

↑Track

The new ultra class
for Automated
Guided Vehicles




STROTHMANN
Machines & Handling

uTrack **The Automated Guided Vehicle: The benchmark for Lean Production**

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.

uTrack



Due to these outstanding features and the extreme areas of applications, we call our AGV Ultra-Track or uTrack.

uTrack
Ultra strong
5-200 t
Max. load transport

uTrack
Ultra precise
±0.3 mm
Positioning accuracy

uTrack
Ultra efficient
10 x
More energy efficient

uTrack
Ultra compact
260 mm
Min. vehicle height

uTrack
Ultra available
99,8 %
Production reliability

↑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.



↑ltra precise

Positioning and fleet repeat accuracy up to ± 0.3 mm

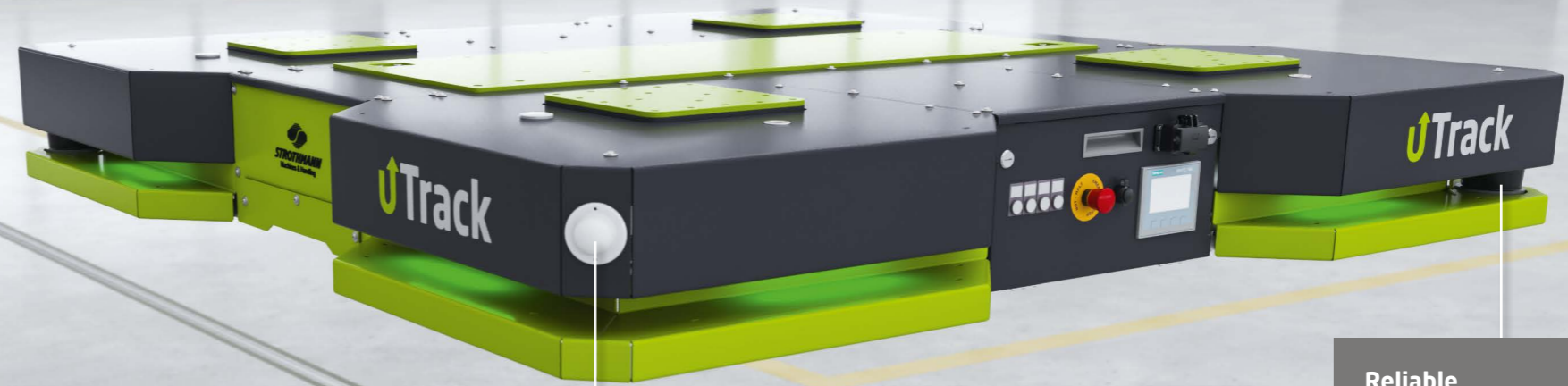
The track guidance enables high-precision positioning and repeatability - consistently across the entire vehicle fleet. This unique feature enables optimal integration into automated processes and precise interaction with robots or machines. This reduces commissioning to a minimum. The uTrack track guidance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



↑tra efficient

The lean system with low operating costs

The lean design and the use of energy-efficient components make the uTrack system particularly 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.



Stable Communication
5GHz WLAN

Robust navigation
RFID technology

Efficient energy supply
Contactless transmission with high efficiency

Reliable safety technology
2 x 270° laser scanners

Powerful Direct drives
Easy to move large loads.

Drive wheel sets
When changing direction, the drives are moved synchronously with the track switches.

↑ltra compact

The flattest AGV system in its performance class with a total height of 260 mm

The uTrack track guiding system offers extremely high payload in an extremely small space. The result is an ultra-compact AGV with a low total height. Only 260 mm for an AGV with a capacity of up to 40 t. uTrack improves the ergonomic situation for work at and on the transported product, offering plenty of space around the AGV and making it possible to climb on and off the cart without any additional aids.

260 mm ↑↓



↑ltra available

Minimized downtimes through maximized production reliability

uTrack is the optimal AGV for top production reliability. The reasons: An extreme robust technology in almost every production environment and an emergency concept in each AGV is standard. If a cart experiences unplanned downtime, operation can be continued manually in emergency mode. This means the product can remain on the cart and downtimes are minimized.



uTrack application areas: The AGV for large and heavy products in pre- and final assembly

The optimal application for the uTrack system is the transport of heavy products from 5 - 200 t in the area of pre- and final assembly. Application examples: Commercial vehicles, Construction and agricultural machinery, Aircraft industry and Manufacturing systems.



uTrack advantages in pre- and final assembly: Agriculture, Construction industry and Automotive

- reliable transport of heavy and large-volume loads
- highest safety for persons and objects
- high availability
- low operating costs
- integrated emergency strategy



uTrack application areas: AGV interaction with high requirements on position and repeat accuracy

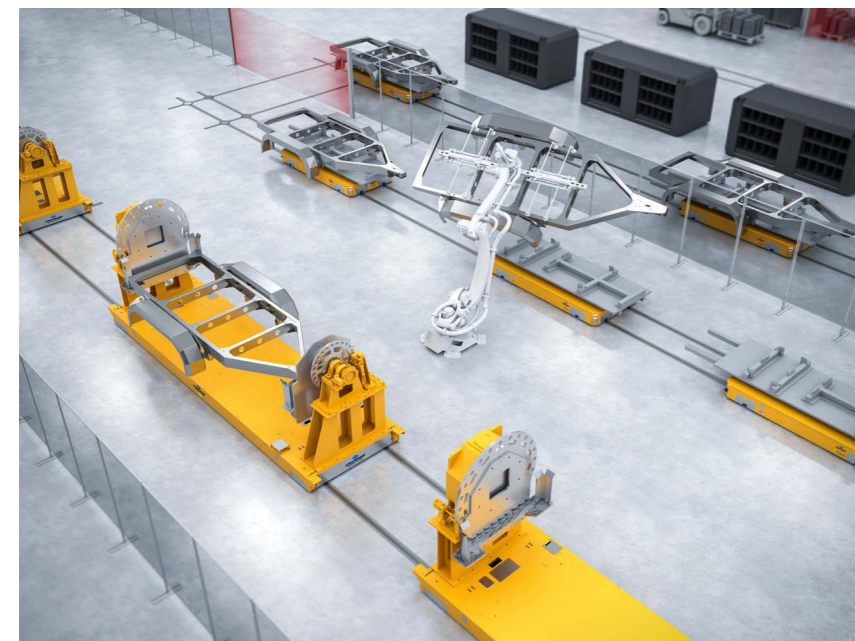
Due to the very high repeatability of the uTrack system, interactions with other machines and complex systems can be realized with the highest precision. Application examples: Machining centers, Welding and riveting robots, Stacking stations and Lifting tables.

Complete integration into the safety concept of the overall plant

Various additional functions such as rotating the swiveling are possible

Interaction with various robot types

Individual product pickup on the cart surface

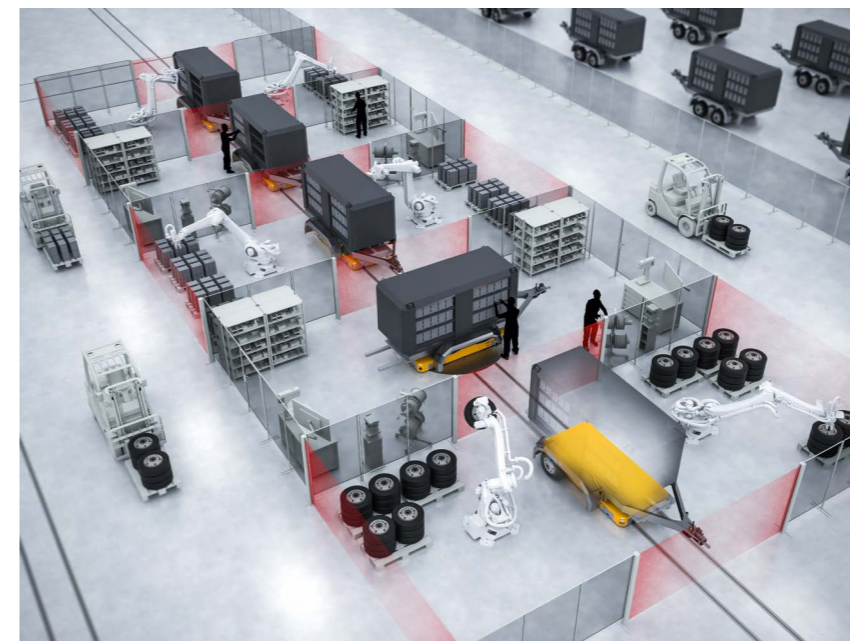


Joining (top)

Accurate positioning and repeatability is necessary for joining components. This applies to processes such as welding parts, applying various substances such as sealants or adhesives to parts, or measuring parts in quality inspection stations.

Transfer (left)

Several transfer points are necessary in production. In order not to lose productivity, this step must be completed as quickly as possible. In addition, other forces that can act on the carriage during transfer must be safely compensated.



Assembly

Human-machine interaction in assembly lines is becoming increasingly important. Simple and monotonous assembly tasks are increasingly being taken over by robots. At the same time, products are becoming increasingly complex. The future of assembly lines forms a homogeneous mix of humans and machines in production. uTrack serves both "sparring partners" best.

Comparison of AGV systems: ultra class versus autonomous systems

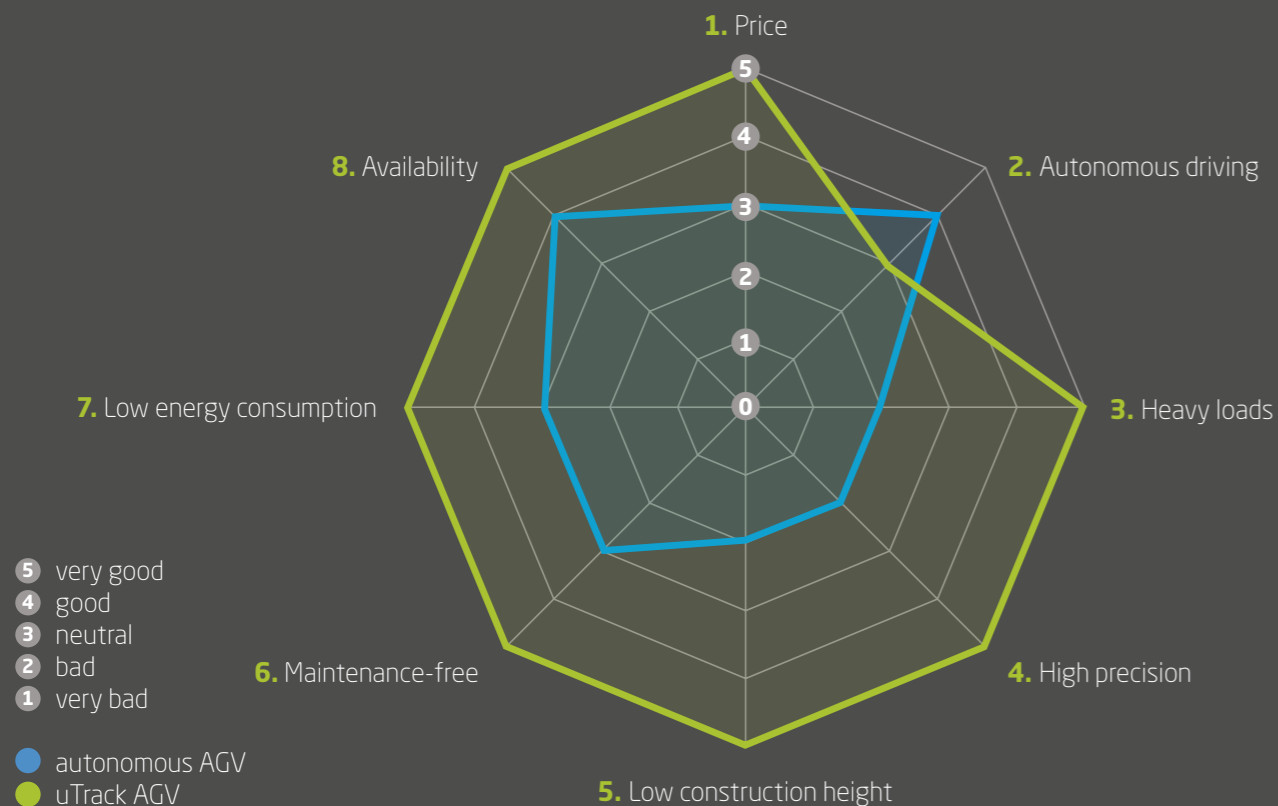
What are your goals?

Autonomy or Lean Production?

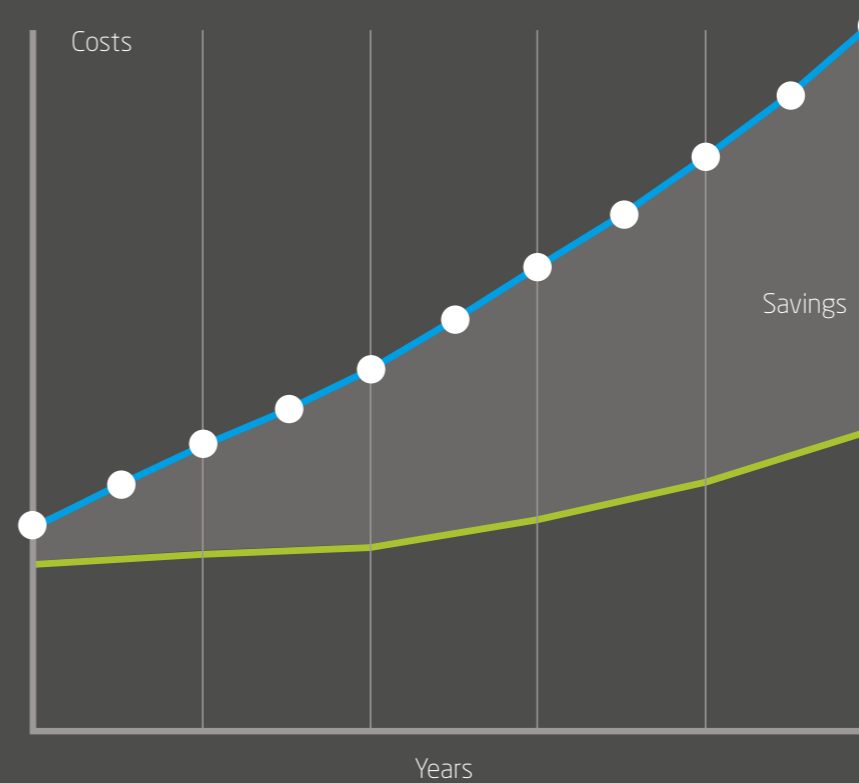
When selecting automated guided vehicles, numerous criteria must be taken into account depending on the production processes. The question of autonomy or the topic of flexibility is often brought into focus in discussions with users. Too much or too little flexibility reduces production efficiency and increases costs. The more important questions are: What are your goals in the production? Lean processes? Maximum availability? Maximum flexibility and autonomy? uTrack is the benchmark for efficient transport in production. Compared to autonomous AGVs, the system is already over the investment period with minimal effort and costs.



The superiority of uTrack at a glance



Reduction of total costs (TCO*)

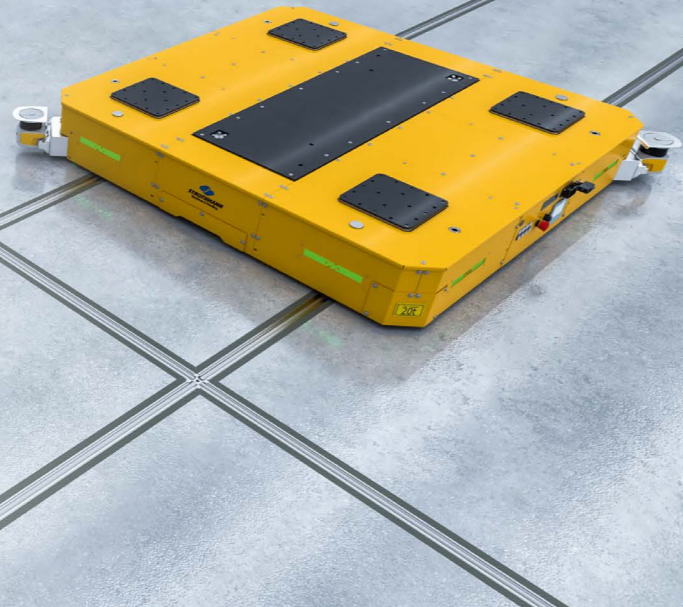


On the road to success with uTrack. Benefit from the economic advantages of the uTrack system. Compared to other AGVs, uTrack already scores with the lower acquisition costs. Further savings result from the reduction of maintenance and energy costs: e.g. no wear-related component replacement is necessary. 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.

*TCO: Total Cost of Ownership

uTrack 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.



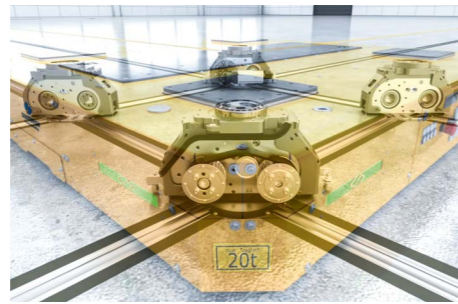
Cross-type chassis (90°)

Change of direction



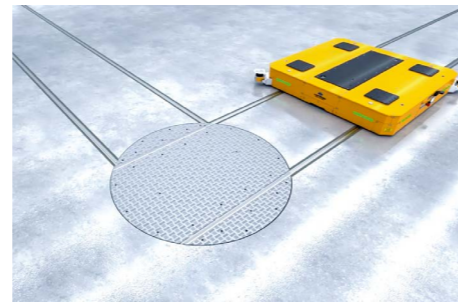
Quadro-chassis (90°)

Change of direction



Turning station (0 ... 360°)

Change of direction and orientation

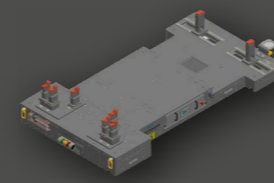


uTrack track guidance: Safe and precise

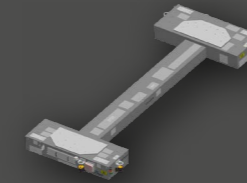
The RoundTrack from Strothmann guarantees the safe and precise positioning of the uTrack transport trolleys. The special shape of the wheels enables very low rolling resistance and precise guidance of the system.



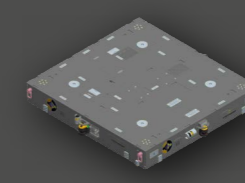
uTrack transport carts: Variable chassis design



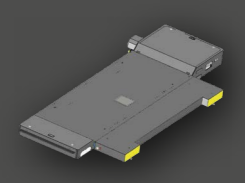
Agricultural machinery assembly:
Load capacity 23 t
L= 3500 mm
B= 2000 mm
H=220 mm



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

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/s²
- Min. braking distance (20 m/min) approx. 300 mm, standard positioning accuracy ±3 mm

Energy supply

- AGM battery:
 - External charger (plug-in or charging surfaces)
 - Internal charger (plug-in)
- Contactless energy transmission (inductive)
 - along the entire route
- Hybrid systems
 - LFP battery + inductive/stationary charging points
 - Capacitor storage + inductive/partial charging sections

Vehicle control

- Automatic mode:
 - 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 or cable

Master control station

- Fleet management/diagnosis on installation level
- Order management
- Standardized 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

Autonomous and free or better ultra lean and ultra efficient?

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Test drive now: www.ultra-track.com

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