

Participating in

# ECHORD Experiments

23 February 2010  
LAAS, Toulouse

European Clearing House  
for Open Robotics Development  
[www.echord.info](http://www.echord.info)



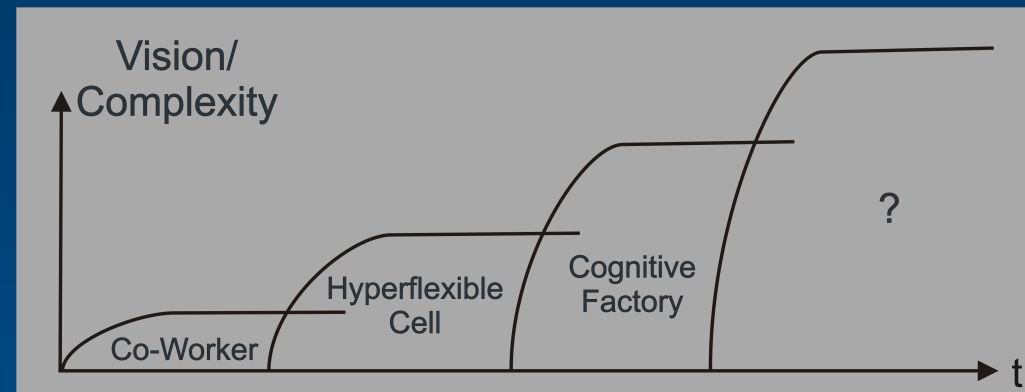
- ECHORD subdivides into many small experiments
  - Much smaller than usual EC funded research projects, easily and rapidly negotiated
  - Academia and industry collaborate on a concrete challenge
  - Concept based on experiences with successful cooperation
  - Create and/or emulate the conditions of previous success stories

- New dimension of funding opportunities
  - Target-oriented research and technology transfer
  - Three *types* of experiments
  - Defined *scenario* and *research focus*, one main scenario in each call for experiment proposals
  - Lower the entrance barriers (specifically for manufacturers and integrators of SME size)
  - Reduce the “fear of contact” with funding organisations

- Joint enabling technology development
  - Experiment partners work together to develop new robots, components, and networks, etc.
- Application development
  - Robot equipment from the manufacturers are combined to perform tasks in new applications
- Feasibility demonstration
  - For demonstrating in principle that robots can be used in complex industrial settings where they have not been used before

- Conceived to bridge the gap between state-of-art and ground-breaking research
  - Encourage manufacturers and researchers work together on emerging technologies
  - Take advantage of results achieved in previous European projects
  - Assess the actual progress achieved in the experiments

- Three scenarios:
  - Human-robot co-worker
  - **Hyper-flexible cell**
  - Cognitive factory



- The 3 scenarios build on each other
  - 2nd and 3rd more ambitious and future-oriented
  - Intended to use directly the technologies developed in the preceding ones
  - Increase in complexity and require incorporation of completely new ideas
- First scenario: *human-robot co-worker*
  - Development of new sensors and devices, control methods, (safety) standards and programming paradigms. Ground-breaking work is still needed to achieve the postulated goals

- Second scenario: *hyper-flexible cell*
  - Robot technology has been complex to install and was mainly employed in cases with very high production volumes
  - One or more highly dexterous and cooperative robots
  - Hardware and software integration of the robots with an automatic warehouse system and the other devices in the cell
  - Implies the availability of consistent middleware for automation modules (plug and play)
  - Supervisory control solutions for the whole cell
- Hyper-flexible cell is the main scenario for call 2

- Defined together with the scenarios
- Four foci:
  - Human-robot interfacing and safety
  - Robot hands and complex manipulation
  - Mobile manipulators and cooperation
  - Networked Robots



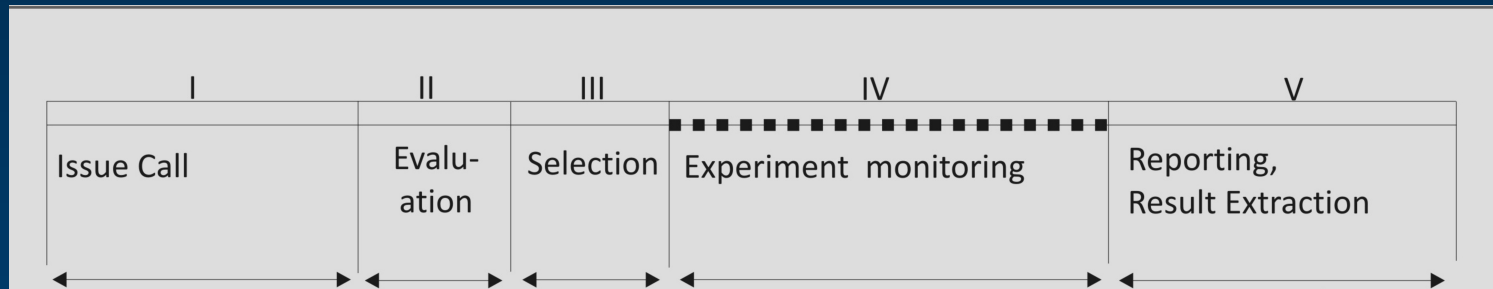
- Human-robot interfacing and safety
  - Main goal: show that safe human-robot cooperation is possible
  - Challenges: all kinds of sensor failures and inconsistencies.
- Robot hands and complex manipulation
  - Main goal: show the improvement of laboratory setups towards practical usability
  - Challenges: promising breakthroughs in the areas of sensors and sensor-guided manipulation.

- Mobile manipulators and cooperation
  - Main goal: solve concrete problems in dynamically changing environments
  - Challenges: moving obstacles and interaction with humans
- Networked robots
  - Networked industrial robots: demonstrators built in collaboration between industry and academia
  - More loosely coupled systems leading to new showcases, e.g. in the area of search and rescue, new applications in urban areas, and robot systems for monitoring tasks.

## Backup, maybe to explain verbally

- Networked robots: 2 areas
- Networked industrial robots: demonstrators built in collaboration between industry and academia with industry providing controller architecture and academia contributing knowledge in advanced real-time networking technologies as well as service-oriented architectures.
- More loosely coupled systems, where experiments with mobile robots are expected that establish new showcases, e.g. in the area of search and rescue with robots, new applications of robots in urban areas, and robot systems for monitoring tasks

- Call 1 was closed on 1 Dec. 2009, results are expected soon



- Call 2 will be issued on 16 March 2010, deadline 30 April 2010
- The same scheme will apply for call 3

- Short proposals, basic information to be submitted as web form, proposal content upload as pdf document
- All procedures handled through [www.echord.info](http://www.echord.info)
- Standard FP7 funding rules apply
- Pre-proposal check to clarify whether a research idea is within the scope of ECHORD experiments
- Coaching by the ECHORD Service Center available
- Strict deadlines (30 April 2010, 17:00 Brussels time for Call 2)

- Evaluation by independent experts
- Evaluation criteria same as with FP7 projects
- 3 criteria, each one rated with 0-5 points:
  - Scientific and/or technological excellence
  - Efficiency of implementation
  - Expected impact
    - Bi-directional knowledge transfer
    - European dimension of the experiment
    - ...
- Ranking and selection by an expert panel, approval by EC

- Successful proposal partners become consortium members of ECHORD by accession
- Experiments start as soon as possible
- Experiments will be monitored with a small set of deliverables

Further information in the brochure  
and on the web site [www.echord.info](http://www.echord.info)

Thank you!



## What else needs to be explained?

- Who can apply
- Which documents are necessary
- Which documents are needed for a proposal
- How much work is the proposal writing
  
- Check headlines from approved info document