### Holistic customer solutions

# Concepts for the digital workshop

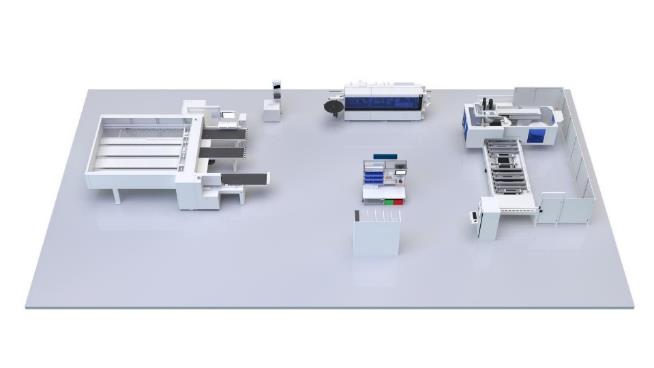
At the HOLZ-HANDWERK trade fair, HOMAG will show woodworking shops the specific opportunities that digitalization already offers. Clever aids support work processes and simplify the user’s working life with small steps. The entry barrier to the digital workshop is very low, as there are no investment obstacles to be overcome. This means that digital solutions are also becoming increasingly relevant for woodworking shops.

## Specifically, visitors to the trade fair in Nuremberg will be able to see two proven, integrated concepts that consist of machines, smart hardware and apps. These demonstrate holistic customer solutions for the networked, digital workshop, specially for carpenters and joiners.

HOMAG will be showing how to use the indispensable digital assistants—in the form of apps or intelligent racks—at the different workstations. Visitors will see how, with immediate effect, simpler workflows and more efficient work steps can be created for employees in the workshop. Depending on the requirements in the specific business, each of the digital assistants can be used as an individual module. This means that carpenters can decide on individual digital assistants according to requirements and integrate them easily into the existing working environment in their workshops. All HOMAG apps can be tested free of charge for 30 days in advance and can then be booked on a monthly basis as required (Software as a Service).

CONCEPT 1: Introduction to digitalization

With the “Introduction to digitalization” workshop concept, HOMAG is presenting simple entry-level solutions that allow the user to increase transparency in their production, recognize potential for optimization and improve existing production processes.



**HOMAG offers the following digital assistants to support the production process:**

1. **Configuring furniture easily: cabinetCreator**

This furniture configurator allows users to quickly and easily configure the furniture they want using their tablet, laptop or desktop PC. As part of a step-by-step process, they can draw on a selection of pre-defined basic forms, which adapt intuitively to construction parameters entered by the user. Users can also create their own libraries consisting of their cabinet models. They can also save their own design rules and use them later for new models. Once the furniture has been designed, cabinetCreator creates an appropriate selection of fixtures based on the fixture data from all established manufacturers. The furniture can now go into production: all digital data required for production, such as drawings, parts lists and CNC programs can be created directly from cabinetCreator and can then be exported.

The cabinetCreator is a web-based application and can therefore be used on any device with an Internet browser. This means that it can be used in the office, at the machine or even on the go—without even having to install any software. Another major advantage is that the software is always up-to-date and the business can use any future enhancements automatically.



Image: With the “cabinetCreator” furniture configurator, carpenters/joiners can configure individual items of furniture easily—without even having to install any software.

1. **All production data at a glance:   
   productionManager (digital job folder)**

Many businesses still use handwritten parts lists and drawings in paper form. The productionManager—the digital job folder—is used to ensure that the data is used consistently from the foreman's office, through production and up to the bench room. It summarizes all production-related data and replaces the individual paper documents. Users who have created their furniture in the cabinetCreator (furniture configurator) can easily import all of the data into the digital job folder with a click of the mouse and thus retrieve the data at any time via the tablet. Data from CAD/CAM systems or industry solutions can also be imported. Carpenters/joiners now always have at their disposal a transparent status of all jobs and can easily add further parts.

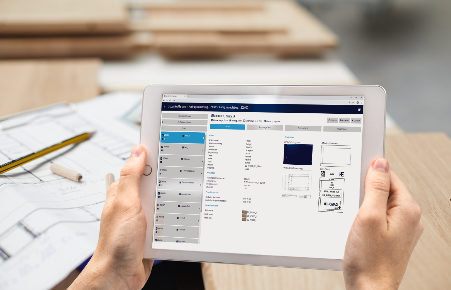


Image: The productionManager—the digital job folder—summarizes all production-related data and replaces the individual paper documents in the workshop.

1. **Optimizing cutting patterns: intelliDivide cutting**

This optimization software creates cutting patterns based on different criteria (e.g. low waste, optimal use of offcuts or simple material handling) and issues a parts list—regardless of the type of saw. For HOLZ-HANDWERK, HOMAG has integrated further features that allow even simpler and more efficient processes and better handling of the software.

1. **Label printing at the manual saw too: productionAssist Cutting**

With this cutting assistant, carpenters have a digital assistant that supports them directly at the saw in the workshop. The assistant can be used flexibly in conjunction with circular saws as well as upright and horizontal panel saws—irrespective of the type, age and manufacturer.

In the first step, users transfer their cutting patterns from the intelliDivide optimization software into the productionAssist Cutting app. They then select the specific cutting pattern they need at that precise moment. When users are cutting the parts, the productionAssist Cutting app gives them a continuous, precise overview of the status of the cutting pattern (even for manual saws): which parts have already been sawed? Which part is suggested next?

Users can then print the labels for each part at the click of a button using the label printer provided in the set. As a result, every part can be clearly identified. At the same time, every label provides the correct processing information for the subsequent edge banding machines and CNC processing centers. The result: complete production data from the first process step.



Image: Integrated and efficient: productionAssist Cutting enables label printing (even at a manual saw), including all important information for the subsequent processing machines.

1. **There’s a slot for every part: productionAssist Sorting**

productionAssist Sorting is the carpenter's digital assistant for sorting furniture and components at the workstation in the workshop. The assistant has two decisive benefits: it ensures that all parts for the assembly in the bench room are complete and avoids time-consuming searching for components. The prerequisite for using this sorting assistant is a special sorting rack. Users scan the barcode on the workpiece and receive a suggestion of which rack compartment the first part of the furniture should be sorted into. In this way, the users pre-sort the parts for assembly in the bench room according to the individual items of furniture. The result is a simple, fast and secure process.

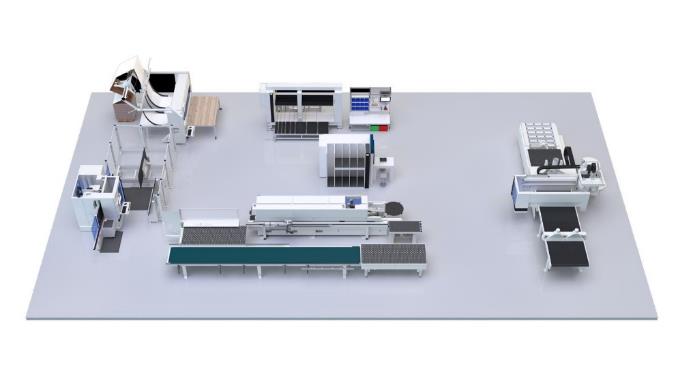
Image: Into which compartment in the sorting rack should the part be sorted? The sorting assistant suggests the slot. LED strips on the rack identify the corresponding compartment. The parts are optimally prepared for the bench room.

**At HOLZ-HANDWERK, HOMAG will showcase these new features in a workshop with the following machine technology:**

* **Precision saw: SAWTEQ B-130**The SAWTEQ B-130 is the smallest HOMAG panel dividing saw. It costs little more than a well-equipped circular saw while providing a much more precise and efficient cutting process. A cutting length of 3800 mm is now available as an option. Amongst other things, the saw is equipped with:
* **CADmatic 5:** The high-performance HOMAG saw control system with intuitive operating concept and clear management functions can communicate with tapio, as well as with other machines and software solutions.
* **module45:** With this unit, users can also complete miter cuts on the panel dividing saw at the same time.
* **intelliGuide basic**: The user guidance allows for clear processes that flow well, fewer errors and thus increases output.
* **Edge banding: EDGETEQ S-200 (MODEL 1130 FC)**   
  This entry-level model can process edges up to a thickness of 5 mm and workpieces up to a thickness of 60 mm. What is new for this machine is the higher feed speed of 11 m/min. Glue application can switch flexibly between EVA and PUR according to requirements— such as for the production of bathroom furniture that requires resistance to moisture.
* **Comprehensive CNC processing: CENTATEQ P-110**Sawing, drilling, trimming: the CNC machine can be used universally for different materials, whether they are panel materials or solid wood. The machine also offers 360° clearance and all-round bumper safety technology. This allows the machine to be freely assembled and converted.

CONCEPT 2: Networked, digital workshop

In the “Networked digital workshop” concept, each machine is operated by one employee. This concept is organized so that the work preparation, machinery and bench room areas are separate from one another. Some of the job data is available to machine users in digital form.



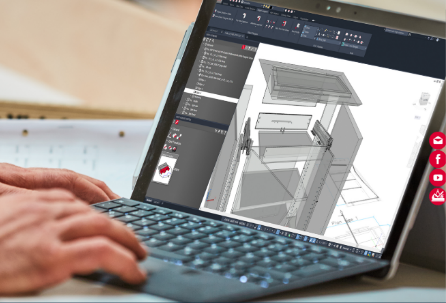
### HOMAG has a range of digital assistants to support the production process:

1. **HOMAG iX – Easy. Efficient. Impressive.**

HOMAG iX offers precisely the flexibility that is required to implement customer wishes quickly, individually, at a high quality and cost effectively. The 3D software developed for constructing furniture and interior fittings connects all important work steps—from sale, through design and up to production—into one integrated and efficient process.

The CAD functions for free and parameterized design support users in their daily work. Everything is achievable, from individual unique items to interior fittings in large quantities. The photorealistic representation means that impressive presentation and sales documents can be created easily and efficiently. In work preparation, HOMAG iX enables time savings of up to 70%, as production documents and CNC data are generated automatically and transferred to the machines.

HOMAG iX is the optimal data supplier for the digital HOMAG products productionManager and intelliDivide.



**Image:** From idea to product: the user-friendly user interface means design is easy and, with the design tools available, users can quickly complete even complex tasks in furniture construction

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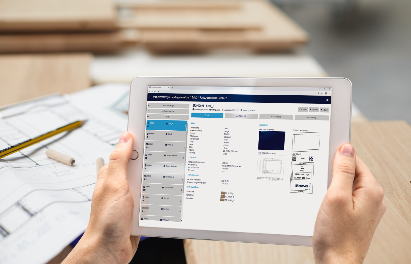


Image: With just a click, carpenters/joiners can easily import all of the data for their furniture into the “digital job folder” and thus access the data at any time, anywhere via the tablet.

1. **Optimizing nesting patterns: intelliDivide Nesting**

Optimization of cutting patterns is worthwhile for more than just panel dividing on saws. With the right optimization, significant cost savings are now also possible in the nesting process in particular. With the intelliDivide Nesting digital assistant for dividing panels in the nesting process, carpenters can get optimized nesting results for their CNC machine with just a few clicks. Above all, this saves time and personnel: optimization starts directly after the data is uploaded. For this purpose, the woodWOP programs are nested automatically on the unprocessed panels. At the end, operators can download the finished woodWOP program (the nest) for their machine. The material costs also fall: waste is reduced thanks to the optimal utilization of the panel material. Another benefit is that intelliDivide Nesting is flexible to use and can therefore be used for rectangular parts as well as free-formed workpieces.



Image: intelliDivide Nesting generates optimized panel dividing patterns and provides the data for the nesting processing center, including key figures for the nesting process.

1. **All edges at a glance: The Edgeband Management Set**

How can I store my edgebands in a way that is clear, clean and tidy? This is an issue that concerns a lot of woodworking shops, regardless of size. The solution is the Edgeband Management Set, which gives users a complete overview of all the information about their edge material. To use the Edgeband Management Set optimally, carpenters need the materialAssist Edge app and a special edgeband rack. materialAssist Edge manages the stock of edgebands in the edgeband rack (including residual lengths), documents deposits and removals of edges and indicates the storage position. The corresponding labels for identifying the edgebands can also be printed directly from the app. The edgebands can therefore be identified and managed easily by scanning the barcodes. When operators want to edge a part, they simply select the correct edgeband in the app by touch. In that moment, the matching edge is quickly and easily identified in the edgeband rack by the LED display that lights up. The bottom line for carpenters is that, in the workshop, the Edgeband Management Set ensures optimal organization in the preparation of edgebands and quicker set-up of the edge banding machine.



Image: With the Edgeband Management Set, carpenters/joiners always have an overview of their edgebands.

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Image: Into which compartment in the sorting rack should the part be sorted? The sorting assistant suggests the slot. LED strips on the rack identify the corresponding compartment. The parts are optimally prepared for the bench room.

1. **Support in assembly: The productionManager**

The productionManager—the digital job folder—supports employees in the assembly of the furniture. In the first step, users can easily see which parts belong to the next cabinet they want to assemble. With the productionManager, they also have access to the required exploded-view drawings and part drawings and the 3D drawing of the furniture. In an additional overview, the assistant also shows the fixtures required. All information concerning any assembly job is therefore always at the users’ fingertips.  


Image: The productionManager also helps with furniture assembly: users have access to the required exploded-view drawings and part drawings and the 3D drawing of the furniture.

**At HOLZ-HANDWERK, HOMAG will showcase these new features in a workshop with the following machine technology:**

* **Everything except edging: Nesting with the CENTATEQ N-600**

The CENTATEQ N-600 nesting machine processes workpieces or unprocessed panels—with five-axis technology too, where required.

* **New control software:** On the CENTATEQ N-600, the machine control unit and printer and data handling software have been updated. The new woodPrint 4.0 labeling software is a key component. It allows layouts for labels to be created and printed very easily.
* **Horizontal drilling, trimming and dowel-driving: DRILLTEQ D-510**
* **Processing for connector fixtures:** With effect from HOLZ-HANDWERK, the DRILLTEQ D-510 drilling and dowel supply machine can now perform trimming and thus execute processes for all current connector fixtures, such as the Lamello Clamex, and hinges, such as the Grass Tiomos.
* **intelliGuide operator assistance system:** intelliGuide provides support with all work steps. The system uses LEDs to signal to the machine operator which work step should be performed next.
* **Easy adjustment to all customer wishes—enhancement of the technical equipment of the EDGETEQ S-380 model 1660 E**

Perfect jointing, easy handling and full automation set the EDGETEQ S-380 model 1660 E apart.

* **Two gluing processes:** Classic glue as granulate for EVA, for example, can be used just as PUR glue cartridges can. The PUR glue cartridges are used in the PUR melting unit provided for the production of furniture for wet rooms or laboratories.
* **Automatic glue quantity metering:** In turn, glue quantities that can be selected precisely and quickly lead to higher availability and performance, as well as to greater cost efficiency.
* **Motorized top roll pressure unit and small parts package:** Perfect hold, optimal clamping during processing and particularly gentle handing of sensitive surfaces.
* **Full automation:** The multi-level technology is used on the trimmer, profile trimmer and scraper.
* **Easy handling:** The LOOPTEQ O-300 return is connected for economic one-person operation and optimal handling.
* **Sanding machine: SANDTEQ W-200**

The SANDTEQ W-200 is a compact entry-level model with high quality equipment. It has a flexible range of applications and can handle calibration, fine sanding and intermediate varnish sanding.

* **Pressure beam system eps®:** The electronic, segmented pressure beam system eps® (electronic pressure system) ensures that there is always optimum pressure from the sanding belt on all parts of a workpiece, guaranteeing a perfect sanding result.
* **Assembly assistant for pressing furniture bodies: CABTEQ S-250**

Even inexperienced personnel can use the carcass clamp easily. The top roll pressure has been designed to be 20% stronger, resulting in greater rigidity. The integrated tolerance compensation ensures an even distribution of pressure. The CABTEQ S-250 enables a maximum assembly duration of approx. 1 to 2 minutes per standard cabinet.

* **Cardboard cutting machine: PAQTEQ C-250**

The PAQTEQ C-250 cardboard cutting machine enables individual, customized cardboard packaging for a product—just in time—for optimal product protection. With a width of just 1500 mm, the PAQTEQ C-250 demonstrated at the upcoming HOLZ-HANDWERK fits in every workshop. With minimal space requirements, it optimizes the packaging process fully automatically.

Images

Image source: HOMAG Group AG

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