

ATOMBOTIX

AGV BODY

Controller-Free Zombie Robot



A Versatile Modular AGV Chassis for Custom
Mobile Robot Development

www.atombotix.com

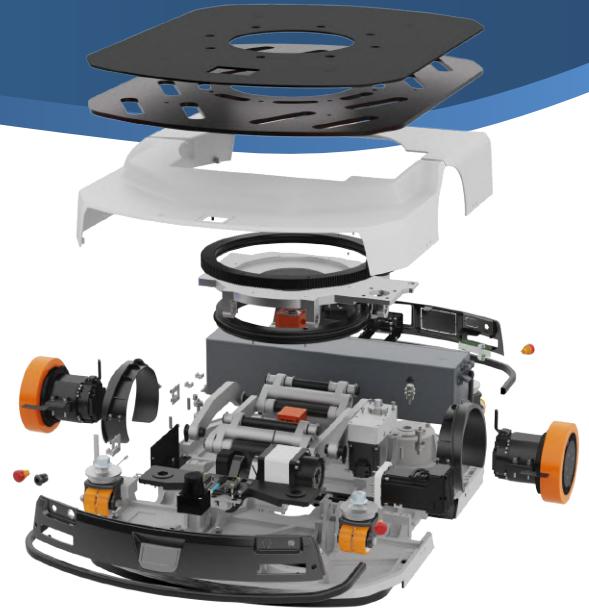


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What is an AGV Body?

In industrial automation and mobile robotics, an AGV (Automated Guided Vehicle) typically refers to a complete system.



And what is an AGV Body?

A "Zombie Robot" .

It is a **versatile, modular AGV chassis** designed as a hardware platform for building **custom mobile robots**. Unlike a full AGV system, it does not include a controller or navigation system, allowing users to integrate their own controlling system and software.

It can be understood as "zombie robot" , "**controller-free**" mobile robot platform.



AGV Body

- Mechanical structure (AGV chassis)
- Drive wheels, gearboxes and motors, motor drivers
- Lifting Mechanisms, and related motors, motor drivers
- Battery system
- Basic wiring harness
- Necessary buttons



Traditional AGV

- Mechanical chassis
- Driving system (wheels, motors, motor controllers etc.)
- Controller
- Navigation sensors
- Battery
- Fleet management software

However, it lacks the central controller—the "brain."

As a result, the AGV Body cannot independently perform path planning, obstacle avoidance, or task scheduling.

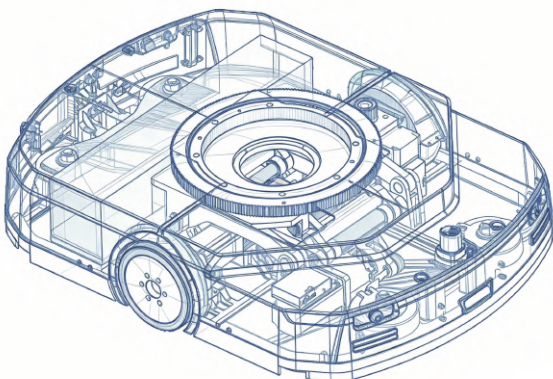
It must be integrated with an external controller (such as a PLC, industrial PC, or ROS-based system) to become a fully functional mobile robot.

“ Challenges & Advantages

Challenges of Developing an AGV Chassis from Scratch

Developing a custom AGV or mobile robot platform from the ground up presents several common challenges:

- 01 Long Development Cycles**
 Typically 6-12 months or longer, with repeated prototyping and redesign iterations.
- 02 High Development Costs**
 Involving multi-disciplinary teams, tooling, and small-batch procurement, prototype costs can be **2-3x higher** than using a mature AGV chassis platform.
- 03 High Technical Risk**
 Common issues include:
 - Improper mechanical design
 - Complex integration of safety systems (e.g., safety PLC, STO motor drives)
 - Battery management and charging risks
- 04 Complex Supply Chain**
 Dozens of suppliers must be coordinated, often with unstable lead times and limited flexibility for small-volume production.
- 05 Certification Barriers**
 CE and UL certification require:
 - EMC testing
 - Functional safety validation
 Lack of experience can result in rework and **3-6 months** delays in product launch.

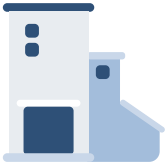


Advantages of Using an AGV Body Platform

- 01 Significantly Lower Cost**
 By eliminating OEM controllers, navigation modules (such as LiDAR or QR code readers), and proprietary software licenses, an AGV Body typically costs only **30%-50% of a complete AGV system**. For companies developing their own mobile robot solutions, this provides excellent cost efficiency.
- 02 Flexible Controller and Hardware Selection**
 Users can freely choose their preferred control system, including:
 - Industrial PLCs
 - Industrial PCs
 - ROS-based robot control systems
- 03 Full Software Ownership and Control**
 With an open hardware platform, users can fully develop and customize:
 - Motion control algorithms
 - Path planning logic
 - Task scheduling systems
 This is especially valuable for **non-standard** automation workflows and highly customized industrial applications.
- 04 Easy Integration and Expansion**
 AGV Bodies provide standardized interfaces such as:
 - CAN / CANopen
 - Modbus
 - Digital I/O
 They also include standardized mounting structures, making it easy to integrate:
 - Vision systems
 - UWB positioning modules
 - Custom sensor packages
- 05 Transparent Maintenance and Iteration**
 Without reliance on OEM vendors:
 - Hardware issues can be diagnosed internally
 - Control software can be updated independently
 This significantly reduces downtime and accelerates product iteration.

“ Who Needs an AGV Body or Modular AGV Chassis?

Who It's For

01 
Automation System Integrators

02 
**Manufacturing Companies
with In-House R&D Capabilities**

03 
Robotics Startups

04 
**Software Companies /
AI Teams**

Applications & Benefits

When delivering factory automation projects, AGV Body platforms can be combined with in-house controllers to standardize scheduling interfaces across different AGV brands and reduce overall hardware costs.

Industries such as automotive, electronics, and warehousing often have embedded development teams. They use AGV Body platforms to independently maintain AGV fleets, customize control systems, and avoid vendor lock-in.

Suitable for quickly developing prototype products or small-batch specialized AGVs. Avoids designing the AGV chassis from scratch and significantly shortens development cycles.

Focus on algorithm and scheduling system development. By combining AGV Body with self-developed controllers and cloud platforms, they can quickly build proprietary AGV products or SaaS + hardware solutions, reduce hardware investment, and accelerate time-to-market.

ATOMBOTIX: Modular AGV Chassis & Mobile Robot Platform Provider

ATOMBOTIX provides a complete solution based on standardized **AGV Body platforms** and modular mobile robot chassis systems.

Standardized Modular AGV Chassis

ATOMBOTIX offers a range of payload options, from light-duty to heavy-duty platforms (50kg, 400 kg, 600 kg, up to 1000 kg).

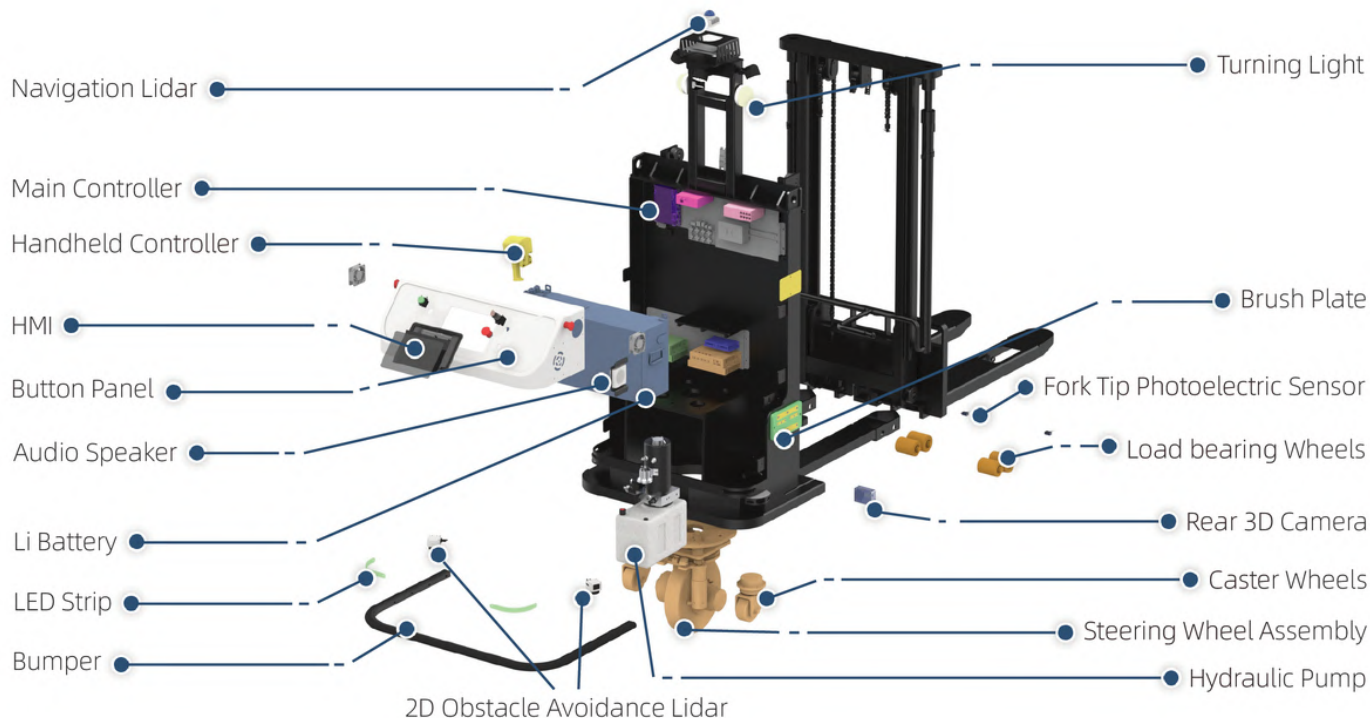
These mature and reliable AGV chassis platforms enable:

- Rapid development of custom mobile robots
- Reduced mechanical design effort
- Faster prototyping and iteration

Platform lifting type AGV body:



Forklift-type AGV body:



Related video introduction:



1000kg AGV Body (Platform Lifter) | Modular AGV Chassis Assembly & Structure Demo



ATOMBOTIX AGV Body | Ready-to-Integrate Mobile Robot Platform



ATOMBOTIX AGV Body Platform Explained
1.6T Open Bottom Pallet Truck



CE, UL, and Functional Safety-Ready Design

ATOMBOTIX integrates hardware aligned with international safety standards, providing a solid foundation for certification.

Key components include:

Safety Controllers (Safety PLC)

- Emergency stop
- Safe speed monitoring
- Safety zone switching

Motor Drives with STO (Safe Torque Off)

- Reliable torque shutdown in safety events
- Compliance with EN ISO 13849-1



Custom AGV and Mobile Robot Development Support

Beyond standard AGV chassis platforms, ATOMBOTIX provides end-to-end customization services:

- Hardware configuration
- Software integration
- Application-specific design

This includes:

Custom payload structures

Specialized interfaces

Sensor integration and mounting



Battery and Charging Systems

Reliable battery modules and charging solutions are provided as part of the integrated AGV platform.

Rich Communication Interfaces and Controller Compatibility

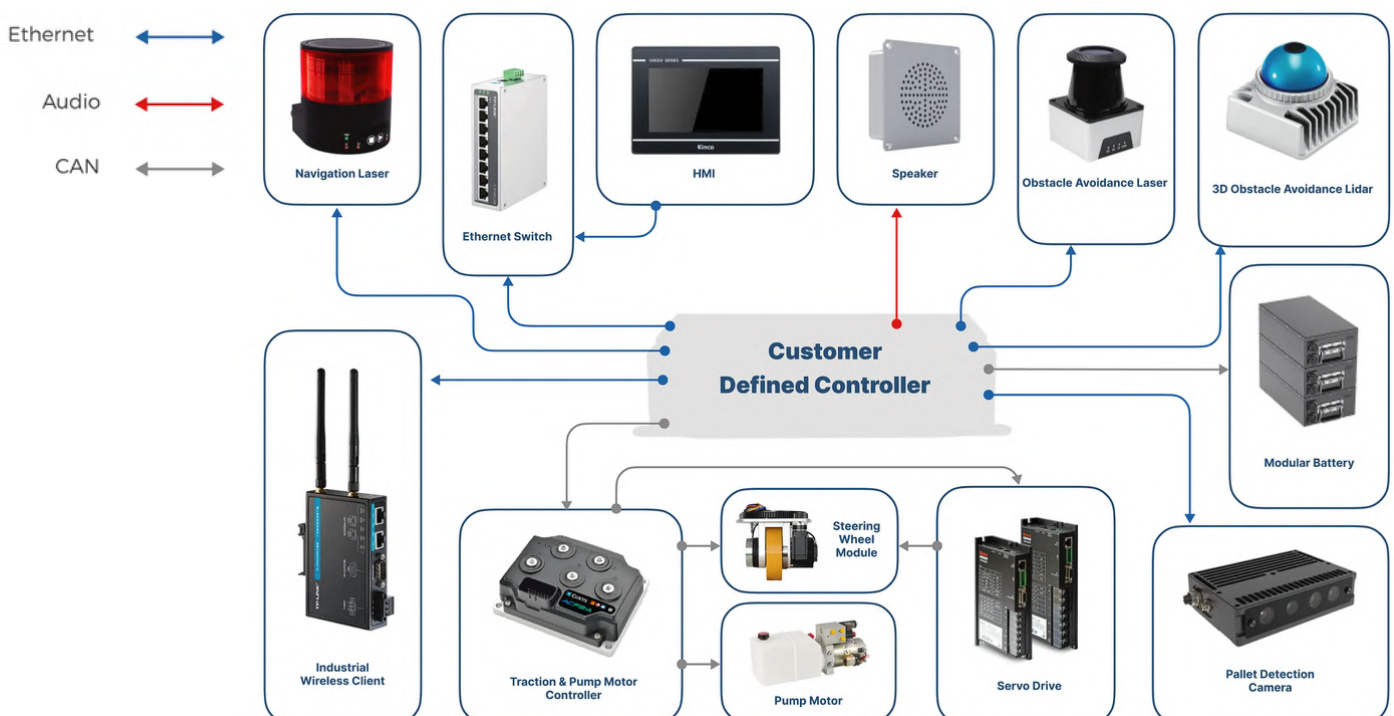
ATOMBOTIX supports multiple motion configurations:

- Differential drive
- Steering drive
- Dual steering systems

And offers industrial communication interfaces:

- CAN
- RS485
- EtherCAT
- Gigabit Ethernet

This ensures seamless integration with various robot control systems.





One-Stop Supply and Scalable Manufacturing

ATOMBOTIX provides:

- Integrated sourcing of motors, sensors, controllers, batteries, and navigation modules
- Advanced manufacturing with precision equipment
- Digital inspection systems
- Compliance with international quality standards

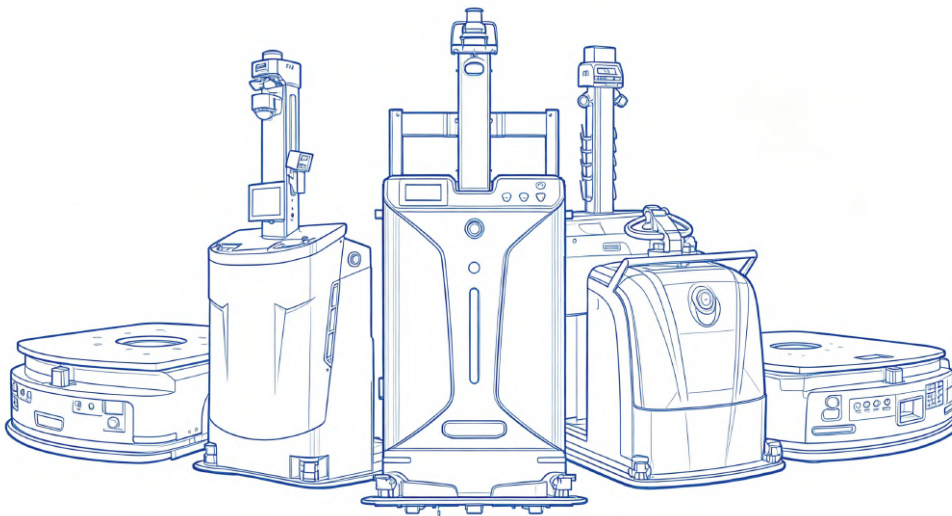
From prototyping to mass production, customers benefit from **a single, reliable AGV chassis supplier**, reducing supply chain complexity and accelerating time-to-market.

“ Conclusion

The AGV Body concept introduces a more flexible and efficient way to develop mobile robots.

Instead of building a complete AGV system from scratch or relying on closed OEM platforms, companies can leverage **a modular AGV chassis** and focus on their core strengths—software, algorithms, and application development.

For organizations seeking speed, flexibility, and cost efficiency in industrial automation, AGV Body platforms provide a powerful foundation for next-generation mobile robots.



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