

creating  
a new robotic  
world\_



**KUKA**



## Breaking New Ground in Collaborative Research.

KUKA Technology Development is active in wide range of market domains: automotive, aerospace, logistics, healthcare, electronics, machine tools, consumer goods, and service robotics. With the EC-funded projects VALERI and RobDREAM, KUKA's technology development is at the heart of innovation.

### VALERI.

Thanks to the VALERI project, innovative autonomous mobile robot systems will be able to assist the aerospace industry in many different tasks, such as applying sealant or carrying out visual inspections, relieving workers from ergonomically difficult situations. Within VALERI, KUKA is developing a mobile manipulator with a large, human-comparable workspace and the control algorithms to achieve maximum flexibility with highly redundant robot systems.

### RobDREAM.

Sleep! What if robots could also improve their capabilities in their inactive phases – by processing experiences made during the working day and by exploring – or “dreaming” of – possible future situations and how to solve them best? In RobDREAM we will improve industrial mobile manipulators' perception, navigation, and manipulation and grasping capabilities by automatic optimization of parameters and strategies, and through use case driven evaluation.



## Step into the Universe of Technology Development.

### Climb aboard!

You can contribute to the future by participating in developments for a wide and fascinating range of applications in service and industrial robotics.

We are seeking qualified developers who are interested in independently driving research and technology development in the following areas:

- Human-robot interaction
- Intuitive programming and operation
- Environmental modelling and perception
- Path planning, navigation and grasp planning
- Learning, situation recognition and task planning

We actively engage in collaborative research projects to grow our network of partners and advance our leading role in robotics. Our projects involve finding best practice through benchmarking, conceptualizing new ideas and developing methods and algorithms in the above mentioned areas in a huge variety of market domains.

### Interested in finding out more?

Visit us at [www.kuka.jobs](http://www.kuka.jobs) to join the team!

## KUKA Sunrise – The Control System of the Future.



### Complex applications made easy.

Object-based motion programming enables the reduction of complex problems into manageable bits. Based on main-stream Java Technology, the complete application can be programmed offline within an Eclipse-based Integrated Development Environment.

## KUKA Sunrise.Connectivity – High-Level Sensor Integration.



### Combining sensor technology and motion.

Sensor integration is made easy through our standardized interfaces, enabling the implementation of, for example, visual servoing and haptic rendering applications. It is possible to directly influence the robot path from the robot application context.

With KUKA Sunrise.Connectivity you can realize hard real-time and deterministic tasks by using our deterministic open remote interface to expand your possibilities.

# The World of KUKA Technology Development.



## Intuitive Operation and Programming.

New concepts and devices for intuitive operation and programming enable easy, effective and efficient handling of complex robot systems.



## Algorithms, Sensing and Geometry.

The development of new algorithms, use of sensor technology and modelling of environments allow for greater autonomy and intelligence.



## Mechatronics, Safety and Energy Efficiency.

Cutting-edge mechatronics enhance robot performance at lower cost. New safety concepts and technologies enhance human-robot collaboration in confined spaces.



## Process Technology.

New technologies improve or enable the applicability of robots. These technologies address, e.g., virtual commissioning solutions, process simulation and Industry 4.0.



## Demonstrators and RTD Support.

By integrating technologies into demonstrators, initial benchmarking is made possible. The establishment of a community network via collaborative research projects is ideally suited to determine best practices and to minimise the risks inherent in technology developments.

# KUKA

Committed to a wide range of technology development areas through collaborative research.



These projects have received funding from the European Union's framework programs for research, technological development and demonstration.



These projects have received funding by the Federal Ministry of Education and Research (BMBF).

KUKA Roboter GmbH  
Zugspritzstraße 140  
86165 Augsburg  
Germany

Phone: +49 821 797-4077  
Fax: +49 821 797 41-4077  
TD@kuka.com  
www.TD.kuka.com

# KUKA