

↑Track

The new ultra class
for Automated
Guided Vehicles




STROTHMANN
Machines & Handling

↑Track **Strothmann's** **Automated Guided** **Vehicles**

uTrack is the Automated Guided Vehicle (AGV) system for demanding applications and the benchmark for lean production. The uTrack system is track-guided and has unbeatable advantages over conventional AGVs. Due to these outstanding features and the extreme areas of applications, we call our AGV Ultra-Track or uTrack.

↑ltra strong:

200 t
max. load transport

↑ltra precise:

±0.3 mm
positioning accuracy

↑ltra efficient:

100 %
maintenance-free

↑Track



↑ltra strong

Reliable and safe transport of products up to 200 t

uTrack is the heavy-duty AGV for automated material transport from 5 to 200 t: Due to the uTrack track guidance, even extremely long and wide loads can be moved safely. High load capacities can be realized regardless of the ground quality. Even large weight differences or the relocation of the material center of gravity have no effect on the positioning accuracy.

Permanent use

The AGVs made by Strothmann have been in use since 2004. Due to the many years of experience and the high system availability, customers worldwide trust in uTrack. The AGV is in permanent use in numerous production lines: including agriculture, aviation, wind power and mechanical engineering, among others.



Production lines for large and heavy products

An optimal field of application for the uTrack system is heavy load transport: e.g. for parallel or sequential flow production with products up to 200 t. Application examples: commercial vehicles, construction and agricultural machinery, aircraft industry or mechanical engineering.

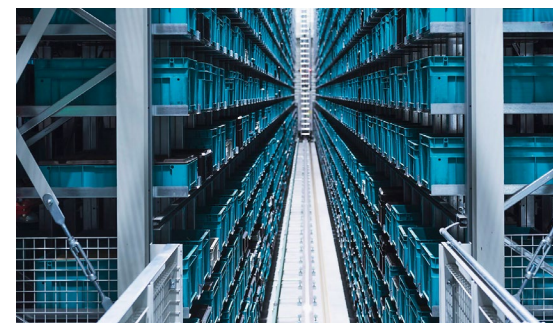




↑tra precise

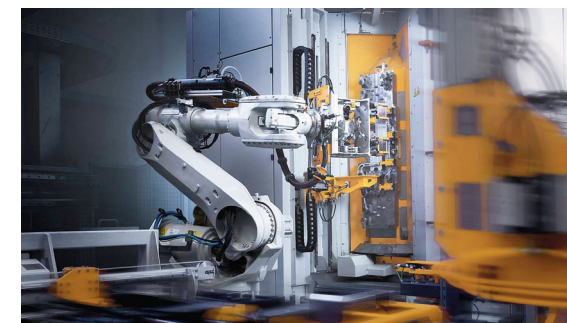
Positioning and fleet repeat accuracy up to ± 0.3 mm

The track guidance enables high-precision positioning and repeatability: consistently across the entire vehicle fleet. This unique feature enables optimal integration into automated processes and precise interaction with robots or machines. This reduces commissioning to a minimum. The uTrack track guidance eliminates lateral deviations, height tolerances or angular errors of the front and rear wheels.



Storage systems with high accuracy requirements

The high positioning accuracy is optimal for the use of uTrack in warehouse systems. The approach and exact storage and retrieval, even in high racks, are independent of changes in floor quality. Application examples: storage of large parts, storage of sensitive components or special bearings.



Machine interaction with high precision requirements

Due to the very high repeatability of the uTrack system, interactions with other machines and complex approach situations can be realized with the highest precision: e.g. interaction with robots, lifting platforms, turning stations or filling systems. Application areas: machining centers, welding and riveting robots, stacking lines or lifting tables.

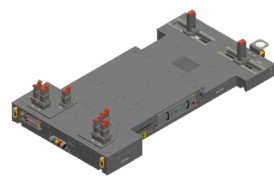
↑ltra efficient

The maintenance-free system with low operating costs

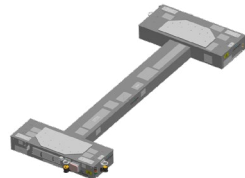
The maintenance-free components and high energy efficiency make the application of uTrack extremely economical and sustainable. Due to the minimal rolling resistance between the steel wheel and the steel rail, only low drive power is required to move large loads. Unlike conventional AGVs, there are no ruts in the production line and hall transitions or floor joints remain intact.

Variables chassis design

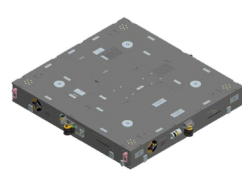
The trolley transports products up to 200 t automatically and with high precision. The chassis design can be individually adapted to the requirements. All system components are maintenance-free and designed for long-lasting use. The energy supply of the uTrack transport carriage can be flexibly selected: battery or induction drive.



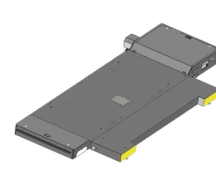
Agricultural machinery assembly:
Load capacity 23 t
L= 3500 mm
B= 2000 mm
H=220 mm



Agricultural machinery assembly:
Load capacity 16 t
L= 7500 mm
B= 2800 mm
H= 400 mm



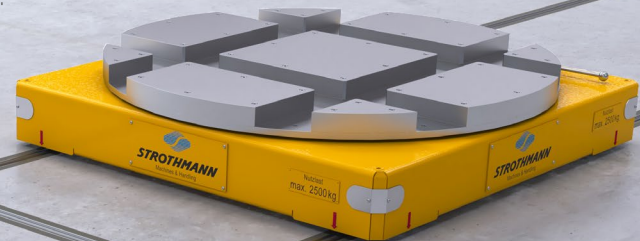
Transport of turbine components
Load capacity 85 t
L= 3010 mm
B= 2850 mm
H= 440 mm



Assembly of milling or machine tools
Load capacity 10 t
L= 3810 mm
B= 1540 mm
H= 150 mm

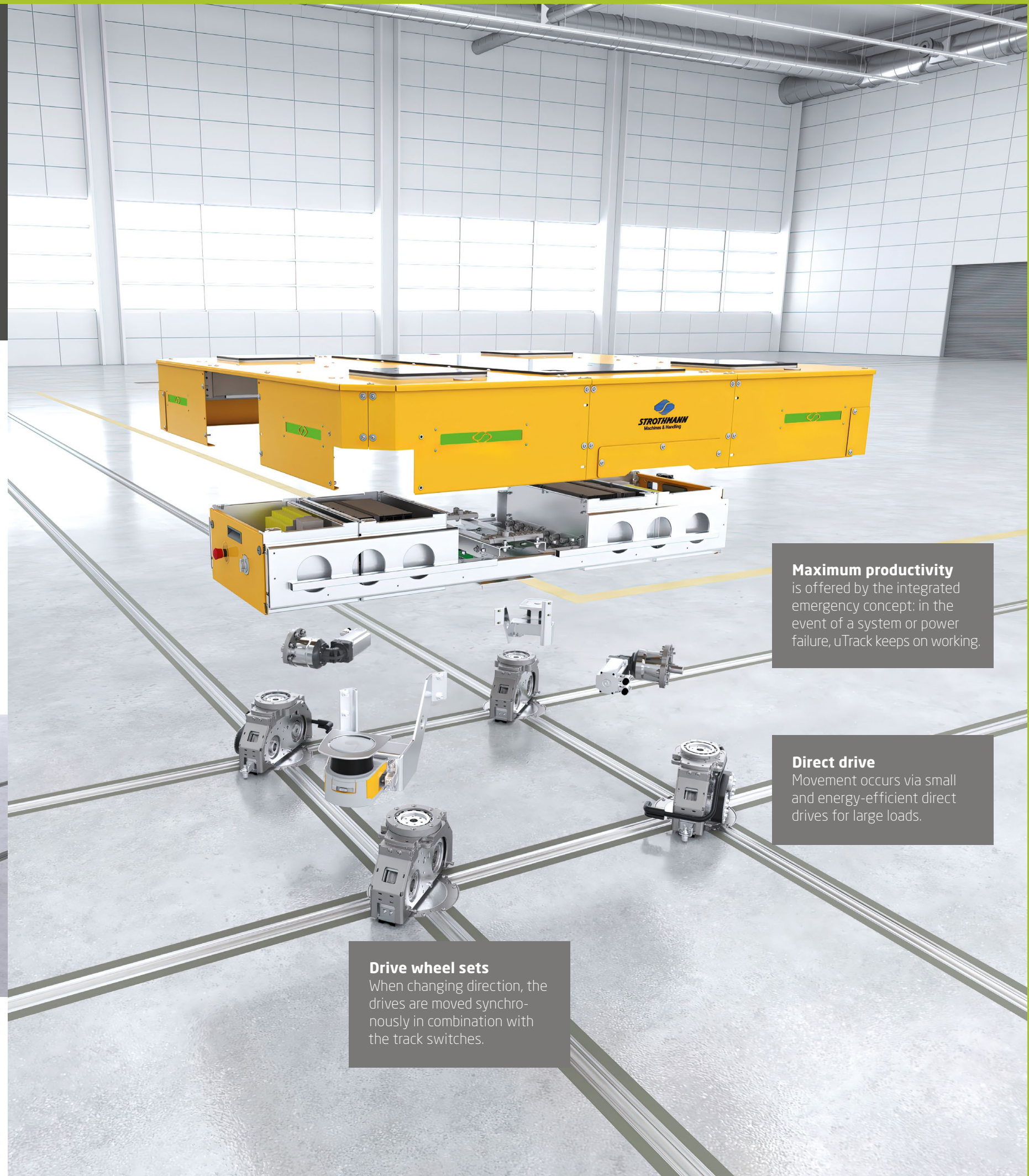
Change of direction

Cross chassis in the trolley or turning stations integrated in the floor allow the uTrack transport trolleys to change direction easily. This makes it possible to reach any position on the job site.



The uTrack track guidance

The RoundTrack from Strothmann guarantees the safe and precise positioning of the uTrack transport trolleys. The special shape of the wheels enables very low rolling resistance and precise guidance of the system.



Maximum productivity
is offered by the integrated emergency concept: in the event of a system or power failure, uTrack keeps on working.

Direct drive
Movement occurs via small and energy-efficient direct drives for large loads.

Drive wheel sets

When changing direction, the drives are moved synchronously in combination with the track switches.

uTrack

Advantages over conventional AGVs

The automated vehicle offers numerous advantages that enable flexible use in different industries. Especially in applications involving extremely large loads, extreme accuracy or interaction with other machines are required. In a direct comparison, the track-guided uTrack system is superior to conventional AGVs in numerous criteria. The advantages were worked out in cooperation with the german AGV competence center.

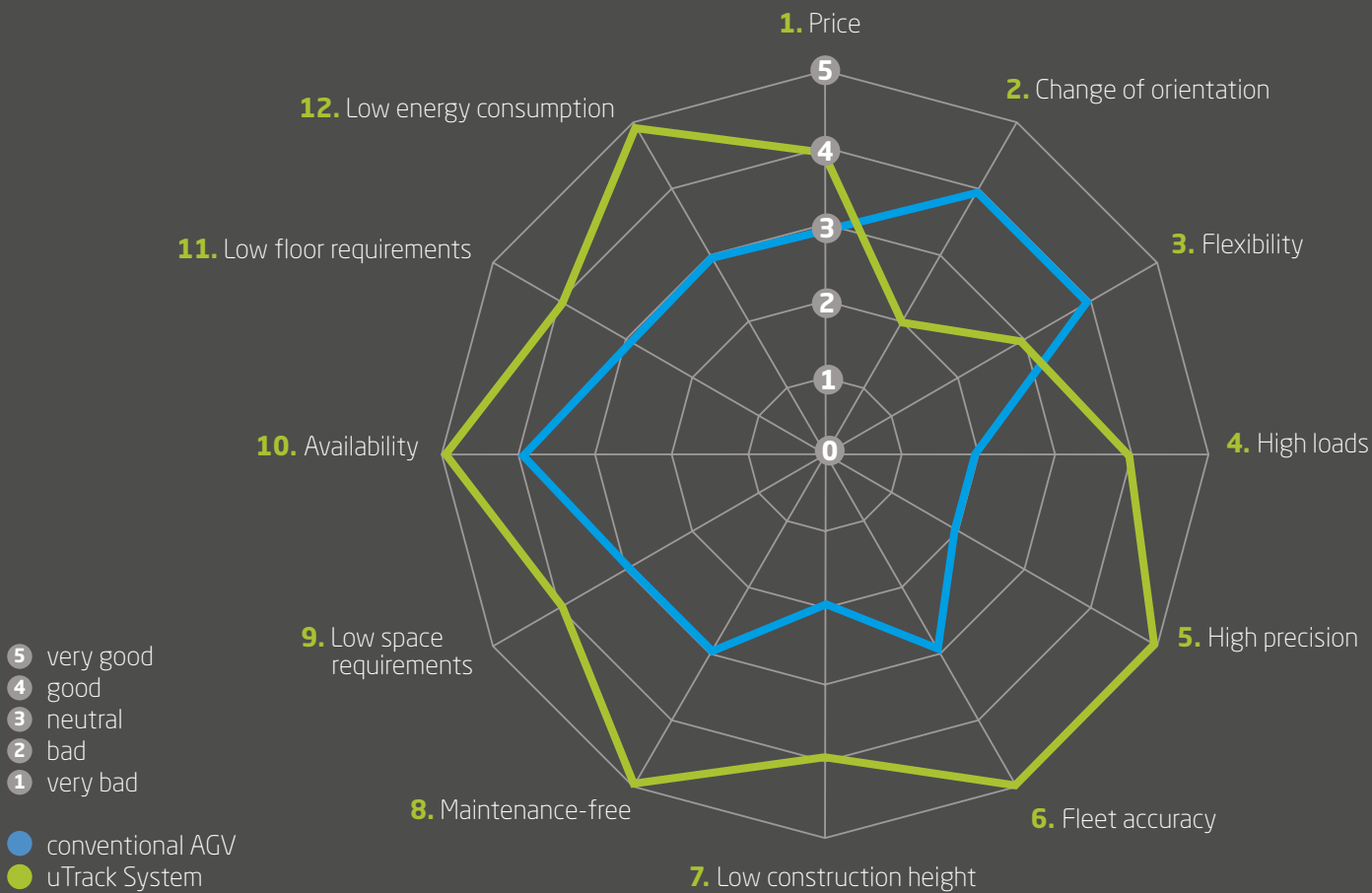


Technical data*

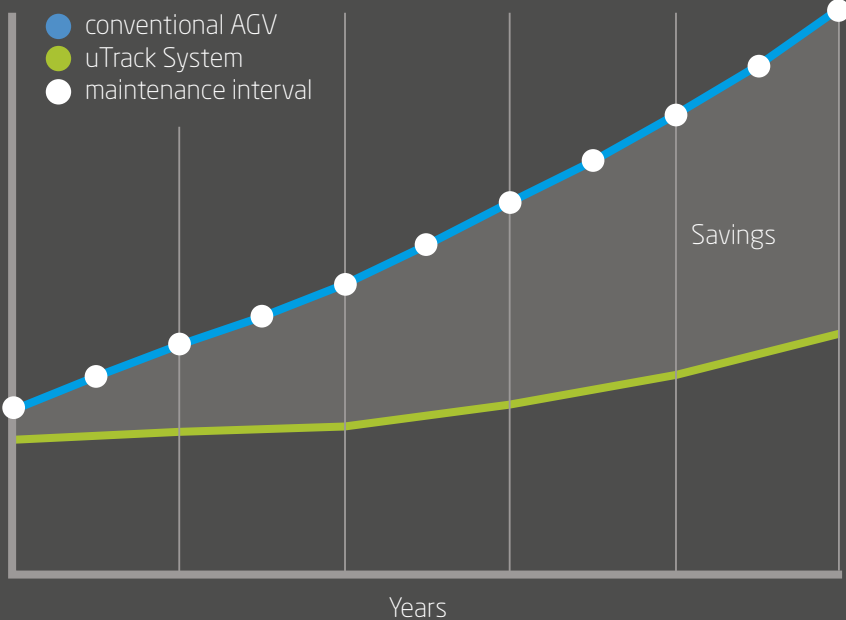
Max. load-bearing capacity per carriage	▪ RS25: 20 t, RS40: 40 t, RS60: 100 t
Min. dimensions (W x L x H)	▪ RS25/40: 1400 mm x 2500 mm x 300 mm ▪ RS60: 2500 mm x 3200 mm x 440 mm
Travelling profile	▪ Max. speed 30 m/min, max. acceleration 0.2 m/s ² ▪ Min. braking distance (20 m/min) approx. 300 mm, standard positioning accuracy ±3 mm
Energy supply	▪ Lithium ion battery: <ul style="list-style-type: none">– External charger (plug-in or charging contacts)– Internal charger (plug-in) ▪ Inductive energy supply over the entire distance ▪ Hybrid systems <ul style="list-style-type: none">– Battery + inductive/stationary charging points– Battery + inductive/partial charging sections
Vehicle control	▪ Automatic mode: <ul style="list-style-type: none">– Travel commands via WIFI from master control station (Profinet/Profisafe protocol)– Travel commands via control elements on the vehicle or stationary ▪ Manual: Manual control unit via remote control/cable
Master control station	▪ Fleet management/diagnosis on installation level ▪ Order management ▪ Standardised data interface OPC UA
Navigation	▪ "Point to point" navigation using transponders integrated in the floor
Safety system	▪ Diagonally arranged laser scanners with 270° detection range
Emergency concept	▪ Simple drive disconnection permits manual movement in the event of vehicle failure without significant production interruptions
Optional functions	▪ Lifting function, rotary function, extreme positioning accuracy through additional centring chassis up to (±0.3 mm)

* in the respective standard versions

System comparison of Forum-AGV



Reduction of operating costs (TCO)



On the road to success with uTrack. Benefit from the economic advantages of the uTrack system. Compared to conventional AGVs, uTrack already scores with the lower acquisition costs. Further savings result from the reduction of maintenance and energy costs: e.g. no wear-related component replacement is necessary. Repairs to the RoundTracks are not necessary. In addition, no service or maintenance stations are required. Another plus point: downtimes due to the loss of the carriages position are eliminated. This means that no subsequent teaching of the carriages is necessary.

Autonomous and free or better ultra precise and ultra efficient?

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Test drive now:
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