Mobile data collection: special solution for the Dakar Rally

Through the desert with VW HP & PSI bytes

The Dakar Rally is seen as one of the last remaining great adventures of the modern day and as the toughest rally in the world. In 2010, it ended with a historic treble victory for Volkswagen. Three Race Touaregs on the winner’s podium meant not only that they defended their title but that they went one better than the double success of the previous year. The fact that the success was achieved by diesel cars, as in the previous year, also makes it a truly historic win. This success was not just down to engine size and horse power – bits and bytes in the form of a software solution also played their part.

On New Year’s Day 2010, the Dakar Rally started in South America for the second time. 360 teams with motorbikes, quads, trucks and 132 cars set out on the 9000-kilometre route through Argentina and Chile.

Everything was asked of both man and machine: The race covered 14 stages through the world’s driest desert, the Atacama, and the Andes, with altitudes up to 4700 metres. Competitors also had
Dear readers,

The pressure of competition is bread and butter to both companies and athletes. It impels us to deliver top performances and reminds us to continually develop our products and consultation services further and to adapt them to the conditions and demands prevalent in our markets. For PSIPENTA Software Systems GmbH this means not forcing ready-made software packages on companies, but instead finding solutions that meet their specific needs. That is precisely what we have done in the projects with VW Motorsport and the Simon Group.

During the Dakar Rally, a mobile solution helps VW Motorsport transport all data and processes to exactly where they are needed. This solution features mobile registration, which ensures that the service life times of the different components and the storage locations of the spare parts are always known, and preventive exchange can be performed – before there is a failure.

At Simon too, individually adapted software ensures transparency across all plants and sites at the press of a button and, among other things, enables preventive maintenance on the machinery.

See for yourself in this edition the benefits that tailored IT support can bring and how our customers become champions in their markets.

Yours faithfully,

Alfred M. Koseberg
Managing Director
PSIPENTA Software Systems GmbH
to cope with fog, rain and sunshine, and temperatures up to 50° C in the shade. It will therefore come as no surprise that Volkswagen Motorsport Director Kris Nissen commented that the Dakar is no walk in the park – but instead poses a new challenge everyday that is enough to make you tremble. Anybody wanting to pass this test should make excellent and thorough preparations. Fitness alone is not enough to overcome the strains – the Race Touareg’s engineering is also exposed to extreme demands. Issues such as material quality and quality management with mileage recording are therefore put under increased scrutiny on the part of those responsible.

A mobile solution

By 2002/2003, Volkswagen Motorsport had developed so far within the group that it had to stand on its own "stable system feet" in order to best support the Polo Cup, for example. At that time, software modules developed by the Berlin company PSIPENTA Software Systems GmbH were being used, which implemented the core business processes such as procurement and production and tracked the costs of projects like the Polo Cup and the Dakar Rally. The PSI solution has since then been introduced as ERP software and supports commercial processes such as order administration and materials management.

The use of software intensified as the benefits became ever clearer. When it came to problems with material quality, it made sense to combine quality management and material management processes. As a consequence, the motorsport managers around team director Rainer Fleischmann looked for solutions together with the Berlin software supplier. The first plans were drawn up in 2007/2008. By means of a feasibility study, the joint project ultimately led to the creation of a mobile solution, which was specially designed for use during a race and directly on site. It also led to the introduction of the two-dimensional data matrix code, which is used in production, in automotive manufacturing and in mail delivery, for example.

Independent of the headquarters

The PSIPenta ERP system from the parent company forms the basis, with all stored master data and the optimised logistics processes. The mobile system sits on top of it and transfers data and processes to where they occur, in other words straight to the race track or the Volkswagen tent, and uses them there without a connection to the headquarters as an asynchronous solution. All the information and processes, that can normally be accessed online or via a WLAN, must be appropriately defined and stored on the mobile devices, such as handhelds or laptops.

During the Dakar Rally, VW Motorsport uses so-called 'service trucks' as escort vehicles, which transport the tools, tyres and spare parts for the Race Touaregs.
The service team uses the PSI software to determine where each part is stored in the truck even before it is loaded and stores the part and storage location on the mobile devices. For identification purposes, the parts are labelled with serial numbers on fixed tags using data matrix codes. The software therefore exactly depicts the contents of the truck, thus making the service team autonomous for the duration of the race; in other words, independent from the central system. All bookings that are normally directed through headquarters now take place exclusively on site. Once the team's last car passes the finish line, the data can be extracted and immediately sent via an Internet connection to the headquarters' system, which automatically analyses it. In the case of the Volkswagen team, compared with previously, this improvement alone results in a time saving of four to six weeks when working on the material planning data for the next race.

Knowledge database for mileage-related parts

The quality assurance system, however, benefits above all from the new software development. Every part dismantled or installed carries information about how long or how many kilometres it has already run in this or any other car. The factory specifies a limit of how long a part can run (based on experience) under different conditions in a Race Touareg without failing. 132 sensors on the vehicle provide additional information for the service team at the end of each stage.

However, the advantages are already apparent before the start of the race. Booking all the mileage-related parts on the car and in the spare parts store generates a comprehensive knowledge database of target service lives, which shows in advance which parts will probably not survive the planned distance of 9000 kilometres. The team is thereby able to specifically monitor every vehicle, both on test drives and during race breaks, and dismantle and replace parts as part of preventive maintenance. As part of this process, each part is booked with a serial number. Defects and failures can largely be prevented using this method. The exact analysis of the data then provides the basis for preparations for the next rally.

Quality assurance and time saving

The joint development by Volkswagen Motorsport and PSIPENTA led to a mobile software solution that makes an effective contribution to quality assurance and quality management. This solution is now relied upon – and not just by Volkswagen. Other companies have now also started to use the mobile solution in various fields of business, from different booking methods in decentralised storage organisations through to implementing "counter operations" in the spare parts business. In these cases, all data is collected in the mobile solution, whilst the commercial booking is done in the central system. As a result, data is reliably collected where it occurs, in order to then process it in real time together with the stationary systems.

Volkswagen has now agreed to take part in the 2011 Dakar Rally. Volkswagen Motorsport Director Kris Nissen would like to write motorsport history one more time and score a "diesel hat trick" in 2011. If this is achieved, fitness bits and bytes will have played their part alongside horse power. The prospects for this project look excellent.

With the help of a barcode scanner, each replacement of a part is recorded. Source: VW Motorsport

Contact: Ulrike Fuchs,
PSIPENTA Software Systems GmbH
Telephone: +49 30 2801-2029
Fax: +49 30 2801-1042
Email: ufuchs@psipenta.de
Internet: www.psipenta.de
User report: PSI\textsuperscript{penta} ERP system in action at Simon

Transparency at the press of a button

If capital is not working and is instead tied up in the warehouse, or if quick management decisions are made harder due to key figures not being up-to-date, then the company’s information technology is usually not up to the requirements. The machine builders at the Simon group of companies confronted this problem by introducing a new ERP system.

Aichhalden in the heart of the Black Forest, Germany, is the home of the Simon group of companies, which belongs to Indus Holding AG. The Simon group of companies includes the legally independent companies Karl Simon, BETEK Bergbau- und Hartmetalltechnik and SITEK-Spikes. Karl Simon in turn is divided into the sectors of fittings, sintering and electroplating. The company SIKU, which produces plastic injection moulded parts in the Swiss canton of Lucerne, also belongs to the group of companies. Simon has 450 employees and generated a turnover of over 130 million euro in 2009.

In 2008, the group’s IT consisted of a mixed environment with Basic Suite, a Windows portation by Nixdorf-COMET, combined with numerous MS Office files and island solutions. There was no adequate support for the production control system. “Back then we were only using a few tools, and even those were not in all parts of the business,” recalls Ralf Bernhardt, IT manager at the Simon Group. Matthias Buchholz, controlling manager, adds, “In the background was a mishmash of Excel and Access applications”; this did not exactly make the job any easier.

Core processes and multisite required

If you wanted to find out the status of a project, you had to contact several people. There was no up-to-date overview. The quality of data was on the poor side and evaluating it was painstaking and time-consuming, which meant that putting key figures together always took rather a long time. In addition, excess stocks built up in the warehouse, which included rarely used parts, thus tying up a lot of capital. Bernhardt and Buchholz both agree: "There was a great need for action" Goals were therefore formulated with management, and it was anticipated that these goals would be achieved using new ERP software. Right at the top of their

High acceptance for the new ERP system by the key users puts a seal on its success. Source: Simon
priorities was the ability of the new system to offer a multisite function, offering the possibility of centrally controlling and managing all the group’s companies. There was also a need to optimise warehouse stocks, shorten throughput times, support production control and data analysis, and make operations and data more transparent. The aim was to incorporate everything into a universal system without having to make multiple entries.

Core processes and multisite required

For the selection procedure, 56 core processes from the Simon Group were defined from the areas of organisation, controlling, sales, order processing, purchasing, materials management, job preparation and production. This catalogue of requirements went to a range of ERP providers. A team made up of management and key users selected three companies. These companies were then able to present their solutions at a two-day workshop. 20 key users then weighted the core processes in a special procedure and evaluated them one by one for each ERP system.

Motivated key users

The award was given to the ERP standard version of PSIPenta from the Berlin company PSIPENTA Software Systems GmbH. As reasons for the choice, Bernhardt cites the well-integrated control station, the excellent scalability from one-off to large scale production and the integrated analysis using cognos tools. "Above all, the effective mapping of the corporate group structure, with its many business relationships with individual companies, was an important aspect," adds Buchholz, mentioning functions such as central purchasing, subcontracting of subassemblies and processes as well as redistribution between factories.

After the evaluation in 2008, the introductory project started in February 2009 with a pilot project lasting until May, in which the business processes for all areas of the entire group were formulated. The online launch took place in June 2009. The key users were trained first, who then instructed the end users according to the PSIPENTA introductory concept. IT manager Bernhardt was quite sceptical at first, but he found that his key users were highly motivated, and he realised that the instructions given to the end users were much more specific because all those involved were right at home with the processes. "In the end I was fully convinced by the PSI concept," says the IT boss happily.

Rapid concrete benefits

The concrete benefits became apparent soon after introducing the new ERP system. For example, the maintenance module is already planning preventive maintenance work. Stored maintenance
schedules use service lives or intervals to control service work, the placing of orders in case of failures and the procurement and administration of spare parts. Parts lists can be filed for the spare parts, so there are no more Excel lists tucked away in drawers. The whole maintenance system is therefore set out transparently and there are cost savings.

What is also remarkable is invoice checking using the so-called iCenter module. It converts scanned invoices into a digital format and compares them with existing supplier and order details in PSIpenta. When a match is found, it transfers the invoice straight to the financial accounting system, where payment approvals are controlled by workflow. The manual workload is thereby considerably reduced and errors, which always happen with manual entries, are also eliminated; the data quality also improves.

A true success story

Besides faster throughput times, transparency at the press of a button is also created in production: data that used to take several people to compile is now available on request in a comprehensive, reliable and up-to-date manner. For example, the plant data collection system provides an exact allocation of employees to the individual orders. The status of an order or project can also be shown updated to the latest minute. In addition, the optimisation of warehouse stocks has led to a tangibly lower capital commitment. Just the standard version of the ERP system covered a good 90% of requirements in most areas. Only extremely specialist sectors like the electroplating division required a somewhat more extensive level of customisation. Bernhardt praises the software provider for this advantage and credits it with having implemented the Simon-specific adaptations well and providing impeccable support through the PSI advisors. All these new developments do not merely bring time and hence capacity benefits; costs and the potential for errors have also gone down. The quality of data has increased and the fact that it is transparent and up to date enables the management to make quick and flexible decisions. “The introduction of PSIpenta is thus a real success story,” concludes Bernhardt.

The integrated plant data collection featured in the new system now precisely allocates every employee to the individual orders.

Source: Simon

Ralf Bernhardt
IT manager at Simon

“In the end I was fully convinced by the PSI concept.”

Information

Contact: Ulrike Fuchs,
PSIPENTA Software Systems GmbH
Telephone: +49 30 2801-2029
Fax: +49 30 2801-1042
Email: ufuchs@psipenta.de
Internet: www.psipenta.de
Solution: New release of the planning and control system PSIglobal

Key figures for globally successful logistics networks

The new release of PSIglobal, featuring new optimisation algorithms, scenario technology and sensitivity analysis, offers efficient functions for data-based decision-making, determining reliable, sustainable key figures and for further automation with regard to the continuous collection and evaluation of strategically important data.

Intelligent growth: Using new analysis and optimisation functions, PSIglobal now offers users even more ways of increasing the efficiency of their businesses. As premium software with product character, the integral planning and control system, PSIglobal by PSI Logistics, is being continually developed. On the latest release, the collation of operational data for upper management can now be used for more than just determining and showing key figures to reveal targeted savings potential. More than that, new scenario technology functions enable logistics and production costs to be directly contrasted with one another, offset and alternative options in scenarios to be compared. When it comes to the sustainability of solutions, multimodal viewpoint options and the selective inclusion of ecological aspects within the flow of goods provide the user with a variety of instruments.

Well-founded decision-making

The new functions thus offer an added level of automation when it comes to the continuous collection and evaluation of strategically important data. This results in well-founded decision-making processes, for example as regards moving sites to new locations. Is it worth making a change if the production costs at the new site are lower, yet the transport costs are higher? PSIglobal provides the answers. Based on key figures determined using the new analysis functions, scenarios can be developed step by step, for example, and the results including the basic settings can be saved. Complex process chains, such as for optimising service levels, can be quickly and easily planned, checked, calculated and, if necessary, corrected in this way by taking into account opposing factors such as transport and storage costs. In short, service providers are able to put together precisely tailored offers with PSIglobal...
based on customer data. At the same time, a sensitivity analysis can be used to accurately determine what effects the volume of a potential customer will generate in the (company's own) logistics network and how the network will react under different conditions. Shippers can use the solution to generate the structures and bases of tenders, to check their own price ideas in terms of feasibility, and to check quotations objectively to ensure quality.

Ecological responsibility

The same applies to the fundamental aspects of ecologically based green logistics: depending on volume flows, locations and distribution targets, with the help of PSglobal, network improvements and restructuring procedures can be planned, checked and ultimately implemented based on various multimodal transport networks according to the most favourable configurations. The solution thereby enables logistics firms to uphold their ecological responsibility without ignoring economic sense; reducing CO2 emissions whilst increasing the efficiency of the company.

Strategic planning

This is why PSglobal is now being used by high-profile users in the food industry, contract logistics and consultancy, among other sectors. They use the strategic IT system to optimise both their own logistics networks and those of their customers.

As an example, one of the world’s leading trading companies has now optimised its global supply chain with PSglobal as regards the warehouse locations and the products to be kept there. The company has also coordinated transport for procurement and distribution and redesigned the logistics network. At the same time, the planning and control software was used to test the network for its stability in case of volume fluctuations. Operational key figures for acceptable fluctuation ranges were derived and stored in the system. In the event of deviations from the key figures since determined, scenarios were stored that enabled an immediate reaction with appropriate adjustments.

Key figures for intelligent growth

The forecast and delivery generator, which provides users with the latest upgrade, is a very special feature. This new function allows you (based on theoretical assumptions) to work out realistic planning details, for example, relating to a defined percentage change in the delivery volume or the number of customers. Depending on the user’s objectives and demands, key figures can then be generated, for example to optimise stocks in the warehouse or to considerably reduce the risks when opening up new markets. The result: intelligent growth.

The multiple benefits that PSglobal offers its users with the new functions of the current upgrade are clear to see from the examples supplied; the premium strategic software once again underlines its prominent position in the world of logistics IT. Moreover, actual user examples prove that the effects achieved in the area of network optimisation lead to the shortest of payback periods; as a rule, both the direct use of the planning and control software and consultancy projects based on PSglobal pay for themselves in less than one year. The IT system thus gives shippers and logistics service providers an efficient instrument for planning and securing their future sustainability.

PSglobal is an efficient instrument for planning and securing future sustainability. 

Source: About Pixel

Information

Contact: Dr. Giovanni Prestifilippo,
Logistical networks division manager
PSI Logistics GmbH, Dortmund, Germany
Telephone: +49 231 17633-270
Fax: + 49 231 17633-101
Email: g.prestitifilippo@psilogistics.com
Internet: www.psilogistics.com
Solution: PSImetals in action

The advantages of simultaneous assignation and scheduling of a Hot Strip Mill

The line scheduling for a Hot Strip Mill and the assignment of the requested materials are typically run in two separate business processes. By assigning and scheduling of slabs in the same run, the size of the schedules can be significantly increased and the existing amount of slabs in the yard can be maximally utilized. The advantages of this method provided within the PSImetals Planning solution are particularly clear when the effort to reduce the stocks are important or in the case of hot and direct charging.

Improved line utilization through longer schedules

The goal of longer rolling schedules goes hand in hand with the desire for improved line utilization and optimal inventory assignment. Longer but fewer rolling sequences substantially reduce the required setup effort. The number of orders available to the sequence planning process has a direct relationship to the length of the rolling schedule. An increase of the available orders by 30% leads to schedule options with length increased by up to 30% (see figure 1). It is therefore the goal to increase the number of orders available to scheduling, without stocking additional inventory.

Unemployed Potential

One way is the assignation of slabs to coil orders during scheduling. With the aim of a maximized assignation to coil orders all existing slabs will be assigned always considering the specified restrictions. Simultaneously scheduling and assigning slabs to coil orders does not increase the size of the slab yard but can increase the number of orders available for scheduling and thus enlarge the size of the rolling schedules. Our analysis for
A Belgian steel producer shows that this potential exists (see figure 2). For various slab yard sizes PSI analyses the relation between the amounts of assignable orders compared to the number of assigned orders. The smaller the slab yard is the bigger the ratio of assignable orders was and therefore the optimization potential to create larger schedules for hot rolling.

**Increased line schedules from one day to the next**

A business case: For a Belgian steel producer PSI implemented a PSImetals Planning solution that assigns slabs to coil orders simultaneously with the generation of the rough scheduling of the hot strip mill for next 3 production days. In a first stage the schedules were not used for production, they only used the induced assignation of slabs to coil orders. From this assignation the schedulers built their schedule the usual way. During this first phase of the project, only the new slab assignment procedure was validated, the schedule length was not a first business objective. Surprisingly, the size of the schedules increased by about 20% from one day to the next.

**Higher benefit through a flexible slab assignment**

There is more than one way to assign slabs to coil orders for hot rolling. The utilization of various degrees of freedom whether it can be the final thickness of a coil or capabilities for width reduction up to mechanical restrictions in hot rolling, all of them can be of particular importance. More and more steel plant take advantage of these degree of freedom to standardize they slab yard and cover most of their coil order demand with a very limited number of slab specifications. Indeed standardized slab yard are more and more popular because increase the assignment flexibility by the choice of slab design that maximize the amount of coil orders that they fit by choosing the right width, length and chemical composition to do so. Indeed standardized slab yard are more and more popular because increase the assignment flexibility by the choice of slab design that maximize the amount of coil orders that they fit by choosing the right width, length and chemical composition to do so.

Find out more at the next meeting of the PSImetals user group on November 30th and December 1st, 2010 in Krefeld, Germany.

**Comparison of the assignable orders (red) with the orders tied up ahead of schedule (green) by size of the slab yard (x-axis). In the smaller slab yard (10,000 t), the number of assignable orders is 90% higher than the number of orders tied up ahead of schedule; in bigger slab yards (75,000 t), the number of assignable orders is still 25% higher than those tied up in advance.**

*Source: PSI Metals*
Interview: Dr. Andrew Zoryk regarding the cooperation between SAP and PSI Metals

A complete and unrivalled solution for Primary Metals

PSI has already had a long-term partnership with SAP for more than eight years in the field of Primary Metals. They already have a strong base of common customers, including the likes of ArcelorMittal, ThyssenKrupp and voestalpine, and more recently NLMK in Russia. With the new work focusing on a solution template for long steel products production SAP and PSI are intensifying their partnership.

What is the background to why SAP is collaborating with PSI?

Zoryk: On one side, SAP is a major player in the metals industry through its ERP and other applications, which includes of course SAP SCM and its APO - Advanced Planning and Optimisation - solutions. On the other side, PSI is a recognized market leader in delivering solutions for production line scheduling and manufacturing execution systems with its PSTmetals 5. By intensifying our partnership together, we believe that we are able to offer customers a complete and unrivalled solution to their planning, scheduling and manufacturing requirements. Our joint solution will provide a lot of value to our customers, by providing a standardized, best-in-class approach to this key challenge for the steel industry.

What makes the partnership between SAP and PSI so strong?

Zoryk: PSI was a key partner in the development a few years ago of our SAP Best Practices for Primary Metals, which was an important enabler for us to show the steel industry that SAP can support their business processes, and to show the power of strong integration between PSTmetals 5 and SAP solutions. The best practices that we developed were mainly focused on flat steel production and the learning that we made is providing a solid foundation for our new initiative together.

What are you currently focusing on regarding your cooperation?

Zoryk: The current work that we are doing is focusing on building a solution template for long steel products production and the specifics and challenges that need to be addressed. In addition, intensifying our partnership is helping to ensure that future solution developments conform with the relevant technology standards of both companies. So, for example, that interface between PSTmetals 5 and SAP solutions are certified and future proof – eliminating risk for our customers.

What are the plans for the future?

Zoryk: Well, we are already working on some joint customer projects, for example in Germany and Russia, which we hope will become showcases for what we are doing. Our next steps will include expanding the scope of the new solution template to include flat products, and also to extend it to cover non-ferrous metals production.

Additionally, for example, PSI have already start to develop a new PSTmetals Cockpit for providing shopfloor and line sequencing visibility using our SAP MII – Manufacturing Integration & Intelligence – application as the basis. This will provide customers great additional value. I think that what we can jointly offer the market is a true synergy of best-in-class solutions, which will enable customers to drive manufacturing excellence in their steel and metals production plants.

Dr. Andrew Zoryk
Industry Director Mill & Mining, SAP

"I think that what we can jointly offer the market is a true synergy of best-in-class solutions."
Event: PSI Logistics gets involved in Hamburg school project

Successful packaging

PSI Logistics GmbH is supporting a school project as part of the "Science and technology" initiative. 20 students received an insight into the benefits of logistic software support and worked out an actual scenario on their own to optimise the despatch of certain packages.

At the start of July, around 20 senior-grade students from Hamburg-Rahlstedt College in Germany presented their proposals on the subject of packing optimisation at the Hamburg headquarters of PSI Logistics. This project resulted from the commitment of PSI Logistics to work in partnership with schools – offering advice relating to personnel, financial and professional matters as part of the "Science and Technology" initiative. The aim of the initiative is to get up-and-coming scientists and engineers in Hamburg's senior classes interested in the subjects of Chemistry, Information Technology, Mathematics and Physics – and in a subsequent course in Engineering. "Putting technology into practice and exploring real-life applications make science classes more attractive," explains Martin Toepfer, director of product development, technology and procedures at PSI Logistics and the manager of this project on the part of the company. "That is why we took part in the initiative, set the task about packing optimisation together with the teachers and passed it onto the students."

The event was a tremendous success. Together with Wolfgang Albrecht, managing director of PSI Logistics, the school group visited a logistics centre run by Kühne & Nagel for the aircraft manufacturer Airbus. The group found out about the potential savings that can be achieved by making optimal use of transport capacities: less waste in terms of space, reduced transport volumes, less environmental impact and lower transport costs. The task for the students was then to work out the best possible solution for preparing defined material parts for despatch in a carton.

In six groups, the students pursued their goal for half a year as part of Maths and Physics lessons (general problems) and Information Technology (drawing up algorithms and linking databases). The solutions that emerged were professionally presented by the students using realistic examples. A panel made up of two teachers, Martin Toepfer and Wolfgang Albrecht, awarded the most outstanding solution with a prize of theatre vouchers worth 200 euro. "Overall, we were pleasantly surprised by the good quality of the results," summarises project manager Toepfer. "The project was well received on all sides. The teachers were in favour of further collaboration, covering new areas in terms of content. The reactions of the students showed that we were able to bring them closer to the subject of technology and put across logistical problems to them. A successful cooperation project."

Contact: Anja Malzer, Head of Marketing, PSI Logistics GmbH, Hamburg, Germany
Telephone: +49 40 696958-15
Fax: +49 40 696958-90
Email: a.malzer@psilogistics.com
Internet: www.psilogistics.com
Event: Training courses about PSI metals

Successful start to PSI metals University

PSI Metals is continuing the familiar tradition of AIS University with PSI metals University. Both colleagues and customers are given training, through a number of events series, on subjects related to the range of solutions offered by PSI metals.

As reported in the last issue, PSI metals 5 combines the previous AIS Steelplanner and PSI metals solutions. So that customers can expand their knowledge of PSI metals 5 and get specific training in the additional functionality, PSI is continuing the tradition of the AIS University with PSI metals University. PSI metals University was started at the first corporate meeting of the PSI Metals Group in April in Berlin, with courses offered for all PSI Metals employees.

The training concept is based on the following three pillars:

- **Plan2Produce** offering training from stock optimisation and plant program planning through to cut optimisation etc.
- **Produce2Cash** with training on how to control production processes, including quality assurance
- **Move2Deliver** with courses for logistical optimisation of production.

Lünendonk list of medium-sized German standard software companies

**PSI AG ranked at no. three in the top ten**

In the ranking of the ten leading German medium-sized standard software companies compiled by Lünendonk GmbH, Kaufbeuren, PSI AG occupies third place.

The ranking by the consultancy firm, which has been issued for the fifth time, lists the ten highest grossing companies that meet the following criteria: they generate more than 60% of their turnover through standard software production, sales and maintenance; they are based in Germany; they turn over less than 500 million euro in total; and they do not belong to a corporate group. With a total turnover of 147 million euro, PSI is listed in third place, behind CompuGroup Holding AG, and Mensch und Maschine Software SE. PSI also belongs to the five companies that were able to increase their sales figures in 2009 compared to the previous year. The average increase in turnover among the top 10 is 0.5%.

**Information**

Contact: Annette Pöhl,
PSI Metals GmbH, Berlin, Germany
Telephone: +49 30 2801-1817
Fax: +49 30 2801-1020
Email: info@psimetals.de
Internet: www.psimetals.de

**Plan2Produce**
- Master Planning
- Inventory Optimisation
- Order Scheduling
- Line Scheduling Caster
- Line Scheduling CPM
- Line Scheduling HSM
- Plate Combination
- Coil Combination

**Produce2Cash**
- Order Dressing
- Production Melt Shop
- Quality Control Melt Shop
- Production Rolling Mills
- Quality Control Rolling Mills
- Copper Extraction
- Aluminium Casting

**Move2Deliver**
- SAP Integration
- Level 2 Integration
- Fundamental Logistic
- Optimisation Logistic
- Cockpit and PSIvisu
- Energy
- KPI

www.luenendonk.de
New orders increase

PSI Accelerates Growth in First Half of 2010

The PSI Group increased its EBITDA by 19 % to 5.8 million Euros and the EBIT by 6 % to 3.7 million Euros for the first six months of 2010.

The Group net result was, at 2.2 million Euros, below that of the previous year, as a result of the temporary effect of higher deferred taxes. Group sales increased by 18 % to 77.1 million Euros. The volume of new orders increased compared to the same period of last year by 9 % to 93 million Euros; the order backlog was, at 114 million Euros 4 % below that of the previous year, but did increase by 9 million Euros compared to 31 March 2010.

With the new acquisitions and targeted recruitment, the number of Group employees increased as of 30 June 2010 to 1,400.

Since the beginning of the year, PSI has registered a renewed demand for solutions for the energy markets as well as in the increasing of efficiency in heavy industry. In the coming quarters the management expects major contracts in the Gulf region and continued growth stimuli in Germany and Europe through the development of European super grids and the intelligent energy consumption control through smart grids.

In view of these circumstances, PSI is affirming the annual target of 160 million Euros in sales and at least 10 million Euros for the EBIT.