



## *KUKA at ICRA in Singapore*

**Augsburg/Singapore, May 2017 – At the IEEE International Conference on Robotics and Automation (ICRA) in Singapore KUKA presents innovative applications with its research partners from Singapore.**

From 29 May to 3 June the world's largest robotics conference offers researchers from across the globe a platform to discuss the latest in robotics and automation. KUKA, the Augsburg-based automation specialist, is a sponsor of ICRA. "We highlight innovative approaches of our research partners at this year's ICRA to demonstrate the full potential of our open hardware and software platforms", says Dr. Rainer Bischoff, Head of KUKA Corporate Research.

### **Innovations at ICRA 2017**

Together with research partners from Singapore KUKA showcases the light-weight robot LBR iiwa in two innovative applications: Learning by demonstration for easy adaption of trajectories and learning of dynamic object handover.

Singapore's A\*STAR Institute for Infocomm Research shows a flexible *Learning by Demonstration* application, permitting online adaptation of robot behaviours for industrial manufacturing. The framework implemented on the KUKA LBR iiwa robot is targeted at helping small and medium manufacturing enterprises with high-mix low-volume production needs. The exhibit can be intuitively operated by the visitor to teach a production task initially and to incrementally optimize trajectories or to quickly adapt them to varying products and tasks.

The Advanced Robotics Centre at the National University of Singapore is researching one of the most important physical interaction channels between

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humans and robots – the dynamic handover of objects. Here, the robot needs to adapt its behavior to environmental features and human characteristics, such as height, agility and individual preferences. Visitors passing by the LBR iiwa experience a smooth dynamic handover of a bottle of water. By using this adaptation technique, future service robots will not have to be programmed perfectly upon delivery, but will be able to adapt autonomously to the need of human partners.

### **About KUKA`s lightweight robot LBR iiwa**

The KUKA LBR iiwa is the world`s first series-produced sensitive robot and therefore compatible for human-robot-collaboration. Humans and robots can work together on highly sensitive tasks in close cooperation, which lays the foundations for innovative and sustainable production processes. This opens up the possibility of new applications at utmost efficiency. Dedicated interfaces for research are available which offer direct low-level real-time access to the KUKA robot controller at high rates of up to 1 kHz.

This open hardware and software platform enables researchers to realize their ideas and to focus on their research. KUKA engages with robotics research institutes around the world to grow its partner network.

### **About IEEE ICRA 2017**

The 2017 IEEE International Conference on Robotics and Automation (ICRA) is the IEEE Robotics and Automation Society's flagship conference and the most important conference on robotics and automation, with workshops, discussions and exhibition for researchers from all around the world. This year`s conference theme is "Innovation, entrepreneurship, and real-world solutions". ICRA 2017 takes place from 29 May to 3 June at the Sands Expo and Convention Centre, Marina Bay Sands in Singapore.



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## KUKA Aktiengesellschaft

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