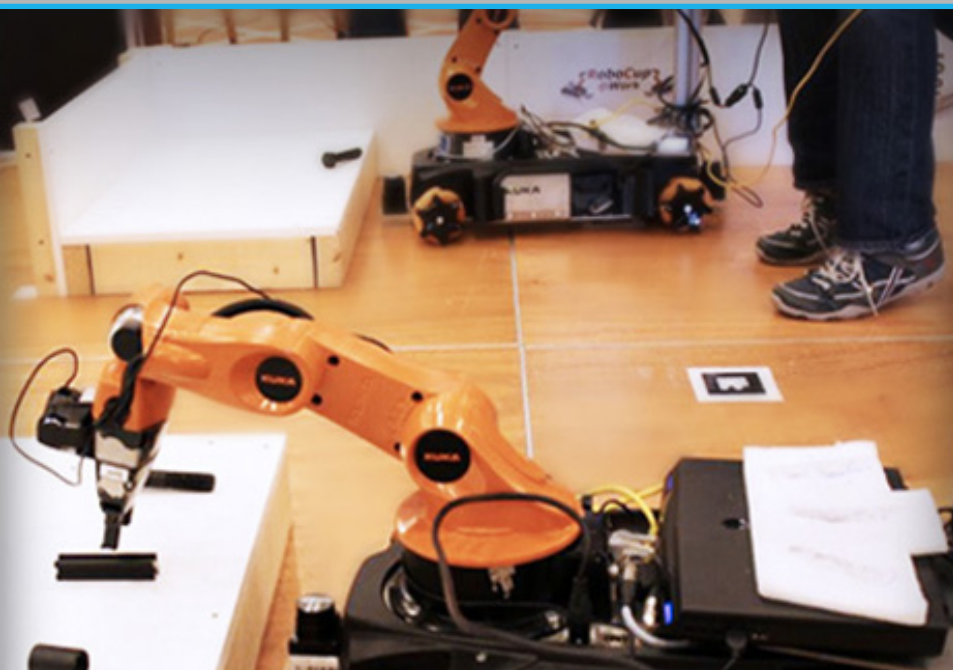


Robot Competitions Kick Innovation in Cognitive Systems and Robotics

ROCKIN

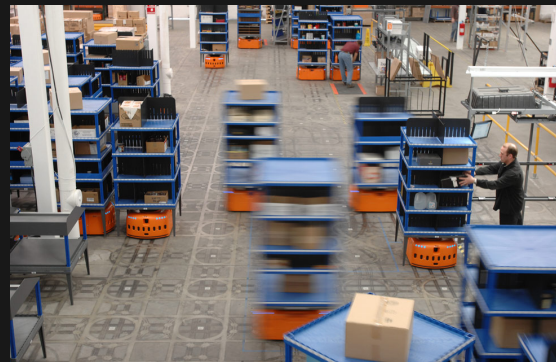


Pedro U. Lima
IST – TU Lisbon
Coordinator

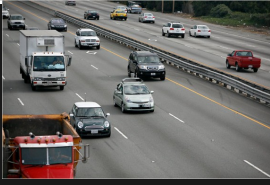





Vision

Robot competitions as a powerful mean to foster progress in Robotics R&D





Success Story	Robot Competition	
<p>Google driverless car.</p>	<p>Sebastian Thrun's Stanford team won the DARPA Grand Challenge 2005</p>	
<p>Kiva Systems revolutionized automation by using hundreds of mobile robots for storing, moving and sorting inventory. On March 19, 2012, Kiva Systems was acquired by Amazon for USD 775 Million.</p>	<p>One of company founders, Raffaello d'Andrea, was a former participant and winner of RoboCupSoccer's Small Size League.</p>	
<p>During the rescue operations in the Fukushima-Daiichi Nuclear Power Plant, no other robot but Quince could go up to the 2nd - 5th floors in the nuclear reactor buildings.</p>	<p>Prof. Tadokoro is a former RoboCup Trustee, and leader of a team which participated with Quince in RoboCupRescue.</p>	
<p>Aldebaran Robotics' NAO robot</p>	<p>NAO won the RoboCup 2007 Open Call for a Standard Platform and became the RoboCupSoccer Standard Platform League robot that replaced the former Four Legged League SONY AIBO robot dog.</p>	





RoCKIn's competition led innovation

- A catalyst for smarter, more dependable robots
- Focus on cognitive skills and networked robots
- Will develop standardised testbeds and benchmarks that will streamline R&D for the future



The consortium



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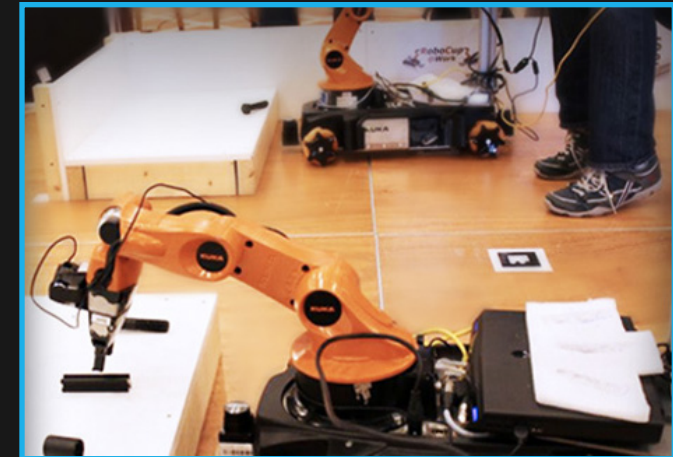
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RoCKIn@Work

- **Innovative robot applications in industry that:**
 - Work interactively with humans
 - Have reduced initial programming requirements
 - Have enhanced physics simulation capabilities
- **Contribute to the continued commercial competitiveness of European industry**



RoCKIn@Home

- **Socially beneficial domestic service robots that**
 - Have enhanced networking and cognitive abilities
 - Support the impaired and the elderly
- **Contribute to an improved quality of life for the population of Europe**



RoCKIn



RoCKIn@Work

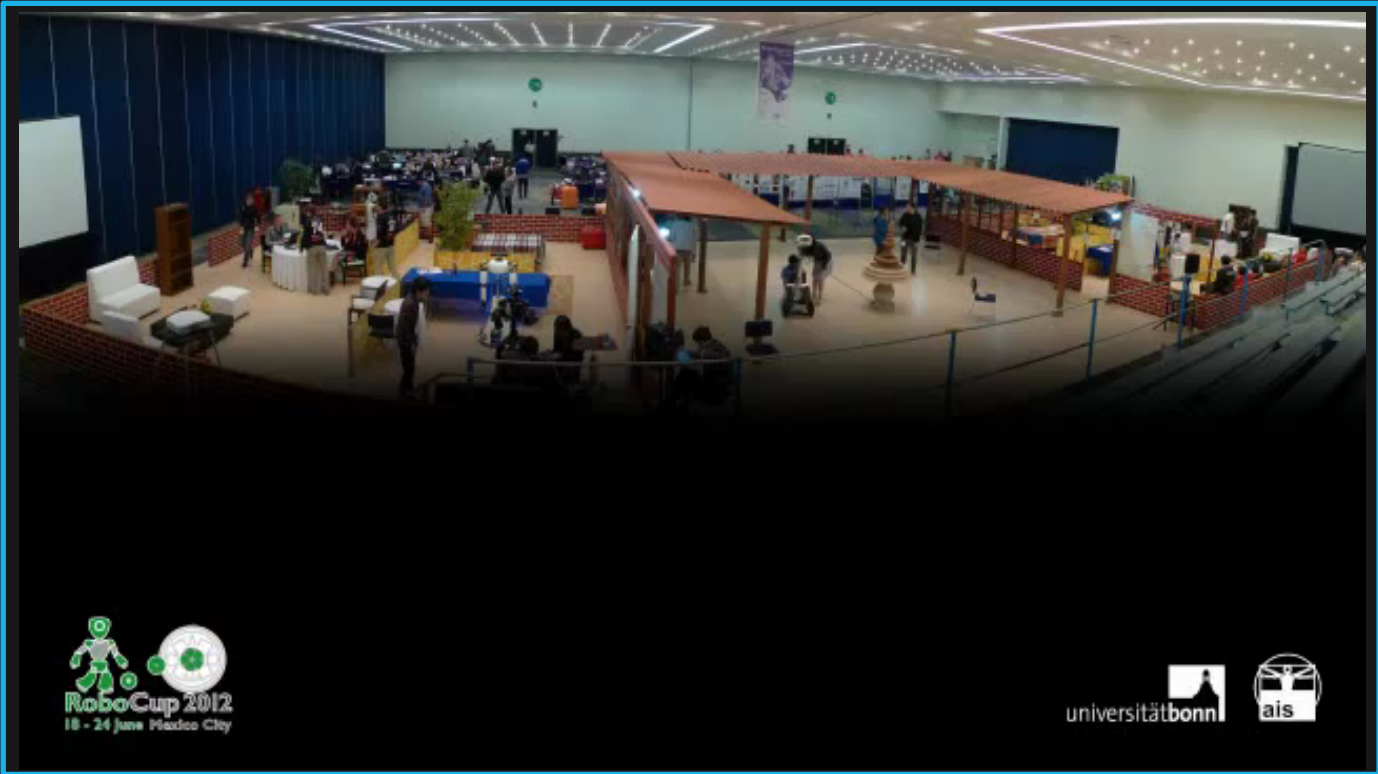
IROS 2012 Robot Competition





RoCKIn@Home

RoboCup@Home 2012 Winner Team





Competition Events

Camps and
Community Building

Test Beds

RoCKIn@Work
RoCKIn@Home

Dissemination

Benchmarking





Camps and related events

- **RoCKIn Kickoff Camp (2013)**
 - will introduce potential participants to the RoCKIn project with the ultimate aim of facilitating the entry of new teams into RoCKIn@Home and RoCKIn@Work.
 - It will involve lectures, attending and evaluating parts of RoboCup@Home and RoboCup@Work, and participation in the RoboCup symposium.
- **June 28th to July 1st during RoboCup2013, Eindhoven**
- **RoCKIn provides travel and accommodation support, and access to the RoboCup venue, symposium and an exclusive social event for the selected candidates.**



The background of the slide features a technical drawing or schematic diagram. It includes various components and labels such as 'QF7', 'TV1', 'SF1', 'A12', '30', '31', 'K16', '100', 'K17', 'K12', 'K13', 'SB1', '40', '14', '54', '55', 'SB14', 'K11', 'K12', 'K13', 'SB15', '60', 'K11', 'K12', 'K13', 'K17', and 'K12'. The drawing shows a complex network of lines and components, typical of an electrical or mechanical schematic.

Camps and related events

- **RoCKIn Camp**
 - Planned for 2014
 - Small groups working together to build upon 2013 introductory event
 - Aim is to educate, advance current tech and develop robots appropriate for RoCKIn competitive events
- **RoCKIn Field Exercise**
 - Planned for 2015
 - Supports the final stage of team development
 - Opportunity to test creations in a real world situation
- **Forums and workshops**





Competition events

- **2014:**
 - Planned for a time window between March and May, place TBD
- **2015:**
 - Planned for European Robotics Week, Lisbon, end of November

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