

PRODUCTION manager

Magazine for logistics & production



ERP-Trends 2022

Sustainable and digital towards the future

7 ERP Trends for 2022

Interview

Insights into the successful cooperation between ASAŞ Alüminyum and PSI Metals
Optimizing Production with IT!

Product report

Integration of the Qualicision service in interaction with the ERP system PSIpenta
Supplier Evaluation Powered by Qualicision AI

Product report

Intelligent and proactive route planning with Smart Routing Services
Driver Knowledge Included!

EDITORIAL

Dear readers,

How can we bring economic success and prosperity into harmony with sustainability and the conservation of resources? We have to find solutions to this challenge—for ourselves and for the generations to come. A new mindset is undoubtedly required in certain areas and many old habits must be abandoned. At the same time, we already possess numerous digital solutions that can accomplish both, but where the potential is far from exhausted.

Our ERP and MES solution PSIpenta, for example, not only supports the urgently required integration of value chains, but also makes a significant contribution to sustainable economic activity. Workflow technology allows companies to flexibly model processes



and network across application boundaries. This allows them to react quickly to changing requirements without incurring additional costs. Configuring instead of programming—this is the recipe for success!

Purchasing B2B products must be just as easy as configuring processes in the future. The PSI Group is address-

ing this development with its own Industrial App Store. This online marketplace, which will continue to grow gradually, will allow you to explore, try out, purchase and upgrade PSI software products and services worldwide.

Integration of value chains, digitalization and sustainability: these are without doubt, our top 3 subjects for the year. This is why the articles in the first issue of Production manager 2022 each focus on at least one of these three aspects.

I hope you enjoy reading

Dr. Herbert Hadler
Managing Director
PSI Automotive & Industry GmbH



You can also read the Production manager online:
www.psi.de/en/psi-pressevents/customer-magazines/

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ERP-Trends 2022

Sustainable and digital towards the future

7 ERP Trends for 2022

How do we move beyond the dilemma of economic growth versus disrupted supply chains? As much as the yearning for simple answers and solutions are high, there is not just one answer for this multi-layered topic, which involves organization, people and technology. What is clear is that the systems supporting the value-creating processes must be fit for the challenges of the future. The objective must be to create value with modern technologies.

The systems in place today already yield a large amount of valuable data, from machine and/or process data, log files and reporting protocols, to customer and purchasing transactions and material requests and booking information, to deadline confirmations.

1. Predictive analytics: Forward-looking analysis in time bites

In place of downstream post-mortem analyses, real-time warning systems are required that indicate deviations in the processes and supply chains as early as possible and almost in real time. This is only possible by monitor-

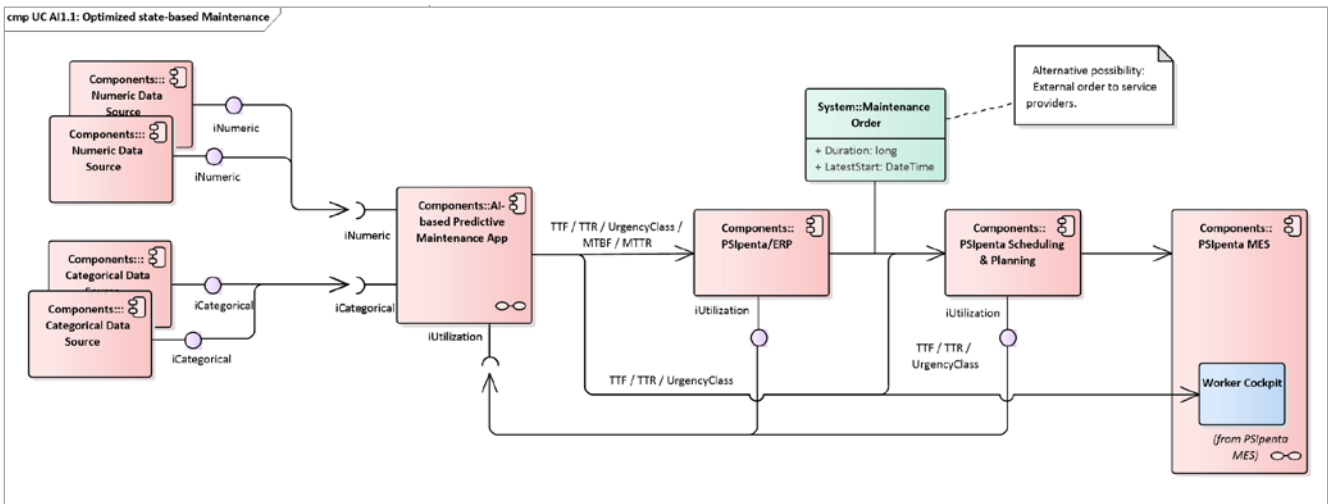
ing a selected time window exclusively (stream). This is determined by the characteristics of the monitored processes, following the simple formula: the longer the process, the longer the required time window, or the shorter—i.e. higher frequency—a process, the shorter the required time window. AI-supported algorithms are suitable, by way of example, to predict disruptions, consumption, requirements and inventories or to forecast the status of a production system. Yet because the predictions derived tend to become less accurate over time, the models used need to be continuously checked. This phenomenon is called “concept drift” and emerges, among other

things, because no complete data inventory is examined, but rather only a part of it (a time window). The rule of thumb here is: the more dynamic the conditions, the more frequently the adjustment must take place.

2. Integration Hub: standardization of interfaces and platforms

New data-driven business models only become possible when the necessary information is available. A good starting point is a modern ERP system as a central software platform (integration hub). This goes hand in hand with a massively increased integration capability among all components, allowing IoT devices, cloud services and local applications to be connected with each other in the simplest possible way.

The same applies to business partners in the supply chain: they too must be integrated as closely as possible into the company's own processes in the



System architecture for implementing the “Optimized condition-based maintenance” application case.

future. In turn, this may sometimes mean integrating oneself into an external supply chain. Old methods such as point-to-point connections or the nightly synchronization of databases can no longer withstand these demands. Consequently, the goal is to build an ecosystem of easily integrated services.

3. Software Defined Manufacturing: decentralization of the ERP and MES components

In connection with platforms and standardized interfaces in a service-oriented software environment, a decentralization of the systems and

technology also poses special challenges, especially with regard to the timing of applications. These are sometimes subject to different strict guidelines with regard to response times and deterministic behavior. In particular, MES components take the front seat here. Companies have to succeed in linking IT with OT (operational technology)—and do so under the most stringent security requirements.

4. Green IT and sustainability: a new mindset is called for

Production planning and its manufacturing execution in particular can

count, optimizing sequences and making the best possible use of resources. The maintenance status of a production plant is also closely linked to resource conservation and has an immense influence on the quality of the products. Rejects and reworking can be greatly reduced based on an optimized maintenance strategy. This is the context in which predictive maintenance strategies come into increasing use. They ensure the optimum operating condition and consequently a high product quality. Furthermore, they result—as a positive side effect, so to speak—in a largely incident-free production process.

One thing is for sure: Instead of large, resource-guzzling applications, focused applications are one way to achieve higher energy efficiency.

5. Customer-in-the-Loop: digitalization of sales and service processes

There is a rapid spread of e-commerce solutions for the sale of standardized components on the market. The term CPQ (Configure—Price—Quote) was coined in this context a long time ago. ERP systems provide sophisticated solutions for product con-

Interfaces that can be flexibly configured and automated processes based on a high-performance middleware are the key to success.

Karl Tröger
Business Development Automotive & Industry GmbH

a breakdown into individual components seem to make sense. Implementation presupposes a production system that is constantly capable of change. Networking with production

play a major role in increasing sustainability. For instance, by using integrated, advanced algorithms to determine quantities and deadlines, also taking environmental aspects into ac-

figuration. Purchasers are able to configure complex components or even machines via a shop and promptly receive a binding offer from the respective manufacturer. Variant management in its entirety may be regarded as a bridge between the company's own production and customer requirements. The convenience of ordering goods or services online, as is familiar from B2C business, is finding its way into the world of B2B—along with the intensification of the customer-in-the-loop principle.

New business models that are tailored to IoT applications extend the arm of the service department all the way to the customer. There is already a lot of talk here about Remote Maintenance 4.0.

6. Workflow Driven Manufacturing: Independently configuring processes in ERP and MES

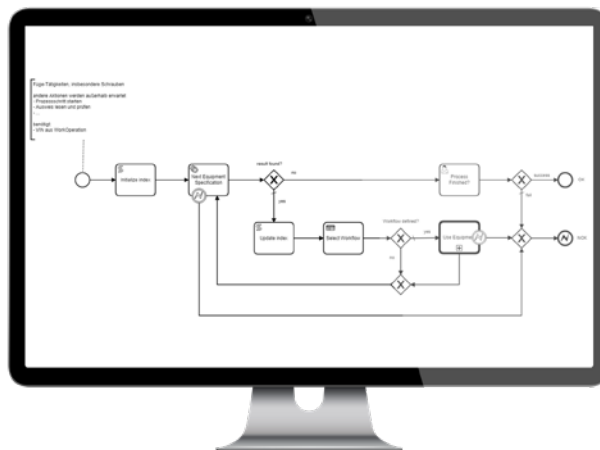
The constant capability of production systems to change results in continuous changes

to the processes in production. This affects, for example, the parameterization of the systems or the connectivity within the overall system.

The use of standardized notations such as BPMN 2.0 for describing processes is now practically feasible. The control of essential processes through workflows is a fundamental basic principle of the future. It means that there is a possibility to design and flexibly change workflows without customizing the software systems themselves. This technology shall gradually find its way into MES and ERP.

7. E-invoicing: ability to respond to regulatory changes at short notice

A factor not to be underestimated in the operation of global supply chains is the invoicing of deliveries and services as well as the consideration of tax requirements and technical prerequisites. As a consequence of global supply chains, tax requirements and technical prerequisites, the use of electronic invoice formats are becoming more and more common. There is a differentiation made between purely machine-readable structured (EDI, EAN-COM, VDA), hybrid machine- and



The process modeled in BPMN 2.0 is extended to include the recording of the arrival time of the material in front of the workstation.


human-readable (ZUGFeRD) and exclusively human-readable (PDF).

The creation of invoices to the state (B2G—Business-To-Government) is only possible in many countries electronically. Furthermore, there are an increasing number of regulatory requirements for the creation and processing of invoices in the B2B sector. These include the invoices themselves, as well as the underlying (reporting) processes to tax authorities and other state agencies.

The processing of invoices in ERP systems has to meet these requirements.

This can either be achieved in the ERP system itself or with the support of cloud-based platforms. There are also some manufacturers that specialize in these processes and provide a wide range of services in terms of supported countries with their formats, reporting and processes. These services make an ERP system suitable for the global market.

Epilogue

Numerous issues associated with digitization, value creation, optimization and internationalization will determine the next and subsequent years. Some of these already date back to previous years and have not lost any of their validity. The implementation and consequently the modernization of the IT structures required to achieve this are far from being completed. ERP and MES solutions play an essential role in this and must continue to be modeled on the path already embarked upon. What is clear is which three aspects will also be in focus in 2022: Requirements for integrating value chains, digitalization and sustainability aspects. Figure 2: The process modeled in BPMN 2.0 is extended to include the recording of the arrival time for material in front of the workstation. 

You can also read the detailed article in our blog (only in German).



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Interview: Insights into the successful cooperation between ASAŞ Alüminyum and PSI Metals

Optimizing Production with IT!

Since PSI Metals was founded, the business has changed dramatically. Back then like today, people—customers and employees—made the company what it is. In his LinkedIn interview series “Detlef keeps people from working” PSI Metals Director of Business Development Detlef Schmitz introduces some of them to you! In the latest interview, he talked to Alpay Ekşi, Plant Director at ASAŞ Alüminyum in Turkey, who has worked in production planning area for many years. He was a project manager for PSI Metals implementation, then became an operations manager, and also enjoys living in a three-generation home.

Alpay, I have always wanted to ask you whether it is true that you used to walk through the plant to capture the status of the production orders?

Yes, a long time ago. When I started working in the planning department, we spent almost half a day walking through the plant to verify the status of production. We needed this information for production planning. Today, we see the status of the entire plant and production orders in a second.

Let's start from the beginning. Tell me about your roots?

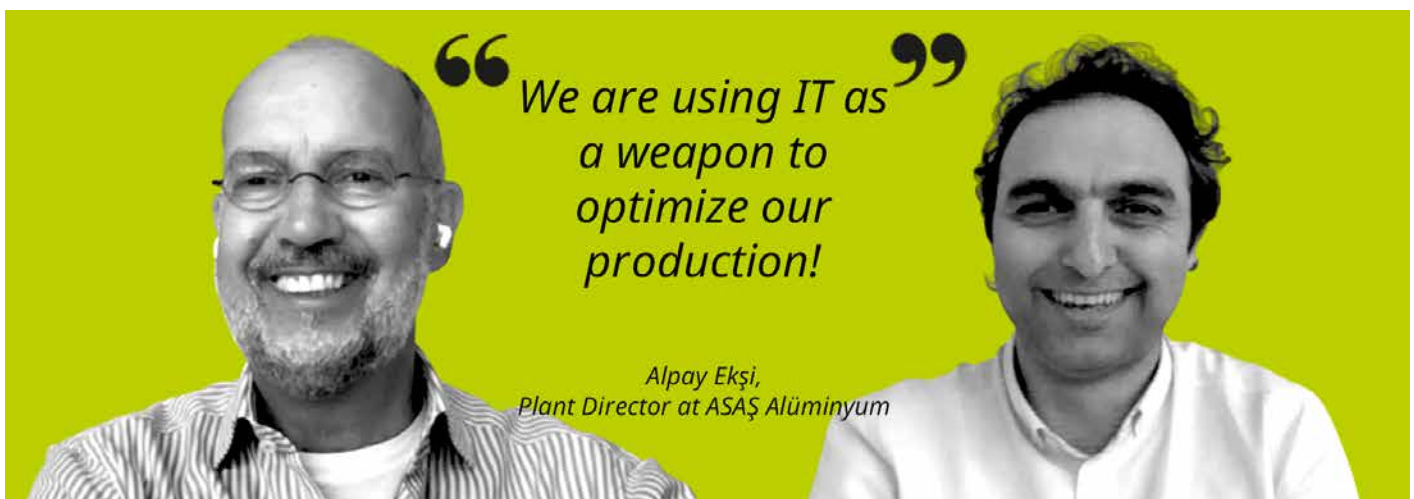
My family comes from the northeast of Turkey, on the Black Sea. Many of them still live in this beautiful area. However, I was born in Istanbul. I studied Industrial Engineering at Yıldız Teknik University. I quit my first job after 20 days because I got the chance to work as a management trainee at an aluminum company and could do my MBA at Istanbul Teknik University in parallel. I started in “Process Development” and worked as a Resource Planning Senior Manager for many years.

And this is when you first came into contact with PSI?

Yes, while working at another company, a PSI manager from Berlin with Turkish roots visited me. We discussed how we could optimize production with IT, but could not act on it. When I transferred to ASAŞ and we were making plans for a new plant, the PSI fellow contacted me again. We used the second attempt to realize our dream of an integrated aluminum production management system.

How would you describe ASAŞ?

Founded in Gebze in 1990, ASAŞ is one of the most remarkable industrial enterprises in Turkey with 2500 employees and exports to over 90 countries. ASAŞ provides services for its clients through its Aluminium Extrusion Profiles, Aluminium Composite Panel, Aluminium Flat Rolled Products, PVC Profile and Roller Shutter production facilities totaling a size of 923 000 m² area, of which 300 000 m² is enclosed, and located in Turkey. ASAŞ GmbH, being es-



Interview with Detlef Schmitz and Alpay Eki.

tablished in 2018 as sub-company of ASAS, serves as a logistics and service center with 72 793 m² closed area in neighboring Koblenz city of Neuwied, Germany.

I am very proud to have been part of the team that created a state-of-the-art production facility in Akyazi! We are using IT as a weapon to optimize our production. The name of our ongoing initiative—"DigitALL"—describes what we are working on.

Our family owned company also cares about the future of its employees. For example, I like the "Golden Baby for Each Family" initiative. Here, ASAS pays the test tube baby expenses of some employees who have not yet been able to become parents.

How is business during these unprecedented times with Covid-19?

Planning is a nightmare in today's Covid-plagued times. It is almost impossible to get long-term contracts with suppliers. It is a drama to order containers and transports. Good planning based on up-to-date information is more important than ever.

I am glad that we have a lean production approach with PSImetals.

How was your journey from project manager for PSImetals to plant director?

I was supply chain senior manager during the project phase. Therefore, I took a role in all processes from raw material to final products. The success of our MES project was based on the leadership of the process owners. IT mainly showed the way and provided the infrastructure. "Anything is possible—but not standard" was a running gag among PSI colleagues.

My role as project manager was to discuss the business processes with the production colleagues. There were many good ideas for optimization and we had to find a way to use the PSImetals standard to stay within the budget and get new releases.

Afterwards, I was familiar with all production steps and knew all colleagues quite well.

This Greenfield project was a challenge and a chance—both for ASAS and me.

You know PSI quite well. What should we continue and what should we improve?

The most important thing is to keep listening to your customers, understand their needs and develop your product PSImetals further. I like your Research & Development approach. Training and development of users and maintenance personnel is especially important to us. I hope the PSImetals Academy, which you are currently driving forward and developing further, will help us. 🌐

Would you like to read more interviews like this? Then feel free to follow us on LinkedIn and scan the QR code.



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Event: PSI Logistics with innovative developments at the LogiMAT 2022

Logistics Processes for More Climate Protection

This year's appearance at the LogiMAT trade fair in Stuttgart by PSI Logistics is marked by a large number of pioneering exhibition innovations for the planning and control of efficient logistics processes. From May 31st to June 2nd, 2022, the focus will be on an individually designable interface and, among other things, a preconfigured e-commerce solution of the warehouse management system PSIWms based on a best-practice approach.

The new PSI Smart Routing Services PSIsrs and extended optimization functions for greater climate protection and

to the trade public for the first time at the Stuttgart trade fair center in Hall 8, Booth D70. A completely cloud-based e-commerce solution of the proven PSIWms warehouse management system is one of the highlights. The system is designed to provide straightforward

nel. Furthermore, the preconfigured cloud solution offers returns workflows and work screens that have already been created. The industry solution for efficient e-commerce warehousing can be accessed immediately from the cloud, requires no additional programming efforts and facilitates short project run and implementation times. Customers can also benefit from cyclical upgrades.

Configurable work screens improve performance

As with the new PSIWms release, the e-commerce template is characterized by a new Graphical User Interface for convenient user interface customization and improved performance. This allows users to easily drag and drop menus, lists, tables or complex dialogs and effortlessly customize the user interface to meet their individual needs. The new work screens enhance performance with vivid designs and such features

as progress indicators. New icons and buttons provide clear information.



The PSI Logistics product range at a glance.

proactive risk management in the supply chain will also be presented (please also see the article on page 12). In addition, the Transport Control forklift control system will be on display as a comprehensive stand-alone solution. As a complete web application it offers a convenient introduction to the future web-based PSIWms. The numerous innovations and further developments will be presented

ward support for efficient warehousing processes and has already gone through industry-specific preconfiguration based on best-practice aspects.

Efficient e-commerce warehousing from the cloud

The complete best-practice package is designed specifically to address the processes and work requirements relevant to e-commerce and omnichan-

New developments for transport planning

The integrated Transport Control forklift control system in PSIWms efficiently organizes and controls internal transports with optimized routes. PSI is demonstrating a new development for the planning and control of intralogistics transport routes for the first time in Stuttgart with the Transport Control Service (TCS).



A retrospective of the LogiMAT stand of PSI Logistics in 2019.

The TCS forklift control system can be managed as a stand-alone solution and complete web application in any intralogistics infrastructure.

Its range of functions (including routing, schedules, etc.) ensures optimized productivity and resource planning for internal transports. In determining and assigning transport orders, the TCS takes into consideration not only the typing of the industrial vehicles and their specific properties, but also resources such as load carriers and their availabilities as well as movement zones in the warehouse.

The Smart Routing Services PSISrs will be presented for the first time as a further new development for the transport segment. The cloud-based service for intelligent, proactive planning and control of cross-company transport routes reduces costs and emissions while taking into ac-


count configurations specific to the customer.

Shaping the future with scenario technology

This also applies to the new functions of the software for intelligent supply chain network design PSIGlobal, designed to support comprehensive and proactive risk management in value networks. The software integrates data from different source systems and allows them to be linked to digital models of complex supply chains. This makes it possible to simulate developments, set up options for rapid response in the event of a crisis—and shape the future with the integrated scenario technology.

PSIGlobal also places the focus on decarbonization and optimized use of resources in the supply chain. An integrated emissions calculator supports

logistics companies in the creation of a green supply chain. This means that companies are able to automatically calculate the expected energy consumption during network and route planning while simultaneously identifying the resulting greenhouse gas emissions (CO₂ footprint) for each mode of transport used in accordance with the EU standard DIN EN 16258. All in all, it is possible to achieve an optimization and savings potential of 15 to 20 percent in route and network planning.

The exhibition presentation will be rounded off with innovations from PSI's ERP and MES software solutions for manufacturing companies. 

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Product report: Integration of the Qualicision Service in interaction with the ERP system PSIpenta

Supplier Evaluation Powered by Qualicision AI

As companies' procurement functions become increasingly important, systematic data-based evaluations of suppliers are becoming more and more important in industrial production, too. While in the past it was enough to compare a few quotes and award the contract mostly based on the lowest price, today suppliers' performance and capability are often extensively evaluated. PSIpenta's ERP supplier evaluation with its integrated AI-based Qualicision Service is used to identify the top performing suppliers based on multi-criteria decision support in accordance with ABC categories. The other suppliers are objectively evaluated and put forward for a comprehensible selection. This ensures that decisions are made fairly, objectively and efficiently based on the performance profile of each supplier.

ber of deliveries, order quantity, order value, total quantity deviation, total deadline deviation. Based on the decision and evaluation criteria configured in this way, additional integrated AI analysis functions are available with the AI-based Qualicision Service, enhancing the supplier evaluation of the ERP system with learning intelligence. Qualitative Labeling of business process data is the core of the AI analysis, which makes the eval-

One goal of supplier evaluation is the pre-selection of suppliers in a quality-preserving manner, thereby simplifying the subsequent award process by avoiding the need to enter into negotiations with all suppliers without losing decision-making quality. Simultaneously, the focus is on optimizing supplier relationships, meaning that the goods to be procured are optimized in terms of the individual company-specific characteristics.

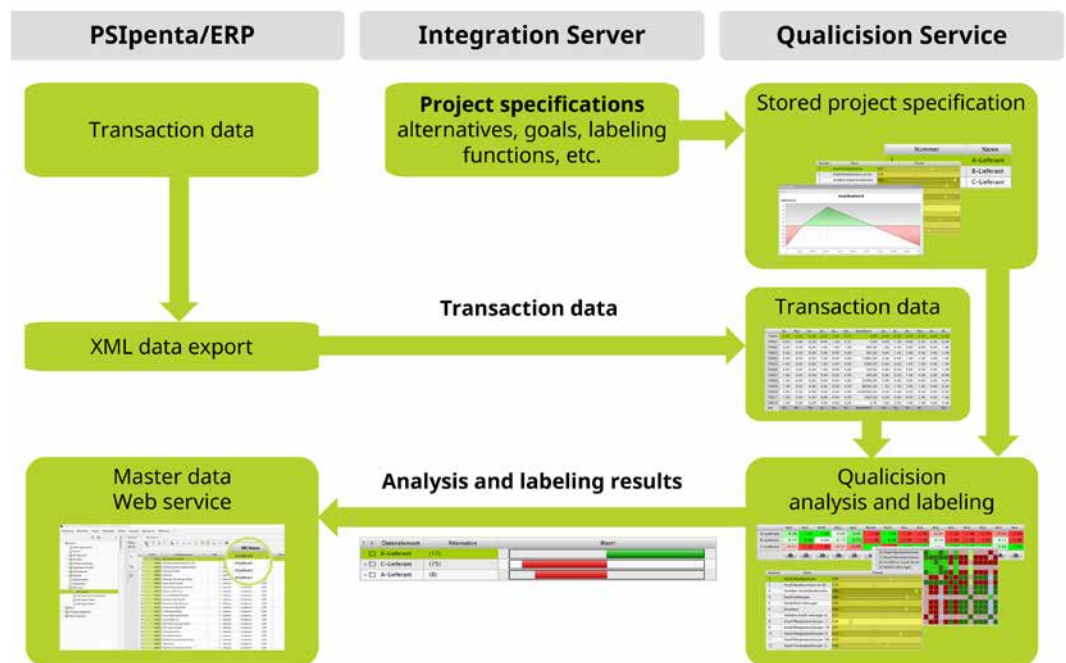


Figure 1: Qualicision Service Integration Procedure.

ABC Classification

A combination of supplier characteristics allows a statement regarding the overall performance. Suppliers can be classified accordingly in an objectified manner, using qualifying categories such as "preferred supplier", "supplier to be developed" and "prohibited supplier" or an ABC classification. The individual characteristics can be se-

lected differently in practice and adjusted, for example, by means of the desired level of detail such as the number of existing classes.

Another goal of supplier evaluation is performance-oriented criteria. The evaluation is carried out here by means of customer-specific adjustable evaluation characteristics, which are of importance for evaluating the supplier e.g., number of order items, num-

ber of deliveries, order quantity, order value, total quantity deviation, total deadline deviation. Based on the decision and evaluation criteria configured in this way, additional integrated AI analysis functions are available with the AI-based Qualicision Service, enhancing the supplier evaluation of the ERP system with learning intelligence. Qualitative Labeling of business process data is the core of the AI analysis, which makes the eval-

Process of supplier evaluation

Classification in accordance with the ABC systematics can be carried out by the user by means of a manual inspection of the annual purchasing

statistics of each individual supplier so that, for example, the following relevant questions can be answered and an evaluation made on the basis of these:

- What was purchased from the supplier in previous periods?
- What was not purchased?
- Is the order quantity rather high or rather low?
- How many order items were there within a period?
- What was the value of the order items?
- How were delivery dates adhered to?
- Did deliveries tend to arrive earlier or later and to what extent too early or too late?
- What is the overall impression based on the statistics, rather good or less good?
- What deviations are there in comparison to other suppliers?

These and other questions must be answered consistently for each supplier in the evaluation process.

With the aim of supporting the user in this process step and making the extremely time-consuming and complex individual activity more flexible and simpler, more comprehensible and easier to control, PSIpenta/ERP relies on the multi-criteria supplier evaluation and classification using the AI software Qualicision for analysis and labeling.

The previously described purchasing statistics function as transaction data in the supplier evaluation process. The purchasing statistics of the suppliers to be evaluated are selected via an XML data export and transferred to the integrated Qualicision Service either ad-hoc or via a sched-

uled task, which can be defined for a specific execution time, see Figure 1. The PSIpenta/Integration Server is the active interface software used to transfer the transaction data together with the alternatives, goals, labeling functions and preferences

in accordance with the ABC systematics, see Figure 2.

Conclusion

By integrating the AI-based, multi-criteria Qualicision Service into the supplier evaluation of the ERP system

LF-Nr.	Lieferantenname	FoNr.	ABC-Klasse	Rech.
1	35574 JM Osterreich GmbH	1	A-Lieferant	EUR
2	35485 ABC Kunststoff GmbH & Co. KG	1	A-Lieferant	EUR
3	36936 AbGehls Express Logistics GmbH	1	A-Lieferant	EUR
4	36074 Aeresmuth GmbH	1	A-Lieferant	EUR
5	33698 AG Pulver	1	A-Lieferant	EUR
6	35653 Alexander Schnellinger GmbH	1	A-Lieferant	EUR
7	35619 Alpen Gluehen GmbH	1	A-Lieferant	EUR
8	35673 Alpen Werkzeugtechnik GmbH	1	A-Lieferant	EUR
9	33973 Altmann Aluminium	1	A-Lieferant	EUR
10	35153 Altono PROFISHOP GmbH	1	A-Lieferant	EUR
11	34794 Alu Kaiser Stahl GmbH	1	A-Lieferant	EUR
12	35520 Aluminium AG Oberberg	1	A-Lieferant	EUR
13	36237 Aluminium Katy GmbH	1	A-Lieferant	EUR
14	33015 Amal Swiss GmbH	1	A-Lieferant	EUR
15	33722 Armin Stahlhandel GmbH	1	A-Lieferant	EUR
16	36163 Arturo Vidal, S.A.	1	A-Lieferant	EUR
17	35925 ASIS Phoenix Contact GmbH	1	C-Lieferant	EUR
18	35836 AST Systems GmbH	1	A-Lieferant	EUR
19	36071 AT Service GmbH	1	A-Lieferant	EUR
20	36043 Atlas Elchee GmbH	1	A-Lieferant	EUR
21	33862 ALFASS Austria Handels GmbH	1	A-Lieferant	EUR
22	36043 AVVA S.A.S.	1	A-Lieferant	EUR
23	36057 Bachbluete Produktions GmbH	1	A-Lieferant	EUR

Figure 2: PSIpenta/ERP—Suppliers according to ABC systematics in the master data.

from the project specifications to the Qualicision Service. The transaction data, which is made up of the purchasing statistics of the suppliers, is first labeled qualitatively and then evaluated with the goal conflict analysis in terms of KPI compatibility and goal conflicts, as well as classified in accordance with ABC systematics into the alternatives A-supplier, B-supplier as well as C-supplier.

The results of the Qualitative Labeling and the analysis are then made available again as supplier master data with the web service of the ERP system. Suppliers evaluated by Qualicision are clearly displayed in the master data in the supplier list in ac-

PSIpenta, complex supplier master data based on transaction data, such as purchasing statistics, are labeled qualitatively in terms of an ABC classification, evaluated and as a result are manageable and transparent even for non-AI experts. This enhances transparency as well as process quality, saves time in the daily procurement process and increases its quality by means of objectification. ☺

PSI FLS

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Product Report: Intelligent and proactive route planning with PSI Smart Routing Services

Driver Knowledge Included!

PSI Smart Routing Services (PSIrs), which have been specially designed to address the requirements of logistics and industry, facilitate intelligent and proactive route planning supported by experience-based algorithms and artificial intelligence (AI).

The cloud-based service will help to reduce time and cost pressures while cutting CO₂ emissions in the future. The complexity of the traffic network will also be taken into account as well as the skills

that is retained even when employees are ill or leave the company. Moreover, information networking means that new drivers and temporary staff are able to find their way around quickly and service the pick-up and

required for on-board navigation in real time to achieve an optimized route planning. The service also provides for route planning that takes place in the future. The data reveals how the selected route will look like with arrival times and transport time for tomorrow, next week, in three months or other dates in the future. As a result, the service thereby supports optimal route planning that



PSIrs for optimized tour and route planning.

and knowledge of the employees. The service therefore delivers highly precise routing results, considering customer-specific configurations.


Swarm intelligence from individual knowledge

The system integrates regional-specific knowledge of both drivers and dispatchers in daily route planning. All the relevant information, whether special permits or permitted shortcuts, is stored in the service and factored into every new route planning. This is how individual knowledge is turned into swarm intelligence—knowledge

drop-off points along the most favorable routes. Calculating the shortest and fastest routes and optimizing the use of vehicles helps to reduce fuel consumption and emissions. The immediate incorporation of unforeseen traffic obstacles into the automated calculation of the estimated time of arrival (ETA) also improves the quality of service when dealing with customers.

Costs and emissions reduced

PSIrs integrates all available origin and destination information, vehicle fleet data and all traffic information

minimizes the time required by conventional systems and reduces costs and emissions with intelligent functionalities. 

Scan the QR code to find out more about PSI Smart Routing Services.



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News: PSI Logistics and Metrilus agree on strategic cooperation

High Data Accuracy

PSI Logistics GmbH and the dimensioning equipment manufacturer Metrilus GmbH are cooperating on the integration of automated and 3D camera-based solutions for master data collection and freight dimensioning in logistics.

Metrilus uses modern technologies such as pattern recognition, computer vision, machine learning and AI applications to quickly provide high-quality logistics data. The focus of the collaboration is on simplified connectivity and direct data exchange between the warehouse management system PSIWms and the various dimensioning devices of the “MetriXFreight” product family from Metrilus. For this purpose, standardized interfaces are developed and integrated into the system logics.

Precise data for further process and optimization steps

The close integration of the Metrilus dimensioning and weight data with PSIWms optimizes the processes of master data maintenance, harmonization and updating as well as the operative processes in the warehouse, such as the creation of volume-optimized packing patterns by PSIWms. This is facilitated in particular by the high measurement speed of the Metrilus master data collection sta-

tions. Together with the direct connection to PSIWms, it ensures that the data of an item is available com-

pletely, immediately and with high accuracy for the further process and optimization steps. This is important for international shipments, for example, where the specification of dimensions is mandatory for customs clearance. Customers benefit from a reduced workload of the individual digitalization steps and further synergy effects.



Dashboard PSIWms Release 2021.

pletely, immediately and with high accuracy for the further process and optimization steps.

Reduced workload for international shipments and customs clearance

In outgoing goods, the data of a shipment can also be transferred by means of the MetriXFreight devices via stan-

Metrilus GmbH, based in Uttenreuth near Erlangen, focuses on applications in the logistics industry with its MetriXFreight technology. www.metrilus.de

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May 31st - June 2nd 2022
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Interview: Andreas Duve, Head of Platform Marketing and Partner Business

3 Principles and an Industrial App Store

Andreas Duve discusses the three principles of successful business development and the role of an industrial app store in his second interview with Production manager.

Mr. Duve, you joined PSI a little over a year ago in the midst of the lockdown. What has happened since then?

During the last few months, it was mainly technology that connected me with my new colleagues, not just in terms of content, but also in communicating with each other, such as in strategy workshops. There have been and still are some challenges to master, but many things have also become easier. One thing has become clear, however: a change in thinking was required!

Surely, the pandemic has inspired us to do a lot of things differently and to try new things. For instance the acceptance of digital technologies has significantly improved. This is something we notice in many conversations with our customers and partners. The resulting drive towards digitalization has opened up new sales channels, new markets and higher order volumes in Business-to-business.

What major challenges do you face today?

We all experience the constant need to adapt our own business to changing situations. The fulfilment of customer needs is at the center of our attention in this context, because our customers not only expect our software to constantly reflect new business cases or processes and to process the data

in ever shorter periods of time. No, it must also ensure that efficiency is increased on the basis of the latest tech-



Andreas Duve has been responsible for central product management at PSI since 2021, with a focus on the Group's own software platform and the App Store.

nological developments and that business sustainability is secured. Needless to say, this is done while maintaining the highest security standards.

It becomes clear that the most successful companies that have adapted quickly to new requirements have become innovators and shapers of the digital transformation. From this, Based on this, I can derive three principles for successful business development:

Principle 1: They satisfy the fundamental needs of their customers

Principle 2: They make things as easy as possible for their customers

Principle 3: They build a platform or are part of it

How do you derive these 3 principles for PSI and what role does the Industrial App Store play as an online marketplace?

If we look at the first principle, companies must identify and meet their customers' needs early on. I have learned from the product managers in the PSI business units that passion for our customers' industries and deep process knowledge is the foundation for our product management and finally our success.

With the second principle, the most important key to success is how easy and fast the procurement process is for the customer. Motivated by this idea to make it even easier for our customers and partners, we have developed an Industrial App Store based on our

own software platform. This is the online marketplace where customers and partners worldwide can discover, try out, buy or upgrade an initial range of PSI software products and services, within and across different industries. After a few clicks, the desired application is available for trial or unrestricted use. If desired, you can of course also book a free webinar for the first steps.

Just who else benefits from it and what further plans is PSI following?

The App Store also accommodates our partner companies who would like to take a look at a new upgrade in advance and try out the new functionalities. Together with our customers and partners, we have developed a Customer Journey to constantly gather experience and gradually expand the possibilities in the PSI App Store. After a successful test, our customers can purchase the application directly in the store and have it delivered to any desired environment, whether in the cloud or on-premise.

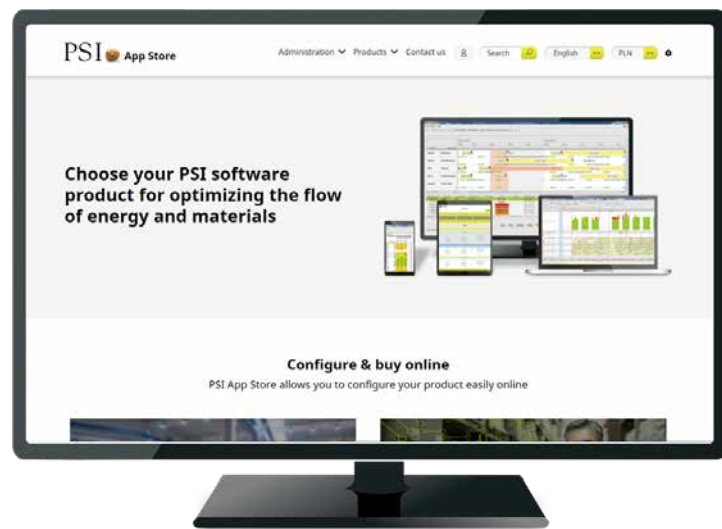
After the experience with various prototypes in a small group of customers, we opened the App Store to an expanded group of partners and customers at the beginning of 2022.

How do you aim to ensure the exchange of information between all parties involved in the process?

In order to further simplify collaboration and the exchange of knowledge in everyday business, we are planning to launch the Collaboration Platform at the beginning of the second quarter, which will be linked to the PSI App Store. Here we will not only provide concentrated knowledge on our

software products, but also additional functionalities that are important in the operative business and round off the service around our products.

This takes us to the explanation of the third principle. Why is this essential?



With just a few clicks getting to the desired application in the App Store.

Platforms are built on a common and interoperable technological infrastructure, are powered by data, and are characterized by the interaction of multiple stakeholders.


To overcome these challenges, we have developed an industrial application platform as a technology foundation for our global customers and partners to create a sustainable value for their business faster.

And, what tools do you offer for efficient and sustainable business development?

For this purpose, we have expanded the PSI software platform to include multicloud technology and an app store. With intuitive tools such as workflow management and PSI Click Design, we will offer customers and partners a mod-

ern Application-Platform-as-a-Service (APaaS) from any desired cloud environment in the future. For us, it's about delivering more than just software: We help our customers and partners realize the full efficiency and sustainability opportunities for their business and scale with innovation.

We believe that with our PSI world we bring together people, information, processes and technologies at the intersection to create a value network. This provides access to a broad range of software products and services across a wide variety of industries.

Many thanks for the very interesting insights and the outlook. 

Would you like to find out more? Please also read the article in the PSI blog.



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News: Smart Steel Technologies and PSI Metals enter into a strategic partnership

Seamless Integration of AI-Based Applications

PSI Metals has agreed on a far-reaching strategic partnership with the Berlin-based Smart Steel Technologies GmbH (SST) for AI-based applications utilized in the steel industry. Based on the profound industry expertise of companies, as well as the joint market and practical proximity, steel industry specific innovative software solutions are to be developed in the future.


As the world's leading software provider in production management, PSI Metals brings a strong customer base and decades of steel industry knowledge to the partnership. The SST offers intelligent AI-based software solutions for process optimization in steelworks, which can be seamlessly integrated into the existing PSImetals Service Platform.

The first offering of this partnership are three AI-based software solutions in the areas of product-to-order reallocation, slab and coil classification, as

well as liquid steel quality optimization, particularly temperature control. These new solutions will help steel companies to further improve production efficiency and the quality of modern steel products, to meet the highest market demands. Through this collaboration, applications are digitized in every phase of the steelmaking process—from liquid phase to strip finishing.

“Both companies are pursuing the goal of a smart, fully automated factory based on the technological achievements of digitization. The clear focus on the steel industry makes

SST the ideal partner on our journey to the above-mentioned goals”, explains Jörg Hackmann, Managing Director of PSI Metals.

“Our partnership was established to maximize efficiency gains and related cost savings in steel companies. It will help the steel industry to work even more effectively and with higher quality. The combination of the comprehensive production management know-how of PSI and the complementary AI expertise of SST raises obvious synergies for everyone involved,” summarizes Falk-Florian Henrich, founder & CEO of Smart Steel Technologies. 

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AI-based software solutions for the steel industry.

Product report: Forward Dressing for agile metals production

Flexibility and Precision

In the Production Management software PSImetals, the Order Dressing component “translates” the requirements of a customer order into a production order. As a result, the production route and material demands as well as quality and process specifications are defined. Production orders are generated “backwards”, i. e. starting from the intended finished product, thereby describing ideal production conditions. In the case that semi-finished material units are available for allocation, which exhibit deviating dimensions or process characteristics in comparison to the specifications of the production order, it is consequently not trivial to use these seamlessly for the production order generated “backwards”. PSImetals Release 5.22 solves this problem with the new “Forward Dressing” functionality.

Forward Dressing records relevant properties of the allocated deviating material unit, acquires the targets for the finished product and creates manufacturing specifications that are tailored to the material unit.

Precise material-based Production Order generation

In order to enable Forward Dressing, a production order (PO) is first

declared as a MasterPO. This continues to be the reference for the ERP and is used to manage demand and release. So-called “MatPOs” are generated for the allocated single material units with reference to the MasterPO.

Dealing with deviations

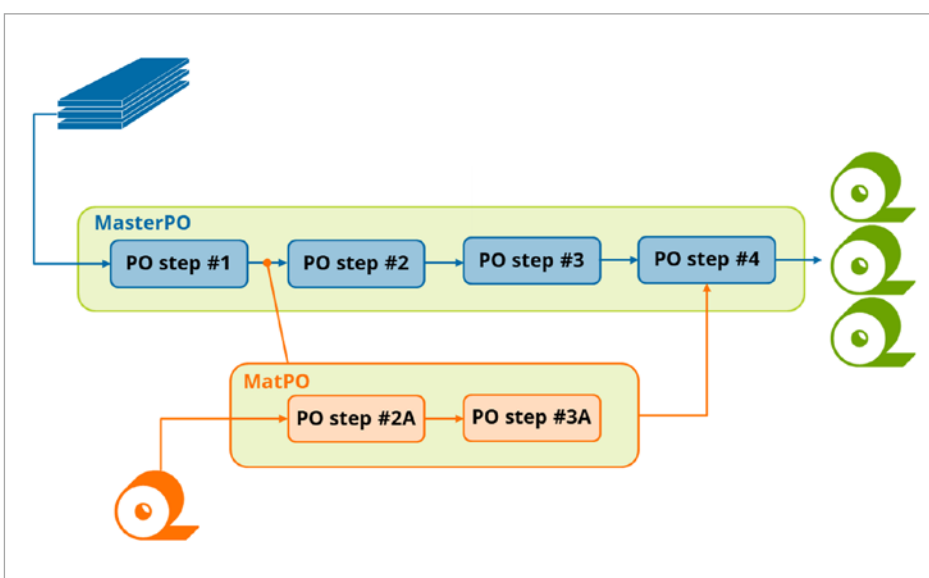
Forward Dressing is an effective tool for dealing with deviations of single material units from the “ideal” pro-

The Forward Dressing of MatPOs enables

- generation of a new production route;
- adjustment of dimensional requirements for each manufacturing step so that deviating geometries are considered;
- recalculation of weights;
- adjustment of quality and process specifications in order to meet quality and certification requirements.

MatPOs are also used additionally in planning for precise, unit-based line scheduling.

duction—for example, in the case of a diverse material stock. This can arise, for instance, when semi-finished products are purchased on the market without production orders being in place for them in advance. Flexible material allocation is the key to success with a diversified material stock. MatPO’s Forward Dressing takes into consideration the differences of the input material units. For instance, different slabs as well as hot-rolled coils can be used for the same purchase order of finished sheet. 🌀



Forward Dressing enables the technical elaboration of different semi-finished materials in the same order.

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News: LIST Technology AG Relies on ERP System PSIpenta

Flexible Coverage of Project Requirements

The Swiss LIST Technology AG has awarded the PSI Automotive & Industry GmbH with the implementation of the ERP system PSIpenta with the modules Multisite, Quality Management, Project Structures, Cost Accounting, Warehouse Management System as well as Shop-Floor Data Collection. In addition, supplementary solutions from PSI product partners will be used. PSI could prevail against well-known competitors.

Since LIST Technology designs and manufactures the plants customer-specifically, the new ERP system had to cover the necessary flexibility in the planning and implementation phase, taking into account the project requirements with growing parts lists. Furthermore, CAD integration and the mapping of automated business processes between the LIST Technology AG and the LIST Halbich AG were prerequisites.

Complementary solutions from Product partners

After a longer Corona-related decision-making phase, LIST Technology finally decided on the ERP standard system PSIpenta in version 9.3



LIST's single-shaft kneading reactors are successfully used in many industrial process applications.

for around 40 users. Additionally, the PSIpenta business intelligence solutions Smart Planning and Analytics, the document management system of the EASY SOFTWARE AG and the commercial enterprise software the eGecko of CSS AG for in-

ternational financial accounting are used in the project.

LIST Technology AG, headquartered in Arisdorf, Switzerland, is part of the Jakob Müller Group. LIST Technology is the world market leader for high-viscosity processes and develops and pro-

duces kneader reactors to optimize industrial processes. More information at: www.list-technology.com

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News: PSiwms controls logistics processes at EUROCOMMERCE

Software for E-Commerce

PSI Polska Sp. z o. o. has been commissioned by the transport company ECE Logistics SP. z o. o. Sp. k. with the implementation of the Warehouse Management System PSiwms for handling the logistics processes at the ECE's own brand EUROCOMMERCE.

In the preconfigured version, PSiwms offers an extensive range of functions covering all important e-commerce processes in the warehouse such as control of picking, processing of incoming, outgoing and return deliveries, real-time control of the warehouse stock and the processes for on-time order fulfillment. Furthermore, it provides the recognition of the various goods owners as well as the gathering of employee activities for payroll accounting.

PSI's Warehouse Management System is already being used successfully by the largest Polish logistics companies such as LPP, CCC and Empik. The preconfigured version allows a quick implementation of the system. This avoids time-consuming analyses in advance and significantly reduces costs.

The contract was signed at the end of 2021. The system is to be put into operation at ECE's contract logistics warehouse SEGRO Center Wrocław Awicenny in the spring. The next implementation phase will include the EUROCOMMERCE logistics center in Zielona Góra.



PSiwms controls processes in the logistics warehouse.

ECE Logistics, based in Zielona Góra Poland, is a transport company with a focus on express transport. The EUROCOMMERCE brand, which was created in 2017, manages the online stores and the pan-European shipping at the logistics center. <https://ecelelogistics.pl/en>

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The PSI blog features more interesting and in-depth articles on production, logistics, AI, energy and mobility.



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