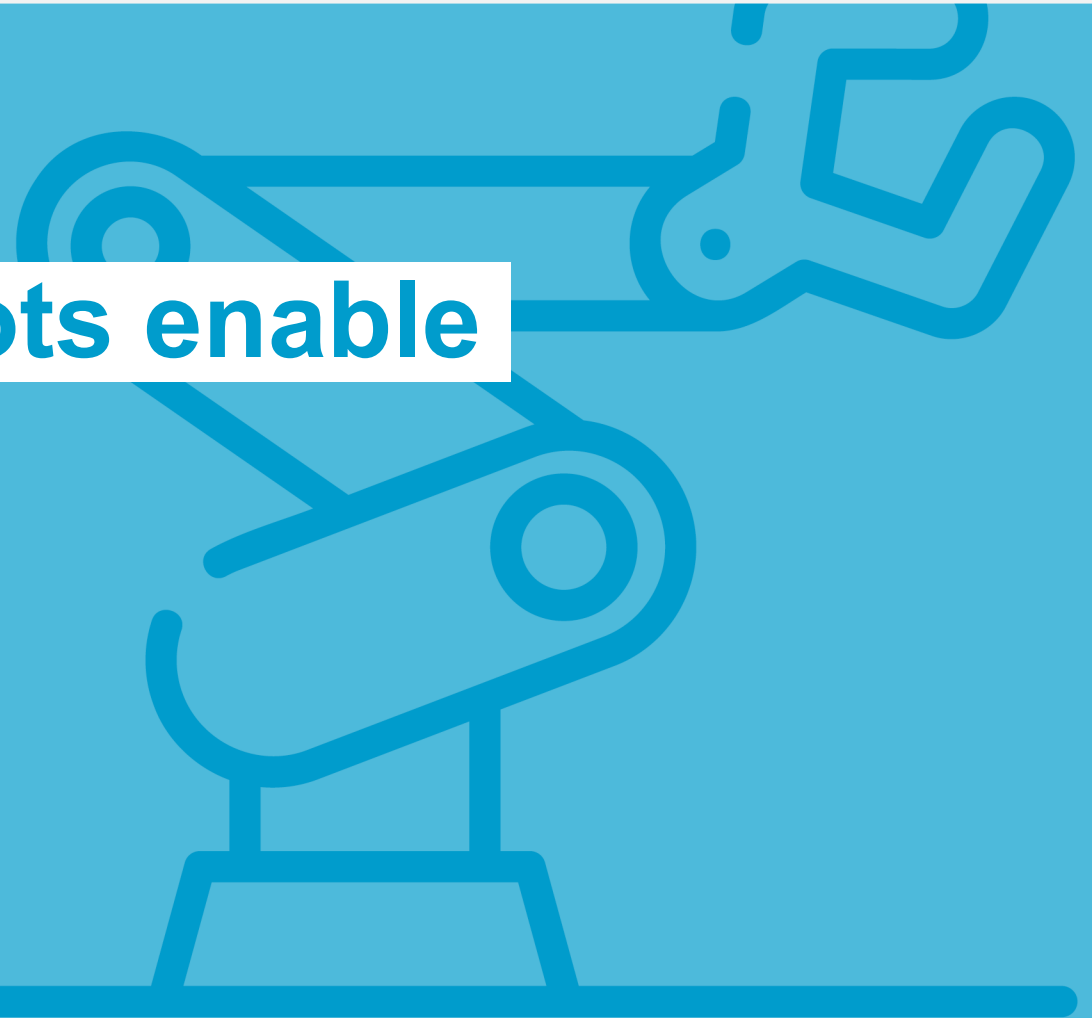


IFR Executive Roundtable

# Sustainable! How robots enable a green future

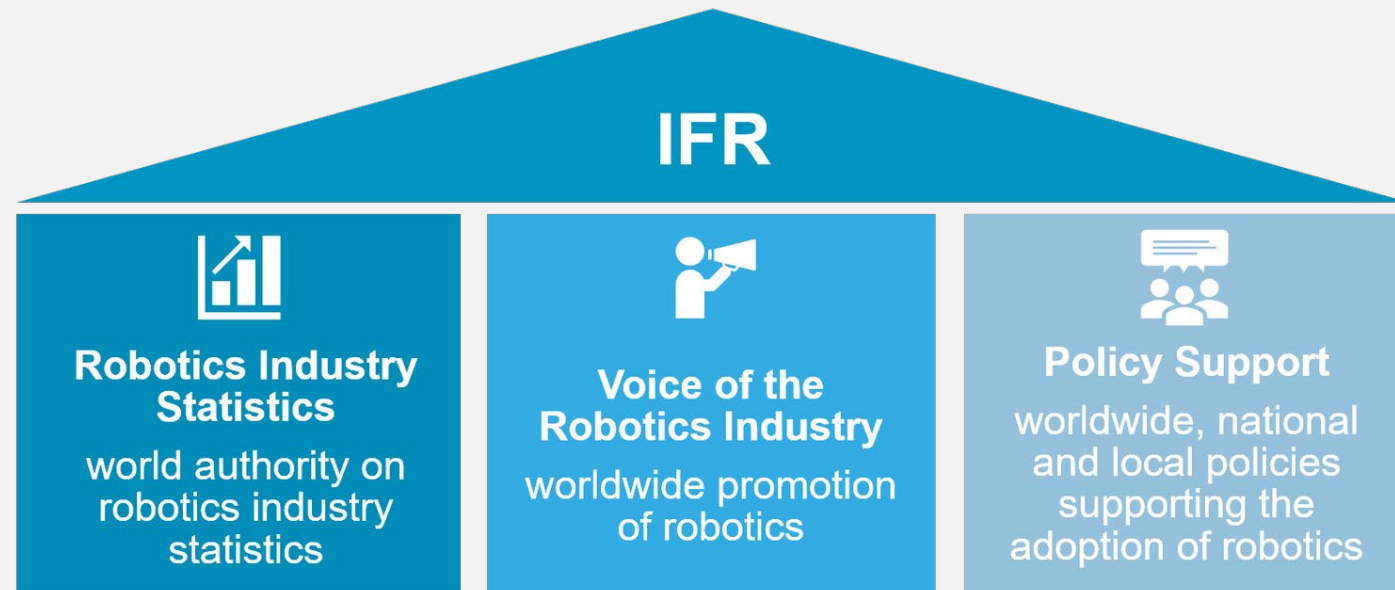


# Schedule

- Welcoming and presentation of the participants of the Executive Round Table  
Dr. Susanne Bieller, IFR General Secretary
- Preview on World Robotics Industrial Robots 2022  
Milton Guerry, IFR President
- Discussion on “**Sustainable! How robots enable a green future**”
- Get together and personal interviews with the participants

# International Federation of Robotics

- **Non-profit organization** since 1987
- IFR represent **more than 2,000 organizations** from **25 countries**
- Robot manufacturers, national robotics associations, universities, start-ups worldwide
- Annual global **robotics turnover \$50 billion** (robot systems including software & peripherals)



# Your panelists today

**Marc Segura**  
Robotics Division President  
ABB



**Dr. Stephen Travers**  
Director Digitalization & Production  
System MERCEDES BENZ



**Christophe Coulonge**  
Executive President  
STÄUBLI ROBOTICS



**Dr. Joachim Döhner**  
Chairman VDMA Battery Production  
(KUKA SYSTEMS)



**Gwenole Cozigou**  
Director for Construction and Machinery  
EUROPEAN COMMISSION



Your host: **Ken Fouhy**  
Editor in Chief  
VDI NACHRICHTEN



# IFR statistics 2021: preliminary results

**Milton Guerry**  
IFR President  
(Schunk)



**Dr. Christopher Müller**  
Director IFR Statistical  
Department





# IFR statistics and World Robotics

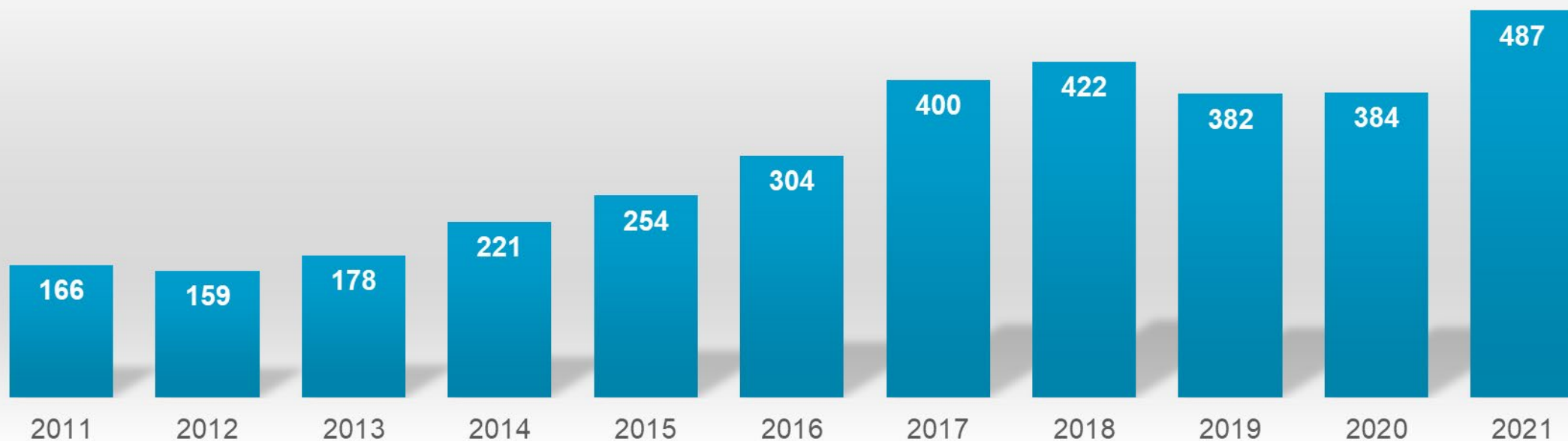
- Numbers presented here are **preliminary**
- Final results will be published in World Robotics 2022
  - Available October 2022



# Global installations 2021: 486,785 units (+27%)

## Annual installations of industrial robots - World

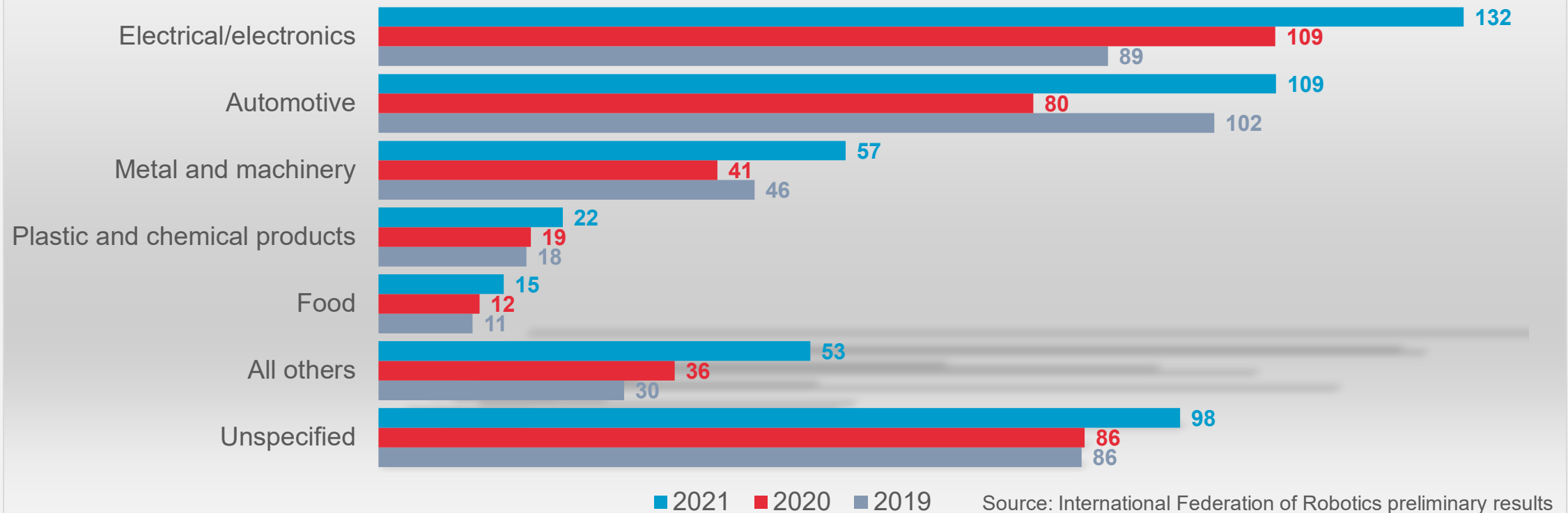
1,000 units



Source: International Federation of Robotics - preliminary results 2021

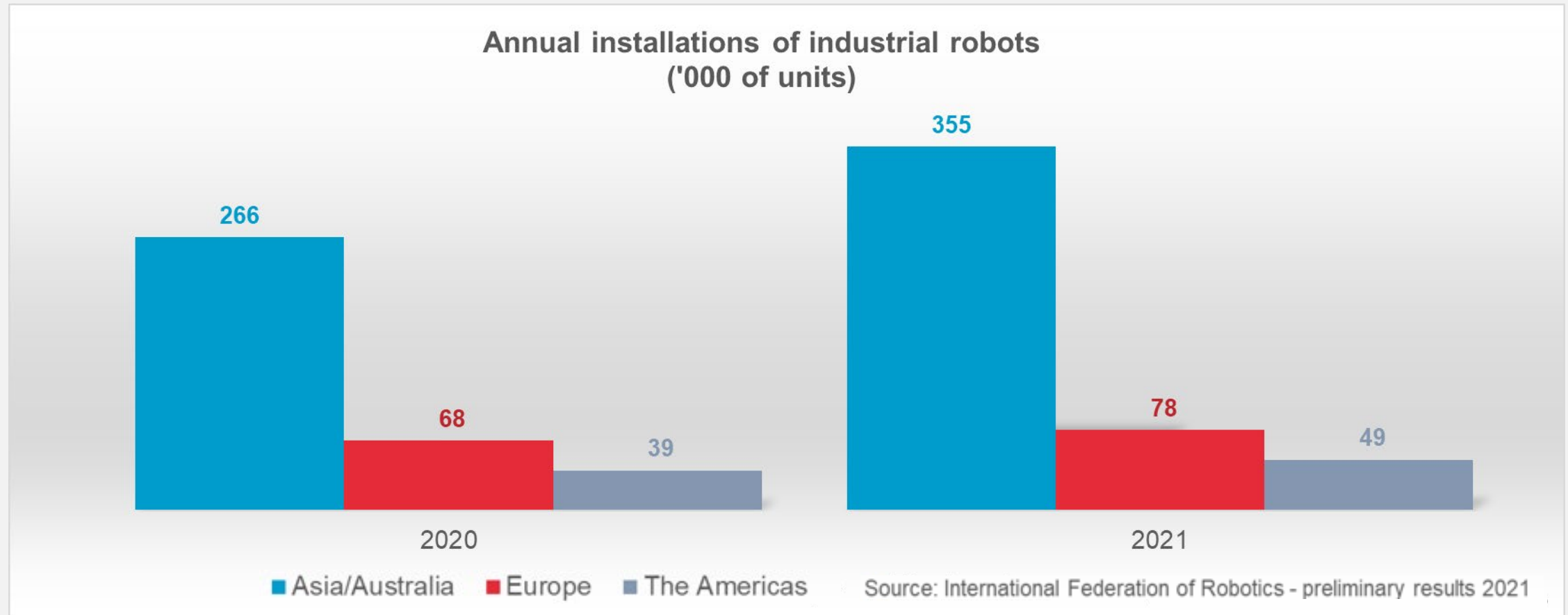
# Electronics largest customer

Annual installations of industrial robots by customer industry - World  
1,000 units





# Strong recovery in all main regions



# North America exceeding pre-pandemic level

## Annual installations of industrial robots - North America

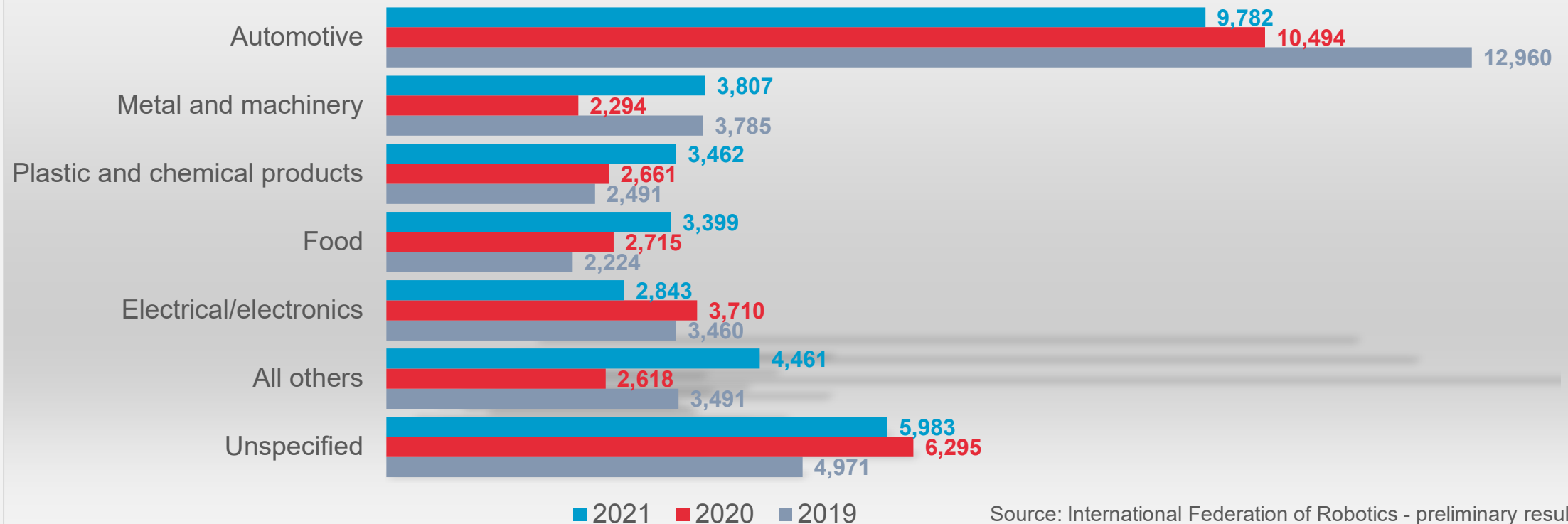
1,000 units



Source: International Federation of Robotics - preliminary results 2021

# General Industry in the US robotizes

Annual installations of industrial robots by customer industry - United States  
units



# Early recovery in Asia; new record

## Annual installations of industrial robots - Asia/Australia

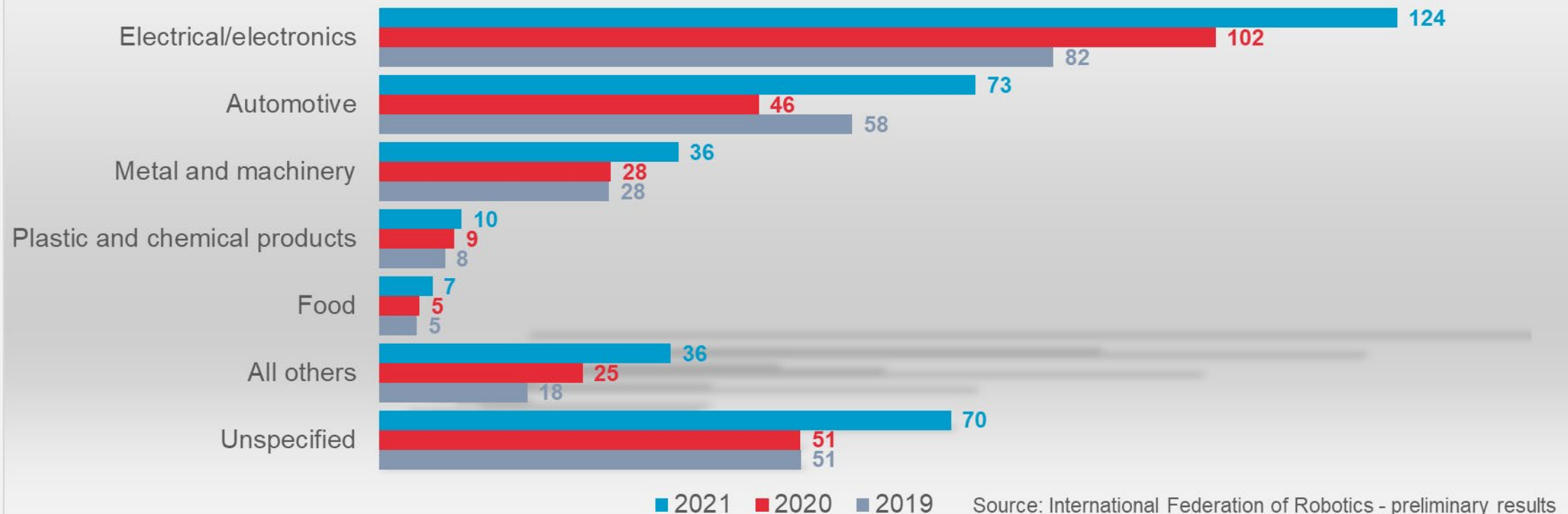
1,000 units



Source: International Federation of Robotics - preliminary results

# Strong growth across all customer industries

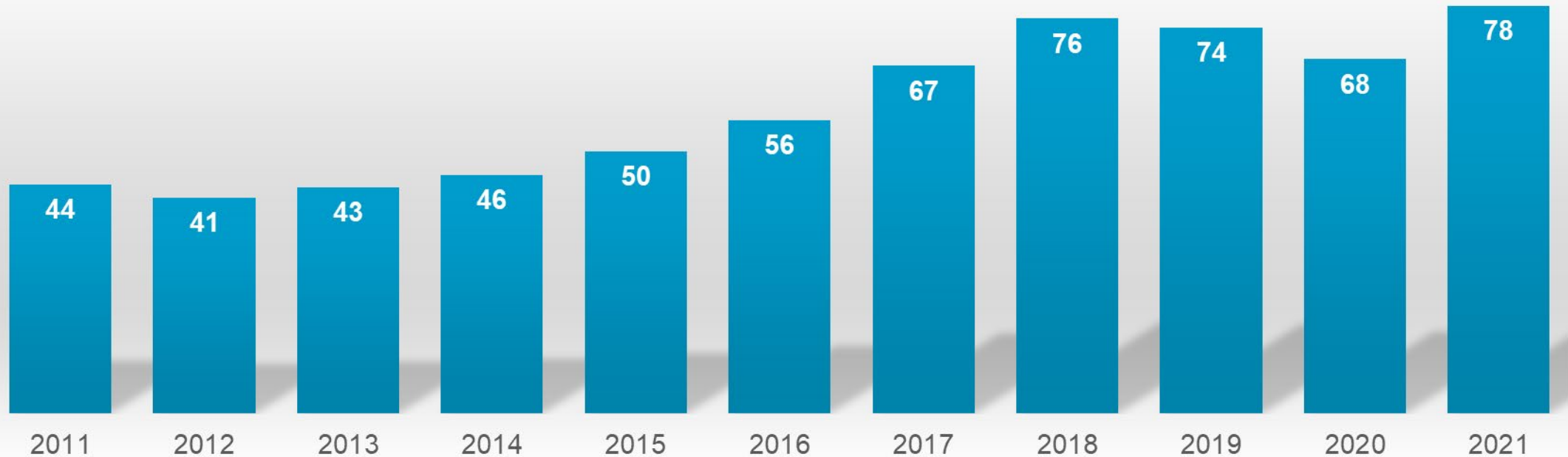
Annual installations of industrial robots by customer industry - Asia/Australia  
1,000 units



# Europe exceeding pre-pandemic level

## Annual installations of industrial robots - Europe

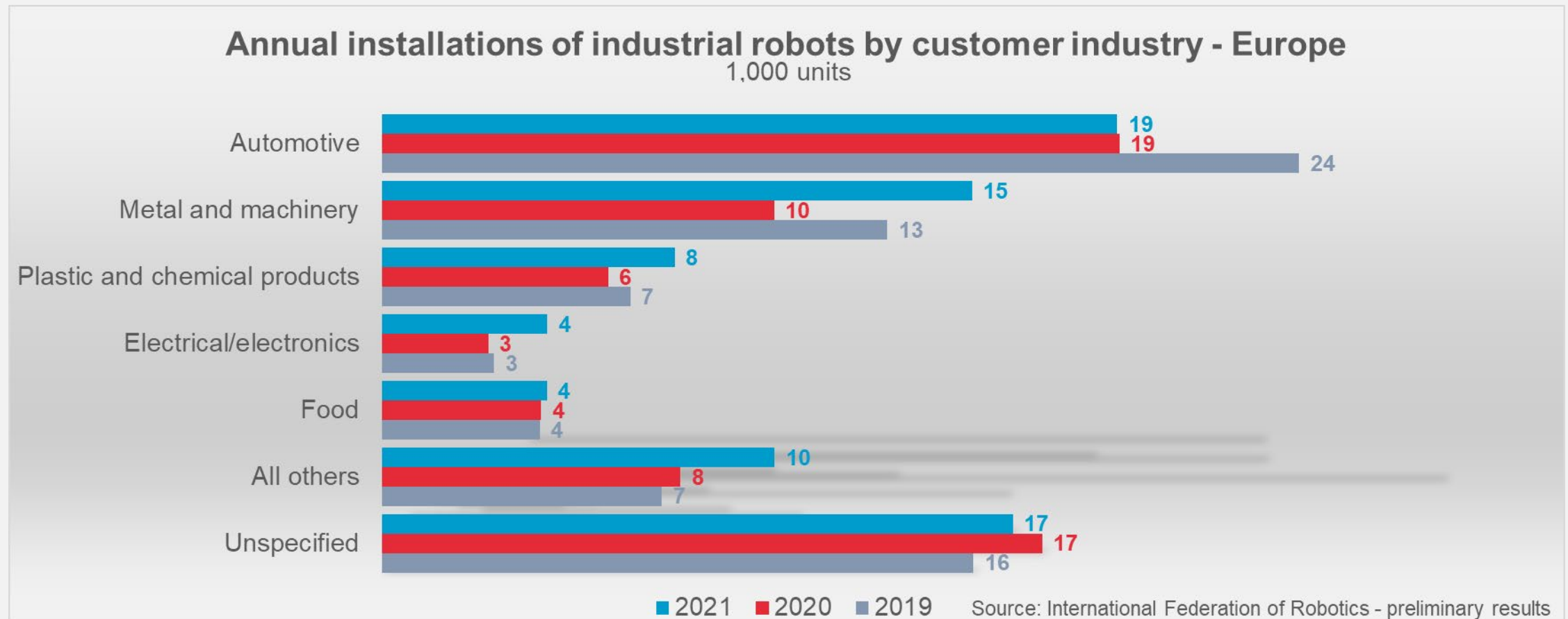
1,000 units



Source: International Federation of Robotics - preliminary results

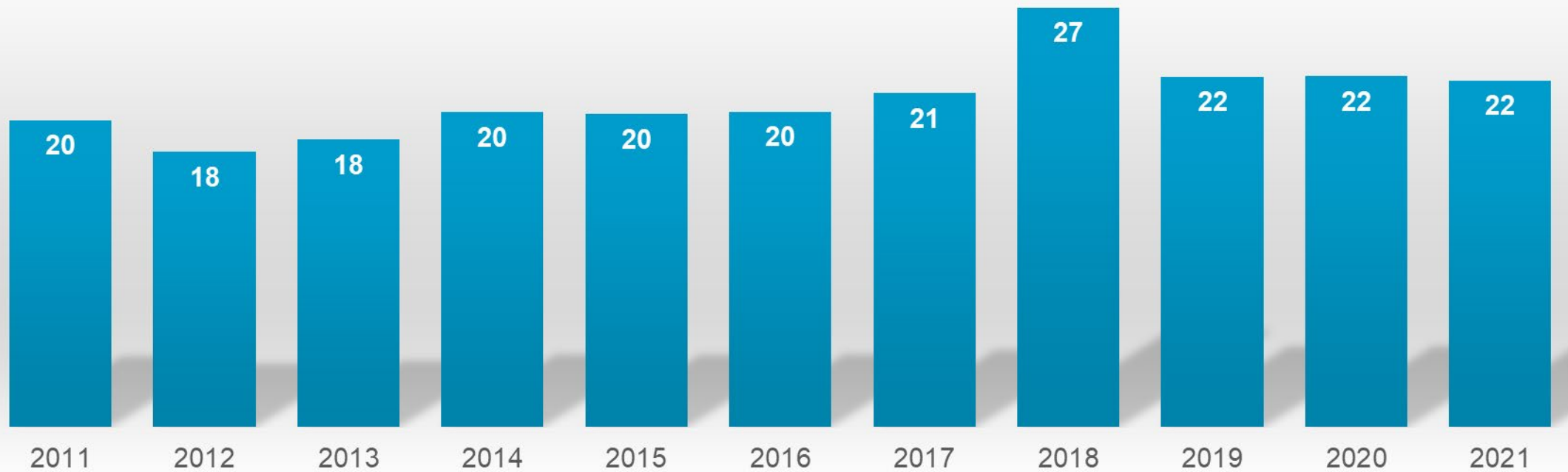


# Automotive major customer



## Annual installations of industrial robots - Germany

1,000 units



Source: International Federation of Robotics - preliminary data

# Italy recovering well

## Annual installations of industrial robots - Italy

1,000 units



Source: International Federation of Robotics - preliminary data

- Orders are growing strongly
  - But supply chain issues are a burden to production and shipping
- Headwinds
  - Russian invasion in Ukraine and its consequences for Europe
  - Investments burdened by inflation and rising interest rates
- Diversification of customers continues
  - Robotics beyond automotive
- Achieving the United Nations' Sustainable Development Goals requires robotics
  - Smart automation reduces productions costs, making alternative energy and transportation affordable
  - Smart automation makes production more resource-efficient
  - Smart agricultural robots eliminate the use of chemical agents