AI AND CAMERA-GUIDED AUTOMOUS VEHICLES

Solution for logistics - cost-effective automated guided vehicles (AGVs)

SUMMARY

Smart cameras locate objects and, thanks to artificial intelligence, permit navigation of autonomous vehicles as used for instance in logistics centers. As a result these vehicles can be made slimmer and more efficient than commercially available AGVs. At the same time, the ‘view from above’ allows dynamic route optimization and obstacle avoidance.

CURRENT SITUATION

Warehouse systems need to be optimized in order to leverage the potential of new technologies and respond to economic pressures. However, expensive AGVs that are potentially an obstacle to such efficiency improvements are a current problem in logistics.

PROJECT DESCRIPTION

Warehouse areas are visualized in the W2MO software (digital twin) and captured completely by cameras. The AGV control system has a complete overview of the situation in the warehouse at all times and is able to calculate alternative routes and warn vehicles on a potential collision course. Vehicles can not only be located, they can also be controlled with the technology from Logivations. The camera infrastructure can send control signals via W2MO to AI-controlled AGVs and can use these very effectively, in combination with the many different contained algorithms, for vehicle routing and load balancing.

REFERENCES

www.cam-agv.com

STANDARDIZATION APPROACHES

With CSV, XML and REST-based standard interfaces for common warehouse management and ERP systems, standardized operational process workflows are achieved. AGVs can be connected via an open TCP interface for control. Integration of camera and vehicle data using OPC UA and Companion Specifications is planned. If administration shells were available, integration costs could be reduced.

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