

Press Release

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TUM Informatics links Science and Industry:

New EU funding: 24 million euros for robotics research

The aim of the newly-authorized EU project “ECHORD” (European Clearing House for Open Robotics Development), which is coordinated by Professor Knoll, Chair of Robotics and Embedded Systems at the Technische Universität München (TUM), is to strengthen the cooperation between science and industry in the field of robotics throughout Europe. With a project volume of 24 million euros and almost 19 million euros of EU funding, robotics research at the TUM is set to gain in international significance. The project’s international orientation and its positioning in the existing robotics landscape are supported by the participation of an alliance of Italian universities and the University of Coimbra in Portugal.

As part of the ECHORD project, new solutions for robot uses are being developed involving robotics in cooperative projects between science and industry. The aim of this globally unique project is to secure and further develop the leading position already held by Europe in this market. The project mission is, moreover, to instigate a “structured dialogue” between robotics researchers and users to ensure that new concepts and technology are rapidly converted to practical use. ECHORD has been designed with precisely this objective in mind in that approximately 50 individual small-scale projects (so-called “experiments”) of a duration between 12 and 18 months will deal with concrete challenges from industrial practice, as well as the implementation of pioneering solutions.

Given the saturation of traditional robot markets, in particular in the automobile production sector, robot applications of the future need to be identified in cooperation with research and then, the resulting necessary technologies need to be developed. In addition to innovations within the area of traditional production automation, potential applications can also be found in areas like service robots for households and the medical sector. Other possible application areas could include the food industry and entertainment applications.

Within the framework of the ECHORD Project, institutes and research organizations will be given the opportunity to do experiments and to do research using the latest industry-related hardware. Three rounds of open calls for experiments will be carried out over the course of the project duration of 3.5 years, to which all European manufacturers and research groups can submit proposals. It is the declared intention of the project to keep the entry hurdles for potential applicants as low as possible and to attain quantifiable results as quickly as possible.

The experiments can be carried out within one of three scenarios, which build on each other: human-robot co-worker, hyper-flexible manufacturing cells, and cognitive factories. Possible research focuses are human-robot interfacing and safety, robot hands and complex manipulations, mobile manipulators and cooperation, and networked robots.

The experiments can have different orientations: the development of basic technology, the development of applications or feasibility demonstrations. Examples of possible experiments include multimodal

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human--robot interfacing, high-speed force control for robots, object identification for grip applications, and the synchronized regulation of larger robot groups.

The Service Center for the ECHORD Project, which is already being developed, will provide a central platform for industry and science in the area of robotics. A forum and a knowledge bank will be set up that will support the exchange of information and experience between all of the project's participants. One of the Service Center's key tasks is to provide assistance in the submission of tender applications for the experiments.

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Technische Universität München (TUM) is one of Europe's leading universities. It has roughly 420 professors, 6,500 academic and non-academic staff (including those at the university hospital "Rechts der Isar"), and 23,000 students. It focuses on the engineering sciences, natural sciences, life sciences, medicine, and economic sciences. After winning numerous awards, it was selected as an "Elite University" in 2006 by the Science Council (Wissenschaftsrat) and the German Research Foundation (DFG). The university's global network includes an outpost in Singapore. TUM is dedicated to the ideal of a top-level research based entrepreneurial university. <http://www.tum.de>

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