

COST

Domain Committee "ICT"

COST Action IC0801

Start Date: 17 October 2008

Agreement Technologies

MONITORING PROGRESS REPORT

Reporting Period: from 17 October 2008 to 30 June 2009

This Report is presented to the relevant Domain Committee.
It contains three parts:

- I. Management Report prepared by Grant Holder***
- II. Scientific Report prepared by the Chair of the Management Committee of the Action***
- III. Previous versions of the Scientific Report; i.e., part II of past reporting periods***

The report is a "cumulative" report, i.e. it is updated annually and covers the entire period of the Action.

Confidentiality: the documents will be made available to the public via the COST Action web page except for chapter *II.D. Self evaluation*.

Based on the monitoring results, the COST Office will decide on the following year's budget allocation.

Executive summary (max.250 words):

Agreement Technologies refer to computer systems in which autonomous software agents negotiate with one another, typically on behalf of humans, in order to come to mutually acceptable agreements. This Action aims at coordinating national efforts on a new paradigm for next generation distributed systems, based on the concept of agreement between computational agents. An entity may choose whether to fulfil an agreement or not, and it should fulfil it when there is an obligation to do so derived from the standing agreements. Autonomy, interaction, mobility and openness are the characteristics that the paradigm will cover from a theoretical and practical perspective. Semantic alignment, negotiation, argumentation, virtual organisations, learning, real time, and several other technologies will be in the sandbox to define, specify and verify such systems. Both functional and non-functional properties are to be studied. Security on execution will be based on trust and reputation measures. These measures will help agents to determine with whom to interact and what terms and conditions to accept.



I. Management Report prepared by the Grant Holder

I.A. COST Action Fact Sheet

- **COST Action IC0801 – Agreement Technologies**
- **Domain:** *Information and Communication Technologies*
- **Action details:**

CSO Approval: 18/06/2008
Entry into force: 07/08/2008

End date: 16/10/2012
Extension:

- **Objective:**

To coordinate national efforts on a new paradigm for next generation distributed systems, based on the concept of agreement between computational agents

- **Parties:** *list of countries and date of acceptance*

Belgium (01/10/2008)	Hungary (07/08/2008)	Romania (05/12/2008)
Cyprus (22/10/2008)	Ireland (07/08/2008)	Slovenia (05/12/2009)
Estonia (10/12/2008)	Italy (21/10/2008)	Spain (07/08/2008)
Finland (18/06/2009)	Luxembourg (21/10/2008)	Sweden (27/10/2008)
France (01/10/2008)	Netherlands (13/10/2008)	Switzerland (21/10/2008)
Germany (07/08/2008)	Poland (11/06/2009)	United Kingdom (07/08/2008)
Greece (22/09/2008)	Portugal (10/12/2008)	

- **Other participants:**

- *Universidad Nacional del Sur - Argentina*
- *University of Technology – Australia - Sydney*
- *Instituto de Informatica da UFRGS - Brazil*
- *Universidad Autonoma Metropolitana – Cuajimalpa – Mexico*
- *British University in Dubai – United Arab Emirates*

Chair:

*Sascha Ossowski – URJC/CETINIA –
Calle Tulipán, s/n – 28933 Móstoles –
Spain –(+34)916647485 –
sascha.ossowski@urjc.es*

DC Rapporteur:

*Mieczysław Muraszkieńwicz,
Warsaw University of Technology- ul.
Nowowiejska 15/19 – 00665 Warsaw –
Poland – mietek@n-s.pl*

Science Officer:

*Gian Mario Maggio –
gmmaggio@cost.esf.org*

Administrative Officer:

*Sophie Beaubron –
sbeaubron@cost.esf.org*

- **Action Web site:** <http://www.agreement-technologies.eu>
- **Grant Holder Representative:** *Rafael van Grieken, rafael.vangrieken@urjc.es*
- **Working Groups:**
 - *WG1: Semantics*
 - *WG2: Norms*
 - *WG3: Organizations*
 - *WG4: Argumentation & Negotiation*
 - *WG5: Trust*

I.B. Management Committee member list

COST Participants:

Name	Country	E-mail
Sascha Ossowski (chair)	Spain	sascha.ossowski@urjc.es
Vicent Botti (co-chair)	Spain	vbotti@dsic.upv.es
Danny Weyns (member)	Belgium	danny.weyns@cs.kuleuven.be
Antonios Kakas (member)	Cyprus	antonis@ucy.ac.cy
Kuldar Taveter (member)	Estonia	kuldar.taveter@ttu.ee
Merik Meriste (member)	Estonia	merik.meriste@ut.ee
Lea Kutvonen (member)	Finland	lea.kutvonen@cs.helsinki.fi
Pavlos Moraitis (member)	France	pavlos@mi.parisdescartes.fr
Leila Amgoud (member)	France	amgoud@irit.fr
Matthias Klusch (member)	Germany	klusch@dfki.de
Jurgen Dix (member)	Germany	dix@informatik.tu-clausthal.de
Oliver Keller (member)	Germany	keller@dfki.de
George Vouros (member)	Greece	georgev@aegean.gr
Michail Salampasis (member)	Greece	cs1msa@it.teithe.gr
Laszlo Zsolt Varga (member)	Hungary	laszlo.varga@sztaki.hu
Axel Polleres (member)	Ireland	axel.polleres@deri.org
Piero Andrea Bonatti (member)	Italy	bonatti@na.infn.it
Cristiano Castelfranchi (member)	Italy	cristiano.castelfranchi@istc.cnr.it
Emyl Weydert (member)	Luxembourg	emil.weydert@uni.lu
Martin Caminada (substitute)	Luxembourg	martin.caminada@uni.lu
Leon van der Torre (substitute)	Luxembourg	leon.vandertorre@uni.lu
John Jules Meyer (member)	Netherlands	jj@cs.uu.nl
Marcin Paprzycki (member)	Poland	paprzyck@ibspan.waw.pl
Eugenio Oliveira (member)	Portugal	eco@fe.up.pt
Adina Magda Florea (member)	Romania	adina@cs.pub.ro
Viorel Negru (member)	Romania	vnegru@info.uvt.ro
Denis Trcek (member)	Slovenia	denis.trcek@fri.uni-lj.si
Iztok Starc (substitute)	Slovenia	iztok.starc@fri.uni-lj.si
Carles Sierra (member)	Spain	sierra@iia.csic.es
Henricus Verhagen (member)	Sweden	verhagen@dsv.su.se
Paul Davidsson (member)	Sweden	paul.davidsson@bth.se
Michael Schumacher (member)	Switzerland	michael.schumacher@hevs.ch
Marco Colombetti (member)	Switzerland	colombem@lu.unisi.ch
Francesca Toni (member)	United Kingdom	ft@doc.ic.ac.uk
Michael Luck (member)	United Kingdom	michael.luck@kcl.ac.uk
Michael Wooldrige (substitute)	United Kingdom	mjw@liv.ac.uk
Nick Jennings (substitute)	United Kingdom	nrj@ecs.soton.ac.uk

Non-COST Participants:

Name	Country	E-mail
Carlos Ivan Chesñevar	Argentina	cic@cs.uns.edu.ar
John Debenham	Australia	debenham@it.uts.edu.au
Ana Lucía Bazzan	Brazil	bazzan@inf.ufrgs.br
Christian Lemaitre	Mexico	christian.lemaitre@gmail.com
Iyad Rahwan	United Arab Emirates	irahwan@acm.org



I.C. Overview activities and expenditure

2008-2009 Budget

Action Budget (Period 1): 70.081 €

II. Scientific Report prepared by the Chair of the Management Committee of the Action, describing results achieved during the Action operation in this period, in no more than 3 pages (the report is “cumulative”). All items listed in Sections A, B, and C, below, must be addressed.

Additional documentation such as extended scientific reports, proceedings of workshops, seminars or conferences may be provided separately as an annex to this report, and should be referenced in the report.

II.A. Innovative networking

- *Innovative knowledge resulting from COST networking through the Action. (Specific examples of Results vs. Objectives)*
- *Significant scientific breakthroughs as part of the COST Action. (Specific examples)*
- *Tangible medium term socio-economic impacts achieved or expected. (Specific examples)*
- *Spin off of new EC RTD Framework Programme proposals/projects. (List)*
- *Spin off of new National Programme proposals/projects. (List)*

The following management meetings were held at the beginning of the Period 1 of the Action in order to define its strategy for the implementation of Action objectives during its first months:

- *Kick-off MC meeting* on October 17th, 2008, in Brussels, Belgium
- *CG meeting* on December 17th, 2008 in Bath, UK

It was decided to perform primarily activities intended to raise awareness of the Action and to disseminate its aims and scope among its targeted audience, i.e. mainly researchers from the Multiagent Systems and the Semantic Web community. The minutes of both meeting are attached to the present report. The *Second MC meeting* is planned for May 15th, 2009, in Budapest, Hungary.

A major means for dissemination is the Action web site; a first version has been constructed and is accessible at the URL <http://www.agreement-technologies.eu/>. Furthermore, distribution lists have been set up for the Action’s MC, CG, and WGs, and a tailorable Action Powerpoint presentation has been made available. It is planned to produce an Action poster and/or flyer over the next weeks. In addition, until the time of writing, the following activities had been carried out as part of the aforementioned strategy:

- *Panel on Agreement Technologies at EUMAS’08, December 18th, 2008, Bath, UK*
This 1-hour panel was part of the regular programme of EUMAS’08. The Action Chair gave a general presentation of IC0801; subsequently, the aims and scope of the WGs were presented and discussed with the audience, mainly early-stage researchers from the field of Multiagent Systems.
- *WG2 meeting at the Dagstuhl Seminar on Normative Multiagent Systems, March 16th, 2009, Schloss Dagstuhl, DE*
A two-hours panel on Norms and Agreement Technologies was held at the Dagstuhl Seminar on Normative Multiagent Systems. The panel was integral part of the Dagstuhl Seminar and provided an extraordinary opportunity to publicise the Action in general, and WG2 in particular.
- *WG1 ad hoc seminar on Agreement and Semantic Technologies, April 23rd, 2009, Madrid, ES*
This meeting was co-located with the WWW’09 conference in Madrid that covered several topics addressed mainly by WG1.

The minutes/slides of these events are attached to the present report. In addition, the Actions’ WG1 and WG5 are jointly promoting the ESWC-2009 Workshop on Trust and Privacy on the Social and Semantic Web to be held on May 31st, 2009, in Heraklion, Crete.

Furthermore, it should be noted that the first joint workshops of all five Working Groups will be held on May 16th, 2009, in Budapest. The event is co-located with the AAMAS’09

conference so as to facilitate the participation of interested researchers and to reduce travel costs. There will be separate sessions of the different working groups in the morning, and joint sessions in the evening (see: <http://www.agreement-technologies.eu/>). One of these joint sessions is intended to identify inter-WG relationships and opportunities for cooperation, while the second constitutes an “Agreement Technologies Community meeting”, where researchers and practitioners can discuss their expectations regarding the Action’s general strategy and planned activities.

II.B. Inter-disciplinary networking

- *Additional knowledge obtained from working with other disciplines within the COST framework. (Specific examples)*
- *Evaluation of whether the level of inter-disciplinarity is sufficient to potentially provide scientific impacts. (Specific examples)*
- *Evaluation of whether the level of inter-disciplinarity is sufficient to potentially provide socio-economic impacts. (Specific examples)*

The first joint Working Group Workshops are scheduled for May 16th, 2009, in Budapest, so it is certainly premature to claim any concrete results of inter-disciplinary networking for the Action. However, we would like to point to the expressions of interest (EoI) for our WGs from researchers belonging to a variety of different communities. In particular, scholars from disciplines such as philosophy, logics, law, engineering (ICT), psychology, social sciences, linguistics, and cognitive science have expressed their interest in WG2 on Norms. To this respect, it is worthwhile to mention that the Action will be present at the conference “Joint action, Commitment, and Agreement”, held on June 5th, 2009, in London, and jointly organised by the London Institute of Philosophy and the University of Manchester (http://www.philosophy.sas.ac.uk/JointAction_Commitment_Agreement.pdf). The organisation of the event was realised outside the Action but, given the obvious thematic overlap, we plan to take advantage of this opportunity for inter-disciplinary networking.

II.C. New networking

- *Additional new members joining the Action during its life.*
- *Total number of individual participants involved in the Action work. (Number of participants. Give % of female and of Early Stage Researcher participants)*
- *Involvement of Early Stage Researchers in the Action, in particular with respect to STSMs, networking activities, and Training Schools. In addition, justification should be provided if less than 4 STSMs were carried out during the year.*
- *Involvement of researchers from outside of COST Countries. (Number of participants from non-COST Countries approved by the CSO. Give % of such participants from countries with reciprocal agreements. Specify their contribution)*
- *Advancement and promotion of scientific knowledge through publications and other outreach activities. (Number of publications and other outreach activities that resulted from COST networking through the Action. Complete list should be given in an annex)*
- *Activities and projects with COST network colleagues.*
- *The capacity of the Action members to raise research funds.*

The Action has received over 100 expressions of interest (EoI) in its WGs, about one half of which were issued by early-stage researchers (ESR). Less than 20% came from female colleagues; a ratio that we intend to improve in the months to come, in line with the mechanisms described in the MoU. At WG level, the numbers are as follows:

- WG1: 23 Eols, thereof 91% ESR and 17% female, approximately
- WG2: 48 Eols, thereof 20% ESR and 19% female, approximately
- WG3: 18 Eols, thereof 55% ESR and 17% female, approximately
- WG4: 10 Eols, thereof 50% ESR and 20% female, approximately
- WG5: 13 Eols, thereof 54% ESR and 8% female, approximately

Please notice, however, that the WG chairs prefer to take final decisions regarding WG membership after the Budapest WG workshops, and that not all of the aforementioned researchers are formally eligible for WG membership.

The Action's STSM programme has also been successfully launched during Period 1. Applications are submitted through a web-based form available at the URL <http://www.agreement-technologies.eu/stsm.html>. At the first collection date for STSMs (February 28th, 2009), two STSMs were approved. Several additional applications for STSMs have been received since then (the next collection date is May 8th, 2009). We are confident to meet, or even exceed, the goals set to this respect in the workplan/budget plan.

During Period 1, five Institutions from non-COST countries have joined the Action:

- Argentina: Universidad Nacional del Sur. Represented by *Carlos Chesñevar*
- Australia: University of Technology Sydney. Represented by *John Debenham*
- Brazil: Universidade Federal do Rio Grande do Sul. Represented by *Ana Bazzan*
- Mexico: Universidad Autónoma Metropolitana. Represented by *Christian Lemaitre*
- United Arab Emirates: British University in Dubai. Represented by *Iyad Rahwan*

John Debenham performed a research visit to IIIA-CSIC under the COST Reciprocal Agreement with Australia. Carlos Chesñevar plans to participate in the Budapest WG workshops as an invited expert. Finally, Bastin Tony Roy Savarimuthu, from the University of Otago, Dunedin, New Zealand, participated actively in the Dagstuhl WG2 meeting under the COST Reciprocal Agreement Scheme.

As mentioned previously, there will be a special session ("Agreement Technologies community meeting") as part of the WG workshops to be held on May 16th, 2009, in Budapest, co-located with the AAMAS conference. Several first authors of AAMAS papers who are early-stage researchers have been invited for this session, and to the workshops in general, so as to capture as early as possible the expectations of this important target collective regarding the Action. The percentage of ESRs among the Eols received is encouraging and, of course, the Action will continue with its efforts to foster ESR involvement.

Given the initial stage of the Action, in general it appears premature to claim research projects or joint publications to be the direct result of the Action's networking activities. However, we would like to mention here the proceedings of the Dagstuhl Seminar on Normative Multiagent Systems that have been compiled by researchers with active involvement in our Action: *Normative Multi-agent Systems* (Boella, Noriega, Pigozzi, Verhagen, eds.), Dagstuhl Seminar Proceedings 09121, ISSN 1862-4405.

Finally, it should be noted that our Action has already established active liaisons with the COST Actions IC0602 ("Algorithmic Decision Theory") and IC0702 ("Combining Soft Computing Techniques and Statistical Methods to Improve Data Analysis Solutions"). These liaisons do not only include mutual assistance in the distribution of Action-related events. The chair of this Action's WG4, Leila Amgoud, will present a course on "Arguing and Explaining Decisions" at the Spring School on Reasoning and Decision Making under Uncertainty and Imprecision, to be held May 18-20, 2009, at the European Centre for Soft Computing, Mieres (Asturias), Spain.

II.D. Self evaluation

Indicate in no more than 1 page what, in the opinion of the MC, were the main successes, drawbacks (if any) and the key difficulties encountered (if any).

III. Previous scientific report(s)

Part II of past periods' reports are to be found here.

This is the first Monitoring Progress Report of COST Action IC0801.