

Information Society Technologies in the 6th Framework Programme

IST Call 6 – Advanced Robotics

Information Day

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Advanced robotics – the background

- The aim of the call:

to support

Industrial

Innovation

in

Robotics



Advanced robotics - objectives

○ Objectives:

- Moving from specific industrial technology to a broad enabler of a wide range of products and services for the consumer, home & entertainment markets
- Development of more intelligent, flexible, cost-effective, modular, safe, dependable, robust, user-driven robot systems
 - massive introduction of robots in everyday human environments and their close co-operation with people
 - extend the coupling of the world of information and communication with the world of physical interaction



Research focus

STREPS

Multidisciplinary Research with focus on one or several of the themes:

- Flexible robot systems
- Safe, robust and dependable robot systems operating in human environments and co-operating with people
- Networked and co-operating robots
- Advanced integrated modular robotics

Some starting points: State-of-the-art in multi-modal knowledge acquisition, in reasoning and decision-making, evolution and learning, miniaturisation



Accompanying measures

**Co-ordination Action
Specific Support Action**

Prepare the emergence of a multidisciplinary research community in Europe:

- Develop longer term visions and roadmaps
- Address organisational, legal, ethical and socio-economic challenges
- Standardisation activities for modular Robotics
- Benchmarking
- International co-operation



Advanced robotics – ongoing projects

- **Over 100 projects in Framework programmes 5 and 6 covering one aspect or other of robotics since 2000. Now 30-40 projects are ongoing, in following areas:**
 - FET Beyond Robotics, Complex Systems, Open Domain (approx 8 projects)
 - Cognitive Systems (approx 20 projects)
 - New Production Processes and Devices/ eInclusion/ Civil Protection / De-mining, etc.
- **Ongoing networks of excellence**
 - EURON (European Robotics Research Network)
 - CLAWAR (climbing and walking robots)
 - ENACTIVE (more specifically on haptics)
- **Possibly some more from Call 4, Call 5 and FET Open Scheme**
 - e.g. in the micro / nano- area, collaborative working environments, e-inclusion, environmental risk management, complex systems etc



FAQ on the Call scope

- **STRePs should not try to cover the whole ground**
 - “One or more” of the four main RTD lines
- **centre of gravity should be R&D**
 - Viable mix S/T and applications
 - applications / demonstrations should not be the centre of gravity
- **which application areas?**
 - No specific area targeted, but encourage everyday human environments, avoid constrained industrial settings.
- **end-user participation?**
 - Strongly recommended, but must be appropriate and have real role, instructing R & D
- **virtual reality?**
 - The end result should be real-world, not VR.
- **prosthetics and exoskeletons?**
 - Not so relevant, lacking in autonomy at task level.



Advanced robotics - information

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- **Websites:**

- Advanced robotics on Cordis

<http://cordis.europa.eu.int/ist/so/advanced-robotics/home.html>

- Future and Emerging Technologies

<http://cordis.europa.eu.int/ist/fet/home.html>

- Cognition

<http://cordis.europa.eu.int/ist/cognition/index.html>

- European Robotics Platform EUROP

<http://www.roboticsplatform.com/>

- European Robotics Network EURON

<http://www.euron.org/>

