



**Automating Shipment and Production
Processes in a Split Warehousing and
Manufacturing Facility for One of the Ten
Largest Cosmetics Companies Worldwide**

AMOREPACIFIC

CHALLENGES: HEAVY TRAFFIC BETWEEN MANUFACTURING AND WAREHOUSING FACILITIES

One challenge Amorepacific faced was the separation of warehouse and manufacturing to keep the production line clean. Workers manually loaded raw materials and packaging parts from the warehouse into the crates and delivered them to the production line, when needed. However, keeping the production line well-supplied and uncluttered became a problem because manufacturing staff had to move a lot in their facility, creating significant traffic.

Although the supply of parts from the warehouse to the production line was not a full-time job, a dedicated worker in charge of this task was always on standby. In a situation where hiring and retaining manufacturing personnel was a challenge, the assignment of a full-time person to this task resulted in an efficiency drop of the entire labor crew.



Evaluated AMR Options

Amorepacific attempted to use a top competitor's AMR in some processes, but encountered usability problems such as wheel slippage and incorrect driving. As a result, Amorepacific was looking for an AMR solution that would not endanger worker safety and could manage navigation in heavy traffic and with the poor floor conditions, such as spills and grease.



Another challenge this large manufacturer faced was an outdated automation system. Amorepacific's smart factory system installed AGV robots that had been running smoothly in its facility, when first introduced. However, as the industry entered the new age of AMR, AGV installation became outdated and less efficient than the next generation of robots—AMR.

Gradually, many production processes required automation, and the AGV robots failed those processes. Three major problems were encountered:

- Many AGVs were already operating in spaces where the integrated AMR robots had to move.
- The human operators were frequently moving in the same area.
- The paths in the area were very narrow and could cause collisions.

As the AMRs from the initial third-party tests had failed to drive autonomously, Amorepacific was back in the market searching for a newer, more efficient and reliable automation solution.



THE SOLUTION: THIRA ROBOTICS T200

THIRA ROBOTICS provided the T200 model as the solution for Amorepacific's narrow facility layout challenge.

The T200 model was designed to smoothly pass through narrow aisles with heavy complex traffic and rough floor conditions. Its Hybrid SLAM navigation technology made it a perfect solution for Amorepacific manufacturing needs.

SLAM stands for simultaneous localization and mapping and is a method used for autonomous mobile robots that lets you build a map, localize your robot in that map, and allows the vehicle to map out unknown environments, all at the same time.

Including the bumper, T200's dimensions are 810 x 600 x 340 (31.9 in x 23.6 in x 13.4 in), 75 cm x 55 cm x 34 cm, making it small enough to fit in the tightest facility spaces.

Despite its small footprint, the T200 model has a payload of 440.925 lbs, allowing for simple transportation of very heavy loads. In addition, the T200 can navigate elevators, making it ideal for multi-level facilities.

The installed AGV automation in the factory was not capable of completing these tasks.



THE RESULTS

During a trial run, the T200 has proven its reliability in addition to demonstrating its unique capabilities. The trial results were so successful that Amorepacific decided to integrate more T Series into their production cycle. T200 navigated seamlessly through the tight spaces in the facilities and improved productivity compared to Amorepacific's prior automation systems.

The T200 model also traveled well over slippery floors between the production line and warehouse. Due to its 360° visual protection and 3D camera, the T200 easily avoided obstacles and heavy traffic of human workers.

T200 systems operate reliably in the client's facilities. The outcomes have been positive, and the conglomerate expects to further increase production through process automation expansion, enabling the introduction of more AMRs in challenging passageways.

ABOUT AMOREPACIFIC

The South Korean beauty and cosmetics conglomerate, AmorePacific, was founded in 1945. It is the second-largest cosmetics company in South Korea and one of the ten largest cosmetics companies worldwide. AmorePacific operates manufacturing and sales of cosmetics, household goods, and foods (including green tea and healthy functional food).

It accounts for a large portion of the market share in the global cosmetics sector. In 2021, AmorePacific also saw domestic luxury sales grow 22% over the previous year to \$1.3 billion. AmorePacific has over 5,000 local employees at its 30+ locations.



Source: [BeautyPackaging](#)

ABOUT THIRA ROBOTICS



THIRA ROBOTICS is the AMR subsidiary of global smart factory solution leader THIRA UTech. It manufactures autonomous mobile robots (AMR) and creates complete automation solutions to meet unmet market needs.

THIRA's AMR technology is employee-friendly and optimized to navigate harsh conditions, including damaged floors, changing facility surroundings, slopes, narrow spaces, spills, and elevators.

All THIRA ROBOTICS systems are built in-house, enabling high-quality and unique customization needs for international leaders across multiple industries, including Samsung, the National Cancer Center, LG CNS, and AmorePacific.

ABOUT T200



T200 can hold up to 200 kg (440.925 lbs) and has a minimalistic design and footprint for navigating in tight spaces. The T200 model can smoothly pass through narrow aisles with heavy complex traffic. It operates steadily regardless of floor conditions, including liquids, oils, bumps, cracks, multi-levels, etc. T200 can be customized to any facility's needs.

CONTACT US



To learn more about our AMR solutions, contact sales@thirarobotics.com