

Press Release



7/24/2018 ZMP Inc.

Logistics Support Robot CarriRo® New version "Autonomous Moving" Model Start shipping from the end of November 2018

-Easy route setting with a tablet, from 52,000 yen per month-

ZMP Co., Ltd. (Bunkyo Ward, Tokyo, President: Hisashi Taniguchi, hereinafter "ZMP") will start to ship a new version of the logistics support robot CarriRo "Autonomous Moving" Model from the end of November 2018.



CarriRo 'Autonomous Moving' Model and the Landmark



Autonomously run in a row

Applying its autonomous driving technology, ZMP realized CarriRo's autonomous moving function by CarriRo Visual Tracking method (patent pending). CarriRo identifies the Landmarks affixed to the floor and obtains information of self position and moving instruction.

Using this method, CarriRo can run autonomously in a stable manner. By setting the route using a Landmark instead of a line like AGV, it is possible to greatly reduce the labor and cost related to route setting.

Also the user can change the moving instructions of the Landmark using a tablet, which means the user can change the route instantly by saving it as a pattern in advance. As a result, CarriRo can be flexibly operated depending on the layout and the work flow.

The "Autonomous Moving" Model also provides the Following function, and further productivity can be gained by separately using Following function and Autonomous moving function depending on the work flow. By using the "Autonomous Moving" Model as the leading vehicle and the 2018 Model (Following function) as the subsequent CarriRo, CarriRo can autonomously run in a row.

CarriRo "Autonomous Moving" Model has the following four features.

1. The route teaching is not necessary, it is possible to set up the route in a short time.





- 2. By constantly getting the self position from the Landmark, it is resistant to changes in the external environment, and it is possible to stably run with some level differences and inclinations.
- 3. Landmark settings can be changed easily via a tablet and a flexible route setting is possible.
- 4. By using in conjunction with the Following function, the installation cost can be reduced.

Landmarks come in two types, fixed and variable. The fixed type is for customers who want to use with the fixed instructions like straight forward, right turn left, U turn, temporary stop etc. Meanwhile, alphabets are printed in variable type, multiple instruction can be saved as a pattern through a tablet.



ABCDEFGHI JKLMOPQRS TUVWXYZ

Fixed type Landmark (Sample)

Variable type Landmark (Sample)

The current CarriRo "2018 Model" (Following function) is also sold in parallel even after the start of "Autonomous Moving" Model shipping, and "2018 Model" (following function) can be upgraded to "Autonomous Moving" Model.

[Web URL] <u>https://www.zmp.co.jp/carriro/</u>

[Movie] <u>https://www.youtube.com/watch?v=aBSwF8SvfcU</u> [Price]

CarriRo 2018 model (Following function):28,000 yen (Excl. tax) per month/unit with 5yr lease CarriRo Autonomous Moving model: 52,000 yen (Excl. tax) per month/unit with 5yr lease (the prices in Japan market, please contact us for the price in other countries)

[Specifications]

- Body weight: 55 kg
- Size: width 600 mm, depth 900 mm, height 200 mm (handle portion 900 mm)
- Maximum loading weight: 150 kg / 300kg (towing)
- Maximum speed: 6 km / hour
- Charging time: 2.5 hours
- Working time: 8 hours

(It may differ depending on the operating situation)





For more information / Inquiry

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About ZMP Inc.

http://www.zmp.co.jp/ HQ: Bunkyo Ward Tokyo

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RoboCar[®] 1/10 RoboCar[®] MV2 RoboCar[®] MiniVan CarriRo[®] CarriRo[®] Delivery

Our Mission: Robot of Everything To create a safe, fun and comfortable lifestyle with robotics technology

Our Vision: By applying a humanoid robot and RoboCar technology, into a comprehensive robot company.

-ADAS (Advanced Driver Assistance System), Development and sales of automatic operation technology development for the platform RoboCar series and sensor system.

-Development of automatic operation, etc. for mobile manufacturers, experiment agency industry (Automotive, commercial vehicles, construction machinery, agricultural machinery, logistics transport equipment, outdoor work machine, etc.)

-Development and sale of logistics support robot CarriRo.

ZMP are doing public road test of autonomous driving car toward driverless taxi service on 2020. ZMP also started field test of delivery robot "CarriRo Delivery" which delivers foods/goods running on side walk. ZMP continue providing impressive and product and service for society.