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**Federation of**

*Robotics*



# Welcome to the IFR Press Conference

Publication of World Robotics 2016 –  
Service Robots

12 October 2016, Seoul

Hosted by



*robotics*

- Welcome and introduction
- World Robotics 2016 - Service Robots
  - Results, Forecast, Trends
- Highlights Robot Research in Korea
- Get together and personal interviews



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# Speakers on the panel



**Martin Haegele**

Chairman IFR Service Robot Group

Head of Robot and Assistive Systems  
Fraunhofer IPA, Stuttgart, Germany



**Professor Jong-Oh Park**

Vice Chairman IFR Research Committee

Head of Robot Research Institute,  
Chonnam National University, Republic of Korea



**Gudrun Litzenberger**

IFR General Secretary, Frankfurt

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# International Federation of Robotics

Represents the global robotics industry

Robotics turnover 2015: \$35 billion

>50 members:

- National robot associations

- R&D institutes

- Robot suppliers

- Integrators

Sponsor of the International Symposium on Robotics (ISR)

Co-Sponsor of the IERA Award

Primary resource for world-wide data on use of robotics – IFR Statistical Department



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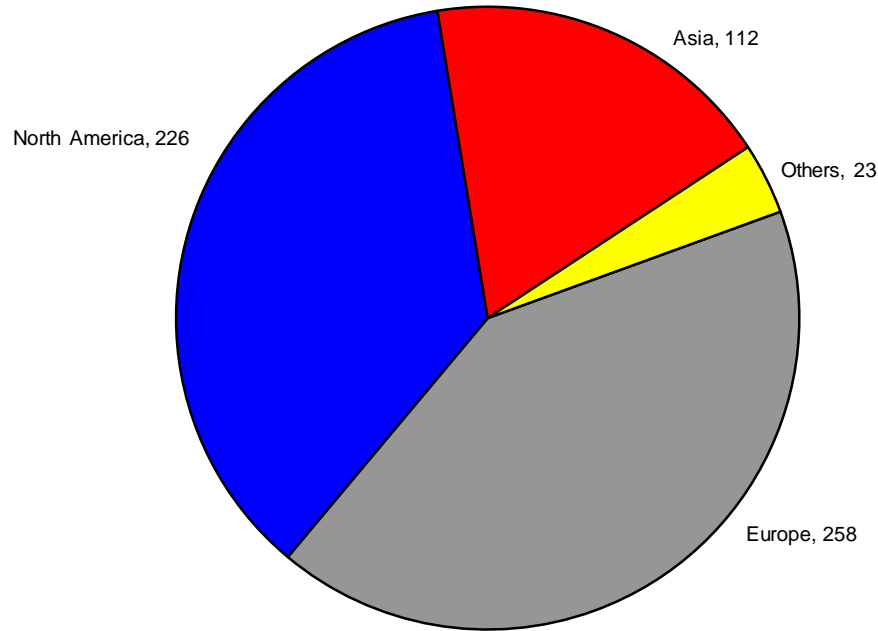
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# More than 600 service robot suppliers identified

Number of service robot manufacturers of all types  
(professional and personal/domestic use) by region of origin



Source IFR World Robotics 2016

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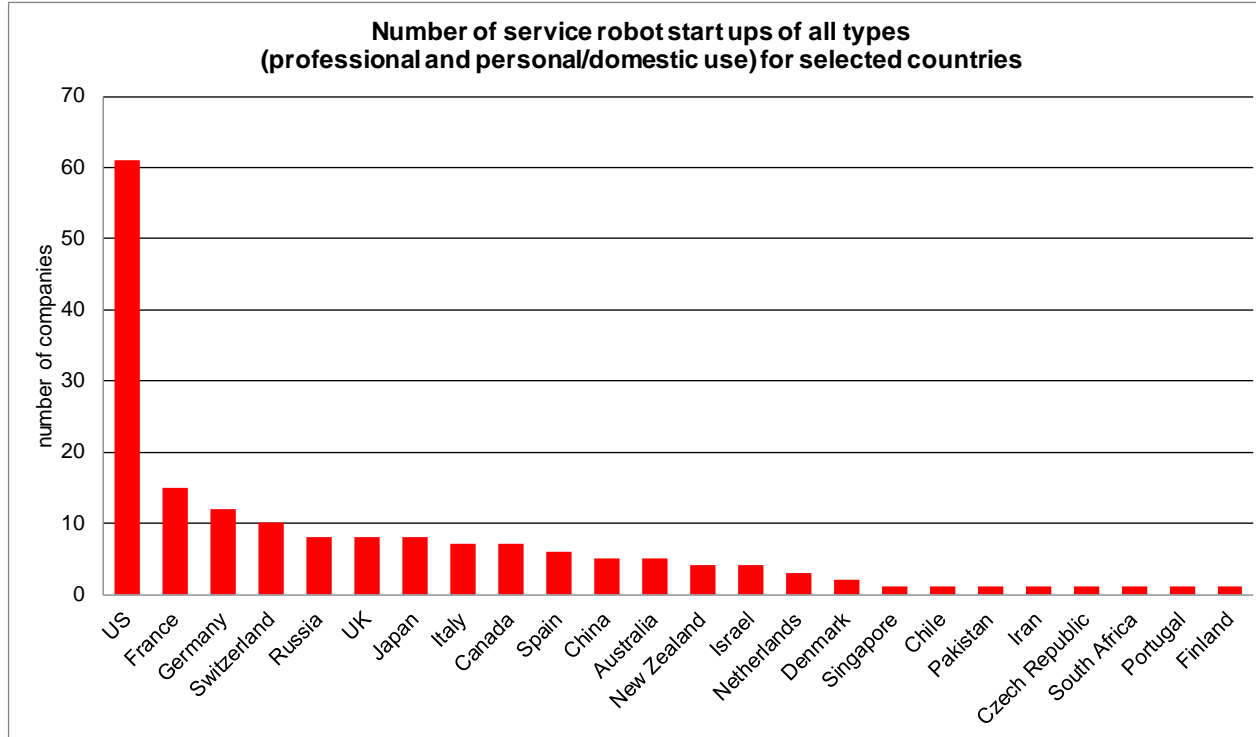
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# Most start-up companies in the USA



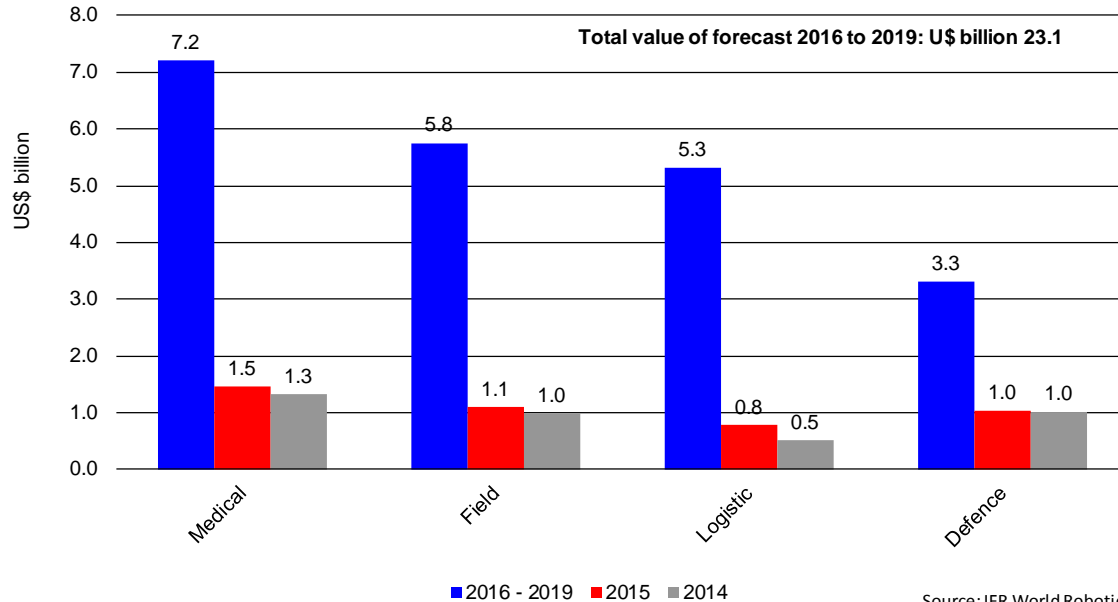
Source IFR World Robotics 2016

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# 2015: US\$ 4.6 billion turnover of service robots for professional – US\$ 23.1 between 2016 and 2019

Service robots for professional use. Estimated value of sales 2014 and 2015 and estimated value of forecast 2016 - 2019 (main applications)



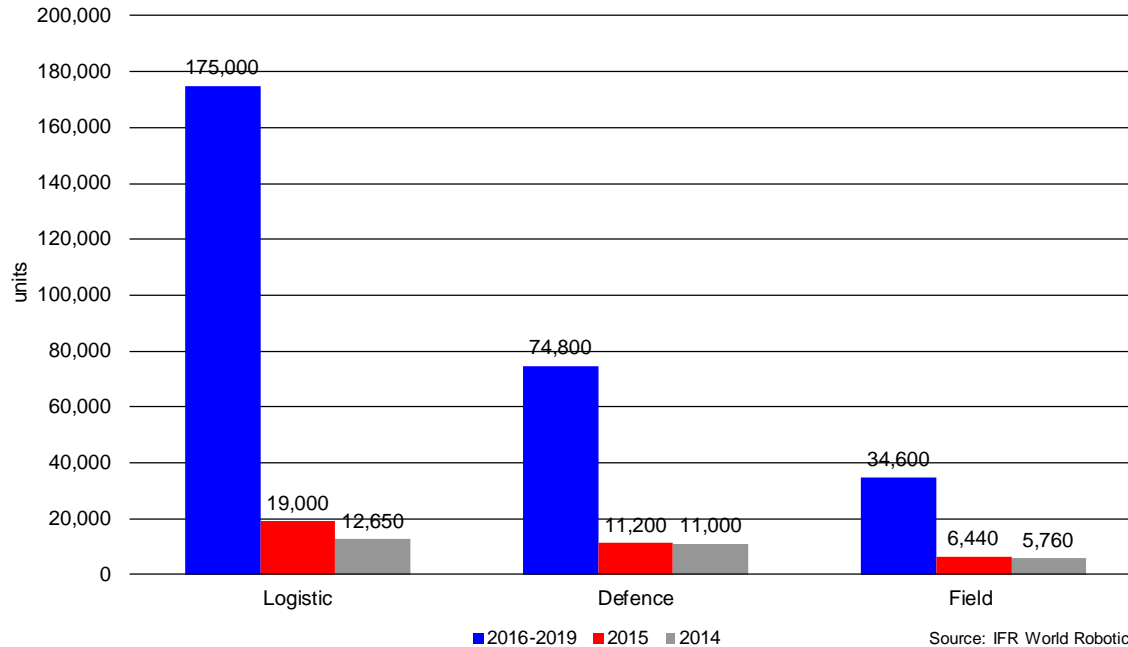
Source: IFR World Robotics 2016

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# 2015: 41.100 service robots for professional use sold – 333,000 units between 2016 and 2019

Service robots for professional use  
Units sales 2014 and 2015, and forecast 2016-2019(main applications)



Source: IFR World Robotics 2016

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# Logistic systems: AGVs will be all around

- AGVs in non manufacturing sectors:
  - E-commerce companies automate their business
  - AGVs have entered hospitals and other public areas
- AGVs in manufacturing
  - support human-robot collaboration
  - flexible manufacturing
  - important tool for Industry 4.0

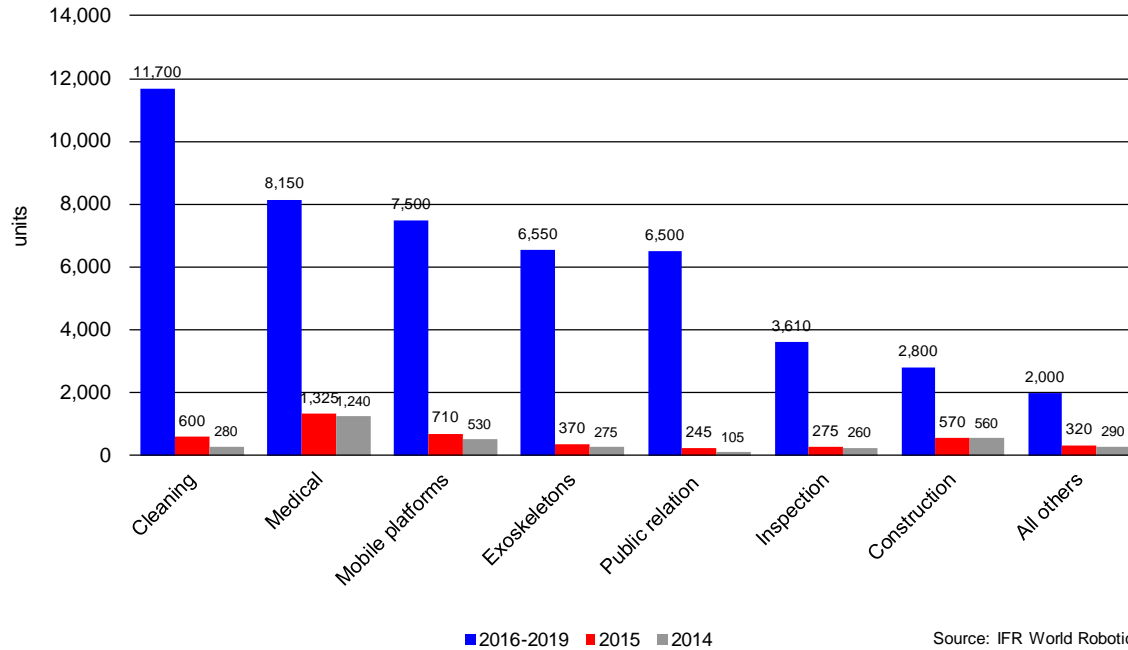


Source: Magazino



# 2016-2019: Strong increase in most applications

Service robots for professional use.  
Units sales 2014 and 2015, and forecast 2016-2019 (continued)



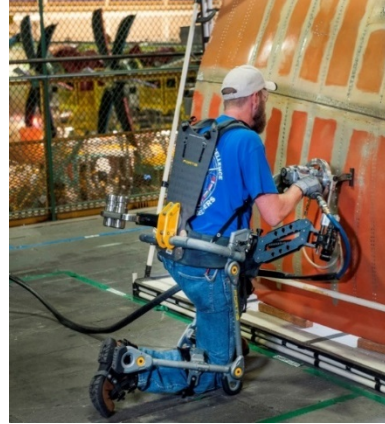
Source: IFR World Robotics 2016

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# Trends in the service robot market

- Exoskeletons on the rise
  - Rehabilitation, support
  - Ergonomic support for reducing loads



Source: Lockheed Martin



Source: Rewalk

- Medical systems on the rise
  - Diagnostic systems
  - Robot assisted surgery or therapy
  - Rehabilitation systems



Source: BA Systemes

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# 2016 - 2019: 42 million new service robots for personal and domestic use

## ■ Main categories:

- Vacuum and floor cleaning
- Lawn-mowing robots
- Entertainment and leisure robots
- Robots for elderly and handicap assistance



Source: Kärcher (Vacuum cleaning)

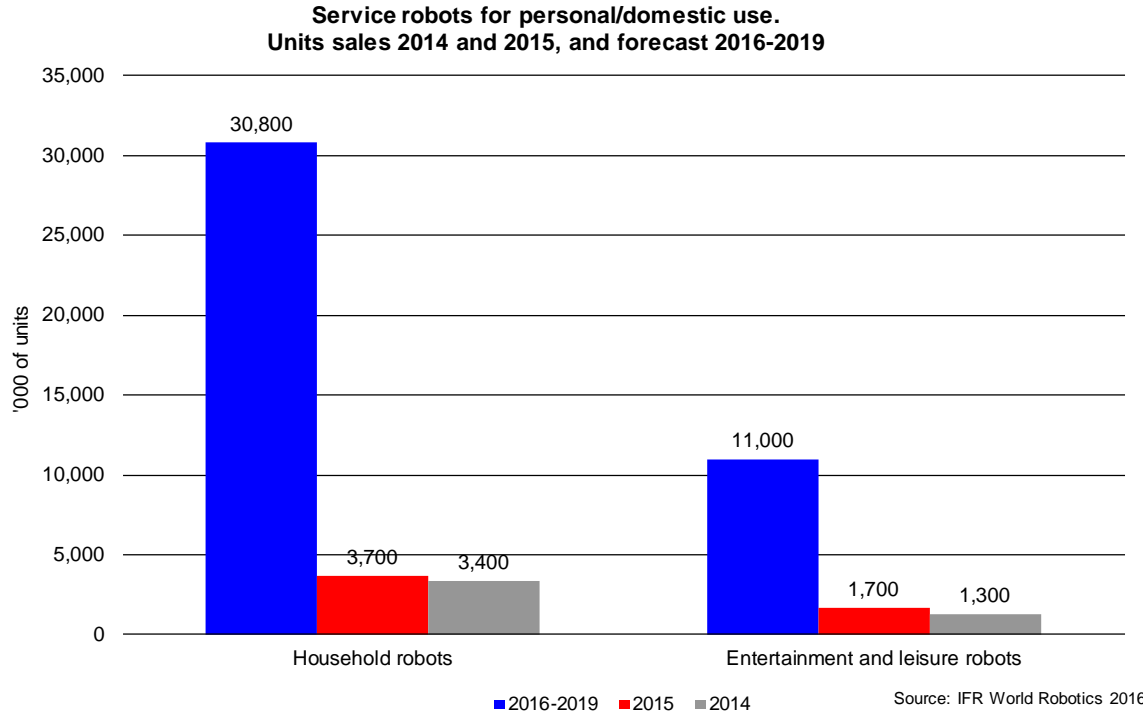


Source: Aisoy Robotics S.L

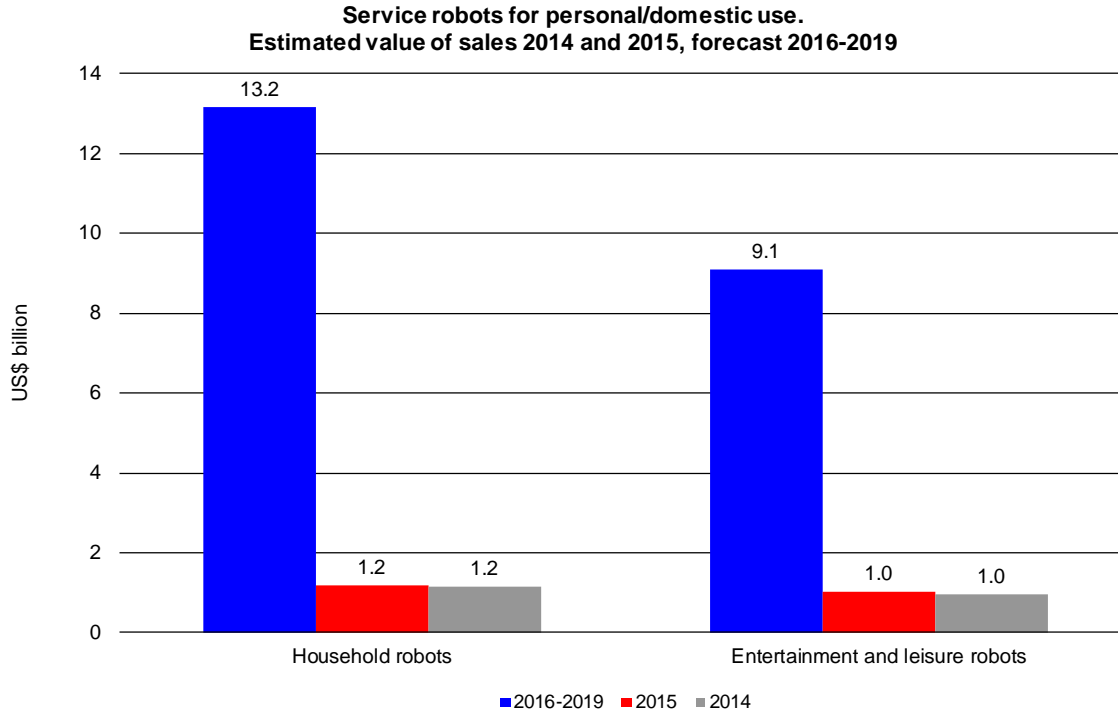


Source: Ezrobot

# 2016 - 2019: at least 31 million new household robots

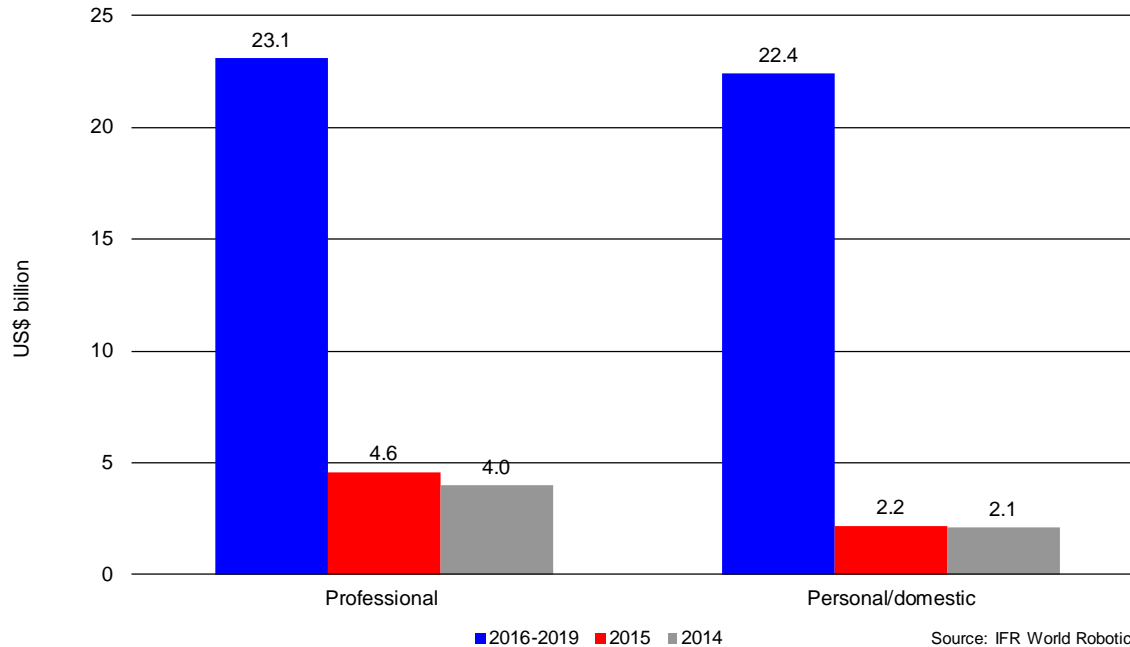


# 2016 - 2019: US\$ 22.4 billion turnover of personal/domestic service robots



# 2016-2019: US\$ 45 billion sales value

Service robots for professional use and for domestic/personal use  
Units sales 2014 and 2015, and forecast 2016-2019



Source: IFR World Robotics 2016

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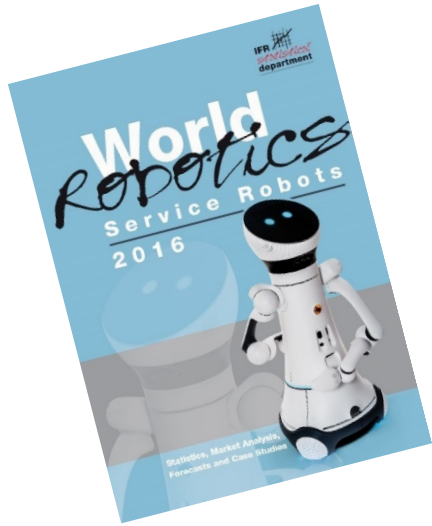
# Global robot market between 2016 and 2019:

- 1.4 million industrial robots will be installed in the factories to increase productivity
- 333,000 service robots for professional use will be sold to non-manufacturing and to manufacturing sectors

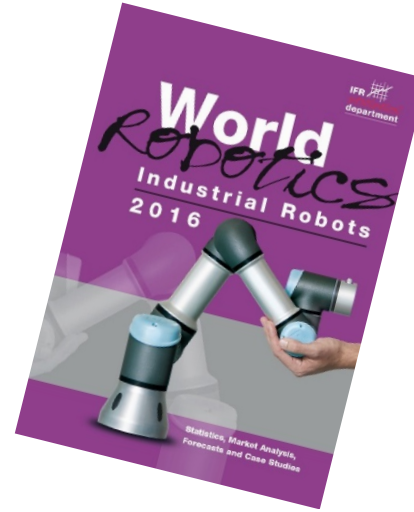
and

- 42 million service robots for personal and domestic use (consumer robots) will be used in our private life





Thank you!



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