

# World *Robotics* Industrial Robots --- 2026



Statistics, Market Analysis, Forecasts and Case Studies

# World Robotics Industrial Robots 2026

## World Robotics 2026 – 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 Taipei (TAIROA).

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We express our most sincere gratitude to all partners!

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## Editorial

Gerald Mies, Estun Robotics

Sponsor of the cover of World Robotics 2026 – Industrial Robots



China now only ranks 22nd? In international comparisons, the world's largest robotics market has seemingly fallen behind in the "robot density" ranking – previously in 3rd place. But this isn't actually the case. The change in robot density is due to improved data and not an actual decline. The now lower calculated robot density is actually a positive sign, as it highlights the significant market potential for further automation.

The reality is this: China recently accounted for 54 percent of global robot production. The country will continue to set the pace for the foreseeable future – not least because of its own strong robotics industry, with Estun as a leading manufacturer. Overall, it is encouraging that leading global robotics companies are reporting growth rates ranging from modest levels to double-digit increases.



Figure 1: Robots are also active in robot production, serving as a prerequisite for consistently high quality. Image credit: Estun Robotics.

The steady growth of robotics over the years has several reasons that have been frequently mentioned: It can alleviate the shortage of skilled workers, it is a lever for

increasing productivity, and finally, robots do what they have always done: They make work easier for people.

In addition to these economic aspects, there is the technological development, just think of two-armed robots, collaborative robots, and more recently, humanoids – all marketed as technology demonstrators. Such developments pique the curiosity of companies that previously had no contact with robots and were deterred by the costs and personnel requirements of automation. The pattern that has frequently been observed in practice is this: Interest in robotics is sparked, a cobot (because it is inexpensive and easy to operate) is considered for a project, until it is realized that the expected productivity, as things stand today, can only be achieved with an industrial robot.

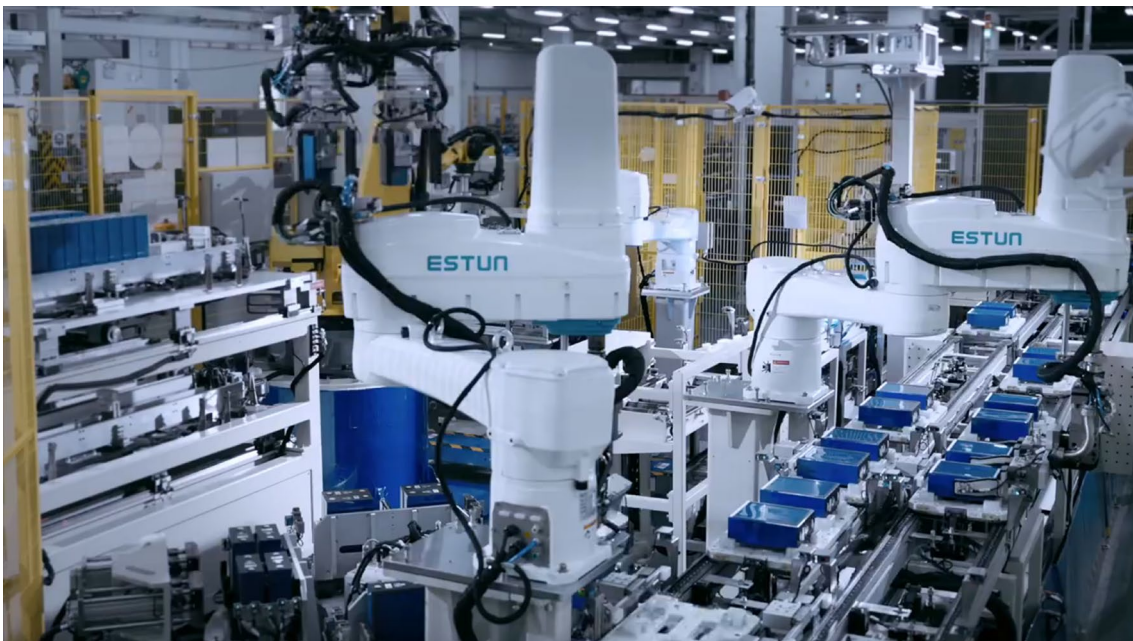


Figure 2: A 50 kg SCARA robot has been developed specifically for battery production. Image credit: Estun Robotics.

### **Sensors and AI as defining factors**

Achieving growth at the high level of industrial robotics has become far more challenging and competitive – especially since China, and its manufacturers in particular, are powerfully setting new standards both technically and economically. For technological development, and thus for the entire robotics market, two factors in particular are considered defining and driving forces – and will remain so for years to come: sensor technology and artificial intelligence.

These two topics are crucial in shaping the transformation of robotics. A brief look back reveals the dilemma. In plant engineering, additional components such as vision systems and sensors enabled more advanced tasks, but at the same time increased system complexity and the need for additional manpower and expertise. However, both are not readily available to the necessary extent, sometimes not even with additional financial

investment. While mastering robots and their controls is already a significant hurdle for automation, additional components only exacerbate the problem, making it virtually impossible to manage with in-house personnel. The increased complexity also increases susceptibility to malfunctions. Thanks to artificial intelligence, this hurdle can be circumvented, for example, in assembly or bin picking. The ability to learn independently facilitates the practical application of robots.



Figure 3: Beyond the use of robots in car body manufacturing, manufacturers will need to seek out new areas of application in the future. Image credit: Estun Robotics.

Regarding simulation: The use of AI is now indispensable, especially in simulation. There has traditionally been a gap between how an application performs in simulation and how it behaves in the real world. AI can help reduce this 'sim-to-real' gap. This brings several positive aspects: Commissioning time can be shortened (which has always been an advantage of simulation). At the same time, digital twins of the system can be created, offering all the advantages of subsequent adjustments or modifications.

With these digital twins and the help of synthetic data, entire production processes can be analyzed precisely in a virtual environment, for example across a wide range of variants, and then transferred to the control system of the real production line with a high degree of accuracy, essentially "ready for production."

Software and AI not only make numerous applications possible, but also simplify them, thus significantly facilitating the entry into automation – not just in bin picking.

The robots themselves, or rather the mechanical components of industrial robots, are still the same. However, programs now exist that can simulate cobots, something that was previously not yet industrially viable due to the unique characteristics of collaborative robots.

Alongside the technology, new economic approaches are emerging, such as leasing or renting robots, or payment models like "pay per use ." In many cases, operators want to automate, but also to achieve a quick return on investment . Flexibility is key.

The EU Cyber Resilience Act (CRA), through which the European Union has established binding cybersecurity obligations, also applies to robots and their control systems. In addition to protecting communication, the CRA emphasizes the need to minimize attack surfaces and control exposed interfaces.