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PSI*penta* ERP in action at sheet metal specialist Salzmann

Reliability from lot size one through to series production

Processing thousands of individual orders each day requires a particularly powerful IT system. Austrian sheet metalworking specialist Salzmann relies on ERP standard PSI*penta* to keep control over its flood of incoming orders.

Salzmann Formblechtechnik GmbH is headquartered in Altach, close to Lake Constance in the Austrian Vorarlberg region. The company's core competence lies in the processing of sheet metal, from the smallest components for the electronics industry through to elaborate complete solutions. Their portfolio also includes roofing systems, casings for dentistry equipment, operational controls and consoles, machinery and designer panelling as well as frame structures. In 2011, the company's 120 employees generated revenue in the region of 20 million.

Some of the biggest demands placed on the company stem from its partnership with the Doppelmayr/Garaventa Group, the world's leading cable car manufacturer. The group builds all manner of cable cars and lifts for ski resorts and mountain stations, as well as transport systems for urban solutions. Salzmann manufactures the sheet metal panelling for the lift stations; in other words, everything that can be seen from the outside. "Each station is an individual order. We construct the individual elements of the panelling

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PSI

News ticker

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Editorial

Dear readers,

German industry is in great shape and, despite the eurozone crisis and rising oil prices, this is helping the German economy regain momentum. In April, contrary to expectations, the Ifo Business Climate Index continued to rise for the sixth time in a row. Exports remain strong and there has also been renewed interest in domestic investment. Despite this encouraging news, long-term planning remains an illusion. In the future, an ability to react flexibly to market fluctuations will be the key to remaining competitive. PSIPENTA software solutions support you in this climate, and we are continually working on the further development of our products.

In this issue, read how Salzmann GmbH manages a flood of up to 900 incoming orders every day with PSIpenta ERP, or how our sister companies PSI Logistics, F/L/S and PSI Metals are working on the further development of their industry-specific solutions.

Our events calendar for 2012 is also filling up with exciting events. In this issue, we cast another glance back at the CeBIT and Hanover trade fairs, while also looking forward to the upcoming Aachen ERP Days conference, where we will once again be playing a full and active part, as has become something of a tradition.

I hope you enjoy reading this edition.

Regards,

Alfred M. Keseberg

Managing Director
PSIPENTA Software Systems GmbH

► *Continued from page 1*

as modules and manufacture each in lot sizes of one," explains Managing Director Gerhard Salzmann. Only a few components can be manufactured in advance as warehouse parts to help reduce lead times and improve adherence to deadlines. Each station also has its own colour scheme, which the customer does not specify until the time of order placement.

IT makes it all possible

As a result, scheduling is critical, demanding short purchasing lead times of a maximum of six to eight weeks, and extremely tight order lead times. Every year, the company produces panelling for approximately 100 lift stations in total. Without state-of-the-art, powerful IT systems, the company simply would not be able to process such a high volume of orders reliably or to a high standard of quality. Salzmann has been using ERP standard PSI*penta* from Berlin-based PSIPENTA Software Systems GmbH since 1999. The system was introduced at that time because one of the company's major customers, Doppelmayr, was using PSI*penta* predecessor Piuss-O as its ERP and PPS system. This decision is still paying off today.

The company currently uses version 7.1.2 with the materials management, production, warehouse management, shipping and SDC modules, as well as the mobile solution. "When we originally introduced the solution, we had around 40 employees. Today, with 120 employees, we simply wouldn't be able to cope anymore without it," explains Salzmann.

ERP and Trumpf working together

When an order is received, the customer transaction is entered completely in the ERP system as an internal order, including basic data, bill of material, and routing. Depending on the structure, there may be six or seven levels with up to 200 BOM lines. First it is important to determine whether individual parts or even whole assemblies are already defined in the system. If the parts have not previously been produced, they must be technically analysed in the production planning phase. After requirements planning, the next step is nesting, where the necessary NC records are created, for example for the punch presses. For this, PSI sends the data via an interface directly to the Trumpf cutting system software. From there, the finished NC records are sent directly to the production machines. They continue through lasering and edging, to the welding shop. Feedback from the machines regarding working hours, material consumption, and completion messages, for instance, is returned directly to the ERP system via the interface. In the welding shop, the parts are already pre-picked as required and are then transported in the appropriate packaging for coating. Pre-manufactured parts are pre-picked in the external warehouse. Each pallet is identified with a picking number and must be returned back from coating precisely in a 1:1 relationship, as the parts are then shipped directly to the construction sites.

Salzmann GmbH manufactures metal products such as sheet metal panelling for the Doppelmayr/Garaventa Group, the world's leading cable car manufacturer. Source: Salzmann GmbH

Taking the weather into account in picking

The challenges for logistics have increased dramatically in recent years. For example, the lift stations have to be specially picked in differently defined packages. "We have to pre-pick the parts here in the same way as they are later assembled on the construction site, often under extreme conditions. Whether in the freezing cold or tropical heat, snow or rain, work must continue," adds Salzmann. "And for construction sites across the world – in Algeria, for example, where cable cars are used to solve inner-city traffic problems – nothing can be missing from a delivery," he explains, since every subsequent delivery leads to considerable delays. The ERP standard PSI*penta* assures that these requirements are met. The shipping module and mobile solution ensure that the up-to-date and exact stock on hand can be accessed any time at

Above all, Managing Director Gerhard Salzmann values the detailed mapping of lot sizes in PSIpenta ERP. Source: Salzmann GmbH

the touch of a button. Based on a picking list from the ERP system, the individual components for the lift stations are assigned a bar code, scanned in, packed, and immediately posted in the stock on hand. "Posting directly at the shelf in this way is a great advantage because it means that stock on hand is always up to date and correct in the whole system," Salzmann stresses. It is also possible to track specific pallet deliveries; which truck was used, what construction site was delivered to, the time of delivery or whether the delivery is still on the road. Thus, in addition to seeing which parts are on a pallet, you also see their current location. Before implementing the mobile PSI*penta* solution, Salzmann GmbH used Excel tables, meaning that posting was always delayed and entailed a greater amount of work. A fully automatic Stopa storage system is also to be integrated in the near future. The production machines will then be connected to the high-rack storage system and will be loaded and unloaded automatically according to instructions from PSI*penta* transferred via an interface.

Reliable mapping of all incoming orders

Of course, the company also outsources some tasks to external third parties. When parts are too large for the company to mill, or in the event of capacity bottlenecks, Salzmann also outsources orders to external partners.

This is also the case for specialist surface finishes such as zinc coating or electrogalvanising. This external outsourcing is already defined and mapped in the system by production planning. Finding the most suitable external partner for the best price is already an issue at the basic data creation stage.

The greatest challenge for Salzmann, however, remains the processing of the enormous number of individual orders: "At peak times, we can have up to 900 orders for laser cutting. Using our various document units, this results in a total of several thousand orders being processed in parallel every day". As standard, up to 2,000 orders are started in parallel every day with short mean lead times. Some orders can already be at the powder coating stage just five days after the start of production. On Monday, the lift station is at the laser stage, on Tuesday in edging, on Wednesday in the welding shop, and on Thursday it is sent to powder coating, on 100 days in high season. To maintain a reliable, detailed, and precise overview of so many orders is not possible for human employees, and not every ERP system is capable of reliably mapping the high number of individual orders.

This capability of the ERP standard PSI*penta* in particular is greatly valued in Altach: The reliable mapping from a lot size of one through to series production, even under particularly critical time schedules, and from single-step products through to complex assemblies. On top of this, the users, the IT department, and company boss Salzmann are extremely satisfied with the consulting they have received from the PSI experts: "We know our processes inside-out, but we don't always know how to implement these optimally using PSI*penta*. For this, we depend on high-quality consulting. And that is what we get."

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An interview with: Dr. Rudolf Felix on Qualicision® in the PSI Group

PSI Products Receive a Further USP with Qualicision®

Dr. Rudolf Felix
Managing Director, F/L/S

"Through the integration of the technology, the solutions can react more flexibly to varying customer process requirements.

How did your company F/L/S Fuzzy Logik Systeme GmbH (F/L/S) come to join PSI?

Dr. R. Felix: F/L/S Fuzzy Logik Systeme GmbH was founded in 1992. The company has belonged to the PSI group since 2008. At that time, PSI was looking for a solution for the sequencing of discreet processes. F/L/S had the appropriate solution and was able to rapidly and successfully fill this "gap" in the PSI product portfolio.

To which business area does F/L/S belong, and which industries do you mainly serve?

Dr. R. Felix: F/L/S is assigned to the production management area within PSI. We have particularly large interfaces here. However, our Qualicision® solution is a purely cross-sectional technology with no focus on any particular industry. We therefore also have successful dealings with PSI partners in the areas of energy and infrastructure management.

Before we enter into detail about some of your projects, can you explain to us more precisely what your software actually does?

Dr. R. Felix: The basis of the Qualicision® solution is a form of "fuzzy" technology that has been specifically further developed for decision-making and optimisation processes, which provides particularly efficient modelling of decision-making processes and transactions. Whenever there are several possible actions to take in a situation, these must be weighed up against the process objectives in order to make a suitable decision. The strength of Qualicision® is the mathematical mapping of a wide range of objective conflicts and parallelisms in concrete situations, which are then automatically detected and weighed up against each other by the software based on definable criteria.

F/L/S has been a part of the PSI group for four years now. Which projects have been initiated and completed during this time?

Dr. R. Felix: There is a wide range of applications in which the cross-sectional nature of the solution can also work within PSI. For example, Qualicision® is used in depot management in various towns and cities, in order to optimise the efficiency of parking positions for vehicles within the depots according to the most diverse criteria. In the plannable maintenance and fault clearance of energy supply networks, our software is used to model the planning and operative scheduling to make the most efficient use of resources. In the degradation of raw materials, Qualicision® helps to equalise the transport within days. A fashion chain also uses the solution to manage the stock in a networked system of warehouses. And not least, the technology is also a part of the new PSI*jis* solution for the automotive and automotive supplier industry. In this context, Qualicision® can be used to optimise the sequence in relation to just-in-sequence production, on both the OEM and the supplier side.

This already sounds like an intensive cooperation with different units of PSI. What are your plans for the future?

Dr. R. Felix: We are working on integrating the Qualicision® technology even further into PSI products. When it comes to planning processes and their optimisation in particular, Qualicision can contribute significantly towards adding even more value to PSI solutions. Through the integration of the technology, the solutions can react more flexibly to varying requirements from customer processes. Process objectives and possible courses of action are configurable and hence adjustable – with a considerably lower proportion of reprogramming.

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Case Study: PSI*metals* at Vallourec Sumitomo do Brazil

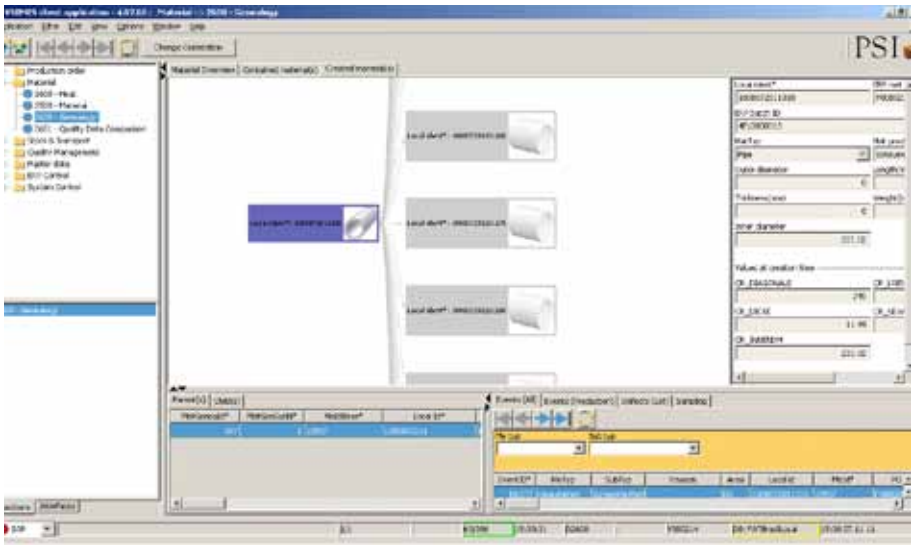
1st class Pipe Mill VSB in favour for a 1st class production management system

Vallourec Sumitomo do Brazil (VSB) is a producer of seamless steel tubes with highest quality demands to be introduced for the area of petroleum production. To support the company success with state-of-the-art information technology VSB decided to introduce a production management system based on PSI*metals*.

To support the Plant IT needs, VMB/VSB and PSI are implementing, with the partnership of VLR IT Europe, a solution based on PSI*metals*, that combines on one hand the benefits of an approved standard solution like configurability, extensibility and flexibility and on the other hand provides the necessary plant-specific features considering the particular conditions and constraints of Vallourec & Sumitomo do Brasil. The MES should cover the basic functionality necessary to support the production process bringing the following benefits:

- Warehouse management;
- Production Order preparation;
- Production execution and production data acquisition;

Main functions of PSImetals and integration with SAP and automation level Source: VSB



Genealogie of the produced product Source: VSB

- Tracking and traceability piece-based;
- The integration between the several automation and control systems, laboratories, PIMS and corporative systems;
- Provide the genealogic view of the products, allowing the piece analysis and surveys in several ways.

Tight time schedule

The schedule for the specification and implementation was initially very tight, only seven months to deliver the necessary plant-specific features, but thanks PSI*metals* it was possible to be achieved.

The project: The project started end of March in 2010 with a kick-off meeting. Only two months later, end of May, the specification was delivered and accepted after two further weeks. A test system for all interfaces as well as a preconfigured system was provided by PSI during summer time. The tests for the final acceptance started in early October 2010 and in the same month the final approval for the factory acceptance test has been successfully confirmed by VSB.

The commissioning: The first cycle of the commissioning phase started in June 2011, the second cycle is in operation since November 2011. Therefore the project is nowadays in the second commissioning phase in the VSB Plant, where tests with real production events are under execution to assure that all the functionalities are running as projected and filling the user needs.

Why VSB has chosen PSI?

- PSI Metals (founded as a subsidiary of the Steel Institute VDEh, Germany) was from the very beginning focused on the management of production processes in steel plants;
- There are long term many positive experiences in the Vallourec Group with PSI and its expertise in production management systems for Metals;

Carlos Matuck
Project Manager, VSB

"To adapt the VSB solution at a maximum to the PSImetals-standard has resulted in minimal customising efforts whilst enabling the fulfilment of time and costs targets at the same time."

- PSI has a very high reactivity and potential to integrate necessary resources when any problems occur;
- PSI's solution for VSB was based on their standard solutions for steel making and pipe mills, which have been developed based on the experiences from many projects and which have demonstrated added values in many companies;
- We are convinced that the project with PSI decreased the risk level to a minimum.

Valuable Experiences

Some lessons learned with MES project until now will probably be helpful for future projects at VSB.
Role of Key-Users & Training: To have the availability and engagement of the key-users with the project is very important. Furthermore the key-users have been involved in the specification validation as a good specification is the key for success. They were also responsible for the test plan execution and evaluation. The training of the VSB IT team after the specification was really helpful to understand the PSI*metals* software.
Project management: During the development phase the scope of supply was under control to adjust the VSB needs with the available standard functions of PSI*metals*. There has been always a high respect of the cost and agreed dates. A supplier has to be able to have high adaptability and commitment with the success of the project, he needs to provide a good knowledge of the metal industry as well as to have the responsiveness to react in case of project deviations. All those have been assured by PSI.
Software & technology: There was a maximum adaption of the VSB solution to the PSI*metals* and SAP standard. The adopted technology (NW PI, ABAP, Java etc.) was a domain from the project team; problems are therefore easy to be solved. The test plan was oriented to business processes and not to IT use cases.

New Challenges

VSB now starts to achieve the expected goals in a short time by operating with the new production management systems, providing all the support necessary to the high performance and company success.

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Vallourec Sumitomo do Brasil

VSB is a joint venture between the French group Vallourec and the Japanese Sumitomo Metals, which have been partners for more than 30 years on premium connections field, intended to OCTG (Oil Country Tubular Goods) sector.

Caster at VSB Source: VSB

The VSB siderurgical complex, sited on Jeceaba, State of Minas Gerais, Brazil, was built according to the view of "the state of art" to his sector, including a steel plant with a capacity to produce 1 million tons of steel per year, and a plant able to manufacture 600 thousand tons of seamless steel tubes in a Premium Quality per year, oriented to the external market of petroleum tubular products worldwide known as OCTG.
VLR IT Europe, based in France, is the responsible department within the Vallourec-Group for all IT tasks related to global business processes.

Products & solutions: Forecasting capability of logistics software

Incorporating the future into decision-making with PSI Logistics

On the way to increased sustainability and efficiency in logistics, forecasting capability is always an important issue. Efficient software has an important role to play in this process.

Reliable forecasts are becoming ever more important for the efficient, cost-saving and resource-saving modelling of logistics networks and processes. In operations, for example, forecasting is the basis for resource-optimised planning; in terms of corporate strategy, it forms the basis for establishing and expanding networks, for mergers and acquisitions or the development of new business processes. The changes assumed in simulated tests may, for example, affect the number and location of the sites and also the transport structures. Mathematical methods are used to integrate expected future developments, for example in quantity structures or labour costs, into the planning and therefore make forecasts about the necessary transport and storage resources. This ensures that optional structures are subjected to ongoing review and that potential investments are secured. The improvement in the quality of the forecast and hence also the process is therefore one of the outstanding potential benefits of implementing logistics software.

Products for every planning horizon

With a comprehensive range of planning tools and information at their disposal, the software systems from PSI Logistics offer intelligent approaches to solving these problems, which can be easily integrated into the business processes.
The products PSI*wms* and PSI*tms* include appropriate enhancements for short to medium term resource requirements. PSI*global* offers forecasting capabilities for strategic planning. For example, the PSI*tms* transportation management system offers a wide range of methods and functions as part of route planning and loading area optimisation, which can be used to optimize logistic; for instance, by optimising load area utilisation and keeping (transportation) costs low.
The Warehouse Management System PSI*wms* meanwhile, with functions such as Case Calculation or the integrated personnel planning system (PEP), offers several options for achieving a competitive advantage through software-based forecasting capabilities.
As a result of loading area optimisation with PSI*tms*, the shipping processes are first virtualised in connection with shipping and packaging optimisation (case calculation) of the PSI*wms*. This means that the entire picking and shipping process is initially run through virtually, thereby enabling transport

By providing robust forecasting data, PSI Logistics software products form the basis for high flexibility and competitiveness. Source: Thinkstock

The optimum number of employees at the right workplace — the PEP functions offered by PSIwms increase forecasting capability for optimum requirements planning.
Source: PSI Logistics

capacities to be defined in advance and optimum loading times to be precisely determined.

Backward scheduling is then performed to define a resource-optimised start of picking. This ensures that the fewest possible transport capacities and staging areas are required. With the function module for dynamic personnel planning, PSI*wms* enables the wide-ranging optimisation of personnel planning processes directly from the integrated resource management of the Warehouse Management System – both for short-term personnel planning in day-to-day operations, as well as longer-term in the utilisation-oriented strategic budget and capacity planning. This is based on highly precise forecasting algorithms which project resource utilisation into the future.

The PEP in PSI*wms* therefore covers methods and functions in equal measure for efficient personnel requirements planning, deployment, adjustment and cost planning, as well as for personnel controlling in both the short and long term. In total, current reference projects have shown that the PEP functions enable average cost savings of over 100 per month per employee.

Competitive and flexible

Furthermore, with PSI*global*, the optimisation potential offered by the software systems is already apparent with regard to the planning of logistics networks. The simulation functions of PSI*global* offer many possibilities, including the mapping of intermodal logistics networks, and the cost-based evaluation of different structures and scenarios in advance. The fact that it also takes into account warehouse resources, means that costs for storage and transport – and thus resources in general – which would otherwise compete and be difficult to balance can be optimised in a holistic manner.

As the above examples show, effective software systems for long-term forecasting increase the flexibility and competitiveness of the user by helping to reduce mean lead times, decrease stock levels and improve delivery reliability on the one hand and by integrating prospective KPIs for comprehensive controlling along with future-proof, robust scenarios for strategic network planning on the other. Thanks to their extensive functionality, the PSI Logistics products provide the ideal software basis for achieving all the above.

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Products & Solutions: Many products out of one material – Technical order specification with PSI*metals*

Order Dressing in metal production

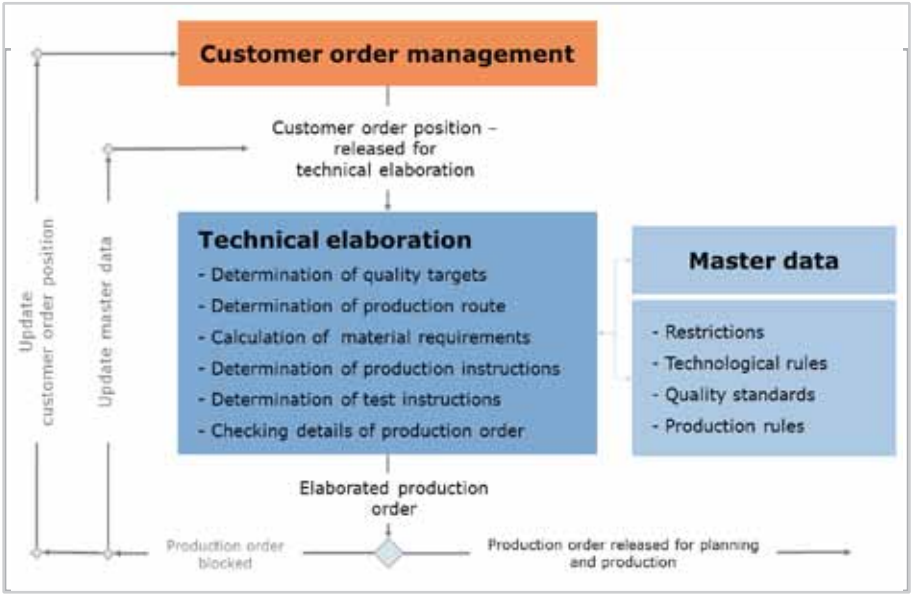
The precise definition of the quality objectives to be achieved and the detailed technical description of the order workflow throughout all stages of the process form the basis for process-based quality management in metal production. Familiar functions for order dressing in ERP systems are usually based on the processes of discreet manufacturing. The special features of processes involved in metal production, along with the characteristics of divergent manufacturing are often insufficiently mapped in the system and are therefore only of limited suitability for quality assurance throughout the whole metal production workflow. Producers of steel or aluminium therefore use the PSI*metals* "Order Dressing" functionality for precise process-specific order description, thereby laying the foundations for comprehensive quality management.

In contrast to BOM management in discreet manufacturing, which includes all the input materials for one final product, metal producers in diverging manufacturing have to manage processes in which one starting material is turned into many different end products via a variety of process steps. Production steps such as rolling, cutting, welding, slitting, etc., frequently change the thickness, width or length of the input material in every processing step.

Master data as a technological knowledge base

A detailed technical elaboration of the processing of each individual product across all process steps of metal production is a prerequisite for the automatic generation of production orders from customer orders. The existing comprehensive technological process description in the master data is a core component of the Order Dressing functionality in PSI*metals* Quality.

The 'Products' data records describes all material types to be produced, such as heats, slabs, plates, coils, etc. The specific routes for the manufacture of each product are stored in the form of process plans. 'Process plans' describe the production route by defining the type, number and sequence of the required jobs and subprocess plans of a particular process level. Each production order contains the corresponding work processes and the allocation of resources in the form of the production systems/aggregates on which it can be produced. In addition, specifications for sampling and quality inspections are also managed as 'master data'. All parameters can be freely configured. Entry, changing, grouping and deleting can all be performed easily without any programming knowledge.

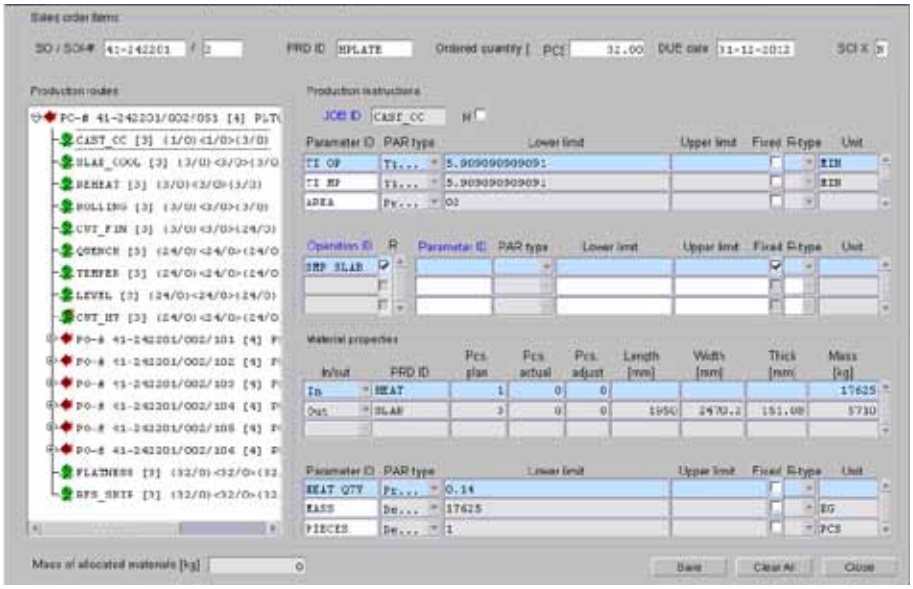


Workflow for technical order specification with PSImetals Order Dressing Source: PSI Metals

Speciality material transformations: one item becomes many

One important aspect for the order dressing and a special feature in the master data management of a divergent manufacturing process are the material transformations and the resulting changes in dimensions.

In order to monitor these changes in the material's dimensions and to precisely calculate material loss at each production stage, all types of material shaping are defined in detail in the knowledge base in PSI*metals*. For each product, the input dimensions of the material before treatment/shaping and the resulting output dimensions, or the number of resulting output products from one input material are described based on rules. This process can also be used for plausibility checks of incoming semi-finished products against corresponding product and resource limits. If dimension



Processed production order with individual PO steps and the corresponding parameters, operations, and input/output materials
Source: PSI Metals

limits are not met, the material cannot be used for this order and is not taken into account any further in order processing.

Fully automated: From customer order to production order

The customer order is processed as usual in the ERP system. After transfer to PSI*metals*, a customer order or items from an order are released for technical elaboration.
Taking the relevant rules into account, all possible production routes are determined, and all the material requirements for semi-finished products, including dimensions and tonnage, are determined for all process stages for each route. Within high-quality processing, PSI*metals* determines both the external quality standards (international steel standard and steel grade) and the internal steel qualities, as well as the corresponding detailed chemical analysis according to the order data.
Enhancements are available for special treatments (heat treatment) and internal analyses. Added to this, test specifications and sampling are also processed, and plant-specific process specifications are determined as input for Level 2 systems. Furthermore, process durations and planned process costs are also calculated. The result of the technical order elaboration is a detailed production order that can be released for production planning and manufacturing.
The order dressing from PSI*metals* has been specifically developed for the processes involved in metal production. The customer-specific process knowledge and individual knowledge of own metal qualities are administered in one system with no redundancy.

Reproducible quality from the start

The process and quality specifications for each product to be manufactured are defined dynamically using characteristic-based rules, thus avoiding master data redundancy. The high configurability of the system enables it to be flexibly adapted to customer specifications and market requirements. Even the complex details required for a process description in the metal industry can be generated simply, and without the need for programming knowledge.
Using the standardised data maintenance within the order dressing in terms of quality targets, product types, production routes, etc., PSI*metals* provides the basis for transparent and consistent information for complete order management from production planning through to shipping. Standard interfaces to ERP systems like SAP enable simple integration into the processes of commercial processing for incoming orders.

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Products & solutions: Project for connecting PSI*wms* to SAP

Flexible PSI*wms*

Masters students from the Augsburg University of Applied Sciences studied the challenges of the optimum interaction between an ERP system and PSI*wms* as a project. In cooperation with Hilti Befestigungstechnik AG, they analysed the controlling of warehousing processes.

Which storage processes lend themselves to ERP system-based mapping and controlling, and for which processes is it more practical to use a Warehouse Management System? What is efficient interface management?

These were questions that faced a group of masters students in business informatics at the Augsburg University of Applied Sciences last winter semester. As part of a project, the seven students addressed the issue of 'Connecting an external WMS to SAP'.
The aim of the project was to create and present a sustainable concept that would allow potential users to display the dimensions and alternatives of system integration in relation to the processes and resulting, logically practical data transfer points. According to Prof. Dr. Nikolaus Müssigmann and lecturer Claudia Stöhler, joint supervisors of the project, it was important that the project have "a high level of practical relevance from the outset using a real-life example". "We were therefore very fortunate to be able to cooperate with a warehouse operator who implements a modern Warehouse Management System."

Cooperation Partner Hilti

The Augsburg University of Applied Sciences was able to secure the cooperation of the company Hilti Befestigungstechnik AG, whose regional distribution centre (RDC) in Nuremberg is run by Bremen-based logistics service provider Stute Logistics GmbH. This was an ideal case study for the project because, while Hilti's IT infrastructure is based on SAP, Stute in Nuremberg works with the Warehouse Management System PSI*wms* from PSI Logistics GmbH, Berlin – including the customer-specific version of the necessary SAP interface.
Over a surface area of around 10,000 square metres in Nuremberg, PSI*wms* manages and controls a pallet storage warehouse with 7,250 pallet spaces, shelf compartments with 4,800 storage spaces, a cantilever shelf, and a hazardous materials area and block storage area, offering warehousing processes for more than 5,000 different items.

Optimal functionality of PSI*wms*

On site at the warehouse, the students soon realised that the IT system ensures the clear logistics functionality and the quality of processes at Stute. According to Benjamin Assbeck and Florian Kipf: "PSI*wms* provides the optimum features for supporting the ongoing operations at Stute".
For the project, the students performed process analysis, developed alternatives

Lecturer Claudia Stöhler from the Augsburg University of Applied Sciences with her students
Source: Augsburg University of Applied Sciences

to current business processes based on future changes, modelled the connection of the data streams including the definition of interfaces, and presented a schedule for optimal change management for changes to existing structures. "We were highly impressed by how well organised the students were in implementing this project and their excellent time management skills," praises Müssigmann. "The results reflect the individuality of the processes in intralogistics," adds Stöhler.

PSI*wms* offers the required process depth and flexibility

The students presented the results of their analysis in March 2012. According to their analysis, there are three fundamental alternatives for the optimal IT structure for the integration of warehouse processes into the flow of information and goods between the customer's purchasing and payment receipt processes. Firstly, the ERP system performs direct data exchange, and secondly, PSI*wms* performs the role of the leading system for the warehouse processes. The third option is process-oriented distribution of tasks with information exchange via a standardised data platform (ESB protocol).

In a direct comparison of the standard functions offered, the students' analysis revealed that PSI*wms* covers not only the required process depth, but also the necessary flexibility for all three variants. Summing up the outcome of the project, Müssigmann said: "This project was not about being able to make a general statement about which solution is the best.

The structure that represents the optimum scenario for the relevant user depends much more on the individual case. Identifying the factors that sway the decision in favour of one or the other solution could, however, be a task for a future project."

► *Information*

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Event: PSIPENTA at the 19th Aachen ERP Days from 12–14 June 2012

Hidden champions discuss their IT systems

PSIPENTA Software Systems GmbH, together with two of our customers, will be playing an active part in this year's Aachen ERP Days conference, which is taking place from 12 to 14 June 2012. Under the title "Logistics, Production and IT", decision makers from industry and research come together with big-name IT providers in Aachen to exchange experiences and discuss trends in the area of enterprise software. This year is the 19th time the conference has been held. PSIPENTA can already look back with satisfaction at CeBIT and the Hanover Messe trade fair, which are over for another year.

At this year's Aachen ERP Days, PSIPENTA will once again be presenting its solution portfolio (stand no. 21) and will be answering questions about ERP and MES solutions.

The highlight of the ERP Days will be a showcase of the "Campus-Cluster" logistics of RWTH Aachen, which uses PSI*penta* ERP to control the production process. The showcase demonstrates how logistical processes can be improved with the right IT support, and will include a live manufacturing display of products which will subsequently be given away to visitors at the trade fair. Marco Jassniger, head of IT at PSIPENTA customer WILHELM BAHMÜLLER Maschinenbau Präzisionswerkzeuge GmbH, was invited by the event organisers to speak at the conference about global spare parts management using the PSIPENTA-Multisite and eBusiness solution.

The software focus group of the German Engineering Federation (VDMA) and the EU initiative "Produktion NRW" are also holding an exchange of experience for managers. This will cover topics such as selecting an ERP system, support for production processes using ERP solutions, and practical examples from user operations. As part of this event, another PSIPENTA customer from the circle of "Hidden Champions", MAHR GmbH, will speak about their route to "pull production", the associated remodelling of their work systems, and mapping of processes in the PSI*penta* ERP system.

PSIPENTA customer presentations at a glance:

13/06. 4 pm
"Global spare parts management with Multisite & eBusiness"
Marco Jassniger,
WILHELM BAHMÜLLER GmbH

13/06. VDMA-ERFA
"From push to pull in value creation and materials management"
Dr. Thomas Ardelt, MAHR GmbH

CeBIT and Hanover Trade Fair – more visitors, more discussions

The higher numbers of exhibitors at both trade fairs already provided an indication that the days of technical trade fairs are far from over, and this was confirmed on the first day of each trade fair alone. Quite the contrary, in fact. The number of interested visitors from relevant industries has increased considerably, and forums and presentations were well attended throughout.

At the PSIPENTA CeBIT stand, the Race Touareg from the Dakar rally soon became a favourite photo opportunity. The thanks to this once again go to our longstanding customer VW Motorsport. PSIPENTA employees explained to listeners the relationship between VW Motorsport, the Dakar rally, and our mobile solution, which was used during the race.

As a "flagship project", this year's Hanover trade fair was streamed live from the German trade fair hall on the Internet. We sent our MES expert Lars Pischke into the studio, who explained the advantages of an integrated ERP/MES solution.

Scan the QR code to view the recording of the interview directly!

Special thanks are also due to our customer Kröger Werft GmbH. The company, which is a part of the Lürssen Group, provided us with three model ships for the exhibition, in order to provide a visual representation of the results of our development partnership.

► *Information*

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PSI Obtains Record Number of New Orders in First Quarter

New orders increase by 28 %

PSI Group obtained a record number of new orders of 69 million Euros in the first quarter of 2012. Group sales increased by 5 % to 40.8 million Euros, the order book volume increased as of 31 March 2012 by 21 % to 140 million Euros. The EBIT in the first quarter of 2012 was, with 2.04 million Euros, stable, the Group result was, at 1.3 million Euros, slightly below the value for the previous year.

Energy Management (electricity, gas, oil, heat) had stable sales of 15.8 million Euros (31 March 2011: 16 million Euros) in the first quarter. The EBIT was, at 0.8 million Euros, well below the value for the previous year (31 March 2011: 1.5 million Euros). The gas and oil business continued its very good development and again obtained important orders from Rus-sia. The electrical energy segment continued to be encumbered by the development work for the energy shift and expects larger orders with the change of the year.

Sales in Production Management (raw materials, industry, logistics) were, at 20.8 million Eu-ros, 12 % above the value for the previous year (31 March 2011: 18.5 million Euros). The EBIT increased by 50 % to 1.2 million Euros (31 March 2011: 0.8 million Euros). The metals industry segment had large international orders and again provided the largest contribution to the result.

In Infrastructure Management (transportation and security), sales remained about constant at 4.2 million Euros (31 March 2011: 4.3 million Euros). The EBIT for the business increased to 0.4 million Euros (31 March 2011: 0.3 million Euros). PSI Poland developed especially positively while the public transportation segment obtained important follow-up orders from German customers.

The number of employees in the Group increased as of 31 March 2012, primarily due to the growth in exports, to 1,517 (31 March 2011: 1.419). The cash flow from operating activities was again positive at 1.8 million Euros (31 March 2011: 2.6 million Euros), liquidity increased to 35.3 million Euros (31 March 2011: 32.2 million Euros). With the acquisition of the Swiss Time-steps AG in the first quarter, PSI set another strong signal in the smart grid and smart energy market. The Time-steps AG optimisation model al-lows for the optimal use of energy storage, which will play an increasingly important role for the integration of renewable energies. The management is considering other targets for acqui-sition, especially in the field of energy.

As a result of the high volume of new orders since the beginning of the year, the management remains confident that the annual targets of 190 million Euros in new orders, 180 million Eu-ros in sales and 13-16 million Euros EBIT will be attained. In the coming quarters PSI expects further improvements in the EBIT as a result of licenses from the current orders and further orders with a high percentage of licenses.

► *Information*

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EVENTS 2012

12/06 - 13/06	Airline & Aerospace Operations IT Conferences	Frankfurt/Main	www.aircraft-commerce.com	PSIPENTA Booth E12
12/06 - 14/06	19. Aachen ERP-Days	Aachen	www.erp-tage.de	PSIPENTA Booth 19
18/06 - 19/06	2. German-Russian Logistics Congress	Moskow, Russia	http://www.bvl.de/en/events/2nd-german-russian-logistics-congress/	PSI Logistics
18/06 - 19/06	Order Process Management Masters	Stuttgart	www.econique.com/opm	PSIPENTA
20/06 - 21/06	CONTACT Usermeeting	Bremen	www.contact.de/events	PSIPENTA
11/09 - 12/09	SAP Mining and Metals Forum	Mannheim	http://www.sap.com/campaigns/2012_02_mining-metals/index.epx	PSI Metals
11/09 - 16/09	ILA Berlin Air Show	Berlin	http://www.ila-berlin.de/ila2012/home/index.cfm	PSIPENTA

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