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## PSI Logistics presents approach for Smart Logistics Grid

### Networked logistics with cooperative processes

With the scenario of a Smart Logistics Grid, PSI Logistics has developed a forward-thinking approach for resource efficiency in logistics networks. The first steps can already be taken.

As shown by the trend study "The Future of Intralogistics 2020+", the field of logistics faces huge challenges in the coming decade. The VDMA study supports value-creating cooperation structures which require different actors to work together. In parallel with this, the imperative of sustainability ensures the increasing importance of resource efficiency. The aim is to structure the deployment and utilisation of all available resources so that the most optimal result possible can be achieved with regard to cost-effectiveness and environmental friendliness. This calls

for new approaches and ideas which intelligently link co-operative processes and the requirements of sustainability in logistics.

As a leader in innovation and developer of future-proof premium software, PSI Logistics has taken on these challenges. PSI Logistics has developed an innovative scenario with the approach for a Smart Logistics Grid, which the company will present for the first time at CeMAT 2011 in May. Using this, sustainable solutions can be developed for future requirements, taking account of

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## News ticker

+++ PSI controls distribution centre at Mistral in Moscow – PSI*ums* automates processes in food warehouses +++ PSI receives traffic order from Rheinbahn AG – Largest depot in Germany will control processes using PSI*traffic* in future +++ PSI software controls additional BAT warehouse location in St. Petersburg – Logistics service provider ItellaNLC chooses PSI*ums* again +++ PSI receives additional order from OAO Gazprom – Guidance system software for northern European gas transport mainline +++ PSI receives additional order from Vallourec – use of PSI*metals* at Youngstown location in Ohio +++ PSI receives large order from Swiss Post – Integrated transport management system for PostLogistics +++ PSI supplies warehouse management system to Müller-Technik – PSI*ums* controls new logistics centre for tools and injection moulded parts +++

### Imprint

Publisher: PSI AG  
Dirksenstraße 42-44  
10178 Berlin (Mitte), Germany  
Telephone: +49 30 2801-2029  
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produktionsmanagement@psi.de  
www.psi.de  
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Bozana Matejcek, Annett Pöhl  
Design: Ulrike Fuchs  
Printed by: Repro- & Druck-Werkstatt

## Editorial



**Dear readers,**

*Today more than ever, efficient logistics must take on the challenge of weighing up optimisation options equally from the perspectives of cost-effectiveness and sustainability. The main focus is currently on the available resources. Often, just a few small adjustments can together lead to optimised resource utilisation and better use of their potentials. The basic tool for more flexible organisational structures and requirement-compliant optimisation is*

*the logistics software. As an enabler of sustainable solutions, it enhances efficiency advantages in both productivity and environmental friendliness – enabling users to be "green through IT".*

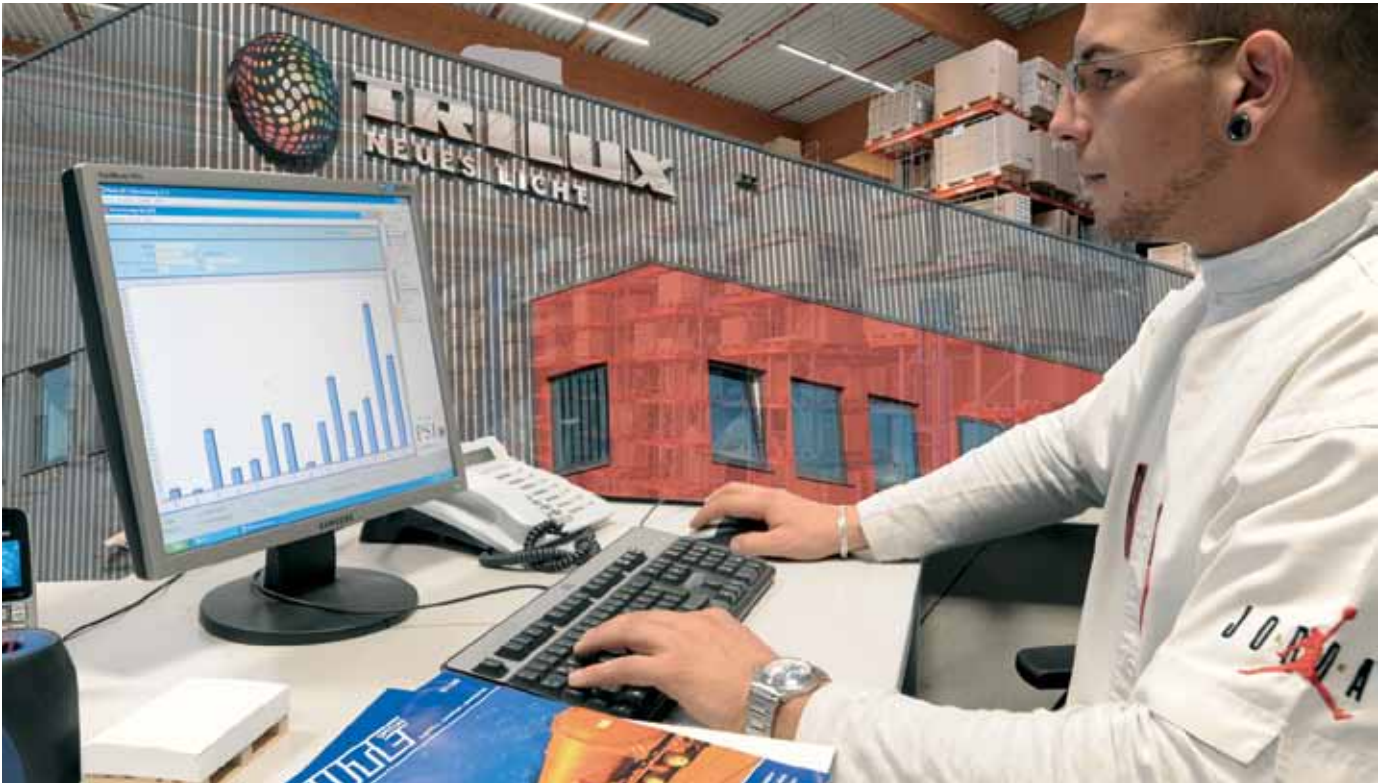
*However, the analyses have been directed almost exclusively at intralogistics for long enough. As the world and logistics processes become increasingly networked, in view of sustainability it now also seems time to consider logistics networks and the co-operation of the forces involved as a whole: resource efficiency in logistics networks.*

*Under the name "Smart Logistics Grid", PSI Logistics has developed an innovative approach for cross-site resource planning and the use of all available resources, taking a wide range of factors into account. The forward-thinking scenario is based on proven models from the energy sector. The aim is to secure supply through intelligent network management, whereby all capacities available in the network are used to optimise the processes. Discover the wide-ranging possibilities offered by a Smart Logistics Grid on the following pages.*

Happy reading!

Wolfgang Albrecht

PSI		SCHEDULE
04/04–08/04/11	<b>Hannover Messe, Hanover</b> www.hannovermesse.de	PSIPENTA Hall 17/Stand B55
02/05–06/05/11	<b>CeMAT 2011, Hanover</b> www.cemat.de	PSI Logistics Hall 27/Stand D18
10/05–13/05/11	<b>transport logistic 2011, Munich</b> www.transportlogistic.de	PSI Logistics Hall B3/Stand 313



*Transparency and co-operation – through more intelligent, cross-company networking of existing structures, a Smart Logistics Grid ensures optimal utilisation or conservation of available resources.*  
Source: PSI Logistics

► *Continued from page 1*

an integral analysis of logistics networks and their resources. Specific details of this approach will be incorporated into the further development of PSI Logistics software systems.

### Smart Grid – A digression

The term Smart Grid is borrowed from the energy sector. A Smart Grid focuses the communicative networking and control of energy networks – taking account of the most favourable consumption situation and including all actors in one overall system. The aim of the Smart Grid, one of the technology solutions of the future, is to secure supply on the basis of efficient and reliable system operation. The benefit of these intelligent energy networks, the IT base of which is provided by the PSI group, one of the most innovative developers and leading providers in the market,

results from the increased interaction of consumers and producers. Customers can use time-flexible prices, which are determined by time of day and network load, and choose the most economical provider. In addition to the greater network stability, suppliers profit from simplified network monitoring and increased transparency of both networks and customer behaviour.

### Network management in logistics

The parallels are evident. Why not also use a Smart Logistics Grid to conserve or optimally utilise resources through the more intelligent, cross-company networking of existing structures? PSI projects in the area of energy supply show that smart, sustainable network management is technologically possible and economically successful. These experiences can be applied to approaches for logistics. This does not necessarily

mean foregoing competition. However, it does require a greater degree of cooperation.

In future, by using a Smart Logistics Grid the resources of an entire network can be co-ordinated and, for example, the logistics capacities of points of sale integrated in network utilisation. Result: Maximum logistics availability – without the expansion of reserve capacities usually required. Instead, an integral view of the structures and resources of logistics networks enables reserve capacities to be relocated from one warehouse to the entire network.

The same applies to order processing, for instance. If a transparent network gives information about the utilisation of all resources available in the network, material and data streams can be channelled so that potentials can be enhanced through more even utilisation (workload balancing). In view of the cost blocks in the supply chain, in which



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**Wolfgang Albrecht**  
Managing Director, PSI Logistics GmbH

*"A Smart Logistics Grid can solve a wide range of problems in logistics networks."*


three-quarters of energy consumption is borne by intralogistics and 25 percent on transport, for example, it is clearly more lucrative to execute orders where possible in Warehouse B, where resources are kept on hand unused, instead of in Warehouse A, which is geographically closer but working near its capacity limit. The resulting increase in transport costs must be weighed up against the savings made through optimal resource utilisation and the additional costs e.g. for special shifts and piece-work surcharges.

The options for inventory management are similar, particularly returns handling. Intelligent control of inflows and outflows in a transparent, co-operative Smart Logistics Grid sets procurement and the volume of returns, where utilising warehouses, in an optimal ratio and so reduces transport, processing and inventory costs.

The use of multi-site compatible warehouse management systems such as the PSImts premium software enables the control of co-operative processes and efficient resource usage across multiple warehouses. Efficient transport planning taking account of traffic situations and available slots can be achieved with modern transportation management systems such as PSImts, for instance by integrating navigation data. And right now, with the integral planning and control system PSIGlobal from PSI Logistics, global supply chains can be optimally networked with regard to warehouse locations and the products

held in stock there. Transports from Purchasing and Distribution can be coupled, logistics networks constructed accordingly and controlled as an overall system.

The possibilities of a Smart Logistics Grid extend beyond this. Feasible approaches include those in which orders are commissioned wherever and whenever unused capacities are available. In another example, lorries begin their transport runs when there is less traffic on the route or the slots are free at the unloader in order to reduce waiting times, risks of traffic congestion and energy costs.

As these examples show, the Smart Logistics Grid can solve a wealth of problems in logistics networks. It is a forward-thinking approach which can be used to tap into numerous advantages and new business fields through intelligent networking. Initial steps can be taken now using existing IT systems. Further tools for intelligent logistics will follow. 

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An interview with: Martin Toepfer on new features in PSIlwms 2.0

## Practical modules and functions

At CeMAT 2011 in Hanover at the start of May, PSI Logistics will present the latest version 2.0 of the tried and tested PSIlwms warehouse management system. The background and new features of the premium software are explained by Martin Toepfer, Product Development Manager at PSI Logistics.



Martin Toepfer, Product Development Manager at PSI Logistics GmbH

Mr. Toepfer, the golden rule in sport is "never change a winning team". Why bring out a new version of PSIlwms?

**M. Toepfer:** The development cycles are faster in information and communication technology than in any other discipline. PSIlwms is a standard system with the character of a customised system. We cover the most important customer requirements in the basic configuration of the system. That reduces implementation times. In recent months, we have implemented numerous customer requirements in a wealth of optimisations and further developments. *What highlights can users of PSIlwms 2.0 expect?*

**M. Toepfer:** From the point of view of the system structure, initially the new modules stand out. We have significantly extended the functionalities, in Yard Management for example. The overall functional scope and its significance for time-saving, regulated loading and unloading justified the grouping into a separate module, which is now available to users as a compact option for system configuration.

*What functions can you list for the module?*

**M. Toepfer:** There are numerous new functions which increase the planning leeway of schedulers, reduce idle and waiting times and provide an optimal organisational basis for rapid clearing in goods receipt and dispatch.

*You mentioned "modules"? What do you mean by this?*

**M. Toepfer:** Yes. In addition to Yard Management, a proprietary billing module was developed for the PSIlwms 2.0 release – due to the requirements of service providers. On the basis of the data statistics, it simplifies the generation of billing documents and proofs of performance. In this way, for example, billing documents can be produced or detailed and producer-compliant proofs of performance can be created during/after specific periods of time automatically or at the touch of a button.

*What advantages does this offer to users?*

**M. Toepfer:** The services provided are registered automatically in the background. This saves time while providing permanent transparency across all activities, the time they require and monetary percentage of the service charge. All cost blocks can be effortlessly assigned and billed as incurred this way.

*What optimisations does PSIlwms 2.0 offer at functional level?*

**M. Toepfer:** Beyond the new modules, we have mainly further improved the use of key data, data conversions and the automation and optimisation of processes such as packing and shipping preparation.

*Are there specific advantages?*

**M. Toepfer:** The new key data visualisation, which is used to define all required key data and display them in comprehensible block and/or list displays or as an information gadget, provides high transparency through real-time information and increases user flexibility. ☺

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An interview with: Alfred M. Keseberg on company growth and visions

## Consistent solutions for industry from one source

Berlin-based PSIPENTA Software Systems GmbH was a developer of software for production control at the birth of IT over 40 years ago. Today it is one of the most successful providers of business software in the German-language market. At the start of the year, PSIPENTA expanded. Managing Director Alfred M. Keseberg explains the reasons for this step and discusses the values, growth and visions of its company.

*Mr. Keseberg, at the start of the year PSIPENTA expanded. What happened?*

**A. M. Keseberg:** I would say that we have become a bit bigger, better, and above all, unique. Because as of 01/01/11,

the Berlin-based division Manufacturing Execution System of our sister company PSI Production GmbH belongs to PSIPENTA.

*What led to this development? Mainly economic or technological reasons?*

**A. M. Keseberg:** This step makes sense from any number of perspectives. We have worked together on projects for many years and offered an integrated Manufacturing Execution System (MES) in our standard Enterprise Resource Planning (ERP) software PSIPenta. So now what has long belonged together has finally merged. The MES modules fit with our corporate philosophy, "Software for Perfection in Production", and above

all with our customers, who want these very solutions. This merger also fits with the long-term strategy of the group to develop a standardised platform for all PSI products. There are already some pilot projects underway to develop this platform convergence with JAVA.

*Can you explain "platform convergence" a little?*

**A. M. Keseberg:** Within our parent group, PSI AG, there is a wide range of modern software solutions which currently still run on many different platforms. In order to craft joint projects even more easily and seamlessly for us and our customers in the future, it is our long-term goal to establish a standardised PSI platform.

*You said earlier you had become unique. What do you mean by that? Has the PSIPENTA profile changed; become sharper regarding competitors?*

**A. M. Keseberg:** Following the merger with the MES division, we are now the only provider in the market offering an ERP system and MES from one source. Our solutions are also modular and do not have to be purchased in one large package. We tailor make a solution for every prospective customer which is based on standards but not available off-the-shelf. This can include additional modules such as our just-in-sequence solution, which we are launching in the spring, and our modules for sequencing optimisation or adaptive production control. As defined by IT experts, these do not correspond to a classic ERP system or an MES, but often provide our



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**Alfred M. Keseberg**

Managing Director, PSIPENTA Software Systems GmbH

*"Following the merger with the MES division, we are now the only provider in the market offering an ERP system and MES from one source. "*



customers with exactly what they need to gain an advantage and special benefits over the competition.

*So how does PSIPENTA define ERP and MES?*

**A.M. Keseberg:** That's exactly what we don't want. Standards do have a certain benefit, of course, but there is also a risk of forcing solutions on industrial enterprises in a form which does not help them at all. Instead, we offer modular solutions for the control, planning and optimisation of the entire production chain which are adapted to the very specific requirements of the companies or link these packages together with the customer.

*What marketing strategy are you pursuing with this merger?*

**A. M. Keseberg:** It's quite clear: we remain an industry specialist. Our focus will remain on machine and plant engineering and the automotive industry in the future. We will also focus on an area of plant engineering which we call aerospace and power generation.

*In recent years, together with your former sister company, you have gained customers from the corporate sector. Will you now*

*generally direct your attention towards larger companies?*


**A. M. Keseberg:** No, not exclusively. Medium-sized companies remain our primary target group, and our clientele has also grown successfully here in recent years. However, we will also address corporations involved in production, individual plants, and large medium-sized companies. These companies often use software which has proven to be strong in the commercial field, but not so much in production. We are a specialist in this very area, and this is also where we suit corporate groups. Here, we also profit from the possibility of fully integrating all of our modules into an existing IT landscape.

*What possibilities and specific advantages will arise from the merger for your potential customers?*

**A. M. Keseberg:** As I mentioned before, our experience in many past projects indicated that what is wanted is often individual modules from both systems with add-on components, never a pure ERP system or MES. In such cases, we have always worked closely with our sister company PSI Production in Berlin. But now there will be standardised

project management which makes it easier for both our customers and us. It is also good that all modules will stem from a standardised philosophy and strategy. This means not only that one interface somehow binds them together, but that they really do fit together and so represent a truly consistent solution.

*And what innovations is PSIPENTA offering its customers?*

We will launch a just-in-sequence solution for the automotive sector, which is also being developed on the aforementioned JAVA platform. Just-in-sequence enables broadly automated support for the sequence delivery and assembly tasks processes, ensuring delivery in the correct sequence as well as at the correct time (we cover this in more detail on pages 10-12). 

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Research project: Constraint-based optimisation

## Evaluation of constraint programming

Optimisation is one of the core components of PSImetals. From order planning, to scheduling, to geometric problems and transport and logistics, optimisation algorithms help manage complexity and increase efficiency. In the ParAPS project, researchers from PSI Metals and K.U. Leuven investigate how to tackle some of these problems using constraint programming.

### CP in a nutshell

Let's look at the popular Sudoku puzzle: Fill the empty cells of a 9x9 grid (see the box below) with numbers from 1 to 9, such that each row, column, and 3x3 block contains all the digits from 1 to 9. Mathematically, each cell of the grid is a variable, and the rules of the game are called constraints. A solution assigns a value to each variable and respects all constraints.

How do we go about solving a Sudoku? By inferring values for the empty cells. In our example, we can infer from the row and column constraints that the red cell

6	9			3				
2			5	1	6			
	1	7					2	
7				2				9
4			7		9			5
3				8				2
	2					8	7	
			4	5	1			6
				7			3	1

A standard Sudoku puzzle needs to be completed with numbers from 1 to 9. All numbers from 1 to 9 must appear only once in every row, every column and every 3x3 block.



*"Using CP technology, we expect to achieve better automatic selection of converters and routes through the secondary metallurgy for each heat, and a more flexible tool that can be adapted to diverse plant topologies."*

**Dr. Guido Tack**

Katholieke Universiteit Leuven, Belgium

is the only cell in its block that can hold the value 2.

When no further inference is possible, we have to search. We guess a value for an empty cell and start the inference again. If we get lucky, this yields a solution.

It may also lead to failure if the guess was bad, in which case we try another value. Or we have to continue the search, guessing the value of another empty cell. This combination of inference and search is called constraint programming (CP).

Sudoku usually does not require search. The unwritten rule is to solve the puzzle with a pen, not a pencil - give it a try!

### Constraint-based scheduling

One of the advantages of CP over other optimisation methods is its support for high-level, structured modelling. In the domain of scheduling, variables represent the tasks and resources, and constraints describe precedences (e.g., task A finishes before B starts) and resource requirements. The solver takes advantage of this structure using dedicated

inference algorithms for resource and precedence constraints. Another crucial ingredient is a heuristic, which uses the structure to make informed guesses during search. Strong inference and smart heuristics reduce the search space dramatically, making it possible to solve even hard scheduling problems. Finally, branch-and-bound is used to find increasingly better solutions, optimising for make span, throughput, or other objectives such as energy consumption.

### Use case: Heat Scheduling

One of the problems we are tackling arises in integrated steel plants. A planning tool (e.g., the Caster Scheduling in PSImetals Planning) provides sequences of slabs to be cast on continuous casting machines. Executing this plan requires a detailed schedule of how heats (i.e., batches of steel) are produced at the converters, treated at one or more secondary metallurgy stations (such as vacuum degassing), and finally transported to the casting machines.


### ParAPS-Project

Parallel Advanced Planning and Scheduling (ParAPS) is a collaborative research project between PSI Metals Brussels and K.U. Leuven, funded by the Brussels region INNOViris. The goal is to assess how CP techniques can be used to solve optimisation problems in the area of steel production. The project puts a focus on parallelisation, improving solver performance on multi-processor hardware.

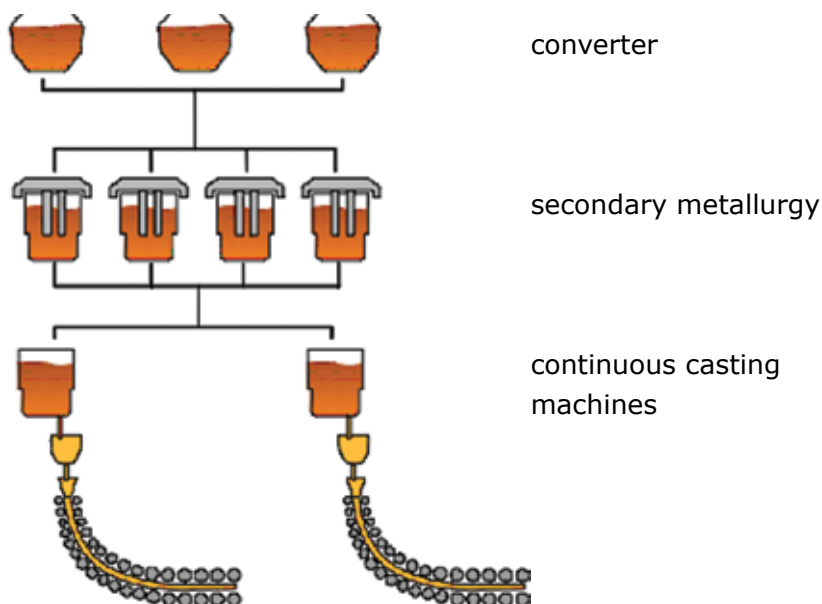
This schedule must be adjusted dynamically to, for example, equipment outages, delays, or additional treatments or changes in the casting plan because of an unexpected chemistry of the hot metal. Whenever re-scheduling is required, time is of the essence to avoid delaying production any further. The solver therefore should react within a few seconds.

Using CP technology, we expect to achieve better automatic selection of converters and routes through the secondary metallurgy for each heat, and a more flexible tool that can be adapted to diverse plant topologies. For example,

we aim at producing more detailed schedules for transports between facilities, taking constraints such as crane aisle geometry into account.

Our current prototype already yields good solutions, and we are confident to achieve the required reaction times using specialised search heuristics. We are working closely with two customers on the integration of this new solver into a production system. 

*Author: Dr. Guido Tack  
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### Recruitment for PSI Metals NF

## New Production Division Manager



**Effective January 1, 2011 Michael Traeger will assume the management of the production department at PSI Metals Non Ferrous GmbH succeeding Dr. Dirk Bernhard as Director Production.**

In several prior management positions Michael Traeger has been responsible for the introduction of process control and SAP systems for the aluminum and copper. A further area of his expertise lies in consulting for business process re-engineering. Michael Traeger studied mathematics at RWTH Aachen University, Germany.

PSI Metals Non Ferrous GmbH is the specialist for aluminium and copper production within the PSI Metals Group. 

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**Products & solutions: PSI divisions develop highly specialised automotive solution**

## More than just-in-sequence production



*The complexity of logistics and production processes is continually increasing in the automobile industry. PSI-JIS supports sequence-optimised, synchronous production and delivery.* Source: Audi

PSI has been developing software for the automotive industry for 20 years. The company's automotive industry competence has now been raised to a new level due to the co-operation of three PSI divisions in developing a just-in-sequence (JIS) solution. The system is programmed in JAVA – one of the first steps in the long-term strategy of the group to ensure platform convergence or hardware independence of all PSI products.

As an industry specialist, PSIPENTA Software Systems GmbH assumes the design work and brings its industry knowledge to the project together with market access. The Polish business division PSI producty i Systemy Informatyczne Sp. z o.o. assumes the programming and implementation

tasks and will boost sales in the eastern European markets. Within the JIS system on the part of the car manufacturer and supplier, Fuzzy Logik Systeme GmbH (F/L/S) uses its Qualicision technology to integrate sequencing optimisation which has been tried and tested in over 30 factories of renowned car manufacturers. A prototype of the solution will be presented on June 9 2011 at PSI Automotive Day in Sinsheim.

### Complexity of the automobile added-value chain

The automotive industry is one of the most demanding industries and important growth drivers in Europe. Due to the individualisation of customer requests and therefore the growing influence of end customers,

the complexity of the added-value chain in the automotive industry has increased sharply. High innovation and cost pressure with a simultaneous increase in complexity through market-driven model and variant diversity pose great challenges for the industry. Original Equipment Manufacturers (OEMs) focus on sales and marketing and outsource increasingly large sections of their assembly to suppliers. Within the added-value chain, apart from final assembly, they often only take on the production of components which are particularly important in differentiating their brand. In the supplier industry, Tier 1 suppliers outsource their production in turn to sub-suppliers (Tier 2 suppliers), which results in further branching of the logistics chain. Consequently, the increased pressure on time and flexibility

for the product origination process and therefore also the logistics process affects the suppliers involved and car manufacturers equally.

### Just-in-sequence

PSI-JIS is designed specifically for these conditions and supports highly automated, sequence-optimised and synchronous production and delivery from supplier to car manufacturer. In other words, different variants of the same part or pre-configured module are delivered to the car manufacturer's assembly line at the right time in the right sequence and position. Simultaneously, Qualicision technology creates sequences optimally, i.e. production or assembly sequences, on both the supplier and OEM sides. To clarify the logic of just-in-sequence production, compare it with the just-in-time production that has been familiar in the automotive industry since the 1970s. Here, the OEM commissions a large quantity of a part or a variant of the required part at a specific time. But the sequences in production or assembly are not taken into account. These are, however, becoming increasingly important due to the growing diversity of variants, and determine the production and logistics processes definitively. The relevance of this topic is demonstrated by the example of the BMW 3 series, which was produced in so many variants that only two or three identical cars left the plant each year.

Just-in-sequence solves this problem not just by supplying the parts to the conveyor belt at the right time on the basis of a pull principle, but also by providing them to the cars in the right order. To achieve this, the software generates production or delivery orders for exactly ONE specific part at a specific

time, which is also allocated a unique Vehicle Identification Number (VIN) – i.e. allocation to a specific package and sequence number. A total of three call-offs, known as JIS CALLS, are generated by the OEM for the supplier n days, n hours and n minutes before the start of assembly in order to react to configurations by the customer at short notice. The pre-lead time varies according to the distance between the supplier and end customer or production and assembly. Highly automated, with possible connection to an ERP system, the car manufacturer commissions its suppliers with due consideration of the production sequence and thereby saves enormous logistical time and effort.

### Optimising sequences

Beyond these standard JIS functions, Qualicision supports sequencing optimisation in production or assembly for the OEM and/or supplier in order to achieve a balanced production flow with

regard to human and machine resources. A situation of this type might be related to preventing employees from being overloaded in their jobs, for example. If an assembly worker deals with three or four fully configured vehicles in succession, a high degree of concentration is required, which is accompanied by fatigue. Logically, this presents an increased risk of error which can be reduced with a more balanced sequence, i.e. fewer stress peaks and a more even, continuous workload. Expressed verbally, one specification of the software could read: When a fully configured car is assembled, the system should optimise the workload so that if possible a car with a simple configuration follows. This requirement for optimal sequences in assembly partially contradicts the requirements of sequences in the paint shop. This section would like to group cars by colour and prefers colours to go from light to dark. This is because fully configured cars, which lead to high workloads in assembly, are mainly dark.

## PSI-Automotive Solutions to the next level



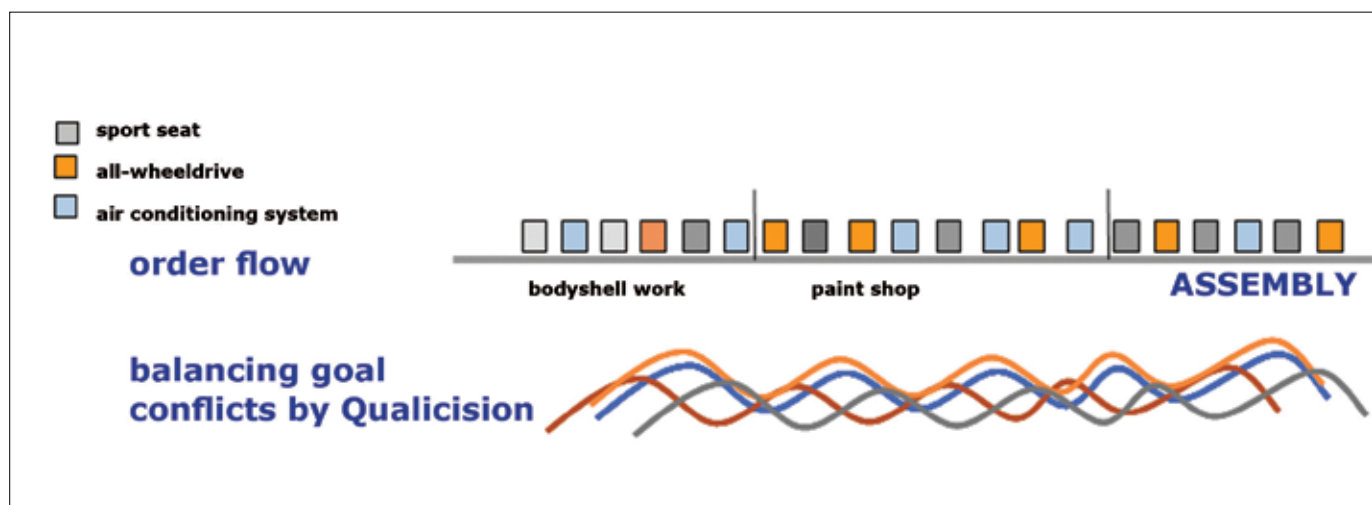
### PSI Automotive Day

09-June-2011

Auto & Technik Museum Sinsheim

[www.psi.de/automotiveday](http://www.psi.de/automotiveday)





1000 orders per day lead to a barely conceivable number of possible order sequences. Qualicision neutralises a wide variety of implicit goal conflicts between the individual technical and economic conditions in production both within the assembly, preliminary building works and paint shop sections and beyond these areas, thus creating an optimised order flow. Source: F/L/S

The complexity in sequencing which arises for the OEM with regard to the number of possible combinations is more than the human mind can imagine, even with extensive professional knowledge. In addition to assembly and the paint shop, this also affects preliminary building works. This section also has its own optimisation goals regarding order sequences, which are established from the perspective of the resources found there, such as welding robots or feed cartridges etc.


### Harmonising contradictions

From the point of view of suppliers who have to operate the complex sequences that arise in the JIS environment, their own production sequences also have requirements. These in turn must comply with the technical and economic requirements of a supplier. With Qualicision, these sequences can be calculated in a similar way. However, because of the diversity in production processes, these do not generally conform to the sequencing requirements of the recipient OEMs. As both sequencing types are calculated

by the same software, the supplier is able to harmonise the contradiction between its own production sequencing requirements and those of the OEM. To create such optimised sequences, Qualicision must include in sequencing all measures affected by changes after the options freeze, which is sometimes at short notice. Examples of these include detailed time planning, internal scheduling and co-ordination of suppliers. Qualicision ensures re-optimisation of planning as soon as possible in the event of a problem and its subsequent resolution. The system therefore adapts planning and execution so that it does not conflict with the range of possible variants. This flexibility is possible because the approach to human thinking and action has been adapted in Qualicision and transferred to IT. In a situation, decisions on sequences are made rapidly using clear parameters and heuristics.

### Standards for greater security

PSI-JIS is designed as a standard which forms the basis for different industry-standard project solutions.

The program synchronises all relevant, commercial data via a standardised interface with an Enterprise Resource Planning (ERP) system, preferably PSIPenta. These include e.g. master or planning data. Communication is via EDI using the data protocols VDA, EDIFACT or ODETTE. In the event of an interruption in communication, an independent, standardised emergency concept is activated. The software creates maximum transparency in the assembly and manufacturing process for both the OEM and the supplier. This allows the supplier to give the car manufacturer information on the status of any order at any time. 



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Event: PSImetals UserGroup 2010

## Make new ideas a reality together

More than a year after the merger of PSI BT and AIS into PSI Metals, the first joint customer conference, PSImetals UserGroup, was held in December 2010. 70 customers from around the world met from 30/11 to 1/12/2010 to get to know each other and swap experiences in wintry Moers, North Rhine-Westphalia. The broad attendance of customers from countries such as South Korea, Mexico, Brazil and the United Arab Emirates underlined the strong interest in the strategy and solutions of the newly formed PSI Metals.

The event focused on AIS and PSI customers meeting each other, and the extended range of services resulting from the merger. Sven Busch, Peter Nowak and Detlef Schmitz, Managing Directors of PSI Metals, greeted the participants and presented the strategy of the new, joint company: industry expertise, development of a joint product base, investment security for all customers, and global customer care through a regional presence.

Presentations on various topics demonstrated how all customers can benefit from the extended scope of service of the integrated PSImetals 5 solution. AIS customers were persuaded by the expertise in the areas of production quality, logistics and SAP integration; PSI customers were pleased with the increase in functions in the planning field, such as Sales & Demand Planning, Master Planning and Order Dressing. The integrative approach of PSImetals and the comprehensive coverage of the entire supply chain in metal production, which is unique in the



A joint UserGroup conference for the former PSI BT and AIS was held for the first time at the end of 2010. The next PSImetals UserGroup conference is planned for autumn 2011. Source: PSI Metals

industry, offer benefits for both sides. The new developments presented, such as the 3D display within PSImetals Logistics and the standardised, user-specific freely configurable graphical user interface (GUI) sparked interest in future product versions.

The highlight of the second day was the company presentation from Thyssen Krupp Nirosta in the Krefeld plant, with subsequent plant inspection. Klemens Bransmüller, CIO of Thyssen Krupp Nirosta, presented the international strategy of the company with production sites in Germany, USA and China, and the role of IT as an integrating factor for globally standardised processes. The customer presentations were rounded off with reports from the companies ArcelorMittal Bremen on the subject of "Integrated planning" and Ilseburger Grobblech on the subject of "Logistical

optimisation of heavy plate production". The participants were in good spirits at the end of the event, both regarding the integration of AIS and PSI and the merging of the products of the two companies. A good basis for us to proceed with our customers along the outlined route, utilising the noticeable industry upswing and making new ideas a reality. The next PSImetals UserGroup is planned for autumn 2011. ☺

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## Expansion of activities in the North American market

### PSI Establishes Subsidiary in the USA

PSI founded PSI Metals North America at the beginning of 2011 and, consequently, has strengthened their activities in the North American market. The new company will support PSI customers in Canada and the USA from its location in Pittsburgh and at the same time strengthens sales activities in North America.



The PSI Metals North America, Inc. team at an initial meeting

Source: PSI Metals

The focus of PSI Metals North America is first and foremost in the field of metals production where PSI is represented in North America with customers such as ArcelorMittal Dofasco, U.S. Steel, AK Steel, Severstal North America, ThyssenKrupp Stainless USA and Vallourec.

To improve customer's support with local staff resources, PSI Metals North America Inc., has started its North American operations with an expert team of senior metals software consultants and sales professionals. It is intended to grow this team rapidly in accordance with the

business development. The Pittsburgh office will be led by Harald Henning, Director of PSI Metals North America. PSI Metals North America Inc. supplies Production Management solutions covering the areas of supply chain management (SCM), advanced planning and scheduling (APS), logistics as well as manufacturing execution (MES) specialized to the metals industries. In the medium term, the PSI Group will be using the new subsidiary for the entry into other fields of business in the American market. Ⓞ

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## PSIPENTA wins back past customer Roemheld

### Specialist in machining technology uses PSIPenta

PSI subsidiary and ERP industry specialist PSIPENTA Software Systems GmbH has been commissioned by Roemheld Beteiligungsgesellschaft mbH to implement the PSIPenta ERP system.

The Roemheld Group will be replacing the predecessor product, which has been in use since 1991, with the PSIPenta ERP Suite. PSIPENTA will roll-out a multi-site, integrated solution for the planning, control and monitoring of production

processes, ranging from Project Management at corporate level, through to integrated financial accounting and right down to MES components at the precision control level. The multi-site solution will be implemented in seven plants in Germany, Austria, France and the UK in the respective interface languages.

PSIPENTA emerged victorious from an open tender process which included well-known ERP competitors. The decisive factor in the acceptance of the

bid was the functional overall concept and ability of PSIPenta standard to meet a high proportion of the requirements. Ⓞ

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## PSI and GreenCom Networks Conclude a Partnership

### Cooperation in developing integrated energy management systems

PSI AG and GreenCom Networks GmbH have concluded a partnership for the development of integrated energy management systems. The primary goal is the linking of existing network control systems with information for the end-customer consumption, distributed generation and electrical vehicles.

The energy sector is currently undergoing major changes. The increasing portion of distributed generation, the future possibilities for improved control of the end consumption and the increasing importance of electrical vehicles require new solutions for controlling the energy system. Today's network control systems allow the monitoring and control of the energy systems in the high and medium voltage range. Distributed generation, intelligent consumption management (demand response) and the use of electro-vehicles is, however, also occurring at the low-voltage level. The partnership between PSI and GreenCom Networks will target this segment.

GreenCom Networks develops solutions for energy suppliers, which allow for demand response and the integration of distributed generation. The information and control possibilities available in the low-voltage range will be of essential importance for distributed network operators to optimally control their networks. This information can be directly processed by the network control systems of the future. PSI and GreenCom Networks will develop common interfaces for these tasks.

The energy suppliers' sales companies will then be able to provide the network operators with important information




**Dr. Harald Schrimpf**  
Chairman, PSI AG

*"Consumption control is an essential component in the integration of the volatile renewable energies."*

about consumption, load shifts or reserve capacities in the low voltage range in real time. The partnership between PSI and GreenCom Networks also includes the development of the interfaces to trading systems. This will allow to handle demand response products or the management of distributed generators as so-called virtual power plants in the future. Sales companies will then be in a position to significantly increase the value of their customers and obtain additional income on the wholesale market. PSI will bring their expertise in the field of trading systems to the table while GreenCom Networks will contribute solutions for the recording and controlling of demand response and distributed generation products.

"With PSI, we are working with the leading partner in Europe for network control systems, not only from the perspective of market share, but also with regard to the state of development. The partnership will open up entirely new opportunities for optimally supporting the changes in the energy sector," says Dr.

Christian Feißt, Speaker of the GreenCom Networks Management.

"Consumption control is an essential component in the integration of the volatile renewable energies and can only be attained through the interaction of communication technology, energy technology and process know-how, says Dr. Harald Schrimpf, CEO of PSI AG. "With GreenCom Networks, we have obtained a new market participant for customers and partners, a partner with whom we can develop and test the future-oriented technology on the basis of our market-leading energy control systems." 

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