SMErobot: a new generation of industrial robots for small and medium-sized enterprises

Integrated European research project develops low-cost, modular and interactive automation solutions for SMEs

Automation makes you competitive – this has long since been true also of small and medium-sized enterprises (SMEs). However, commercially available solutions are still too complex and expensive for many SMEs. The promise of a new impetus for the entry of industrial robots into the world of SMEs comes from "SMErobot": this EU project has started to develop a completely new, modular and interactive generation of industrial robots which, while being quick to install and easy to operate, are intended, thanks to their low-cost design, to make the competitive potential of automation technology available to European SMEs. SMErobot brings together leading European robot manufacturers, research institutes, scientists, software engineers and consultants from several European countries. The EU project, which has been launched this spring and is scheduled to run for four years, is being coordinated by the Fraunhofer Institute for Manufacturing Engineering and Automation IPA in Stuttgart and is organizationally supported by Gesellschaft für Produktionssysteme (GPS).

"We are developing a new generation of industrial robots for small and medium-sized enterprises," says Project Coordinator Martin Haegle from Fraunhofer IPA. To date, reports Haegle, SMEs wishing to improve their productivity have faced the dilemma of either having to invest in commercially available solutions which are often too costly and unsuitable for their needs, or they have been forced into a ruinous cost-cutting regime to the detriment of wages and profits. SMErobot offers a way out of this “automation trap”. With flexible, low-cost and user-friendly automation solutions, the aim of the project is to strengthen the competitiveness of the EU’s over 228,000 SMEs in the manufacturing industry, stresses Thilo Brodtmann, Director of EUnited Robotics, the new European Robotics Association, on behalf of the participating robot manufacturers. SMEs are the backbone and motor of the European economy, explains Brodtmann.

The new generation of robots developed by the SMErobot consortium is intended to achieve three goals in order to address the specific needs of small and medium-sized enterprises: first, the robot should understand easily learnable, "intuitive" commands; second, it should meet all safety-relevant requirements for sharing the workplace with human colleagues; and, third, it should be capable of being installed and put into operation within three
days. Through the flexible combination of individual modules, the aim is to cut investment and operating costs to one-third.

Nor is SMErobot limited to the development of hardware and software: the project also covers the development of new, SME-compatible investment and financing models as well as the integration of robot technology into manufacturing processes and process chains. Pilot trials with SMEs from the fields of casting technology and machine construction as well as metal and wood working are already planned. However, the project is basically open to SMEs in all major branches of manufacturing industry where there is a need for automation, explains Henk van Eekelenburg, Coordinator of SMEIG. The “European Economic Interest Group” (EEIG), which is coordinated by the Dutch partner Pro Support, allows interested end-users in SMEs to be integrated into the project.

With Fraunhofer Institute for Manufacturing Engineering and Automation IPA in Stuttgart, one of the leading German institutes of applied research in automation technology has taken over the project management of SMErobot. Five major European robot manufacturers – ABB, Comau, Güdel, KUKA and Reis – are involved in the EU-wide research project, as are the German Center of Aerospace Technology (DLR), the Swedish Lund Institute of Technology and other research and university partners, IT companies, software developers and consulting firms.

More information at www.smerobot.org and for more information on the partners:

- www.smerobot.org
- www.abb.com
- www.castingtechnology.com
- www.comau.com
- www.dem.uc.pt
- www.gps-stuttgart.de
- www.guel.de
- www.ipa.fraunhofer.de
- www.isi.fraunhofer.de
- www.itia.cnr.it
- www.kuka-roboter.de
- www.prospektiv.de
- www.prosupport-nil.com
- www.rinas.dk
- www.robot.lth.se
- www.robotic.dlr.de
- www.visualcomponents.com
- www.reisrobotics.de

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