

EchoGRID

European and Chinese cooperation on GRID

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- **Project number 045520**
- **Project coordinator - GEIE ERCIM**
- **Contribution to project - 1 550 000 €**
- **Partners**

– GEIE ERCIM	ERCIM	FR
• INRIA, CCLRC, CNR & FhG		
– National Technical University of Athens	NTUA	GR
– Atos Origin SAE	ATOS	SP
– Engineering Ingegneria Informatica	Engineering	IT
– Thales Services	THALES	FR
– Beihang University	BUAA	CN
– Institute of computing Technology	ICT-CAS	CN
– Computer Networking Information Center	CNIC-CAS	CN
– National University of Defence Technology	NUDT	CN
– Huawei Technologies Co.	HUW	CN
- **Subcontracts:**

– Metaware SPA		IT
– Peking University		CN
– CVIC Software Engineering Co		CN



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Foster collaboration in Grid research and technologies by defining short-, mid-, and long-term vision in the field

- Establish a common Grid Collaboration Roadmap, relying on European and Chinese experts, both from academia and industry;
- Consolidate this vision and promote cross-fertilisation between Grid-related projects and initiatives in Europe and China by interacting with the GRID research and industrial communities;
- Exchange experiences and best practices by selecting Grid Open Standards for Grid middleware and applications interoperability and by promoting the identification of guidelines for building a Standard Quality Assurance Process;
- Support lasting cooperation and establish tangible partnerships in the field through support activities and tools, ranging from a mobility programme for researchers, to a dedicated partner search engine.



- European Research Network on Foundations, Software Infrastructures and Applications for large scale distributed, GRID and Peer-to-Peer Technologies
- 40 partners from 18 Countries (1 from S. America)
- CoreGRID researchers
 - Aug 2005: 145 researchers
 - Aug 2006: 155 researchers
- CoreGRID PhD students
 - Aug 2005: 169 PhD students
 - Aug 2006: 168 PhD students



- Goal
 - Foster collaboration in Grid research and technologies between the European Union and two Asian countries: China and South Korea
- 3 steps
 - Mapping of Chinese and South Korea key Grid players
 - Grid focused workshops on research and industrial agendas
 - Dissemination and sustainability
- Results
 - Initiate future co-operation between EU and Asian grid communities
 - Validate capacities and extend sustainable co-operation with leading Grid actors in Asia
- Two workshops in Beijing and Shanghai



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- **NESSI ambition** is to
 - develop a **visionary unified European strategy**
 - implement technologies for
 - services architectures
 - software and grid infrastructures
 - trustworthy systems and services
 - For industry
 - For governments and administrations
 - For citizens
- **Strategic Research Agenda**
 - SRA Volume 1: available
 - SRA Volumes 2 (Strategy) and 3 (Roadmap): November 2006
- **13 Industrial founders**
- **More than 200 NESSI Members (ICT, SME, and Academics)**



Strategic Objectives

1. Advanced robotics: 37 M€
2. Ambient Assisted Living for the ageing society: 40 M€
3. Advanced search technologies for audio-visual content: 30 M€
4. Accompanying actions: 3 M€
5. International cooperation: 6x5M€

Out of which - INCO - Grid Technologies

Target Country: CHINA

- “Next Generation Grid(s) – European Grid Research 2005 - 2010”, 2003
- “Next Generation Grids 2 – Requirements and Options for European Grids Research 2005–2010 and beyond”, 2004



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- Collaboration Roadmap endorsed at international level
 - EU & China research and industrial agendas
 - Proposal for a strategic cooperation (Grid and service software)
- Series of strategic Workshops
 - Majors players in EU & China
 - Restricted audience
- Conferences
 - Attract players & disseminate results
 - Initiate cooperation
- Cross geographic Grid Plugtest event
 - Interoperability mechanisms of middleware
 - Grid infrastructure in EU & China
- Portal and search engine
 - Publish and disseminate Grid results
 - Partners search engine (Ideal-IST)
- Mobility programme
 - Fellowship programme
 - Research exchange programme



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Identification of EU and Chinese research Initiatives

- Goal - identify European and Chinese Grid effort & gaps and recommend solutions for bridging them
 - (i) analysis of the Chinese and European Grid research status and vision;
 - (ii) identification of potential penetration/collaboration fields
 - (iii) recommendation of methods to effectively bridge the gaps.

Identification of EU and Chinese industrial initiatives

- Current situation and challenges of the European & Chinese industries will be examined, determining the key strategic market sectors for European & Chinese industries and establishing the key challenges to industrial development (technology, economic, political)



Market analysis

- Analyse the market context and composition (actors) with regards to the use, development and adoption of Grid Technologies in the “geographical” intersection between European and Chinese industries.
- A common understanding on current state, future trends and challenges will be provided as a complementary input for establishing Grid strategic orientations
- The market report will not be based on a primary market research but based on literature and studies of other well-know entities.

Definition of Grid strategic orientations

- Reveling on the outputs from Tasks 1.1-1.3, This task will consolidate and affirm the strategic orientations to provide a basis for future directions of GRIDs development



Series of strategic Workshops

- Definition and validation of the Strategic Workshops agenda
- Participants will be asked to analyse the presented findings for scientific and technological validity, industrial and societal impact, and levels of payoff compared to potential risks
- Invitation of the European and Chinese Grid project representatives and of other Asian countries delegations
- Ensure local visibility and local political participation to the workshop
- Collection of workshop presentations for upload on dedicated web pages

Roadmap consolidation

- Extraction of main recommendations for future research directions
- Adjust original research orientation based on the feedback received from workshop recommendations
- Preparation of final ECHOGRID research roadmap



Roadmap finalisation

- Disseminate the draft and consolidated versions of the roadmap to targeted Grid community.
- Gather complementary feedback from the community of experts to make sure the roadmap is consistent and describes a shared vision. A public period for comments will be established.
- Provide recommendations for a potential alignment between the EU and Chinese strategic plans for Grid research and technology.
- Enable discussion and cross-analysis with Nessi-Grid, Challengers and other similar Grid EU and Chinese initiatives.



Grid Open standards

- Study of the different initiatives existing in China and Europe working on the definition of Open Standards in Grid development to build a common vision of the Open Standards that are of vital importance for Chinese and European entities with special focus on the industry.
- In order to bridge the gap between the R&D work and the industrial and market requirements, the project will indicate some required standardization actions as business drivers, standards consolidation to support business process interoperability.
- This task will monitor some ongoing standardization activities at the W3C, OASIS and Global Grid Forum (GGF) with its recent merging EGA (Enterprise Grid Alliance).



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Grid Plugtest

- GRID Plugtests will be organised in 2007 and 08 to test and improve interoperability mechanisms of Grid middleware, and to learn, through user experiences, deployments, and open discussions about the current status of Grid infrastructure between EU and China, Grid middleware in use on each side, and future features and interoperability mechanisms needed for the Grid.
- Physical presence and operation from both the Nice (France) location, and a China location (Beijing).
 - Building an appropriate Grid Testbed between EU-China;
 - Organizing a contest that will stimulate the use of EU-China software;
 - Providing dedicated machines for supporting the GRID Plugtest infrastructure;
 - Analyzing results and providing recommendations.
- During the plugtest week, a *concertation workshop* will be organised: representative of most of the EU-funded Grid projects will be invited, with a view to cross-fertilise and develop synergies between all current EU Grid initiatives. Bridge initiative.



Quality assurance for Grid technology

- Contribute to global working groups and standardisation bodies (such as GGF/OGF and ETSI)
- ECHOGRID will participate with other projects (namely ETICS and EU-OMII) in establishing a working group inside the OGF (Open Grid Forum), establishing concrete liaisons with them and other projects (Qualipso and QUALOSS) and will promote the strict collaboration with the recently established TC GRID at ETSI for future joint standardisation initiatives.
- Study of different approaches either in EU and China, and in the rest of the world, and a concrete strategy for standardisation will be released
- A common vision of Quality Assurance approaches for grid technology, barriers to adoption, as well as open issues will be discussed with other initiatives in joint fora from the perspectives of grid software development
- Establish a common vision for EU and China with concrete research activities on open issues and proposals for further cooperation initiative,



Fellowship programme

- Young researchers to be hosted at one partner facilities for a 6 to 9 month
- Open to postgraduate students
- Career development promotion
- Costs are (i) reimbursement of travel expenses and (ii) monthly allowance.
- 3 to 4 fellows will be visiting one member institute

Staff exchange programme

- Exchange of staff is one of the most effective ways to initiate and build lasting cooperation.
- Visit of a permanent staff from one member to another for a period ranging from 2 to 10 weeks.
- Can be used to finance a student embarked in a co-PhD-supervision
- Costs are (i) reimbursement of 1 round trip travel (ii) payment of a lump sum of 500 EUR for each week of visit.
- 10 researchers will be visiting one member institute for an average period of 10 weeks.



Web based collaboration portal

- Collaboration portal completed with a partner search engine is a central point for the consortium and for organizations, bodies, academia & research dealing with research policies in GRID as well as for public awareness on Grid Technology.
- Users to display profiles, act as registration entry point for the events planned, store the documentation related to the events and store publicly available dissemination material such as announcements, latest European & Chinese related news or press releases.

Networking international conferences

- Two international conferences to showcase results, exchange knowledge and learn about developments from emerging economies. Balanced representation of industry and academic participants will be ensured.
- Feedback from the participants will be analysed in order to verify the benefits gained by participants, learn lessons for other event organisations and particularly to obtain preliminary information on knowledge sharing experiences, future co-operation development & future planned activities.



To sum up

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Echos are needed from

- National and EC funded Grid initiatives
- Chinese 863 High-tech programme
- China National Grid - CNGrid
- Next Generation Grid Expert Group - NGG3
- Networked Software and Service Initiative – NESSI
- Asian Grid programmes
- National Science Foundation of China Grid - NFSCGrid
- CoreGRID NoE institutes
- Selected EC projects: BEinGrid, Simdat...
- Universities, research institutes & industry...

→ We need acceptance of the roadmap by EU and Chinese communities and authorities

→to lead to long term collaborations & partnerships



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