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World Robotics

Industrial Robots

2024

Statistics, Market Analysis, Forecasts and Case Studies

World Robotics
Industrial Robots
2024

one market

World Robotics 2024 – Industrial Robots

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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 has become the cornerstone of the manufacturing industry. However, the potential is far from exhausting. Industries that already have a high degree of automation as well as those that have had little experience so far, are intensifying their work on automating their processes.

The use of robots enables companies to produce in a stable and predictable way. Automation helps to make production more efficient and future-proof. It increases flexibility, enables scaling and counteracts labor shortages. An increasing number of small and medium-sized companies are now also discovering these advantages.

In 2023, the global economy grew by 3.1% according to OECD. Although this growth is moderate by historical standards, it is nevertheless robust in consideration of the negative factors. In many countries, economic development was impacted by high energy prices, a sharp rise in interest rates, a loss of purchasing power because of increased inflation as well as geopolitical crises and uncertainties. The manufacturing industry initially benefited from strong order backlogs from 2022, however during the year 2023 order intakes began to slow down, and robot installations ended up with a slight decline in 2023 after a record year in 2022.

Let us have a look at the key figures from 2023:

- Annual robot unit sales volume dropped to 541,302 which is a minus of 2.1% compared to 2022.
- Operational Stock increased to 4.281.585 robots (+9,7%) and the largest countries in terms of operational stock are China (41%), Japan (10.2%), United States (8.9%), South Korea (8.9%) and Germany (6.3%).
- Global robot density (number of industrial robots per 10.000 persons employed in the manufacturing industry) increased from 151 to 162. Countries with highest robot density are Korea (1.012), China (470), Germany (429) and Japan (419).
- The biggest industry segment was Automotive with 135.461 installations, followed by Electronics with 125.804.
- On country level we see an inconsistent picture. The biggest market China declined by -4.8% ending up with 276.288 units. Besides China, market also deceased in other volume markets like Japan (-8,6%), USA (-5%), Korea -1%) and some more countries. Positive market developments on the other hands

were reported for example for India (+59%), Germany (+6,6%), Brazil (+77,6) and Spain (+31%).

China had been a long-time growth market and driver for the global robotics market. However, Chinese economy was struggling in 2023 which results in a declining market for the first time since 2009 in China. Outside of China the market even grew slightly. The growth in Europe and North America was clearly driven by automotive.

In 2024, the uncertainty of the global economy is still affecting the automation industry. Experts assume that the market for robot-based automation will decline in 2024 due to the current weak global economy in main markets. This is already reflected in the short-term sales forecasts for all regions.

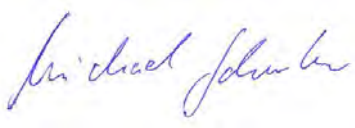
The IFR forecasts a sustained 4% CAGR, resulting in a predicted number of robot installations of 601,600 units by 2027.

However, the long-term trend in the automation industry is seen positive.

The demand for robot-based automation is being driven by various technological developments in the field of Artificial Intelligence (AI) and machine learning, but also when it comes to cobots expanding to new applications, simplified programming, mobile manipulators, digital twins, and humanoid robots.

These trends not only reinforce each other. They clearly show that robotics consists of different disciplines. Proven technologies are reaching a certain level of maturity, while innovative technologies are being added to provide new inspiration and open new possibilities. This makes it possible to automate a growing number of tasks and processes and the market for automation is attracting more and more companies.

Facing these dynamics, we are optimistic to see continuous growth in the automation market, even if the short-term forecasts are more conservative than they were a few years ago.



Michael Scheuter

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