



KOCH
INDUSTRIE 4.0
READY

Digital Solution for material supply to machines

VISUALISATION SOFTWARE



USING BAR CODE

Verifying the material with bar code registration ensures that the correct material is always processed in your production. It is an investment that is amortized after a short time already!

Secure selection of material conveying based on visualization software

- Ensuring material approval before processing
- Documentation of all material replacements
- Safe handling in conformity with the certification requirements

Material location verification using bar code

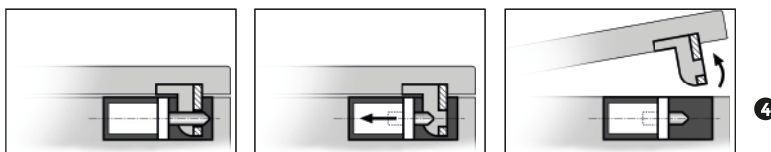
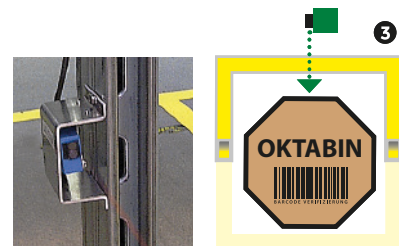
- Scanning of supply point ❶
- Scanning of material number ❷ and optionally also batch number. Operator instructions are provided using a bar code scanner.
- The data is copied to the list of materials.
- The material is assigned to a production machine in the visualization.
- The assigned material is permanently compared to the requirements of your plan in the ERP system.

Storage location verification via barcode

- A new material container, e.g. octabin, occupies the material location with a supply point.
- The detector identifies that the location is occupied and asks for verification. ❸
- The data is scanned and compared to the visualization.
- This will verify the material for the material location and release the supply point.
- Removing the container immediately cancels the release of the material location.

Verification of material container for filling

- Material container scanning
- Scanning of the material to be filled
- If the scanned data matches the input in the visualization, the locking pin on the material container opens. ❹
- After filling with new material, the supply point is released.



MONITORING UND PROZESS-MANAGEMENT-SOFTWARE

The KOCH visualization system is a software that monitors and controls the processes for the supply of material during plastics processing.

It is a modular software that is implemented on a central computer at the control station. The visualization ensures problem-free data exchange with MES or ERP via the network.

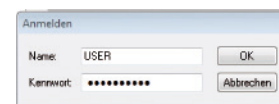
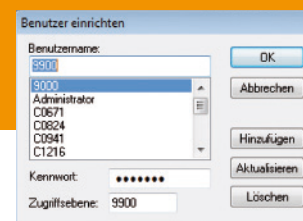
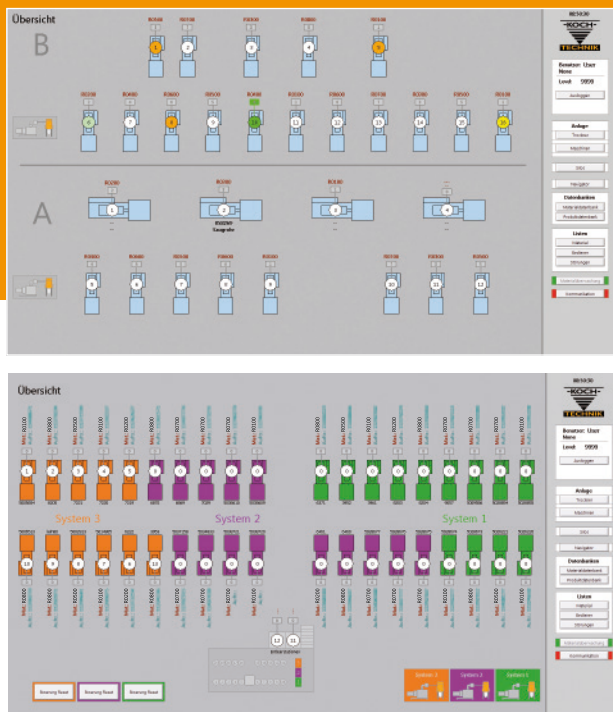
The visualization helps you control the periphery of the material feed and interfere with the production process by setting flexible parameters. All production-relevant information is documented, so you can track individual processes at any time.



Figure shows the control of a Central Feeding Systems

OUR SOFTWARE SOLUTION FOR THE PROCESSING OF PLASTICS

The basis for connecting the visualization is the control the central material feed to the machines using SIEMENS S7 SPS. Controls using a Profibus bus collects data from other controllers and transfers it to visualization. At the same time, the specified settings are transferred from the visualization to other controls.



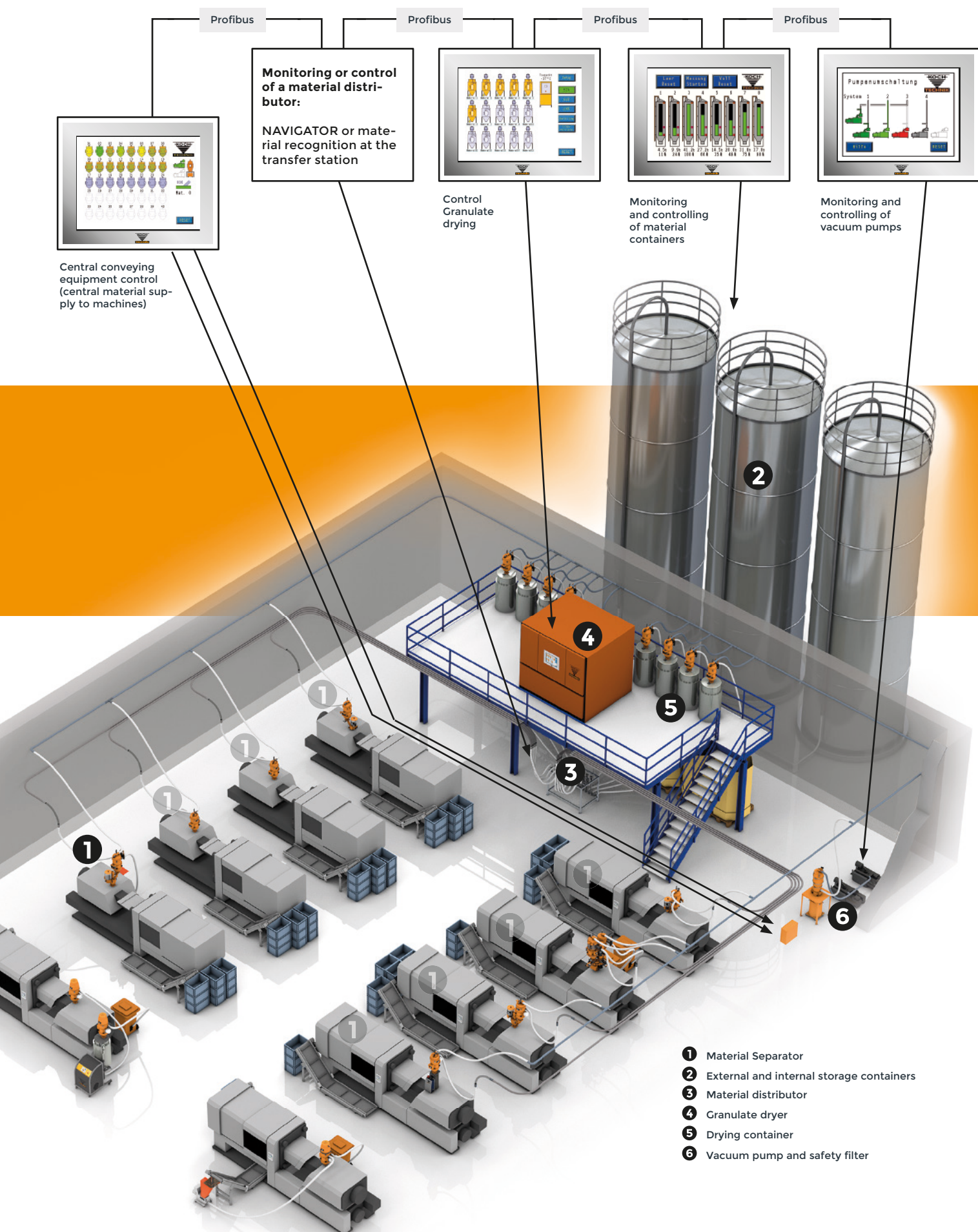
SECURITY

As an administrator, you can assign user rights to each operator through user management and track parameter changes on each device.

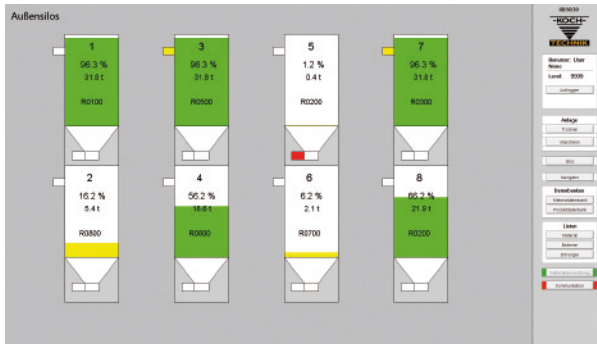
1 OVERVIEW OF MATERIAL CONVEYING SYSTEM

Visualization gives you an immediate overview of all components of material conveying. Calling up individual stations gives you detailed information about the status of your peripheral equipment and the material being processed. Each material station is monitored and documented, from material feeding to the separator.

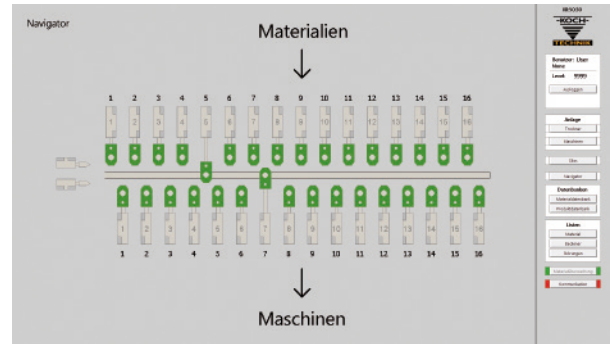
VISUALISED



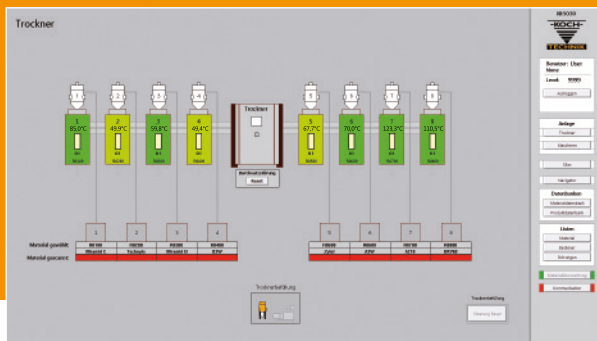
CONNECTED



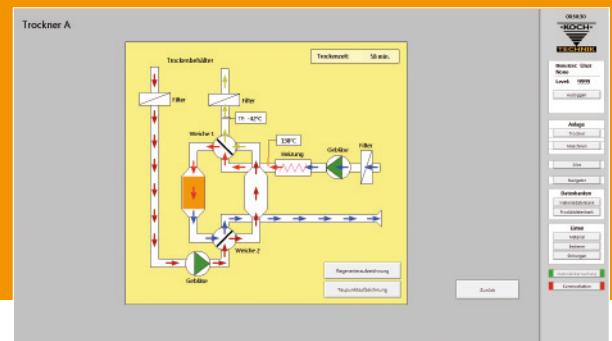
2 EXTERNAL AND INTERNAL STORAGE CONTAINERS Storage container fill levels are displayed in real time. This gives you an overview of all the raw materials and auxiliary substances and you can act quickly and purposefully in the case of a shortage of material.



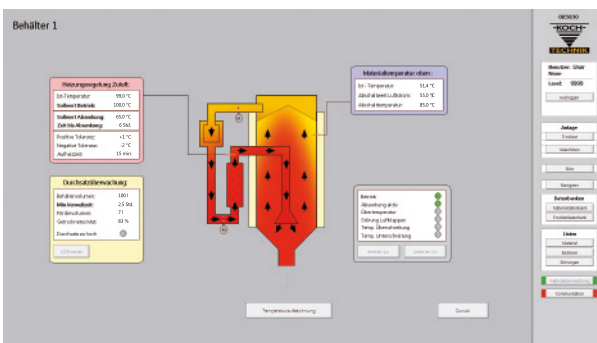
3 MATERIAL DISTRIBUTION If a NAVIGATOR material distributor is included in the material supply to the machines, you can check what material is being supplied to each production station at any given time.



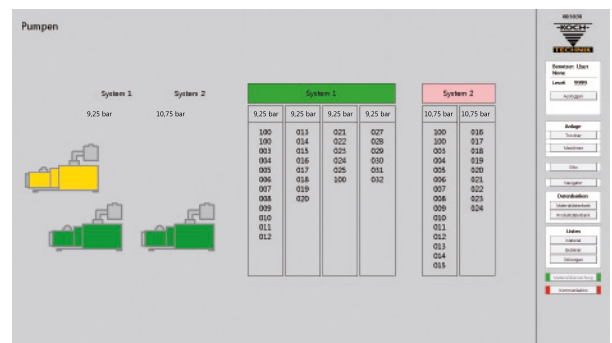
4 GRANULATE DRYER - OVERVIEW You can completely monitor and control the KOCH granulate dryer. It gives you an overview of the material and the state of drying in tanks, as well as dew point and air temperatures.



4 DRYING UNIT Clear view of the drying and regeneration circuit: all temperatures are displayed here, together with switching times and switching valves. You can change the parameters if required.



5 DRYING CONTAINER Status of individual drying containers: you get clear information about supply air temperature, air volume control, temperature and material permeability. All processes in the dryer are documented and archived.



6 VACUUM PUMP AND SAFETY FILTER Status of all vacuum pumps: You can retrieve additional information for each pump, such as operating hours or maintenance intervals. In addition, you can also change the filter cleaning parameters.

STRUCTURED

EXPAND YOUR POSSIBILITIES



We are ready for industry 4.0 - be prepared, too!

The term Industry 4.0 derives from industrial development and represents a major technological revolution in Germany: production blends with state-of-the-art information and communication technologies.

The driving force is the increasing digitization of the economy and of our society. In the near future, Industry 4.0 will be reflected in the integration of processes and systems that communicate independently with each other across industries and technologies.

For the processing of plastics, this means that our peripheral equipment for the feeding of material into the machines communicates with all systems in your company. This helps you to optimize your production value processes to exactly fulfil your requirements.

The comprehensive supply of material—including granulate drying—is transparently integrated into the hierarchy of your management system using the visualization. It is thus possible to plan and implement the material path for individual orders in detail.

With visualization, we offer an interface that covers all aspects of data exchange between material feeding to machines and your Manufacturing Execution System (MES) or ERP system using the OPC UA perspective communication standard.

INDUSTRIE 4.0

EXPAND YOUR CAPABILITIES

MIXING AND DOSING

We are specialists in dosing, mixing and coloring of plastic materials! We provide you with precise, reliable technology - for injection moulding machines and extruders.



FEEDING

We offer peripheral equipment to supply your plastics processing machine with material. Our hopper loader transfer material save and clean to injection moulding machines and extruders.



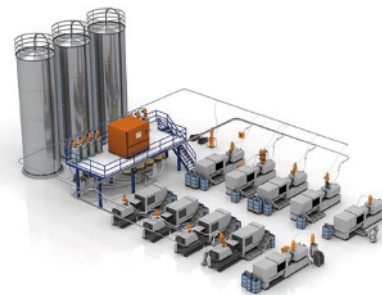
DRYING

Our dryers for plastic materials are characterised by a high efficiency and cost effectiveness.



CENTRAL FEEDING SYSTEMS

We design, manufacture and install your centralised material feeding system. Specifically to your requirements and customised to your plastics processing needs.



Find your personal contact on our homepage

Werner Koch Maschinentechnik GmbH

Industriestr. 3 | 75228 Ispringen | Germany

Tel. +49 7231 8009-0 | Fax +49 7231 8009-60 | info@koch-technik.de | www.koch-technik.com

