AAGASE Panasonic Group



November 24th, 2022 NAGASE & CO., LTD. Panasonic Holdings Corporation EasyMile SAS

Verification of "TractEasy", Autonomous Intelligent Tugger with Remote Control & Monitoring System Conducted

- •EasyMile designed and developed an electric autonomous tugger equipped with a remote control and monitoring system designed and developed by Panasonic Holdings Corporation.
- The three companies conducted verification of the vehicle at the Mitsubishi Fuso Truck and Bus Corporation's Kawasaki Plant assuming the delivery of vehicle engines.
- •This verification aims to commercialize automated vehicle services to address manpower shortages and workloads at factories and logistics sites.

NAGASE & CO., LTD. (Headquarters: Chiyoda-ku, Tokyo; Representative Director and President: Kenji Asakura; hereinafter "NAGASE"), Panasonic Holdings Corporation (Head office: Kadoma City, Osaka Prefecture, Representative Director, President, Group Chief Executive Officer: Yuki Kusumi; hereinafter "Panasonic HD") and EasyMile SAS (Headquarters: Toulouse, France and Singapore; CEO: Gilbert Gagnaire; hereinafter "EasyMile") have jointly integrated the EasyMile's "TractEasy" autonomous intelligent tugger (AIT) business promoted by NAGASE with the "X-Area Remote" remote control and monitoring system developed by Panasonic HD. In line with this, on Saturday, November 19, 2022, verification took place at the Kawasaki Plant of Mitsubishi Fuso Truck and Bus Corporation (Head office: Kawasaki City, Kanagawa Prefecture, President and CEO: Karl Deppen, hereinafter "MFTBC"), assuming the transportation of vehicle engines.

TractEasy is the first driverless, electric tow tractor enabling autonomous material handling in indoor and outdoor logistics processes as well as airports. With a load capacity of 25 tons, the TractEasy uses a range of sensors and cameras with real-time processing through its autonomous software, developed by EasyMile. This includes centimeter-precise localization at any moment, wide-range perception to handle obstacles and enhanced navigation including vehicle to infrastructure (V2X) communication, predictive control, and decisions at intersections and pedestrian crossings. It is also equipped with a remote operation and monitoring system, "X-Area Remote," designed and developed by Panasonic HD. X-Area Remote supports autonomous vehicle services, allowing an operator to remotely monitor a fleet of vehicles, then seamlessly take remote control of a vehicle and quickly resume service when human assistance is required. It features dynamic video adjustment technology for reliable video transmission over LTE networks, AI-based assistive technology to support the remote operator, and active cyber-security features to protect the system from external threats. The use of the vehicle and remote operation and monitoring system will contribute to solving





manpower shortages and reducing workload at factories and logistics sites. Sourced by electricity, it will also contribute to reducing CO2 emissions at production operations.

The operation of the AIT vehicle and operability of the remote control and monitoring system were tested by simulating the delivery of vehicle engines at the Kawasaki Plant of MFTBC. We will continue the vehicle verification going forward and NAGASE will commercialize the service for the logistics industry, mainly at airports and ports, towards implementation of an autonomous logistics driving platform.



Verification on November 19th

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