

# Automation without rigid interlinking.

**HE HOMAG**

**Automated guided vehicle system**  
TRANSBOT

**YOUR SOLUTION**





## Flexible interlinking with The Automated guided vehicle system

The Automated guided vehicle system connects the processing steps in a production workflow flexibly and fully automatically, from manually operated individual machines to automated processing centers. The Automated guided vehicle system represents automation that is free from rigid interlinking or rigid systems.

### YOUR SOLUTION

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TRANSBOT

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## Autonomous logistics assistant for flexible material transport.

TRANSBOT, The Automated guided vehicle system, connects individual processing machines, automated cells or even manual workstations together logistically. The self-driving transport robots navigate freely through any space, without the need for mechanical aids such as rails. In addition, if changes are made in the production process—due to the implementation of new machines, for example—the TRANSBOT travel paths can be effortlessly adapted to the new conditions in fleet management.

The Automated guided vehicles can also be easily integrated into an existing production facility retrospectively. The position of the machines or operating cells in relation to one another only plays a secondary role from the perspective of the TRANSBOT. By avoiding rigid interlinking of systems and processing machines, the location of the machines in the production hall is of little relevance.



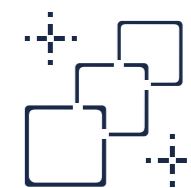
### High added value

- Increase in the added value of connected processing machines by separating logistics from direct machine operation.
- Search and retrieval times are significantly reduced or even eliminated thanks to customized and prioritized provision of materials.



### Suitable intralogistics

- Simple, retrospective changes can be made to the product range, processing order and production process.
- Significant reduction in errors and reduction of quality costs thanks to automated workflows and protective workpiece transport.



### Modular and scalable

- Simple retrospective expansion of the TRANSBOT system is possible without the need for the customer to make structural changes.
- No need for rigid interlinking, thereby optimizing the space requirements compared to alternative means of transport (e.g., roller conveyors).

## TRANSBOT guided vehicle

A TRANSBOT reliably transports workpieces to where they are needed within the production hall, easing the workload for personnel. It can transport goods to machines, manual workstations and cells.

### The autonomous logistics assistants interlink fully automated processing centers.

- Flexible interlinking thanks to Automated guided vehicles
- Route finding via fleet manager
- Transport and buffering of workpieces between processing cells
- No structural changes required at the customer's premises
- Personal safety thanks to continuous scanning of the environment
- Magnetic cone for automatic detection of the orientation of the goods carriers



At 1240 x 695 millimeters, the TRANSBOT is a compact, high-performance solution. It transports a maximum weight of 1.2 tons at a travel speed of up to 60 meters per minute.

TRANSBOTs can be used flexibly. They need neither rails nor induction loops or track markings, as their orientation is based on the contours in the production hall, which they capture via built-in scanners.

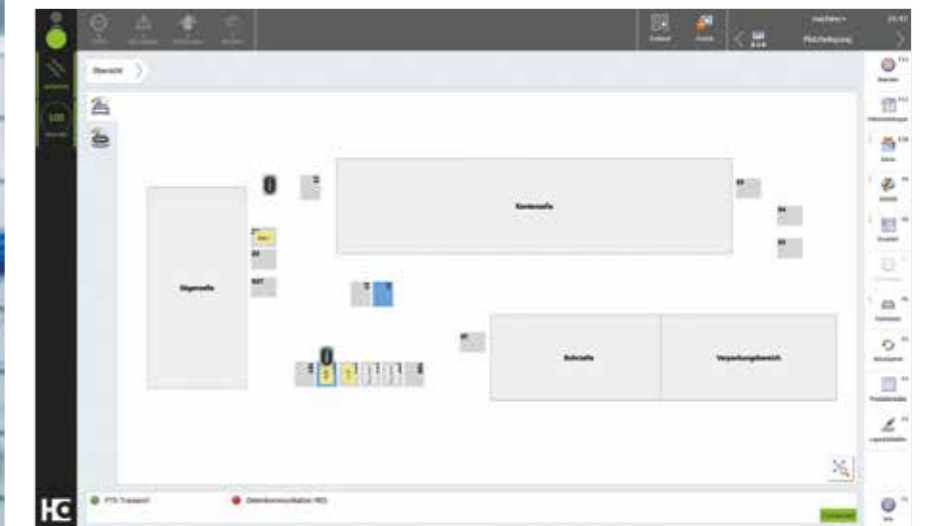
"In production, we use highly flexible, automated cells, some of which are equipped with robotics. We want to think bigger when it comes to cells. We want to think bigger when it comes to units. And the transport robot from HOMAG is the perfect match for our philosophy of flexible production. This is the main reason why we put our faith in HOMAG and opted for this system. To stay flexible, but also to forge ahead with automation in a scalable system."

**Professor Andreas Heinzmann, Professor at TH Rosenheim and member of the advisory board at deinSchrank.de**



## TRANSBOT Fleet manager — unlimited flexibility

The fleet manager coordinates all transport tasks and optimizes the transport relationships of the Automated guided vehicles on an ongoing basis.



The combination of TRANSBOT and fleet management is comparable to the interaction found in self-driving cars that chart your journey with the aid of a navigation system and sensors.



The TRANSBOTS receive their transport orders from Grenzebach fleet management, which coordinates the individual vehicles, continuously checks the charge state of the vehicles, and, where necessary, sends them automatically to the inductive charging station for non-contact energy supply.

The Automated guided vehicle system represents automation that is free from rigid interlinking or rigid systems. The scalable system opens up brand new possibilities for networking systems and provides the necessary flexibility for further development in the future.

**• No search times and lower retrieval times**

Logistics separated from the direct machine operation, availability of almost 100%, 24/7 processing possible

**• Fast response times**

Simple, subsequent changes to the product range, processing sequence and production process are possible

**• Scalable and modular**

Simple, subsequent expansion is possible. Transparency and structuring in the production process

**• Reduction in quality costs**

Transparency and structuring in the production process — reduction in the number of errors and increased process safety

- 1 Safety scanner**  
The scanners allow the TRANSBOT to detect obstacles on the route so that it can react to them.
- 2 Lifting unit with magnetic cone**  
For loading, the TRANSBOT moves beneath the tray that is to be picked up and the lifting device moves upwards until it reaches the tray, pressing it upwards together with the load.
- 3 Pick-up for inductive charging**  
The underside of the vehicle features the pick-up unit for non-contact charging of the battery at an inductive charging station.
- 4 Drive wheels**  
The vehicle is powered by a battery-driven motor and two drive wheels. Four further supporting wheels provide additional stability.
- 5 Emergency stop switch**  
In the event of danger, the TRANSBOT can be stopped via an emergency stop switch.



"With our Automated guided vehicle systems, we are breaking new ground that has not yet been explored in this way. Our aim is to create solutions that make life easier for the industry."

**Maximilian Held, Product Management, HOMAG**



**Scanning the environment:** If the TRANSBOT detects an object or person within its safety area, it initially reduces speed. If the object is in the immediate vicinity, the vehicle stops automatically. Once the route is clear, the TRANSBOT continues with the execution of its order.



**Workpiece transport:** Workpieces are transported through the production hall on trays — small four-legged tables. For loading, the TRANSBOT moves beneath the tray that is to be picked up and the lifting device moves upwards until it reaches the tray, pressing it upwards together with the load.



# HC LIFE CYCLE SERVICES

Optimal service and individual consultations are included in the purchase of our machines. We support you with service innovations and products which are especially tailored to your requirements. With short response times and fast customer

solutions we guarantee consistently high availability and economical production – over the entire life cycle of your machine.



## REMOTE SERVICE

- Hotline support via remote diagnosis by our trained experts regarding control, mechanics and process technology. Thus, more than 90% less on-site service required and consequently a faster solution for you!
- The ServiceBoard App helps to solve tasks in a fast, simple and concrete way. This is achieved by mobile live video diagnosis, automatic sending of service requests or the online spare parts catalog eParts.



## SPARE PARTS SERVICE

- High spare parts availability and fast delivery.
- Ensuring quality by predefined spare parts and wear parts kits, comprising original spare parts.
- Identify and inquire for spare parts online under [www.eParts.de](http://www.eParts.de) 24/7, or buy even faster and more comfortably in the new HOMAG Webshop eCommerce.



## MODERNIZATION

- Keep your machinery up to date and increase your productivity as well as your product quality. This is how you can meet tomorrow's requirements today!
- We support you with upgrades, modernization as well as individual consultancy and developments.



## DIGITAL SERVICES

- ISN (intelliServiceNet) – The new remote service solution of the future! Fast restart of production because the remote service employee has extensive access to relevant physical data.
- intelliAdvice App – provides help for self-help. The preventive solutions proposed in the new App are the combination of our experiences and existing machine data.



## SOFTWARE

- Telephone support and consultancy through software support.
- Digitalization of your spare parts via 3D scanning saves time and money compared to new programming.
- Subsequent networking of your machinery with intelligent software solutions ranging from construction to production.



## FIELD SERVICE

- Increased machine availability and product quality by certified service staff.
- Regular checks through maintenance / inspection guarantee the highest quality of your products.
- We offer you the highest availability of technicians in order to reduce downtimes in case of unpredictable troubles.



## TRAINING

- Thanks to training perfectly suited to your requirements, your machine operators can optimally operate and maintain the HOMAG machines.
- The training also include customer-specific training documents with exercises proven in practice.
- Online training and webinars. Learn without traveling, meet your trainer in the digital classroom.

For you more than ...

**1,350**  
service employees worldwide

**90%**  
less on-site service thanks to successful remote diagnosis

**5,000**  
customer training sessions per / year

**150,000**  
machines, all electronically documented in 28 different languages – in eParts

## TRANSBOT TECHNICAL DATA

| Transport vehicle dimensions             |                    | Transport vehicle performance |               |
|--|--------------------|-------------------------------|---------------|
| Length                                   | 1,240 mm           | Load capacity                 | Max. 1,200 kg |
| Width                                    | 695 mm             | Travel speed                  | Max. 60 m/min |
| Height                                   | 340–400 mm         | Acceleration                  | 0.5 m/second  |
| <b>Transport vehicle turning circle</b>  | 1,250 mm unloaded  | Positioning accuracy          | +/- 15 mm     |
| <b>Transport vehicle operating times</b> | Max. 7 x 24 h/week | Pick-up and set down time     | 2.2 seconds   |

## Perfect solution for forward-thinking companies



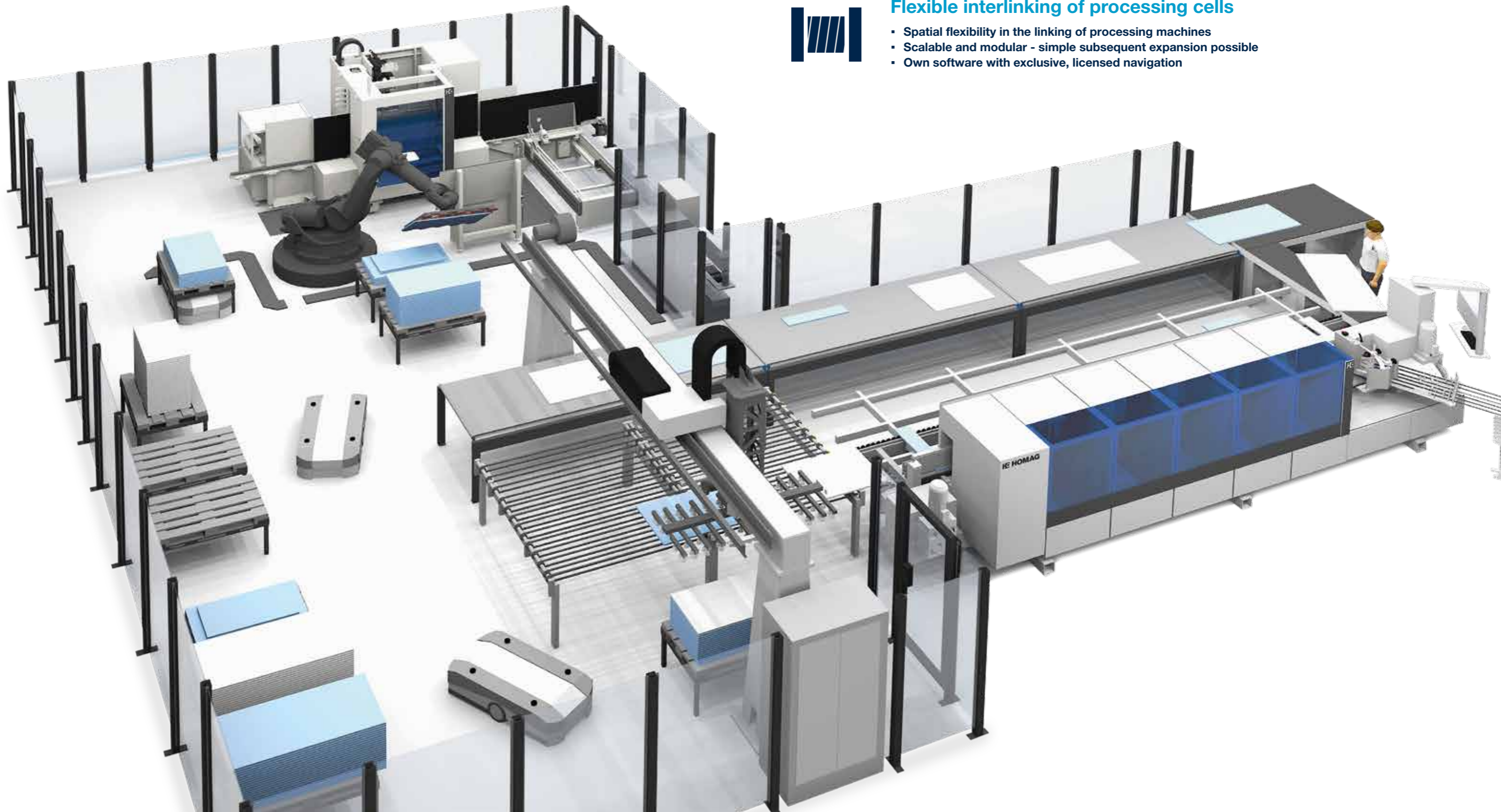
## Short response times

- Simple subsequent changes of product range and processing order
- Material management from one source - 24/7 processing possible
- Availability of approximately 100 %



## Flexible interlinking of processing cells

- Spatial flexibility in the linking of processing machines
- Scalable and modular - simple subsequent expansion possible
- Own software with exclusive, licensed navigation





## **HOMAG Group AG**

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## **YOUR SOLUTION**