Automation without rigid interlinking.

Automated guided vehicle system
TRANSBOT

YOUR SOLUTION

HE HOMAG
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 workplace 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 1200 kilogram 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

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"With our Automated guided vehicle system, 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

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Safety scanner
The scanners allow the TRANSBIOT to detect obstacles on the route so that it can react to them.

Lifting unit with magnetic cone
For loading, the TRANSBIOT 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.

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.

Drive wheels
The vehicle is powered by a battery-driven motor and two drive wheels. Four further supporting wheels provide additional stability.

Emergency stop switch
In the event of danger, the TRANSBIOT can be stopped via an emergency stop switch.

Scanning the environment: If the TRANSBIOT 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 TRANSBIOT 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 TRANSBIOT 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.
HOMAG LifeCycleService

Optimal service and individual consultations are included in the purchase of our machines. We provide support through service innovations and products that are tailored exactly to your company’s requirements. With short response times and fast customer solutions, we can guarantee excellent availability and cost-effective production for the entire life cycle of your machine.

HOMAG LifeCycleService

Remote service
- Hotline support via the remote service for the control system, mechanics, and process technology. This results in 85.2% fewer on-site service visits!
- Mobile applications such as ServiceBoard reduce costs by providing fast assistance in the event of malfunctions via mobile live video diagnostics, online service messages, and the online eParts replacement part shop

Spare part service
- Identify, request and order spare parts 24/7 via www.eParts.de
- Parts available locally worldwide through sales and service companies, as well as sales and service partners
- Reduction in downtimes due to specific replacement part and wear part kits

Modernization
- Keep your machine pool up to date and increase both the productivity and product quality. This means that you can meet future product requirements today!
- We provide support through upgrades, modernizations, and individual consultations and development

Trainings
- Thanks to training that is precisely tailored to your needs, your machine operators can operate and maintain HOMAG machines as efficiently as possible
- You will also receive customer-specific training material with tried and tested exercises

Software
- Telephone support and advice from Software Support
- Digitalization of your sample parts using 3D scanning saves time and money in comparison to reprogramming
- Retrospective networking of your machine fleet with intelligent software solutions from design through to production

Field service
- Increased machine availability and product quality thanks to certified service personnel
- Regular checks through maintenance/inspection ensure that your products are of the highest quality
- Minimized downtimes in the event of unforeseeable malfunctions due to the high availability of our technicians

HOMAG finance
- tailored financial solutions
  - We offer you tailored financing proposals for your machinery or plants. Our financial advice goes hand in hand with our expertise relating to technical questions. Your personal contact will take care of the whole process
  - The benefit for you is the ability to invest without delay in new technologies, while remaining financially flexible

1200
service employees worldwide

650
replacement parts orders processed per day

85.2%
feWER on-site visits thanks to successful remote diagnostics.

>150,000
machines electronically documented in 28 languages in eParts.
### TRANSPORT TECHNICAL DATA

<table>
<thead>
<tr>
<th>Transport vehicle dimensions</th>
<th>Transport vehicle performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td>1,240 mm</td>
</tr>
<tr>
<td><strong>Width</strong></td>
<td>695 mm</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td>340–400 mm</td>
</tr>
<tr>
<td><strong>Transport vehicle turning circle</strong></td>
<td>1,250 mm unloaded</td>
</tr>
<tr>
<td><strong>Transport vehicle operating times</strong></td>
<td>Max. 7 x 24 h/week</td>
</tr>
</tbody>
</table>

### 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