

IBERGRID



IBERGRID towards EOSC

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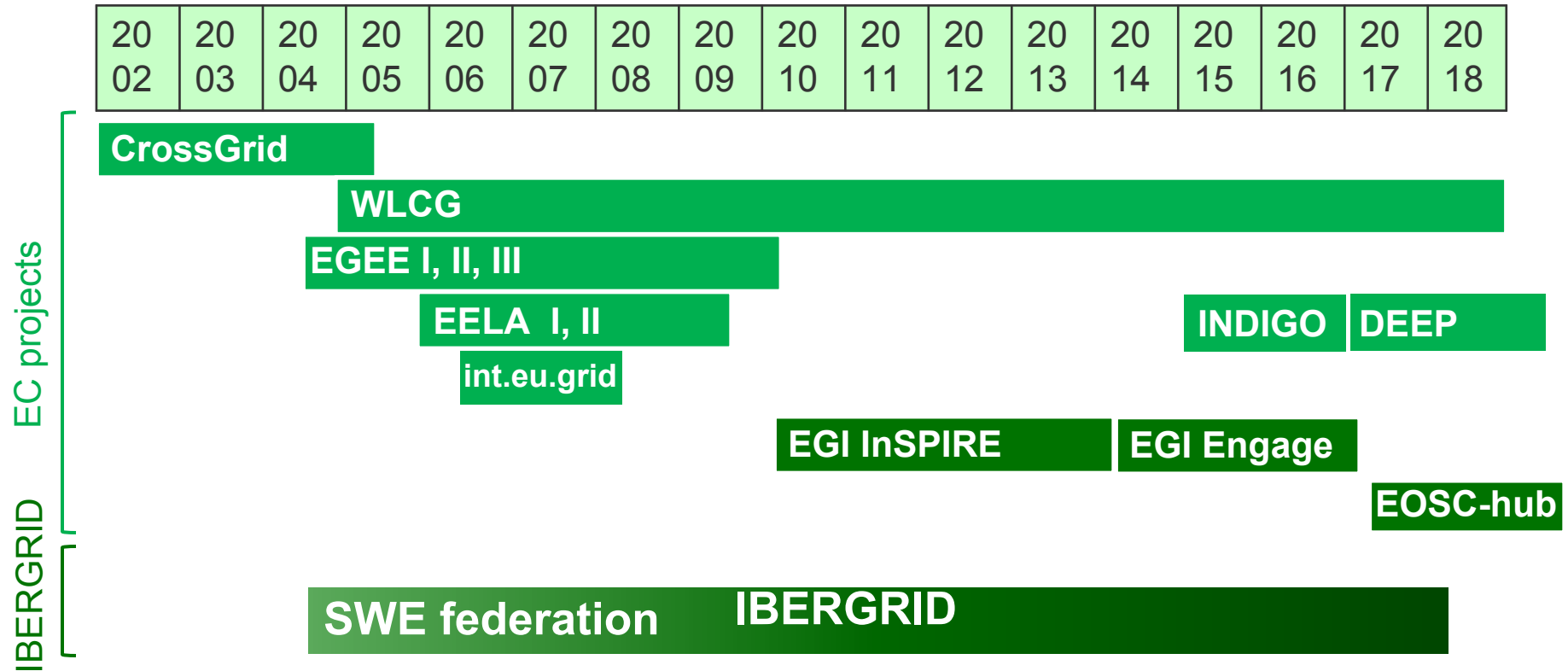
LIP – Laboratório de Instrumentação e Partículas

CSIC – Spanish National Research Council

INCD – Infraestrutura Nacional de Computação Distribuída



IBERGRID history and origins



Many successful e-science projects with strong PT + ES partnership and also extending to Latin America

Distributed computing infrastructure



Ministério da
Ciência, Tecnologia
e Ensino Superior



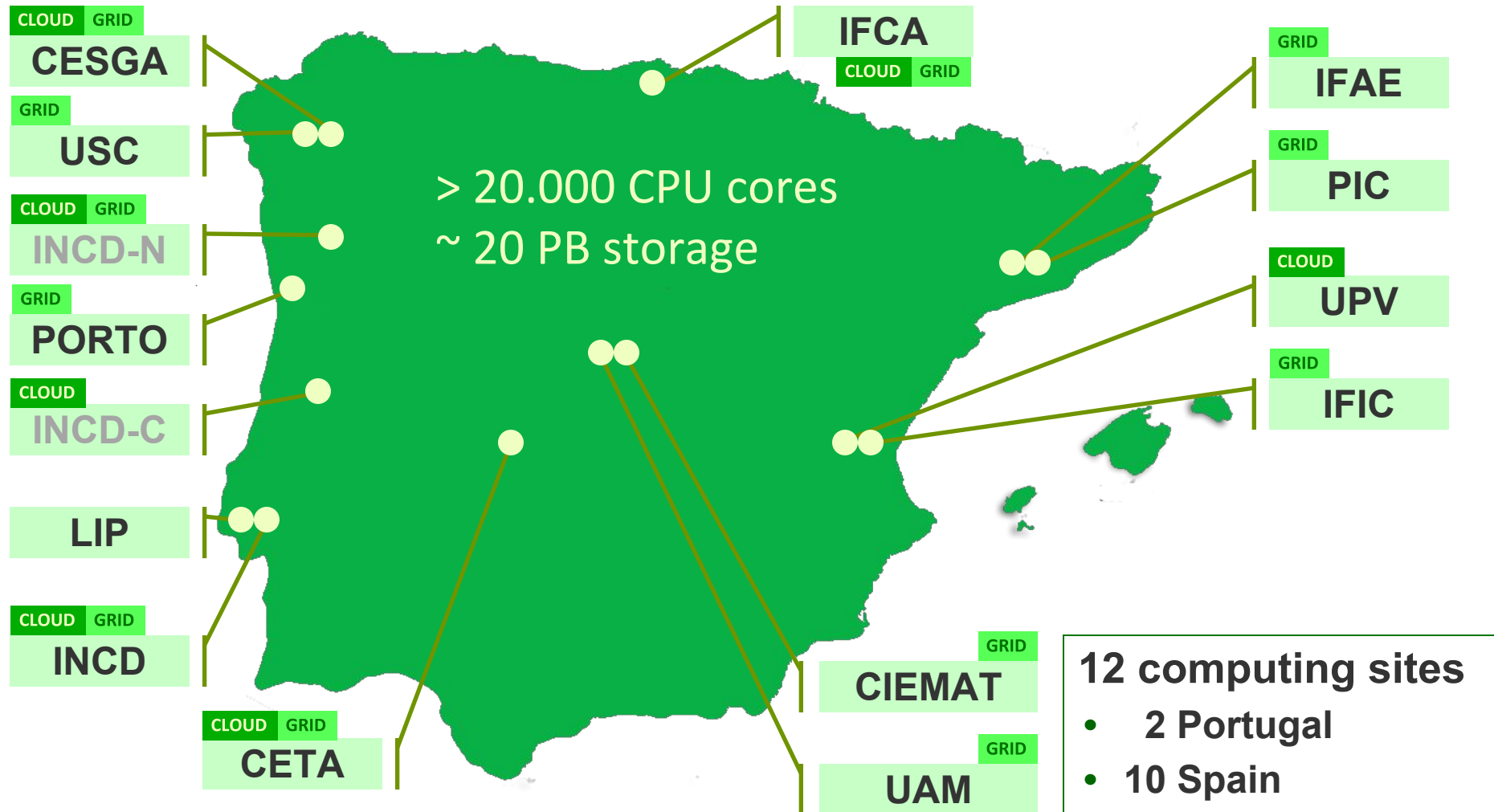
IBERGRID



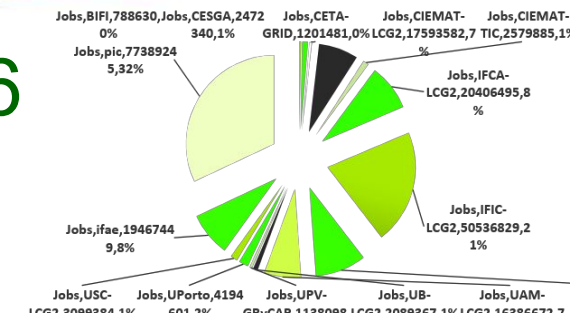
Distributed computing infrastructure

- a) **Federates infrastructures** from Iberian **research and academic** organizations (PT + ES) mainly focused;
 - Grid Computing
 - Cloud Computing
 - Data Processing.
- b) Enables a **joint participation** in the European Grid Initiative (EGI) and other initiatives (EOSC, ESFRIs, WLCG, etc);
 - Provides the regional operations coordination for the computing and data processing activities of several user communities;
- c) Forum for **common R&D activities** and **sharing of knowledge**.
 - Participation in European and cross-border projects;
 - Conferences and events.

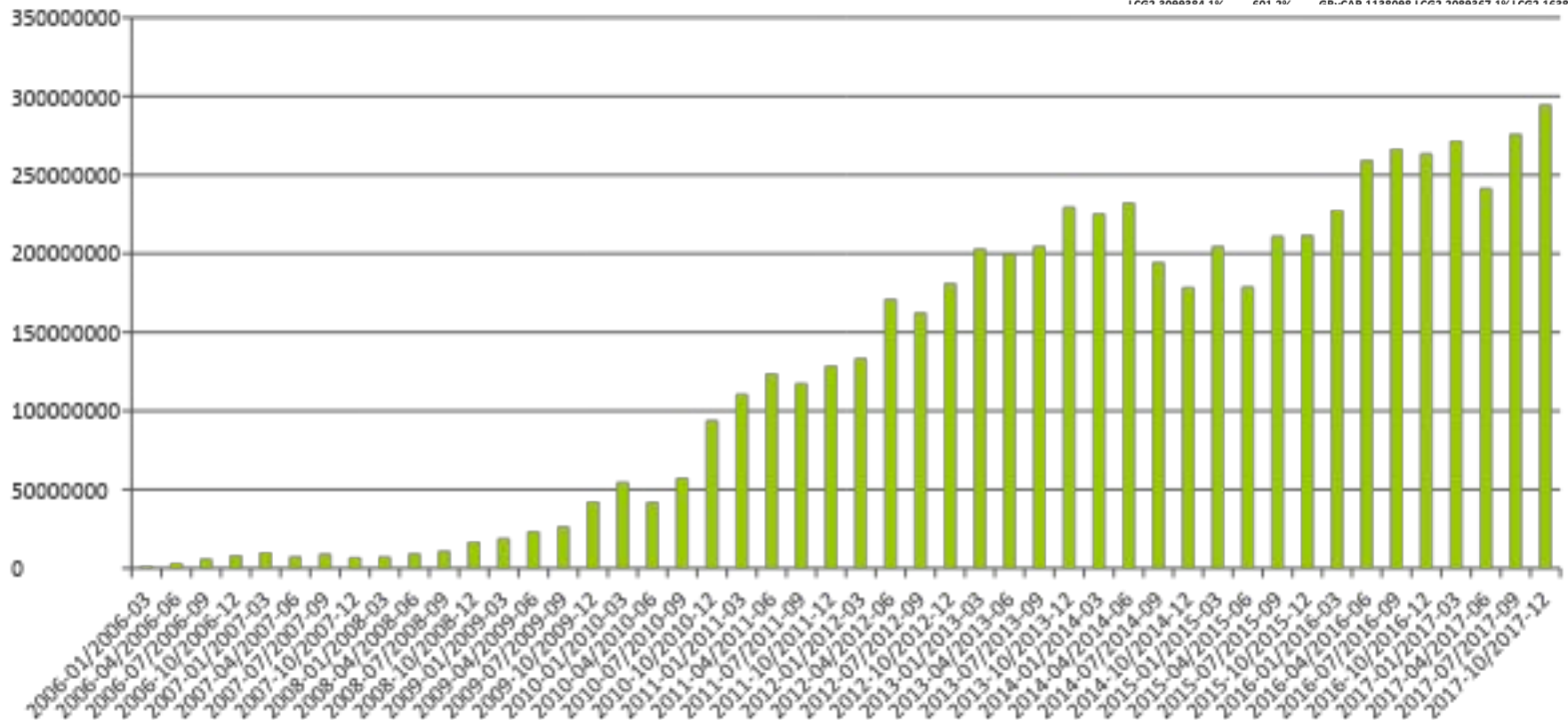
Joins PT + ES science datacenters:



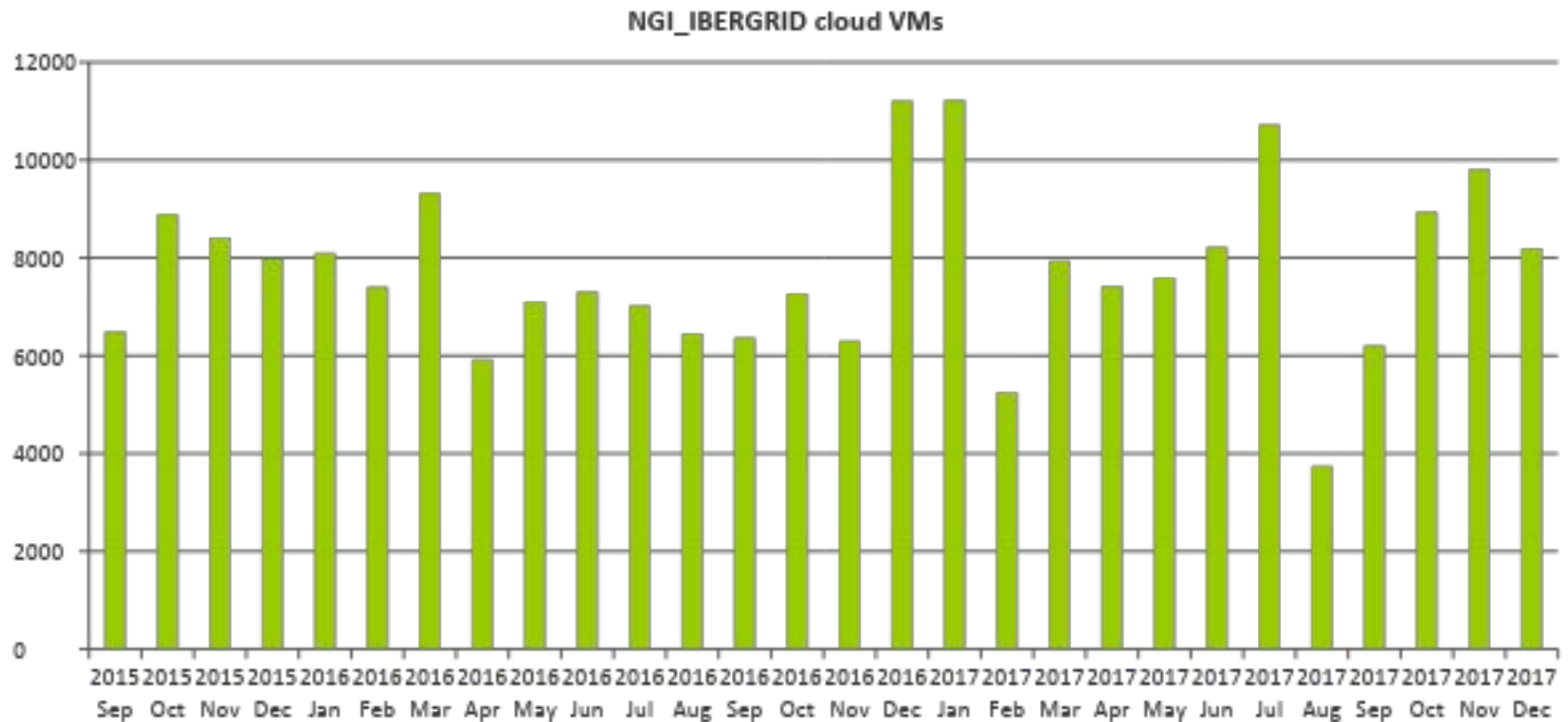
240 million jobs executed since 2006
984 million processing hours



NGI_IBERGRID normalized CPU time (H506)



Instantiation of cloud VMs 216 thousand from Sep 2015 to Dec 2017



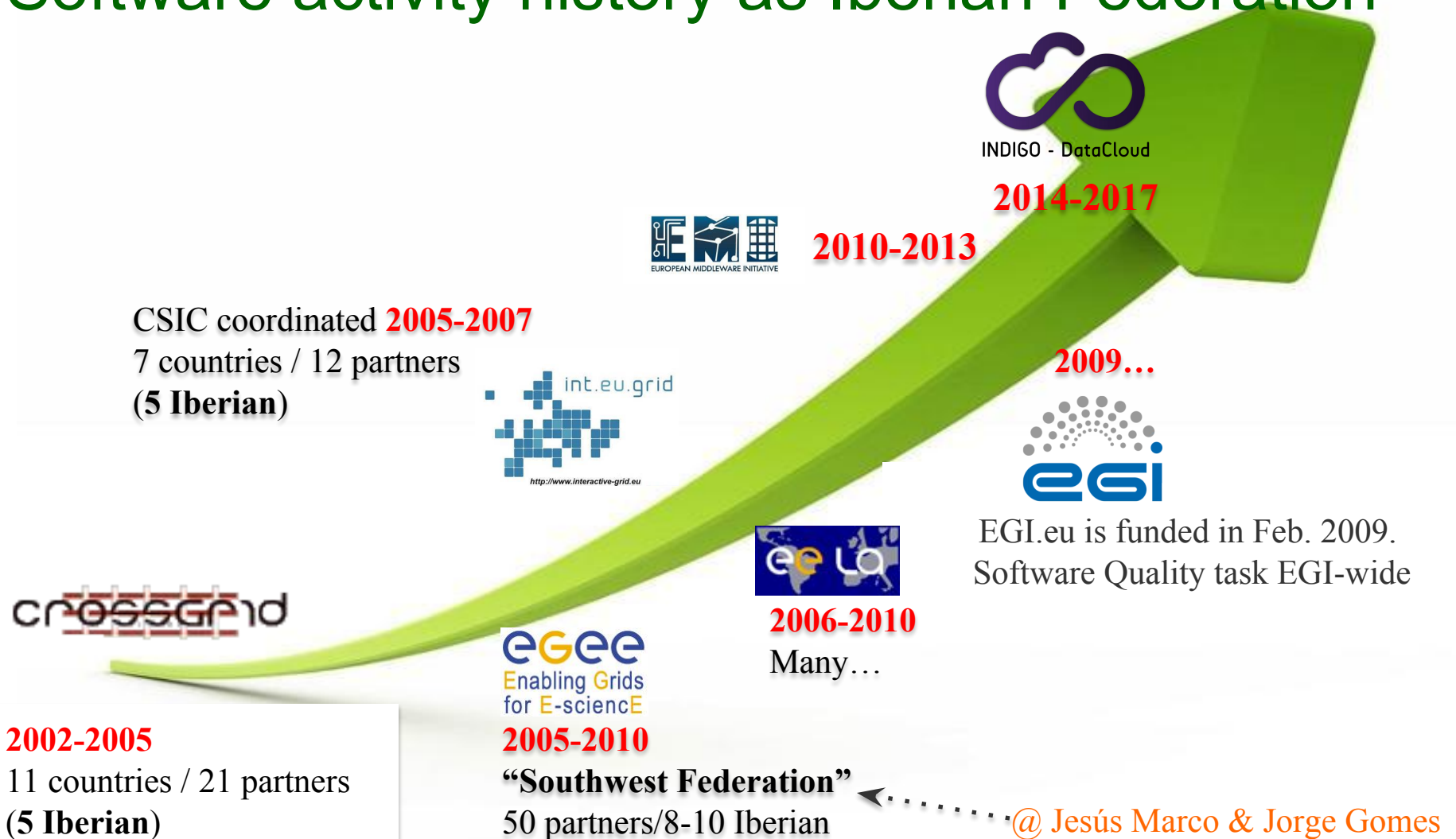
IBERGRID towards the EOSC

SOFTWARE AND SERVICE DEVELOPMENT FOR EOSC

IBERGRID in EGI and EOSC-hub

- Previously in EGI
 - Middleware rollout (LIP/IFCA)
 - Middleware criteria definition & validation (IFCA/CESGA/LIP)
 - EGI accounting (CESGA)
 - EGI support (LIP/IFCA)
- Now 2018 in EOSC-hub
 - Configuration and Change Management, Release and Deployment Management
 - EGI accounting portal
 - Processing and Orchestration
 - Common service requirements
 - Stakeholder Engagement Programme
- Global tasks:
 - Coordination of European wide activities

Software activity history as Iberian Federation



IBERGRID role to Federate in the EOSC-hub Catalogue

<https://ibergrid.eu/federating-clouds/>

Accounting Portal High-Throughput Compute Cloud Compute Disciplines Research Infrastructures Reports Restricted Views Help

Accounting Portal:

<http://accounting.egi.eu>

This graph shows the Normalized Sum CPU HEPSPEC06 hours in the whole EGI infrastructure. Only non-local jobs on official EGI VOs are accounted. Each point represents a period of 6 months counting backwards from the last complete

EGI Normalized Sum CPU HEPSPEC06 hours in 6 months periods

Cloud Accounting software – CASO

<https://github.com/IFCA/caso>

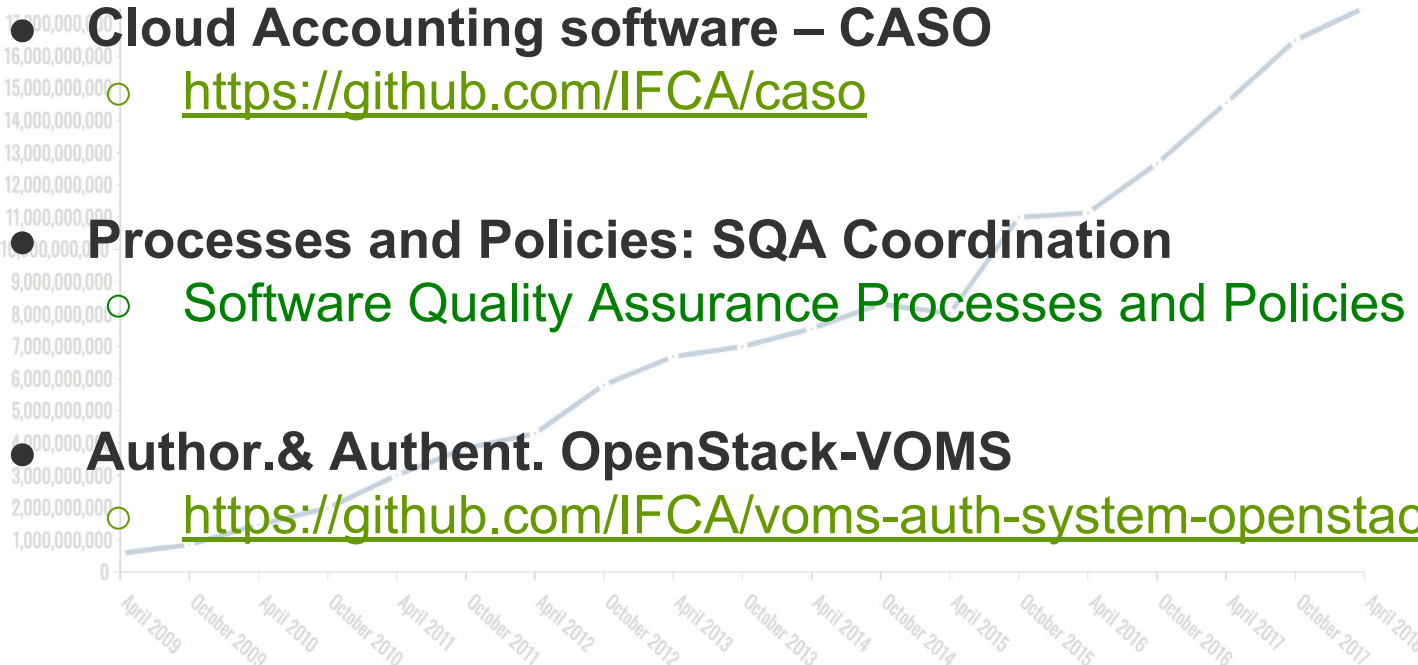
Processes and Policies: SQA Coordination

Software Quality Assurance Processes and Policies

Author.& Authent. OpenStack-VOMS

<https://github.com/IFCA/voms-auth-system-openstack>

Normalized Sum CPU HEPSPEC06 hours



The EGI Accounting Portal
co-funded by EGI-Engage



Normalized CPU HEPSPEC06 hours in last 6 months period
17,490,348,356
CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

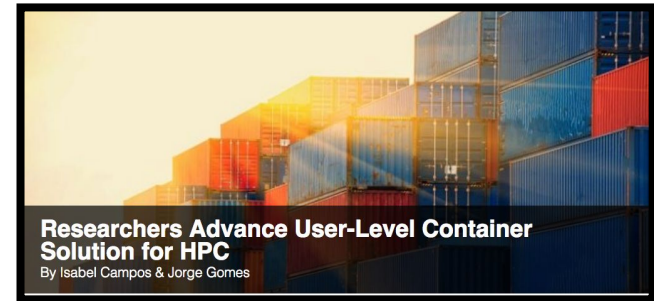


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POLITÀNICA
DE VALÈNCIA

IBERGRID developments in the EOSC-HUB Marketplace

- **CONTAINER SERVICES**

- UDocker (LIP)



- **COMPUTING SERVICES**

- OpenStack Preemptible Instances - **OPIE** (CSIC)



- **PaaS SERVICES**

- Infrastructure Manager - **IM** (UPVLC)



- **THEMATIC SERVICES**

- LIFEWATCH (Lifewatch ERIC)
- OPENCOASTS (LNEC)



INDIGO-DC *Software Collaboration Agreement*

Ibergrid teams are involved in the development of software to support innovative services for researchers in the European Open Science Cloud framework.

CSIC, LIP and UPVLC are signatories of the **INDIGO-Datacloud Software Collaboration Agreement**, a key Technology provider for the EOSC ecosystem.

INDIGO-Datacloud paper (Open Access):
<https://link.springer.com/sharelink/10.1007/s10723-018-9453-3>



INDIGO - DataCloud
 Better Software for Better Science

The **INDIGO-DC Software Stack Catalogue** is a catalogue of open source software components that are follow the Architecture defined by the INDIGO-DataCloud project, funded by the European Union under the Horizon 2020 Framework Program with Grant Agreement 653549.

This Collaboration Agreement targets **to sustain and further develop the INDIGO-DataCloud** architecture, the original INDIGO-DataCloud Software Catalogue and as well as the „INDIGO brand” beyond the lifetime of the INDIGO-DataCloud Project, through a not-for-profit, liability-free mutual....

Software Quality Management



A set of Common Software Quality Assurance Baseline Criteria for Research Projects

Abstract

The purpose of this document is to define a set of quality standards, procedures and best practices to conform a Software Quality Assurance plan to serve as a reference within the European research ecosystem related projects for the adequate development and timely delivery of software products.

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See: <http://digital.csic.es/handle/10261/160086>



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- **Evolve up to production level intensive computing services** exploiting specialized hardware: **Hardware Accelerators: GPUs** and **low-latency** interconnects
- **Integrate** intensive computing **Services under a Hybrid Cloud** approach ensuring interoperability expanding over multiple IaaS using high level networking technologies
- **Offer a DevOps approach for application development**



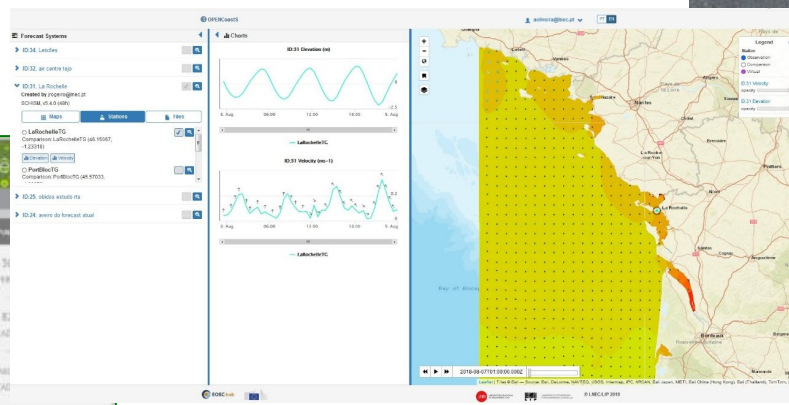
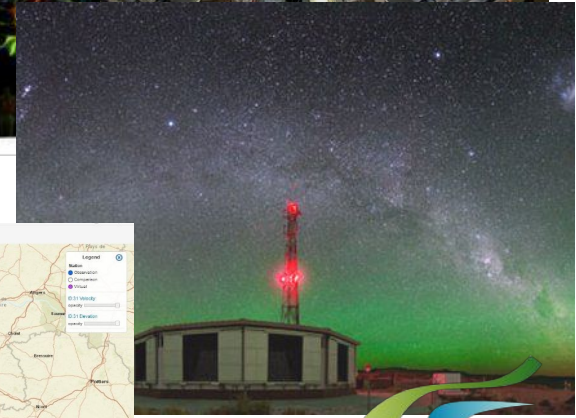
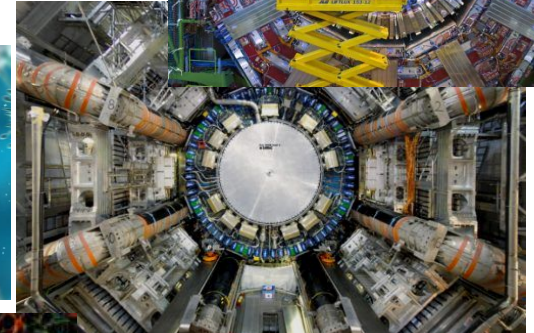
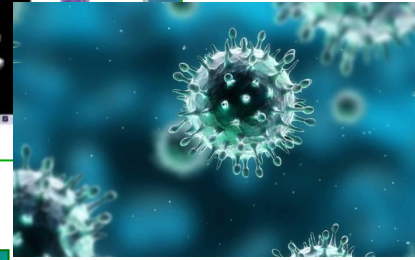
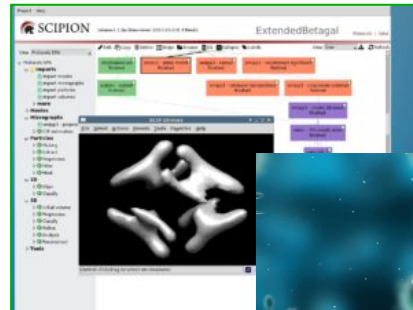
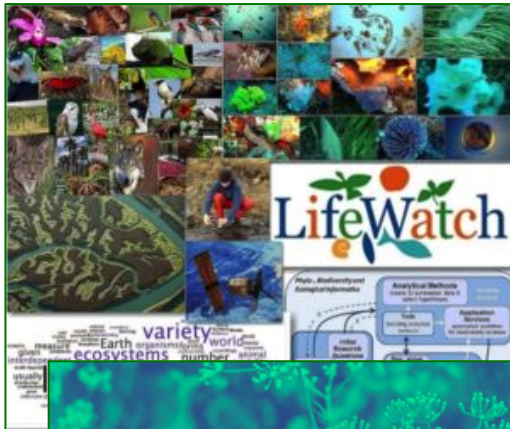
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USER COMMUNITIES

User Communities: Examples

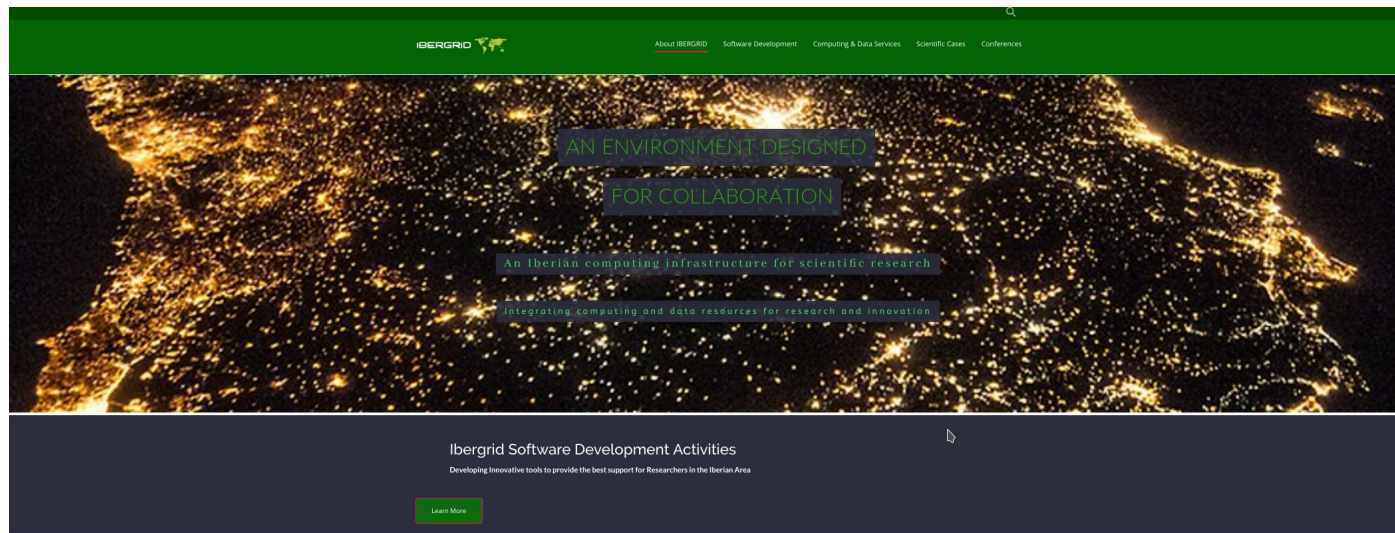
Community	Computing resources	Type of resources
WLCG	760M CPU*hours	Grid
Lifewatch	2M CPU*hours	Cloud
INSTRUCT	On demand	Cloud
WeNMR and MoBrain	330k CPU*hours	Grid (cooperation in integration and packaging)
AUGER	8M CPU*hours	Grid
OPENCoastS	(recent)	Cloud and Grid (EOSC Thematic service)
Comp. Chemistry	6M CPU*hours	Grid
Genetics	18.5M CPU*hours	Grid

User Communities: Examples



Further information

- <http://www.ibergrid.eu/>



News & Events

Thank You

