IFR International Federation of Robotics

Welcome to the IFR CEO Round Table

AUTOMATE

Schedule

Welcoming and presentation of the participants of the IFR CEO Round Table
Gudrun Litzenberger, IFR General Secretary

Preview on World Robotics Industrial Robots 2019
Steven Wyatt, IFR Vice President

Discussion on „Global race for leadership in robotics and AI”

Get together and personal interviews with the participants

International Federation of Robotics

- **Voice of the global robotics industry**
- **Annual global robotics turnover almost $50 billion**
- **Almost 60 members:**
  - National robot associations
  - R&D institutes
  - Robot suppliers
  - Integrators

- **Sponsor of the annual International Symposium on Robotics (ISR)**
- **Co-sponsor of the IERA Award**
- **Primary resource for world-wide data on use of robotics – IFR Statistical Department**

Speakers on the Panel – Robot and AI expert USA/Canada

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Dr. Robert D. Atkinson, President,
Information Technology and Innovation Foundation (ITIF), USA

- The US government is not doing a lot to strengthen U.S. competitiveness in robotics.
- The National Science Foundation does have a national robotics initiative, to support research, but it is largely under-funded, not tied enough to industry needs, and is focused only on robots that complement, rather than replace workers.
- The U.S. federal government should be investing more in robotics R&D, ideally in partnership with industry though a new vehicle like a Manufacturing USA center for robotics.
- In addition, the tax code does allow companies to expense for tax purposes capital investment, but this provision expires in four years.
- Congress should make it permanent and ideally transform it from expensing into an investment tax credit.

Speakers on the Panel – Expert of robotics and workplace of the future, USA

Dr. Byron C. Clayton, CEO

Advanced Robotics for Manufacturing ARM, USA

“The shortage of skilled workers is driving changes in how potential and existing employees are recruited and trained.”
“In fact, unskilled workers can be taught to operate, program and maintain robots and related technologies.”
“However, it is essential that specific requirements for soft, hard and adaptive skills are identified for each career path as well as the ability to stack credentials.
This will clarify the exact pathways (including skills, timeframes and cost) that are desirable and achievable by each unskilled worker.”
“And of course, applying work and learn opportunities to these career pathways whenever possible is important in order to provide a living wage while workers are learning new skills to acquire better jobs.”

Speakers on the Panel – Expert of Chinese automotive manufacturing

Henry Sun, Director of Strategy
MINO Automotive Equipment, Peoples Rep. of China

- China's auto sales contracted for the first time in 28 years in 2018. The near three-decade run of consecutive growth should be more surprising than the current decline. Consumers appear to be taking a "wait and see" approach, as there is some uncertainty with rumors of policies affecting auto purchases, as well as uncertainty surrounding the general economy.
- Small and medium-sized suppliers usually hurt the most during slowdowns. It is unlikely that they have the resources to invest in more automation during this period.
- However, EV manufacturing is a big stimulus for automotive robots: installation of new production lines and plants (e.g., all-new EV models), and re-tooling of existing ones (e.g., battery and e-motor assembly). As expanding the EV portfolio is fundamental to many OEMs' long-term strategies, decommitment from these investments due to a minor slowdown is unlikely. China is the global focal point for EVs, and significant investments will be made in China.

Speakers on the Panel – Robot supplier of Japan

Junji J. Tsuda, IFR President

Representative Director Chairman of the Board of
Yaskawa, Japan

“Robots play the major role in manufacturing but still a portion of a manufacturing process. So we need to see the whole process which includes robots as a system and major application of AI will be for the system.
There are two aspects of AI application, one for engineering and the other for a stable operation. For engineering, digital twin will be the key method and machine learning with a simulator will be the biggest contributor.
For stable operation, sensors will be the key factors to control quality of manufacturing and to maintain the machine running without unpredictable failures.
And AI is the great accelerator to enhance the capability of sensors and analysis of data. AI technology application has already started. Manufacturers will provide software tools to realize digital twins, cockpit software to gather and to analyze data.
There are widely spread variety of manufacturing process and we need System Integrators involvement to accelerate.”

Speakers on the Panel – Robot supplier of Europe

Thomas Visti, CEO

Mobile Industrial Robots (MIR), Denmark

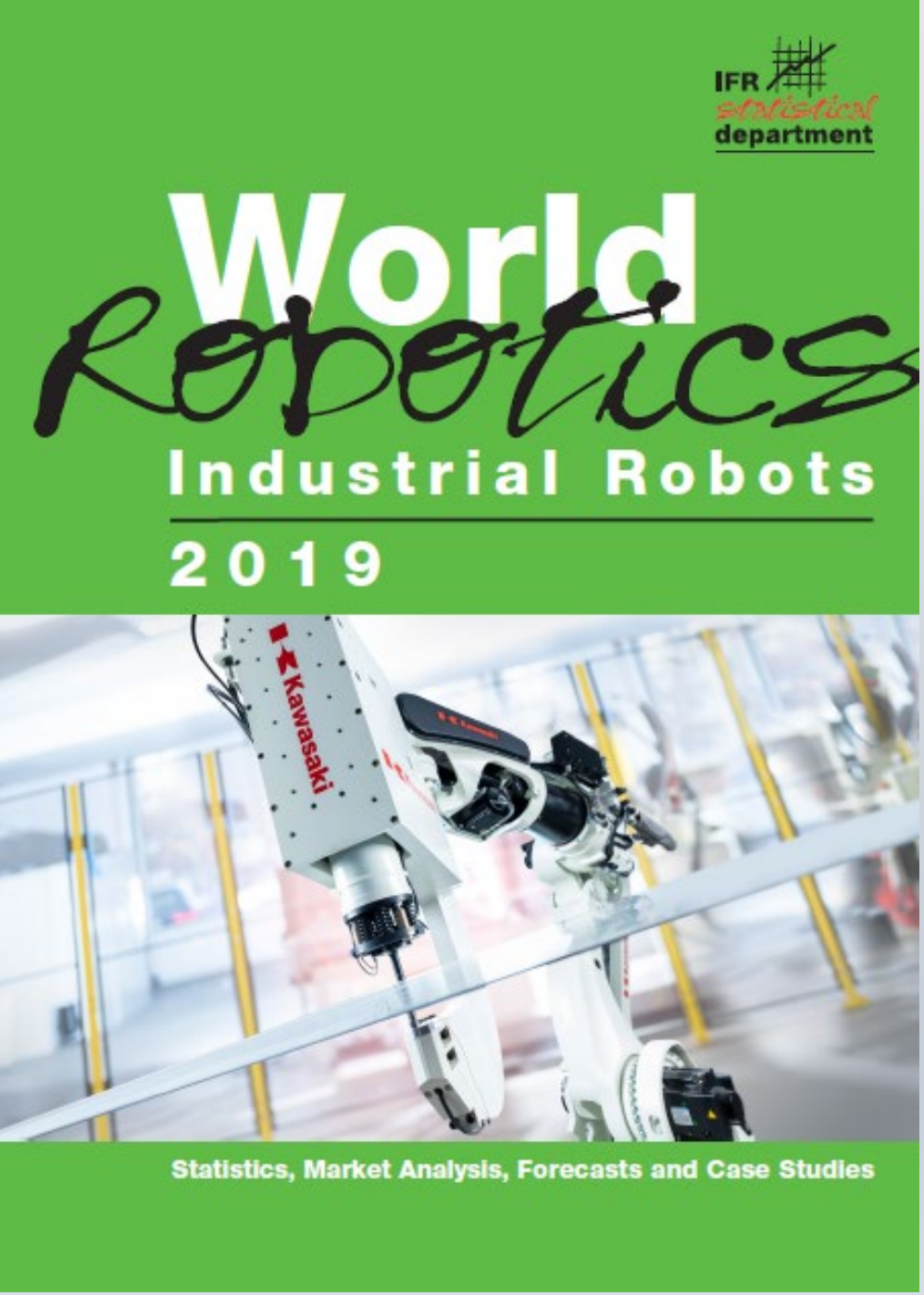
- For now, our largest sectors (mobile robots) are automotive (17%) and electronics (27%) which are also in line with the general major customers of robots. We see an overall interest from all industries, and have large customers within food & beverage, pharma, metal, consumer goods as well.
- Looking into the potential, 3PLs (Third-Party Logistics) are very interesting. In warehouses where thousands of transportations take place every day, there is a strong growth potential for us.
- Across all industries, there is a great need for logistics systems that support agile manufacturing and dynamic environments, with a fast ROI. Globally, we are facing labour shortages while companies need to use their human resources to stay competitive. Mobile robots take over the monotonous and non-value adding tasks of internal transportation and redeploy workers, which optimizes efficiency of operations.
- Hurdles: immature market that needs education and needs to become aware of all of the transportation tasks that can be automated with mobile robots.

Presentation of WR Data

Steven Wyatt
IFR Vice President
Group Vice President,
and Head of Marketing & Sales Robotics,
ABB Switzerland

Moderator

Robert Huschka
Director of Education Strategies,
Association for Advancing
Automation, USA



World Robotics 2019 Preview

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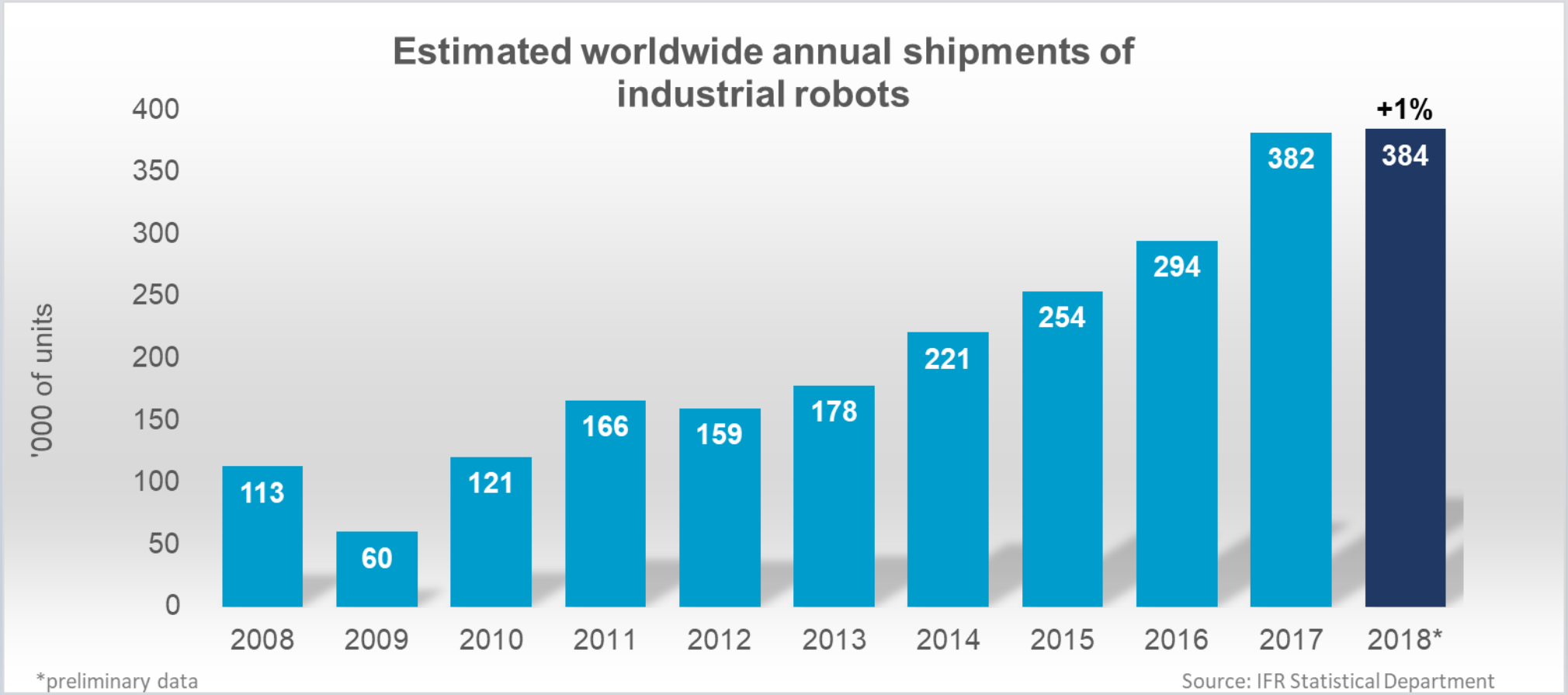
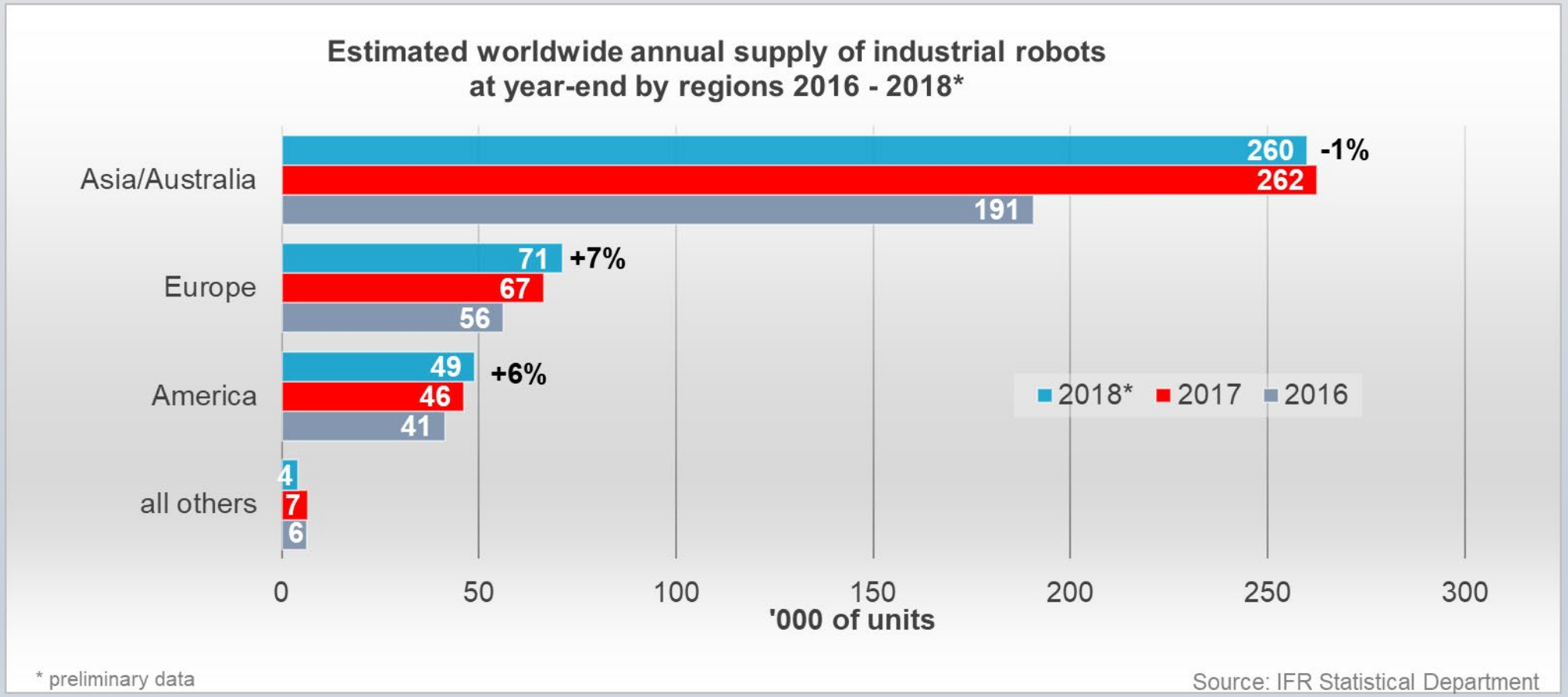
Industrial Robots

- Global Installations 2018
- Regions
- Main Markets
- Key Segments
- Challenges to the Robotics Industry
- Forecast 2019 – 2022

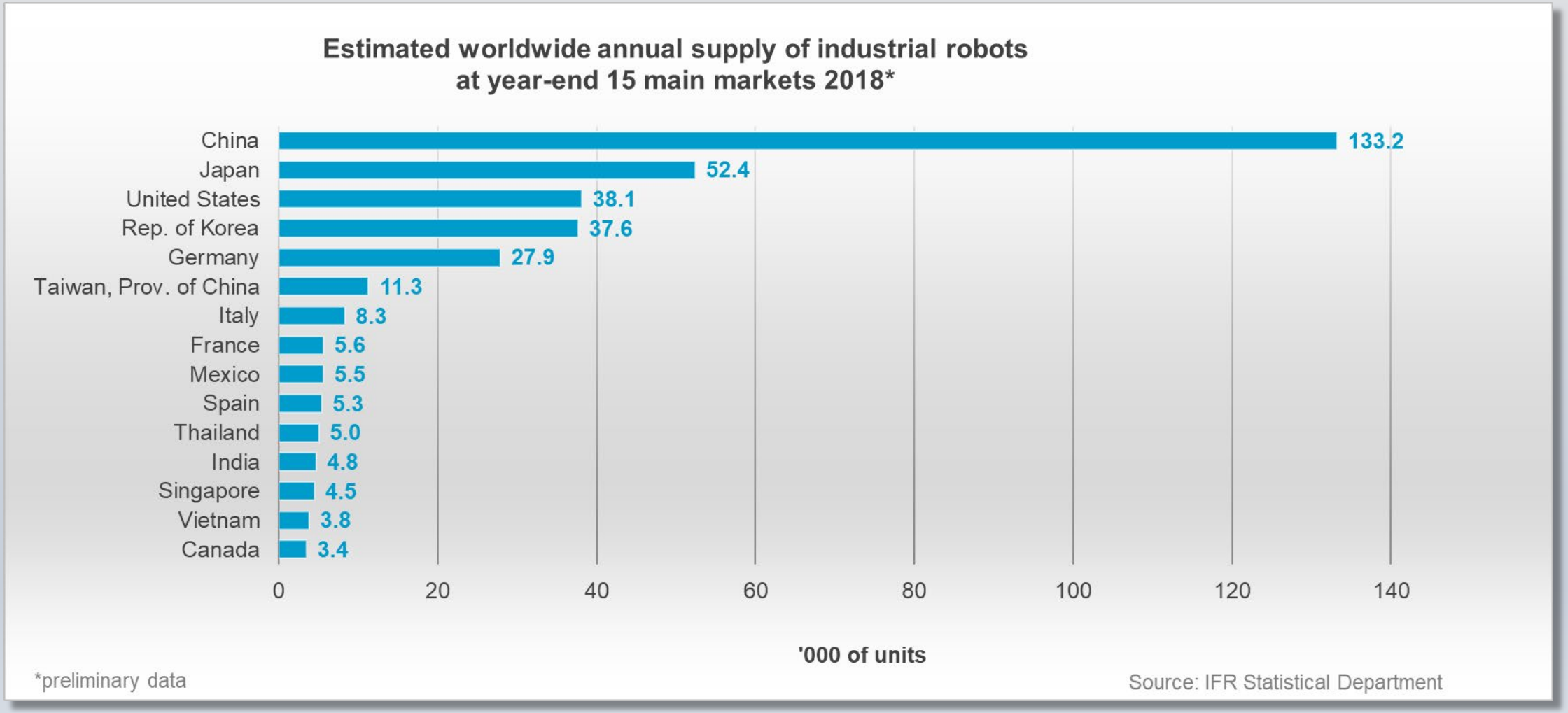
2018 : Another Record Year, but only just!



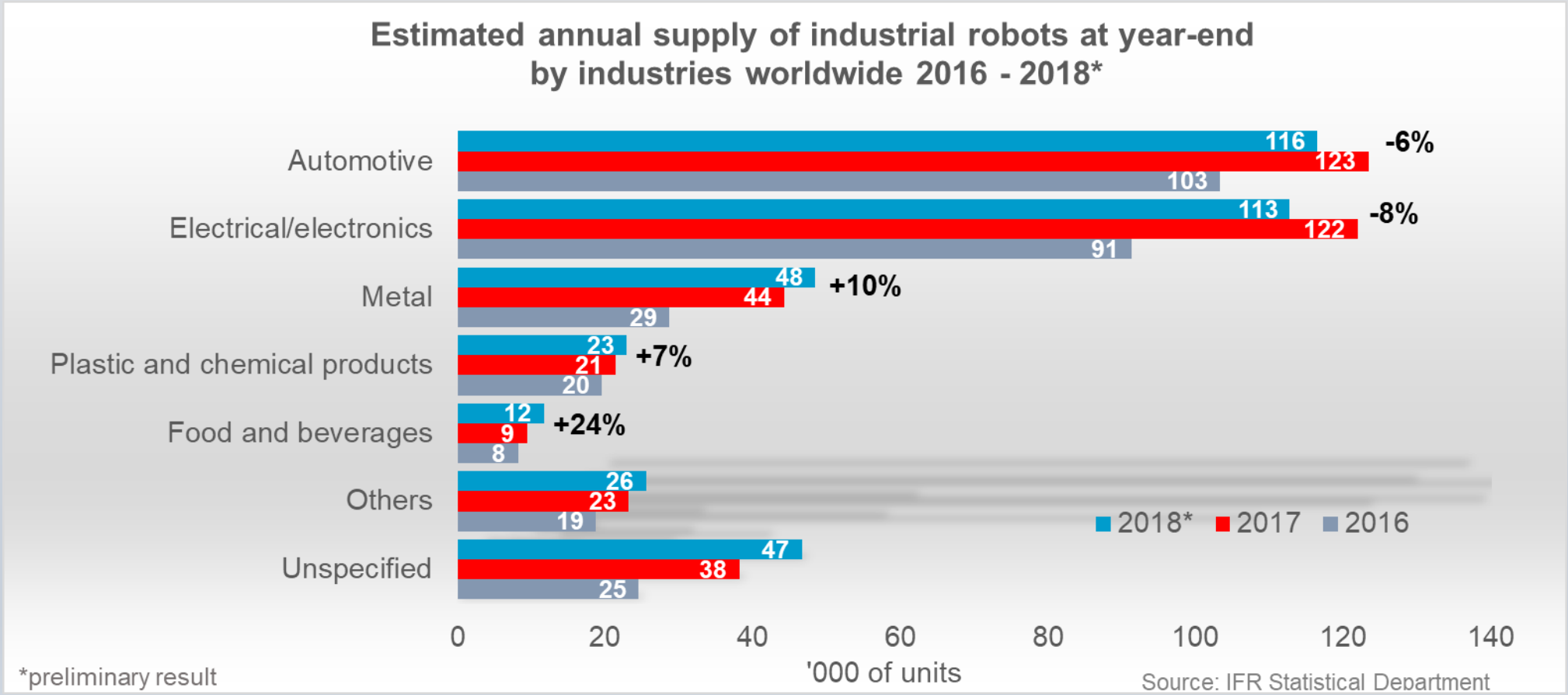
2018 : Europe & America still growing, Asia flat



China remains the largest Market



2018 : Automotive & Electronics still the largest Segments



United States : growing for the 10th consecutive Year

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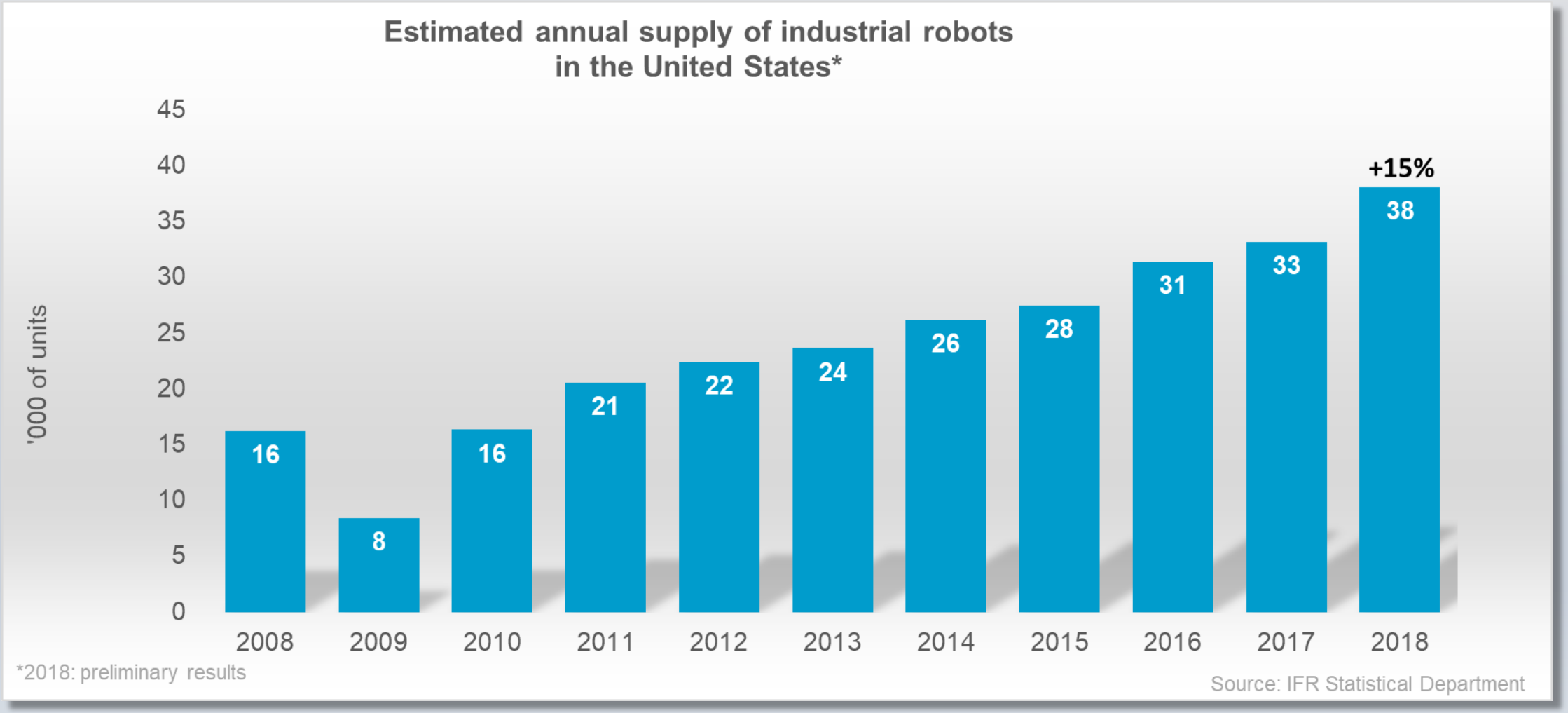

United States : Automotive Parts up, but Car Manufacturers down; other Manufacturing Sectors on the Rise

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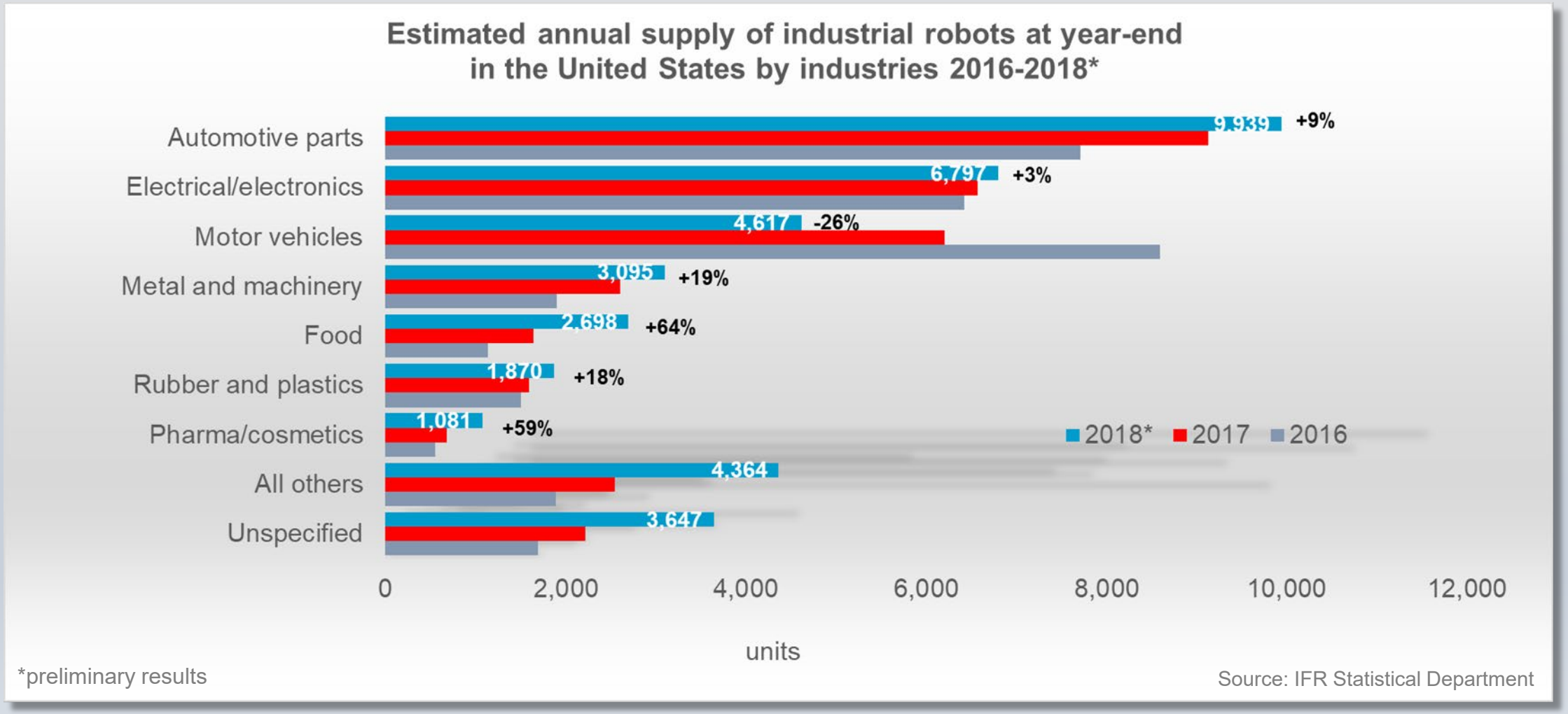
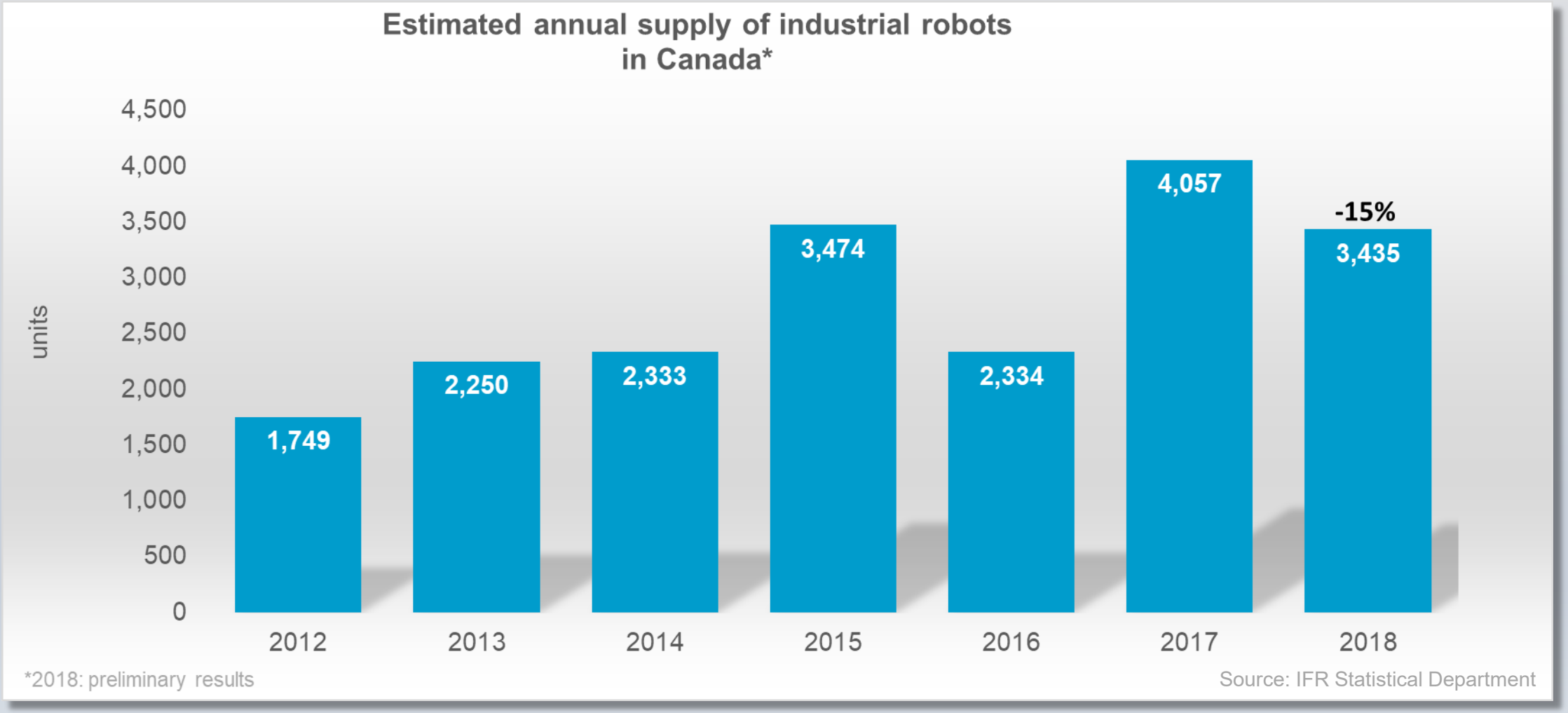
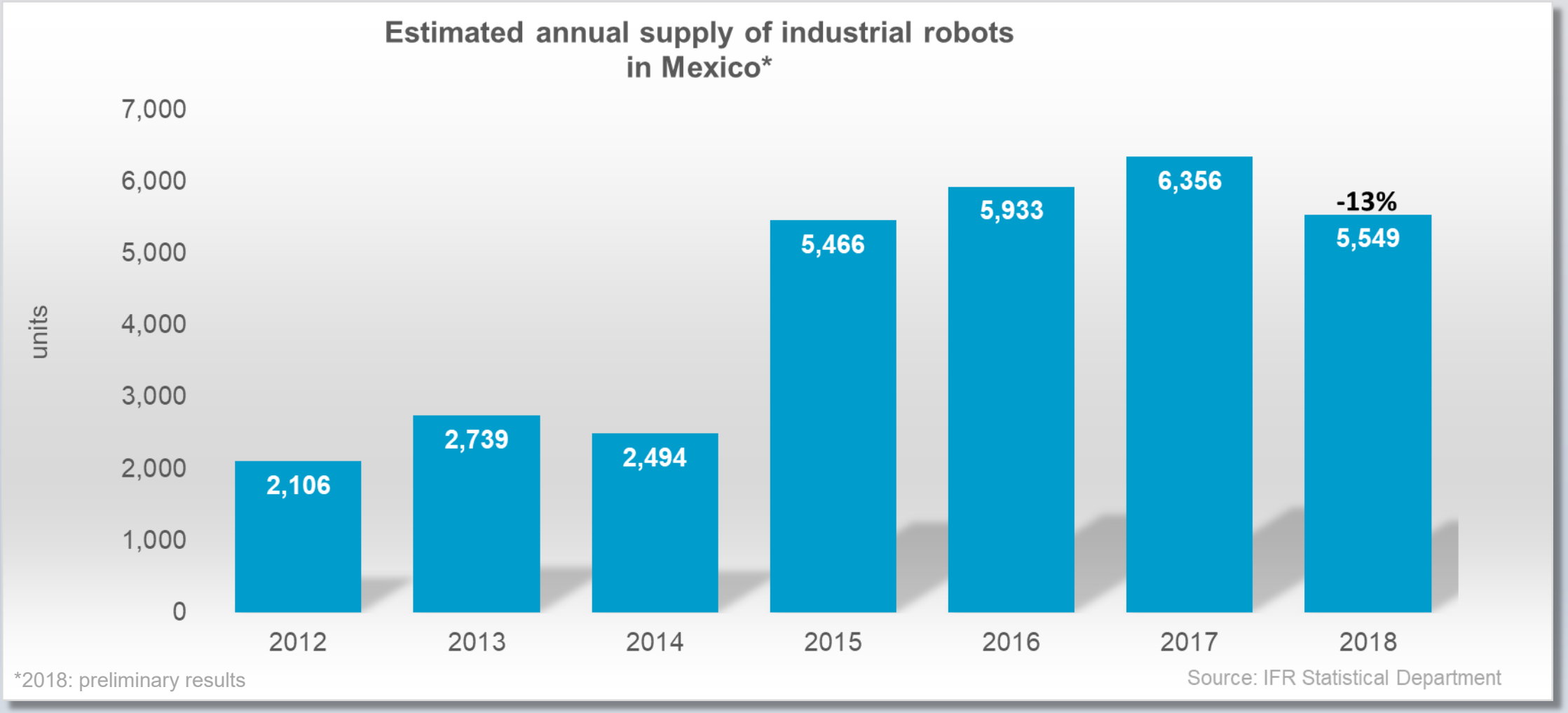


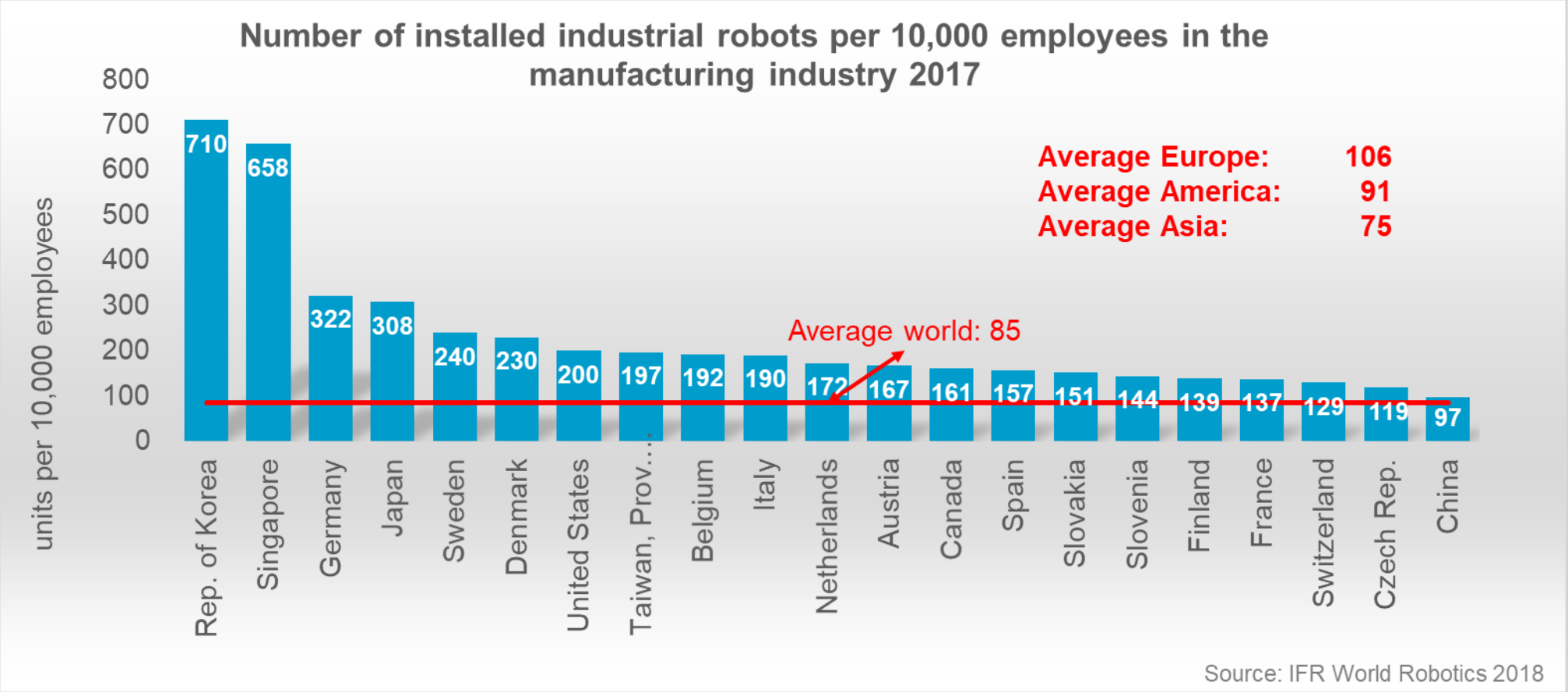
Canada : fluctuating Volumes, but trending upwards



Mexico : dropping back to 2015 Level



Highest robot density in Korea - lowest average in Asia



Some Clouds overhead, but the Forecast is for Blue Skies

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Today

- Automotive Industry Transition from ICE to EV
- Declining Smartphone Sales
- Political Headwinds

Tomorrow

✓ Increased manufacturing flexibility

✓ Demographic “Time Bomb”

✓ Emerging and rapidly-growing market segments

✓ Business and Technological Innovation, e.g. for SME Category

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Global race for leadership in robotics and AI

Thank you!

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