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Award for young researchers: Presentation of the fourth KUKA Innovation Award

KUKA Aktiengesellschaft

Katrin Stuber-Koeppe
Pressesprecherin
Leiterin Corporate Communications

T +49 821 797 3722
F +49 821 797 5213

press@kuka.com

Augsburg/Hanover, April 2017 – KUKA awards prize for outstanding innovations in the field of state-of-the-art mechatronics: the automation experts will present the prestigious KUKA Innovation Award to young researchers at Hannover Messe.

Five teams will be demonstrating their "Advanced Mechatronics" concepts at the KUKA booth over the course of the trade fair. A jury of experts will then select the winner. Bernd Liepert, KUKA Chief Innovation Officer and patron of the competition, will award the 20,000-euro prize on 27 April at 11 a.m.. "We have received submissions from all over the world", said Liepert. "Selecting the best concepts was a difficult task for the members of the jury."

The five finalists had six months to implement their projects using KUKA technologies. The finalists will show what they have accomplished at the world's largest industrial trade fair: during the demonstrations, they will present their developments to visitors and, above all else, are tasked with convincing the jury of the benefits of their application. Shows will take place at the trade fair every day at 10 a.m., 12 noon, 2 p.m. and 4 p.m. at booth G03 in Hall 17.

KUKA Innovation Award 2017: The task

The contestants were asked to develop a robot application that is suited to the requirements of state-of-the-art mechatronics. It was up to the teams themselves whether they wanted to develop new mechatronic solutions for external components such as grippers or a new form of human-robot or robot-robot collaboration. However, there was one key requirement: The sys-

tem should be as versatile as possible, comprise innovative software and hardware components, and it should be usable for more than one application.

To enable fair comparison of the finalists' developments, all of the teams have implemented their applications on a KUKA LBR iiwa – a sensitive lightweight robot for safe human-robot collaboration on a mobile robot unit.

The 2017 finalists

- Tele-MAGMaS: An international research team led by LAAS-CRNS (research institute of the French National Center for Scientific Research) with members from the University of Siena, Seoul National University and CNRS at the research institute IRISA in Rennes is addressing search and rescue operations in regions which are difficult to access or dangerous following disasters. For this, they use stationary and flying robots which carry and position objects.

- Advanced Robotic Finishing: The project group from the University of Southern California is working on the automation of finishing processes such as deburring, grinding or polishing. Using automatic algorithms for workpiece detection and path planning, the team aims to make the machining of small batch sizes more cost-efficient.

- MANCHU: The Swiss researchers from the École Polytechnique Fédérale in Lausanne are demonstrating their concept for two robots that cooperate with each other and collaborate with the human operator – for example, to move heavy parts such as car doors without the risk of a collision and to support human operators in positioning these parts correctly.

- Machamp: With its project, the team from the Italian Istituto Di Tecnologie Industriali E Automazione is seeking a human-robot collaboration solution for the assembly of heavy parts in the aerospace industry. First and foremost, the goal is to relieve production employees of physically strenuous work.

- RAS: The research team from the German Aerospace Center DLR is vying for the Innovation Award with an airbag system for hazardous tools that is intended to enable safe human-robot collaboration.

The history of the KUKA Innovation Award

With the research prize, KUKA is encouraging innovations as well as the transfer of technologies into industry. For many years now, KUKA has been working closely with university and R&D partners from all over the world. The KUKA Innovation Award includes a 20,000-euro prize and was first awarded at AUTOMATICA 2014. The finalists receive free access to the latest robot systems from KUKA and present their results at the most important industrial trade fairs. You can view the award winners from the past few years here:

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KUKA is a global automation corporation with sales of around 3 billion euro and roughly 13,200 employees. As one of the world's leading suppliers of intelligent automation solutions, KUKA offer customers everything they need from a single source: from components and cells to fully automated systems for the automotive, electronics, consumer goods, metalworking, logistics/e-commerce, healthcare and service robotics industries. The Group is headquartered in Augsburg.