mobile robots from igus reduce costs for SMEs

# "ReBeL on Wheels" makes driverless transport systems affordable thanks to modern plastics technology

**21 June 2024** – Mobile robotic systems are being used in more and more work areas, from e-commerce warehouses to modern restaurants. Conventional models on the market start at around $37,500, while solutions with an integrated robot arm are priced at approximately $105,000. However, widespread use is often unaffordable for small and medium-sized companies due to the high costs. igus® wants to change this with new low-cost robotics offerings.

The market for automated guided vehicles (AGV) and autonomous mobile robots (AMR) is booming. The global market for mobile robotics, including service robotics, currently totals around $20.3 billion, and experts expect this figure to almost double by 2028.

Mobile robots are particularly widespread in material handling and industrial applications. And these smart helpers are even increasingly making their rounds in catering and hospitals. igus has been successfully testing AGVs in-house for five years - driverless shelves that deliver mail and shipments to offices as well as mobile robots in production that move transport and rotary stacking containers. The experience gained flows directly into the development of a new Low-Cost Automation product line, the "ReBeL on Wheels." The goal is to pave the way for small and medium-sized enterprises (SMEs) to cost-effective mobile robotics.

# Mobile ReBeL solutions for education, logistics, and service

The foundation of the mobile robotic system is the [ReBeL](https://www.igus.com/robolink/rebel-cobot). Using plastic makes the robot particularly affordable at $6,899 and, with a net weight of 8.2kg, the lightest service robot with cobot function in its class. igus develops and manufactures all mechanical components that make up the ReBeL.

Its payload is 2kg, and its reach is 664mm. Various moving systems are planned in which the ReBeL is centrally integrated. igus is launching an affordable version for the education sector for $22,048, which includes a robot arm. Based on open-source software and equipped with a gripper, the [ReBeL EduMove](https://www.igus.com/product/22546) serves as an autonomous learning platform for educational institutions. It has a modular design so that other functions can be added, such as lidar, camera technology, or a slam algorithm.

Another version is an automated guided vehicle for SMEs, which can transport up to 30kg. With the optional ReBeL, simple A to B positioning tasks can be carried out. It dispenses with expensive sensor technology and instead relies on 3D sensor technology developed in-house. Its price is $26,998.

# A lighthouse project on wheels

The goal of all these developments is the lighthouse project, a mobile robot with integrated HMI and vision that could even tidy up an office on its own.

"With this project, we are pursuing a bottom-to-top strategy in which certain components such as safety laser scanners are not included in the basic package so as to keep the price low," explains Alexander Mühlens, Vice President and Head of the Low Cost Automation Business Unit at igus. "Nevertheless, the solution can be retrofitted for industrial requirements."



### Image PM2224-1

*igus launches a new series of cost-effective mobile AGVs and AMRs for education, logistics, and service with the aim of making mobile robotic systems affordable for SMEs. (Source: igus GmbH)*

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| ABOUT IGUS: igus GmbH develops and produces motion plastics. These self-lubricating, high-performance polymers improve technology and reduce costs wherever things move. In energy supplies, highly flexible cables, plain and linear bearings, and lead screw technology made of tribo-polymers, igus is the worldwide market leader. The family-run company based in Cologne, Germany, is represented in 35 countries and employs 4,600 people across the globe. In 2023, igus generated a turnover of €1.136 billion. Research in the industry's largest test laboratories constantly yields innovations and more user security. Two hundred 234,000 articles are available from stock, and service life can be calculated online. In recent years, the company has expanded by creating internal startups, for example, ball bearings, robot drives, 3D printing, the RBTX platform for Lean Robotics, and intelligent "smart plastics" for Industry 4.0. Among the most significant environmental investments are the "chainge" program – recycling used e-chains and participating in an enterprise that produces oil from plastic waste. | |