Global robotics industry: Record beats record

2013: 179,000 industrial robots sold
2014: Continued increase expected

Munich, 04 June 2014 – “In 2013, about 179,000 industrial robots were sold worldwide, again an all-time high and 12 percent more than in 2012,” announced Arturo Baroncelli, IFR President on Wednesday, 04 June at the AUTOMATICA in Munich the preliminary results of the IFR world robot statistics. “Incoming orders in the first four months of 2014 increased remarkably and requests from all customer industries are on the rise. Therefore, we expect that in 2014 growth of unit sales will continue with the same pace like in 2013,” stated Baroncelli.

Remarkable increase in all regions
Robot sales reached record levels in Asia/Australia, in the Americas and in Africa. Almost 100,000 new robots were installed in 2013 in Asia/Australia, 18% more than in 2012. The European market increased by 5% to more than 43,000 units almost reaching the all-time-high of 2011. Robot supplies to the Americas continued to increase by 8% to more than 30,000 units. More than 700 industrial robots were sold in Africa, 87% more than in 2012.

China biggest and fastest growing robot market
China is by far the biggest robot market in the world regarding annual sales and it is also the fastest growing market worldwide. For the first time ever, the sales figures of Chinese robot suppliers are included in the IFR statistics survey. Almost 37,000 industrial robots were sold in 2013 in China. Thereof, Chinese robot suppliers installed about 9,000 units according to information of the China Robot Industry Alliance (CRIA). Their sales volume was almost three times higher than in 2012. Foreign robot suppliers increased their sales by 20% in China. Between 2008 and 2013, total supply of industrial robots increased by about 36% per year on average. In 2013, every fifth robot sold in the world was installed in China.

Japan, USA, Republic of Korea and Germany represent 50% of the global robot market
Japan was the second largest market regarding annual sales, but it still has, by far, the highest number of industrial robots in operation, more than 300,000 units. It is the most automated country in the world. Japan is the predominant robot manufacturing country. More
than half of the global robot supply of 2013 was produced by Japanese companies. In 2013, sales of industrial robots decreased by 9% to about 26,000 units due to reduced investments of the automotive and the electronics industries in Japan. However, exports of Japanese robots increased.

Robot installations in the United States continued to increase by 6% to the peak level of almost 24,000 units. Between 2008 and 2013, annual sales in the United States increased by 12% on average per year. Driver of this growth was the ongoing trend to automate production in order to strengthen American industries on the global market and to keep manufacturing at home, and in some cases, bringing back manufacturing that had previously been sent overseas.

In 2013, Robot sales to the Republic of Korea increased by 10% to more than 21,000 units due to increased investments of the automotive industry. The electronics industry which is the main customer of industrial robots in Korea, reduced its robot orders.

Robot sales to the German market were 4% higher in 2013 compared to 2012 and reached more than 18,000 units, the second highest level ever recorded. The automotive industry was again the driver for the growth. Between 2008 and 2013, robot sales to Germany increased by 4% on average.

These four markets represent 50% of the sales volume in 2013.

There was a considerable increase of robot installations in other Asian markets especially in Taiwan (Province of China), India and Indonesia. Also, important European markets such as Italy and Spain started to recover. Robot installations in Central and Eastern European countries as well as in Mexico and Canada continued to increase considerably. The robot market in Brazil lagged behind expectations.

**Automotive and metal industries were the main drivers of the growth**
The automotive industry increased robot investments continuously and considerably between 2010 and 2013, by 22% on average per year. The main countries involved were China, Germany and the United States. In 2013, robot sales to the automotive industry increased by 5%. Also the metal and machinery industry had an average annual growth rate of 22% in the same period. In 2013, robot sales to this industry were up by 17%. The food industry as well as the pharmaceutical industry increased robot investments substantially in 2013. The electrical/electronics industry - which had reached a peak level in 2013 – increased robot orders by 9% in 2014.

**The trend towards automation fuels further growth**
The main drivers of automation are:

1. Energy-efficiency and new materials, e.g. carbon-composites, requiring new productions.
2. Global competitiveness requiring increased productivity and higher quality.
3. Growing consumer markets requiring expansion of production capacities.
4. Decreasing life-cycles of products and increasing variety of products requiring flexible automation.
5. Robots improving the quality of work by taking over dangerous, tedious and dirty jobs that are not possible or safe for humans to perform.
Easy to use robots - challenge and chance to capture new applications and customers

Easy to use and easy to integrate robots will open up a wide range of new customers and new applications for robots. A main example for this category of robot use is the human-machine-collaboration. The robots working together with the worker in the factory or also in non-manufacturing sectors are capable of understanding human-like instructions (by voice, gesture, graphics) and have modular plug-and-produce components. This enables people without experience in using robots to program and integrate a robot in the process. But a major challenge of this application is safety, because the robot is working close to the worker without fence. Lightweight robots with integrated vision guidance and better sensor integration that are more adaptable to their environment have been developed and will still be improved. The International Organization for Standardization (ISO) is working on a Technical Specification for collaboration of humans and industrial robots in order to provide reliable safety requirements. The break-through of the human-machine collaboration is just beginning.

The final results of the global statistics on industrial robots and on service robots will be published in September 2014 in the studies

- **World Robotics 2014 Industrial Robots**
- **World Robotics 2014 Service Robots**.

Do you have any questions? Gudrun Litzenberger, IFR Statistical Department, Telephone +49 69 66 03-1502 is ready to respond to your questions or concerns.

Arturo Baroncelli was elected as IFR President in October 2013 for a period of two years. He has been in the robotics industry since 1985 and in Comau S.p.a. since 1988, where he is now Segment Manager Director in Comau Robotics. He has covered several positions in Project Management, Proposal Engineering, Product Planning, Marketing & Sales, Strategic Planning and Business Development. Baroncelli has been a member of the IFR Executive Board since 2008. Since 1998, he has been an Executive Board Member of SIRI, the Italian Robotics association. He was presented with the Joseph Engelberger Award in Tokyo in 2005.

The International Federation of Robotics was established in 1987 in connection with the 17th International Symposium on Robotics, as a professional non-profit organisation, by robotics organisations from over 15 countries. Since 1970 an International Symposium on Robotics is organised every year on a different continent, in a different country and city. The Symposium is systematically organised in conjunction with an International Robot Exhibition. The purpose of the International Federation of Robotics is to promote research, development, and use in the entire field of robotics, as well as to act as a platform for international cooperation and a focal point for organisations and governmental representatives in activities related to robotics. The IFR is hosted by VDMA Robotics and Automation.

The IFR Statistical Department, which is also hosted by the VDMA Robotics + Automation Association, publishes two studies of World Robotics every year:

**World Robotics Industrial Robots:**
This unique publication presents comprehensive global statistics on industrial robots in uniform tables allowing consistent country comparisons. It contains detailed statistical data for some 40 countries, broken down by application areas, industrial branches, types of robots and by other technical and economic variables. Data on production, exports and imports are presented for a selection of countries. Trends in robot densities, i.e. number of robots per 10,000 persons employed in relevant sectors, are also featured.

**World Robotics Service Robots:**
This unique publication presents comprehensive global statistics on service robots, market analysis, case studies and international research strategies of service robots. The study is evaluated in cooperation with our partner, the Fraunhofer IPA, Stuttgart, Germany.

Links: [www.worldrobotics.org](http://www.worldrobotics.org)  
[www.ifr.org](http://www.ifr.org)