

The International Federation of Robotics

The Voice of Robotics

- Represents the global robotics industry
- Robotics turnover 2008: \$19 billion
- About 50 members:
 - National robot associations
 - R&D institutes
 - Robot suppliers
 - Integrators
- Sponsor of the annual International Symposium on Robotics (ISR)
- Primary Resource for world-wide data on use of Robotics – IFR Statistical Department

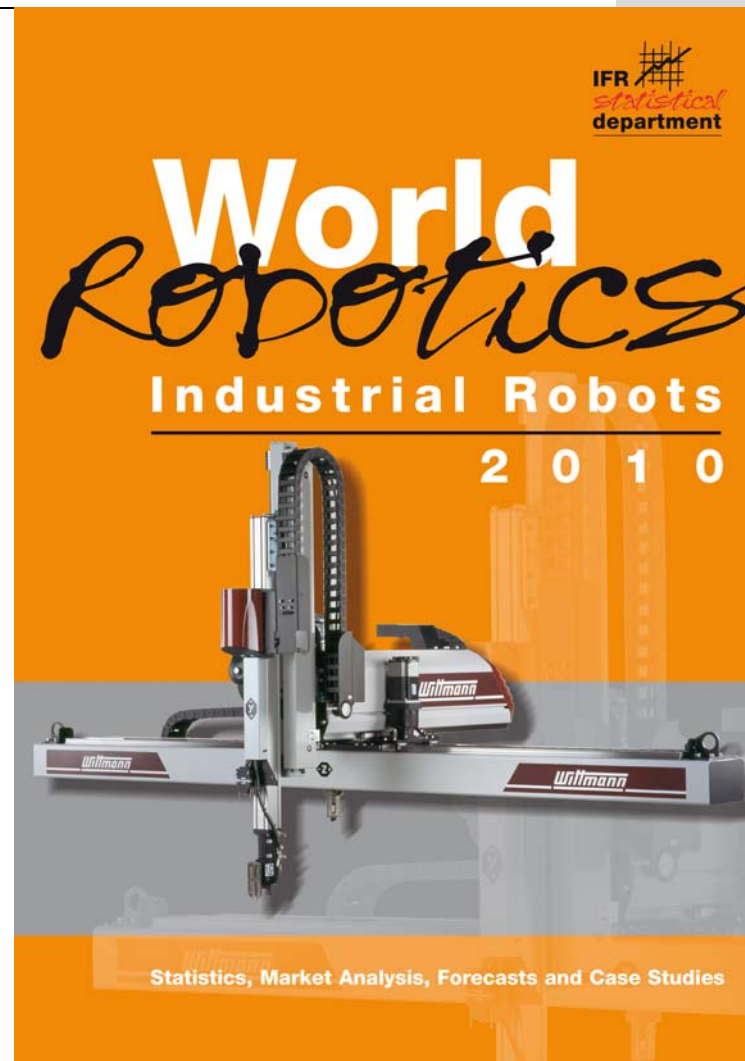


World Robotics 2010: The robotics industry is back on track!

- Outlook on World Robotics 2010
 - 2009 – Facts and figures on a troublesome year
 - 2010 to 2013 - Back to Growth
 - Future Trends

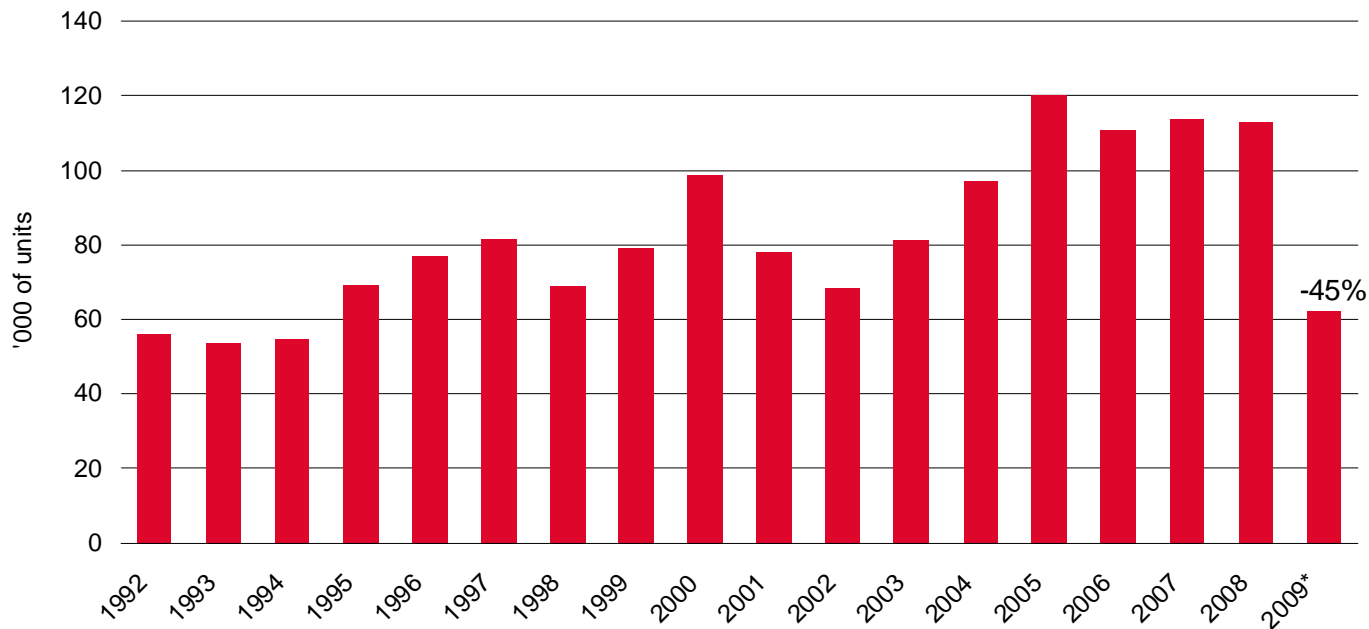
Åke Lindqvist
President
International Federation of Robotics

www.worldrobotics.org
www.ifr.org



The crisis stopped a successful development

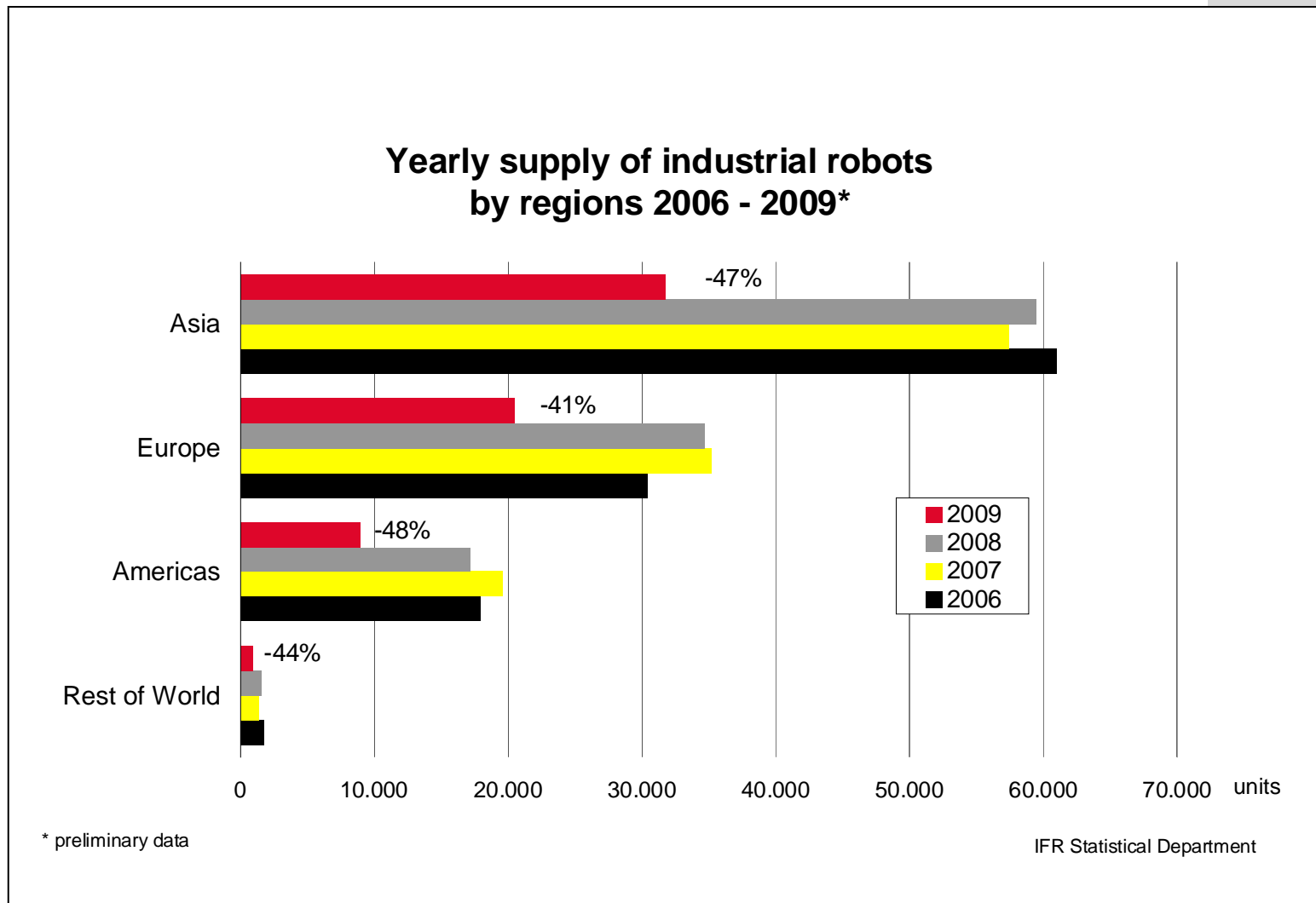
Worldwide yearly supply of industrial robots 1992 - 2009



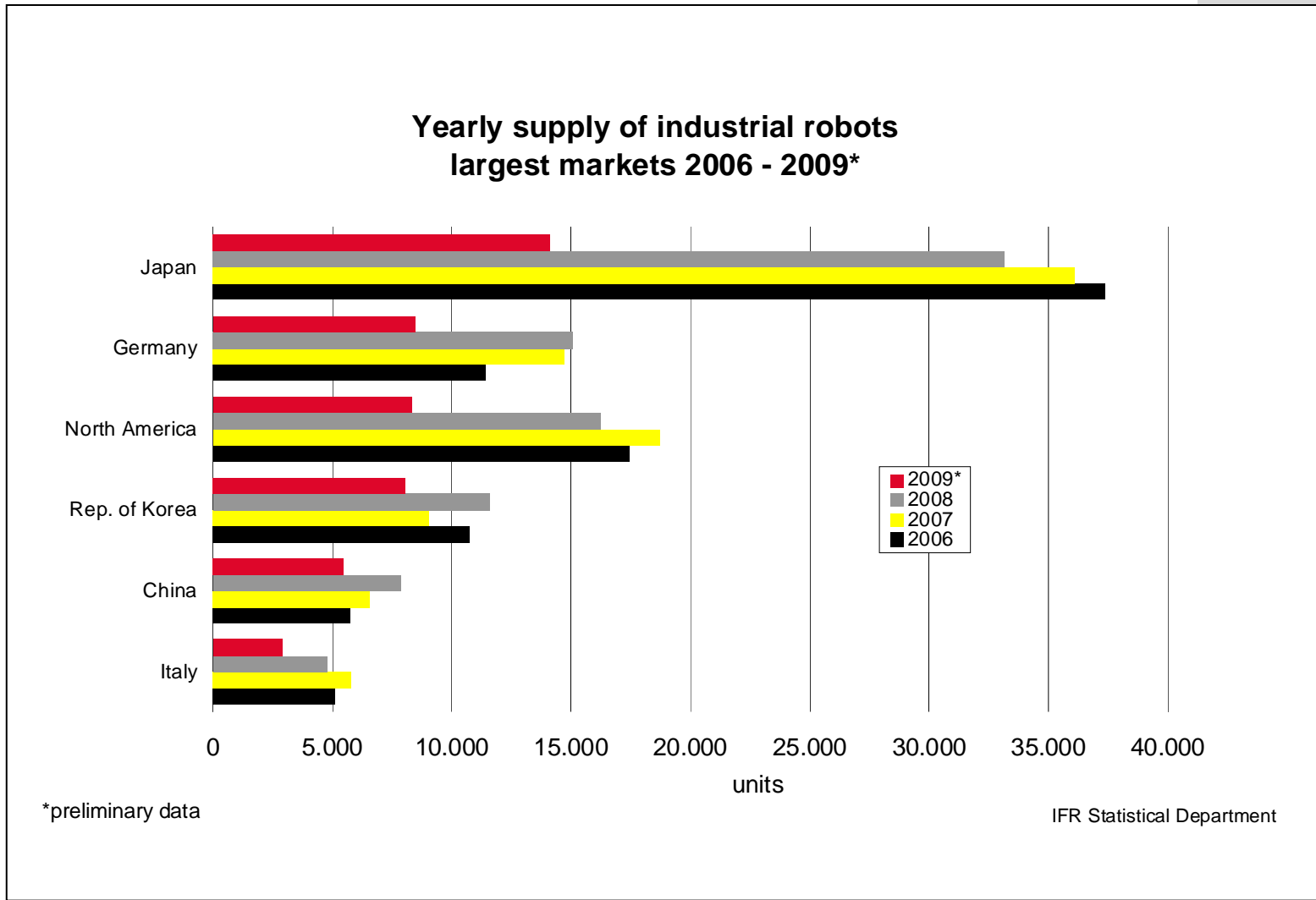
*preliminary

IFR Statistical Department

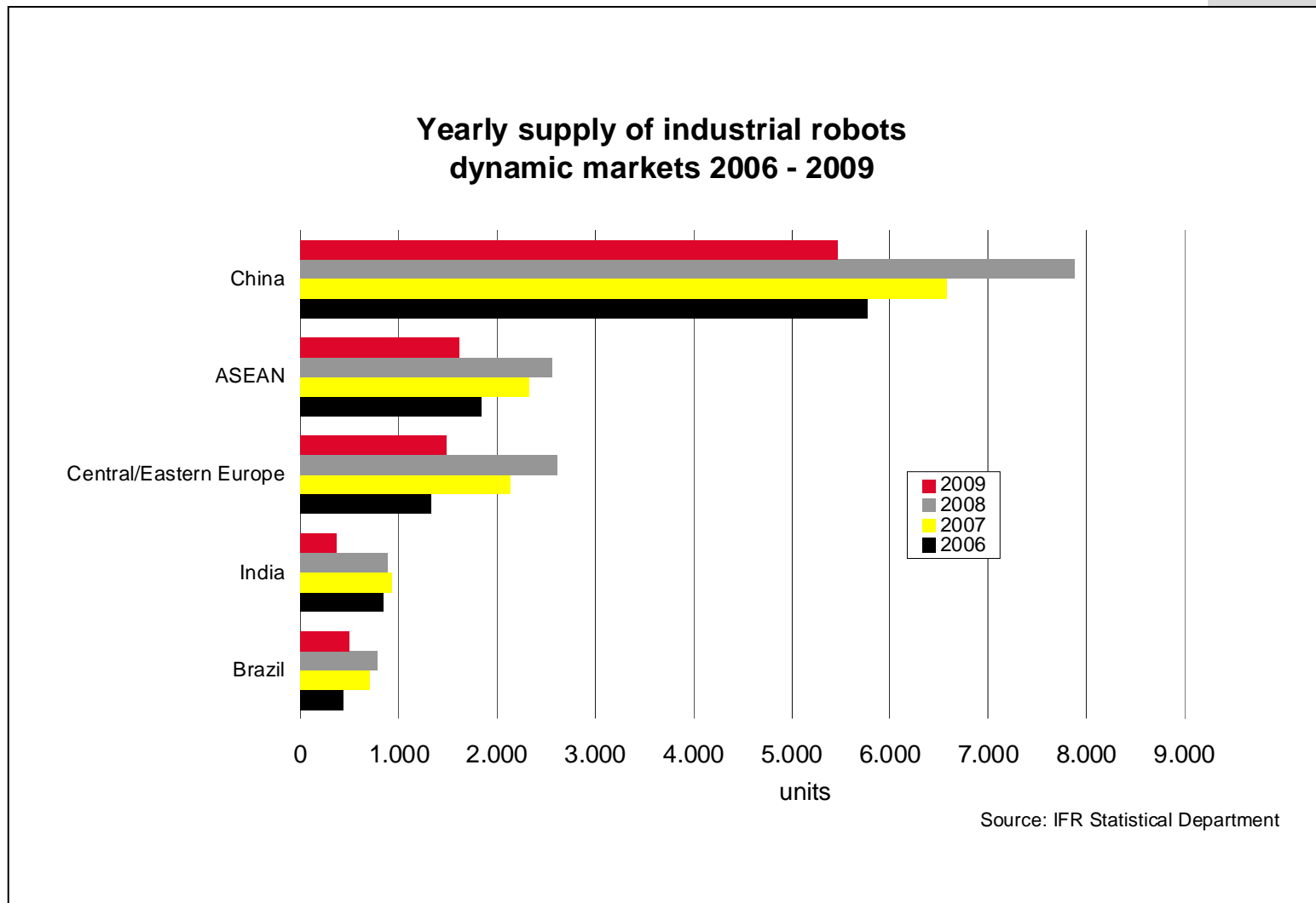
2009: Sales were down in all regions



2009: Japan is affected the most by the crisis

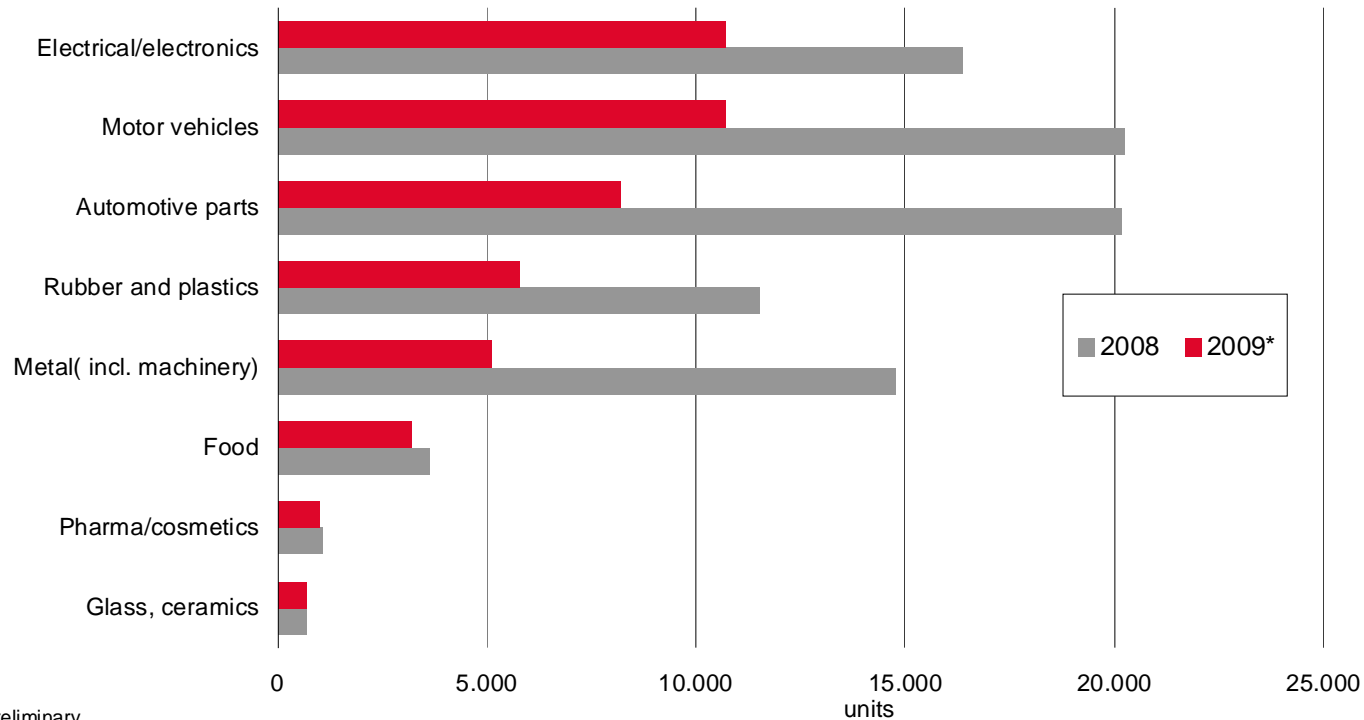


2009 Growing markets: Increasing robot installations suspended by the crisis



The trend to automation was interrupted

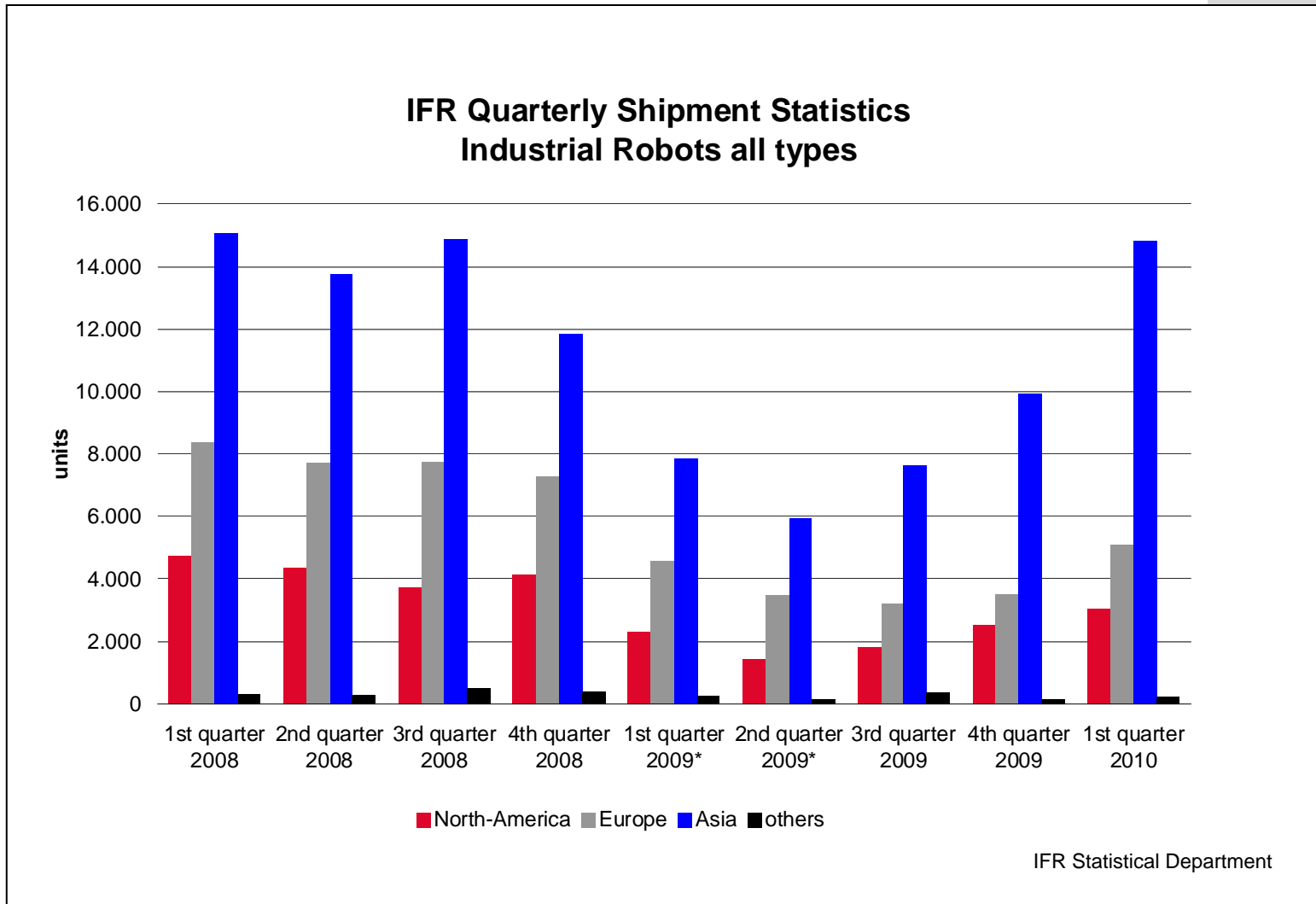
**Estimated annual supply of industrial robots at year-end
in total world by main industries 2008 - 2009***



* preliminary

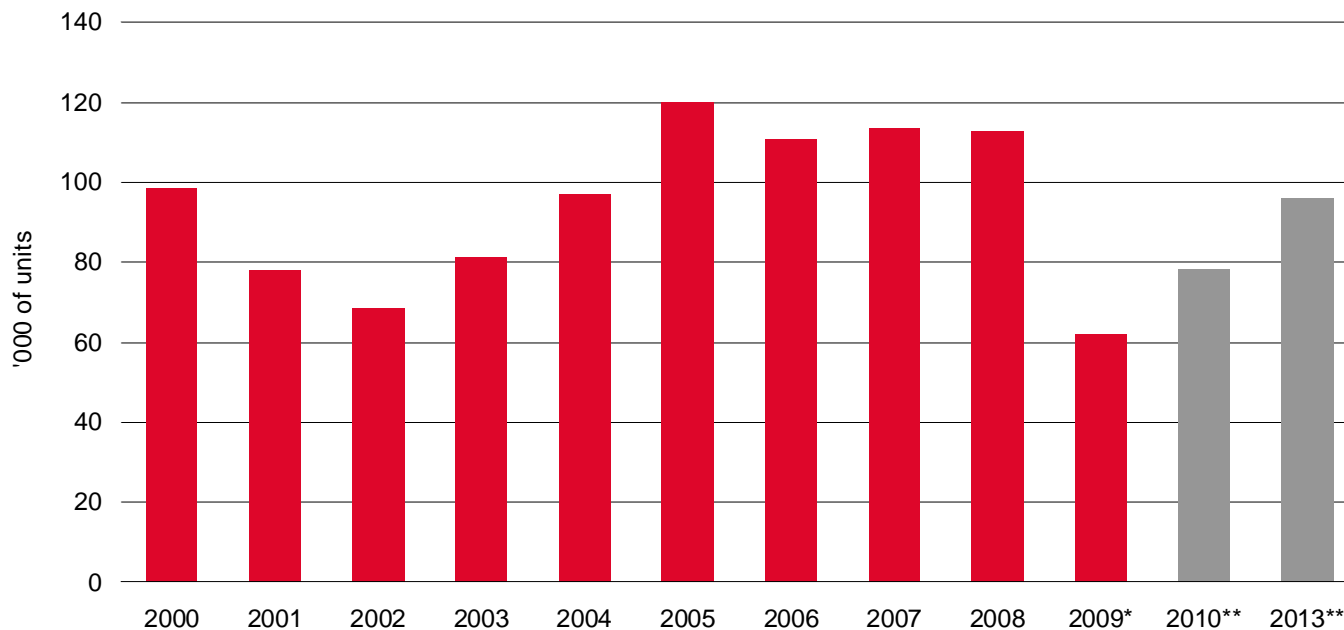
IFR Statistical Department

The recovery is becoming evident!



The robotics industry is back on track!

Worldwide yearly supply of industrial robots 2000 - 2013

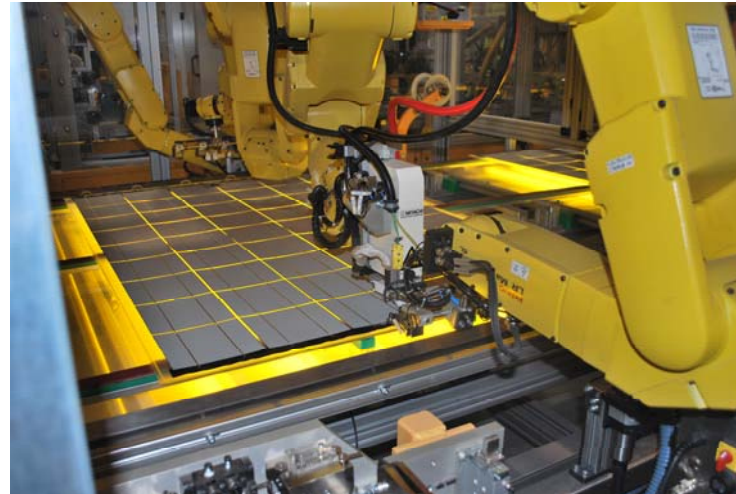


* preliminary data
** forecast

Source: IFR Statistical

Incentives to automate

- Sustainable and eco-friendly production and products
- Decreasing product life cycles
- Shorter time-to-market
- Ever greater flexibility
- Production expertise
- Global competitiveness



Source: FANUC

.....improving robot technologies...

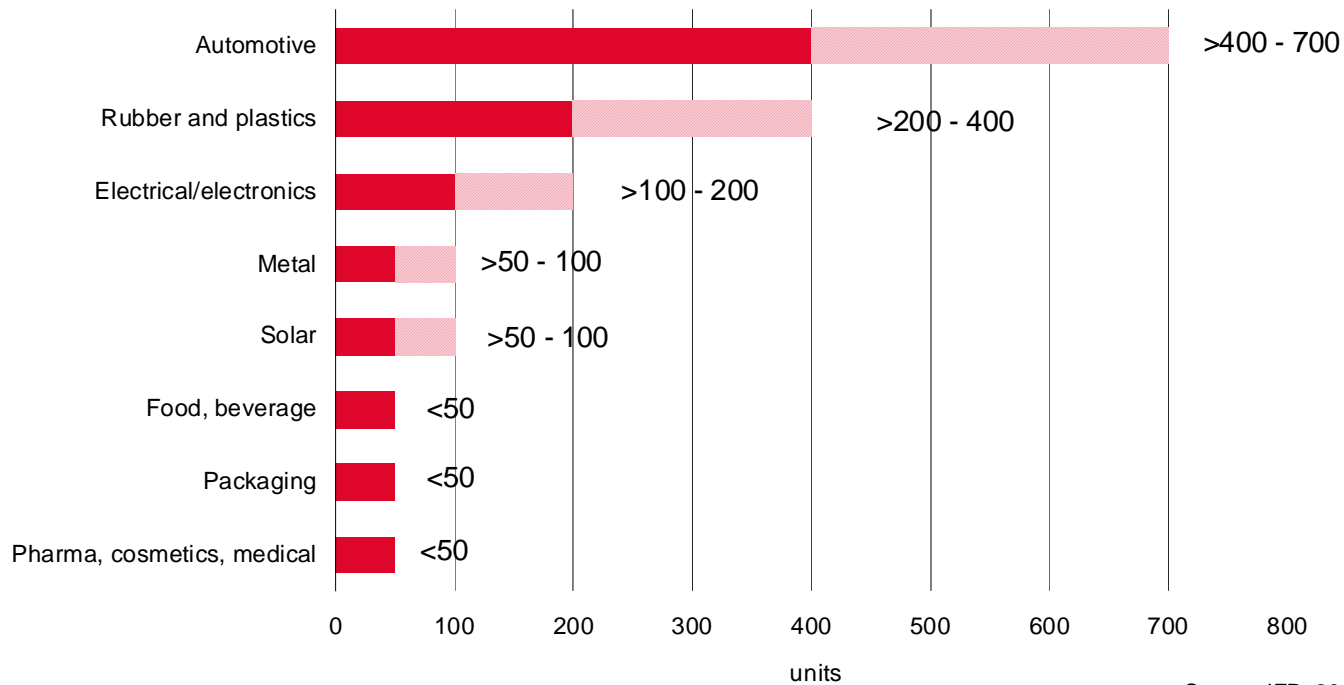


- Small and fast robots save space
- Light weight robots save energy
- Robot-Vision optimizes quality control
- Easier handling and programming facilitate robot applications
- Improved sensor technology allows applications outside of a security fence
- Energy efficiency by innovative robot control systems

Source: Motoman

....comparatively low robot density in many industries...

**Estimated number of operating industrial robot
by 10,000 persons employed**



Source: IFR, 2010

...will increase demand on industrial robots in many sectors and

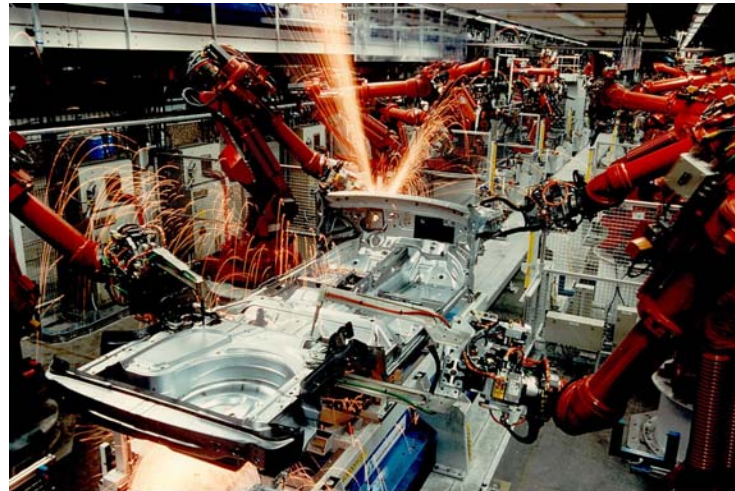


Source: KUKA

- New eco-friendly car models
- Tremendously increase of the production of solar cells
- Optimized production of electronic chips
- Increasing demand
 - For plastic products
 - For pharmaceuticals and medical products
- Increasing diversity of food and beverage products
- SME companies
- Even small trade companies

.... in many countries in the world!

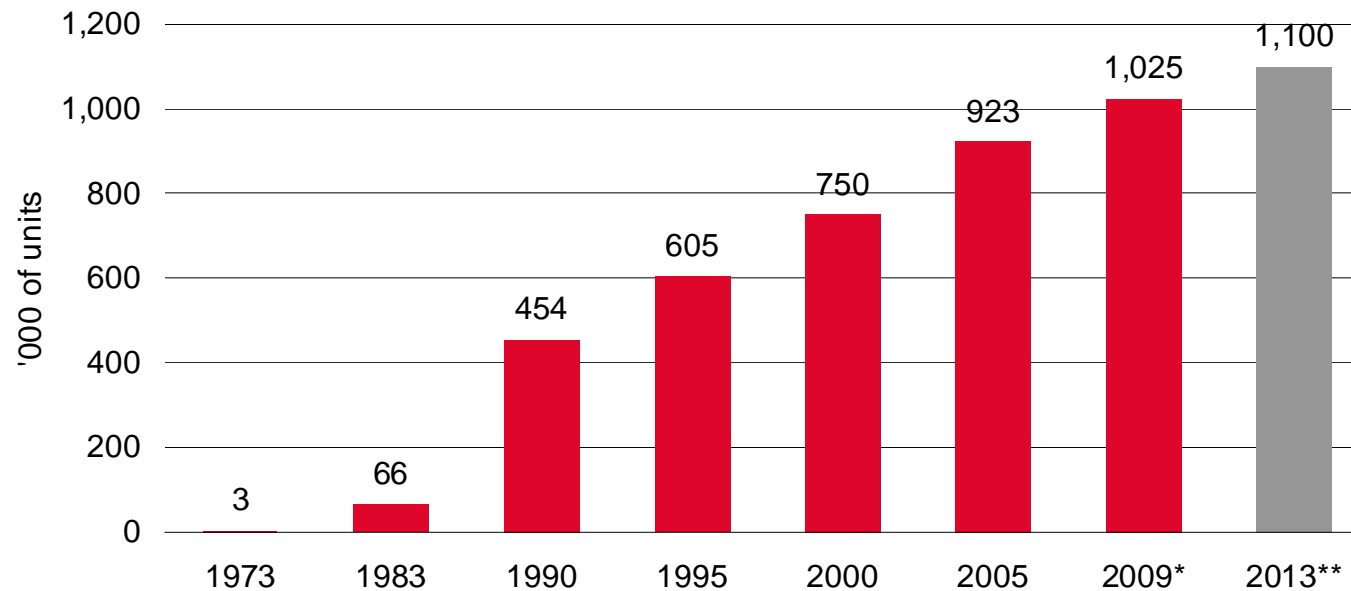
- Huge consumer markets are opening up in China, India, Brazil, Russia
- The degree of automation in North America is comparatively low
- Cost reduction and high quality guarantee competitiveness of high-wage and low-wage countries on the world market
- The Middle East countries are becoming new markets for automation



Source: Comau

Slight increase of robot stock in the recovery period

Estimated worldwide operational stock of industrial robots



* preliminary
** forecast

Source: IFR Statistical Department

The Future of Manufacturing

**Manufacturing companies must automate
and use robotics
to stay competitive –
or die!**