

Automotive  
Case Study



# Chery Phase 1 Automotive Case Study

JIT Delivery & SPS System  
AMR Solution

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ForwardX  
Robotics



# AUTOMOTIVE CASE STUDY

Chery Automobile Co., Ltd. was founded in 1997. Over the past 20 years, Chery has always insisted on independent innovation and has established R&D centers in China, Germany, the United States, and Brazil with a global automotive R&D team of more than 5,500 people. Chery has successfully created product brands such as Arrizo, Tiggo with cumulative global sales of more than 10 million units.

Based on information technology, Chery will integrate smart transport, intelligent manufacturing, IOT, and block chain, dedicated to providing an intelligent interconnected lifestyle for global consumers in the new era.

## OVERVIEW

Established in 2023, Chery Super Factory is a cutting-edge automobile manufacturing plant with a focus on integrating advanced technologies and realizing digital transformation. With an annual production capacity of 300,000 vehicles and 200,000 KD units, the factory aims to be at the forefront of business integration, smart supply chain management, and a robust logistics ecosystem.

Chery is a pioneer in the industry, being on of the first to adopt vision-based AMRs for automated material movement in the assembly workshop. In this first stage of deployment, more than 100 AMRs have been integrated with the factory's Logistics Execution Systems (LES) software to enable unmanned material movement across various assembly lines.

## WORKFLOWS

### • Post-Installation Line

Flex 300-L AMRs autonomously dock with racks and execute secure material transportation from the staging area to designated workstations.

### • Interior Line & Door Line Processes

Lynx U1000 Tugger AMRs integrate into the SPS system and transport material from the staging area to the line-side workstations.

### • Chassis Line Process

Apex 2000 Autonomous Forklifts autonomously transport large material racks.





## SOLUTION

The solution consists of 100+ AMRs from 3 of ForwardX's product lines: Flex 300-L, Lynx U1000, and Apex 2000. The AMRs support material movement for Chery's JIT delivery and SPS system workflows. ForwardX's AMRs integrate with Chery's existing racks, promoting an eco-friendly approach and prioritizing sustainability.

## RESULTS

In the post-installation line, ForwardX's Flex 300-L AMRs transport materials from the staging area to designated workstations after barcode verification. The AMRs dock with the racks and utilize their advanced vision systems to execute secure material transportation.

In the interior line and door line processes, ForwardX's Lynx U1000 autonomous tugger AMRs integrate into the SPS system and transport materials from the staging area to the line-side workstations. The AMRs navigate to the material staging area with empty racks where pickers use light indicators as guidance for picking and matching. Once the AMR reaches the unloading point on the line side, the full racks are automatically unloaded. After completing the material delivery, the AMRs independently mount empty racks at the collection point and return.

In the chassis line process, Chery Super Factory prioritizes sustainability by reusing old racks and employing ForwardX's Apex 2000 autonomous forklifts in specific processes, promoting an eco-friendly approach and reducing waste.

01

### Flexibility

The right tools for the job.

02

### Reliability

Reliable solutions for JIT delivery and SPS systems.

03

### Lean Production

Line-side over-supply rate under 15%.



100+  
AMRs Deployed



10%  
Cost Per Vehicle  
Savings



200%  
Efficiency  
Increase





# ForwardX Robotics

ForwardX Robotics is a global leader in vision-based AMR technology, delivering innovative end-to-end material handling solutions for warehousing and manufacturing facilities. With its advanced fleet management software and the widest range of vision-first Autonomous Mobile Robots (AMRs), ForwardX Robotics helps businesses achieve higher performance and value within their supply chain operations. The company is comprised of over 250 members hailing from top universities and leading enterprises around the world. As shown by the 350+ patents and its award-winning research work, such as Frost & Sullivan's Best Practices Award and Robotics Business Review's RBR50 Innovations Award, ForwardX Robotics continues to push the boundaries of innovation.

ForwardX has deployed over 3,000 AMRs in over 150 facilities across 4 continents. With offices in the US, Japan, Korea, and China, along with partnerships around the globe, ForwardX is expanding and applying its proven solutions to empower the workforce of tomorrow.

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