

PRODUCTION manager

Magazine for logistics & production



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PSImetals put to use at ASAŞ ALÜMİNYUM

Managing Complex Production Right From the Start

It's incredibly exciting to build a plant from scratch, but it's also anything but easy—and that's exactly the challenge ASAŞ faced in 2014. In order to meet the challenges of increased production volumes, operational efficiency and customer satisfaction, the Turkish aluminum producer wanted to implement a state-of-the-art production management system at its new plant in Akyazı, Marmara region of Turkey. After hearing about PSImetals as a holistic solution for the metals industry, the decision was made to work and paint our joint future together.

ASAŞ was founded in 1990 and has five state-of-the-art production facilities with over 2600 employees. The company produces finished and semi-finished products to serve many sectors internationally such as construction, automotive, railway, commercial vehicles, energy, packaging, consumer products and maritime and exports its products to over 90 countries.

In parallel with the completion of the construction of the new plant, ASAŞ decided to work with PSI in 2014 and when the plant started production, the implementation of the PSImetals solution was still underway. The joint project was carried out in two phases: In phase 1, the PSImetals modules Production, Order Dressing, Quality and Logistics were implemented by 2017 and several new lines were added in phase 2 in the course of the next two years.

From Sales Order to a Production Order

A particularly special component of ASAŞ solution is PSImetals Order Dressing (OD). It enables the process of converting a sales order into a

production order, defining the production route and the material requirements (in terms of weights and dimensions) along with quality control activities to ensure that the required

quality specifications are achieved.

OD has a rule-based engine that merges customer requirements with production and quality practices. Due to the large number of possible attribute combinations in a customer order, it is mandatory to consider each ordered material individually. Based on the dimensions and the material properties required by the customer, OD's rule based engine performs the so-called "technical elaboration" and defines the operational steps from start to finish. Depending on specific customer requirements, OD can also generate a special route for a customer. OD takes the sales orders from SAP and gives feedback if the order cannot be produced due to technical lim-

itations. The production steps and routings generated by OD are transferred to planning. OD also interacts with Milltec—the Level 2 system of the Cold Rolling Mill. Based on the feedback it receives from the L2 system, OD can automatically update the routing. For example, based on the model updates, L2 system can



instruct different number of rolling passes to produce that specific quality and dimensions.

Production Free From Human Error

OD's database contains all master data necessary to define the production depending on the ordered product and its dimensions: grades, chemical compositions with tolerances, processes and operations, as well as all the necessary testing procedures such as testing frequency, sampling rules, tests to be performed and target ranges for the results. If these tasks were done manually, it would take hours or even days to generate the instructions for the large volume of incoming orders. Thanks



PSImetals UserGroup in Istanbul in 2018.

to OD, the task can be completed in seconds and free from possible human error.

Making the Users' Lives Easier With PSImetals

By using OD, ASAŞ enjoys many benefits: for example, it is now possible to generate standard and customer spe-

cific routings, flexibly define products and groupings, manage quality rules without the need for programming, and receiving automatic feedback when errors or infeasibilities are encountered.

Since the implementation of PSImetals, ASAŞ employees enjoy the facilitation of their daily work as hun-

dreds of production orders can now be generated in seconds and a centralized database of rules and values is viewable and adjustable at any time. Moreover, the system automatically blocks the out-of-tolerance production and thus increases the awareness of process control among the production and quality engineers.

“Paving the way for AI with more Big Data analytics!”

Interview with Alpay Ekşi, Plant Director at ASAŞ ALÜMİNYUM

ASAŞ has high quality products, state of the art manufacturing facilities, and a young, well-educated work force. How did you accomplish this?

Thank you for your observations. ASAŞ is a growth-oriented company that is eager to develop in every respect. Since the day of its founding, ASAŞ has followed a participative, innovative, reliable, environmentally friendly and people-oriented management approach. As you have noted, ASAŞ is a company that places particular emphasis on the development of its employees and constantly promotes their competence. In this re-

gard, visionary approaches have been implemented over the years. With the “ASAŞ is Mine” motto, we have put the vision into practice to create an empowered organization. In doing so, we rely on the participation of all employees.

What are the KPIs you are measuring and managing?

With our KPIs, we track production, quality and efficiencies such as OTIF (on time in full), delivery lead time, OEE (overall equipment effectiveness), shipments and so on. Especially with PSI, we have a fully integrated solution to identify and visualize our



Alpay Ekşi, Plant Manager.

key efficiency measures. We use PSI's KPI Monitoring module to track our

production and quality related metrics. We closely monitor the OEE values of our production lines and make them available to key people throughout the company.

What are your biggest challenges in the quest for operational excellence?

If you work in a company that wants to generate value, you have to think about how to do this better every day. With this understanding, we emphasize the use of Industry 4.0 tools and techniques to deliver the targeted high-quality products. Because of the intelligent systems we have developed, potential problems can be identified before they arise, allowing us to meet specific customer needs.

What are the key strengths of the PSImetals solution that help you manage this complex operation, meeting customer quality requirements and due dates, etc.?

Many factors influence the quality of the production. When an order is received, production processes from casting to shipping are generated by PSI's rule based Order Dressing system based on more than 150 parameters. Production management is then carried out taking into account the production data received from the shop floor.

Also the quality management systems that we use to manage production processes according to customer-specific requirements provide us significant support. Target/actual comparison, statistical process control, Order Dressing module and rule based quality management system of PSI help us manage this complex production process easily.

Material movements can be tracked continuously by PSImetals Logistics. Operators place materials in the yards according to transport orders, which are automatically generated based on rules for the next operation and yard/field availability. Since all production processes run in one in-

team. This involves first examining production and defect data, then proceeding with data curation and statistical analysis to determine root causes, which we can then use to increase our production quality.

In 2021 and beyond, we aim to expand the use of big data analytics, paving



A look inside the ASAŞ plant.

tegrated system, problems caused by operator errors are minimized.

There are lots of buzz words out there like Industry 4.0, Big Data, Machine Learning, Artificial Intelligence... You have access to vast volumes of data generated by the sensors of the production lines. How do you plan to capitalize on this volume of data and how can PSImetals help?

With digitalization in the context of Industry 4.0, it is crucial that data generated during production is analyzed intelligently. We see this as a key success factor.

We are working on several big data analysis projects. For example, we are digging out our casting line production data, which includes all parameters recorded during production. Since we have not done this kind of analysis before, we get the support we need from PSI with an experienced

the way for the use of AI. Using this capability, we aim to offer our customers innovative products and services on more competitive terms.

In 2018 you hosted a very successful PSImetals UserGroup. How did you experience it?

At this event, we brought together PSI users from all over the world. In doing so, we accommodated a group of 110 people from different countries and companies in our factory premises in the best possible way. We had a very successful organization with all our team members and we proved again that we are a very good team. It was a fun and educational event with all our friends also using PSI. 🌀

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