

EGI-InSPIRE

Summary: Scientific research is no longer conducted within national boundaries and is becoming increasingly dependent on the large-scale analysis of data, generated from instruments or computer simulations housed in trans-national facilities, by using e-Infrastructure (distributed computing and storage resources linked by high-performance networks).

The EGI-InSPIRE project will support the transition to a sustainable pan-European e-Infrastructure by supporting 'grids' of high-performance computing (HPC) and high-throughput computing (HTC) resources, while seeking to integrate new Distributed Computing Infrastructures (DCIs), i.e. Clouds, SuperComputing, Desktop Grids, etc., as they are required by the user community within the European Research Area. EGI-InSPIRE will collect requirements and provide user-support for the current and new (e.g. ESFRI) user communities on the infrastructure. Support will also be given for the current heavy users as they move their critical services and tools from a central support model to one driven by their own individual communities.

Action plan: EGI-InSPIRE will support the establishment of a sustainable model for a European Grid Infrastructure (EGI) that integrates resources contributed by national and domain specific resource providers. Key to the provision of this infrastructure is a new organization, EGI.eu, coordinator of the EGI-InSPIRE project, and more broadly dedicated to the coordination of the EGI community on behalf of its stakeholders.

The EGI community is built through the federation of strong national and community resource providers. They provide the resources used by their research communities and their international collaborators within Europe and worldwide. EGI.eu, through partners within the community, provides a set of human and technical services that enables the secure integration and coordination of these distributed resources on their behalf.

The production infrastructure is used to support Virtual Research Communities, domain specific groupings of structured international user communities, which are represented within EGI at both a technical and strategic level. Support to these communities is provided through a central helpdesk that federates operational, technology and other support teams both within the project and partner projects.

Networking activities: EGI-InSPIRE will continue the support and development of the European Distributed Computing Infrastructure (DCI) community in three important areas:

- Developing closer political and technical integration of the resource providers in National Grid Initiatives (NGIs) and European International Research Organisations (EIROs) represented within the consortium and beyond.
- Support the development of policies within the community of European resource providers, and with other bodies within Europe and worldwide, to ensure the effective technical management, integration and operation of the EGI.
- Coordinate the development and support of Virtual Research Communities within the European Research Area that are using the production infrastructure and to grow this community to other structured user communities.

EGI-InSPIRE will support the work of EGI.eu within the European E-Infrastructures Forum, a collaboration that includes DEISA, PRACE, GEANT and TERENA, while working with other DCI technology projects (e.g. EMI, IGE, StartusLab, VenusC) and infrastructures such as EDGI for desktop grids to bring into production the technologies required to support the computational and data infrastructures required by our user communities. Strong links will also be developed with the SIENA project to ensure that the needs of the production infrastructure are incorporated into the standards roadmap being developed within the European infrastructure community.

continued overleaf 

Project acronym:
EGI-InSPIRE



Start date:
01/05/2010

Duration: 48 months

Total budget:
71,000,000 €

Funding from the EC:
25,000,000 €

Total funded effort in person-month:
9261

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Project participants:
(overleaf)

Keywords:
e-Infrastructure, Grids, HPC, HTC, Desktop Grids, Clouds, Europe, Supporting Researchers,

Collaboration with other EC funded projects:
European Middleware Initiative (EMI)
Initiative for Globus in Europe (IGE)
European Desktop Grids Initiative (EDGI)
e-ScienceTalk
StratusLab
VenusC
CHAIN
GISELA

In building its interactions with the broader community, EGI-InSPIRE will work with eScienceTalk (a project that broadens the work of its predecessor GridTalk) to communicate the work of taking place on the production infrastructure within the community, to new communities, and decision makers through Europe. The resources providers, the Virtual Research Communities, the external technology providers and other partner projects will be brought together twice a year at a Technical and User Forums supported by the project.

Service activities: EGI-InSPIRE’s service activities are focused around the European production infrastructure brought together by the partners within the project:

- Operation of a secure, integrated, reliable pan-European infrastructure that can support diverse science communities through the deployment of different technology solutions.
- Working with external technology providers (initially EMI and IGE) to ensure that their solutions meet the needs of the operational and user community in terms of reliability, scalability and functionality.
- Maintain a set of services for the Heavy User Communities currently exploiting the infrastructure that can be developed to meet the needs of other communities coming to use the infrastructure.

Together these services enable the project to provide a virtuous feedback circle of developing a set of integrated services on the production infrastructure to meet the needs of its users, to work with external technology providers to define new or improved services, and to assess the quality of these delivered services before they are deployed for further use by the users of the production infrastructure.

Joint Research activities: EGI-InSPIRE will support the transition towards a European production infrastructure based upon national deployments of technologies to expose resources that are not currently part of the European infrastructure and to go beyond the current operational model. The current operational tools will need to be adapted for these national operational models and adapted to accommodate new resources in the production infrastructure such as HPC, desktop grids and cloud computing resources.

User communities: The project provides direct support to the current heavy user communities by supporting shared services and tools common to many communities using the infrastructure, direct support for the High Energy Physics, Life Sciences, Earth Sciences and Astronomy & Astrophysics communities. However, the infrastructure is open to all user communities – both those from its existing user base and from those willing to work with the project to exploit the pan-European infrastructure.



International aspects: While the main focus of EGI-InSPIRE is on the European production infrastructure it is recognized that this European component has to be integrated with infrastructures around the world to support the collaborative needs of its user community. In addition to 40 partners from geographical Europe there are 11 unfunded partners from the Asia Pacific area and strong collaborations are expected with infrastructures in North America, and emerging infrastructures in Latin and South America.

Project participants:

EGI.eu	NL
INFN	IT
CSIC	ES
CNRS	FR
KIT	DE
STFC	UK
CERN	
GRNET	GR
ASTI	PH
AGSC	TW
CESNET	CZ
CYFRONET	PL
LIP	PR
NCF	NL
TUBITAK LAKBIM	TR
UI SAV	SK
CSC	FI
VR-SNIC	SW
ARNES	SI
KFKI	HU
IPB	RS
IPP-BAS	BG
UCPH	DK
TCD	IR
KISTI	KR
SIGMA	NR
SWITCH	CH
SRCE	HR
e-ARENA	RU
UPT	AL
JKU	AT
UOM	ME
UKIM	MK
UOBL ETF	BA
IMCS UL	LV
ICI	RO
UCY	CY
UNIMELB	AU
VU	LT
NTTC	SN
E	
II	
GREENA	GE
RENAM	MD
UPM	MY
ITB	ID
NORDUNET A/S	DK
NECTEC	TH
KEK	JP

