

# Automated Guided Vehicles Vehicle application



## CASERO

Conventionally, automated guided vehicles (AGVs) have been used in factories and manufacturing facilities, where they are operated by trained personnel.

If AGVs are going to be used more flexibly in buildings to which the public has access, such as hospitals, care homes, hotels or offices, then the AGVs will have to provide different functionality and meet new criteria for safety and easy operability.

In cooperation with the Fraunhofer IPA, and by adapting components and technologies from the latest mobile service robots, MLR has developed and built a new concept AGV.

Dimensions, kinematics, suspension and wheel loads are designed so that the vehicles can operate in the normal corridors of public buildings and negotiate normal room doors.

The navigation system does without artificial landmarks. The vehicle orients itself with reference to existing structures such as walls, niches, openings and pillars. In its most sophisticated version

the vehicle is capable of avoiding dynamic obstacles, such as people.

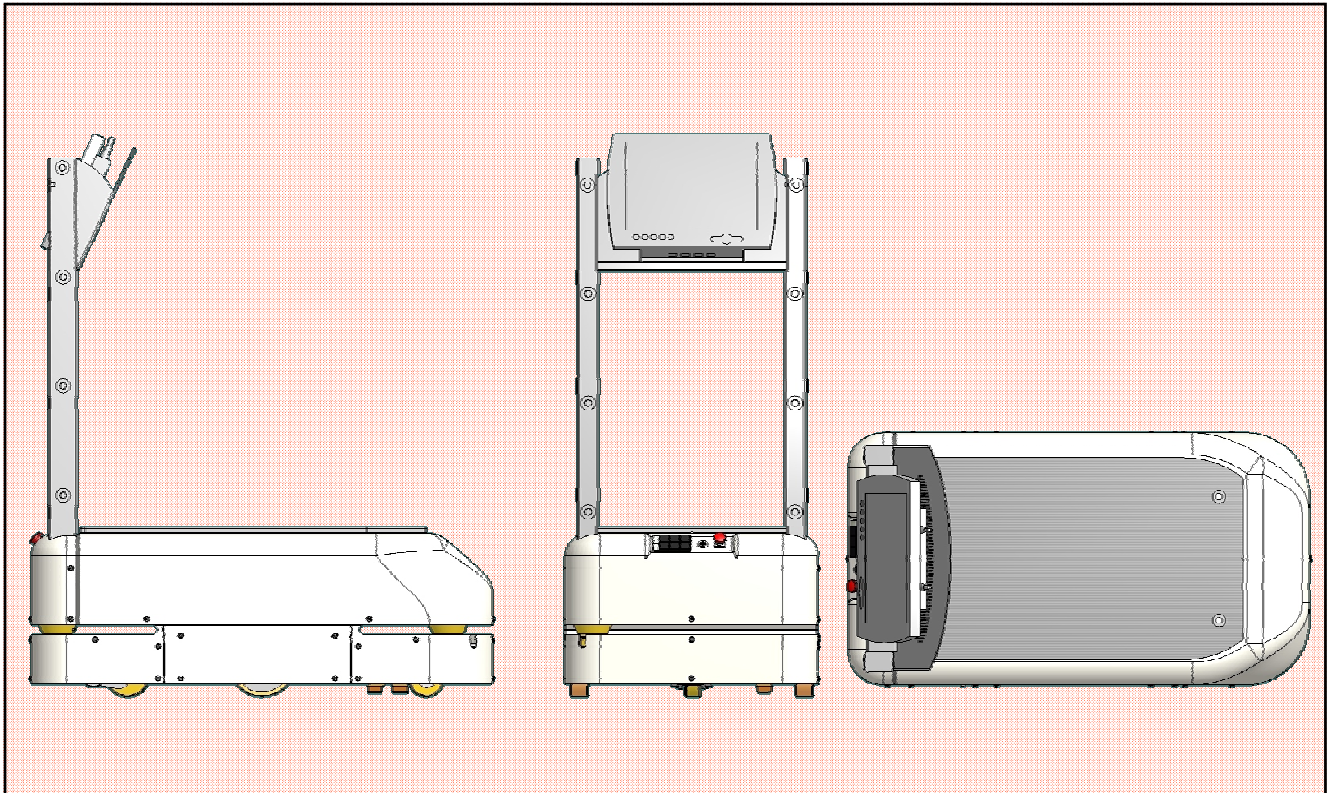
All-round, no-contact protection for people is achieved using integrated laser scanners positioned diagonally on the AGV. Additional ultrasonic sensors in the operating bar provide collision cover for the entire exterior of the vehicle when it is moving forward.

Users are initiated into AGV operation in an interactive dialogue via the touchscreen monitor and communication software, which offers multiple language options.

The platform of the basic unit can be fitted with customer-specific application modules to transport loads like laundry, suitcases or files, or to supply hotel guests, and hospital or care home patients directly with food and beverages.

Wireless communication from the control system keeps the linked management system supplied with data on system usage and status and with other data required for billing, administration and stock control.

# Technical Data



- **Type:** CASERO
- **Dimensions (total):** 1080 x 600 x 1321 mm (l x w x h)
- **Dimensions (module platform):** 800 x 474 mm (l x w)
- **Module platform top edge:** 398 mm above floor level
- **Floor clearance:** 25 mm
- **Power:** 2 x 0.3 kW
- **Brake:** Magnetic brake
- **Maximum speed:** 1.0 m/s
- **Undercarriage:** Differential drive and 2 support wheels (1x spring-mounted)
- **Payload:** max. 100 kg (not incl. service weight of application module)
- **Application module:** customer-specific, eg, filing cabinet, minibar, drug cabinet, laundry bin, food container
- **Data transmission:** Radio
- **Energy supply:** Lithium battery 24 V/40 Ah
- **Battery charging:** Automatic
- **Navigation:** Laser navigation using natural landmarks
- **Safety devices:** Laser scanners at front and rear, ultrasonic sensor bar at front