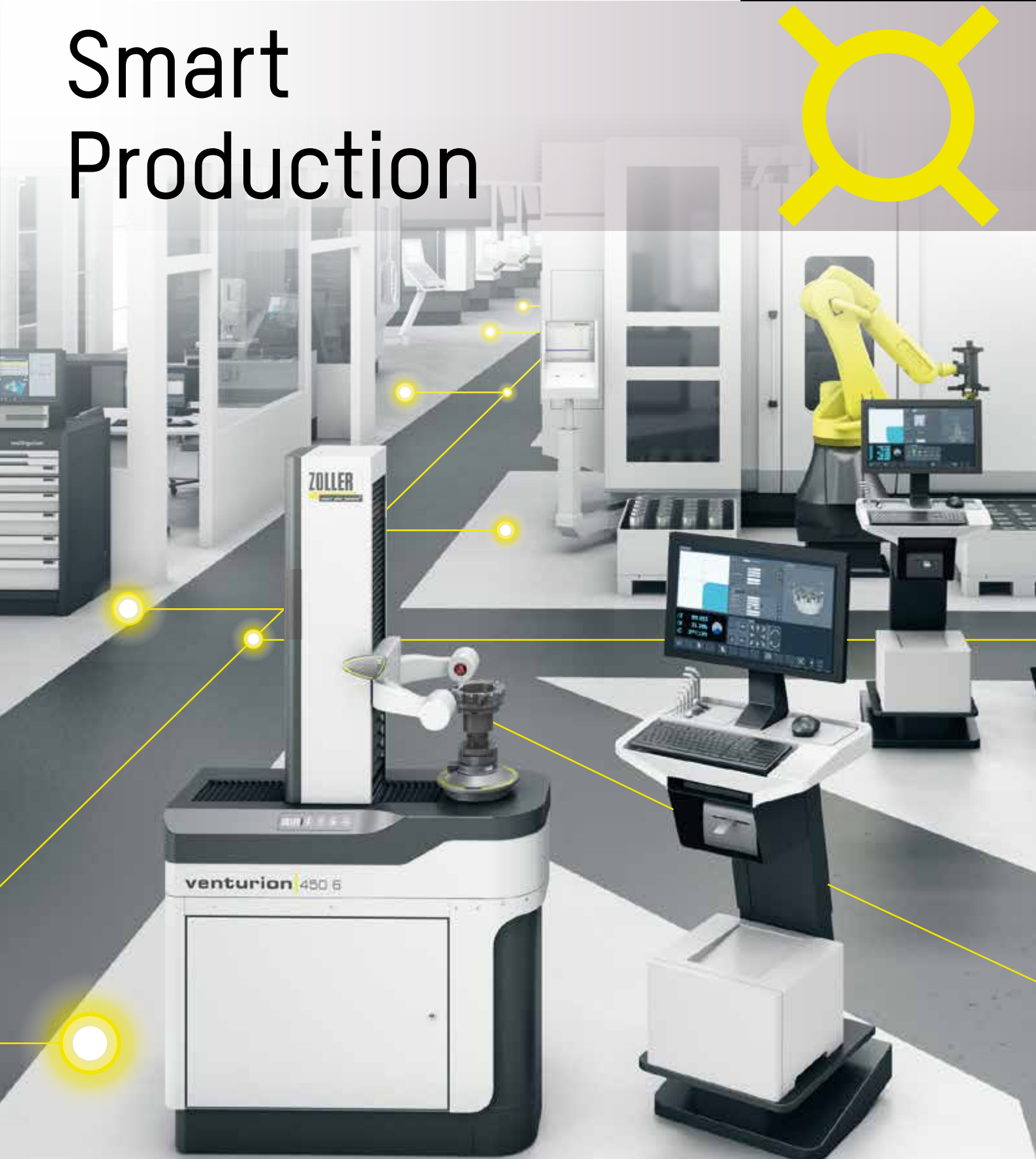


Efficient Manufacturing Process, Digitized Measuring Processes, 100% Documentation

ZOLLER

expect great measures

Smart Production



Data Consistency for an Optimal Manufacturing Process

Data plays an important role in smart manufacturing. You can map the entire production process beforehand and later save the real production process. This is the basis of modern, safe production.

- All tool data is stored in the z.One central tool database and can be called up at any time and from anywhere. Upstream interfaces to CAD/CAM systems and downstream interfaces to machine tools make this database usable for the entire production process.
- All functionalities have their origin in the »pilot« software. It is not only optimally developed for the presetting and measuring devices, but also turns all tool data into more. These include measuring sequences as well as evaluations, special measuring programs, simple operation, and the entire tool management. This ensures that the entire ZOLLER system – from order receipt to delivery – works smoothly and safely.
- With TMS Tool Management Solutions software you can manage your tools. Together with the Smart Cabinets there is always order – in the hardware and in the software. And extensive evaluations additionally increase the productivity in your production.

**For 100% perfect parts thanks to digitized processes –
ZOLLER Solutions for smart manufacturing**



Smart Solutions for Your Production Process



TMS Tool Management Solutions software is perfectly integrated into the overall process and offers everything for efficient tool management. This software solution can be networked with CAM, ERP and other systems.



z.One is the central tool database. All stations of the production process access this database, as well as ERP and other software systems. Multiple data maintenance is not necessary.

1 CAD Design

As early as the design stage, the designer accesses tool data from the **ZOLLER z.One database**. The production of parts can therefore already be carried out on the basis of standard tools, which makes production faster and less expensive.



2 CAM Production Planning

The manufacturing processes are simulated in the CAM system using tool data from the cloud. The tool data from the CAM system is transferred directly to the **TMS Tool Management Solutions software**, which generates a setup sheet from it.



3 Tool Storage

With the help of the **ZOLLER Smart Cabinets** and the **ZOLLER TMS Tool Management Solutions software**, tools, components, accessories, and complete tools can be digitally recorded and localized. With the help of the ordering software module, inventories can be monitored and parts can be reordered automatically.

4 Tool Preparation

Supported by assembly graphics including dimensions, each step in tool preparation can be displayed precisely. Together with the tools stored and readily available in the **Smart Cabinets**, tool preparation is child's play.

5 Presetting and Measuring

The prepared complete tools are identified on the **presetting and measuring machine**. After the measurement, the actual data is processed for the machine control and transmitted to the machine either via network or code.



6 Production

The tools on the machine are identified via **2D codes** on labels or tool holders or via an **RFID code**. The tool data is called up or is already stored in the labels or chips and can be read in. Transmission errors are eliminated.



7 Follow-up Orders

Special **ZOLLER-TMS software modules** such as the **»cetus«** tool requirement optimization or the **»flash«** tool monitoring query the remaining service life of all tools and the magazine location allocation directly at the machine and integrate them into the new setup sheets. This makes the setup effective.



8 Documentation of Manufacturing Process

The comprehensive recording of target and actual data in the **ZOLLER z.One tool database** is the basis for the documentation of the production process. All requirements for cost-effectiveness and traceability are given – for example with the software module **Cost Per Part**.

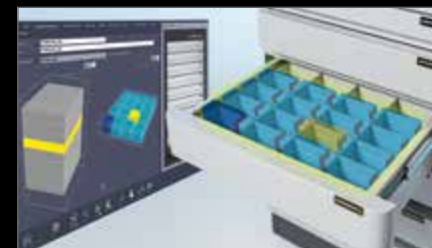


9 100% Delivered Quality

Exactly set tools lead directly to correct parts and thus to **good parts**. This reduces delivery times and makes it possible to plan them precisely.



By transferring the CAM setup sheet to the **TMS Tool Management Solutions software**, you simulate the production process with the right tools.



With the help of the **storage location management module**, every storage location for tools and accessories is recorded and known.



The **assembly of the tools** at the workbench is supported by assistance systems such as the assembly assistant or stored help.



By scanning the **tool identification codes** on the presetting and measuring machine, the tool data is called up directly and the measuring process can start.



Using the **»zidCode«**, the actual tool data encoded as a 2D code is read directly into the machine control system. This eliminates typing errors.



»cetus« makes tooling more effective and saves tool costs with the optimal coordination and selection of tools, even for follow-up orders.



Tailor-made **evaluation methods** and individually configurable measurement protocols guarantee clarity and traceability.



Plannable tool use and precisely measured tools reduce costs, increase **productivity** and produce **more good parts**.

»flash« – Awarded with the Industry 4.0 Prize



The »flash« **production analysis software** communicates directly with the CNC machine and gathers the current tool life. Their status is pointed out in red, yellow, and green on the monitor. This allows you to make the best possible use of the tool life while maintaining the same process reliability. At the same time, timely tool preparation minimizes waiting times at the machine and leads to an efficient production workflow.

This is optimal use of tools.

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