

World Robotics Industrial Robots 2025



Statistics, Market Analysis, Forecasts and Case Studies

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World Robotics 2025 – Industrial Robots

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

The robot statistics are based on consolidated world data reported by robot suppliers as well as on the statistics and support of the national robotics associations of North America (A3), Spain (AER), United Kingdom (BARA), People's Republic of China (CRIA), Denmark (DIRA), Japan (JARA), Republic of Korea (KAR), Italy (SIRI), Sweden (SWIRA) and Chinese Tapei (TAIROA).

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We express our most sincere gratitude to all partners!

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Foreword

By Michael Scheuter, Chair IFR Industrial Robot Suppliers Committee



Dear Reader,

Dear Robotics Community,

Automation is a cornerstone of modern manufacturing - and it's entering a new era. While robotics continue to stabilize and scale production, AI-powered and software-driven solutions are unlocking new levels of adaptability and reach in previously unautomated areas. This shift is making automation more accessible, especially for small and medium-sized enterprises, and helping industries counteract labor shortages, boost flexibility, and future-proof operations.

In an increasingly fast-paced and volatile world, the need for robot-based automation goes beyond efficiency. It's about resilience. Robots enable stable, scalable, and predictable production, helping companies adapt to short-term fluctuations in demand and support decentralized manufacturing.

In 2024, the global economy remained weak. Although inflation, energy costs, and financial constraints eased, investment activity, especially in Europe, stayed subdued. Rising geopolitical instability and shifting global alliances have led to unprecedented trade policy uncertainty. While overall momentum is lacking and the outlook remains cautious, early signs of recovery are emerging, particularly in China and the robotics sector, offering cautious optimism for automation-driven industries.

Despite economic headwinds, the robotics industry showed resilience in 2024, as reflected in the following key figures:

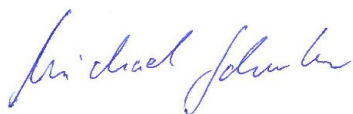
- Annual robot installation moved sideways to 542,076 units, which is +0.1% compared to 2023.
- Operational stock increased to 4,663,773 robots (+8.9%) and the largest countries in terms of operational stock are China (43.5%), Japan (9.7%), United States (8.4%), Republic of Korea (8.4%) and Germany (6.0%).
- Global robot density (number of industrial robots per 10,000 persons employed in the manufacturing industry) increased from 163 to 177. Countries with highest robot density are Korea (1,220), Singapore (818), China (567), Germany (449) and Japan (446).
- Demand for automotive decreased to 126,088 (-6.9%) installations, whereas demand in electronics picked up leading to 128,899 (+2.5%) new installations making it the largest robotics sector in 2024 again.

- The strongest growing markets were China (+6.8%), Hungary (+156.3%), Chinese Taipei (+32.5%), India (+7.2%) and Vietnam (+27.0%).
- The markets with largest decreases in units were United States (-9.1%), Japan (-3.6%), Italy (-15.6%), Slovakia (-70.7%) and France (-23.8%)

After a challenging year in 2023, Chinas robotics market has emerged from its weak phase and is showing robust growth again in 2024. It remains to be seen whether this recovery will have a positive knock-on effect on other regions, but current indicators suggest that North America and Europe will need to overcome recessionary pressures independently.

Despite short-term economic challenges, the long-term outlook for the automation industry remains positive. At some point, the global economy will recover, and structural factors like labor shortages, reaching new all-time highs in advanced economies, will continue to drive demand for automation. Periods of inflation only reinforce the need for greater efficiency and cost control. These pressures, combined with technological progress, make robot-based automation an increasingly essential strategy for resilient and future-ready production.

These trends reinforce one another and highlight the multidisciplinary nature of robotics. While established technologies are reaching maturity, emerging innovations continue to inspire and expand the possibilities of automation. As more tasks and processes become automated, the market is attracting a growing number of companies. Considering these developments, we remain optimistic about sustained growth in the automation sector—even if short-term forecasts are more cautious than in previous years. Automation will continue to shape the future of manufacturing, driving both innovation and resilience across industries.



Michael Scheuter

Chair IFR Industrial Robot Suppliers Committee