a stack. All material transportation is displayed and logged using a graphical display of the warehouse at the crane terminals and in the provided Office applications. The execution of all orders and transportation is initiated by PSImetals and only logged in the ERP system.

From the rolling mill to the finished product
Production in the rolling mill begins with the release of the production plan created by PSImetals, and the subsequent automatic transport of the billets from the warehouse to the reheat furnaces. Supply to the furnace is controlled in accordance with the PSImetals production plan. The L2-system in the rolling mill monitors the production process and reports back on each work step performed for each rolled billet, and on each finished product bundle created at the line output. PSImetals creates the following online from the logged data:

- A material balance sheet per heat works (all charges per heat incl. slag), this is used at ERP level to determine costs,
- The laboratory equipment for the feedback of test results. For the shipping of the billets and finished products, the dispatch orders produced in the ERP system are sent to the MES. PSImetals then supports the following processes:
  - Production of transport orders for loading,
  - Material usage, rolling, and quality reports,
  - The heat journal as a daily report for the plant management,
  - A summary of the production data, which is sent to the SAP system.

PSImetals also manages sampling, creates test applications, and integrates

- Creation of shipping documents,
- Weighing of the means of transport to determine the actual weight of the material to be dispatched,
- Transfer of the loading results to the SAP system with reference to the customer order item

Results
Thanks to the integrated PSImetals solution, complete material traceability is ensured starting with raw and primary material receipt through to delivery to the customer. All documents required in the plant with regard to raw material use, quality, production, and loading are available online and in paper form at any time. PSImetals forms an integrated MES solution for steel and rolling mills and enables integrated processes from raw material receipt to the shipping of semi-finished and finished products.
User report: Hosokawa Alpine synchronises highly complex order networks with PSIpenta

Production without idle times

For machine and plant constructors, changes by the customer are normal, even until shortly before delivery. The cost of this flexibility is high throughput times and difficult control processes. With ERP suite PSIpenta, enhanced with modules for adaptive manufacturing control, Hosokawa Alpine AG, a manufacturer of grinding and classifying systems from Augsburg, has been able to adapt its manufacturing operations to changes in real time in an automated process. The result is significantly reduced waiting and idle times, and a high level of delivery reliability.

When incoming orders rose at the beginning of the new millennium for manufacturers of machines and turnkey systems for the treatment of powders, granulates and bulk materials, production planners at Hosokawa Alpine AG increasingly found themselves at their limits. “The greater the distance covered by the planning process, the more difficult it was for our planners to get an overview of our order network”, says Reinhard Wagner, Deputy Production Manager at Hosokawa Alpine.

A glance at the production halls of the company makes it clear where the challenges lay: the coordination of all processes through to assembly. This is because the specialist for powder grinding systems, which grinds fine powder for the pharmaceutical, food and chemical industries as well as the mineral raw materials industry, produces a large proportion of components in its own production halls. As Reinhard Wagner explains: “Our self-made parts have to be produced on time, and the purchased parts have to be precisely integrated into the process and navigated through the individual workshops in such a way that everything is ready for final assembly.” Furthermore, changes by the customer until shortly before the delivery date are perfectly normal.

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A customer plant for the production of the finest powder—changes by the customer until shortly before the delivery date are perfectly normal.

Share of throughput time: 90 percent

Orders being brought forward, a bought-in part not arriving on time, or operational faults such as the failure of a machine are not just problems faced by special machinery and plant manufacturers. With their workshop manufacturing, however, they are better placed in such situations than mass producers because they can respond much more flexibly to faults. However, the type of workshop manufacturing has the disadvantage of there being large gaps between the actual machining steps. Thomas Makkos, IT engineer in the data processing department of Hosokawa Alpine knows what effects this has on the throughput times in the company: “On average, the processing time of a part is just ten percent; 90 percent of its time is practically spent waiting.”

Adaptive control by PSIpenta

“PSIpenta promised to map and stimulate our highly complex order network with an average of 100,000 operations a year”, says Reinhard Wagner when describing the main reason for opting for the adaptive control solution. And it’s true: “Manufacturing by sight” is now a

A customer plant for the production of the finest powder—changes by the customer until shortly before the delivery date are perfectly normal.
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Product report: Holistic analysis and optimisation of production and logistics processes

Unprecedented savings potentials

The holistic analysis and combinatorial optimisation of production and logistics processes enables cost-saving potential in the double-digit percentage range.

The holistic analysis and optimisation of processes is one of the success factors of logistics. In optimisation projects for the supply chain, however, production and logistics are still analysed and optimised separately in most companies. Reorganisation projects focus on the production processes and neglect the resulting requirements placed on the logistics systems and processes, IT networking and transport and supply concepts.

Realising cost savings potentials

Conversely, procurement, storage and distribution are often synchronised and optimised without sufficient consideration of the production environment, strategies and capacities. This leaves considerable savings and optimisation potential untapped. Based on current projects that PSI Logistics has costed, companies can achieve additional cost savings potential in the double-digit percentage range with a holistic approach and concerted process optimisation in production and logistics, depending on the industry, size and structures.

Analysis of the transport network with PSIglobal

Example: A leading company in the beverages industry. The manufacturer produces several different products at numerous sites in Germany, and is one of the market leaders in the industry. Products are distributed through direct sales with the company’s own lorries without intermediaries. An analysis of the transport network using PSIglobal, the standard software for strategic and tactical analysis, planning and optimisation of supply chains, showed that the logistics division of the manufacturer had fully optimised transportation between production sites and for full and empty goods for customer supply by using their own route planning. The analysis also found no significant improvement potential in the use of storage capacities with the existing structures. The same was true for the demand-driven production.

Networking and planning of coordinated processes

With Industrial Internet, users are now increasingly focusing on the networking and planning of coordinated processes in terms of an holistic approach. Using powerful simulation and forecasting tools, modern software systems meet the requirements of predictive and proactive measures in production and logistics. For example, the scenario technology and integrated analysis models in PSIglobal allow the key variables and sensitivities of the supply chain to be identified and varied against each other in order to determine the most efficient transport cost structures or the optimum number and location of sites. In just the last two years alone, numerous leading manufacturers and logistics service providers have optimised more than 100 million transport orders with PSIglobal.

Additional optimisation functions

With the current Release 2.4, PSIglobal offers additional optimisation functions for a holistic approach, and coordinates the optimisation of production and logistics. The above-mentioned beverages manufacturer, for example, must continuously analyse whether cost savings can be better achieved if individual sites set up production lines for beverage types that were previously bottled at other locations, or whether it is more economical to supply the sites from which the products are distributed to customers with supply transportation, that is, inter-company-transport, and to...
store the products at these sites until they are required for delivery while retaining the corresponding storage capacities.

Combined optimisation algorithms
As a rule, such analyses are performed sequentially and separately for production and logistics, which leads to sub-optimal solutions. PSIglobal solves such problems by using combined optimisation algorithms. Instead of traditional analysis of production and storage based on linear trends, cost functions can be calculated proportionally with the new algorithms while taking account of volatile fluctuations—and setting these in relation to each other. In this way, costs can be broken down into shipment volumes of production, and manufacture can be optimised according to the bill of materials. Thus, in a holistic and coordinated approach, logistics and production are not sequentially optimised, but in combination.

Holistic process analysis and optimisation
For the beverage industry manufacturer, this combined optimisation led to a surprising result. Although a separate approach appeared ideal for both production and the logistics network, and no significant improvement potential could be determined, holistic process analysis and optimisation revealed potential savings in the mid-single digit percentage range. For the company, this represents total savings amounting to seven figures. The less the process structures of the two areas are already optimised and the more those involved in the process, such as wholesale and intermediate trade, are involved in the structures, the greater the potential.

In conclusion, when it comes to the design of seamlessly networked, coordinated processes, state-of-the-art IT systems play a special role. The holistic analysis and coordinated optimisation of production and logistics delivers unprecedented savings potential.

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Interview: Using PSI\textsuperscript{penta} industrial apps at the heart of the action

Mobile application software for industry

Environmental conditions in production, and in particular the application conditions for the software used, will change massively in future. The targeted flexibility of the production systems logically focuses on usage concepts of the software used. New and mobile end devices are finding use in production sites. Other ways of interacting with the software itself, but also with the people involved and the machinery used, are not only possible, but necessary.

We spoke with Mr Karl Tröger, Director of Product Management at PSIPENTA about the extent to which “appisation” of production is feasible and useful, and what impact this will have on current software solutions.

Mr Tröger, there’s nothing new in the fact that production companies long for more mobile applications in their enterprise software. Where does this trend come from?

K. Tröger: The mobilisation of business processes is probably one of the most obvious starting points in explaining the growing, let’s say, “appisation” of industrial software. The integration of field services into enterprise-wide business processes promises to deliver enormous efficiency gains. It essentially means with mobile applications in the production environment, data will be available in real-time, allowing shorter response times for decision makers.

What apps does PSI currently offer for use in production, and what is their underlying technology?

K. Tröger: Today’s monolithic applications need to be broken up and made easier to operate. As a first step, service-oriented architectures support the process of breaking these large applications in the frontend or the human-machine interface down into smaller, simpler and more intuitive apps. Overall functionality is not lost, but simply presented in smaller, bite-size pieces. As before, the functions, processes and data are integrated in the backend.

What does this appisation mean from a technical point of view for current software solutions such as ERP and MES systems?

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K. Tröger: Currently, we already offer apps—we call them industrial apps—that deliver full and seamless support of service processes, collection of personnel time information for field services and for management. At various events, we also demonstrate a prototype showing how smart devices can strikingly be used to control production. Processing information is forwarded from the order management function of the PSI\textsuperscript{penta} ERP suite to a smart device and is used to control production. Our mobile solutions are based on web-based, hybrid technologies, which ensures support of widely used mobile platforms.

What are apps used for in day-to-day production operations?

K. Tröger: Our app for personnel time recording is self-explanatory I would say. In servicing, everything revolves around more efficient incident processing and recording of actual values through to online documentation of component replacement in machines, systems or vehicles. The app for the management level delivers clear company figures in real time at the touch of a button.

Can you briefly summarise the essential cornerstones for successfully deploying industrial apps?

The alleged contradiction between individuality and a consistent user focus and uniformity, that is, standard solutions, must be resolved from a technical perspective. The aim must be to deliver a simple design for task-oriented user interfaces and to understand software systems in production as assistance systems and tutors. The provision of apps is undoubtedly one way to simplify the use of complex functions. With the help of apps, we will be able to use IT systems more efficiently and without errors.
News: thyssenkrupp Steel Europe and PSI Conclude Strategic Partnership

**PSImetals as standard software**

The thyssenkrupp Steel Europe AG and PSI Metals have concluded an agreement on the development of PSI to become the standard software provider for all the companies within the Business Area Steel Europe.

With the rollout of the PSI software PSImetals thyssenkrupp Steel Europe plans to standardise the system landscape in the entire Business Area to increase the competitiveness of the Business Area. To that end the processes and interfaces are to be standardised by means of the greatest possible use of the standard functions and interfaces available in PSImetals. Additional effects of scale will be achieved by establishing a standardised project management, extending PSImetals know-how within the Business Area and uniform licensing, maintenance and service agreements throughout the group. The two partners will agree upon a joint long-term strategy that will especially take into consideration the areas of project development and process support.

Event: Review of the PSI Metals road shows in India and Bahrain

**Actively responding to market dynamics**

Specific events, tailored to the respective market conditions offer a special opportunity to discuss challenges with customers and prospective customers, and to demonstrate possible solutions individually. In autumn of this year, PSI Metals visited India and Bahrain.

In early September, Ranchi in India played host to the first such road show. Following a conference organised by SAIL (Steel Authority of India), where PSI gave a presentation, PSI invited representatives of the Indian steel industry to discuss ideas. The focus was on the challenges facing Indian steel producers. In the course of several presentations, it was discussed how producers could use PSImetals to respond to the prevailing dynamics of the market and use these to their advantage. One particular highlight was the presentation from Robert Gieselmann of Thyssen Krupp Electrical Steel, who demonstrated which solutions his company had developed together with PSI.

26 participants from top producers such as Tata Steel, JSPL and SAIL gave excellent feedback on the event and were particularly impressed by the clear examples. At the start of October, PSI then invited selected companies in the Middle East to a road show event in Bahrain. Experts came together from companies including Hadeed (Saudi Arabia), SULB (Bahrain), SMS and SAP. The topic was the optimally adapted support of production processes with PSImetals. All participants were impressed and confirmed that PSI is the number 1 in the metals industry.

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Product Report: New PSImetals Release

PSImetals 5.11—user empowerment without limits

Release 5.11, available at the end of November, offers an interesting mix of new features, while firmly continuing the PSI product policy. One highlight is the freely configurable user interface. The new Flow Configurator also enables simple process modelling. Uniform KPIs in all planning applications ensure transparency and comparability. In addition, interesting customer requirements have been incorporated into the standard system and existing features have been revised in terms of usability.

The new release marks a milestone in the usability initiative of PSI. Equipped with all the possibilities that the PSI Java Framework (PJF) offers, the fully configurable user interface brings the joy of personalisation to life. Interfaces can now be adapted to your own work processes easily and quickly. In future, command of a programming language or excellent abstraction capabilities will no longer be the cornerstone for a user-friendly interface—each user will themselves become the creator of their own PSImetals frontend.

Depending on the profile, the user can create new screens and views. The intuitive WYSIWYG (What You See Is What You Get) editor makes this possible. At runtime, new screens can be created by drag & drop, or existing screens can be altered to ensure they meet requirements. User freedom without limits!

As announced in Issue 1 of this year, an innovation developed by the company Broner is now available to all PSImetals customers in the new release—the Flow Configurator. Business processes can be modelled quickly and intuitively within the system—something that previously was only possible with the help of PSI specialists.

For users of the PSImetals planning applications, results of planning processes can be evaluated even more easily. Based on predefined standard KPIs, various planning scenarios can be compared with each other in clear graphs. PSImetals schedulers now have default settings for tuning parameters and default profiles, which can be made even more efficient and targeted with the help of PSI “Qualicision” technology and PSI consultants through workshops.

In production control and quality management, the new release also leads to improvements in the areas of smelt release, support of group casting, automatic fault detection with process inspection, as well as error displays and history. For easier integration, the PSImetals Level 2 standard interface and communication between PSImetals Order Dressing and SAP has been enhanced. In the area of lifecycle management, there is improved order accounting and support for cyclical operations. Order Dressing is now also able to generate alternative production routes.

New inventory functions, as well as improved configuration for targeting and transport order generation via shop-floor data collection are also available. More details about PSImetals 5.11 will soon be available on our website or via your PSI contact.
Event: PSI Logistics Day 2016

Networking of production and logistics

Under the motto “Production & Logistics”, PSI Logistics invites its customers to the 2nd PSI Logistics Day 2016 on 7 March 2016. Stuttgart airport will be the venue for this event where developers and users will have the opportunity to share ideas and information.

A large number of customers and interested parties have already registered to find out directly and exclusively about the latest software developments. The focal point of the PSI Logistics Day 2016 will be the networking of production and logistics. “The holistic consideration of both areas in optimisation projects in the supply chain promises unprecedented savings potentials,” explains Managing Director Dr. Giovanni Prestifilippo (see article, p.10). The event will also touch on the entire product range of PSI Logistics—from the warehouse management system PSIwms, the transportation management system PSItms, the strategic planning and optimisation system PSIglobal through to airport IT solutions PSIAirport.

Event: Review of the 32nd German Logistics Congress

“Full Success” in Berlin

Hosted by the Federal Association for Logistics, the Logistics industry met under the motto “A World in Motion”, for the 32nd time at the end of October at the German Logistics Congress in Berlin. As is traditional, PSI Logistics was once again on hand as a much sought-after partner.

In the relaxing atmosphere of the Havana Lounge, a number of experts, media representatives, customers as well as potential customers from industry and the services sector returned again this year to seek dialogue with the company management as well as with the product management and project managers.

High information requirements of modern IT systems

“The German Logistics Congress is the industry platform for establishing ties, exchanging information and attracting business”, states Dr. Giovanni Prestifilippo, Managing Director of PSI Logistics. “Looking at the popularity and the discussions at this year's Congress, we could see how well positioned for the future PSI Logistics already is with its product range. At the same time, we also noticed that many users and multipliers still need informing about the long-term possibilities offered by modern IT systems.

Relaxed atmosphere in the Havana Lounge of PSI Logistics.
when it comes to optimisation and increasing efficiency in logistics and production.”

More international participants from Eastern Europe
The German Logistics Congress is now the most important annual Logistics event in Europe with significant growth in international participants.

News: PSIwms manages new logistics centre in Nuremberg

STUTE Logistics relies on PSI’s multi-site solution

STUTE Logistics AG & Co. KG has chosen to implement the warehouse management system PSIwms of PSI Logistics GmbH. The multi-site capable and configurable software will first be used to manage the service provider's new logistics centre in Nuremberg.

In spring 2016, STUTE will assume responsibility for spare parts logistics for a leading manufacturer of building equipment and machinery as operator of the Nuremberg logistics centre and manage the centre using PSIwms Version 3.0. Across an area spanning 10,000 square metres, around 12,000 pallet spaces and some 16,000 special storage spaces will be available for storing parts. PSIwms will be operated from the main computer centre and take care of warehousing, commissioning and order processing at the Nuremberg location.

Optimum process transparency
The integrated forklift controls system provides for path-optimised transport and shorter empty runs. The cockpit module, which is also integrated, offers the user continuous visualisation of individual key figures (KPI) and optimum process transparency.

Besides multi-site capability, which is an important criteria for logistics service providers, proven stability, a wide range of configuration options, industry-wide functionality and defined regulations for process handling and optimisation were key factors for STUTE when it came to PSIwms. The ability to upgrade the system ensures that ongoing software developments are a safe investment and can easily be integrated on the basis of the joint PSI technology platform.

Easy configuration of new test cases, versions and sequences
The project is backed by an automated testing module, which enables easy configuration of new test cases, versions and sequences in PSIwms. The system uses these to continuously check all new processes and changes in material flow, which are necessary for integrating new clients or customer requirements. PSIwms modules for archiving and photographic records are also used for quality assurance and certification of the logistics service provider STUTE.

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PSIwms offers a wide range of configuration options.
News: PSIPENTA with new Managing Directors and renaming

Management duo takes over in 2016

Chief Executive Officer of PSI AG, Dr. Harald Schrimpf, introduced the new management team of the PSIPENTA Software Systems GmbH subsidiary at the 29th annual PSIpenta user convention (IPA) on 13 November 2015 in Essen.

As of 1 January 2016, Dr. Herbert Hadler (50), to date responsible for the PSIPENTA business in Austria and Switzerland and Dieter Deutz (52), former division head of PSI Metals Non Ferrous GmbH, two successful PSI managers, will assume responsibility for the operations of the manufacturing software specialist. As of 1 January 2016, PSIPENTA Software Systems GmbH will be renamed PSI Automotive & Industry GmbH.

The new management duo succeeds the retiring Managing Director Alfred M. Keseberg (65), who will end his full-time professional career on 31 March 2016 and concentrate on major sales projects for PSI as a consultant. Mr. Keseberg has headed the company since 2004 and expanded PSIPENTA into a stable factor within the PSI Group. Today, PSIPENTA is one of the best-established providers in the highly competitive ERP and MES market.

Potential from Industrial Internet

“With the reintroduction of a management duo, it is intended to appropriately represent the two businesses automotive (serial production) and mechanical engineering/systems (small series and make-to-order production) in the management. With the two managing directors and additional strengthening of the personnel, the potential from Industrial Internet and the current good economic situation are to be used for growth. To that end, in particular they are to launch PSIpenta 9 that has been migrated to the group platform and the completely new developments PSIjocada 2 (new machine and personnel data recording and visualisation) as well as PSIjls (production planning system) on the market. I thank Mr. Keseberg very, very much for his successful build-up of the company and look forward to further cooperation with him in major sales and Industry 4.0 research projects,” says Dr.-Ing. Harald Schrimpf, CEO of PSI AG. Along with his current activities for PSIPENTA in Austria and Switzerland, Dr. Herbert Hadler will assume the responsibility for the Industry business and the areas of finance and personnel. Dieter Deutz will be responsible for the Automotive business and sales and technology.

User group welcomes management team from PSI’s own business

“As the user group, we welcome the new management team from PSI AG’s own business; a good basis for continuing the open and trusting cooperation with PSIPENTA. We thank Mr. Keseberg sincerely for the close contact that he always maintained with the customers,” emphasised Hans-Peter Rudolph, IT Project Head at the automotive supplier Läpple Dienstleistungsgesellschaft mbH and member of the board of the PSIPENTA Customer Community.

Renaming and focussing

Fittingly for the market launch of PSIpenta Release 9, which has been migrated to the PSI technology platform, that provides numerous advances with regard to modern usability, adaptability and interoperability, the PSIPENTA Software Systems GmbH is being renamed to “PSI Automotive & Industry GmbH” integrating it by name as well more closely into the Group. The new name, which is better on the international stage, underlines the focus on the automotive industry as well as the classical mechanical engineering and systems. The product names PSIPenta/ERP and PSIPenta/MES will remain.

Dr. Harald Schrimpf, Dieter Deutz, Alfred M. Keseberg, Harald Fuchs, Dr. Herbert Hadler (f.l.t.r.)
News: PSIPENTA wins major contract from special service provider SD Automotive

Mapping of all production processes with PSI\textit{penta}

PSI subsidiary PSIPENTA Software Systems GmbH has been contracted by the automobile supplier SD Automotive GmbH with the implementation of an integrated Enterprise Resource Planning (ERP) and Manufacturing Execution (MES) solution.

The aim of the software implementation is a reduction of the lead times as well as high transparency and flexibility in the process organisation. All the corporate processes of the special service provider for the automobile industry located in Georgsmarienhütte will be mapped for the most part with the ERP and MES standard PSI\textit{penta}. Along with the process support of the order handling and production, the solution will primarily focus on a project-oriented alignment for a customer-specific customised production and small-series production. SD Automotive will apply the PSI\textit{penta} project management for the planning and scheduling of project steps throughout the entire order process. Along with PSI\textit{penta}/ERP and MES, the mobile solution, the business reporting and service management as well as the document and voucher archiving of the partner intex Informations-Systeme GmbH on the basis of the EASY ECM Suite will be used. “Above all, the functionality and the clear sector focus convinced us. Decisive were the reference visits to renowned customers in the automotive industry,” states Christian Hormann, Head of IT at SD Automotive to explain the decision for PSIPENTA. SD Automotive GmbH, founded in 1984, is one of the four leading providers of moulds, tools and prototype construction. The company produces spare parts for every renowned automobile manufacturer and employs about 520 persons.

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EVENTS
www.psi.de/en/events

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
<th>Organizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>03/12/2015</td>
<td>AUTOMOTIVE Day Nuremberg, Germany</td>
<td>PSIPENTA</td>
<td></td>
</tr>
<tr>
<td>03/12–04/12/2015</td>
<td>PSImetals UserGroup 2015 Dresden, Germany</td>
<td>PSI Metals</td>
<td></td>
</tr>
<tr>
<td>24/02–25/02/2016</td>
<td>Hamburger Logistiktag Hamburg, Germany</td>
<td>PSI Logistics</td>
<td></td>
</tr>
<tr>
<td>07/03/2016</td>
<td>PSI Logistics Day Stuttgart, Germany</td>
<td>PSI Logistics Stuttgart Airport</td>
<td></td>
</tr>
<tr>
<td>08/03–10/3/2015</td>
<td>LogiMAT Stuttgart, Germany</td>
<td>PSI Logistics Hall 7</td>
<td>Stand 7D76</td>
</tr>
<tr>
<td>14/03–18/03/2016</td>
<td>CeBIT Hanover, Germany</td>
<td>PSIPENTA, F/L/S Hall 5</td>
<td>Stand El16</td>
</tr>
</tbody>
</table>

SOURCES
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