

World *Robotics* Service Robots

2024

incl. Mobile and Medical Robots



Statistics, Market Analysis and Case Studies



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World Robotics 2024 – Service Robots incl. Mobile and Medical Robots

Produced by VDMA Services GmbH, Lyoner Str. 18, 60528 Frankfurt, Germany.

The service robot statistics is carried out by the IFR Statistical Department.

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The cover and the editorial are sponsored by Stäubli.

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We express our most sincere gratitude to all partners!

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Suggested citation: Müller, Christopher; Jurkat, Anne, Kraus, Werner, Graf, Birgit; Bregler, Kevin (Eds.): World Robotics 2024 – Service Robots, IFR Statistical Department, VDMA Services GmbH, Frankfurt am Main, Germany, 2024.

Short citation: World Robotics 2024 – Service Robots

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ISBN 978-3-8163-0766-2

Editorial

By: Jan Louwen, Global Head of AGV Robotics & Member of Global Robotics Management, Stäubli



Quo vadis, mobile robotics? A look at current trends and developments

It is an exciting time for mobile robotics. Global events, technological advancements, and changing market conditions are increasingly influencing our industry. The growing labor shortage on the customer side further drives the topic of automation, and thus mobile robotics. Established market players in particular are facing new challenges and are confronted with strategic questions. How do they want to position themselves? Which partnerships make sense? Which market segments can be tapped into? Are there promising niches that can be penetrated? These are not new considerations, but they have rarely been as prevalent as they are now. There are reasons for this.

Market dynamics: a broad playing field

The market for mobile robots is extremely dynamic and growing rapidly. This attracts investors and leads to many new players entering the market. On one side, there are providers with mobile transport robots for new, innovative concepts. On the other side, more and more manufacturers are entering the field with cost-effective solutions, putting significant pressure on the industry. China stands out in particular. Numerous Chinese companies are investing in mobile robotics and are increasingly celebrating successes in Europe and the USA. The competition in the industry is invigorated. This can and must be seen as an opportunity.

New technologies, new opportunities

It's not just the new market players that influence the dynamics, but also the rapid technological developments. Advances like 5G connectivity and GPS for outdoor navigation open up new possibilities and further drive the efficiency of solutions. New navigation methods, more powerful computers, and above all, the integration of artificial intelligence (AI) are helping mobile robotics increase availability. The boundaries of what is possible are regularly being pushed. This also impacts customer desires.

Standardization and modularity: the path to mass production

Historically, customized solutions dominated the market. They met the diverse customer needs and special applications. To increase the reliability of mobile robot solutions in the

future, the development and production of serial products will become more important. For broad market penetration, manufacturers of customized solutions must think more in terms of modular products. This can sometimes be a rocky road, especially if the company does not already have the competencies around serial business in-house. Nevertheless, this rethinking is important. Stäubli benefits here from its internal know-how in mass production and pursues this path with its 3-ton platform PF3 and, in the future, with the counterbalance forklift FL1500. Equally important is close collaboration with customers. Despite AI and other customization options, it is often worth asking what the mobile robot really needs to be capable of. The interaction between integrator and manufacturer can also be a crucial step towards market penetration with standard products.



Figure 1: Thanks to its ultra-compact design, the Stäubli counterbalanced 1,5-ton forklift, FL1500 can operate in the tightest of spaces. Image credit: Stäubli

The core as part of the system: the software

Software is playing an increasingly important role in mobile robotics, from navigation software to fleet management and analysis tools. This goes hand in hand with rapid technological advancements. Software is undoubtedly gaining in importance. What often unjustifiably takes a back seat is mechatronics. In mobile robotics, it is at least equally important. To reliably and efficiently operate a mobile transport robot, the interplay of both areas is crucial. One must always view the whole as an integrated system. This will not change in the future.

More flexibility for mobile robots: new business models as opportunities

There is a visible trend within the industry: traditional sales models are being supplemented by new flexible business models. In addition to the now almost established temporary rental of mobile transport robots, leasing is also coming to the fore. These payment models with monthly fees are well-known in industry and logistics from manual forklifts. This provides customers with a significantly easier financial entry into automation, as capital costs are converted into operational costs. This principle will continue to permeate the industry in the future.