Open source initiatives in the EU cognition program
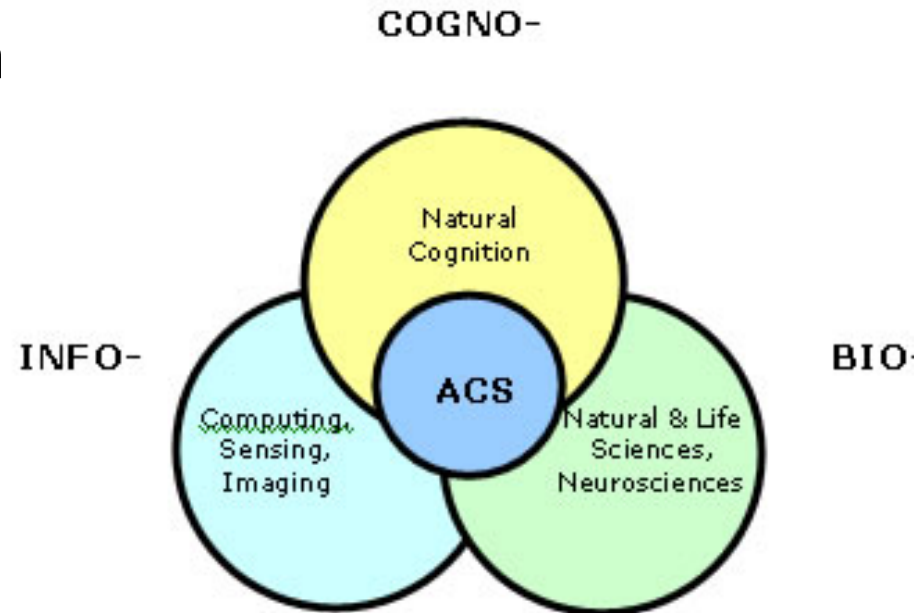
Patrick Courtney

euCognition
www.euCognition.org

- European Union research programme
  - Significant investment and momentum
  - Open to participation from USA, Japan

- Cognitive systems as a way of overcoming uncertainty due to interaction in real world

- Seeking to establish necessary theory

- Open source platforms to share experiences and run larger scale experiments.

COGNO-

INFO-

BIO-

Natural Cognition

ACS

Computing, Sensing, Imaging

Natural & Life Sciences, Neurosciences
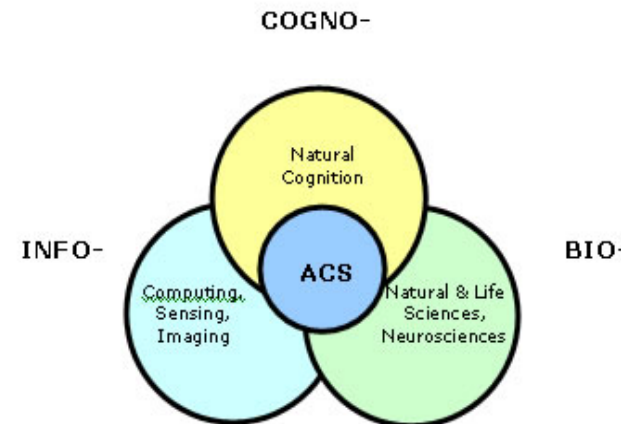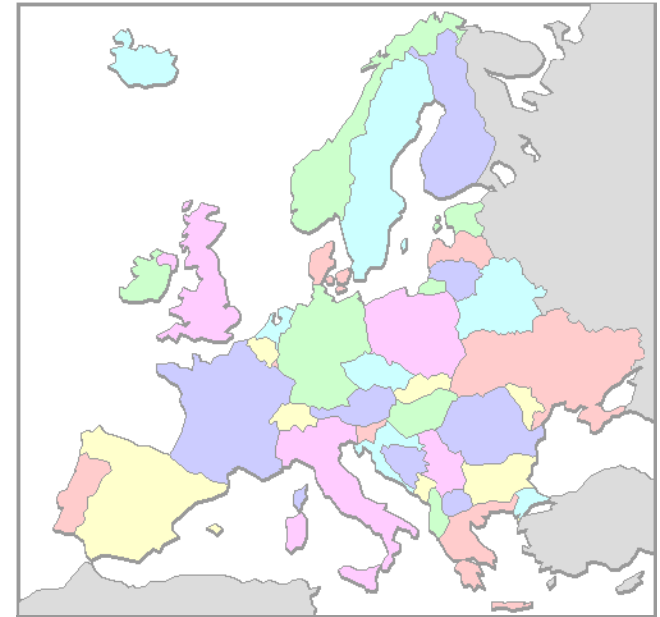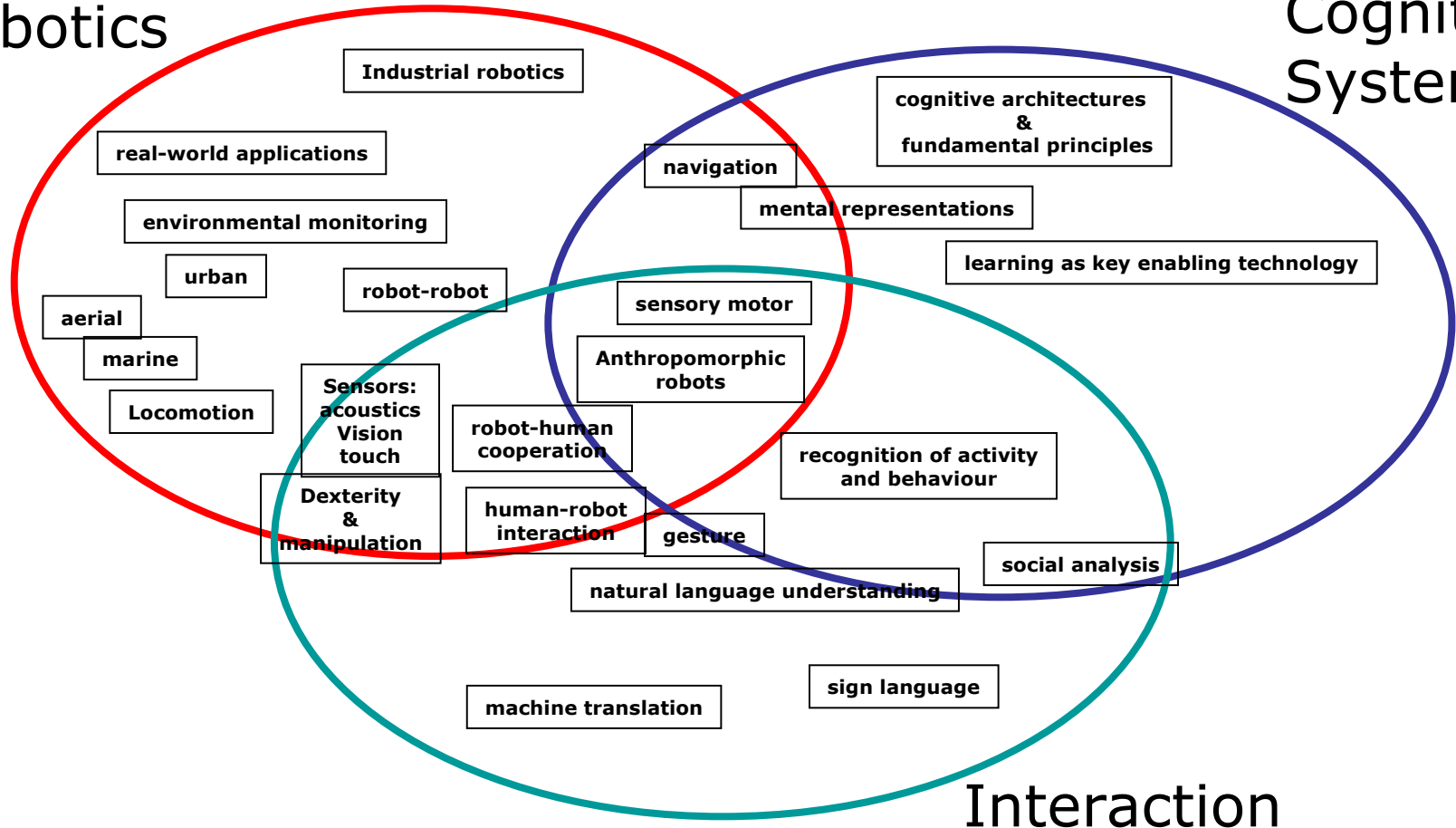
Cognitive systems as the intersection of three domains

- New advances in related fields…
  - Psychology (young children, number systems, non-human…)
  - Neuroscience (mirror neurons, spiking neurons…)

- Various models for cognition
  - Classical symbolic
  - Emergent
  - Embodied
  - Cooperative and interacting

Scope now covers cognition, robotics and interaction

Robotics

Cognitive Systems

Industrial robotics

cognitive architectures & fundamental principles

real-world applications

navigation

mental representations

environmental monitoring

learning as key enabling technology

urban

robot-robot

sensory motor

aerial

Anthropomorphic robots

marine

Sensors: acoustics Vision touch

robot-human cooperation

recognition of activity and behaviour

Locomotion

Dexterity & manipulation

human-robot interaction

gesture

social analysis

natural language understanding

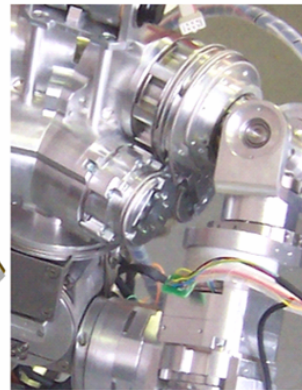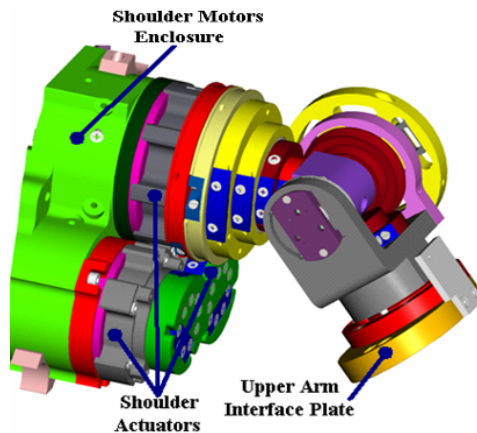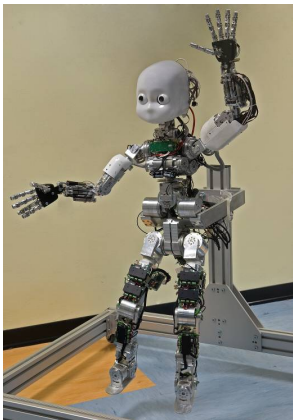machine translation

sign language

Interaction

- "EU to double its R&D investment in robotics for 2009-2010 to €400M"

Session running order

- "The Rat's Life Benchmark: Competing Cognitive Robots" Olivier Michel

- "The iCub humanoid robot an open platform for embodied cognition" Giorgio Metta
- "An Open-Source Simulator for Cognitive Robotics Research:" Angelo Cangelosi
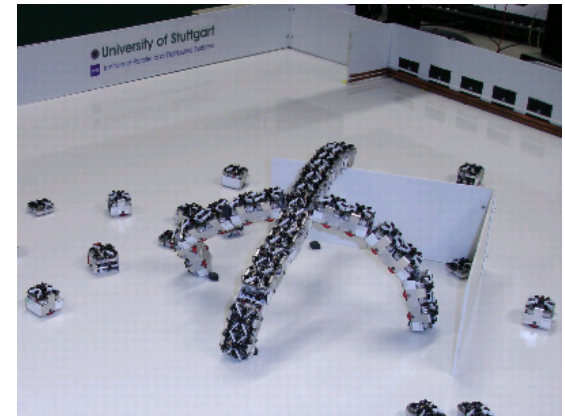
- "Symbiotic Robot Organisms: Replicator & Symbrion Projects" Serge Kernbach
- "Virtual Agent Modeling in the RASCALLI Platform" Christian Schollum

- Supported by EU Cognition unit and euCognition network