

INFAN-TR3

INDUSTRIAL DELIVERY ROBOT



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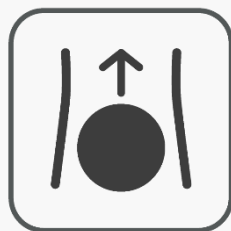
INFANTR3

Industrial Delivery Robot

The INFANTR3 is a versatile delivery robot designed for material transport in industrial environments and heavy-load delivery in commercial settings. It features a robust, load-bearing chassis with an open architecture and includes an operational screen for user convenience. The robot can handle loads up to 300kg and is equipped with essential IoT capabilities such as elevator control, gate navigation, and remote paging functionality. It also provides extensive software and hardware interfaces, making it easy to integrate with existing software systems and expand with additional hardware.



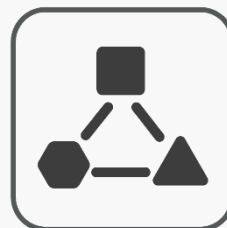
Key Features



Superior Mobility



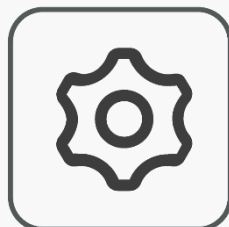
300kg Load Capacity



Multi-modal Interaction



7/24 Non-stop Operation



Diversified Attachments



Flexible Vslam+ Positioning



360° Omni-Sense Safety



ISO 3691-4 Standard

Product Introduction



Product Specifications

Machine Dimension	78cm*50cm*134cm
Machine Weight*	60kg
Loading Capacity	Maximum 300kg
Run-time	12h (none load) , 6h(fully load)
Battery Capacity	30Ah
Charging Time	2h (from 0% to 90%)
Cruise Speed	Maximum 1.2m/s
Threshold Overcoming Height	Maximum 20mm
Groove Crossing Width	Maximum 35mm
Path Clearance	Minimum 60cm
Navigation Methods	VSLAM C Lidar SLAM

*The TR3 with lifting functionality will weigh approximately 80kg.



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VSLAM+ for Rapid Deployment Across Vast Venues

Precision Meets Presence

- The TR3 utilizes the Infan's original **VSLAM+ technology** and is classified as an AMR. Unlike traditional AGVs, it does not depend on preset physical path markers but rather navigates freely using an advanced visual positioning system. This allows the INFANTR3 to **quickly adapt to changes in production layouts without the need for time-consuming reconfiguration or facility remodeling.**
- Operation even in high ceiling environment up to **30 meters**
- Extra large scene mapping for up to **200,000m²**
- Deployment time is reduced by **70%** compared to traditional AGVs, while the use of a built-in mapping tool boosts mapping efficiency by an additional **30%**.



360° Omni-Sense Safety

- The TR3 industrial delivery robot sets a high standard in safety, meeting the stringent ISO 3691-4 guidelines for industrial vehicles. Its advanced safety features ensure reliable operation within the ever-changing landscape of factory settings.
- At the heart of its safety suite are cutting-edge LiDAR sensors, which provide a 360-degree scan of the robot's surroundings to detect objects and navigate with precision. Depth cameras offer an additional layer of spatial awareness, allowing the TR3 to accurately measure distances and effectively avoid collisions.



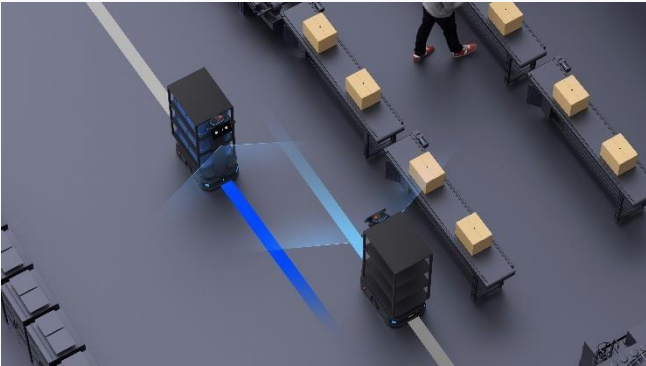
Multi-Robot Collaboration

INFAN Scheduler System

- Powerful self-organized network
- Dispatch up to 20 robots in one environment
- Realtime environmental perception
- Automatically detour for traffic congestion
- Adapt to complex and dynamic scenarios
- Allow painless collaboration among robots

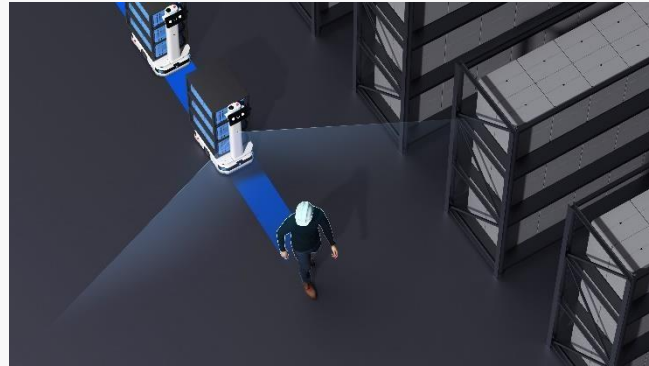


Auto & Semi-auto Delivery Modes



Auto-delivery Mode

The TR3 is capable of autonomous navigation and can deliver goods to any designated destination. Additionally, you can swiftly adjust the maps to accommodate changes in the production line.



Follow Mode

The TR3 employs visual recognition technology to facilitate an orderly queuing and following mechanism among multiple robots, a system primarily used for material preparation and the transportation of assorted goods.



Power-assist Mode

When manual intervention is required for specific tasks or map generation, the TR3 is equipped with an electric power-assist system to facilitate hand-pushing operations, thereby enhancing delivery efficiency and convenience.

Versatile External Attachments

Expand Your Capabilities with INFAN Attachments

The diversified expansion of applications significantly enhances the robot's adaptability and versatility, thereby increasing operational efficiency and simplifying procedures, ensuring a more efficient, smooth, and seamless delivery process.



Standard Mode



Shelf Mode



Lifting Mode



Towing Mode

Versatile External Attachments



Features

Large capacity

Multi-level carrying space

Fully automated delivery and loading/unloading

Flexible integration with existing carriers

Scenarios

Large-scale material box transport

Multi-site small or medium material transport

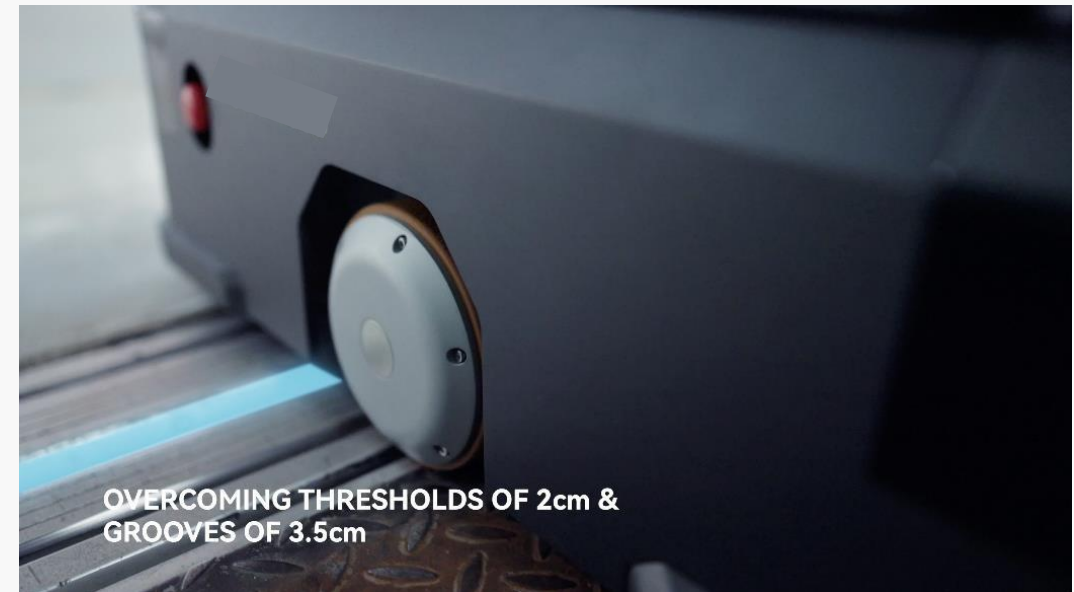
Multi-site small or medium material transport

Materials need to be transported using existing wheeled carriers

Exceptional Adaptability to Different Sites

Exceptional mobility to navigate various obstacles

Boasting an exceptional 60cm path clearance, the TR3 ensures agile maneuverability in narrow human-robot cohabited spaces, effortlessly overcoming 20mm thresholds and 35mm grooves. It facilitates precise material transport between production lines and is designed to meet elevator control requirements.



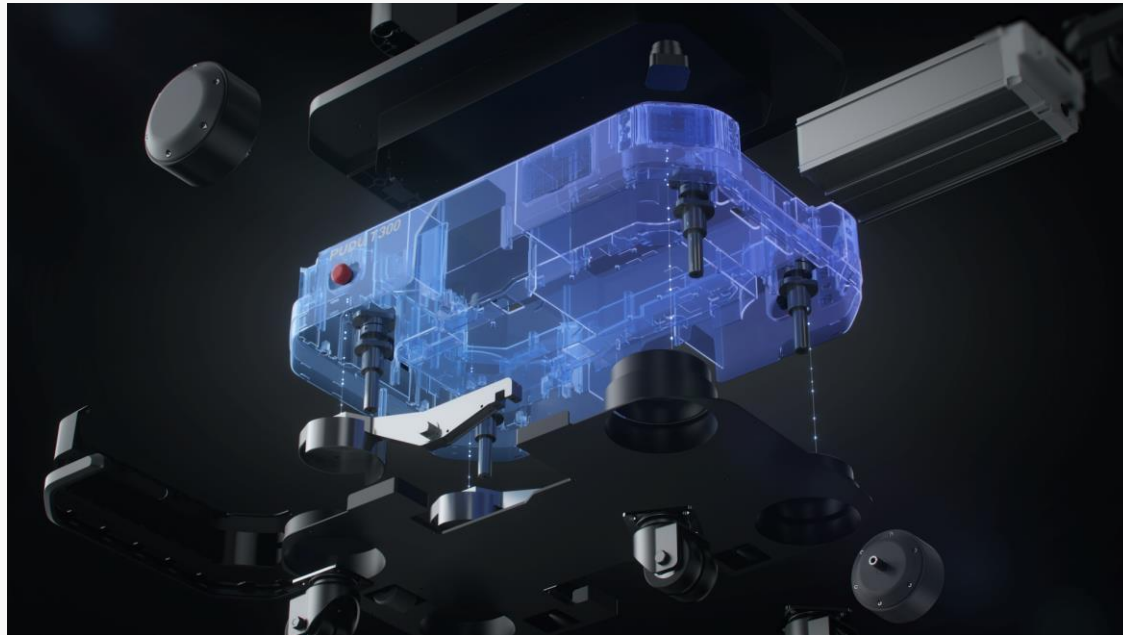
Round-the-clock Operation

24/7 Non-stop Operations

- **8 hours of continuous work, 2 hours for rapid charging**
- The TR3 offers an 8-hour battery life and supports a fast 2-hour (from 0% to 90%) charging capability. Equipped with both automatic recharging and battery replacement options, it ensures uninterrupted service to fulfill round-the-clock operational requirements.



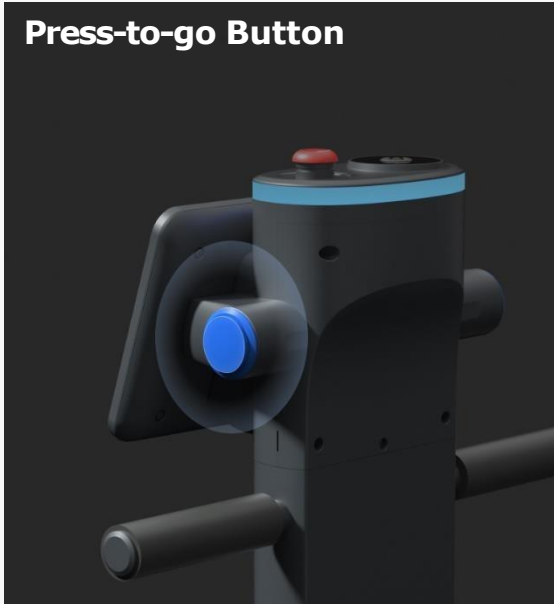
Stabilized Delivery



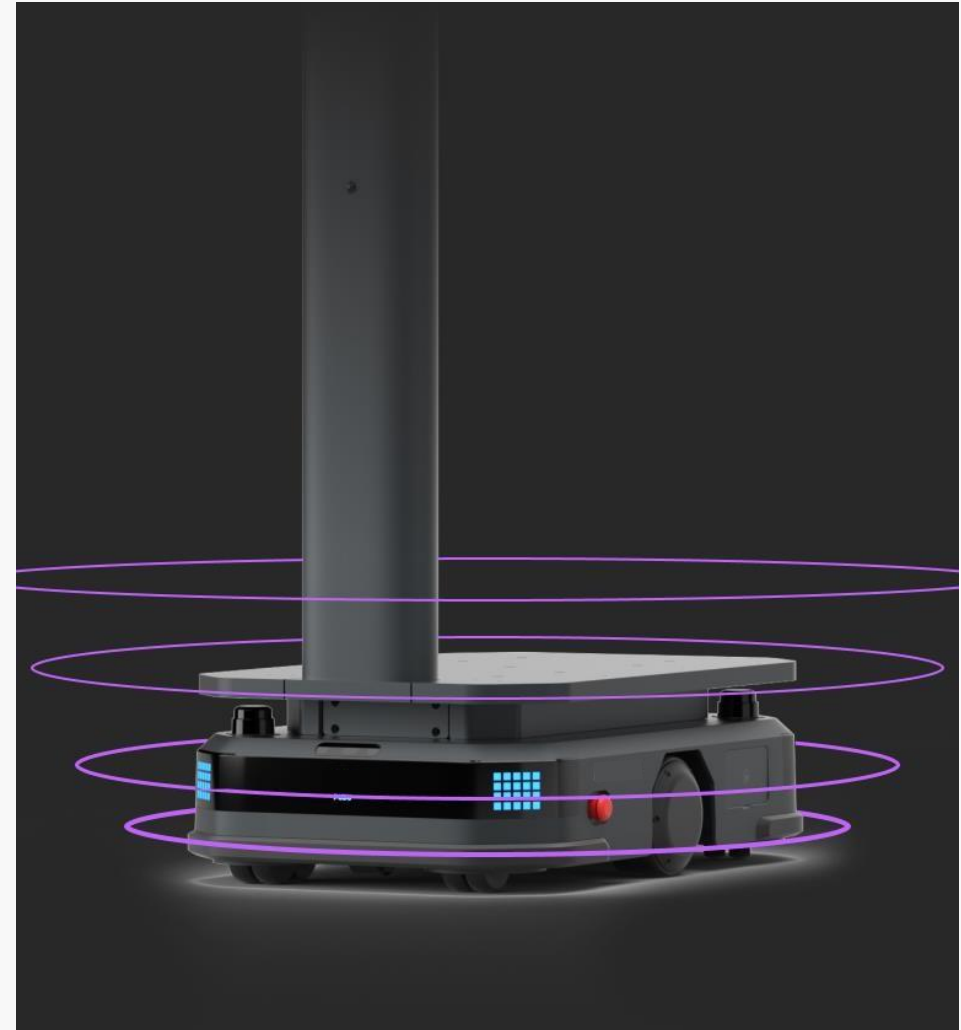
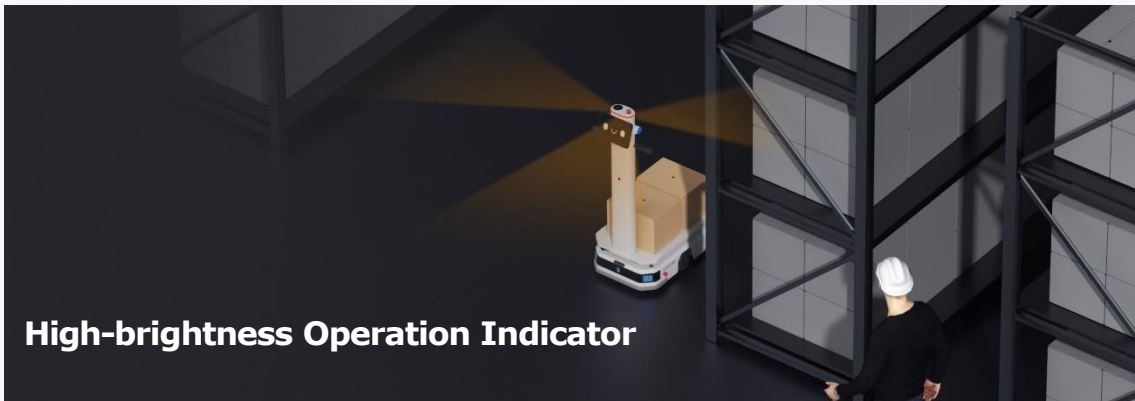
- The newly **upgraded vehicle-grade chassis** and motion control algorithms **enhance delivery stability**, making it suitable for delivering various materials in diverse scenarios.
- Enhanced with **shock-absorbing technology**, our upgraded automobile-level adaptive suspension significantly improves the stability of TR3.

Multimodal Interaction

Press-to-go Button



High-brightness Operation Indicator



IOT Capabilities

Equipped with expansive IoT capabilities, INFANTR3 supports elevator control, e-gate access, and various other smart connectivity solutions. Featuring multiple remote calling functions such as pagers and app-based calling. Additionally, it offers software API interfaces for seamless system integration. Outfitted with external power supply ports and USB outlets for convenient hardware device integration.



Peripheral Interface



INFAN Link (App)



Pager



Elevator Control Module



E-gate Control Module



Bluetooth Speaker

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Line-Side Delivery

Work-in-progress Delivery

Delivery from Work-in-progress to Final Products

Quality Inspection Delivery

TR3 Engagement in Industrial Delivery Processes

Product Value



Enhanced Efficiency

The TR3 increases operational throughput by autonomously navigating through industrial environments, reducing delivery times and increasing productivity.

Improved Safety

With advanced sensors and safety features, the TR3 minimizes the risk of accidents in the workplace by detecting and avoiding obstacles, ensuring safer interactions between machines and human workers.



Product Value

For Customization

The TR3 can be customized with different attachments or software configurations to meet specific industrial needs, ensuring it can adapt to various tasks and environments without requiring multiple separate machines.



For Sustainability

The TR3 is engineered for optimal energy use, featuring advanced lithium-ion battery technology and energy management systems that ensure longer operation times while consuming less power, thus decreasing overall energy costs and environmental impact.



Thank you!



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