SMErobot™ to present its automation solutions for small and medium sized manufacturing

At its closing workshop, this European research project will present new prototypes, applications and concepts of cost-effective, modular and interactive automation solutions for small and medium-sized enterprises.

After a project runtime of four years, SMErobot™ will present its research results for future automation solutions aimed at small and medium-sized manufacturing businesses at a public workshop on May 7 and 8, 2009 at the Fraunhofer Institutzentrum in Stuttgart. The new prototypes and applications respond to the needs of cost-effective, modular and interactive automation solutions by small and medium-sized enterprises. The focus of the first day will be on robotic technologies and components while the topics of the second day will be reports on experiences and pilot trials.

Automation makes a business competitive – this has long since been true also of small and medium-sized enterprises (SMEs). However, for many SMEs, the standard commercially available solutions are often too inflexible, too big or too expensive. SMErobot™ now promises to give new impetus to the introduction of robot technology in small and medium-sized businesses: this EU project is developing an entirely new, modular and interactive generation of robots which, in addition to being quick to install and easy to operate, will also help to make European SMEs more competitive thanks to their cost-effective design.

In a final, public two-day event on May 7 and 8, 2009 the SMErobot™ consortium will present some concepts and solutions that have been developed in the course of this large-scale initiative. Besides presentations and discussions, results from the project will be showcased and demonstrated.

The results of the project are technologies, concepts and tools aimed at helping industrial robotics to make a breakthrough into small and medium-sized enterprises. The innovations on show will include the following:

- an all-new robotics system based on parallel kinematics, simultaneously combining the advantages of high stiffness, low cost and modularity
- modern plug-and-play technologies to replace complex cables and wires
- safety systems and solutions for safe human-robot interaction
- easy, automatic program definition with or without CAD data using speech, 3D graphics or programming by demonstration
- new high-density servo-actuator, professional ball joints as well as variable-stiffness joints
- 3D modeller scanning and modelling objects in 3D real-time
- new MEMS-technology-based force/torque sensor for affordable force measurements and low-cost mass production
- flexible grasp technique and robots using conventional manual tools
- a computerized life cycle costing tool for costing and profitability assessments
a SMErobot™ toolbox with self-explanatory training modules and checklists that support the development and implementation of the new generation of robots.

Pilot trials in small and medium-sized enterprises from the fields of casting, mechanical engineering and metal- and wood-working were used to prove the innovation potential of the technologies and applications. During these pilot trials, the robots were optimized for use in a wide range of future applications and industries.

On the first day (May 7), presentations (in English) will focus on the scientific and technical results of the project and are thus addressed at an audience typically from the fields of research, robotics and automation equipment suppliers as well as manufacturing experts.

The second day, May 8, (held mostly in German) will be dedicated to introducing technologies, solutions and tools for small and medium-sized manufacturing and will therefore be of particular interest to manufacturing SMEs and professional organizations.

More information on the Final Project Workshop is available at: http://www.smerobot.org/15_final_workshop/

More information on SMErobot™ is available at: www.smerobot.org

The video film can be downloaded from: http://www.smerobot.org/download/#video

More information on the project partners:

- ABB Robotics
  www.abb.com
- ABB Corporate Research Centre
  www.de.abb.com
- Casting Technology International
  www.castingstechnology.com
- COMAU Robotics
  www.comau.com
- University of Coimbra/ADDF
  www.dem.uc.pt
- DLR e.V.
  www.robotic.dlr.de
- GPS GmbH
  www.gps-stuttgart.de
- Güdel AG
  www.gudel.com
- Fraunhofer IPA
  www.ipa.fraunhofer.de
- Fraunhofer ISIT
  www.isit.fraunhofer.de
- Fraunhofer ISI
  www.isi.fraunhofer.de
- ITIA-CNRR
  www.itia.cnrit
- KUKA Roboter GmbH
  http://www.kuka-robotics.com/
- Lund University
  www.robot.lth.se
- Prospektiv GmbH
  www.prospektiv.de
- Pro Support B.V.
  www.prosupport-nl.com
- Reis Robotics
  www.reisrobotics.de
- Rinas ApS
  www.rinas.dk
- Visual Components Oy
  www.visualcomponents.com