MVPRO
MEDIA

MACHINE VISION & AUTOMATION

INVESTING IN AUTOMATION

AUTONOMOUS MOBILE ROBOT =
NUMEROUS APPLICATIONS

The times when AGVs (automated guided vehicles) were considered as super-modern tools boosting automation of repetitive material delivery in factories and warehouses are gone for good according to Photoneo.

Today, AGVs just cannot keep up and compete any more with a much more sophisticated approach - AMRs (autonomous mobile robots). Photoneo, based in Slovakia, decided to extend the global portfolio by introducing its first AMR that features the company's state-of-the-art technology and know-how.

Phollower 100 has been designed as a universal mobile platform for transport and delivery of materials in warehouses, factories, hospitals, hotels and other large spaces.

The robot is able to carry up to 100kg and pull up to 350kg of payload. It is aimed to unburden human workers of monotonous tasks and heavy material handling as well as to save time and increase efficiency. The employees' skills and potential can instead be employed in areas which necessarily require human workforce.

As the term "autonomous mobile robot" suggests, Phollower 100 does not require any wires or magnetic tapes attached to the floor. These and other infrastructure adjustments necessitate robust solutions that are susceptible to damage or solutions that need to be rebuilt in case of changes in the trajectory. Being able to understand its surroundings, Phollower 100 can operate very flexibly and reliably.

The robot is able to navigate itself on the basis of a lidar, 3D camera and a virtual map. The laser scanner area covers 360° whereby the body of the robot has an interchangeable front and rear with a zero turning radius which allows reversible movement. The robot uses odometry and allows trajectory creation with custom curves and instant map redrawing.

The fact that human workers get tired with long shifts does not only lead to decreased efficiency but also to impaired concentration and alertness. Phollower 100 is very fast yet absolutely safe, meeting the requirements of the safety class SIL2 PL.d Category 3. It checks its surrounding environment 33 times per second and the system is able to detect obstacles every 30 ms with a minimum width of 30 mm. It also enables adaptive safety zones. The laser scanner prevents collisions with objects up to 200 mm above the surface and the 3D camera does so significantly above the safety layer.

The variability of Phollower 100 offers many use cases - it can be used with collaborative robots, carry boxes, pallets or pull payload of any kind. Besides the usual transport of materials in factories and warehouses, Photoneo's AMR helps the staff of a Slovak hospital with the distribution of pharmaceuticals, medical equipment and other stuff from one floor to another, saving the employees' time and improving the overall efficiency.

Photoneo is already working on a new generation of the robot, further improving its performance and adding new features so there is a lot to look forward to. **MV**

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