euCognition

The European Network for the Advancement of Artificial Cognitive Systems

Goals

Goals

What is euCognition?

FP6 Project 26408 (Coordination Action)

Funded by the European Commission
Unit E5 – Cognition

Cogsys
Cognitive Systems

Duration: 1/1/06 → 31/12/08

Budget: €1.6 m

Goals

What do we do?

Foster inter-disciplinary interaction

Build the scientific & engineering foundations of cognitive systems

Facilitate

- Workshops
- Conferences
- Courses
- Exchanges of staff and students
- Development & dissemination of training material
- Access to development platforms
- Research planning
- … but not research

Goals

Who is it for?

Open to anyone doing research in the many disciplines that address the issues of creating artificial cognitive systems including (but not limited to)

- Neuroscience
- Psychology
- Cognitive science
- Machine Learning
- Autonomous systems theory
- Cognitive robotics
- Mathematical modelling
- Cognitive Vision
- …

European Network for the Advancement of Artificial Cognitive Systems

AI
Psychology
Neuroscience
Non-linear dynamical systems theory
Synergetics
Autonomous systems theory
Machine learning
Pattern recognition
Computer vision
Haptic sensing
Cybernetics
Neural networks
Epistemology
Philosophy
Language
Semiotics
Robotics
Manipulation
Communication
…

Problems:

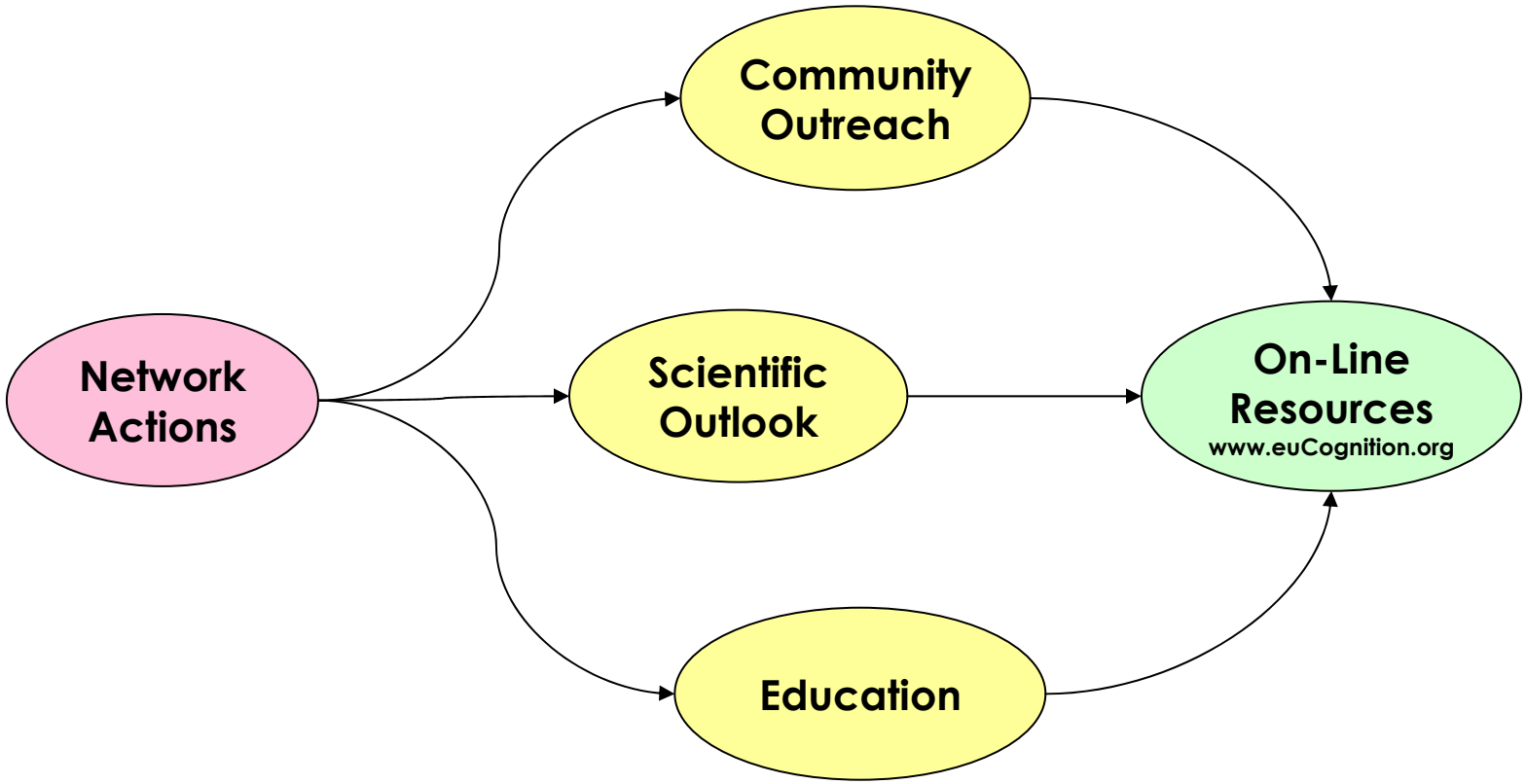
- Different perspectives
- Different languages
- Hard & Soft Science

Mathematical Models

Activities

Activities

How does it work?



Network Activities

Community Outreach

- Inter-project collaboration
- Involvement of new blood from both academia and industry
- Exhanges, esp. with those not yet involved in funded projects
- Provide resources for new pilot initiatives

  (e.g. providing access to platforms for experimental work in embodied cognition)

Network Activities

Scientific Outlook

- Research planning
- Refining and developing the our characterization of cognition
- Key focus: cross-fertilization of ideas

Network Activities

Education

- Alleviate difficulties posed by the multi-disciplinary nature of the area
- Bridge gaps between sub-disciplines
- Targetted at
  - Research practitioners
  - Graduate students
- Summer schools (cf. commitments of intergrated projects)
- Creation of teaching material

Outcomes & On-line Resources

On-line resources

1 Deliverable:

the resources on the euCognition website

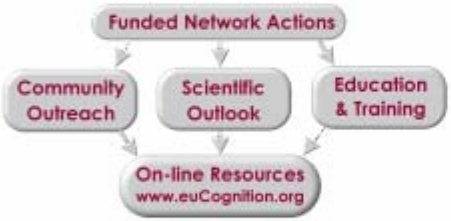
www.euCognition.org

euCognition

The European Network for the Advancement of Artificial Cognitive Systems

Home | More Info | News | Outreach | Outlook | Education

Members | Network Actions | News

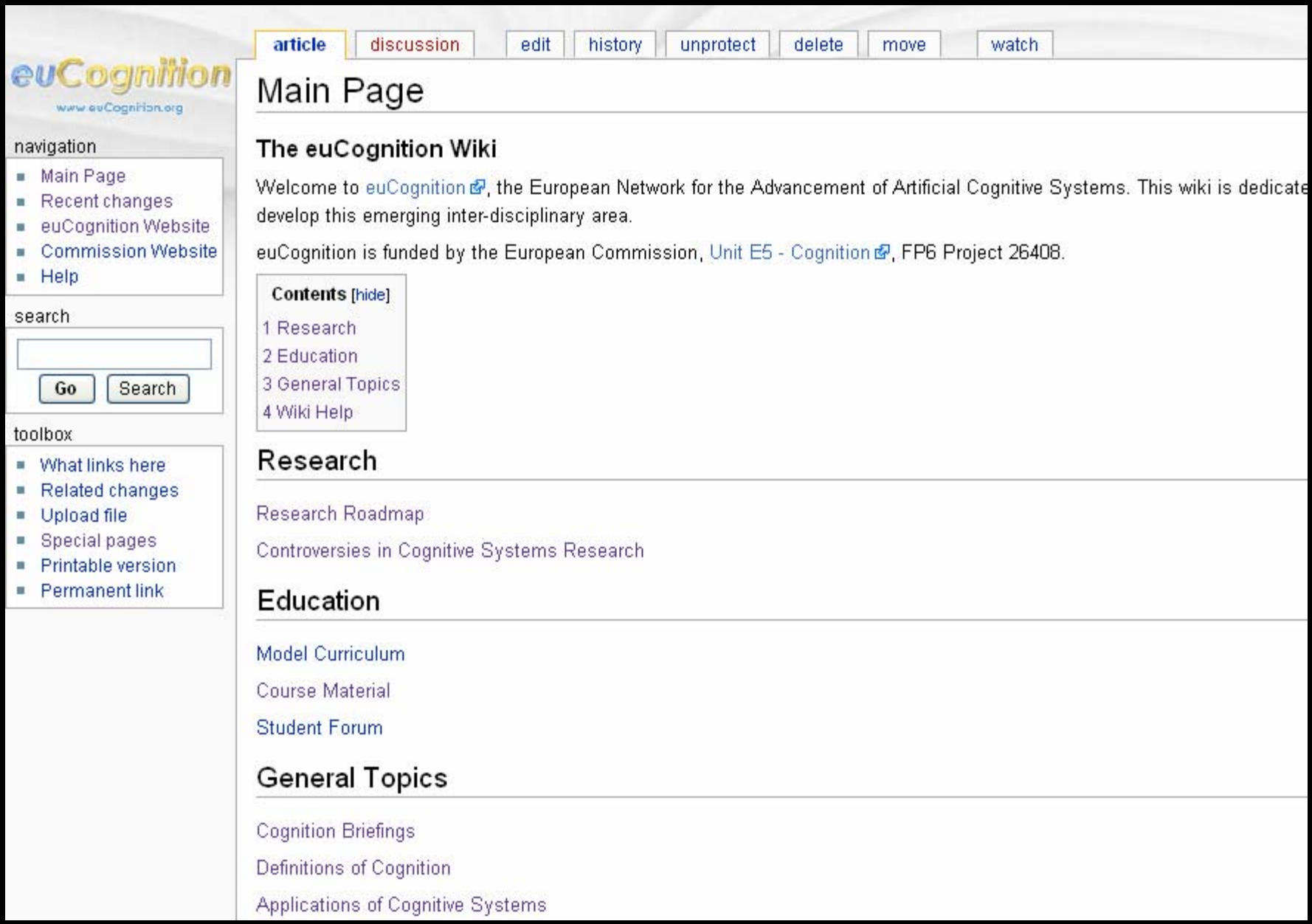


What is euCognition? What does it do?

Who is it for? Why should I join?

Next Meeting | Roadmap | Wiki

CogSys
Cognitive Systems


article
discussion
edit
history
unprotect
delete
move
watch
euCognition
www.euCognition.org
navigation
Main Page
Recent changes
euCognition Website
Commission Website
Help
search
Go
Search
toolbox
What links here
Related changes
Upload file
Special pages
Printable version
Permanent link
Main Page
The euCognition Wiki
Welcome to euCognition, the European Network for the Advancement of Artificial Cognitive Systems. This wiki is dedicate
develop this emerging inter-disciplinary area.
euCognition is funded by the European Commission, Unit E5 - Cognition, FP6 Project 26408.
Contents [hide]
1 Research
2 Education
3 General Topics
4 Wiki Help
Research
Research Roadmap
Controversies in Cognitive Systems Research
Education
Model Curriculum
Course Material
Student Forum
General Topics
Cognition Briefings
Definitions of Cognition
Applications of Cognitive Systems

Outcomes

Example Events to be Organized	Example Resources to be Produced
Outreach	
– Inaugural meeting – Six-monthly meetings – Inter-project workshops – Extra-network workshops – Special sessions at conferences – Awareness forums at trade fairs & science fairs – Short-term exchange/visits of research staff – Short-term exchange/visits of post-graduate students – Pilot test-bed evaluation of basic cognitive functions – Best demonstration prizes in Cognitive Systems	– Repository of demonstrations of example systems (video clips, images, etc.) – Special issues in journals – Member profiles, indexed by area, interests, physical location, name, etc. – Repository of application-oriented demonstration scenarios to drive R&D – Articles for general readership – Multimedia production for general viewing – Comprehensive dynamic website
Scientific Outlook	
– Thematic Workshops – Conferences – Access to research platforms – Best paper prizes in cognitive systems	– Survey papers on constituent areas – Position papers on topical issues – Research monographs on constituent areas – Research roadmap – Identification or creation of common development environments – Repository of Open Source software – Directory of sources of materials or components, with specifications – Repository of test scenarios, test sets, to assist in quantitative evaluation – Access to / creation of prototype components (hardware & software)
Education	
– Summer schools – Tutorials – Prizes for post-graduate work (Ph.D. / M.Sc.) in Cognitive Systems	– Model curricula for cognitive systems – Textbook on cognitive systems – Courseware for constituent areas – Annotated bibliography of publications on cognitive systems

On-line resources

www.euCognition.org

- Dynamic repository of resources: outreach, outlook, education
- Cognitive systems community
  - Research
  - Education
- Visibility in the greater community
- Show-case results & example validation experiments
- Forum for sharing information


"YOUR COUNTRY NEEDS
YOU"

euCognition Inaugural Meeting

16th - 17th February 2006

Nice Acropolis Conference and Exhibition Centre
France

Programme and Presentations

A programme for the meeting can be found here: Inaugural Programme (pdf - 0.13 Mb)

Copies of most of the presentations can be found here:

Day 1

Elizabeth Spelke, Harvard University: Core Knowledge of Number and Geometry (pdf - 3.0 Mb)

Jiri Wiedermann, Academy of Science of the Czech Republic: One Computer Theorist's View of Cognitive Systems(pdf - 0.4 Mb)

J A Scott Kelso, Florida Atlantic University: The Coordination Dynamics of Brains and Behavior (pdf - 4.55 Mb)

John Shawe-Taylor, Southampton University: Learning in Cognitive Systems: Inference of Representations & Grounding through Interaction (pdf - 1.15 Mb)

Day 2

First Six-Monthly Meeting

Monday 3rd July 2006

NH Vienna Airport Hotel

Austria

"Getting around in the world – does all navigation require cognition?"

A programme for the meeting can be found here (pdf - 0.10 Mb)

Links to most of the presentations are listed below. The remaining presentations will be added soon.

Programme

09:30 Registration

09:50 Welcome (pdf - 0.3 Mb)

10:00 Robert Sutherland, Canadian Center for Behavioural Neuroscience, The University of Lethbridge
Contrasting associative and cognitive bases for navigation

10:45 Sidney Wiener, Collège de France
Neural activity underlying spatial cognition: Inspiration for robot control architecture

11:30 Coffee

11:45 Hanspeter Mallot , University of Tubingen
Insect strategies in human and robot navigation (pdf - 1.7 Mb)

12:30 Lunch

13:30 Jean-Arcady Meyer, AnimatLab, Laboratoire d'Informatique de Paris 6

Second Six-Monthly Meeting

11-12 January 2007

Room K13

Munich - Munich Airport Conference Centre

A programme for the meeting can be found here (pdf - 0.17 Mb)

The afternoon of Thursday 11 January was devoted to a competition for student members of euCognition. Entrants made a 15 minute presentation on their cognitive systems research topics and a prize was be awarded to the student(s) who gave the best (i.e. most engaging and informative) presentation. The prize is a grant to cover the costs of travelling to a cognitive systems workshop or conference of her/his choice, subject to a maximum value of 1000 euro (normal reimbursement rules) plus the cost of registering for the conference/workshop.

Friday 12th January was devoted to the euCognition Roadmap: our vision of the applications that are relevant to cognitive systems, and the scientific and technological advances that are needed to realize them. The roadmap will be requirements-driven and capability-led so that it provides both a vehicle for industry outreach and a forum for scientific outlook.

For more information, please see the euCognition wiki here.

Programme

Thursday 11th January

13:00 Registration

14:00 Student Competition

euCognition

The European Network for the Advancement of Artificial Cognitive Systems

Third Six-Monthly Meeting and Project Review

29 & 30 June 2007

Room K13
Munich - Munich Airport Conference Centre

Cognitive Architectures

There is a printable version of the meeting agenda here (pdf - 0.10 Mb)

Programme

Friday 29th June 2007: Network Meeting on Cognitive Architectures

09:00	Registration
10:00	David Vernon, euCognition Network Coordinator: Welcome & Overview
10:15	Joanna Bryson, University of Bath
11:15	Coffee
11:30	Jeff Krichmar, The Neurosciences Institute, San Diego
12:30	Lunch
13:30	Peter Redgrave, University of Sheffield
14:30	Murray Shanahan, Imperial College London
15:30	Aaron Sloman and Jeremy Wyatt, University of Birmingham
16:00	Panel and Audience Discussion
17:30	Poster Session and Wine Reception

Hilton
Molino Stucky, Venice

Giudecca 753
30133 Venice, Italy
Tel / Fax: +39 041 522 1267
E-mail the Hotel

Photo Tour

Venice Attractions

The Rialto Bridge

The Rialto Bridge

Hilton Molino Stucky, Venice

euCognition Meeting

11th January 2008

Another world

...just around the corner **Hilton Molino Stucky, Venice**

Venice is conveniently accessible by land, sea and air.

By air: Venice Marco Polo Airport is 10 km (40 minutes by boat) from the hotel, with direct flights to and from most national and international cities. Some mainly low-cost flights operate from Treviso airport, 25 km away.

By train: Venezia Santa Lucia railway station with Eurostar connections. The prestigious Orient Express - London Victoria station, Paris to Istanbul - makes a stop in Venice.

By car: Easy access from all major motorways. Parking in Piazzale Roma and Tronchetto.

By water: What better way to arrive at Hilton Molino Stucky than by boat? Hotel access from your land arrival point and maritime station is by Vaporetto water buses and water taxis. There is a regular hotel shuttle boat to Piazza San Marco.

Special note: our private jetty can accommodate large vessels.

Useful information

- Currency: Euro
- Official language: Italian - but English is widely spoken
- The Venetian climate is Mediterranean, with average temperatures ranging from 8°C to 25°C.
- Electric current 220V AC 50 cycles

Website Statistics (28/06/07)

euCognition Page	Number of requests
/Elizabeth_Spelke.pdf	4155
/six_monthly_meeting_2.htm	2134
/members.htm	1885
/euCognition_overview.pdf	1752
/asm-whitepaper-final-060804.pdf	1633
/Scott_Kelso.pdf	1612
/six_monthly_meeting_2/Hakan_Warston.pdf	1516
/index.htm	1514
/Jiri_Wiedermann.pdf	1373
/papers/Pinz06.pdf	1244
/post-cognitivist/post-cognitivist_abstracts.pdf	1169
/news.htm	949
/six_monthly_meeting_1.htm	850
/six_monthly_meeting_1/Hanspeter_Mallot.pdf	800
/inaugural.htm	798
/membership.htm	745
/six_monthly_meeting_3.htm	726
/six_monthly_meeting_2/Sanja_Fidler.pdf	710
/inaugural_presentation.pdf	707
/events.htm	668
/six_monthly_meeting_2/Jose_Santos-Victor.pdf	667
/papers/ErlhagenBicho06.pdf	660
/network_actions_funded.htm	659
/six_monthly_meeting_2/Rainer_Stollhoff.pdf	653
/six_monthly_meeting_2/Armin_Duff.pdf	645
/six_monthly_meeting_2/Bill_Sharpe.pdf	588

http://www.eucognition.org/website_statistics.htm

European Network for the Advancement of Artificial Cognitive Systems

euCognition Wiki	Number of requests
Main Page	3084
Research Roadmap	2465
Cognition Briefings	1907
Definitions of Cognition	1671
Student Forum	1115
Controversies in Cognitive Systems Research	867
Applications of Cognitive Systems	857
Course Material	810
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Automatic and Willed Control of Action	393
From Image Sequences to Natural-Language Texts	339
Symbol Grounding in Cognitive Systems	337
Simulating the Evolution of Language with Cognitive Agents and Robots	307
Working Memory	300
Schemas and Schema-based Architectures	282
Subsumption	235
Distributed Intelligence for Smart Assistive Appliances	182
Autonomy and Cognition	144

http://www.eucognition.org/website_statistics.htm

European Network for the Advancement of Artificial Cognitive Systems

ECVision Website	Number of requests
/ecvision/CCVcourse/CCVcourse.zip	4872
/ecvision/index.htm	3727
/ecvision/education/summerschool03/LittleSIFT.pdf	3467
/ecvision/education/summerschool03/LittleWorldModelling.pdf	2277
/ecvision/home/Home.htm	1757
/ecvision/about_ecvision/Cognitive_Vision.pdf	1688
/ecvision/education/On-line_Cognitive_Vision_Course.htm	1489
/ecvision/news/News.htm	1446
/ecvision/education/summerschool03/LittleOverview.pdf	1292
/ecvision/CCVcourse/Lecture 7/Lecture 7.ppt	698
/ecvision/research_planning/EU_Computer_Vision_Groups.htm	690
/ecvision/bibliography/ECVision_bibtex.htm	628
/ecvision/education/summerschool03/LittleObservingPeople.pdf	626
/ecvision/research_planning/ECVisionRoadmapv5.0.pdf	543
/ecvision/information/management_reports/ECVision_management_report_4.pdf	512
/ecvision/CCVcourse/Lecture 7/dog5mm.mpg	504
/ecvision/CCVcourse/Lecture 12/Lecture 12.ppt	497
/ecvision/information/six_month_meeting_4/Roadmap_Presentation.pdf	469
/ecvision/information/Specific_Action_Status.htm	468
/ecvision/CCVcourse/Lecture 11/Lecture 11.ppt	399
/ecvision/education/TR-SA13-2.pdf	385
/ecvision/CCVcourse/Lecture 8/Lecture 8.ppt	378
/ecvision/industrial_liaison/Industrial_Applications_of_Cognitive_Vision.pdf	378
/ecvision/research_planning/Research_Roadmap.htm	370
/ecvision/CCVcourse/Lecture 10/Lecture 10.ppt	355
/ecvision/research_planning/ECVisionRoadMapv2.5.pdf	338

http://www.eucognition.org/website_statistics.htm

People and Forums

Three principal bodies are involved in the running of the network:

1. The Executive Committee

2. A CogSys Project Coordinators Round-Table Forum

3. The European Commission Project Officer

Hans-Georg Stork

Executive Committee

David Vernon	Network Coordinator
Fred Cummins	University College Dublin
Markus Vincze	Technische Universitaet Wien
Tom Ziemke	Högskolan i Skövde
Erik Hollnagel	Linköpings Universitet
Christoph von der Malsburg	Ruhr-Universitaet Bochum
Bill Sharpe	The Appliance Studio Ltd.
Guy Tiberghien	Centre National de la Recherche Scientifique (CNRS)
Juergen Jost	Max Planck Institute for Mathematics in the Sciences
Andreas Engel	University Medical Center Hamburg-Eppendorf
Peter F. Dominey	Centre National de la Recherche Scientifique (CNRS)
Matthias Scheutz	Notre Dame University

Becoming a Member

Membership

- Membership open to anyone who is active in the domain of cognitive systems
  - Submit membership application form
  - Subject to reviewed by Executive Committee
- All those that are part of an FP6 cognitive systems project automatically members
  - Need an application form to collect member data
- All members of ECVision (www.ECVision.org) are automatically eligible for membership
  - Need an application form to collect member data
- Membership is personal not institutional.

'The Cognitive Systems Community'

- 219 Members (116 in July 2006)
- Of which, 46 Student Members (5 in July 2006)
- 123 members NOT formally associated with CogSys projects (57 in July 2006)
- List on the website

euCognition

The European Network for the Advancement of Artificial Cognitive Systems

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X

Members

The are 197 members of euCognition.

Alberto	Acerbi	Istituto di Scienze e Tecnologie della Cognizione - CNR	alberto.acerbi@istc.cnr.it	http://laral.istc.cnr.it/acerbi/
Ferenc	Acs	University of Regensburg	ferenc.acs@psychologie.uni-regensburg.de	www.psychologie.uni-regensburg.de/Greenlee/team/acs/acs.html
Jörn	Anemüller	University of Oldenburg	joern.anemueller@uni-oldenburg.de	staff.uni-oldendburg.de/joern.anamueller
Cecilio	Angulo	Technical University of Catalonia	cecilio.angulo@upc.edu	www.upc.net.es/~upc15838
Martin	Antenreiter	University of Leoben	martin.antenreiter@unileoben.ac.at	http://www.unileoben.ac.at/~mantenreit/
Paolo	Arena	University of Catania	parena@diees.unict.it	www.dees.unict.it/users/parena/index.html
Tamim	Asfour	Universitaet Karlsruhe	asfour@ira.uka.de	i61www.ira.uka.de/users/asfour/
Peter	Auer	University of Leoben	auer@unileoben.ac.at	www.unileoben.ac.at/~auer/
Ruth	Aylett	Heriot-Watt University	ruth@macs.hw.ac.uk	www.macs.hw.ac.uk/~ruth
Pau	Baiget	Universitat Autònoma de Barcelona	pbaiget@cvc.uab.es	www.cvc.uab.es/~pbaiget
Jose Luis	Balcazar	Universitat Politecnica de Catalunya	balqui@lsi.upc.edu	www.lsi.upc.edu/~balqui
Gianluca	Baldassarre	Istituto di Scienze e Tecnologie della Cognizione	gianluca.baldassarre@istc.cnr.it	laral.istc.cnr.it/baldassarre/
Xabier	Barandiaran	University of the Basque Country	xabier@barandiaran.net	http://ehu.es/ias-research/barandiaran
Christian	Bauckhage	Deutsche Telekom Laboratories	christian.bauckhage@telekom.de	www.telekom.de/laboratories
Tony	Belpaeme	University of Plymouth	tony.belpaeme@plymouth.ac.uk	www.tech.plym.ac.uk/SoCCE/staff/TonyBelpaeme/
Bettina	Berendt	Humboldt University Berlin	berendt@wiwi.hu-berlin.de	www.wiwi.hu-berlin.de/~berendt
Alexandre	Bernardino	Instituto Superior Técnico	alex@isr.ist.utl.pt	http://www.isr.ist.utl.pt/~alex
Estela	Bicho	University of Minho	estela.bicho@dei.uminho.pt	www.dei.uminho.pt/pessoas/estela
Horst	Bischof	Graz University of Technology	bischof@icg.tu-graz.ac.at	www.icg.tu-graz.ac.at/Members/author/bischof
Isabelle	Bloch	Ecole Nationale Supérieure des Télécommunications	Isabelle.Bloch@enst.fr	www.tsi.enst.fr/~bloch
Luca	Bologna	IIT - University of Genova	luca.leonardo.bologna@unige.it	www.iit.it www.liralab.it
Pia	Böttcher	PB Consulting	pia.boettcher@gmx.de	
Jeffrey M.	Bradshaw	20 ter, rue Georges Brassens	jbradshaw@ihmc.us	www.ihmc.us/users/jbradshaw
Cyril	Brom	Charles University	brom@ksvi.mff.cuni.cz	http://ksvi.mff.cuni.cz/~brom
Matteo	Brunettini	University of Genoa	matteo@liralab.it	www.liralab.it
Joanna	Bryson	University of Bath	jjb@alum.mit.edu	www.cs.bath.ac.uk/~jjb/
Catalin	Buiu	POLITEHNICA University of Bucharest	cbuiu@yahoo.com	cbuiu.ics.pub.ro

Applicant Information

Title:	
First Name:	
Last Name:	

Bank information for reimbursement of travel and other allowable costs	
IBAN:	
BIC/SWIFT:	
Bank Sort Code:	
Account Number:	
Bank Name:	
Bank Address:	
Account Holder Name:	
Account Holder Address:	

Membership

- Non-labour costs incurred by member
  - Reimbursed directly by the coordinating contractor
  - Send in claim with travel receipts, reimbursed by electronic transfer within a month (or less)
- Labour costs
  - Either member becomes a contractor (preferred option)
  - Or reimbursed via a subcontract (avoid if possible)

Membership

- All members eligible to claim travel costs associated with official euCognition event
  - As advertized on the website
  - Subject to guidelines (more later)
- Eligible to apply for limited funding for Network Actions
  - Reviewed by Executive Committee
  - Final approval from Commission PO

Membership

All members commit themselves to making a contribution to the network within the first year

Claiming Costs

Request for Reimbursement of Costs

Please read the attached guidelines before completing this form.

NAME OF PERSON MAKING CLAIM:		
NAME OF MEMBER (IF DIFFERENT FROM ABOVE):		
MEMBERSHIP NUMBER:		
ADDRESS:		
SUMMARY OF CLAIM: (SPECIFY DETAILS ON PAGE 2)	TRAVEL COSTS (€): OTHER COSTS (€): **TOTAL COSTS (€):**	

eTickets … please make sure you provide stubs of boarding passes

Guidelines for Submitting a Request for Reimbursement of Costs

1. Currency

All costs will be reimbursed in euro and all claims must be in euro. The relevant exchange rate must be shown where appropriate. You should use the exchange rate for the day the costs were incurred. Official euro exchange rates for any given date can be found in the Official Journal of the European Union (see the first item in the 'C-Information and notices' series).

http://europa.eu.int/eur-lex/lex/JOIndex.do?ihmlang=en

Exchange rates are published daily by the ECB:

http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html

2. Eligible Costs

This form is to be used only for reimbursement of travel and other allowable costs. It is not to be used for labour costs which can only be reimbursed to contractors by completing an annual Financial Statement (Form C), and to sub-contractors by submitting an invoice for services.

No costs will be reimbursed unless the member has completed, signed, and submitted the Membership Agreement. Costs incurred before membership comes into force are not eligible for reimbursement.

Unless specified otherwise by the Network Coordinator, all costs must have prior written approval.

3. Procedure for Claiming Travel and Other Allowable Costs

Travel and other allowable costs may be claimed by completing this claim form. All claims must be accompanied by appropriate supporting documentation (original receipts, paid invoices, *etc.*).
Please submit receipts in a form that makes photocopying easy (*e.g.* by pasting them to an A4 sheet of paper). ❶

3.1 Travels Costs

Travel costs relate to transportation, accommodation, and subsistence expenses incurred in connection with an euCognition-related trip, such as attendance at the six-monthly network meeting, visiting a member site as part of a Network Action or as part of an area coordination meeting. In this respect, the following guidelines apply:

- The maximum cost per trip per member is €1000 (to include all travel, subsistence, and accommodation; additional funding may be made available in exceptional circumstances subject to prior written approval). ❷
- The maximum allowable subsistence rate per day is the same as the normal Commission allowance of €150 per day and subject to the same rules (see below). ❸
- Members may send delegates to meetings if they are unable to attend.

Notes on Subsistence

A daily subsistence allowance may be claimed, depending on the duration of the trip, as follows:

- 1 day trip, destination < 50km from place of origin: €75.
- 1 day trip, destination > 50km from place of origin: €150.
- 2 day trip (*i.e.* one overnight stay): €150.
- Each additional day / overnight stay: €150.

Applying for Network Action funding

Network Action Proposal

Title:	
Membership number(s)	
Member name(s)	
Member institute/company name(s)	
Goals of the action	
Principal activity to which it contributes ○ Outreach ○ Scientific Outlook ○ Education	
Concrete outcomes of the action	
Effort in person-days that will be charged to the Network Action (if any)	
Expected start and duration in months	
The requested funding, under the following headings: ○ Travel Costs ○ Other Costs (check with the Network Coordinator if you aren't sure about eligibility of these costs) ○ Labour Costs (identify the number of person-days and the rate per day).	
Please identify any other sources of funding that contribute to this Action	

Network Actions (25 to date)

NA 004-1	Student Visit to the SCAI Lab, University of Skövde	Proposed by: Tom Ziemke	Original Proposal	
NA 004-2	Student Visit to the SCAI Lab, University of Skövde	Proposed by: Tom Ziemke	Original Proposal	
NA 007-1	Application and research roadmap for artificial cognitive systems	Proposed by: Bill Sharpe	Original Proposal	
NA 010-1	Workshop on Information Theory, Neurobiology and Cognition	Proposed by: Juergen Jost	Original Proposal	
NA 011-1	5th Europeand Neuro-IT and Neuroengineering School	Proposed by: Andreas Engel	Original Proposal	
NA 017-1	Symposium on Grand Challenge: Architecture of Brain and Mind	Proposed by: Aaron Sloman	Original Proposal	Action Outcome
NA 026-1	Workshop on Abstraction and Context in Cognitive Systems	Proposed by: Walter Kropatsch	Original Proposal	
NA 028-1	From Animals to Animats 9: 9th International Conference on the Simulation of Adaptive Behavior (SAB '06)	Proposed by: Jean-Arcady Meyer	Original Proposal	Action Outcome
NA 044-1	Action Selection for Intelligent Systems	Proposed by: Joanna Bryson	Original Proposal	Action Outcome
NA 047-1	Summer School on Humanoid Robots	Proposed by: Giorgio Metta	Original Proposal	Action Outcome
NA 050-1	Workshop on Embodying Cognition: Towards an Integrated Approach?	Proposed by: Antoni Gomila	Original Proposal	
NA 062-1	Staff Visit to University of Rome 'La Sapienza'	Proposed by: Barbara Caputo	Original Proposal	
NA 066-1	CD Proceedings of the Third Workshop on Anticipatory Behavior in Adaptive Learning Systems (ABiALS 2006)	Proposed by: Gianluca Baldassarre	Original Proposal	Action Outcome
NA 068-1	Neurophysiology and Psychophysics material for CVOnline	Proposed by: Robert Fisher	Original Proposal	
NA 068-2	Optically scan five cognitive vision books for CVOnline	Proposed by: Robert Fisher	Original Proposal	
NA 089-1	Workshop on Attention in Cognitive Systems – WAPCV 2007	Proposed by: Lucas Paletta	Original Proposal	
NA 092-1	6th Czech-Slovak workshop on Cognition and Artificial Life	Proposed by: Jiri Wiedermann	Original Proposal	Action Outcome
NA 097-1	External Symbol Grounding Workshop 2006 (ESG2006)	Proposed by: Angelo Cangelosi	Original Proposal	Action Outcome
NA 097-2	Student visit to the University of Genoa	Proposed by: Angelo Cangelosi	Original Proposal	
NA 105-1	Connect with AI: cognitive robot education outreach initiative	Proposed by: Sethu Vijayakumar	Original Proposal	
NA 108-1	Staff Visit to the University of Genoa	Proposed by: Cecilio Angulo	Original Proposal	Action Outcome ... And More!
NA 126-1	Workshop on Modelling Cognitive and Biological Autonomy	Proposed by: Alvaro Morena	Original Proposal	
NA 133-1	Student Visit to the Max Planck Institute Evolutionary Anthropology, Leipzig	Proposed by: Stefano Nolfi	Original Proposal	
NA 141-1	Symposium on Imitation in Animals and Artifacts	Proposed by: Manuel Lopes	Original Proposal	
NA 178-1	International Conference on Development and Learning (IEEE ICDL 2007) Imperial College London	Proposed by: Yiannis Dimiris	Original Proposal	

Network Actions

- 2006
  - 26 Funded
  - 3 Declined
- 2007
  - 15 Funded
  - 5 Declined
  - 2 Pending

Network Actions

- Every action
  - (meeting, student exchange, tutorial, …)
- Must have a concrete output in a persistent form
  - (document, video, commentary, …)
- Archived on the eCognition website
- Reimbursement of costs conditional on submission
- Contribution of a 'Cognition Briefing' to the Wiki
- Contribution, where appropriate, to the Roadmap

Network Actions

- euCognition does not give 'Grants',
  i.e. cash donations to support the running of events

- All we can do is help defray the actual costs incurred, *i.e.* we need receipts to show actual expenditure

euCognition

The European Network for the Advancement of Artificial Cognitive Systems

euCognition Roadmap

euCognition
www.euCognition.org

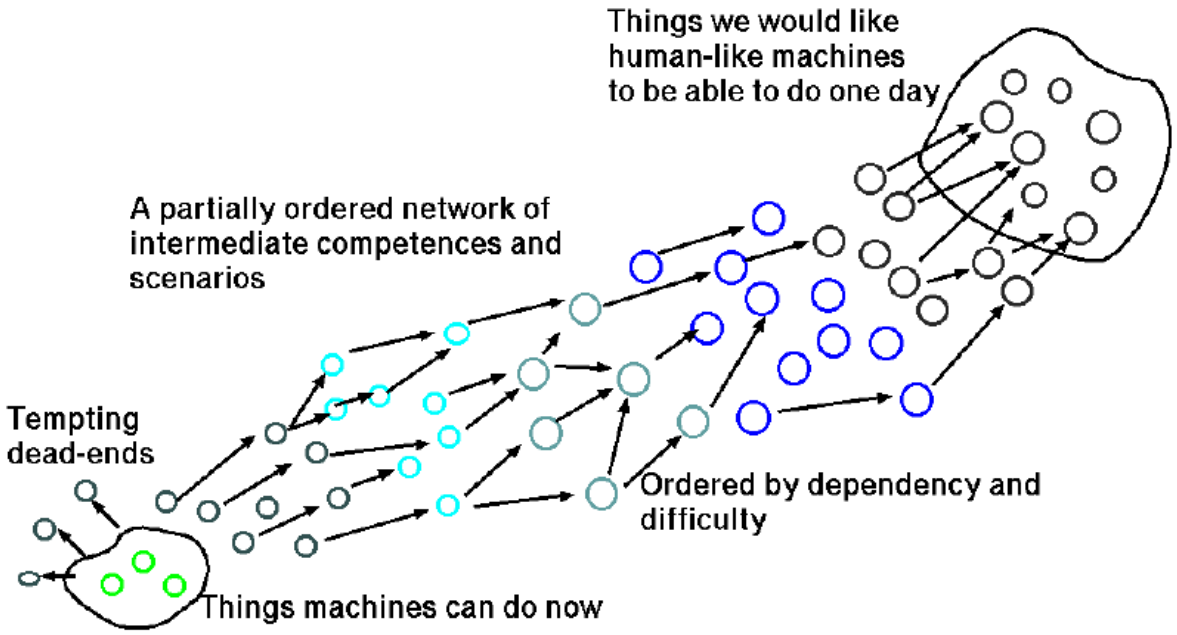
European Network for the Advancement of Artificial Cognitive Systems

Develop a dialogue between cognitive systems research and industry applications that promotes the emergence of a shared systems engineering research agenda with industry impact

Requirement-led

Capability-driven

Picture of a Research Roadmap



Forward chaining research asks: how can we improve what we have already done?

Backward chaining research asks: what is needed to achieve our long term goals?

AAAI'06 Members Poster 6 Last revised: August 13, 2006

Source: Aaron Sloman, AAAI'06

Step 1: Collection of scenarios

TreppenhausRobot

- Background
- Day in the life
- Challenges
- Cognitive capabilities needed to cope

Scenario 1

- Background
- Day in the life
- Challenges
- Cognitive capabilities needed to cope

Scenario 2

- Background
- Day in the life
- Challenges
- Cognitive capabilities needed to cope

Scenario 3

- Background
- Day in the life
- Challenges
- Cognitive capabilities needed to cope

N~20

Collect via webtools

Step 2: Analyse Scenarios, distill commonalities

TreppenhausRobot / Stairwell Robot

Background:
The key capability is learning how to navigate and clean in a domestic type space. A form of this capability already exists in the iRobot 'Roomba' robotic vacuum cleaner, albeit for large American-sized living spaces. This application extends this to the next step to take it into a different environments. The task is thus extended to be more challenging, more European but still useful to millions of people.

Day in the life:
It's 8am on Saturday morning, and the low profile robot wakes up. It navigates out of it's resting pod and checks the power levels and levels of cleaning solution. All seems ok. It moves to the first landing and proceeds to clean the tiled surfaces between flats 11 and 12 by applying cleaning solution, scrubbing, rinsing and drying. It manoeuvres around the plant pot holder in the corner. It moves to the edge of the first step in the staircase, moves its cleaning mechanism and repeats for the step….

Challenges:
different surfaces (carpet, wood, mixed), temporary obstacles like prams, doormats, changing conditions (sunlight, mud), people or pets appear and interfere, …

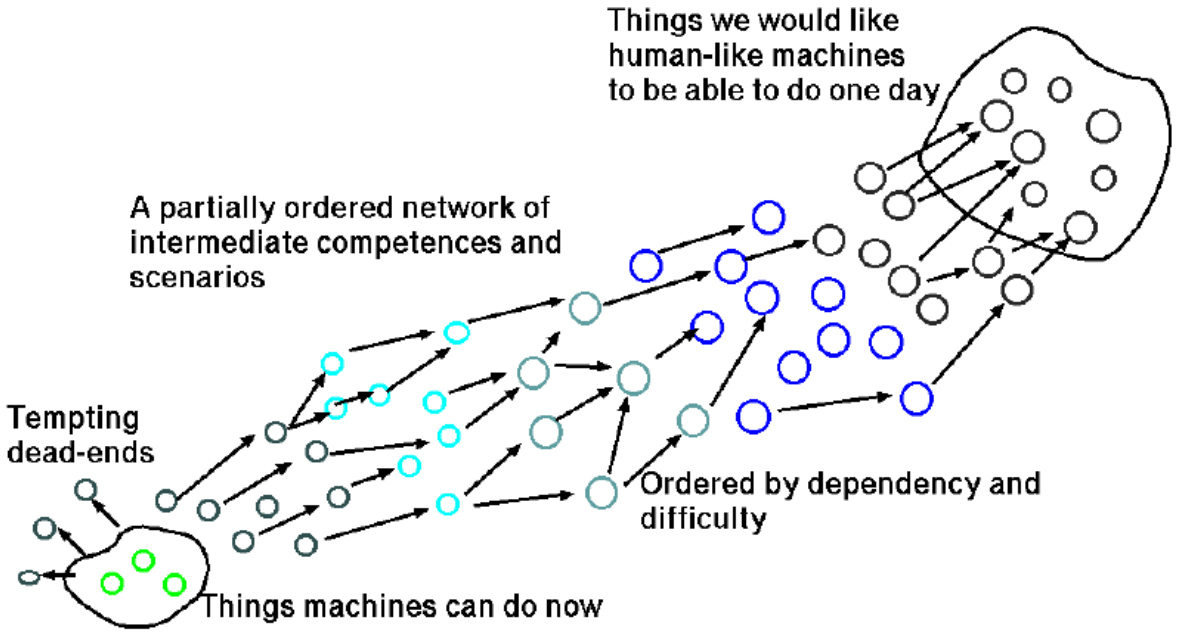
Cognitive capabilities needed to cope:
navigation in a controlled indoor space, spatial perception, adaptation to changing circumstances, planning & goal satisfaction, 2D spatial learning, embodied system with multiple degrees of freedom.

Step 3: Identify research issues, problems, challenges

Input for milestone definition in road map

Patrick Courtney, Pia Boettcher, Bill Sharpe

Picture of a Research Roadmap



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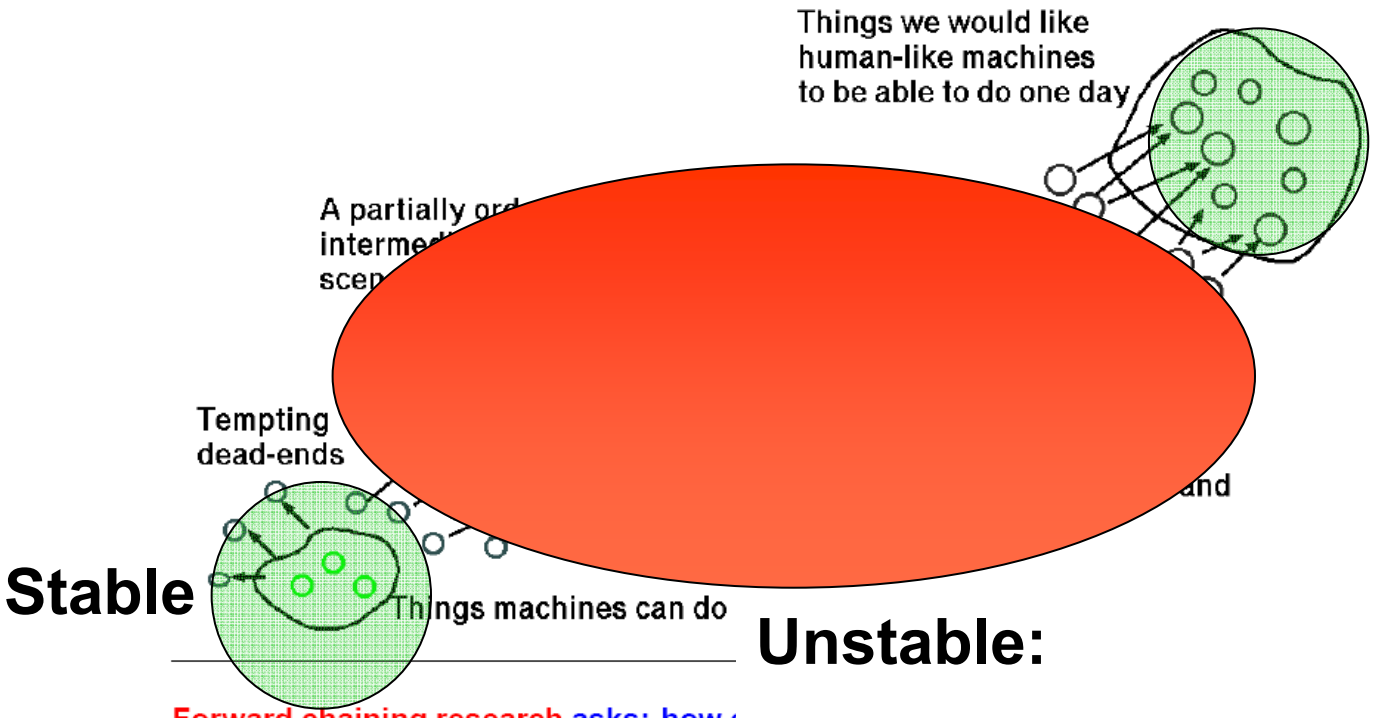
Picture of a Research Roadmap



Stable

Stable

Unstable:

Lack interdisciplinary cohesion
Lack conceptual framework
Lack shared application focus

Source: Aaron Sloman, AAAI'06

European Network for the Advancement of Artificial Cognitive Systems

euCognition Analysis of Costs 1/1/2006 to 30/6/2007				
Category	**Number of Transactions**	**Travel Costs**	**Other Costs**	**Total Costs**
Outreach Coordination	1	2142	0	2142
Outreach Actions	2	1825	400	2225
Outlook Coordination	5	3410	100	3510
Outlook Actions	24	30918	1834	32752
Education Coordination	0	0	0	0
Education Actions	6	10062	913	10975
Resources Coordination	2	0	764	764
Resources Actions	0	0	0	0
Network Coordination	16	1087	15485	16573
Six-Monthly Meetings	199	123559	19105	142664
Executive Committee Meetings	28	18546	1948	20545
Sub-Total	**283**	**191601**	**40551**	**232152**
Overheads		**38320**	**8110**	**46430**
Total		**229921**	**48661**	**278582**

Labour		**Y1**	**Y2 to date (*)**	**Total**
Management		21972	5493	27465
Coordination UGDIST		65723	16431	82154
Coordination Partners		66473	16618	83091
Total		154168	77084	231252

Grand Total (*)	**509834**

Budget 833799

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