

GIACS



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GIACS

**General Integration of the Application
of Complexity in Science**

Co-ordination Actions

Research Directorate General

NEST-2003-Path-1 Tackling Complexity in Science

**GIACS WP3
Periodic activity report**

15.01.2007 - 14.07.2008

Start date of project: 2005-07-15

Duration: 42 months

Ente per le Nuove Tecnologie, l'Energia e l'Ambiente(ENEA)

Project co-funded by the European Commission within the Sixth Framework Program (2002-2006)
Dissemination Level

PU	Public	X
PP	Restricted to other program participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

GIACS WP3

Periodic activity report for the month 15.01.2007 - 14.07.2008

The activities carried out in the reporting period by the partner ENEA concerned with the following tasks (WP3 deliverables):

D3.2 Support of visits leading to common Complexity PhD industry-STREPS.

D3.3 Session in workshop organized to put together complexity and technology for initiating common PhD projects: industry-STREPS.

Actions carried out in these tasks include:

1 –Exploitable knowledge and its use

In the frame of ENEA's activities in the area of Complex Networks, a suite of software tools has been developed; this allows to evaluate a number of relevant topological properties on network's data, with particular emphasis to networks mapping complex Critical Infrastructures (CIs). The suite, called NAT (Network Analysis Tool) is currently available on the ENEA project's site at <http://www.progettoreti.enea.it/nat> and can be made available to a larger class of users

Exploitable product	Sector	Timetable for commercial use	Patents	Owner
NAT: a suite of software tools for topological analysis of complex networks	Complex Critical Infrastructures Analysis	No commercial use is forecasted. The tool can be accessed and used freely	None	Ownership is of ENEA (GIACS partner)

The presence of the NAT tools has been disseminated through the Companies and the CI stakeholders, other than within the scientific and technological community, supporting the possible use in Industry. All the details are reported in the **Deliverable D3.3**.

2 –Dissemination of knowledge

The major actions taken during this period have been:

- (1) the organization of the Satellite Workshop "Critical Infrastructures as Complex Systems", as a side event of the European Conference of Complex Systems (ECCS07), held in Dresden on October 1-5, 2007
- (2) the edition of a Special Issue of a scientific journal covering the different aspects of the interaction between the community of Complexity Science and that of Critical Infrastructures management has been proposed to (and accepted by) Inderscience Publisher.

Dates	Type	Type of audience	Countries	Size of audience	Partners involved
October 1-5, 2007	Scientific workshop	- scientists - technologists - technical managers	EU, US and Japan	~ 50 people	ENEA ENST TU Dresden
Within 2008	Publication (Special Issue of International Journal of Critical Infrastructures)	- scientists - technologists	worldwide		ENEA ENST

All the details are reported in the **Deliverable D3.3**.

3 –Support of PhD Thesis

In the frame of a collaboration with the University of Roma “RomaTre” (prof.Stefano Panzieri (Dept. of Informatics and Automation), ENEA has started a Ph.D. program, hosting and tutoring Ph.D. students on subjects related to the use of Complex Systems models and methods for the study of CIs phenomena.

A collaboration on these subjects has been started by the Ph.D. student Sandro Meloni (Degree in Informatics Engineering at that University). This Ph.D. studentship is going to allow a tight connection between the Roma’s group (ENEA and University of RomaTre) with the University of Catania (dr. Vito Latora) and prof. Helbing’s group at ETH Zurich. All the details will be reported in the **Deliverable D3.2**.

4 –Meetings with Industries

During the period, several meetings have been performed with several players in the Italian scenario of CIs. In particular with

- CESI Ricerca; it is a major italian public company, formerly belonging to the italian company for electrical Energy (ENEL), which is a repository of relevant competences on engineering problems related to the Electrical Transmission and Distribution network’s. ENEA is going to establish tighter and tighter links with that company which will be partner of ENEA in the proposition of Italian- and EU-funded projects on CIs.
- Finmeccanica group: Finmeccanica is the major public company in Italy. Finmeccanica holds a number of companies which are active in the field of ICT technologies, also in the area of CIs control tools. To establish links with the different companies of the Finmeccanica galaxy, ENEA and Finmeccanica have agreed to carry on an Exchange of visits of their scientists and technologists at the different relevant companies sites. In this program, several visits have been performed, with the following schedule:

- ENEA and Finmeccanica visit at CESI Ricerca laboratories in Milan (October 9, 2008)
- Finmeccanica and CESI Ricerca visit at ENEA Casaccia laboratories (October 11, 2008)
- ENEA and CESI Ricerca visit at Finmeccanica site (SELEX S.I.) in Roma (October 11, 2008)
- ENEA and CESI Ricerca visit at Finmeccanica site (Selex Communications) in Genova (Novembre 29, 2008)

All the details will be reported in the **Deliverable D3.2**.