

Autopilot System

Smooth Driverless Operations

100%
Accuracy in
positioning

The Autopilot system provides simple driverless operations: the machines ensure accurate transportation, stacking or picking - an excellent choice for busy environments where repetitive movements are common, providing highly efficient, cost-effective goods handling with a significant and fast return on investment.

The Autopilot system is adaptable and ideal for handling transportation of goods in warehouses, buffer storage or production areas. The Autopilot system can work seamlessly in a mixed operation alongside manually operated vehicles and personnel - in a completely safe environment.

The Autopilot system brings increased operating efficiency through accurate and reliable positioning of goods in the right place at all times. Furthermore, the system also creates high machine availability and reduces machine, infrastructure and goods damage.

All models in the Autopilot range can be used in manual mode as conventional trucks allowing complete flexibility in operations.



Toyota Material Handling in Europe

Total coverage
The Toyota Material Handling network extends to over 30 countries in Europe with more than 4,500 mobile technicians.

Always local – with global support
Wherever you are located in Europe, we are always local, due to our extensive coverage, but with the stability and back-up of a worldwide organisation.

Made in Europe
Over 90% of TMHE trucks we sell are built in our own European factories, in Sweden, France and Italy – all to Toyota Production System (TPS) quality standards. We employ over 3,000 production staff in Europe and work with over 300 European suppliers.

Approximately 15% of our European production is exported to other parts of the world.



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MATERIAL HANDLING

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Autopilot

Automated Solutions for driverless operation



Automation

Maximum Safety and Flexibility

Toyota Material Handling has created automated solutions to suit applications from 'stand-alone' simple operations such as goods transport through to larger operations where multiple trucks are integrated into the customer's Warehouse Management System.

There are numerous advantages to introducing automation to your material handling: safer operation with reduced risk of accidents, smooth traffic flow and greater reliability in transport, together with improved efficiency and opportunities to reduce cost.

Automated processes require less manual labour, and are amongst the most efficient ways to increase productivity and reduce operation cost.

The Autopilot system can easily be adapted to existing operations, keeping the same infrastructure. It is also scalable, making it possible to match the solution to your growing business demands. The biggest payback potential in automation comes in productivity improvements, where in some operations 80% or more can be achieved.

80%
Productivity
improvements



TOYOTA
MATERIAL HANDLING



Key Benefits

Productivity

Quick ROI through productivity gains

- The use of automated trucks eliminates manual transports such as receiving or despatching goods, handling empty pallets, and moving goods between production lines. It can eliminate labour time spent on truck driving by up to 80% or more.
- Systems such as WMS or MES can initiate transport orders to a fleet of automated trucks.

Project support

From analysis to go-live

- We provide tools to improve capacity, productivity and cost control for fully automated trucks or mixed environments in parallel with manually operated trucks.
- We support you throughout the process from analysis to go-live, turn-key solutions.
- We offer flexibility in solutions by using standard material handling equipment and unique intelligent software solutions that allow communication with your warehouse management systems.

Safety

Technology to prevent collision

- All Autopilot-controlled trucks comply with industry-approved safety standards.
- In addition to audible warnings and lights, they have built-in sensors to detect obstacles and determine when to slow down or stop to prevent a collision.
- The sensors are positioned to detect objects and activity around the vehicle.

Cost advantage

A number of key benefits

- A fully automated machine reduces the number of personnel required.
- It can operate in low light and temperatures, saving on energy costs.
- Automated trucks reduce the risk of damage to goods and infrastructure.
- Automated trucks are easy to introduce into an operation, with minor or no additional infrastructure.

Flexibility

Not limited to set routes

- Unlike traditional AGVs, automated warehouse trucks are not limited to set routes.
- The Autopilot can be easily switched from automatic to manual mode.
- The user can define the most efficient way to operate for a particular pick cycle or pallet handling operation.

Service

Based on the Toyota Service Concept

- No matter where your business is located our highly trained technicians are never far away to maintain your fleet of trucks.
- 24 hour parts delivery anywhere in Europe.
- We ensure Europe-wide coverage.
- We only use exact-fit genuine parts, for performance and durability.

Systems

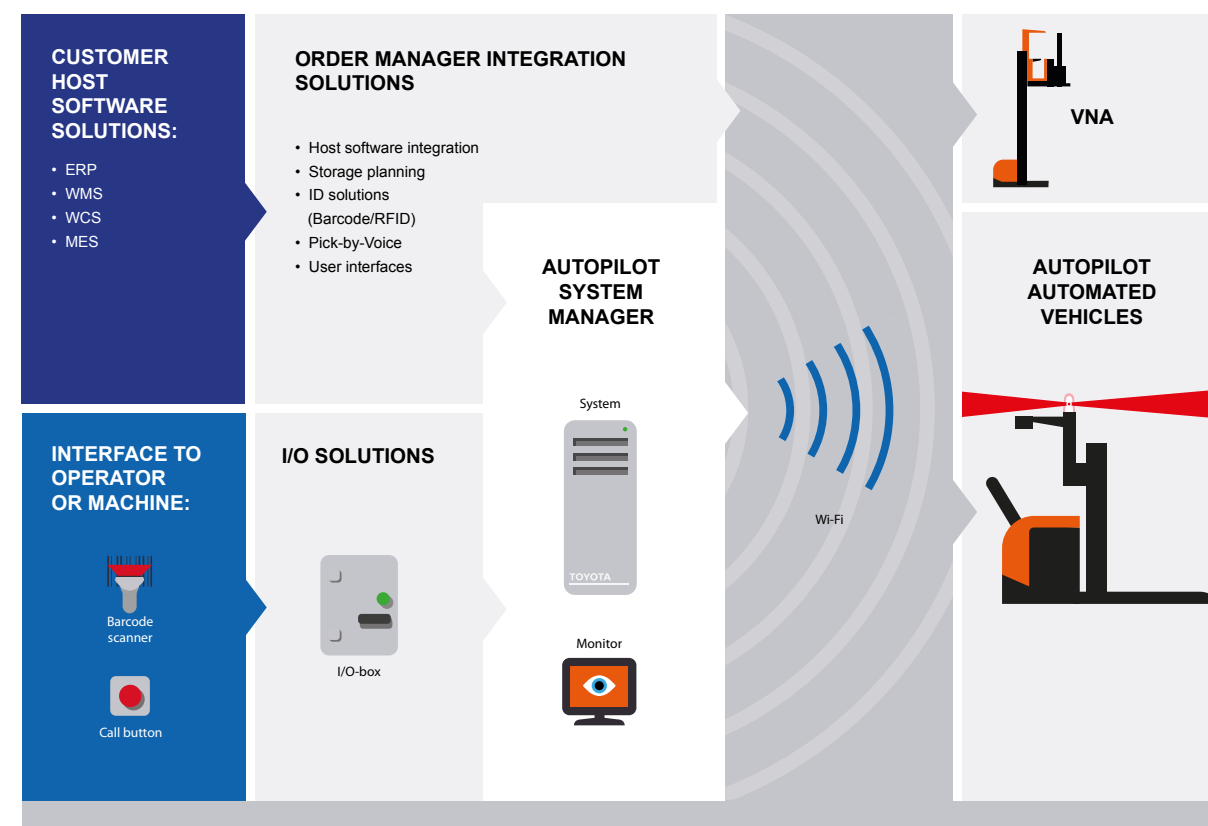
Standalone solutions

The Autopilot range is perfectly suited to 'standalone' simple applications such as A-to-B goods transport.

Integrated solutions

The Autopilot is also suited for larger operations where multiple trucks are integrated into customer's host systems such as Warehouse Management System (WMS) and Manufacturing Execution System (MES).

Integrated solutions



Standalone solutions

Model selection

Automated trucks are available across a range of models, including pallet trucks, order pickers and reach trucks. They also use a variety of guidance systems, including lasers, vision-based guidance, radio frequency identification (RFID), and global positioning systems (GPS). In some cases, a single vehicle can operate with multiple navigation technologies.

Feature table

	LAE	SAE	PRE	COSE	TSE	VNA
Load handling						
Pallets	•	•	•	•	•	•
Containers		•	•	•	•	•
Roll containers		•	•	•	•	•
Towing trolleys					•	
Taxi trolley solutions						•
Application						
Transport		•	•	•	•	•
Stacking		•	•	•	•	•
Automated Order Picking		•	•	•	•	•
Manual use		•	•	•	•	•
Handling Radioshuttles		•	•	•	•	•
Line stacking		•	•	•	•	•
Very Narrow Aisle						•
Order initiating						
Automatic		•	•	•	•	•
Manual		•	•	•	•	•
By sensors		•	•	•	•	•
Stationary bar code readers		•	•	•	•	•
Integrated bar code reader		•	•	•	•	•
Integration						
WLAN		•	•	•	•	•
Toyota Order Manager		•	•	•	•	•
Customer WMS integration		•	•	•	•	•
Customer ERP integration		•	•	•	•	•
Customer WCS integration		•	•	•	•	•
Load verification		•	•	•	•	•
Truck location		•	•	•	•	•
Safety						
Personal safety forward		•	•	•	•	•
Personal safety rearward		•	•	•	•	•
Side protection		•	•	•	•	•
Obstacle protection		•	•	•	•	•
Mechanical fork bumper		•	•	•	•	•
Foot protection		•	•	•	•	•
Options						
Foldable platform		•	•	•	•	•
Vision system						•
Navigation						
Laser navigation with flat reflectors		•	•	•	•	•
Laser navigation with cylindrical reflector		•	•	•	•	•

Autopilot - Automated Solutions from Toyota Material Handling

Autopilot solutions have been designed for safe, efficient, accurate and cost-effective goods handling. They reflect Toyota's long tradition for quality and customer-first approach.

Wide range of standard warehouse trucks

Autopilot is based on the upgrade of standard trucks from Toyota's wide range of products. Powered pallet trucks, stackers, reach trucks, order picking trucks and very narrow aisle trucks are all available with Autopilot technology to allow upgrade and efficiency in all types of operations.

Standard Serviceability

Because Autopilot is based in standard warehouse trucks from Toyota, they can be maintained in the same way as manual trucks, fully supported by Toyota's European service network with the benefit of the Toyota Service Concept.

Automation benefits

There are major advantages to introducing automation to your material handling operations: safer handling with less damaged goods, less risk of accidents and smooth traffic flow - with maximum reliability, exceptional efficiency, and greater cost-reduction opportunities.

Choice of navigation techniques

We offer customers a wide choice of navigation types to best serve the application and demands of their business. Whether the performance targeted is focused on speed, accuracy or flexibility, you are sure to find the navigation systems that suits you best.

Integrated solutions

Automated solutions from Toyota are designed for high flexibility and are fully compatible with a broad range of Warehouse Management Systems.

Testimonial

"The Autopilot system has been a major benefit for us. It has helped decrease the number of trucks in operation by more than 50%. It helped us increase productivity by 100% without increasing handling cost compared to manual handling. Our operations are more efficient, reliable and safer. We count on a payback period of 2,4 years for the project."

Marie Saxne,
Logistics Developer / Project Manager
Haldex, Sweden

100%
Productivity
increase