



**Financed by the FP7 – Capacities, of the European Commission the CHAIN Project, in which RedCLARA is strongly involved, it aims to coordinate and leverage recent efforts and results with a vision of a harmonised and optimised interaction model for e-Infrastructure and specifically Grid interfaces between Europe and the rest of the world.**

**CHAIN (Co-ordination & Harmonisation of Advanced e-INfrastructures), – which was launched on December 14, 2010, and will run till the end of 2012 - will elaborate a strategy and define the instruments in order to ensure coordination and interoperation of the European Grid Infrastructures with other external e-Infrastructures. In order to know more about CHAIN and to evaluate its first year of action, we talked with Federico Ruggeri, its project Coordinator.**

**CHAIN is completing the first half of its lifetime. After a year of work in order to foster and ensure the interoperability of the European Grid Infrastructures with the e-Infrastructures of the rest of the world, and considering what has been done with the project partners from Sub-Saharan Africa, Asia and Latin America, what would you identify as the most relevant project assets and which would identify as its most relevant contributions to e-Science development?**

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The CHAIN project, started on the 1<sup>st</sup> of December 2010, aims to coordinate and leverage the efforts made over the past 6 years to extend the European eInfrastructure (and particularly Grid) operational and organisational principles to a number of regions in the world. CHAIN uses these results with a vision of a harmonised and optimised interaction model for eInfrastructure and specifically Grid interfaces between Europe and the rest of the world with a wide geographical coverage from Latin America to Asia Pacific.

The project has started with a large spectrum survey on National and Regional Grid Infrastructures to complement and update the knowledge base originated by previous regional projects such as EELA, EUMEDGRID, EU-IndiaGrid, EUAsiaGrid and SEE-GRID. This knowledge base is accessible from the project web site [www.chain-project.eu](http://www.chain-project.eu) with an interactive interface based on geographical maps:  
<http://www.chain-project.eu/knowledge-base>

CHAIN has also developed a strategy of events (workshops, schools and conferences) to ensure coordination and interoperation of the European Grid Infrastructure with those emerging in other regions of the world (Africa, Asia, Latin America, Mediterranean and Middle East).

The contact with Virtual Research Communities (VRC) has also been one of the most important activities performed. We signed Memoranda with WeNMR and WFR4G and are working on building an intercontinental VRC on Climate Change. The high level conference organised at ICTP in Trieste last May has been very important to gather Climate Change researchers and eInfrastructure providers and managers in order to understand the requirements of such a large community.

**Six Virtual Research Communities (VCR) were identified by CHAIN in early April as possible main actors for the major task of proposing a reference model for VCR. Are they participating in the elaboration of that reference model? Is that model currently under production? Which do you envision its key directions will be?**

We are currently working with them in order to clarify their requirements and we have prepared a model that is based on a short term solution based on Scientific Gateways and a long term vision for interoperability. The short term is currently under development and will be demonstrated early next year. The goal is to demonstrate that e-Infrastructures can be made interoperable to each other using standards and that VRC-specific applications can be

submitted from anywhere and run everywhere.

In order to reach this objective we need to ease the access of users to the elnfrastructures and we are convinced that Identity Federations can provide a boost in this respect.

### **How do you evaluate this first year of CHAIN and how do you envision the second year?**

The first year of activity has been very exciting and we spent a lot of effort in collecting information and organising meetings and workshops in order to pass the message that a large intercontinental coordination is possible and it is beneficial for several scientific communities.

The second year will be devoted to consolidating the results obtained, continue to involve the interested scientific communities and finally harvesting results from what we have done. We are currently planning to organise several workshops and to demonstrate the opportunities offered by distributed computing infrastructures to the selected scientific communities.

A road-map on the interoperations between European and other regional Grid Infrastructures will be another of the most important deliverables of CHAIN.

### **All the CHAIN targeted regions are currently operating grid infrastructures, which are the main differences between those regions in terms of the management and use of those grids?**

As it came out from our survey the main differences are related to the organisational structure and, in a few cases, on the different middleware that is being used. The former, being a “natural” consequence of different opportunities offered by the governmental structures and different aggregations of scientific communities, is sometimes related to the latter: India and China show a very strong governmental support and a specific middleware.

In other regions the message on the importance of elnfrastructures has been rapidly endorsed

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by the scientific communities, and European best practices were applied. On the other hand the activity has in general received lower attention (and funds) from the governments.

**Sustainability of the e-Infrastructures in those non European regions that are supported by the European Commission through its different cooperation programmes is a major issue. Which are the main concerns of the CHAIN leaders in terms of the future sustainability of these infrastructures?**

Sustainability has many faces and all of them should contribute to the final result:

- eInfrastructures should address a large number of users;
- public funds should be available to support the common infrastructures.

We have made progress in both of the above points but still we see a long road ahead. The number of users should be increased in order to have a sufficient bottom-up pressure on the stakeholders. At the same time some infrastructural investments are needed in many countries in order to facilitate the process and reduce the costs of deployment of leading edge eInfrastructures.

**Which has been the major contribution of RedCLARA and Latin America to the project?**

RedCLARA has been key in collecting information on the state of the art in Latin America with an original approach to the topics of organisational structures and sustainability. The LA scenario is a very relevant example of regional specificities that have to be taken into account and a very active source of possible approaches that could be applied elsewhere.

RedCLARA is the organisation of reference for eInfrastructures in LA, but it can also be a model in other regional contexts.