

pronto

THE DIGITAL FACTORY



Digital production
Solution for the
production management
Powerful. Reliable. Scalable.

OAS
AKTIENGESELLSCHAFT

“

Optimising performance, increasing quality, reducing costs. Transparency and process reliability – these are the major objectives in digital production.

'Industry 4.0' is the keyword here: On the way to becoming a Smart Factory, our production control system **pronto** is the perfect tool. OAS offers the capacity of a software company and many years of experience in material logistics and process engineering. With our practical experience, we are able to understand your processes and will be of assistance to you already when it is about defining your process sequences.

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Karl Krone
Head of software development,
OAS AG

The challenge as a process

In the production industry, the head of production, the operators, and the maintenance fitters have to rise to a multitude of challenges: smooth operation of the production line without interruptions, consistent quality of products, and reduction of plant-related costs are part of the daily business. A flexible process control system is decisive to meet these requirements: This has to be powerful, while being at the same time user-friendly, and allow early detection of potential business risks.

Pronto is our answer to this challenge. Observing and operating — with **pronto** you get state-of-the-art technology to do so. Our Manufacturing Execution System (MES) is an extension to the enterprise resource planning system and can also serve as an independent system. Scalable to your needs, **pronto** offers a high degree of system availability packed in a future-proof technology. Our software connects the higher-level production planning system directly to the machines and process flows in production in an integrated manner and in real time.

Today the future – jointly towards a Smart Factory

Taking on data sovereignty

Production or manufacturing control systems are required to collect mounds of data at many points in the plant. Materials management data, production parameters, lab data, energy consumption data, or data required for maintenance: the authorised operators need access to information at the points where the data are actually required. At the same time, the system prevents the operator from a confusing information overload. Only relevant data are filtered, summarised, and displayed.



Pronto supplies data to network machines and subsystems.

A consistent documentation and transparency are major components of process reliability.

The interface expert

OAS is the interface expert. From the serial interface up to OPC, there is a multitude of interfaces and data logs available to **pronto**. In the food processing and luxury food industry, we observe the Weihenstephan Standards. For machines with exceptional or "exotic" interfaces, we develop customised software. You may also trust in OAS when it is about discussing about the interfaces to be used with machine and system suppliers.

Simple nonautomated devices and machines can be directly connected with **pronto**. Our "intelligent terminal" processes digital and analogue process signals. This way it is possible to record, e.g. machine operating times or temperature profiles.

We have realised interfaces to many ERP systems, e.g. SAP®, JD Edwards®, Microsoft Dynamics®, and other individual customer systems. This ensures perfect continuation of materials management in production. In addition to its own material stock and tank depot management, **pronto** also provides interfaces to stock management systems.

Investment security – **pronto** grows with your company

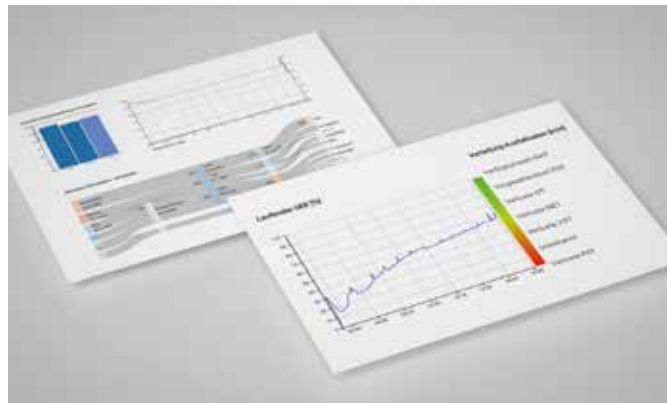
Pronto is not a standard solution. The customer cannot really exert influence on the individual functions of "mass products". Therefore, we develop **pronto** at OAS itself and also realise individual customer requirements. Thanks to its thoroughgoing scalability, **pronto** is also primed for future requirements. We continuously advance **pronto**. This gives you an investment security which is invaluable.

All around your process: extensions reaching deep into automation, the integration of an ERP system, additional reporting requirements, new operating systems – no issues, the OAS software cannot handle. In cooperation with our European partner institutes and universities, we develop future technology for the Smart Factory. **Pronto** is in use all over the world – from a single-user PC up to highly available server applications with more than 100 workstations.

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**If you cannot
 measure it,
 you cannot
 improve it.**
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This is the reason why **pronto** is also a tool to record and quantify key performance indicators. The KPIs are gained from a multitude of process data. A comparison with the target values allows determination of potentials for improvement.

Optimised performance
 & increased quality



Changing the perspective – at any time. Pronto reproduces two performance models in a web-based portal:

- Production output and quality with OEE key performance indicators (Overall Equipment Effectiveness)
- Energy management with energy key performance indicators (EnPI: Energy Performance Indicators)



All key performance indicators are closely related to the production and the resource planning, be it the production lines, the machines, the production orders, the products, or the raw materials. In addition, the efficiency calculation records the causes of downtimes. Flexibility in order preparation and production control are among the merits of **pronto** and play an important role in digital production.

Process reliability

A reliable sequence of processes is a prerequisite to get a high product quality. Process reliability focuses on network automation as well as on an involvement of the operator in production.

Consequently, **pronto** translates resource planning and process engineering requirements into comprehensible and guided work processes. The process reliability is strongly increased by system-based plausibility checks, e.g. checks to ensure same materials in target containers, completed cleaning cycles, and correct manual handling. With barcode readers, the proper use of containers coming from the incoming

goods department can be checked. Exchangeable containers for temporary storage of semi-products or finished products can be monitored by means of RFID tags. The data security of the system itself is a vital point too. This is the reason why **pronto** uses an SQL database as data hub; at choice by ORACLE® or Microsoft®.

A continuous, paperless process documentation delivers the answers to process-relevant questions:

- Which raw material batches were used in a particular product batch? (tracking)
- For which product batches a particular raw material batch was used? (tracing)
- Who executed which automatic and manual process steps? At which exact time?
- Which machine parameters were adjusted?
- What kind of ambient conditions prevailed?
- How long raw materials and products (date of minimum shelf life) were stored? Under which conditions?
- Which data were recorded at the check points (identification point, CCP, QCP, check weigher)?

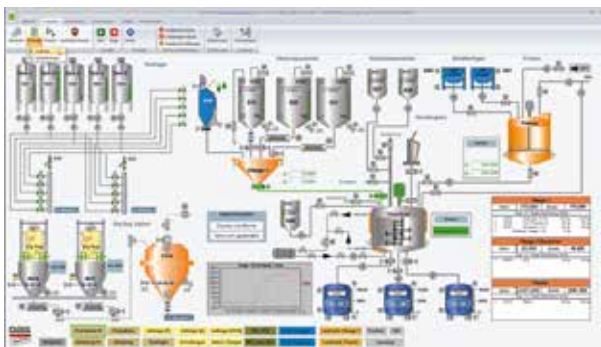
Pronto uses the recorded data to generate a diversity of reports:

- batch logs
- shift logs
- reports of error messages
- material balances (BoM)
- HACCP reports
- energy reports
- sanitation protocols
- IFS reports
- shipping documents for lorries



Pronto is well-established in a multitude of fields, e.g. construction chemistry, chemistry, paints and varnishes, or food processing and luxury food production. Here, we meet industry-specific requirements.

- sampling and test values
- correction recipes
- dough recipes
- master recipes
- automatic compensation of rinsing components
- shop order and raw material planning to anticipated requirements
- stock management for articles, containers, and portable silo
- relocations, stocktaking
- implementation of the dates of minimum shelf life
- health officer
- fTrace
- operator guidance at the production line (product pass, manual dosing, vertically and horizontally, optional tapping points)
- sub-orders
- maintenance orders
- CIP



Cost reduction

Process automation relieves the operators and saves resources. Uniform, clearly presented user interfaces simplify production, and the manpower for manual operation can be planned and assigned in a more flexible way.

In the automated field, **pronto** provides for an optimum utilisation of the plant resources. Our functional PLC standard supports a project-oriented approach for each component. This saves valuable programming and start-up time. An energy management, i.e. a selective use of rework, return or recycling material and a planned pre-production of semi-products in the amount

actually required, reduce the operating costs. Tools, such as the tool for detailed planning, and the use of compatibility matrixes support an optimised course of production with minimum set-up times and cleaning expenditures.



These customers trust in OAS

Key figures do not lie: We use objective data to identify any optimisation potential along the entire process chain. Our success is measurable – and the customers of OAS AG appreciate this.

We are proud of our long-term partnerships. Customers working in most diverse fields trust in our know-how gained in many years of experience in the field of liquids and bulk materials.



Thomas Rehsöft
Tönnies Lebensmittel
GmbH & Co. KG,
Rheda Wiedenbrück /
Germany

"With **pronto**, the production has become transparent, flexible, and projectable. At 35 production lines, we pack different meat products, which **pronto** palletises automatically for each customer. All products are traceable. Here, **pronto** communicates in a network with machines and the ERP system."

"Since 2018, **pronto** has been used at GTF to control the production of dry mortar entirely. The system optimisation has strongly contributed to our increased performance of plus 30 %. In the new production of synthetic resin mixtures, **pronto** controls among other things the automated dis-solver processes and so leads to extension of the plant capacities."

Carsten Monsees
G. Theodor Freese
GmbH, Bremen /
Germany



Hubert Meier
Site manager Kalkwerk
Rygot GmbH & Co. KG,
Painten near Kelheim /
Germany

"**Pronto** comes along with us in the preparation and production of our products as well as in the management of quantities and contents in site silos. Consequently, it is possible to track each product batch, starting with the delivery of raw materials, through the production equipment, up to the customer, and, therefore, the products also meet the quality requirements of our customers."

"Our industrial bakery in Günzburg produces 50,000 buns per hour. The process control system requirements are accordingly high. **Pronto** controls all production processes, from the acceptance of raw material up to portioning with the dough divider, and has proven to be extremely reliable in multiple-shift operation."

Edin Lemm
Head of production
Lieken AG,
Bakery Günzburg /
Germany





Hard- and software from a single source

As a system house, OAS delivers all the IT infrastructure required. We deliver complete IT solutions, from the desktop PC up to highly available and redundant server systems. Moreover, our know how covers virtualisation, network technology, and IT security. As a managed-service provider, you may also request us for assistance in monitoring, maintenance, and security of your IT infrastructure. Upon request, we install **pronto** on a virtual machine in your server landscape and the system administration still remains with you.

Our portfolio also includes the entire range of automation. From sensors through electrical engineering up to the design and construction of control cabinets – you will get all from one source. This not only means the PLC, but also a multitude of identification systems, such as RFID, QR code cameras, and many more.

In addition, OAS is a pioneer in the weighing and dosing technology. We deliver own dosing controllers and weighing systems from 0.01 g to 100 t. Our dosing control systems have a modular structure and, regarding the hard- and software, can be implemented in individual networks.





System partner for digital challenges

OAS is not just a supplier. We are a system partner of our customers. As a process consultant, we will be of your assistance with all our experience in the fields of bulk material handling, liquid media

handling, and production control. From the materials management through the production control up to the automation and IT infrastructure, we will offer you complete solutions.

Our scope of performances

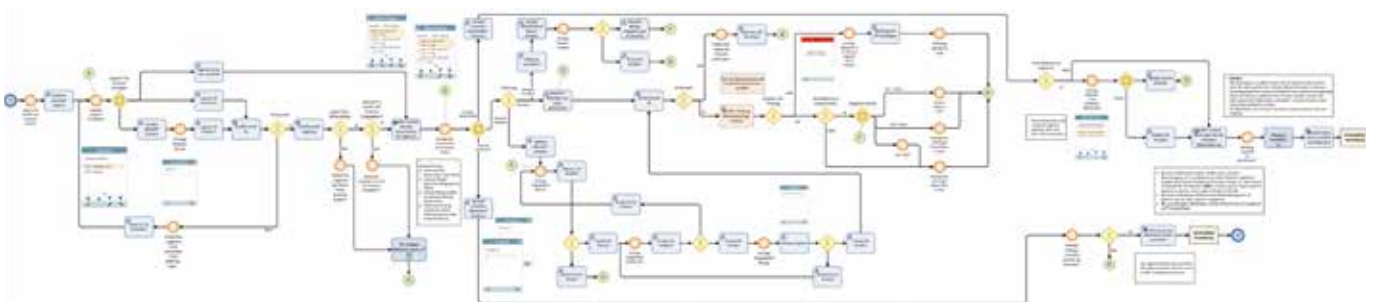
- Design of sensors and portable silo
- Project engineering according to ATEX and SIL, risk analysis
- MES consulting and preparation of performance specifications
- Delivery of the process control system **pronto** (MES, SCADA)
- Linking with the customer's ERP system
- PLC programming with performance standards
- Electrical engineering and switchboard construction
- Electric installation
- 24/7 on call and remote maintenance service



Jointly going for a goal

Development and documentation of processes: We will never let alone our customers. Which processes can be adjusted reasonably? What should be retained? Derive benefit from our wealth of experience! OAS develops sound concepts how to convert a line during running production. We clarify the interfaces with the ERP system and the machine suppliers for

you. Even when the project is complete, we will help you with words and deeds and round the clock. **Pronto** and our automation equipment are subject to remote maintenance via a secure VPN. We provide for rapid and cost-optimised support at any time.



Modelling of business processes with BPMN
(Business Process Model and Notation).



Understanding processes

Pronto in detail

Pronto is a production control system (Manufacturing Execution System, MES) developed by OAS and used throughout the world. **Pronto** connects requirements of the higher-level production planning system to the machines and process flows in production in an integrated manner and in real time. Here, an absolutely continuous materials management is in focus: starting with the receipt of raw materials, through semi-products, and ending up with the finished product.

Pronto provides a modern concept of operation and observance. Sturdy industrial PCs are used in the field as user interfaces.

Process control takes place automatically and in the background through an extremely powerful recipe and sequence control in dialogue with the operators. If an ERP system is in use, **pronto** acts as its extension. If no ERP system is in use, **pronto** processes articles, products, as well as recipes and production orders on its own.

Energy transparency

Energy is a vital cost factor. **Pronto** records the consumption rates down to the machine level and assigns the energy consumptions to the products and production orders.

Preventive maintenance

Based on machine operating times and operational cycles, **pronto** gives recommendations on preventive maintenance actions. This helps you to prevent downtimes due to machine malfunctions. The corresponding maintenance orders are generated and documented.

Efficient reporting

Reporting does not only cover a feedback of production data to the ERP system. You may use a report generator to create own reports. You may export sound statistics as well as comprehensive batch logs.

A consolidation of a multitude of data from the recorded machine and production data to become key figures allows to get a quick glance of the current production output and quality as well as of the history.

Open system

Pronto is an open system. This is the reason why you may create process visualisation and PLC software on your own and add new functions.

Optimised goods flows

An optimised yard management controls incoming traffics from parking spaces outside the site and the later traffic on-site already before a lorry arrives at the site and further through the access way to the site.

Industries

- Agribusiness
- Asphalt
- Automobile / automotive
- Building materials / construction chemicals
- Bioenergy
- Chemicals
- Disposal & recycling
- Paints & varnishes
- Foundry
- Power stations
- Synthetic materials
- Metallurgy
- Foodstuff and luxury food
- Paper / paperboard
- Sand & gravel
- Heavy industry
- Cement / lime / plaster

Scope of delivery and performances

- Plant engineering
- Automation
- Truck and track scales
- Fabrication control system
- Business software solutions
- IT infrastructure
- Weighing and dosing technology
- Yard management
- Consultancy
- Engineering / project engineering
- Software development / programming
- Manufacturing
- Assembly / installation / commissioning:
- Training
- 24/7 after-sales service

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