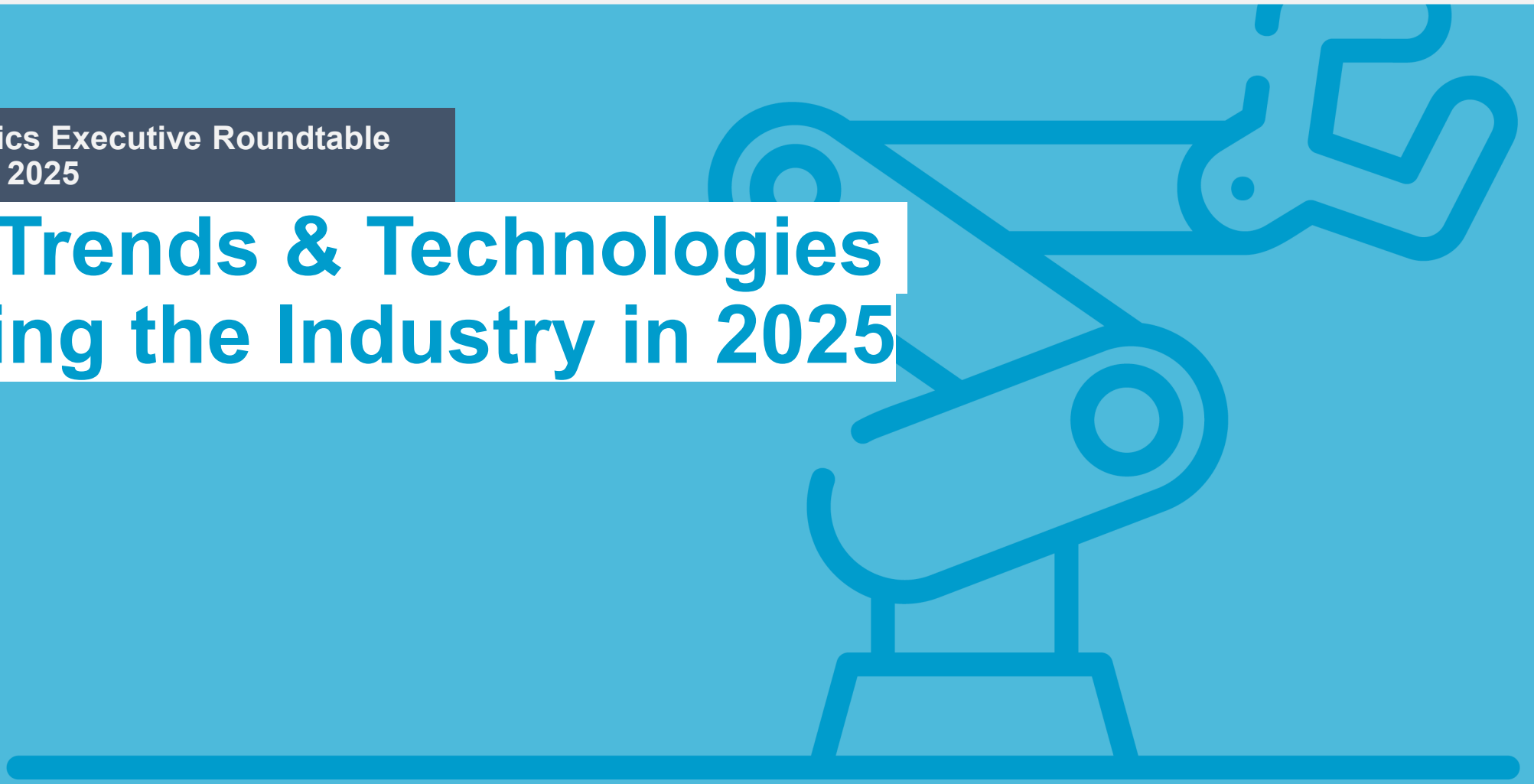
IFR International Federation of Robotics

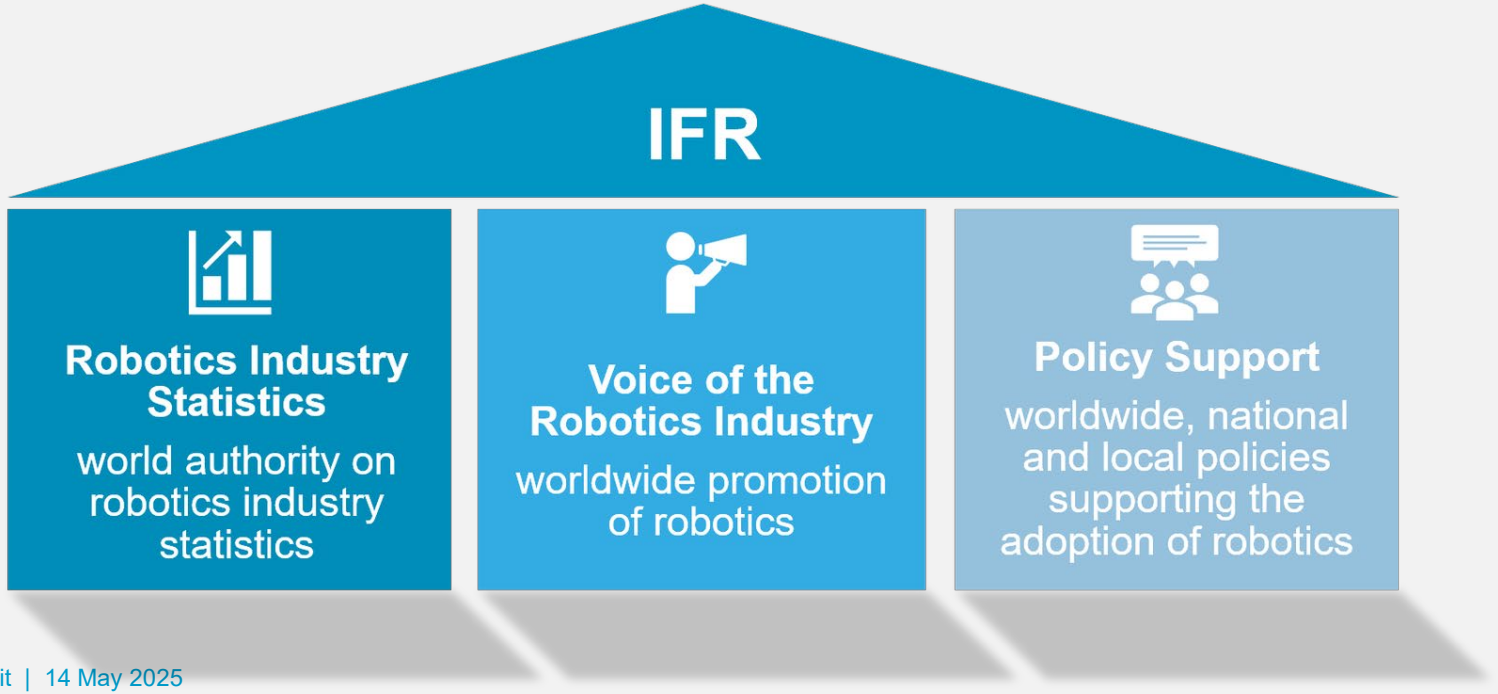
IFR Robotics Executive Roundtable on 14 May 2025

The Trends & Technologies Driving the Industry in 2025



International Federation of Robotics

- **Global non-profit organization** – active for the robotics sector since 1987
- IFR represent **more than 3,000 organizations** from **30 countries**
  - Robot manufacturers, national robotics associations, universities, start-ups worldwide
- Annual global **robotics turnover $50 billion** (robot systems including software & peripherals)



The Status of the Global Robotics Market

IFR statistics 2024: preliminary results and World Robotics

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- Numbers presented here are **preliminary** as of April 2025

- Final results most likely are subject to changes
- They will be published in World Robotics 2025
- Available 25 September 2025

Preliminary global installations 2024: 523,000 units (-3%)

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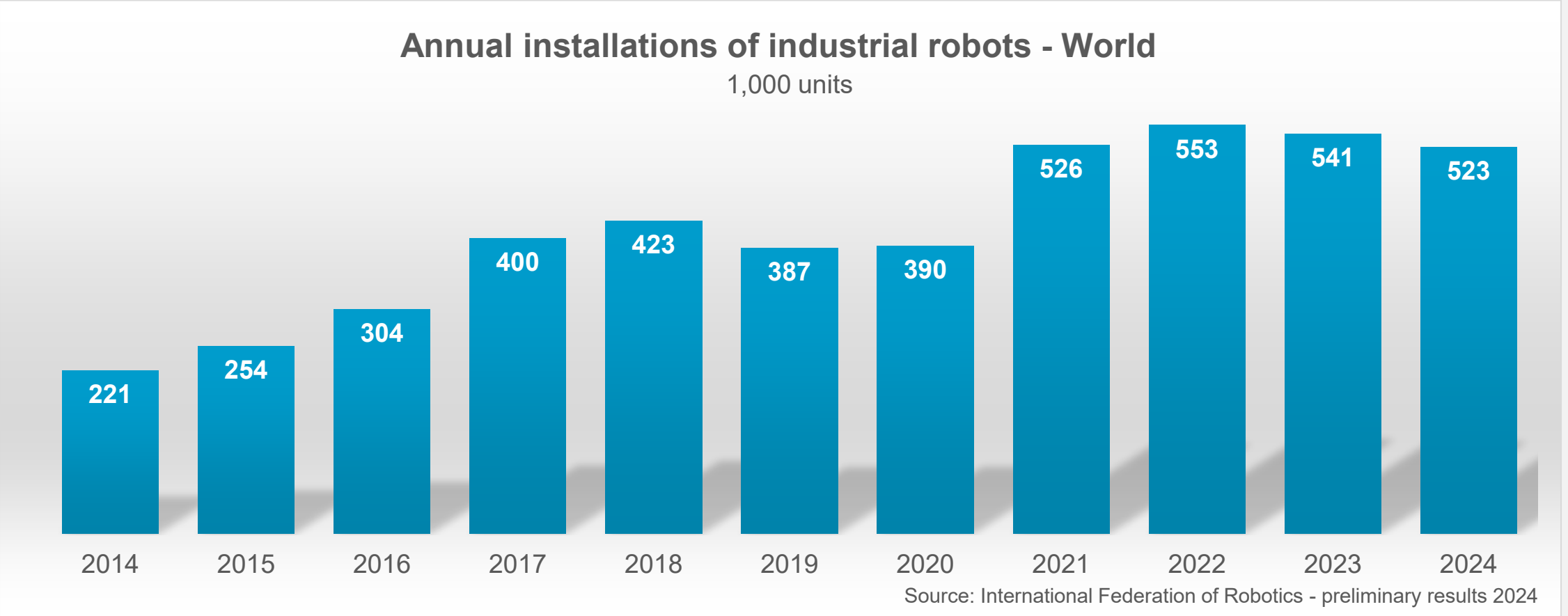

Electronics and automotive head-to-head

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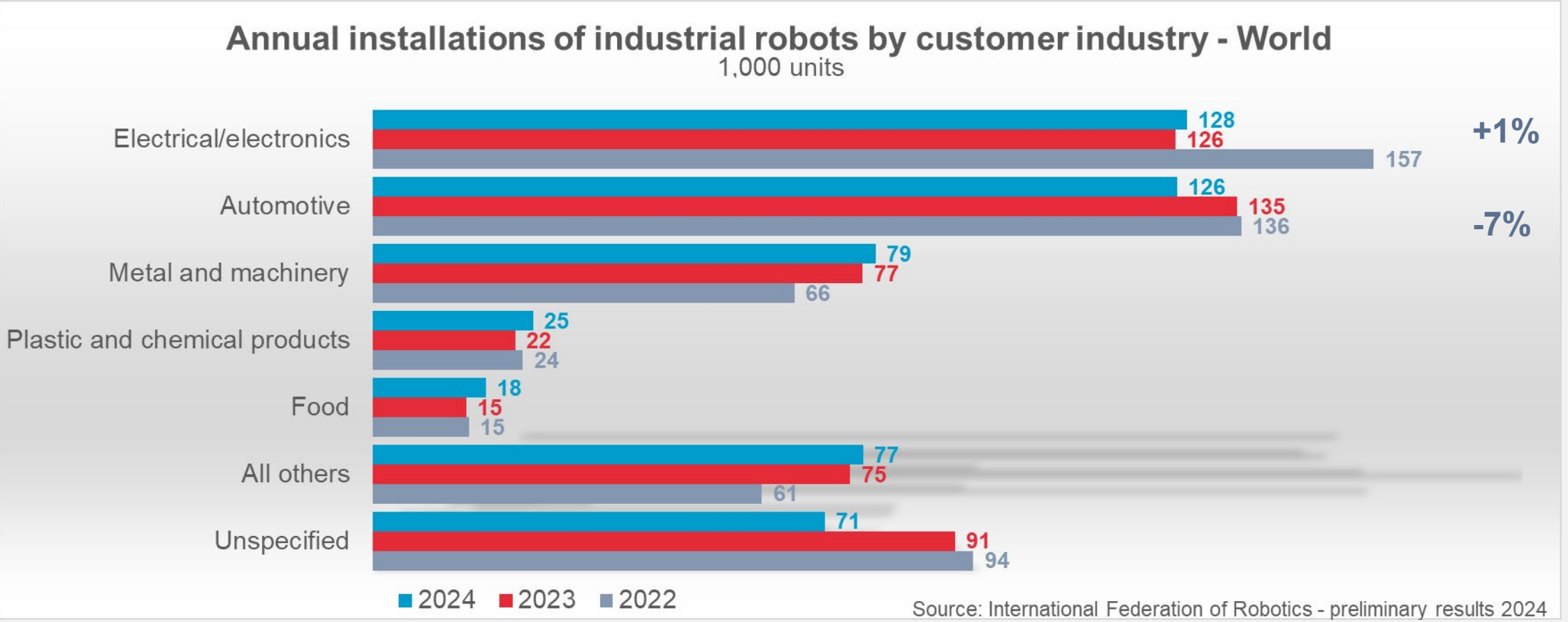
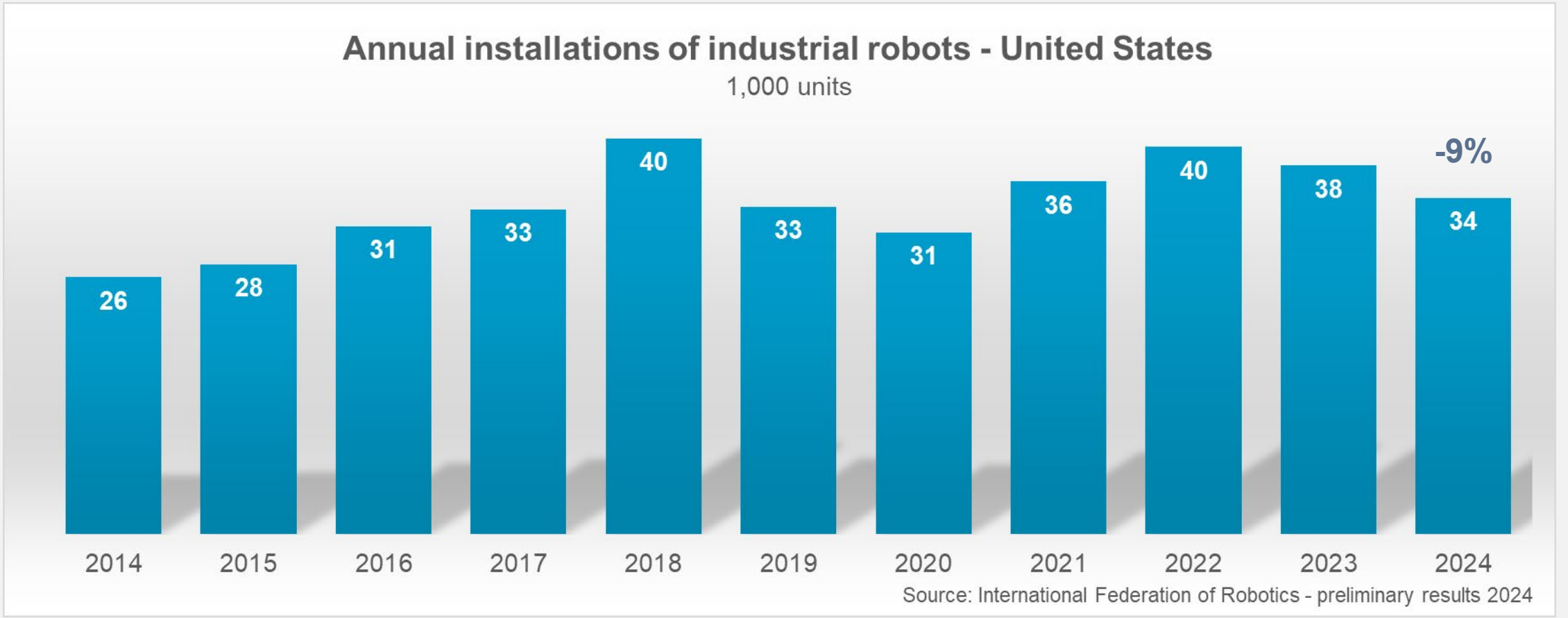
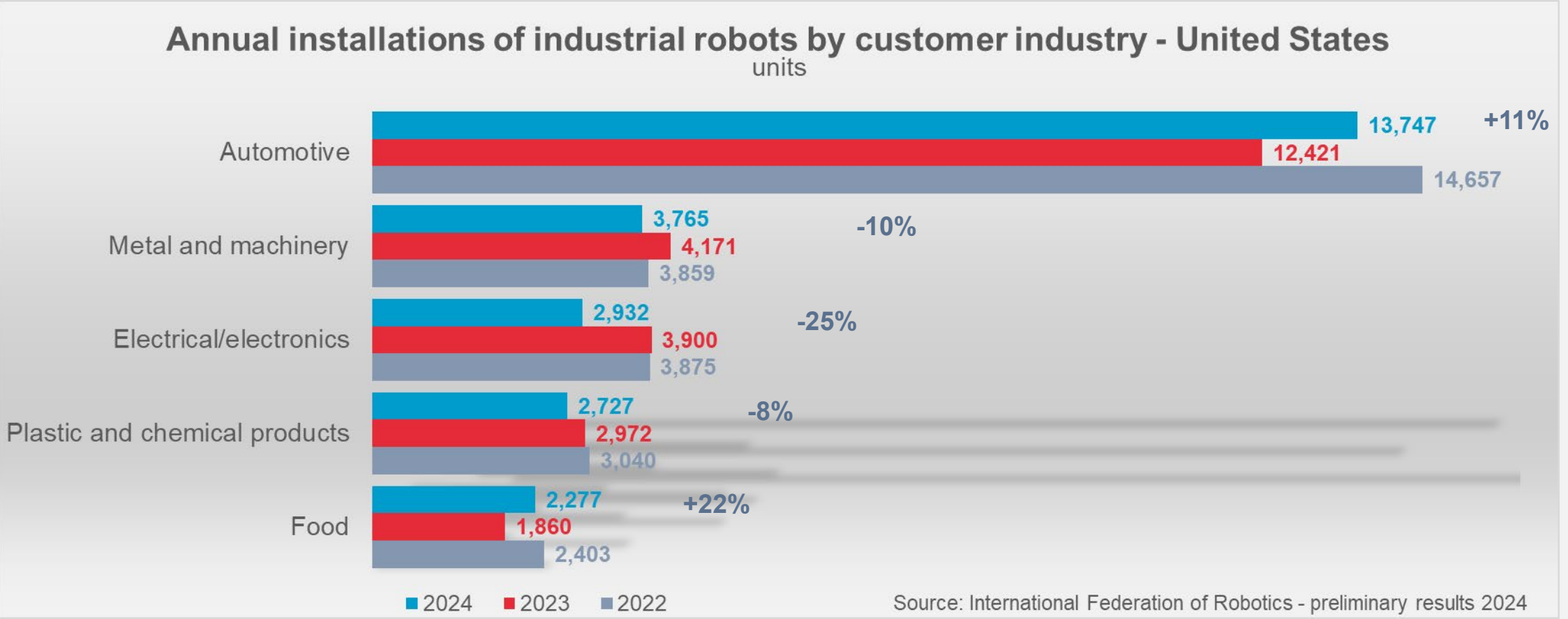


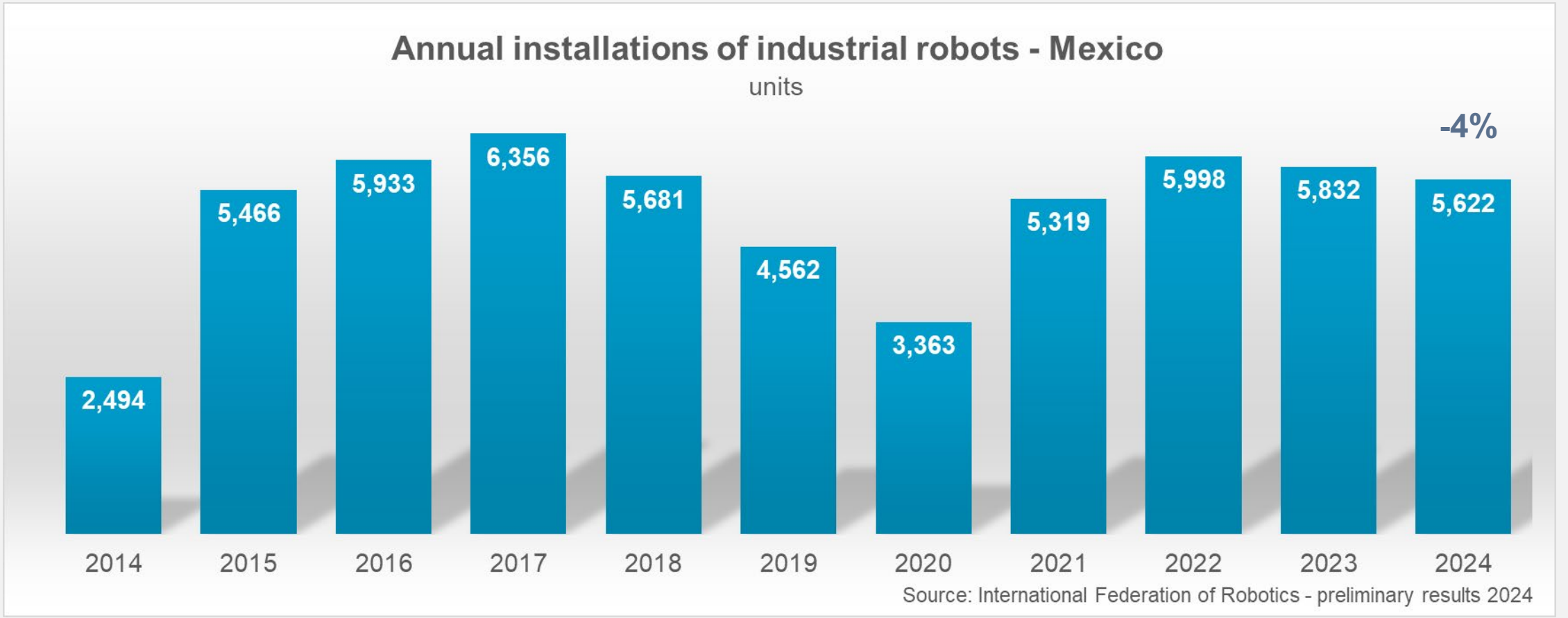
United States: downswing continues



Automotive industry is the pillar of US robot demand



Mexico: Contraction from high level



Canada: Down from record high

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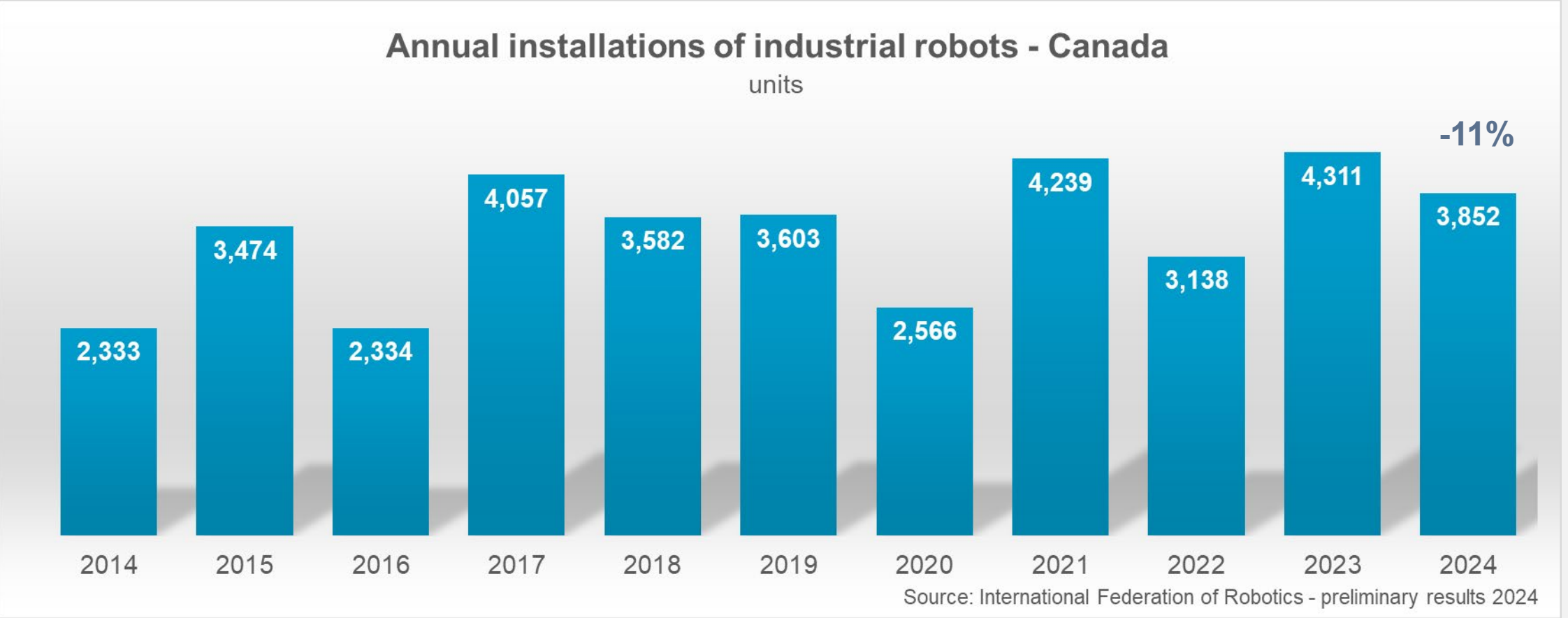


Global Trends and Outlook

TOP 5 Global Robotics Trends in 2025

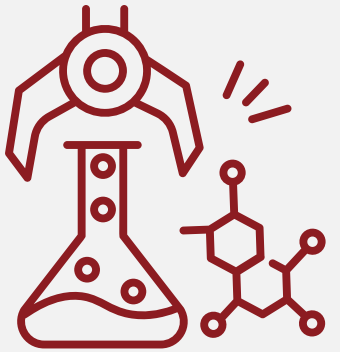
IFR International Federation of Robotics

Physical, Analytic & Generative AI

Single Pupose Humanoids

Sustainability and Energy Consumption

New Fields of Business and Customer Segments



Robots Addressing Labor Shortage

Physical, Analytic & Generative AI

Image: Canva

- **Analytic AI** used in combination with vision systems
  - analyze large amounts of data
  - **optimize robot performance**
- **Generative AI** used for visual analytics
  - Vision language models (VLM) **help robots to communicate**
  - physical AI trained in virtual environments
  - Edge computing /edge AI for energy efficiency and privacy

Single Pupose Humanoids

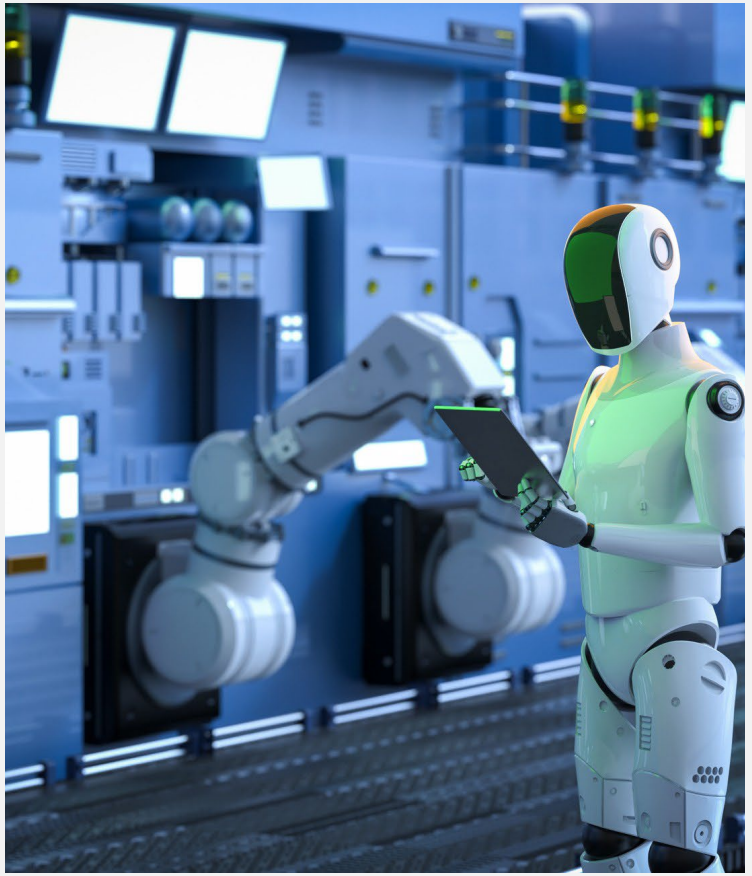


Image: Canva

- Still looking for suitable **pilot applications**
  - few **commercial deployments** announced
- **Safety** is a challenge
  - Humanoids not working collaborative so far
- Expected **early application** areas:
  - Security
  - Logistics & material handling
- True **multipurpose** humanoids are far off yet

Sustainability and energy consumption

Image: Canva

- Important **customer requirement**
- Reduced **material waste** and improved output-input ratio
- **Long lifespans** and minimal maintenance of products
- Cost-effective production of **green energy technologies**
- More **energy-efficient robots** (lightweight components, energy saving standby)

- **Reconsideration of supply chains** and closeness to customers

New fields of business and customer segments

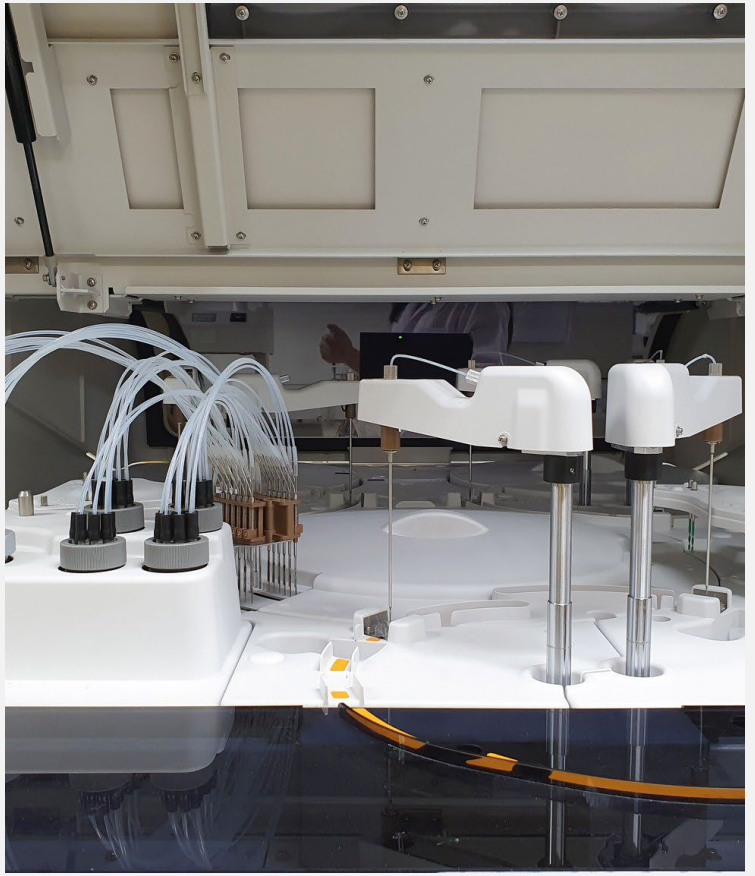


Image: Canva

- **New business models** evolving
  - Service products becoming more interesting
  - **RaaS** still difficult in industry
- **New customer segments** beyond manufacturing
  - Construction
  - Lab automation
  - Warehousing and logistics

Robots addressing labor shortage: Helping humans to share the load

Image: Canva

- **Shortage** of competences and skills on **shopfloor workers**
- **Flexible applications** to fill gaps when and where needed
  - Cobots
  - Mobile manipulators
  - Democratization through ease of use

Outlook for 2025 is positive for North America

- Strong ending in North America in Q4/2024*
- Double-digit increase of order intake in Q4/2024 and Q1/2025*
- Strong growing sectors based on order intake:
  - Food and consumer goods
  - Chemicals and pharmaceuticals
- Current administration's target to reshore manufacturing is a strong driver for automation
- But: Uncertainty factors typically weigh on willingness to invest

Image: Pixabay

Source:
** IFR Quarterly Survey and A3*