

Background information on

"Robotic Visions to 2020 and Beyond - The Strategic Research Agenda for Robotics in Europe, 07/2009"

Brussels, 7th July 2009 – Since November 2006, with the support of the European Commission, over 130 institutions from industry and science have been working on the CARE project (Coordination Action for Robotics in Europe) on a joint future for robots in society. Based on various application scenarios, the players have analysed future developments in society and the markets as well as the ensuing strengths, weaknesses, opportunities and risks. An important aspect here was to apply new technologies not only to continue the development of existing products, but also to create completely new products. On 7th July 2009, EUROP, the European Robotics Technology Platform, has presented the result, the research agenda "Robotic Visions to 2020 and Beyond – The Strategic Research Agenda for robotics in Europe, 07/2009.

Robotics concerns us all

According to the EUROP experts, by the end of the next decade, we will find robots and devices with robotic functions employed everywhere. They will naturally interact with people both physically and cognitively based on advanced communication and information processing - in all areas of our lives. It is most likely that robotics will be the key element for dealing with coming societal challenges like the ageing of society, the creation and retention of equal-opportunity, high-quality employment, protection against external and internal threats to security and the ultimate elimination of economic differences arising from the expansion of the EU.

Product Visions – Co-worker robots

The technologies envisaged in the research agenda will enable industrial robots to work in closer cooperation with humans. In manufacturing, for example, robots can support workers in manual assembly tasks. The requirements here are simple installation, programming and operation. This will make robot technologies viable for flexible small-series production and thus convince companies to implement them and overcome their disinclination to date to shoulder the outlay of introducing robot technologies. Overall, you will be able to use robots flexibly and make the factory of the future adaptable to manufacture all sorts of customer-oriented products of high

quality at cost-effective prices, as we already know from large-series production today.

Product Visions – Robots as personal assistants

According to another one of the Product Visions of EUROP's strategic research agenda, service robots will be implemented increasingly as personal assistants in the domestic field. They will be used in physiotherapy and provide support in the care of old and handicapped people. Your advantage: they are on the spot 24/7 and can handle many tasks and obstacles completely independently. They can remind people to take their medication and even find a lost key. To have robots taken seriously as fully-fledged assistants, robotics must focus on technologies that can interpret, adopt and simulate gestures and movements and all their associated emotions.

Independent and clever

The robot of the future will learn about itself and its environment and will be more autonomous. It will not only gather data as before, but will also process, evaluate and interpret the said data. EUROP members see great potential for autonomous robots in the fields of surveillance and intervention on land, on and under water and in the air. Even in the next few years to come robots will be able to react to unexpected changes during their missions and identify activities outside the normal run of affairs. With cognitive capabilities and a controlled degree of independence, they will evaluate situations, make decisions and at the same time keep the human operators informed - before, during and after the task. Users of public transport are already familiar with driverless vehicles.

Autonomous robots with cognitive capabilities will free people from tiresome and even dangerous situations and working conditions. When man and machine interact, say EUROP's experts, one thing must be sure: man is the central figure, the robot his assistant.

Robotics - a market for the future

To date, Europe has a global industrial robotics market share of approx. 25 percent. According to the annual robotics report "World Robotics 2008" of the IFR Statistical Department, the major industrial sectors are automotive, chemicals, electronics, foodstuffs, metallurgy and mechanical engineering. Germany and Italy are the largest markets in Europe. Eastern European countries like the Czech Republic and Poland are credited with great growth potential.

The IFR forecasts an average global growth rate of approx. 4 percent for industrial robots by 2011; the figures are even higher for Europe. Linked to this is an increase in the number of operational industrial robots from just under one million at the end of 2008 to about 1.2 million in 2011. An increase of impressive 11 percent is predicted for service robots in the service sector. More than 54,000 new robots will assume tasks in the areas of defence, security, facility management and medicine. The private sector will be employing more than 12 million new robot units mainly in the domestic field and entertainment. This means that the world will then be populated with 1.2 million industrial robots and 17 million service robots.

You can download the complete research agenda at www.robotics-platform.eu/sra.

About EUROP:

The European Robotics Technology Platform (EUROP) is an industry-driven platform comprising the main stakeholders in robotics. Its goal is to strengthen Europe's competitiveness in robotics research and development and global markets, as well as to improve the quality of life of European citizens. EUROP is one of several European Technology Platforms (ETPs) supported by the European Commission. Further information at <http://www.robotics-platform.eu>

About CARE:

The Coordination Action for Robotics in Europe (CARE) is a project funded by the European Commission (Directorate Information Society and Media) under the 6th Framework Programme (FP6-IST-045058, 01.11.2006 – 31.10.2009). CARE coordinated the activities in all robotic sectors (industrial, professional services, domestic services, security and space robotics) to derive an SRA endorsed by all stakeholders. Further information at <http://www.robotics-care.eu/>

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