

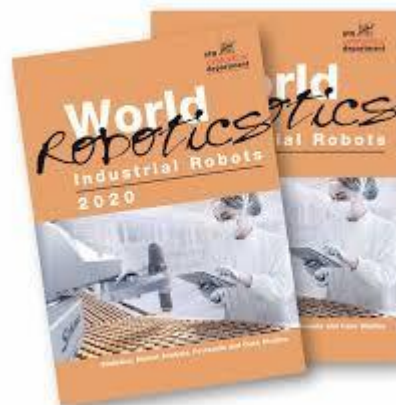


World Robotics 2020 Report

International Federation of Robotics

September 24, 2020

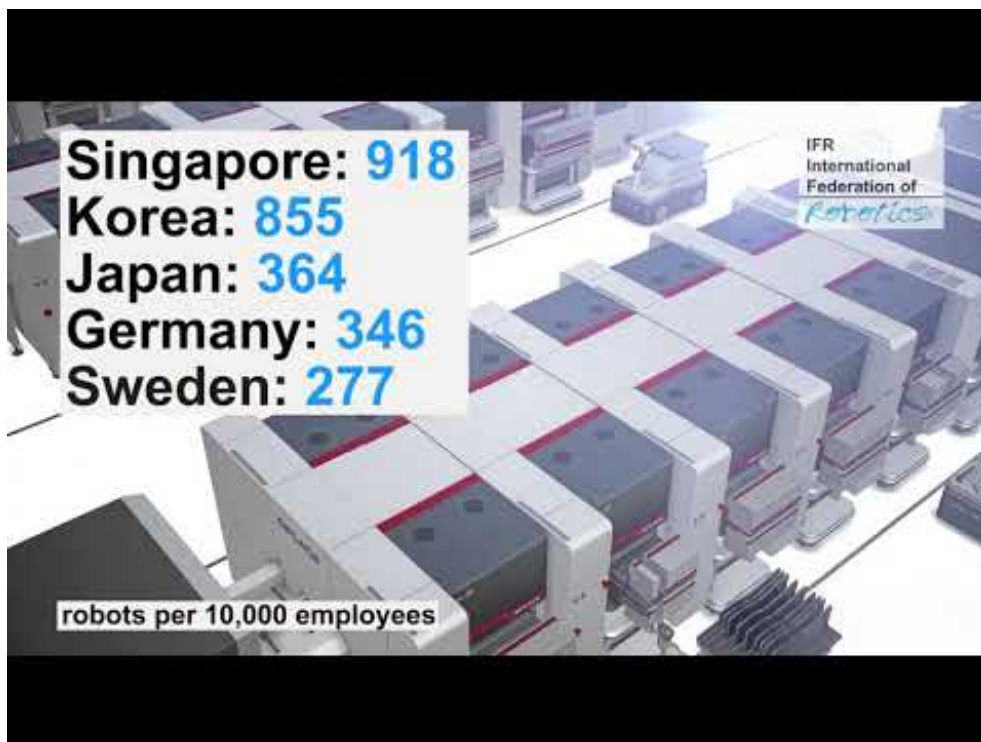
EXTRAITS



IFR presents World Robotics Report 2020

ifr.org/ifr-press-releases/news/record-2.7-million-robots-work-in-factories-around-the-globe

Frankfurt, Sep 24, 2020 — The new World Robotics 2020 Industrial Robots report shows a record of 2.7 million industrial robots operating in factories around the world – an increase of 12%. Sales of new robots remain on a high level with 373,000 units shipped globally in 2019. This is 12% less compared to 2018, but still the 3rd highest sales volume ever recorded.



Watch Video At: https://youtu.be/Fsn_w_gmHyk

“The stock of industrial robots operating in factories around the world today marks the highest level in history,” says Milton Guerry, President of the International Federation of Robotics. “Driven by the success story of smart production and automation this is a worldwide increase of about 85% within five years (2014-2019). The recent slowdown in sales by 12% reflects the difficult times the two main customer industries, automotive and electrical/electronics, have experienced.”

“In addition to that, the consequences from the coronavirus pandemic for the global economy cannot be fully assessed yet,” proceeds Milton Guerry. “The remaining months of 2020 will be shaped by adaption to the ‘new normal’. Robot suppliers adjust to the demand for new applications and developing solutions. A major stimulus from large-scale orders is unlikely this year. China might be an exception, because the coronavirus was first identified in the Chinese city of Wuhan in December 2019 and the country

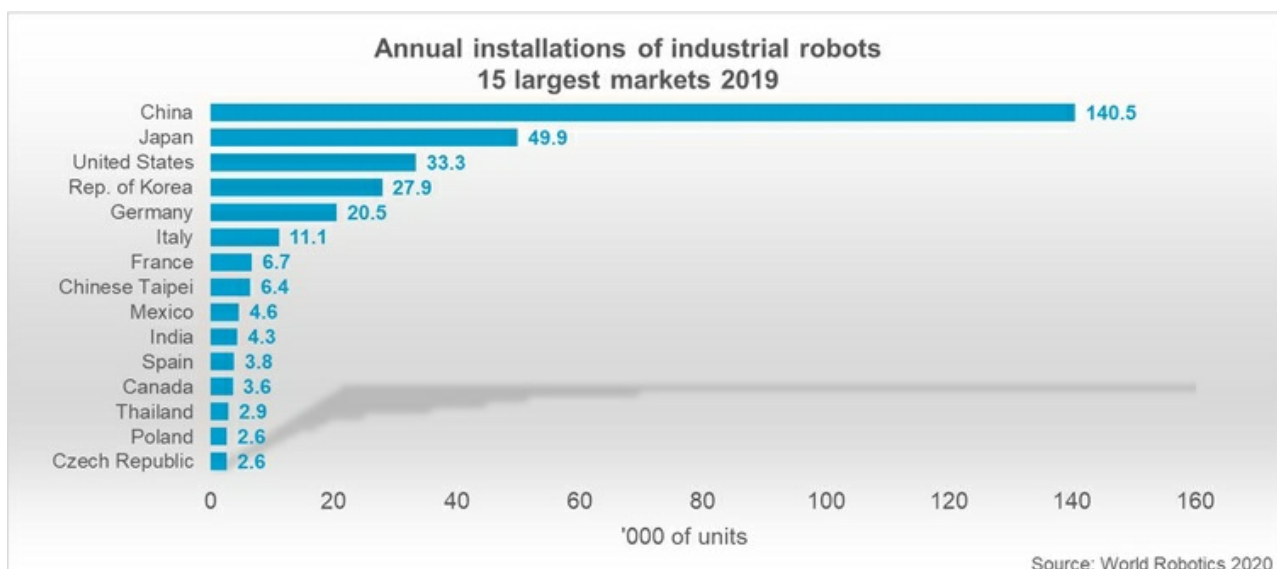
already started its recovery in the second quarter. Other economies report to be at the turning point right now. But it will take a few months until this translates into automation projects and robot demand. 2021 will see recovery, but it may take until 2022 or 2023 to reach the pre-crisis level.”

Asia, Europe and the Americas - overview

Asia remains the strongest market for industrial robots - operational stock for the region's largest adopter China rose by 21% and reached about 783,000 units in 2019. Japan ranks second with about 355,000 units – plus 12 %. A runner-up is India with a new record of about 26,300 units – plus 15%. Within five years, India has doubled the number of industrial robots operating in the country's factories.

The share of newly installed robots in Asia was about two thirds of global supply. Sales of almost 140,500 new robots in China is below the record years of 2018 and 2017 but still more than double the numbers sold five years ago (2014: 57,000 units).

Installations of top Asian markets slowed down – in China (minus 9%) and Japan (minus 10%).



Annual installations of industrial robots TOP 15 countries © World Robotics 2020 Report

In China, the broad majority of 71% of new robots was shipped in from foreign suppliers. Chinese manufacturers still mainly cater to the domestic market, where they gain increasing market shares. Foreign suppliers deliver some 29% of their units to the automotive industry, while it is only around 12% for Chinese suppliers. Therefore, foreign suppliers are more affected by the decline of business in the Chinese automotive industry than the domestic suppliers.

Europe

Europe reached an operational stock of 580,000 units in 2019 – plus 7%. Germany remains the main user with an operational stock of about 221,500 units – this is about three times the stock of Italy (74,400 units), five times the stock of France (42,000 units) and about ten times the stock of the UK (21,700 units).

Robot sales show a differentiated picture for the largest markets within the European Union: About 20,500 robots were installed in Germany. This is below the record year 2018 (minus 23%) but on the same level as 2014-2016. Sales in France (+15%), Italy (+13%) and the Netherlands (+8%) went up. Robotics in the United Kingdom remains on a low level – new installations slowed down by 16%. The newly installed 2,000 units in the UK are about ten times less than the shipments in Germany (20,500 units), about five times less than in Italy (11,100 units) and about three times less than in France (6,700 units).

Americas

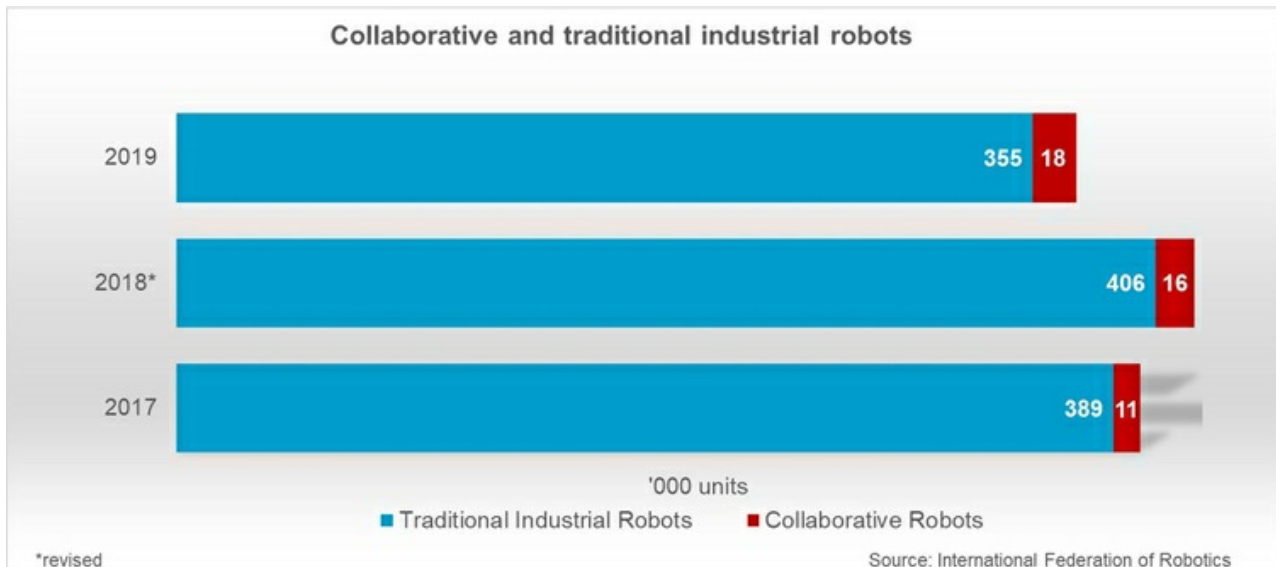
The USA is the largest industrial robot user in the Americas, reaching a new operational stock record of about 293,200 units – up 7%. Mexico comes second with 40,300 units, which is a plus of 11% followed by Canada with about 28,600 units – plus 2%.

New installations in the United States slowed down by 17% in 2019 compared to the record year of 2018. Although, with 33,300 shipped units, sales remain on a very high level representing the second strongest result of all time. Most of the robots in the USA are imported from Japan and Europe. Although, there are not many North American robot manufacturers, there are numerous important robot system integrators. Mexico ranks second in North America with almost 4,600 units – a slowdown of 20%. Sales in Canada are 1% up to a new record of about 3,600 shipped units.

South America's number one operational stock is in Brazil with almost 15,300 units – plus 8%. Sales slowed down by 17% with about 1,800 installations – still one of the best results ever - only beaten by record shipments in 2018.

Worldwide trend in human-robot collaboration

The adoption of human-robot collaboration is on the rise. We saw cobot installations grew by 11%. This dynamic sales performance was in contrast to the overall trend with traditional industrial robots in 2019. As more and more suppliers offer collaborative robots and the range of applications becomes bigger, the market share reached 4.8% of the total of 373,000 industrial robots installed in 2019. Although this market is growing rapidly, it is still in its infancy.



Collaborative and traditional industrial robots © IFR International Federation of Robotics

Outlook

Globally, COVID-19 has a strong impact on 2020 - but also offers a chance for modernization and digitalization of production on the way to recovery. In the long run, the benefits of increasing robot installations remain the same: Rapid production and delivery of customized products at competitive prices are the main incentives.

Automation enables manufacturers to keep production in developed economies - or reshore it - without sacrificing cost efficiency. The range of industrial robots continues to expand – from traditional caged robots capable of handling all payloads quickly and precisely to new collaborative robots that work safely alongside humans, fully integrated into workbenches.

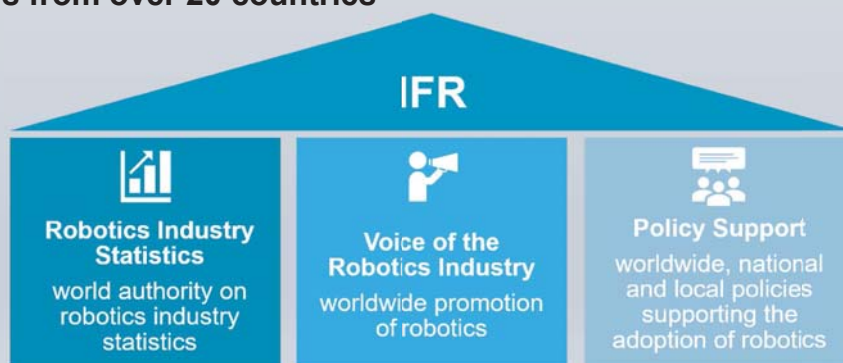
Welcome to the IFR Press Conference

24th September 2020
Frankfurt

[#WorldRobotics2020](#)

International Federation of Robotics

- Non-profit organization since 1987
- Connecting the world of robotics around the globe
- 65 members from over 20 countries
- Annual global robotics turnover **\$50 billion** (robot systems including software & peripherals)



Two separate reports

- **industrial robots**

- automatically controlled, programmable, multipurpose, 3+ axes, for use in industrial automation applications
- based on 5 different kinematic types that are equipped with applications-specific end-effectors

- **service robots:**

- performs tasks excluding industrial automation
- usually application-specific design, often fewer than 3 axes
- sometimes not fully autonomous but remote-controlled

➤ **different customers, pricing, machinery, distribution channels, suppliers**



Image: Omron

The blurring lines between industrial and service robots

Depending on its **application**, the same unit can be a service robot or an industrial robot.

Usage concepts change – new applications emerge.

Reimagine business processes to make optimal use of collaborative robots.

AI and machine learning technologies enable robots to **sense and respond** to their environment.

Robots are increasingly supporting humans both at **work** and in their **private lives**.



Image: KUKA

Image: KUKA

World Robotics Industrial Robots 2020



Statistics, Market Analysis, Forecasts and Case Studies

2019: Global economic downturn and trade tensions leave their marks

Robot stock

2019: 2.7 million units, +12%

- highest number ever recorded
- CAGR since 2014: +13%

New robots

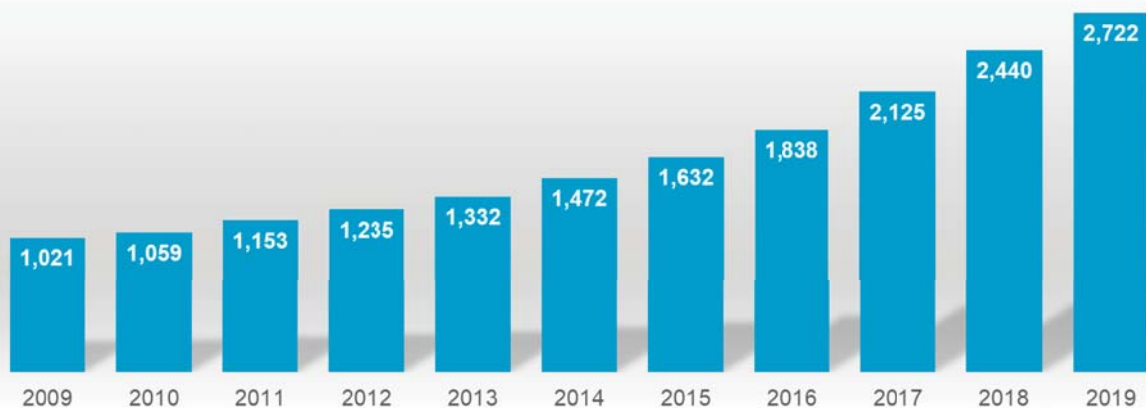
2019: 373,000 units, -12%

- third highest number ever recorded
- CAGR since 2014: +11%

More robots deployed than ever

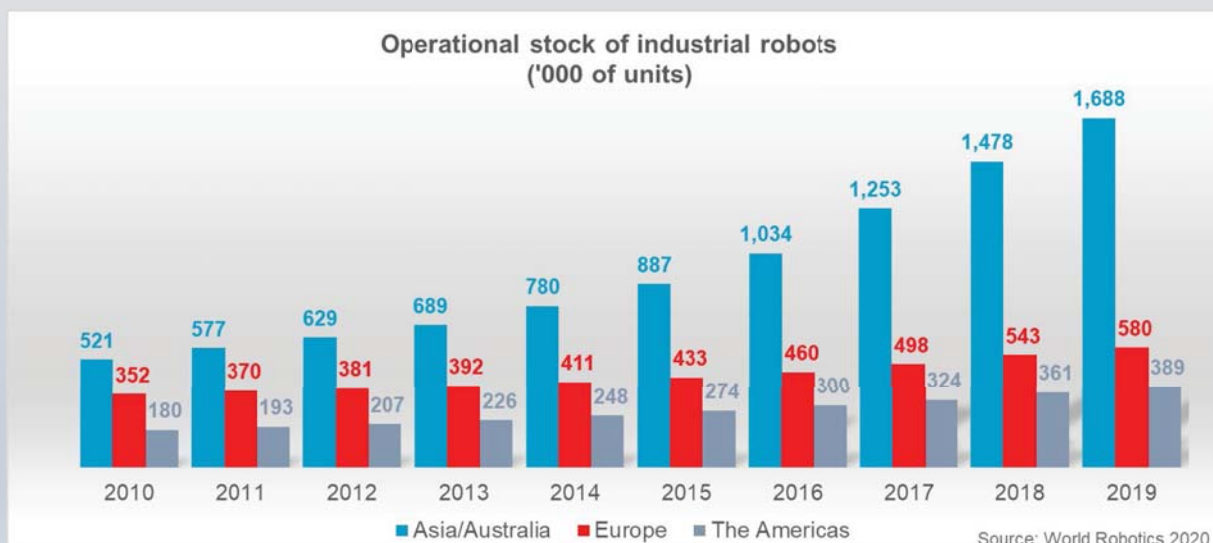
Operational stock of industrial robots - World

1,000 units

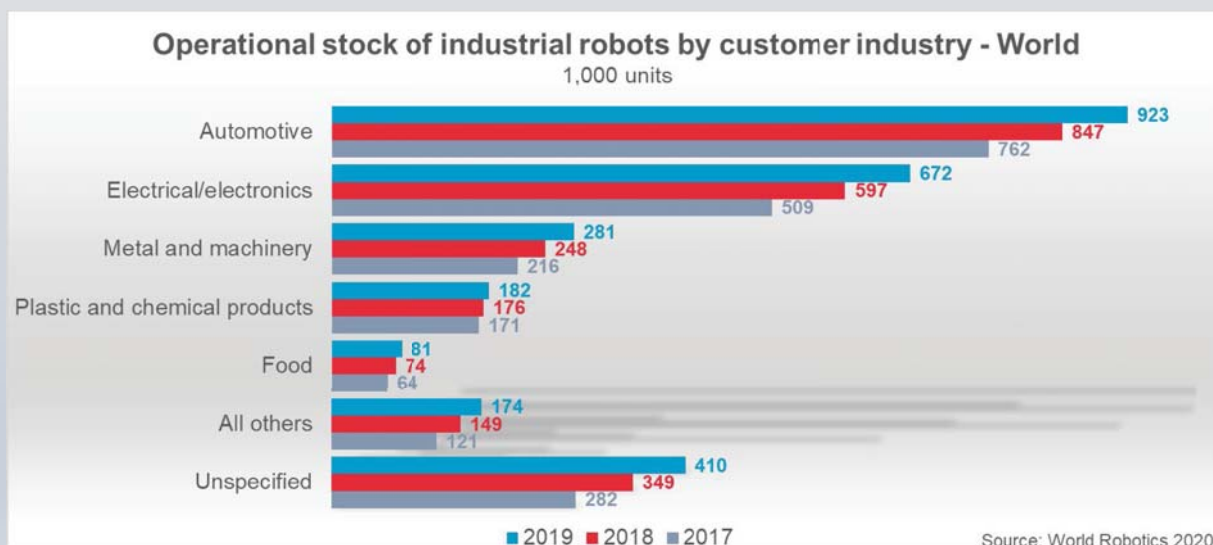


Source: World Robotics 2020

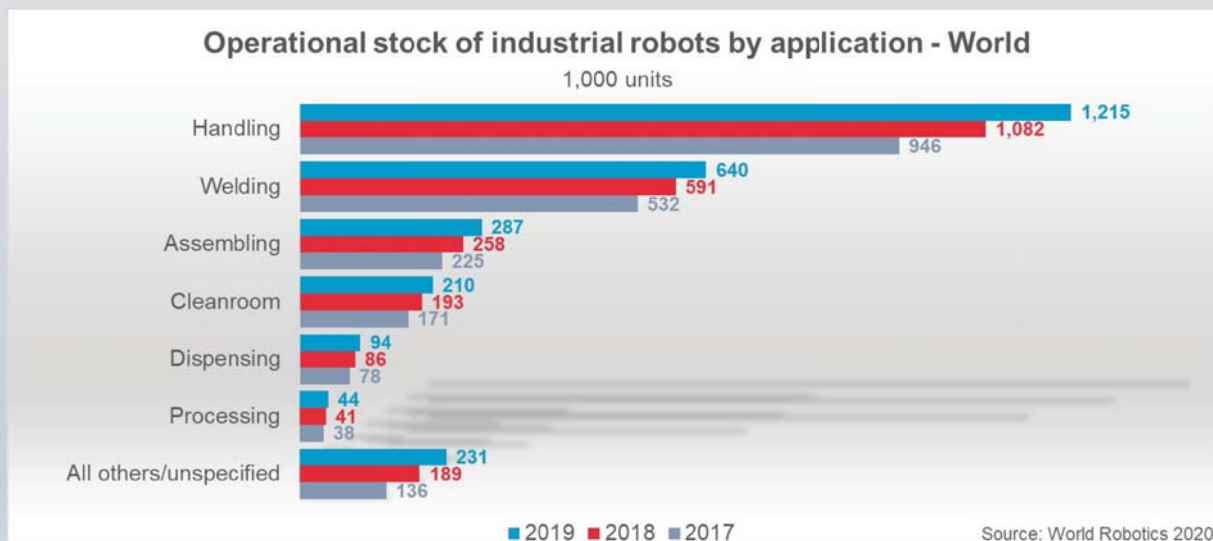
More robots deployed than ever



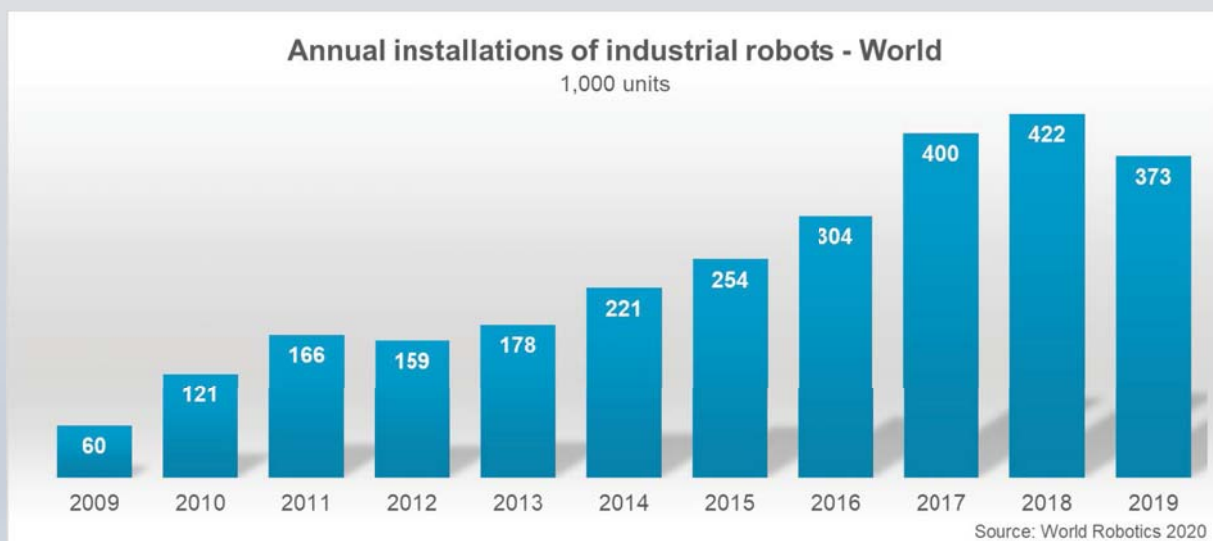
Operational stock by industry



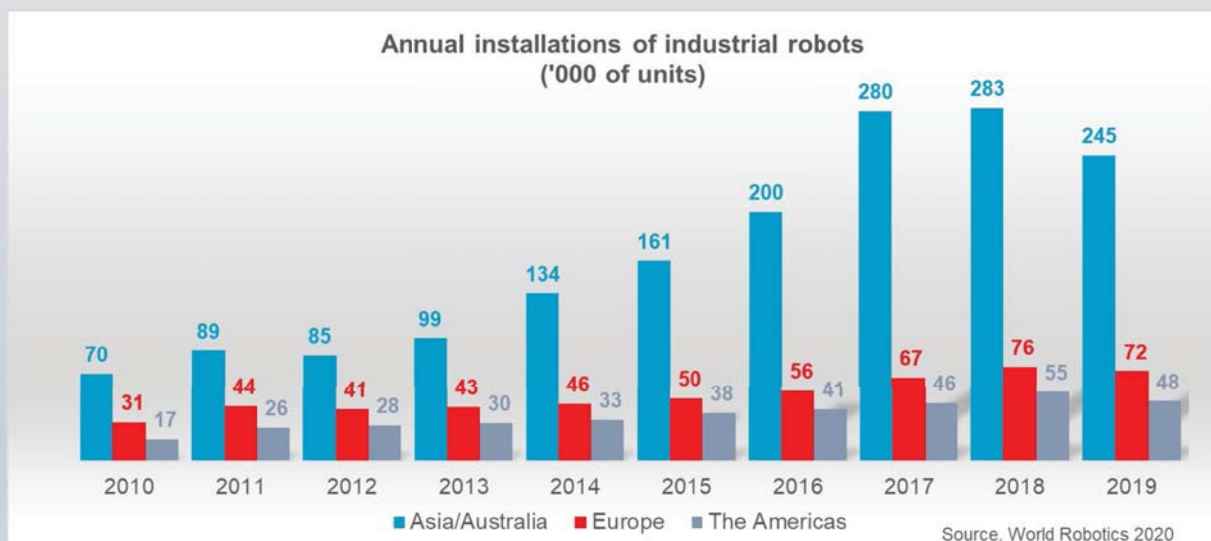
Operational stock by application



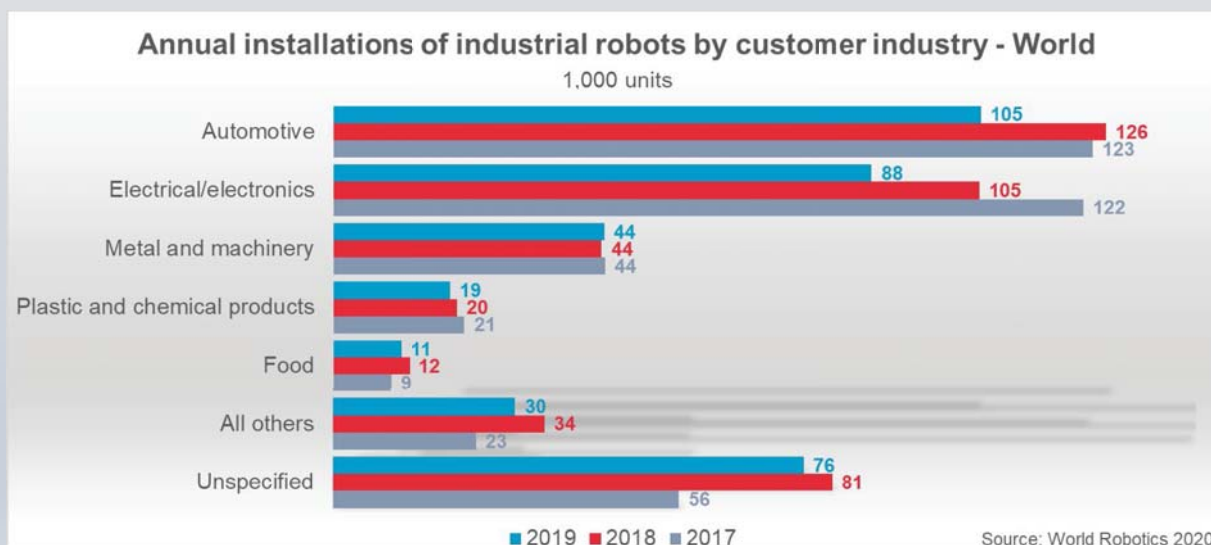
A decade of growth



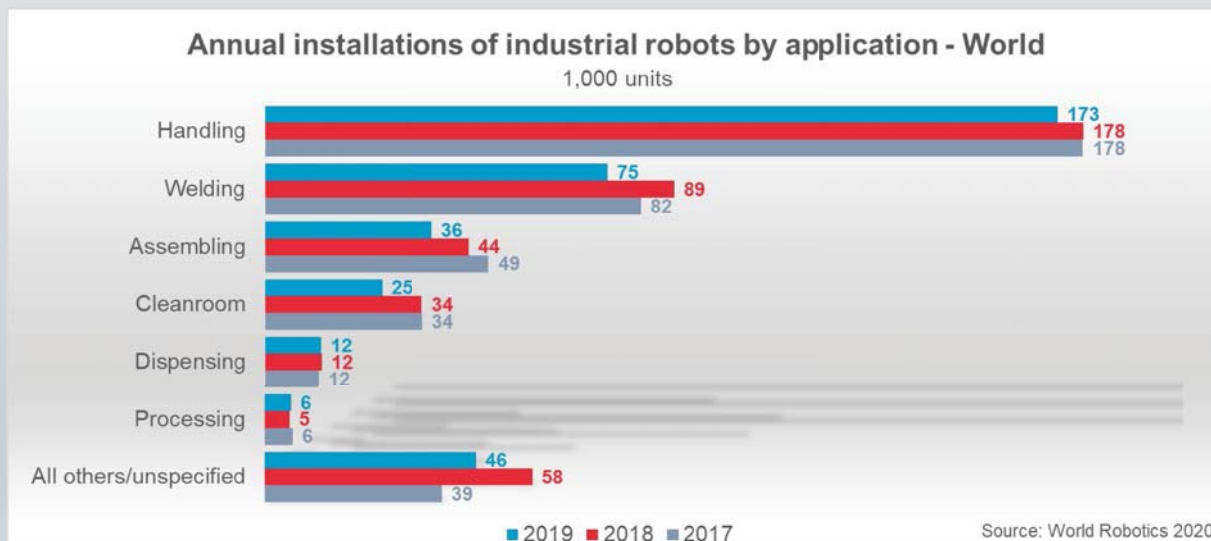
High sales volumes in all major markets



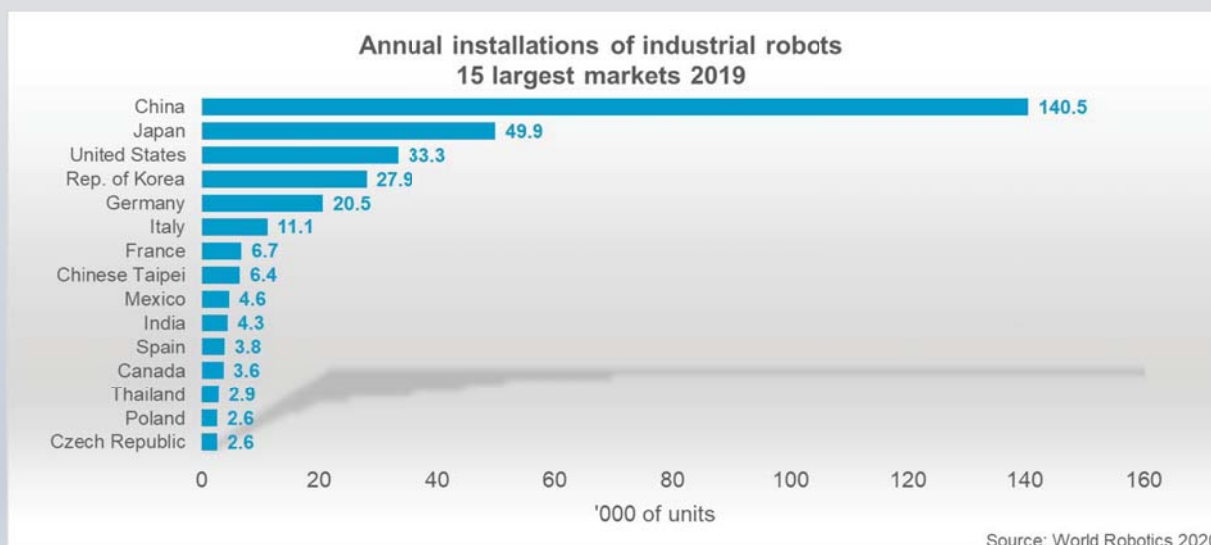
The two major customers struggled in 2019



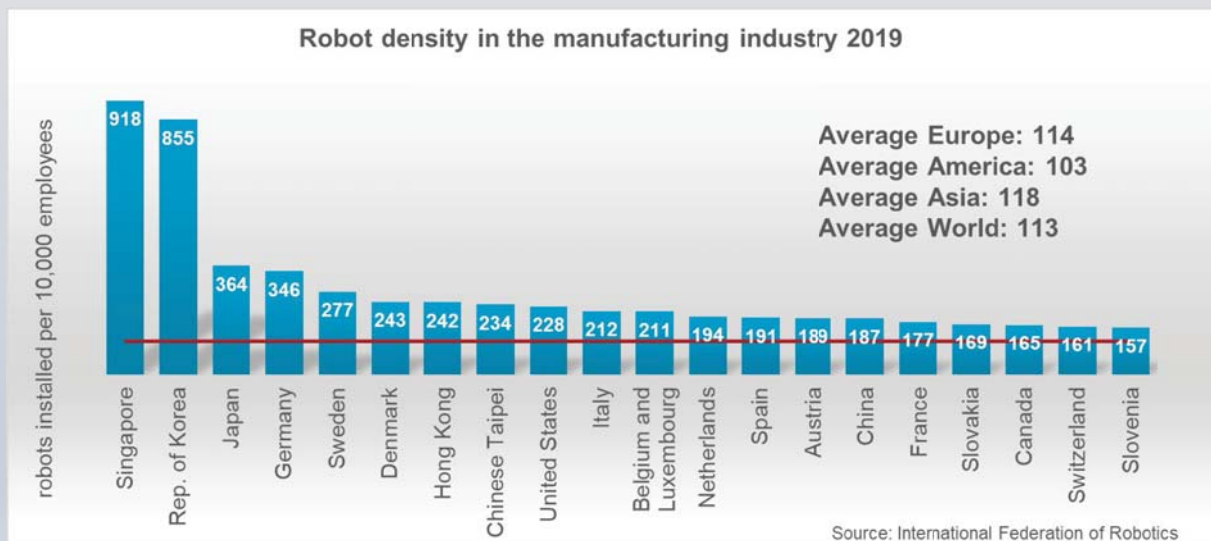
Handling remains the major application



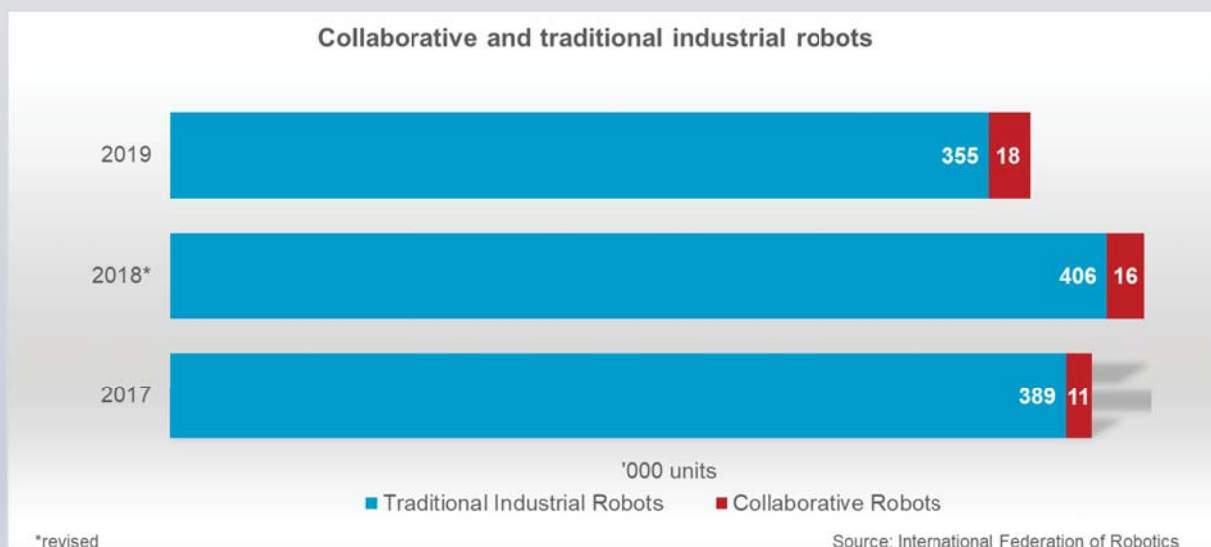
China remains the main end user of industrial robots



Singapore and Rep. of Korea with highest robot density



Collaborative robots: sales volume growing



Covid-19: a digitalization booster

Today

- ✓ Electronics industry seems to be a winner of social distancing
- ✓ Increased demand in new applications like healthcare and for the production of personnel protective equipment
- ✓ Good opportunity for modernization and digitalization of production
- Deferred investments, plummeted consumer demand and other demand-side issues
- Travel restrictions, disrupted supply chains and other supply-side issues
- Adaption to the 'new normal'
- Non-Covid issues remain: automotive transition, political headwinds

Recovery expected for 2021

Tomorrow

- ✓ Catch-up effects
 - ✓ Robots make production resilient
 - ✓ Many governments support investment in modern production technology
 - ✓ Geographical diversification of supply chains, including reshoring/repatriation
-
- Recovery likely to happen at different times in different markets
 - 2021 will see recovery
 - May take until 2022 or 2023 to reach pre-crisis level

World Robotics

Service Robots 2020



Statistics, Market Analysis and Forecasts

Personal/Domestic Service Robots

Value of Sales:

2019: USD 5.7bn, +20%

2020: USD 6.5bn, +15%

2023: USD 12.1bn, +23% (CAGR)

Unit Sales:

2019: 23.2 million units, +34%

2020: 26.7 million units, +15%

2023: 55.3 million units, +27% (CAGR)

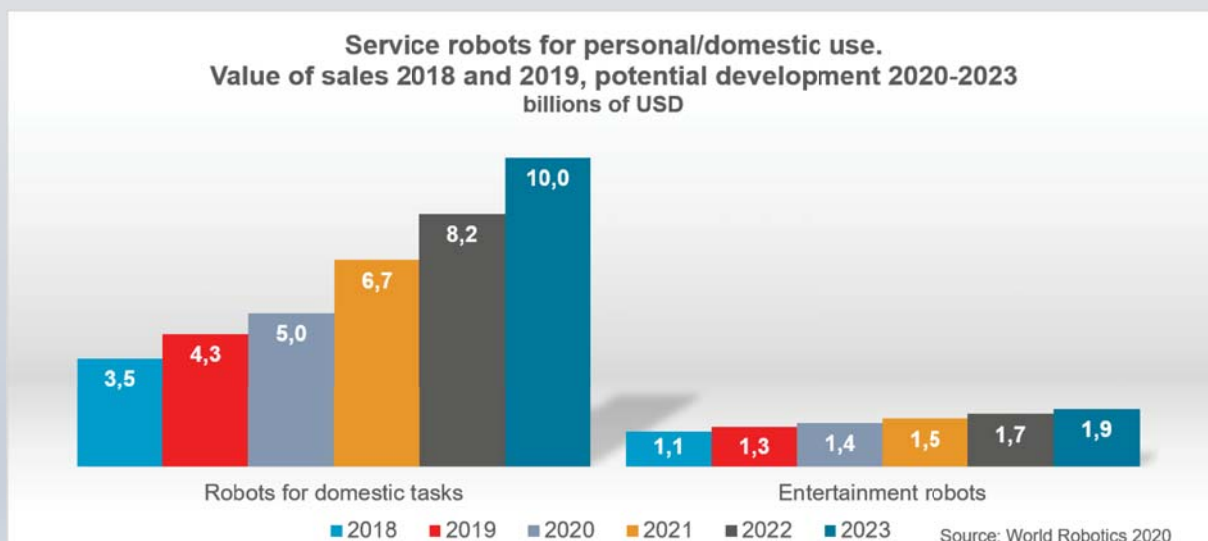
Vacuuming and floor cleaning: a task for robots

Service robots for personal/domestic use.
Unit sales 2018 and 2019, potential development 2020-2023
millions of units



Source: World Robotics 2020

Steady growth of turnover expected



Professional Service Robots

Value of Sales:

2019: USD 11.2bn, +32%

2020: USD 13.9bn, +24%

2023: USD 27.7bn, +26% (CAGR)

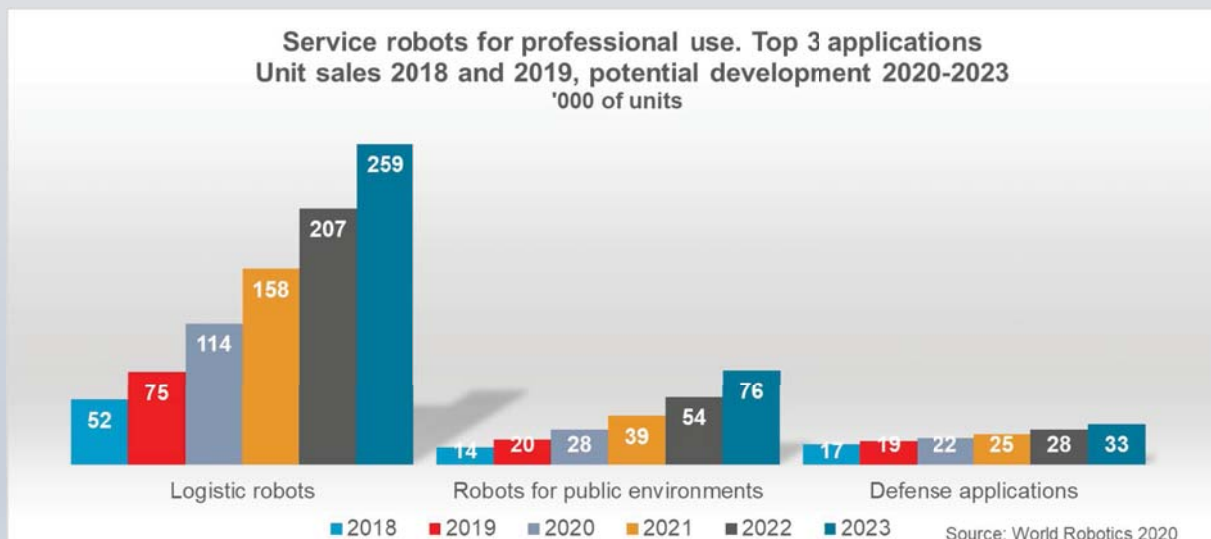
Unit Sales:

2019: 173,000 units, +32%

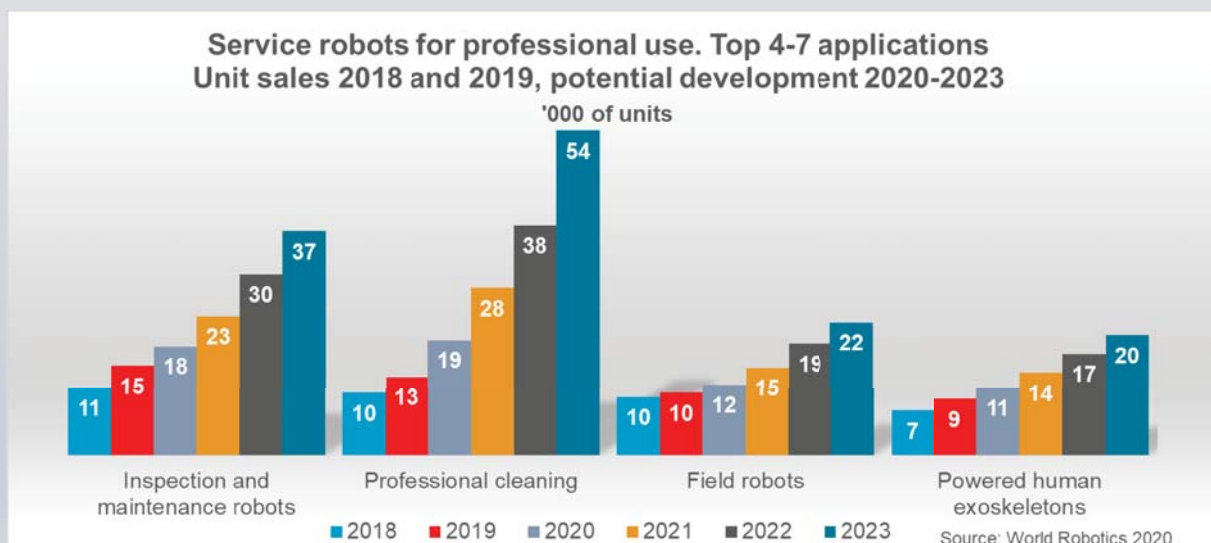
2020: 240,000 units, +38%

2023: 537,000 units, +31% (CAGR)

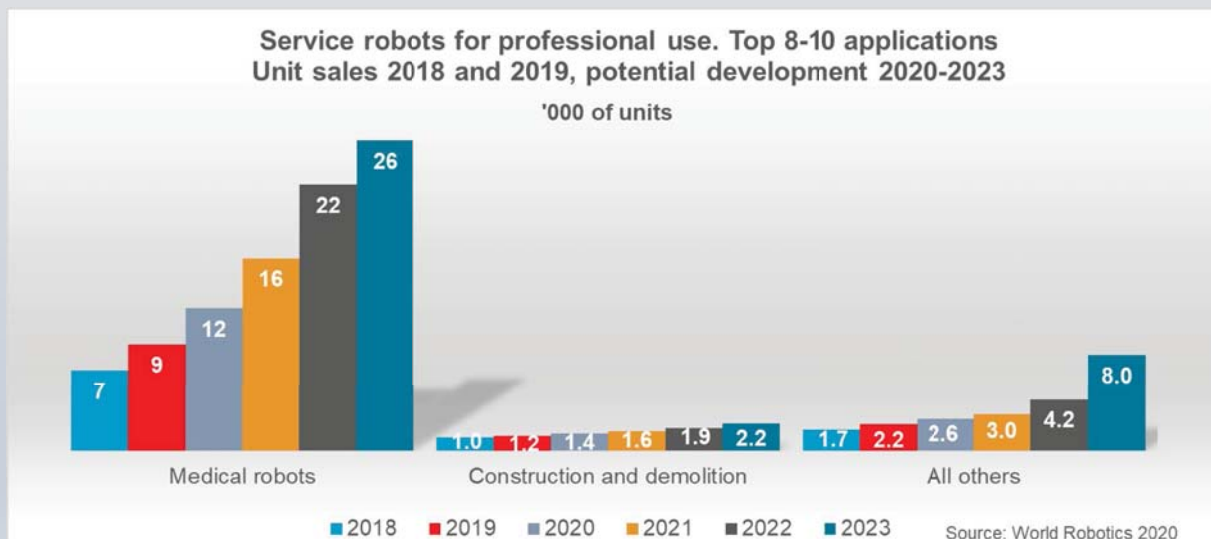
Robots in logistics are still the growth drivers



Professional cleaning on the way to a top 3 application



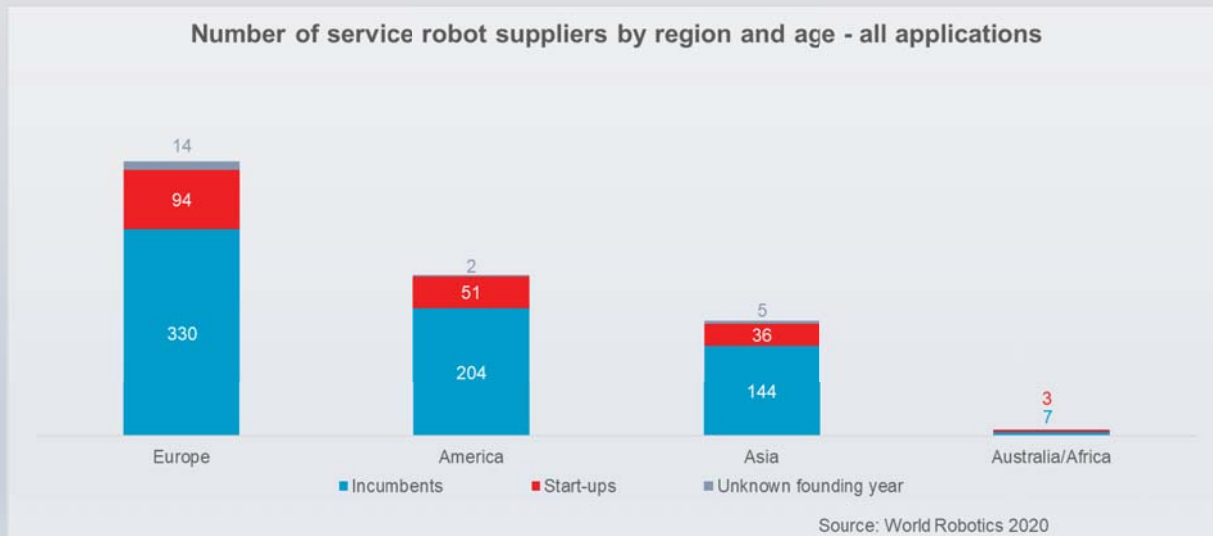
Medical robots: growth expected as patents expire



Every 5th service robot supplier is a start-up

- 889 **service robot** suppliers
- 183 start-ups (est. 2015 or later)
- 728 **professional service robot** suppliers
- 155 start-ups
- 237 **personal/domestic service robot** suppliers
- 39 start-ups

Global distribution of service robot suppliers



Technology & application trends in service robotics

Important markets to watch out:

- Unbroken scale-up of logistic systems (AGV, AMR)
- Mergers & acquisitions activities, e.g. in medical robotics
- Heavy construction machinery become robotized allowing multi-machine operation by one single person
- Information interaction (telepresence, advisory); >30 new disinfection robot models in 2020
- Covid-19 raised attention on healthcare robots

Major Technology Accelerators

- Cloud technologies and 5G: e.g., remote procedures using surgical robots and 5G in China
- Business models like Robot-as-a-Service lower the entrance level, especially in new markets
- Standardization & “platformization”: e.g. for peripherals (app store), sales platform, plug& play

Long-run perspectives for robotics remain excellent

- ✓ There are still many “4d” (*dull, dirty, dangerous and/or delicate*) tasks that could be done by robots, improving worker health, safety and job satisfaction.
- ✓ Ageing societies will feel additional need to relieve employees from physical tasks.
- ✓ Technological development will further increase the ROI in robots.
- ✓ Matrix production layouts use robots for automatic workpiece transportation.
- ✓ Modern robots support a smaller carbon footprint.
- ✓ Human-robot collaborative applications will complement traditional robotics.
- ✓ “Plug and play” system integration makes deployment easier (e.g. through OPC-UA).
- ✓ Ease of programming (e.g. through demonstration) makes redeployment easier.

Executive Summary World Robotics 2020 Service Robots

Service robotics encompasses a broad field of applications, most of which having unique designs and different degrees of automation – from full tele-operation to fully autonomous operation. Hence, the industry is more diverse than the industrial robot industry (which is extensively treated in the companion publication World Robotics 2020 Industrial Robots). IFR Statistical Department is currently aware of almost 890 companies producing service robots or doing commercial research for marketable products. A full list is included in chapter 4 of World Robotics 2020 Service Robots. IFR Statistical Department is continuously seeking for new service robot producers, so please contact statistics@ifr.org if you represent such a company and would like to participate in the annual survey conducted in the first quarter of each year. Participants receive the survey results free of charge.

Sales of professional service robots on the rise

The market for professional service robots grew strongly in 2019 by 32% from USD 8.5 billion to USD 11.2 billion. The markets for most types of service robots seems hardly affected by the Covid-19 pandemic. Actually, the pandemic has boosted the market for robotic disinfectant solutions and created additional demand for robotic logistics solutions in warehouses, factories, and for home delivery. It is therefore not hard to understand, why the service robotics industry will leave this global challenge in victory lane. Robotic solutions support social distancing, are not sent to quarantine and are not affected by travel bans.

Turnover with medical robotics has increased by 28% in 2019, accounting for 47% of the total professional service robot turnover. This was mainly driven by robotic surgery systems, which are the most expensive type of service robot. Robotic solutions are already established in logistics but there is still a lot of potential. In terms of units sold, logistics robots account for 43% of the total units of professional service robots. The number of units sold increased by 42% in 2019 and turnover increased by 110% because in this segment, RaaS business models offer an excellent opportunity for customers that are curious but reluctant to invest in the hardware. Autonomous mobile robots have initially been used in warehouses but with digitalization of production, they are also part of today's modern factory. Defense applications accounted for 15% of the total sales of professional service robots. The segment of field robotics grew by 3% in terms of turnover and by 8% in terms of units. While robotic solutions have been established in dairy farming and the markets seems to be rather saturated, agricultural applications like fruit picking constitute a challenge for robotics both technologically and because of the rather low costs of human labor. The Covid-19 pandemic might change this and offer an excellent opportunity for suppliers of such robots because travel bans are causing a shortage of labor supply in harvest season. Robotic solutions for inspection and maintenance have seen a tremendous increase in recent years. Turnover was up 131% in 2019. Robots also become more common in **public environments**. Deployment of new grew by 44% and turnover grew by 42% in 2019. The new social distancing

paradigm and Covid-19 related travel restrictions provide excellent growth opportunities for these applications. The market for professional cleaning robots will benefit from the increasing hygiene requirements in the Covid-19 pandemic. It can be reasonably expected that unit sales and turnover will increase strongly in 2020. Unit sales of powered human exoskeletons were up 26% in 2019 but this is still an underperformance compared to their potential and broad range of applications it has. An increasing share of RaaS business models might support the breakthrough of this type of service robot.

Sales of both, professional and personal service robots will continue to increase strongly.

Professional service robots:

2019: 173,000 units, +32%

Potential development

2020: 240,000 units, +38%

2023: 537,000 units, +31% CAGR

Service robots for domestic/household tasks:

2019: 18.6 million units, +40%

Potential development

2020: 21.6 million units, +16%

2023: 48.6 million units, +31% CAGR

Service robots for entertainment:

2019: 4.6 million units, +13%

Potential development

2020: 5.1 million units, +10%

2023: 6.7 million units, +10% CAGR

Executive Summary World Robotics 2020 Industrial Robots

Robot installations 2019: Global economic downturn and trade tensions leave their marks

In 2019, global robot installations dropped by 12% to 373,240 units, worth USD 13.8 billion (without software and peripherals). This follows six years of growth and peak values. It reflects the difficult times the two main customer industries, automotive and electrical/electronics, had experienced. It also reflects the trade conflict between two of the main destinations, China and the United States, that has been spreading uncertainty throughout the global economy since 2018. Nevertheless, the automotive industry remains the largest customer industry with 28% of total installations, ahead of electrical/electronics (24%), metal and machinery (12%), plastics and chemical products (5%) and food and beverages (3%). Note that for 20% of the robots there is no information on the customer industry.

The operational stock of robots was computed at 2,722,077 units (+12%). Since 2010, demand for industrial robots has risen considerably due to the ongoing trend towards automation and continued technical innovations in industrial robots. From 2014 to 2019, annual installations increased by 11% on average each year (CAGR). Between 2005 and 2008, the average annual number of robots sold was about 115,000 units, before the global economic and financial crisis caused robot installations to fall to just 60,000 units in 2009 with lots of investments being postponed. In 2010, investments made leeway and drove robot installations up to 120,000 units. By 2015, annual installations had more than doubled to almost 254,000 units. In 2016, the 300,000 installations per year mark was exceeded and in 2017, installations surged to almost 400,000 units. The 400,000 unit mark was crossed in 2018 for the first time.

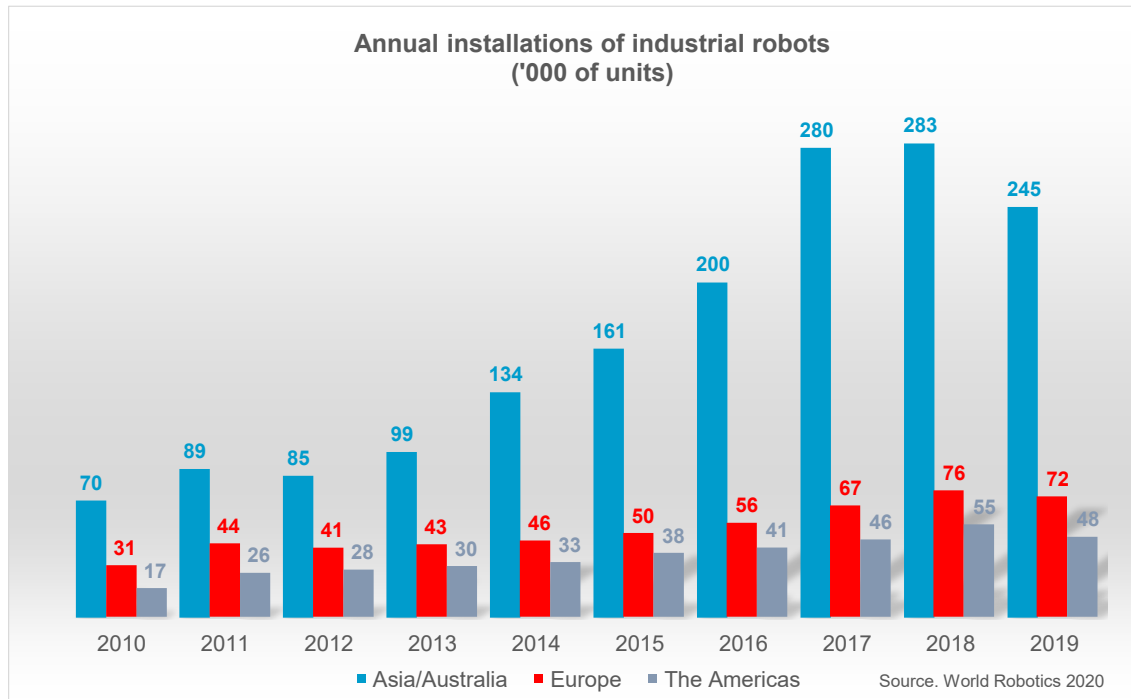
Declining figures in all major markets

Asia¹ is the world's largest industrial robot market. After six years of peak values, installations dropped by 13% in 2019. 245,158 units were installed, down from a peak of 283,080 units in 2018. Two out of three robots (66%) newly deployed in 2019 were installed in Asia. From 2014 to 2019, annual robot installations grew by 13% on average each year. The picture is similar in the three largest Asian markets: Installations in China (140,492 units; -9%), Japan (49,908 units; -10%) and the Republic of Korea (27,873 units; -26%) declined. Robot installations in the second largest market, **Europe**, decreased by 5% to 71,932 units, down from a peak of 75,560 units in 2018. Like in Asia, this marked the end of a six-year period of growth. The annual average growth rate from 2014 to 2019 was +10%. In **the Americas**, installations dropped by 13% to 47,809 units in 2019. This, again, ended a six-year run of new peaks that saw 55,212 robots installed in 2018. The average annual growth rate since 2014 had been +8%.

¹ including Australia and New Zealand

73% of global robot installations in five countries

There are five major markets for industrial robots: **China, Japan, the United States, the Republic of Korea, and Germany**. These countries account for 73% of global robot installations.



China has been the world's largest industrial robot market since 2013 and accounted for 38% of total installations in 2017 and 2018. In 2019, 140,492 units were installed. This is 9% less than in 2018 but still more than the number of robots installed in Europe and the Americas combined (119,741 units). For more details, see chapter 3.3.1.

In 2019, robot installations in **Japan** dropped by 10% to 49,908 units. The average annual growth rate of 11% since 2014 had been remarkable for a country which already has a high level of automation in industrial production. For more details, see chapter 3.3.4.

After eight years of growth and a peak of 40,373 units in 2018, robot installations in the **United States** dropped by 17% to 33,339 units in 2019. The United States leapfrogged the Republic of Korea into third place in 2018 and maintained this position in 2019. For more details, see chapter 3.2.1.

In the **Republic of Korea**, annual robot installations had been declining since they reached a peak level of 41,373 units in 2016. In 2019, 27,873 units (-26%) were installed. Installation figures for this country strongly depend on the electronics industry, which experienced a tough time in 2018 and 2019. Installations had increased by 2% on average each year since 2014. For more details, see chapter 3.3.5.

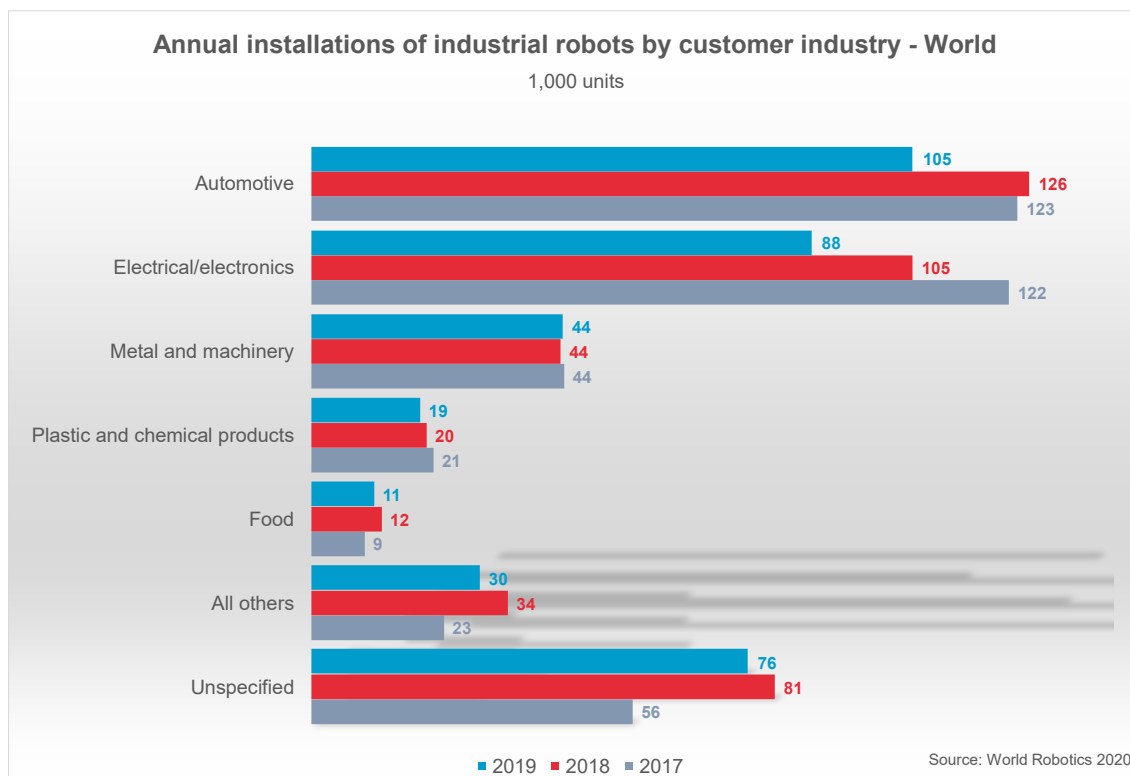
Germany is the fifth largest robot market in the world. In 2019, robot installations dropped by 23% to 20,473 units. Installation figures in this country are mainly driven by the automotive industry, which installed a large number of robots in 2018. The 2019 figure is in line with the sideways movement that has been observed for many years. The CAGR from 2014 to 2019 was 0%. For more details, see chapter 3.4.12.

Declining robot installations in the automotive industry

The **automotive industry** is the most important customer of industrial robots. Almost 28% of all industrial robot installations take place in this industry. After two very strong years and a new peak level of 125,581 units in 2018, demand from the automotive industry was down by 16% to 105,379 units in 2019. Global car and commercial vehicle production declined two years in a row by 5.2% in 2019 and 1.1% in 2018.² While the automotive industry needs to invest in the transition from combustion engines to electric drives, decreasing demand limits the need for capacity expansion. From 2014 to 2019, annual installations in the automotive industry increased by 2% on average each year (CAGR). After the economic crisis in 2008/2009, car manufacturers started to restructure their businesses. Since 2010, investments in new production capacities in emerging markets and investments in production modernization in major car producing countries have driven the demand for robots. The use of new materials, the development of energy efficient drive systems and the high competition in all major car markets pushed the demand for investments despite the existing overcapacities. Automotive part suppliers needed to follow suit. Therefore, the supply of robots to automotive part suppliers gained momentum only in 2011.

Robot installations in the **electrical/electronics industry** (including computers and equipment, radio, TV and communication devices, medical equipment, precision and optical instruments) increased by 24% on average each year from 2013 to 2018. In 2017, they peaked at 121,955 units or 31% of total installations and were about to replace the automotive industry as the most important customer industry. However, since 2018, global demand for electronic devices and components has been substantially decreasing. This customer industry is probably the one most affected by the China-US trade conflict as Asian countries are leaders in manufacturing electronic products and components. In 2019, robot installations in this industry declined by 17% to 87,712 units.

² OICA production statistics 2019



Automation of production further increasing

In 2019, the average³ robot density in the manufacturing industry was 113 robots per 10,000 employees. Driven by the high volume of robot installations in recent years, Asia's average robot density had been growing by 18% CAGR since 2014 to 118 units per 10,000 employees in 2019. European robot density had been growing by just 6% CAGR since 2014 and amounted to 114 units per 10,000 employees in 2019. In the Americas, it was 103 robots per 10,000 employees (+9% CAGR since 2014).

Outlook: 2020 - 2023

The global economic crisis attached to the COVID-19 pandemic will shape industrial robot sales in 2020. A major contraction must be expected in the short run. In the medium term, this crisis will be a digitalization booster that will create growth opportunities for the robotics industry worldwide. The long-run perspectives remain excellent.

³ Average values for geographic aggregates (e.g. World, Europe, Asia/Australia) include only those countries listed in table 2.6, 2.7 or 2.8 respectively.

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Record 2.7 Million Robots Work In Factories Around The Globe – IFR presents World Robotics 2020

- Robot stock hits new record - plus 12% - sales slows on a high level
- New installations: Europe minus 5%, China minus 9%, USA minus 17%

Frankfurt, September 24th, 2020 – **The new World Robotics 2020 Industrial Robots report presented by the International Federation of Robotics (IFR) shows a record of 2.7 million industrial robots operating in factories around the world – an increase of 12%. Sales of new robots remain on a high level with 373,000 units shipped globally in 2019. This is 12% less compared to 2018, but still the 3rd highest sales volume ever recorded.**

“The stock of industrial robots operating in factories around the world today marks the highest level in history,” says Milton Guerry, President of the International Federation of Robotics. “Driven by the success story of smart production and automation this is a worldwide increase of about 85% within five years (2014-2019). The recent slowdown in sales by 12% reflects the difficult times the two main customer industries, automotive and electrical/electronics, have experienced.”

“In addition to that, the consequences from the coronavirus pandemic for the global economy cannot be fully assessed yet,” proceeds Milton Guerry. “The remaining months of 2020 will be shaped by adaption to the ‘new normal’. Robot suppliers adjust to the demand for new applications and developing solutions. A major stimulus from large-scale orders is unlikely this year. China might be an exception, because the coronavirus was first identified in the Chinese city of Wuhan in December 2019 and the country already started its recovery in the second quarter. Other economies report to be at the turning point right now. But it will take a few months until this translates into automation projects and robot demand. 2021 will see recovery, but it may take until 2022 or 2023 to reach the pre-crisis level.”

Asia, Europe and the Americas - overview

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The share of newly installed robots in Asia was about two thirds of global supply. Sales of almost 140,500 new robots in China is below the record years of 2018 and 2017 but still more than double the numbers sold five years ago (2014: 57,000 units). Installations of top Asian markets slowed down – in China (minus 9%) and Japan (minus 10%).

In China, the broad majority of 71% of new robots was shipped in from foreign suppliers. Chinese manufacturers still mainly cater to the domestic market, where they gain increasing market shares. Foreign suppliers deliver some 29% of their units to the automotive industry, while it is only around 12% for Chinese suppliers. Therefore, foreign suppliers are more affected by the decline of business in the Chinese automotive industry than the domestic suppliers.

Europe

Europe reached an operational stock of 580,000 units in 2019 – plus 7%. Germany remains the main user with an operational stock of about 221,500 units – this is about three times the stock of Italy (74,400 units), five times the stock of France (42,000 units) and about ten times the stock of the UK (21,700 units).

Robot sales show a differentiated picture for the largest markets within the European Union: About 20,500 robots were installed in Germany. This is below the record year 2018 (minus 23%) but on the same level as 2014-2016. Sales in France (+15%), Italy (+13%) and the Netherlands (+8%) went up. Robotics in the United Kingdom remains on a low level – new installations slowed down by 16%. The newly installed 2,000 units in the UK are about ten times less than the shipments in Germany (20,500 units), about five times less than in Italy (11,100 units) and about three times less than in France (6,700 units).

Americas

The USA is the largest industrial robot user in the Americas, reaching a new operational stock record of about 293.200 units – up 7%. Mexico comes second with 40,300 units, which is a plus of 11% followed by Canada with about 28,600 units – plus 2%.

New installations in the United States slowed down by 17% in 2019 compared to the record year of 2018. Although, with 33,300 shipped units, sales remain on a very high level representing the second strongest result of all time. Most of the robots in the USA are imported from Japan and Europe. Although, there are not many North American robot manufacturers, there are numerous important robot system integrators. Mexico ranks second in North America with almost 4,600 units – a slowdown of 20%. Sales in Canada are 1% up to a new record of about 3,600 shipped units.

South America's number one operational stock is in Brazil with almost 15,300 units – plus 8%. Sales slowed down by 17% with about 1,800 installations – still one of the best results ever - only beaten by record shipments in 2018.

Worldwide trend in human-robot collaboration

The adoption of human-robot collaboration is on the rise. We saw cobot installations grew by 11%. This dynamic sales performance was in contrast to the overall trend with traditional industrial robots in 2019. As more and more suppliers offer collaborative robots and the range of applications becomes bigger, the market share reached 4.8% of the total of 373,000 industrial robots installed in 2019. Although this market is growing rapidly, it is still in its infancy.

Outlook

Globally, COVID-19 has a strong impact on 2020 - but also offers a chance for modernization and digitalization of production on the way to recovery. In the long run, the benefits of increasing robot installations remain the same: Rapid production and delivery of customized products at competitive prices are the main incentives. Automation enables manufacturers to keep production in developed economies - or reshore it - without sacrificing cost efficiency. The range of industrial robots continues to expand – from traditional caged robots capable of handling all payloads quickly and precisely to new collaborative robots that work safely alongside humans, fully integrated into workbenches.

Graphics and further files

Please find graphics, press releases in other languages and presentation for download at:

<https://ifr.org/ifr-press-releases/news/record-2.7-million-robots-work-in-factories-around-the-globe>

Video

YouTube video with FACTS about ROBOTS 2020: https://youtu.be/Fsn_w_gmHyk

About IFR

The International Federation of Robotics is the voice of the global robotics industry. IFR represents national robot associations, academia, and manufacturers of industrial robot manufacturers from over twenty countries. IFR was founded in 1987 as a non-profit organization: www.ifr.org

The IFR Statistical Department provides data for two annual robotics studies:

World Robotics - Industrial Robots: This unique report provides global statistics on industrial robots in standardized tables and enables national comparisons to be made. It presents statistical data for around 40 countries broken down into areas of application, customer industries, types of robots and other technical and economic aspects. Production, export and import data is listed for selected countries. It also offers robot density, i.e. the number of robots per 10,000 employees, as a measure for the degree of automation.

World Robotics - Service Robots: This unique report provides global statistics on service robots, market analyses, and forecasts on the worldwide distribution of professional and personal service robots. The study is jointly prepared with our partner Fraunhofer IPA, Stuttgart.

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Nombre record de robots installés en France - Rapports la Fédération Internationale de Robotique

- Le stock de robots atteint un nouveau record - plus 10 % - ventes en hausse de 15 %
- La France parmi les 3 premiers pays comptant le plus de robots au sein de l'Union européenne

Francfort, le 24 septembre 2020 - Le nouveau rapport World Robotics 2020 Industrial Robots présenté par la Fédération Internationale de Robotique (IFR) révèle un record d'environ 42 000 robots industriels officiant dans des usines aux quatre coins de la France - une augmentation de 10 %. Les ventes de nouveaux robots ont augmenté de 15 % et ont atteint environ 6 700 unités en 2019 - un nouveau record d'installations.

« La France réalise une incroyable réussite sur la production intelligente avec des robots industriels », déclare Milton Guerry, président de la Fédération Internationale de Robotique. « Les installations annuelles ont augmenté au cours de la période 2014-2019 de 18 % en moyenne par an. »

Depuis 2010, les initiatives gouvernementales de renforcement de la production en France ont engendré des investissements importants de la part de l'industrie automobile et de la plupart de l'industrie générale.

L'industrie la plus importante est l'automobile avec une part de 40 % des installations en 2019. Dans l'industrie générale, les installations ont augmenté de 11 %.

Aujourd'hui, la France fait partie des 3 premiers utilisateurs de robots industriels au sein de l'Union européenne : leur stock opérationnel d'environ 42 000 unités est environ le double du stock du Royaume-Uni qui compte 21 700 unités. Le principal utilisateur de l'UE reste l'Allemagne qui dénombre un stock opérationnel d'environ 221 500 unités, soit environ cinq fois le stock de la France - suivi de l'Italie avec un stock opérationnel de 74 400 unités.

Perspective

À l'échelle mondiale, le COVID-19 a une forte incidence sur 2020 - mais offre également une chance de modernisation et de numérisation de la production en voie de reprise. À long terme, les avantages de l'augmentation des installations de robots restent identiques : la production rapide et la livraison de produits personnalisés à des prix compétitifs sont les principales incitations. L'automatisation permet aux fabricants de maintenir la production dans les économies développées - ou de la restituer - sans sacrifier la rentabilité. La gamme de robots industriels continue de s'étendre - des robots traditionnels en cage capables de gérer toutes les charges utiles rapidement et avec précision aux nouveaux robots collaboratifs qui travaillent en toute sécurité aux côtés des humains, entièrement intégrés dans les établis.

