PRESS RELEASE

Europe needs a strategy to develop a successful robotics community in the Western Balkans

Ljubljana, 22 March 2016 – The European Robotics Forum 2016, which is taking place in Ljubljana, Slovenia, emphasised that Europe should not be divided into regions with high tech industries, high employment rates and wealth, and those with mostly manual labour, low wages, and high unemployment. Hence, the European Union needs a strategy to develop a successful robotics industry and its academic partners at the periphery of Europe as well. There is a gap in relation to robotics activities in the Western Balkans in comparison to the EU, which should not widen. As the speakers of ERF 2016 stressed, it is important that regional competencies are kept and integrated into robotics.

Robotics in the Western Balkans

The ERF 2016 stated clearly that Europe needs a strategy to develop a successful robotics industry and the necessary competencies also at the periphery of Europe. It is important that regional competencies are kept and integrated into robotics. The workshop on the robotics activities in the Western Balkans highlighted a gap in relation to robotics activities in the Western Balkans in comparison to the EU, which should not get any bigger.

According to **Nikola Mišković from the Laboratory for Underwater Systems and Technologies (LABUST)**, the University of Zagreb is running 14 projects, worth over EUR 4 million, including: AMOR (Autonomous Mobile Robotics), CADDY (Communication with the diver), SUBCULTRON (how the marine species communicate), LARICS (Laboratory for Robotics and Intelligent Control Systems).

The Sarajevo University has 4 departments and 32 professors engaged with robotics and is one of the largest in ex-Yugoslavia. It was founded in 1961 and it has a number of projects focusing on safe human robot interaction, and medical investigation robots.

In Bosnia and Herzegovina (BiH), a young start-up is keen to develop a bionic hand. Nenasal is a software company, already collaborating with over 50 other international projects and seeking funds to build prototypes of the human-like hand.

In Serbia, the Mihajlo Pupin Institute in Belgrade was founded in 1964 and is the largest IT institute in the country. It has been very successful with European Programmes, and has been collaborating in over 30 research projects. It is well known for the first artificial walker in the world and the first bionic hand in the world. In Serbia, there is also a new Novi Sad Bio Sense Institute which has a European focal point for advanced ICT in agriculture, applying for EUR 13 million grant. It has already bought three robots to test their ideas, said **Saša Marjanović from BioSense Institute, Robotics and Mechatronics Group, Novi Sad, Serbia**. In addition, the **University of Niš** is focusing on building safe,

cheaper robots. They have already built and installed Diagraf, a radiology robot functioning for 11 years in the oncology centre in Belgrade.

The discussion pointed at the fact that a regional strategy roadmap is needed, taking in account the whole society, especially schools, ministries for education, and industrial development. A multidisciplinary approach to create an innovative brain pool across the boundaries would also be beneficial. A proposal to create a platform to communicate among all regional actors and also with the outside world, based on the Scandinavian example, and foster entrepreneurship spirit, networking and more collaboration to report success is also key. Taking the opportunity to link through other stakeholders via the European Robotics Association euRobotics and its partners in the European institutions would help to connect to other parts of Europe and through science, help change the stereotypes about the Balkan region. The enthusiasm about robotics should radiate to the whole society through events such as open door days.

Robotics in Slovenia

Slovenian robotics started in late seventies by developing industrial robot manipulators. Today, a number of enterprises in Slovenia are producing components used in robots, the robot work-cells, as well as automated production lines, for domestic industry and for export. Slovenia is already specialised and diversified. Robotisation in the automotive industry with the rate 636 per 10.000 employed is relatively high compared to the rest of the EU, while the robot density in all other sectors in Slovenia is 48.

Robotisation in Slovenia's Smart Specialisation Strategy is identified as one of key enabling technologies, with robotics being related to the factories of the future. Main players in this research area are the Jožef Stefan Institute (IJS), University of Ljubljana and University of Maribor. In industry, however, it is worth mentioning that there are a number of global players. The company RLS is providing custom and mass production absolute magnetic encoder sensors for robotics. Kolektor Orodjarna, for example, has a track of numerous quality control and adaptive industry vision systems. Yaskawa Slovenia is a specialist in the robotics, in particular for welding. The company Revoz, a Renault car production facility, also uses the biggest number of robots in Slovenia (398 working robots).

The main characteristics of robotics in Slovenia are interconnection, combining different types of technologies and internationalisation. Slovenia is focusing on four main aspects of robotics: research, producers of robots, networking and end users. The country has a very long history with robots, from the early robots Goro and ROKI, to a number of development platforms and industrial applications.

The European Robotics Forum 2016 (ERF 2016), launched yesterday in Ljubljana, Slovenia, is the most important European event in the field of robotics, attended by 700 European robotics experts. The event was opened by the representatives of European institutions and the Slovenian Government, who pointed to the importance of digitised industry, the smart specialisation strategy, research investment and innovation in robotics. Namely, robotics has a tremendous

impact on the economy and society. From today's €22bn worldwide revenues, robotics industries are set to achieve annual sales of between €50bn and €62bn by 2020.

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