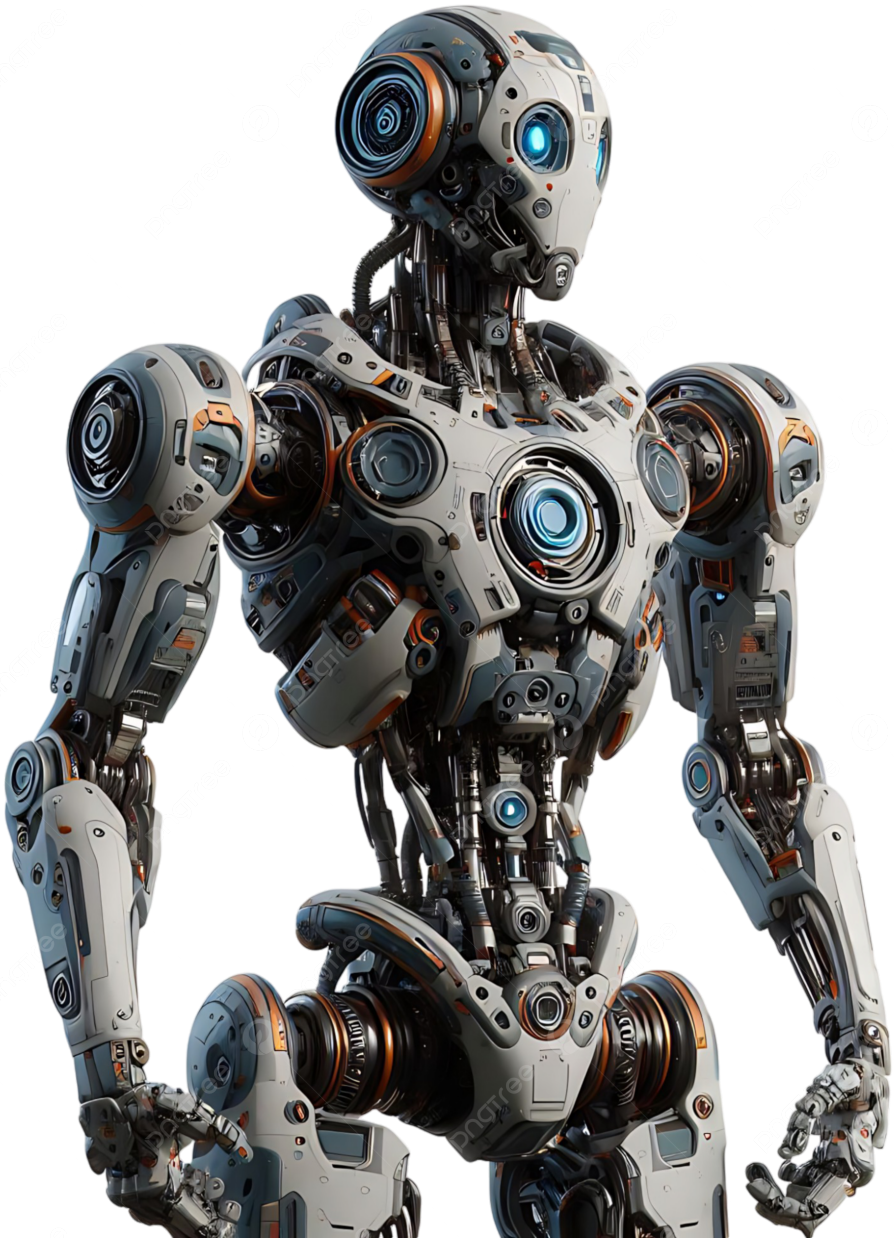
Robotics Industry Analysis

Projected CAGR (2025-2030); **16,1% - 21,5%**

Guy Jansen

Feb 2024



Contents

I. Definition

II. Market overview
- Drivers
- Challenges

III. Major market segments
- Industrial robotics
- Service robotics
- Medical robotics
- Autonomous vehicles

IV. Robotics market leaders & company analysis
- ABB Ltd
- Midea Group Co. Ltd.
- Dürr AG
- Fanuc Corporation
- Symbotic, Inc.
- iRobot Corporation
- Intuitive Surgical, Inc.
- Stryker Corporation
- Medtronic Plc.

V.

Definition

Robotics is a multidisciplinary field of engineering and science focused on the design, construction, operation, and use of robots. **Robots are automated machines** that can perform tasks typically done by humans, often in environments where precision, speed, or safety are critical. Robotics involves combining mechanical engineering, electrical engineering, computer science, and artificial intelligence to create **machines capable of executing complex tasks autonomously or with minimal human intervention.**

Robots can be categorised based on their functionality, such as industrial robots for manufacturing, medical robots for surgeries, or service robots for tasks like cleaning or customer service. They can also vary in complexity, from simple machines with a few moving parts to highly sophisticated systems equipped with sensors, AI, and machine learning algorithms to adapt to their environment.

Market Overview

In 2025, the global robotics market was valued at approximately **$100.58 billion,** and is expected to grow to **$178.63 billion** by 2030, reflecting a Compound Annual Growth Rate (CAGR) of 12.17% during this period.

Drivers

Automation Demand: Industries are increasingly seeking automation to enhance efficiency and reduce operational costs.

Technological Advancements: Innovations in Artificial Intelligence (AI) and Machine Learning (ML) have expanded robotics applications.

Labor Shortages: Rising labor costs and workforce shortages, especially in manufacturing, are accelerating robotics adoption.

Challenges

High Initial Investment: The substantial capital required for robotics integration can be a barrier for small and medium-sized enterprises.

Technical Complexity: Implementing and maintaining advanced robotic systems necessitates specialised expertise.

https://www.mordorintelligence.com/industry-reports/robotics-market
https://www.businesswire.com/news/home/20240628082404/en/Robotics-Technologies-and-Global-Markets-Report-2024-Revenue-Data-for-2023-Estimates-for-2024-Forecasts-for-2025-and-2027-and-CAGR-Projections-Through-2029---ResearchAndMarkets.com?utm_source=chatgpt.com

Major Market Segments

Industrial Robotics

Industrial robots are robotic systems used for manufacturing and industrial automation applications. They are programmable, automated, and capable of movement on three or more axes. These robots have sensors, controllers, and actuators to perform various functions and operations in industrial environments. Industrial Robots have many uses, like welding, painting, assembly, disassembly, picking and placing, packaging and labeling, palletising, material handling, and transporting goods. They are also used in heavy industry, such as mining and construction, for tasks that are too dangerous or difficult for human workers.

The global industrial robotics market was valued at approximately USD 23.71 billion in 2024 and is projected to reach around USD 84.36 billion by 2034, expanding at a CAGR of 13.8% during this period.

Key Customer Segments

Automotive Industry: Historically, the automotive sector has been a major adopter of industrial robots, employing them for tasks such as welding, painting, and assembly.

Electrical and Electronics Industry: This sector utilizes robots for assembling and handling small components, driven by the trend toward miniaturization and the need for high precision.

Metal and Machinery Industry: Robots assist in tasks like grinding, milling, and cutting, providing consistent precision and improving safety by handling hazardous tasks.

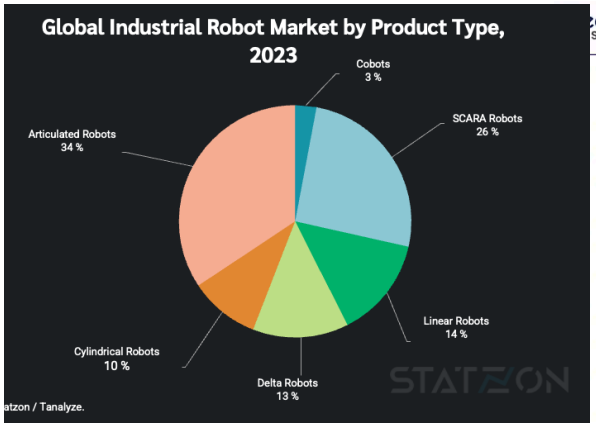
Food and Beverage Industry: The adoption of robots in this sector is growing, particularly for packaging, sorting, and palletizing, to meet hygiene standards and increase efficiency.

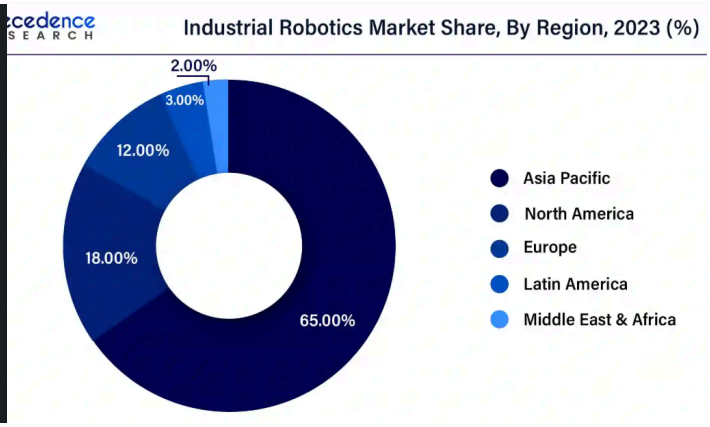
The types of industrial robots most commonly used include:

- **Articulated Robots:** Featuring rotary joints, these robots are highly versatile and are extensively used in the automotive industry for tasks requiring a wide range of motion.

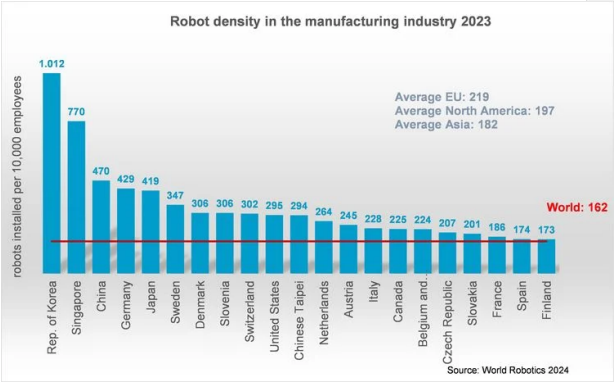
- **SCARA Robots (Selective Compliance Assembly Robot Arm):** Known for their speed and precision, SCARA robots are ideal for pick-and-place tasks, assembly operations, and are widely used in the electronics industry.

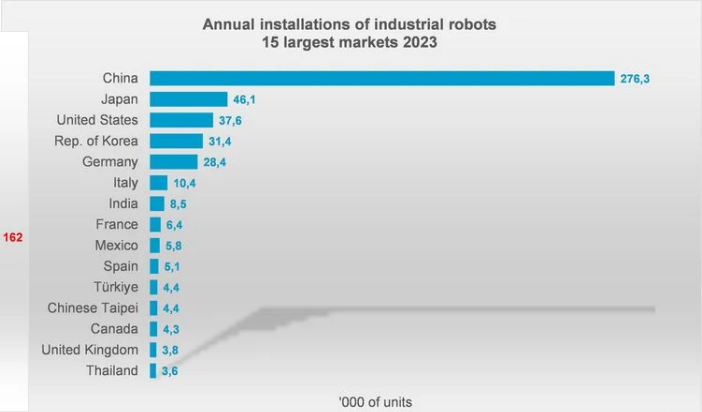
- **Collaborative Robots (Cobots):** Designed to work alongside human workers, cobots are gaining popularity due to their flexibility, ease of use, and safety features, making them suitable for small and medium-sized enterprises.





Market share per product type and geographic market share





Amount of robots per 10.000 workers and the amount of annual installations of new robots

Future Trends

- **Increased Adoption of Collaborative Robots:** Cobots are anticipated to see higher adoption rates due to their ability to work safely alongside humans, enhancing productivity without extensive safety infrastructure.
- **Advancements in Artificial Intelligence and Machine Learning:** Integrating AI and ML will enable robots to perform more complex tasks, improve decision-making, and adapt to new situations, thereby expanding their applications.
- **Integration with Industrial Internet of Things (IIoT):** Connecting robots to the IIoT allows for real-time monitoring, predictive maintenance, and improved coordination within smart factories, leading to increased efficiency.
- **Development of Application-Specific Robots:** There is a growing trend toward designing robots tailored for specific tasks or industries, such as robots specialized in painting, welding, or cleanroom operations, to meet unique industry requirements.

marketsandmarkets.com
https://www.precedenceresearch.com/industrial-robotics-market

Service Robotics

Service robots are a category of robots designed to perform tasks that assist or serve humans, often in environments that require interaction or assistance in daily activities. Service robots are intended for tasks that support or improve human life across various sectors like healthcare, hospitality, logistics, and domestic environments.

The global service robotics market was valued at approximately USD 46.99 billion in 2023 and is projected to reach around USD 100.4 billion by 2032, expanding at a CAGR of 15.1% during this period.

Key Customer Segments

Logistics and Warehousing: Autonomous mobile robots (AMRs) are employed for material handling, inventory management, and order fulfillment, streamlining operations and reducing labor costs.

Agriculture: Robots perform tasks such as planting, harvesting, and crop monitoring, addressing labor shortages and increasing agricultural productivity.

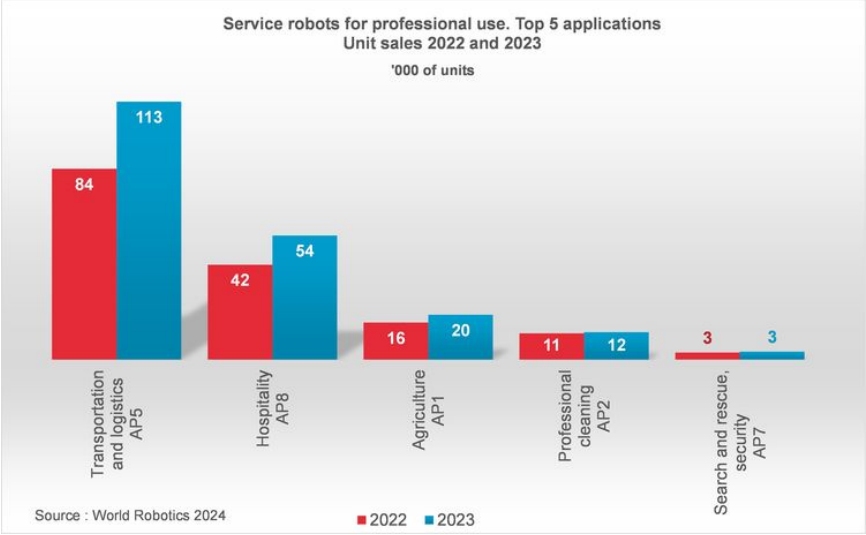
Hospitality and Retail: Service robots enhance customer experiences by performing tasks like cleaning, delivery, and customer assistance.

The most commonly utilized service robots include:

- **Professional Service Robots:** Designed for commercial use, these robots are prevalent in sectors like logistics (automated guided vehicles), and agriculture (harvesting robots).
- **Personal Service Robots:** Used for domestic purposes, these include robotic vacuum cleaners, lawn mowers, and companion robots, aiding in household chores and providing entertainment.

Future Trends

- **Integration of Artificial Intelligence (AI):** Enhancing robot autonomy and decision-making capabilities, AI enables robots to perform complex tasks and adapt to dynamic environments.
- **Adoption of Robotics-as-a-Service (RaaS):** Offering flexible and cost-effective solutions, RaaS models allow businesses to deploy robots on a subscription basis, reducing upfront investments.
- **Advancements in Human-Robot Interaction:** Developing intuitive interfaces and improving safety features facilitate seamless collaboration between humans and robots, expanding their applications in various sectors.
- **Expansion into New Industries:** Beyond traditional sectors, service robots are making inroads into areas like education, entertainment, and personal assistance, driven by innovations and evolving consumer needs.



grandviewresearch.com
custommarketinsights.com
statista.com
gminsights.com
marketresearchfuture.com
https://ifr.org/wr-service-robots

Medical Robotics

Medical robotics refers to the use of robotic systems in healthcare to enhance precision, efficiency, and safety in medical procedures. These robots assist in surgeries, patient care, rehabilitation, and diagnostics.

The global medical robotics market was valued at approximately USD 25.56 billion in 2023 and is projected to reach around USD 76.45 billion by 2030, expanding at a CAGR of 16.55% during this period.

Key Customer Segments

Hospitals and Clinics: These institutions are the largest adopters of medical robotic systems, utilizing them for various surgical procedures to enhance precision, reduce recovery times, and improve patient outcomes.

Specialty Centers: Facilities focusing on specific medical fields, such as orthopedics, neurology, and cardiology, employ specialized robotic systems tailored to their procedural needs.

Rehabilitation Centers: These centers use robotic-assisted therapy devices to aid in patient recovery, particularly for those with neurological or musculoskeletal impairments.

The most commonly utilized service robots include:

- **Surgical Robotic Systems:** Accounting for approximately 44% of the market share in 2023, these systems are extensively used in procedures such as general surgery, orthopedics, and gynecology. Their popularity stems from benefits like enhanced precision and reduced recovery times.

- **Rehabilitation Robotic Systems:** Designed to assist patients in regaining movement and function, these robots are increasingly utilized in therapy settings.

- **Hospital and Pharmacy Robots:** These include robotic systems for medication dispensing, patient transport, and sanitation, streamlining hospital operations and reducing the risk of

infections.

Future Trends

- **Expansion of Rehabilitation Robotics:** Projected to grow at a CAGR of 18.31% from 2024 to 2032, driven by the rising prevalence of neurological and musculoskeletal disorders, an aging population, and advancements in AI and machine learning enhancing personalized therapy.
- **Integration of Artificial Intelligence (AI):** AI is expected to enhance the capabilities of medical robots, enabling more complex and precise procedures, improving patient outcomes, and expanding the scope of robotic applications in healthcare.
- **Development of Specialized Robotic Systems:** There is a growing trend toward designing robots tailored for specific medical applications, such as robotic-assisted endoscopy or targeted drug delivery systems, to address unique clinical needs.
- **Increased Adoption in Emerging Markets:** Regions such as Asia-Pacific are expected to witness rapid growth in medical robotics adoption, attributed to rising healthcare expenditures, improving infrastructure, and a growing demand for advanced medical technologies.

grandviewresearch.com
globenewswire.com

Autonomous Vehicles

Autonomous vehicles (AVs) are self-driving cars, trucks, drones, and other transportation systems that use AI, sensors, and machine learning to navigate without human intervention. They rely on technologies like LiDAR, radar, GPS, and computer vision to detect obstacles, interpret traffic signals, and make driving decisions.

Overall Autonomous Vehicle Market: Valued at approximately USD 1,921.1 billion in 2023, it's projected to reach around USD 13,632.4 billion by 2030, with a CAGR of 32.3% during this period.

Autonomous Drones Market: Estimated at USD 20.74 billion in 2024, expected to grow to USD 54.92 billion by 2029, reflecting a CAGR of 21.5%.

Autonomous Last-Mile Delivery Market: Valued at USD 18.7 billion in 2023, projected to reach USD 144.2 billion by 2033, with a CAGR of 23.1%.

Key Customer Segments

Logistics and E-commerce Companies: Utilize autonomous ground vehicles and drones to enhance delivery efficiency and reduce operational costs.

Agriculture Sector: Employs autonomous drones and ground robots for tasks like crop monitoring, spraying, and data collection, improving precision and productivity.

Healthcare Industry: Adopts autonomous robots for hospital logistics, including medication delivery and sanitation, enhancing operational efficiency and hygiene.

Urban Mobility Providers: Invest in autonomous vehicles for ride-sharing and public transportation to reduce traffic congestion and offer cost-effective travel solutions.

The most commonly utilized AVs include:

- **Autonomous Delivery Drones:** Widely used for last-mile deliveries, especially in e-commerce and food services, due to their ability to bypass ground traffic and expedite deliveries.
- **Self-Driving Trucks and Vans:** Deployed in logistics for long-haul and last-mile deliveries, offering benefits like reduced labor costs and increased efficiency.
- **Service Robots in Healthcare:** Utilized for tasks such as patient assistance, medication delivery, and disinfection, improving service delivery and safety.

Future Trends

- **Expansion of Autonomous Urban Air Mobility:** Development of electric vertical takeoff and landing (eVTOL) aircraft for passenger transport and cargo delivery is anticipated, with significant investments in infrastructure and technology.
- **Advancements in AI and Machine Learning:** Enhancing the capabilities of autonomous vehicles and drones, leading to improved decision-making, safety, and efficiency.
- **Integration with Smart City Infrastructure:** Autonomous vehicles are expected to become integral to smart city ecosystems, interacting seamlessly with urban infrastructure for optimized traffic management and service delivery.
- **Regulatory Developments:** Governments are likely to establish frameworks to facilitate the safe deployment of autonomous technologies, addressing challenges related to safety, privacy, and public acceptance.

fortunebusinessinsights.com
thebusinessresearchcompany.com
globenewswire.com
en.wikipedia.org

Current Market Trends

A thorough market analysis reveals several key trends shaping the robotics landscape. Notably, the shift towards Industry 4.0 and the adoption of smart manufacturing practices are propelling the integration of robotics into production systems. Companies are increasingly investing in robotic process automation to enhance operational efficiency and reduce labor costs, particularly in sectors such as **automotive, electronics, and logistics**. Additionally, the Asia Pacific region is leading the charge, with an expected CAGR exceeding 31% from 2025 to 2030, fueled by advancements in robotics, artificial intelligence (AI), and cloud computing. North America currently holds the largest market share at 30%, driven by rapid technological innovations and significant investments in autonomous systems.

Robotics Market Leaders & company analysis

Industrial Robotics

ABB Ltd. (Swiss)

Fully Diluted Mkt Cap (M):	CHF 99,186.73	$ 110,488.87
Enterprise Value (M):	CHF 101,422.98	$ 112,981.94

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	0.99	1.18	1.16	1.20
Beta (Adjusted)	1.00	1.12	1.11	1.14

Profile
ABB Ltd. is a Swiss technology company, which engages in the development and provision of electrification, motion and automation solutions. It operates through the following business segments: Electrification, Motion, Process Automation and **Robotics & Discrete Automation**. The Electrification segment manufactures and sells electrical products and solutions which are designed to provide safe, smart and sustainable electrical flow from the substation to the socket. The Motion segment manufactures and sells drives, motors, generators, traction converters and mechanical power transmission products that are driving the low-carbon future for industries, cities, infrastructure and transportation. The Process Automation segment develops and sells a broad range of industry-specific, integrated automation and electrification and digital systems and solutions, as well as digital solutions, life cycle services, advanced industrial analytics and artificial intelligence applications and suites for the process, marine and hybrid industries. **The Robotics & Discrete** Automation segment delivers its products, solutions and services through **two operating Divisions**: **Robotics and Machine Automation**.

Robotics subsidiaries
- Sevensense Robotics AG (Swiss)
  Sevensense Robotics develops an autonomy kit for **mobile robots** driving in mixed indoor-outdoor, fast changing and crowded environments.

- ASTI Mobile Robotics SA (Spain)
  ASTI Mobile Robotics specialises in **automated guided vehicles** (AGVs) used to move materials and products from place to place in factories and warehouses.

- Codian Robotics BV (Netherlands)
  Codian Robotics develops **Pick & Place robots** for industrial applications.

Earnings rapport highlights robotics (30 jan 2025)

- Robotics performed worse then expected but is expected to do better coming year
- Positive order growth in the robotics and discrete automation after 8 declining quarters
- -130 million in orders mainly because of Machine Automation and China
- Robotics division saw positive order development in the automotive sector
- Robotics division had lower double-digit growth rates for comparable revenues, these rates where offset by the significantly lower volumes in machine automation

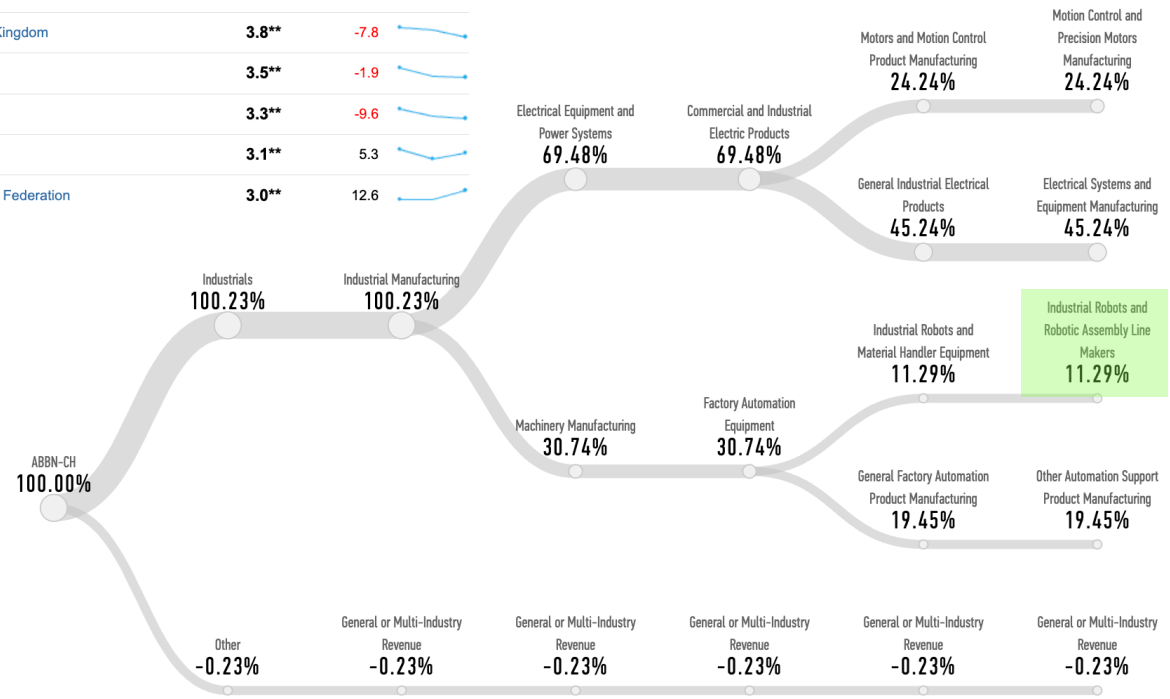
- CapEx spending went mostly into expansion of existing facilities, more automation, more robotics and automation of the factory floors
- Robotics have a double digit margin

Geographic and industry share revenue

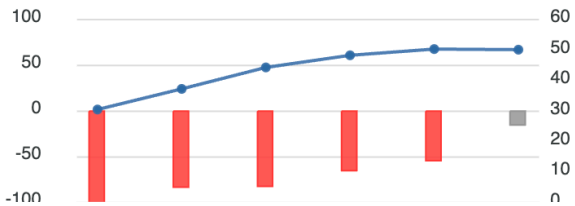
Revenue Exposure By Country/Region

Total LTM Revenue CHF29.0B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States	25.6	7.3	
Mainland China	13.6**	-13.2	
Germany	5.2**	-0.2	
United Kingdom	3.8**	-7.8	
France	3.5**	-1.9	
Japan	3.3**	-9.6	
Italy	3.1**	5.3	
Russian Federation	3.0**	12.6	



Earnings Sentiment and Price over time



	Dec '23	Dec '24	Dec '25E	Dec '26E	Dec '27E
EPS	2.02	2.13	2.45	2.72	2.96
EPS - IFRS	2.01	2.13	2.35	2.62	2.83
EPS - ex. Extraordinary Items	2.07	2.13	2.44	2.72	2.94

Negative sentiment around the company is decreasing, expected EPS increasing by 50% over 2 years

Midea Group Co. Ltd. (China)

Fully Diluted Mkt Cap (M):	CN¥567,499.00	$ 78,274.86
Enterprise Value (M):	CN¥512,511.41	$ 70,690.45

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	0.43	0.62	0.84	0.90
Beta (Adjusted)	0.62	0.74	0.89	0.93
Beta (Unlevered)	0.37	0.54	0.73	0.78

Profile

Midea Group Co., Ltd. manufactures and sells home and commercial **electric appliances**. Its business segments include large appliances, water, kitchen, large & small cooking, heating, ventilation, electrical and logistics appliances. Its products include air conditioner, fan, bakery machine, rice cooker, microwave, oven, induction cooker, micro-electric air pot, kettle, vacuum cleaner, humidifier, heater, washing machine, water appliances, floor care, and dehumidifier.

Robotics subsidiaries

- Talyst Systems LLC
  Talyst is engineering the safer pharmacy. The company was founded in 2002 to provide easy-to-use, **automated medication management systems** to acute care hospital pharmacies. The following year, Talyst launched AutoPharma, the innovative software platform designed to integrate medication storage, inventory, ordering, barcoding, and clinical systems.

- Swisslog Healthcare Italy
  Swisslog Healthcare Italy SRL engages in the design and development of logistics automation solutions for pharmacies and hospitals. It offers real drawers, **robots**, hybrid systems, real drawer systems, and live display automation

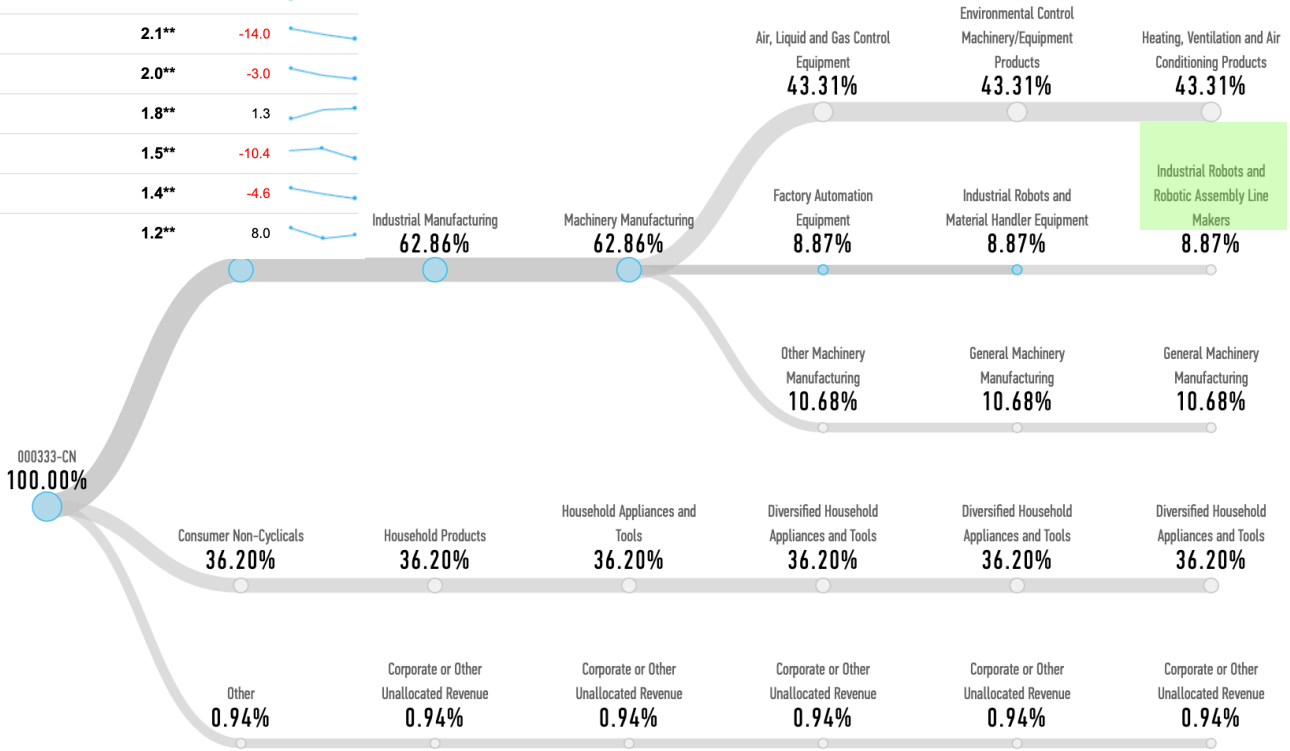
Earnings rapport highlights robotics (30 okt 2024)

- Revenue from robotics and automation amounted to 20.8 billion RMB, a 9% YoY increase

Revenue Exposure By Country/Region

Total LTM Revenue Y399.6B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
Mainland China	58.4**	1.4	
United States	12.6**	1.5	
Japan	2.1**	-14.0	
Germany	2.0**	-3.0	
India	1.8**	1.3	
United Kingdom	1.5**	-10.4	
France	1.4**	-4.6	
Hong Kong, China*	1.2**	8.0	



	Dec '22	Dec '23	Dec '24E	Dec '25E	Dec '26E
EPS	0.61	0.67	0.71	0.78	0.85
EPS - Reported	0.63	0.68	0.71	0.77	0.84
EPS - ex. Extraordinary Items	0.62	0.68	0.72	0.78	0.84

EPS expected to grow with 19% in two years

Dürr AG (Germany)

Fully Diluted Mkt Cap (M):	€1,709.29	$ 1,788.05
Enterprise Value (M):	€2,164.87	$ 2,264.63

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	1.25	1.16	1.29	1.17
Beta (Adjusted)	1.17	1.11	1.19	1.11
Beta (Unlevered)	0.79	0.73	0.81	0.73

Profile

Dürr AG engages in the business of mechanical and plant engineering, which focuses on **automation and digitalization.** It operates through the following divisions: Paint and Final **Assembly Systems**, Application Technology, Clean Technology Systems, **Industrial Automation Systems**, and Woodworking Machinery and Systems. The Paint and Final Assembly Systems division plans and builds paint systems and **final assembly lines** for the automotive industry and supplies software for the over-arching production control. The Application Technology division develops and manufactures products and systems for the automated application of paint, sealants, and adhesives. The Clean Technology Systems division specializes in exhaust gas purification systems and energy efficiency technology. The Industrial Automation Systems division comprises the automation technology and balancing, diagnostic, filling, ang tooling technology business areas. The Woodworking Machinery and Systems division develops and produces machinery and systems for the woodworking industry.

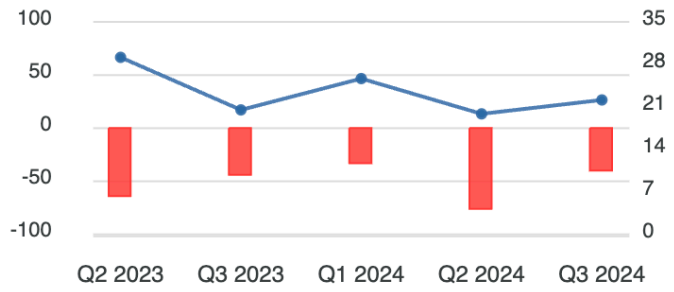
Robotics subsidiaries

- HEKUMA GmbH
  HEKUMA is a leading manufacturer of high performance **automation systems** for injection molding and the **plastics industry**. With more than 35 years of experience, its linear robots, up- and downstream automation systems offer highest performance in acceleration, speed and position accuracy, even at high payloads.

Earnings rapport highlights robotics (9 aug 2024)

- The Industrial Automation Systems division saw order intake and sales supported by the consolidation of BBS Automation.
- The company is confident about the prospects of the Industrial Automation Systems business in terms of sales and margins, and is focused on realizing synergies on the sales and cost side.
- The international cooperation within Production Automation Systems is developing well and allows the company to leverage cost advantages.
- The company has adjusted the guidance for the Industrial Automation Systems division, reducing the sales guidance by €50 million and lowering the EBIT margin before extraordinary effects target from 7-8% to 6.5-7.5%, due to the delayed order intake in the first half.

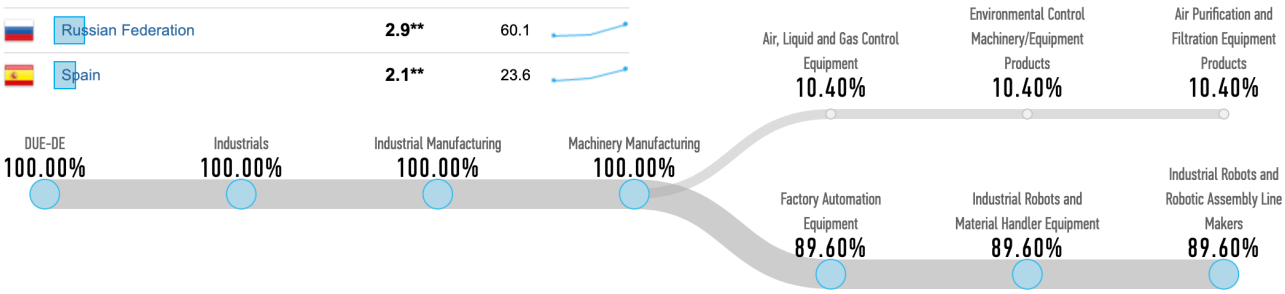
Earnings Sentiment and Price over time



Revenue Exposure By Country/Region

Total LTM Revenue €4.8B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States	22.8	58.8	
Germany+*	16.3	9.6	
Mainland China	15.9**	-27.4	
United Kingdom	4.4**	105.4	
France	4.1**	98.0	
Italy	3.0**	62.9	
Russian Federation	2.9**	60.1	
Spain	2.1**	23.6	



	Dec '22	Dec '23	Dec '24E	Dec '25E	Dec '26E
EPS	1.92	1.68	2.31	2.85	3.36
EPS - IFRS	2.00	1.76	1.77	2.42	3.00
EPS - ex. Extraordinary Items	2.14	1.91	2.27	2.84	3.38

EPS expected to grow with 45% in two years

Fanuc Corporation (Japan)

Fully Diluted Mkt Cap (M):	JP¥4,190,014.00	$ 28,062.15
Enterprise Value (M):	JP¥3,666,799.00	$ 24,557.96

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	1.46	1.01	1.08	1.16
Beta (Adjusted)	1.31	1.00	1.05	1.10
Beta (Unlevered)	1.46	1.00	1.08	1.15

Profile

FANUC Corp. engages in the development, manufacture, sale, and maintenance of computer numerical control (CNC) systems, lasers, **robot systems, robomachines, robocop, robocut and nano robots.** It operates through the following divisions: **Factory Automation (FA), Robot, and Robomachine**. The FA division provides products that enable factory automation, such as CNCs, which control machine tools with numerical information, servos and laser oscillators. The Robot division tasks can be automated by applying the basic technologies of CNCs and servos freely controlling robot arms. **The Robomachine division develops compact machining centers, electric injection molding machines**, wire electrical-discharge machines that apply the basic technologies of CNCs and servos.

Robotics subsidiaries

- Life Robotics, Inc.
  Life Robotics provides the development of **co-robot** to help people, People will contribute to the

creation of new value.

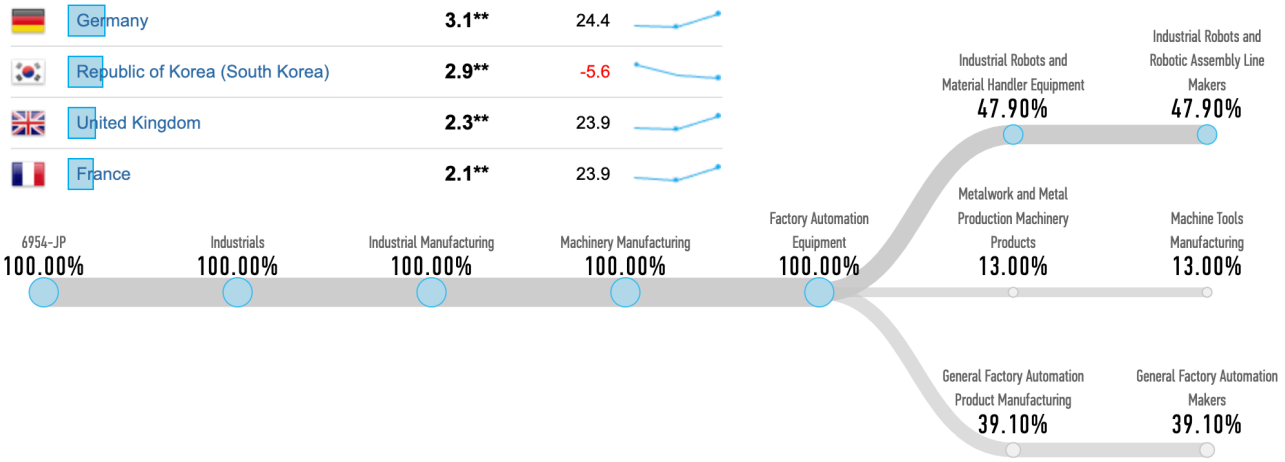
- Fanuc Mechatronics (Malaysia) Sdn. Bhd.
  Part of FANUC Corp., Fanuc Mechatronics is a Malaysian company that manufactures and wholesales factory **automation products & industrial robots.**

Earnings rapport highlights robotics (27 jan 2025)

- Consolidated robot sales declined by-18.8% (from $654M to $531.4M)
- Consolidated robomachine sales increased with 39.5% (from $172.2M to $240.5M)
- M-950iA/500 won the 2024 Nikkei Excellent Products and Services Awards / Global Prize
- Robot division Region Change from Previous Period: TOTAL -18.8%, Asia (Excluding China) -12.7%, China -18.2%, Europe -29.0%, The Americas -18.9%, Japan +7.8%

Total LTM Revenue ¥783.8B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States	22.7	18.4	
Mainland China	21.1**	-25.4	
Japan+*	13.2	-10.1	
India	6.1**	-3.2	
Germany	3.1**	24.4	
Republic of Korea (South Korea)	2.9**	-5.6	
United Kingdom	2.3**	23.9	
France	2.1**	23.9	



	Mar '23	Mar '24	Mar '25E	Mar '26E	Mar '27E
EPS	1.33	0.90	1.01	1.18	1.28
Company Forecast (Low)	1.32	0.87	0.95	-	-
EPS - Reported	1.33	0.90	1.01	1.23	1.31
EPS - Reported Diluted	1.33	0.90	1.03	1.26	1.33
EPS - ex. Extraordinary Items	1.33	0.90	0.99	1.17	1.27

EPS increase of 42% in two years

Symbotic, Inc. (US)

Fully Diluted Mkt Cap (M): $14,604.29
Enterprise Value (M)*: $13,614.44

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	2.84	2.31	1.22	1.03
Beta (Adjusted)	2.23	1.88	1.15	1.02

Profile
Symbotic, Inc. is an automation technology company, which engages in a robotics and automation-based product movement technology platform. It focuses on developing, commercializing, and deploying innovative, end-to-end technology solutions for supply chain operations. It operates through the United States and Canada geographical segments.

Robotics subsidiaries
- OhmniLabs, Inc.
  OhmniLabs makes affordable easy-to-use, and useful home **personal robots for elder care**

- Veo Robotics, Inc.
  Veo Robotics is transforming manufacturing with products that incorporate advanced computer vision, 3D sensing, and AI. Their first product lets high-performance **industrial robots** work collaboratively with people to enable much more flexible, productive, and efficient manufacturing workcells.

- Alert Innovation, Inc,
  Walmart Advanced Systems & Robotics specializes in developing cutting-edge solutions for Walmart.

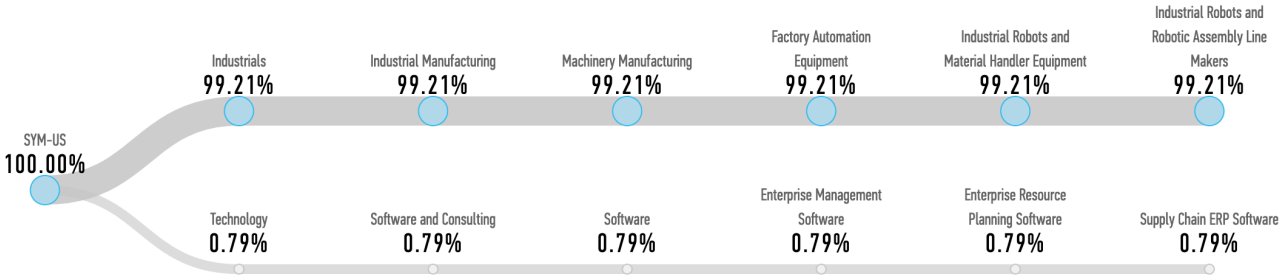
- Axium International Robotic & Automation ULC
  Axium International Robotic and Automation ULC contributes to Symbotic's mission by providing expertise in **robotic solutions**, systems integration, material handling systems, and packaging automation. These capabilities enhance Symbotic's overall service offerings, enabling the delivery of comprehensive automation solutions to clients across various industries.

Earnings rapport highlights robotics (27 jan 2025)
- Symbotic has been investing in developing vision capabilities using NVIDIA chips and graphic interfaces, which has been an expense over the past couple years but is now largely behind them.
- They are now focused on developing "tele-ops" capabilities to allow remotely controlling and operating the robotic systems. This allows the robots to learn from the remote operators, mimicking their skills and behaviors to improve their autonomous capabilities.
- Symbotic is working towards achieving a "lights out" warehouse with minimal manual interventions, leveraging AI and cloud computing to accelerate the learning and simulation capabilities of their robotic systems.
- The recent acquisition of Walmart's Advanced Systems and Robotics business is expected to provide Symbotic with additional robotics technology and talent to further enhance their capabilities in this area.
- Symbotic sees significant opportunities to apply their robotics and automation technology beyond just warehousing, including in areas like cold chain, perishable goods, and returns processing.

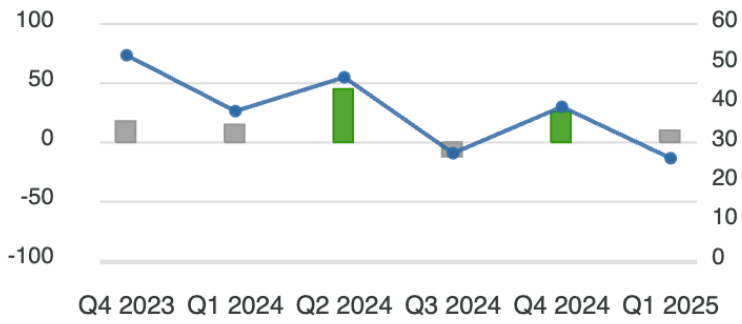
Revenue Exposure By Country/Region

Total LTM Revenue $1.9B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States+*	99.8	0.1	
Canada	0.2	-32.1	



Earnings Sentiment and Price over time



	Sep '23	Sep '24	Sep '25E	Sep '26E	Sep '27E
EPS	-0.02	0.13	0.25	0.50	0.68
Sharp Consensus	-	-	-	-	-
EPS - GAAP	-0.37	-0.08	0.06	0.38	0.81
EPS - Non GAAP	-0.02	0.13	0.25	0.50	0.68

EPS expected to grow with 281% in two years

Service and medical Robotics

---

iRobot Corporation

Fully Diluted Mkt Cap (M): $274.04
Enterprise Value (M): $320.23

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	3.54	1.53	0.83	0.84
Beta (Adjusted)	2.70	1.35	0.89	0.90
Beta (Unlevered)	1.82	0.79	0.43	0.43

Profile
iRobot Corp. is a robot company, which engages in designing and building robots. The firm's products include **robot vacuums and maps, and pool cleaners**. It operates through Domestic and International geographical segments.

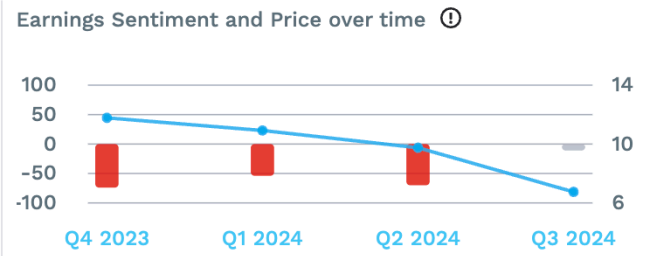
Robotics subsidiaries
All 16 subsidiaries are robotics companies and venture funds

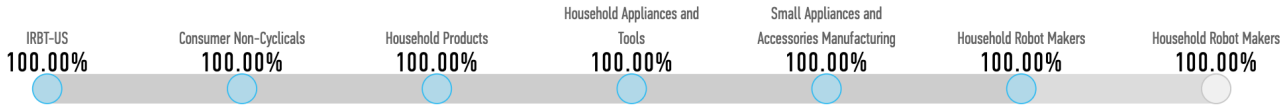
Earnings rapport highlights robotics (6 nov 2024)
- the company expects to return to year-over-year organic top line growth for the full year of 2025. The CEO stated that they are seeing positive trends in certain regions and market segments
- In EMEA, the company is seeing aggressive double-digit category growth, supported by the launch of premium multifunctional dock products. The CEO said EMEA did not experience the same pandemic-driven pull-forward as the US, and is now seeing growth.
- In Japan, the company expects growth to be driven by new product introductions and an advertising push, as Japan is a market where iRobot is still a leader.

Revenue Exposure By Country/Region

Total LTM Revenue $795.4M

	% of Tot. Rev.	% Chg (Y/Y)
United States+*	48.1	-7.4
Japan	18.5	4.4
Mainland China	3.0**	-18.9
Germany	2.0**	11.5
Italy	1.8**	26.0
Russian Federation	1.7**	34.8
United Kingdom	1.4**	3.0
France	1.3**	9.6





	Dec '22	Dec '23	Dec '24E	Dec '25E
EPS	-4.33	-7.73	-4.61	-1.22
Guidance (Low)	1.50	-	-4.91	-
Guidance (High)	2.10	-	-4.60	-
EPS - GAAP	-10.52	-11.01	-4.39	-2.44
EPS - Non GAAP	-5.50	-9.03	-	-
EPS - Non GAAP ex. SOE	-4.33	-7.73	-4.61	-1.22

Loss per share expected to decrease with 70% in two years

Intuitive Surgical, Inc.

Fully Diluted Mkt Cap (M): $217,152.73
Enterprise Value (M): $213,235.33

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	1.35	1.07	1.29	1.21
Beta (Adjusted)	1.24	1.05	1.19	1.14
Beta (Unlevered)	1.35	1.07	1.28	1.21

Profile

Intuitive Surgical, Inc. engages in the provision of **robotic-assisted surgical solutions** and invasive care through a comprehensive ecosystem of products and services. Its products include Da Vinci Surgical and Ion Endoluminal systems

Robotics subsidiaries

None

Earnings rapport highlights robotics (23 jan 2025)

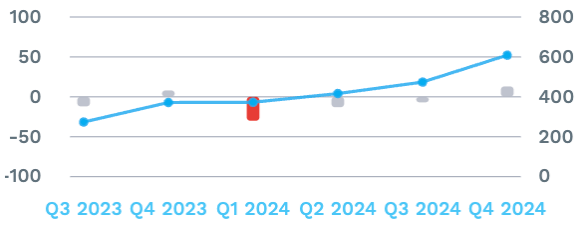
- Adoption of Intuitive's Ion and da Vinci SP platforms continued, with new global clearances and increased utilization. The Ion platform saw 78% procedure growth in 2024, and the SP platform saw 72% procedure growth.
- Intuitive is focused on improving its products across all three of its platforms (da Vinci, Ion, SP)
- Intuitive is planning to open new facilities for da Vinci 5 and Ion system manufacturing in California, as well as new endoscope manufacturing facilities in Germany and Bulgaria, in 2025.

Revenue Exposure By Country/Region

Total LTM Revenue $8.4B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States+*	66.9	1.7	
Mainland China	11.8**	-11.9	
Germany	2.9**	-1.9	
Japan	2.6**	-14.1	
India	2.5**	-3.0	
United Kingdom	2.2**	1.9	
France	2.0**	-1.4	
Canada	1.4**	-	

Earnings Sentiment and Price over time



ISRG-US	Healthcare	Healthcare Equipment	General Medical Devices	System-Specific General Medical Devices	Surgical Devices	Surgical Robotic Systems
100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

	Dec '23	Dec '24	Dec '25E	Dec '26E	Dec '27E
EPS	5.71	7.34	8.05	9.47	11.08
EPS - GAAP	5.03	6.42	6.99	8.58	10.53
EPS - Non GAAP	4.05	5.47	-	-	-
EPS - Non GAAP ex. SOE	5.71	7.34	8.05	9.47	11.08

EPS expected to rise with 29% in 2 years

Stryker Corporation

Fully Diluted Mkt Cap (M): $148,218.79
Enterprise Value (M): $157,612.79

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	0.65	0.61	0.88	1.03
Beta (Adjusted)	0.76	0.74	0.92	1.02
Beta (Unlevered)	0.60	0.57	0.81	0.95

Profile
Stryker Corp. is a medical technology company, which engages in the provision of products and services that help improve patient and healthcare outcomes. It operates under the MedSurg and Neurotechnology, and Orthopaedics and Spine segments. The MedSurg and Neurotechnology segment includes surgical equipment and navigation systems, endoscopic and communications systems, patient handling, emergency medical equipment, intensive care disposable products, clinical communication, workflow solutions, products for the treatment of acute ischemic and hemorrhagic stroke, traditional brain, and open skull based surgical procedures, orthobiologic, and biosurgery. The Orthopaedics and Spine segment focuses on implants used in hip and knee joint replacements and trauma and extremity surgeries, and cervical, thoracolumbar, and interbody systems used in spinal injury, deformity, and degenerative therapies.

Robotics subsidiaries
- Stanmore Implants Worldwide Ltd.
  Stanmore Implants Worldwide is an innovative orthopaedic business focused on the design and manufacture of both bespoke and modular implants for limb-sparing and complex primary and revision joint replacement. Stanmore Implants Worldwide acquired its robotic bone preparation technology through the acquisition of Acrobot, a medical devices company specializing in computer-assisted orthopaedic surgery in August 2010

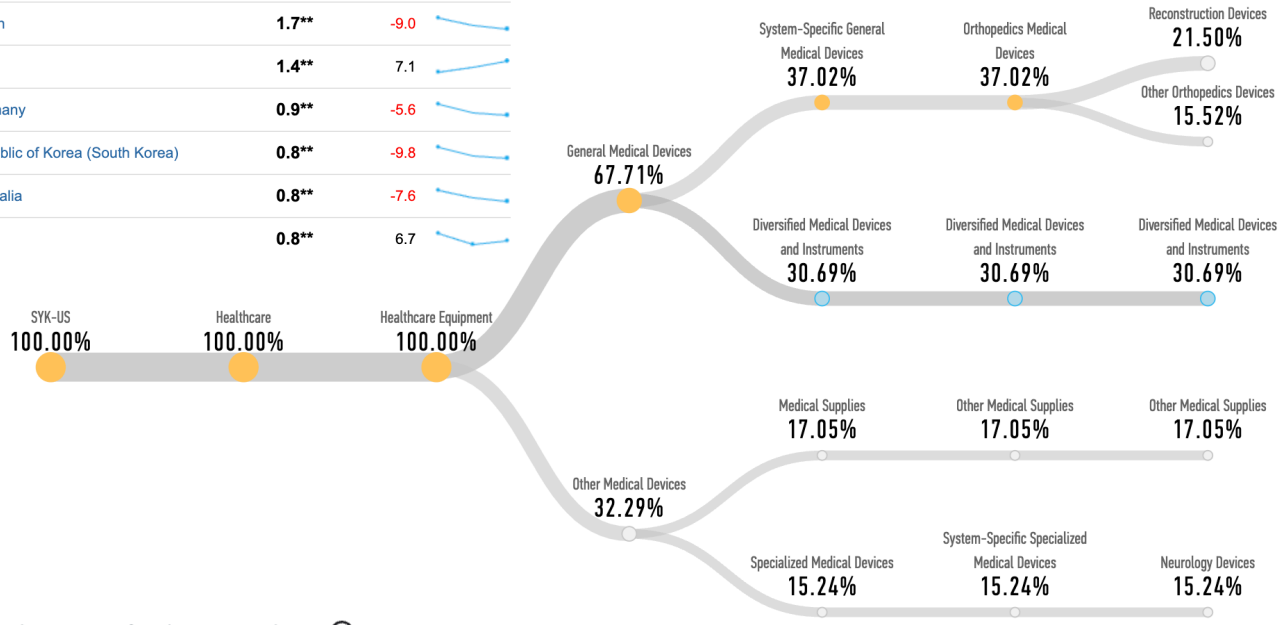
- MAKO Surgical Corp.
  MAKO Surgical is a medical device company, markets its **advanced robotic arm solution,** joint specific applications for the knee and hip, and orthopedic implants for orthopedic procedures in the United States and internationally. It also provides **robotic arm interactive orthopedic system** (RIO) consisting of a tactile robotic arm utilizing an integrated bone cutting instrument; and a patient specific visualization component, which offers pre-operative and intra-operative guidance to the orthopedic surgeon, enabling tissue sparing bone removal, and accurate implant insertion and alignment.

Earnings rapport highlights robotics (28 jan 2025)
- Mako Shoulder completed its first cases in October 2024 and received excellent surgeon feedback. Stryker plans a limited market release in 2025 and a full US commercial launch in the second half of 2026.
- Mako Spine completed its first cases in October 2024 and Stryker is progressing through a limited market release, with plans for a full US commercial launch in the second half of 2025.
- Stryker's Mako robotic platform continues to see strong adoption, with the US installed base approaching two-thirds of knees and one-third of hips performed using Mako as of the end of 2024. Globally, Mako was used in just over 45% of knees and 20% of hips.

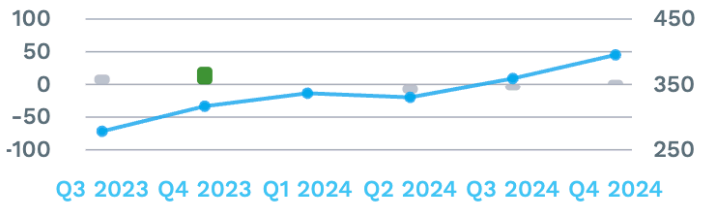
Revenue Exposure By Country/Region

Total LTM Revenue $22.6B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States+*	74.4	1.2	
Mainland China	1.7**	-21.5	
Japan	1.7**	-9.0	
India	1.4**	7.1	
Germany	0.9**	-5.6	
Republic of Korea (South Korea)	0.8**	-9.8	
Australia	0.8**	-7.6	
Italy	0.8**	6.7	



Earnings Sentiment and Price over time



	Dec '23	Dec '24	Dec '25E	Dec '26E	Dec '27E
EPS	10.60	12.19	13.49	14.89	16.63
Guidance (Low)	10.35	12.00	13.45	-	-
Guidance (High)	10.45	12.10	13.70	-	-
EPS - GAAP	8.25	7.76	10.87	12.31	13.39
EPS - Non GAAP	10.60	12.19	11.81	13.18	15.41
EPS - Cash	10.60	12.19	13.49	14.89	16.63

EPS expected to grow 22% in 2 years

Medtronic Plc.

Fully Diluted Mkt Cap (M): $116,098.93
Enterprise Value (M): $136,730.93

	90 Day	52 Wks	3 Yrs	5 Yrs
Beta (Raw)	0.24	0.28	0.58	0.79
Beta (Adjusted)	0.49	0.52	0.72	0.86
Beta (Unlevered)	0.20	0.24	0.49	0.67

Profile
Medtronic Plc is a medical technology company, which engages in the development, manufacture, distribution, and sale of device-based medical therapies and services. It operates through the following segments: Cardiovascular Portfolio, Neuroscience Portfolio, Medical Surgical Portfolio, and Diabetes Operating Unit. The Cardiovascular Portfolio segment includes products for the diagnosis, treatment, and management of cardiac rhythm disorders and cardiovascular disease. The Neuroscience Portfolio is made up of cranial and spinal technologies, specialty therapies, and neuro modulation divisions. The Medical Surgical Portfolio is comprised of surgical innovations and respiratory, gastrointestinal, and renal divisions.

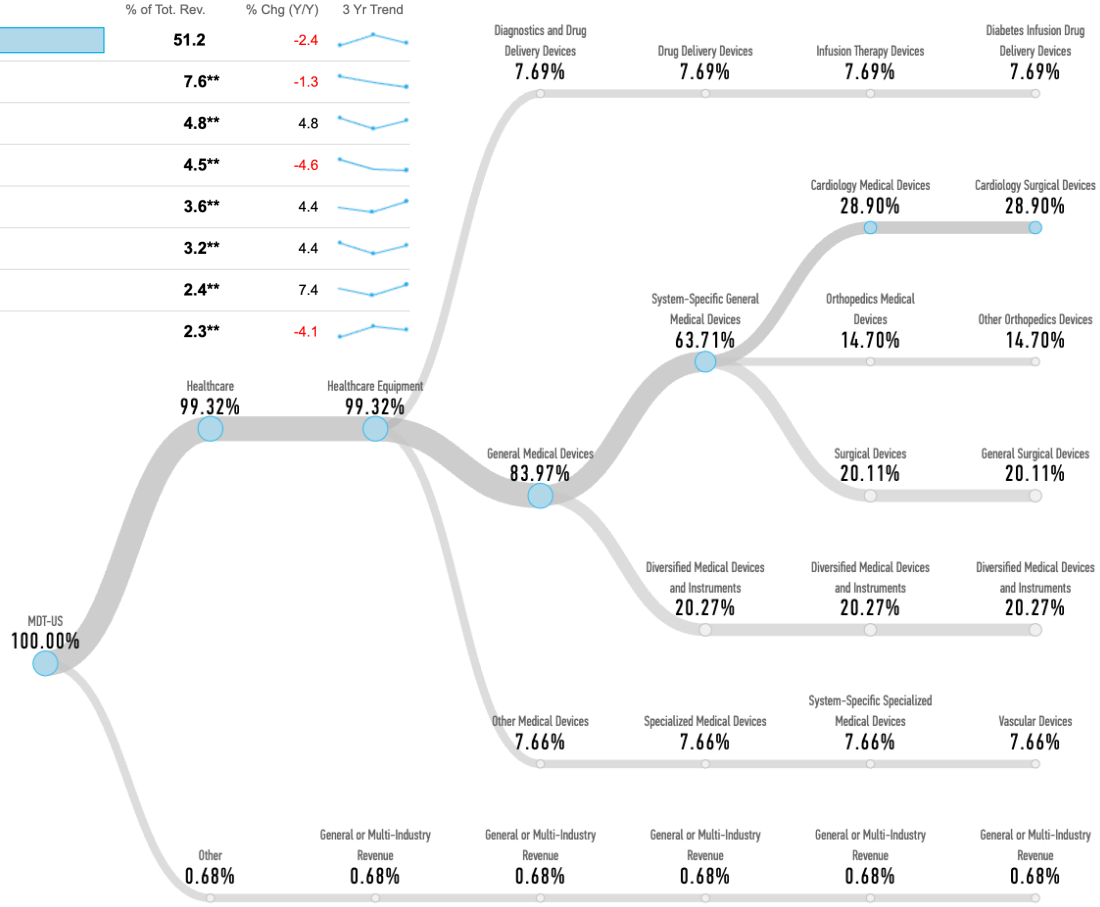
Robotics subsidiaries
- Mazor Robotics Ltd.
  Mazor Robotics is a spine surgery innovator—inspiring the art of surgery with guidance systems and complementary products that provide a safer surgical environment for patients, surgeons, and OR staff. Renaissance, Mazor Robotics' new guidance system, is transforming spine surgery from freehand procedures to highly-accurate, state-of-the-art procedures that raise the standard of care with better clinical outcomes.

Earnings rapport highlights robotics (28 jan 2025)
- In international markets, utilization of Hugo (Robotic-Assisted Surgery) continues to increase and Medtronic has more than **doubled Hugo procedure volume** year-over-year
- Medtronic is on track to submit for FDA approval for Hugo with urology indications by the end of next month. Medtronic has also finished enrollment in its hernia and benign GYN studies for Hugo and recently received FDA approval to initiate its GYN oncology IDE study.
- Medtronic expects Hugo to be a growth driver for its Surgical business in fiscal 2026 and a meaningful growth driver for Medtronic in the midterm.

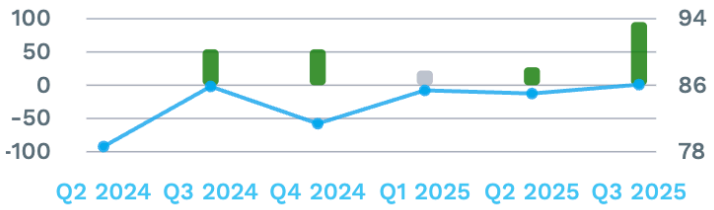
Revenue Exposure By Country/Region

Total LTM Revenue $33.2B

	% of Tot. Rev.	% Chg (Y/Y)	3 Yr Trend
United States*	51.2	-2.4	
Mainland China	7.6**	-1.3	
Germany	4.8**	4.8	
Japan	4.5**	-4.6	
United Kingdom	3.6**	4.4	
France	3.2**	4.4	
Italy	2.4**	7.4	
Canada	2.3**	-4.1	



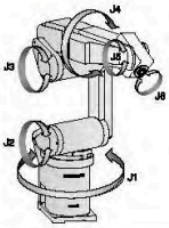
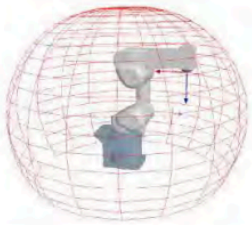
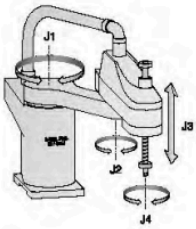
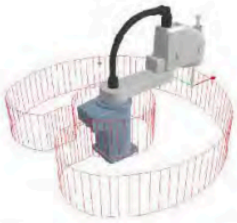
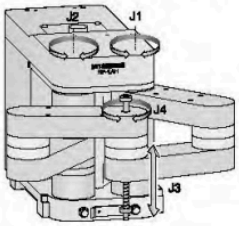
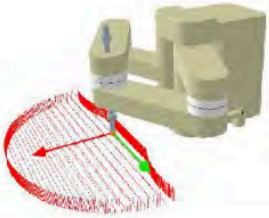
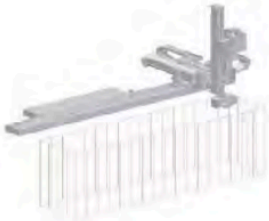
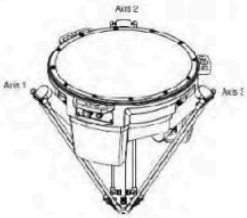
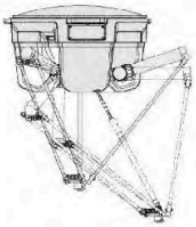
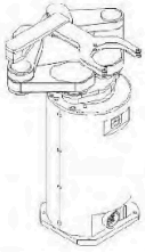
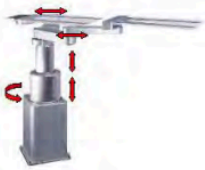
Earnings Sentiment and Price over time



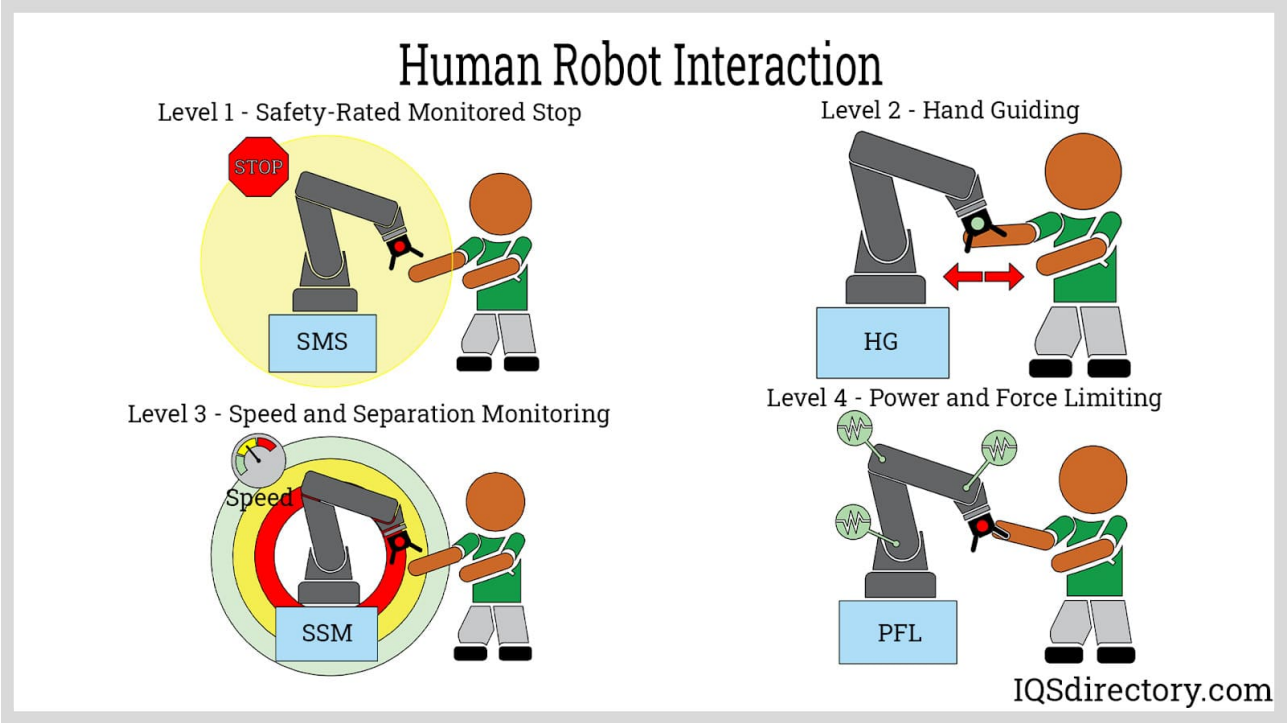
	Apr '23	Apr '24	Apr '25E	Apr '26E	Apr '27E
EPS	5.29	5.20	5.45	5.83	6.29
Guidance (Low)	5.28	5.19	5.44	-	-
Guidance (High)	5.30	5.21	5.50	-	-

EPS expected to grow with 12% in 2 years

Types of industrial robots

Principle	Kinematic Structure	Photo
Articulated Robot 		
SCARA Robot 		
SCARA Robot 		
Cartesian Robot		
Parallel Robot (Delta robot) 		
Cylindrical Robot 		

Types of cobots



Safety Monitored Stop Cobots
Safety monitored stop collaborative robots are typically used in applications with minimal human interaction. This type of cobot involves a conventional industrial robot outfitted with safety sensors that detect when a person enters its workspace. When a human is detected, the robot immediately halts its operations to ensure safety. After the human has finished their task, the robot can be restarted with the push of a button.

Speed and Separation Cobots
Speed and separation collaborative robots, often referred to as “fenceless” cobots, are ideal for scenarios where there is limited human interaction but easy access to the robot is required. Safety laser range scanners are typically used to define zones around the cobot’s workspace. When a person approaches, the robot’s speed reduces, and it will stop entirely if the individual moves closer. Once the person moves away from the workspace, the robot automatically resumes its normal speed.

Hand Guiding Cobots
Hand guiding collaborative robots are equipped with a safety-rated component at the end of the robot’s arm that allows an operator to manually move or direct the robot. This feature is particularly useful for quickly programming new paths and positions. It is ideal for mobile applications where robots move between different stations and require retraining for various tasks, as well as for scenarios where the robot needs frequent reprogramming.

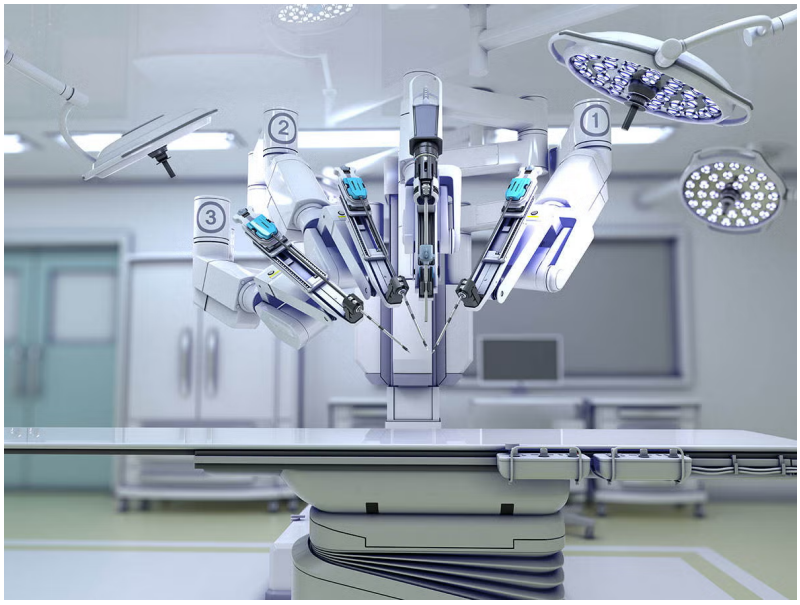
Power and Force Limiting Cobots
Power and Force Limiting Cobots are designed to work safely alongside human operators without requiring additional safety barriers, external scanners, or vision systems. To enhance human safety, force and power limiting collaborative robots are designed without exposed motors, sharp edges, or pinch points. These cobots are equipped with sensitive built-in collision sensors that detect potential impacts and stop immediately if they come into contact with a person. Currently, force and power limiting collaborative robots are generally suited for smaller-scale applications.

Types of service robots

Logistics robot

Harvesting robot

Hospitality robot

Personal use robot

Types of medical robots