ACTION-Grid

International Cooperative Action on Grid Computing and Biomedical Informatics between the European Union, Latin America, the Western Balkans and North Africa

The project aims to exchange research results and foster collaborations in nanoinformatics, Grid technologies and biomedical informatics among Latin America, the Western Balkans, North Africa and the European Union (EU). Moreover it aims to the creation of a White Paper that will provide input to the European Commission and other agencies in developing a future agenda in R&D in these areas.

Objectives of the project

Over the last years, researchers in biology and medicine have produced a huge amount of new data. This exponential growth leads to the necessity of novel approaches and tools to make this data accessible. Information produced by researcher may not be familiar to the most part of clinicians. For these reasons Biomedical Informatics should develop new tools to help to extract relevant information.

Due to the increase of available data, recent methods applied by biomedicine, such as data mining, database integration and simulation, are becoming computationally demanding. The access to new approaches is needed to perform such tasks.

ACTION-Grid will act as a multiplier of previous results in Grid and Biomedical Informatics and will disseminate these results in Latin America, the Western Balkans and North Africa.

Objectives:

- To foster training and mobility in Grid, BMI and nanoinformatics
- To develop a White Paper in collaboration with a panel of recognized experts. This document will be delivered to the EC to establish a future agenda covering the Grid/ Nano/ Bio/ Medical informatics.
- To disseminate results through divers means, e.g. conferences, articles, website, etc.

Project Description

ACTION-Grid's main objective is to create a collaborative environment between organizations in the European Union, Latin America, the Western Balkans and North Africa in the Grid, Biomedical Informatics and Nanoinformatics areas.

The project aims to collect relevant results obtained in these fields to disseminate them among the target countries. These achievements will be reused and transferred in a wider context, having an important impact also outside the European Union.

"ACTION-Grid is the first European initiative on Grid Computing, Biomedical Informatics and nanoinformatics"

Other objectives of the project are:

- To promote exchanges between Grid and Biomedical Informatics professionals. These collaborations will be extended also to Nanomedicine and Nanoinformatics with the aim of creating new synergies among these areas. Previous projects inside the European Union have already worked on this kind of task: to create successful synergies between Medical Informatics and Bioinformatics leading to expanding the biomedical informatics.
- To create a White Paper in collaboration with a panel of recognized experts. Based on the idea of this document, the European Commission and other international agencies will create new projects and a future agenda in research and development in Grid, Biomedical Informatics and Nanoinformatics areas. Special attention will be given to new ideas and roadmaps that involve a strong collaboration between European Union and the other target countries.

ACTION-Grid is a Support Action. For this reason its objectives are not bound with research tasks.

Scenario

Over the last years European Commission projects have produced interesting resources and tools that can be valuable for Biomedicine and Nanomedicine. **ACTION-Grid** aims to survey and disseminate Grid/ Nano/ Bio/ Medical informatics resources among countries of three continents to enhance international collaboration and help the research on these areas.

Nevertheless, validation processes are carried out for these parts of the project that involve programmes implemented by members of the consortium, like a Resourceome of biomedical informatics and nanomedical informatics tools and a Mobility Brokerage Service. The White Paper will be created following the DELPHI methodology to ensure the quality control of the produced results.

Expected Results & Impacts

The project will have several expected impacts:

- **To enhance synergy among Europe, Latin America, the Western Balkans and North Africa by facilitating the exchange of Grid-based methods and tools.** This implies a better interoperability of systems at specific locations and the accessibility of available results of previous research projects and experiments. ACTION-Grid will increase awareness disseminating its results using different approaches including the creation of a White Paper, a Bio-Nano-Grid-Medical Informatics resource index and a web portal.

- **To foster these synergies among all the actors in the ICT for Health area.** Institutions like hospitals, research labs or universities that work in the Health domain have similar objectives, but very different path to achieve them. ACTION-Grid encourages the cooperation of these actors in order to have a more general view of the problems they have to face. This new approach will need informatics methods in order to be as much effective as possible and to grant the access of new services to all actors.

- **To extend these synergies from Biomedical Informatics to the Nano-related areas.** Current work on Biomedical Informatics needs the integration of clinical and biological concepts. These areas have been converging, but now new fields are growing in importance and require an effort for their inclusion in this framework: Nanotechnology and Nanomedicine. ACTION-Grid looks beyond the state of art of Biomedical Informatics adding Nano-related areas.

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- Foundation for Research and Technology (Greece)
- Sociedad Italiana de Beneficencia en Buenos Aires (Argentina)
- Universidad de Talca (Chile)
- HealthGrid (France)
- Sveuciliste u Zagrebu, Medicinski Facultet (Croatia)

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