Welcome to IFR CEO Round Table
22 June 2016
Munich

Schedule

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

- Preview on World Robotics Industrial Robots 2016
  Joe Gemma, IFR President

- Discussion “Workplace 4.0 – The Role of Robots”

- Get together and personal interviews with international robot experts
International Federation of Robotics

Represents the global robotics industry
Robotics turnover 2014: $32 billion
>50 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

Panel

Robot user (aerospace)
- Dr. Phil Crothers, Senior Manager Materials and Manufacturing Technology, Research and Technology – Europe, Boeing, USA

Robot User (food, beverage, )
- Daniel Magnin, Corporate Filling & Packing Technologies Manager (CT-PACK) Nestlé, Switzerland
Robot Suppliers

- Per Vegard Nerseth, Managing Director, ABB Robotics, Switzerland
- Stefan Lampa, CEO, KUKA Roboter, Germany
- Masahiro Ogawa, Corporate Vice President and General Manager of Robot Division, Yaskawa, Japan
- Dr. Esben H. Østergaard, CTO and Co-Founder, Universal Robots, Denmark
- Dr. Daokui Qu, CEO and Founder SIASUN Robot and Automation Co. Ltd., China

Moderator:

- Ken Fouhy, Editor in Chief, VDI nachrichten, Germany
World Robotics 2016 Preview

Joe Gemma, President
International Federation of Robotics IFR

22 June 2016, Munich

Final results 2015: New record +12% increase

Worldwide annual supply of industrial robots
2000 - 2015

Source: IFR Statistical Department
2015: considerable increase in all regions

Annual supply of industrial robots by regions 2011 - 2015

- Asia: +16%
- Europe: +10%
- America: +15%
- Africa and unspecified: -1%

Source: IFR Statistical Department

2015: 75% of the global supply in 5 markets

Annual supply of industrial robots largest markets 2011 - 2015

- China: +17%
- Rep. of Korea*: +50%
- Japan: +20%
- United States: +3%
- Germany: 0%

*Increase 2015 partly due to additional companies reporting only in 2015

Source: IFR Statistical Department
China 2015: +17%
31% from Chinese robot suppliers

Annual supply of industrial robots to China
2005 - 2015

Source: IFR Statistical Department

Continued growth in Italy
Mexico – emerging robot market

Annual supply of industrial robots
largest markets - continued 2011 - 2015

Source: IFR Statistical Department
Main drivers 2015: electronics, metal, rubber and plastics

Estimated worldwide annual supply of industrial robots at year-end by main industries 2013 - 2015

- Automotive
- Electrical/electronics
- Metal
- Rubber and plastics
- Food
- Pharmaceuticals and cosmetics
- Others
- Not specified by industries

Source: IFR Statistical Department

Continued double-digit growth of industrial robots

- Continued need to automate production processes
  - Flexible manufacturing
  - Increasing demand for consumer goods
- High quality
- Sustainability

Digitalization of the factory – Industry 4.0

Source: Schunk
Robots will play an important role in the new era of manufacturing

- Jobs in the factory will change
  - Workers will be freed from repetitive routine tasks
  - Workers will focus on jobs that require judgment, common sense, creativity, problem-solving skills and dexterity
  - Human robot collaboration = robots assist workers in a variety of tasks
  - Mobile robots will optimize the logistic of the production processes
  - Simplification of the use of robots enables more companies to use robots

Source: IFR Statistical Department

2018: 2.3 million robots in operation

Worldwide estimated operational stock of industrial robots

Source: IFR World Robotics 2015