



## Summary:

Data capture, processing, analysis and archiving is central to scientific endeavour, challenging the sustainability of an approach to ICT deployment that has predominated for 25 years but is rapidly being overtaken by events. Cloud-based services offer greater efficiency, agility and innovation in delivery of services through economies of scale, multiple tenancy of irregularly-used resources and more sophisticated approaches to resource management.

HELIX NEBULA - The Science Cloud - is a new, pioneering partnership between big science and big business in Europe charting the course towards the sustainable provision of cloud computing. Helix Nebula aims at supporting the IT requirements of European scientists through a compelling set of flagship use cases provided by the European Space Agency, CERN and the European Molecular Biology Laboratory to test and deploy cloud services.

## Objectives:

The HELIX NEBULA Project will lead and co-ordinate these communities of interest through a two year pilot-phase during which procurement processes and governance issues for a framework of public/private partnership will be appraised. Three flagship use cases from high energy physics, molecular biology and earth-observation will be used to enable a cost-benefit analysis to be undertaken and the next stage of the Science Cloud Strategic Plan developed and approved.

## Action Plan:

The support action will provide a framework for the Helix Nebula initiative to develop seven key elements of its strategy at a pan European level:

- \* A platform capable of public-private development into a scalable European Science Cloud;
- \* A flexible governance structure capable of growing alongside the infrastructure itself;
- \* An agreed approach to specification of functional and non-functional requirements including policies for trust, security and privacy;
- \* Agreements regarding inter-operability with other existing e-infrastructures;
- \* High-profile flagship deployments on cloud-based e-infrastructure: ATLAS high-energy physics experiment at CERN, novel de novo genomic assembly techniques at EMBL and integrated access to data held in existing Earth Observation "Super Sites" at ESA.
- \* Sustainable business models adhering to and supporting European-level policies;
- \* A roadmap and development plan for addressing issues on the road to 2020.

## Beneficiaries



Contract no:

INFRA-2012-3.3 / 312301

Project Type:

Collaborative Project and  
Coordination and Support  
Actions

Start Date:

2012/06/01

Duration:

24 months

Total Budget:

2,908,691

Funded from the EC:

1,800,000

Total funded effort in person

months: 202

Website:

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Beneficiaries:

Atos, CERN, CloudSigma,  
CNR-IREA, CSA, EGI.eu, EMBL,  
Logica, SAP, T-Systems

Key words:

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computing, e-infrastructures,  
public/private partnership, HEP,  
genomics, earth observation