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This Issue

In this edition of *Inspired*, we turn our special attention to the EGI-Engage project, with an overview by **Tiziana Ferrari** and four stories dedicated to Research Infrastructures integrated in the project as Competence Centres:

> **Alexandre Bonvin** writes about MoBrain

> **Jesús Marco** introduces LifeWatch

> **The DARIAH team** presents their plans for Arts & Humanities

> **Ingemar Häggström** focuses on EISCAT_3D

We also have an overview of the upcoming EGI Conference in Lisbon (18-22 May 2015) and:

> **Diego Scardaci** writes about an open source platform for data analysis

> **Tristan Glatard** presents the Virtual Imaging Platfirm, a science gateway for the long tail of science

Send your feedback and suggestions to: sara.coelho@egi.eu Thanks!

EGI becomes a member of the Big Data Value Association

On March 29, EGI became a member of the Big Data Value Association (BDVA), a public private partnership created to boost the value of European Big Data research.

The BDVA is a non–for-profit organisation with 24 founding members from large and SME industry and research and several universities across Europe.

The association is part of the European Commission's Digital Agenda plan to generate value (jobs, growth, income) from the research data produced in European facilities. As a full member, EGI will be involved in the BDVA's meetings and working groups.

Yannick Legré, managing director of EGI.eu, says: "The experience accumulated over ten years by the NGIs, CERN and EMBL will be of big value to the association. Together as EGI, we will contribute to BDVA's strategic research and innovation agenda."

He adds: "BDVA offers an excellent opportunity for EGI to put its human and technical assets at the service of industries and SMEs across Europe to seize and accelerate the Big Data value chain momentum."

In parallel with the BDVA membership, EGI has recently joined:

> The Research Data Alliance

> Knowledge 4 Innovation

> ERF-AISBL, the Association of European-level Research Facilities

More information

Big Data Value Association
http://www.bdva.eu/

The Research Data Alliance
https://rd-alliance.org/

Knowledge 4 Innovation
http://www.knowledge4innovation.eu/

Association of European-level Research Facilities
http://www.erf-aisbl.eu/

The Virtual Imaging Platform for medical simulation and data analysis on EGI

Tristan Glatard describes a new science gateway for the long tail of science

Computing and storage have become key to research in a variety of biomedical fields, for example, to compute numerical simulations for research in medical imaging or cancer therapy, or to automate the analysis of digital images in neurosciences or cardiology. The Virtual Imaging Platform (VIP) is a web portal for medical simulation and image data analysis. It leverages resources available in the biomed Virtual Organisation of the European Grid Infrastructure to offer an open service to academic researchers worldwide.

Technical challenges

VIP aims to mask the infrastructure and enable a user experience as transparent as possible. This means that VIP has to take decisions as automatically, quickly, and reliably as possible regarding infrastructural challenges such as:

(1) the placement of data files on the storage sites,

(2) the splitting and distribution of applications on the computing sites,

(3) the termination of misbehaving runs.

We heavily rely on the DIRAC service provided by France Grilles (the NGI of France) to take such decisions in the changing environment of EGI. In addition, we have developed 'non-clairvoyant' techniques to specifically address the challenges of the applications provided in VIP.

VIP in numbers

> **Number of users:** 754 (registered as of April 2015)
> **Active users in 2014**: 324
> **Available applications**: ~15
> **Jobs executed in 2014**: 1.7 million
> **CPU time consumed in 2014**: 326 years
> **Publications by VIP users since 2013**:
>   10 articles in journals, 12 articles in conferences
> **Most used VIP applications**:
>   GATE -- Freesurfer -- FSL
> **Case study:** Finding biomarkers for Multiple Sclerosis
>   http://go.egi.eu/MSbiomarker

Security matters

Security is another challenge in an open platform such as VIP. In VIP, users can only access a set of predefined applications verified by administrators. Access to applications is controlled by group memberships that may be open or private, for instance to support applications with a restrictive license. The VIP portal exposes home directories that are private to users, and group directories shared among group members. Finally, as we are aware that any system may be compromised regardless of its technical quality, VIP monitors and traces all the operations performed by its users, for instance data transfers and computation.

A platform for the long tail of science

With VIP, researchers from all over the world can access important amounts of computing resources and storage with no required technical skills beyond the use of a web browser. EGI is essential to the success of VIP because it provides an open infrastructure relieving researchers from the burden of negotiating resource allocations with computing centres. Such an open policy enables the supply of services to the long tail of science, i.e. to the large number of groups and projects of modest size such an individual masters or PhD project, proof-of-concept studies, and so on.

More information

Virtual Imaging Platform
http://www.creatis.insa-lyon.fr/vip

Tristan Glatard is a CNRS researcher based at the University of Lyon.

VIP reference
T. Glatard et al. 2013. A Virtual Imaging Platform for multi-modality medical image simulation, IEEE Transactions on Medical Imaging, vol. 32, no. 1, pp. 110-118.

The EGI-Engage project

Tiziana Ferrari introduces the goals and plans of EGI-Engage

The EGI-Engage project was submitted as a proposal to the EINFRA-1-2014 call led by EGI.eu and involving 43 beneficiaries from across Europe, the USA and six countries in the Asia-Pacific region.

The project's mission is to accelerate the implementation of the Open Science Commons (OSC) vision, where researchers from all disciplines have easy and open access to the innovative digital services, data, knowledge and expertise they need for collaborative and excellent research.

The OSC is grounded on three pillars:

> the e-Infrastructure Commons, an ecosystem of services that constitute the foundation layer of distributed infrastructures;

> the Open Data Commons, where observations, results and applications are increasingly available for scientific research and for anyone to use and reuse; and

> the Knowledge Commons, in which communities have shared ownership of knowledge, participate in the co-development of software and are technically supported to exploit state-of-the-art digital services.

EGI-Engage will expand the capabilities offered to scientists (e.g. improved cloud or data services) and the spectrum of its user base by engaging with large Research Infrastructures (RIs), the long tail of science and industry/SMEs.

The main engagement instrument will be a network of eight Competence Centres, where Research Infrastructures will join forces with National Grid Initiatives (NGIs), technology and service providers will join forces to collect requirements, integrate community-specific applications into state-of-the-art services, foster interoperability across e-Infrastructures, and evolve services through a user-centric development model. The project will also coordinate the NGI efforts to support the long tail of science by developing ad hoc access policies and by providing services and resources that will lower barriers and learning curves.

EGI-Engage - Fact Sheet

Full name: *Engaging the Research Community towards an Open Science Commons*
Website: http://go.egi.eu/eng
Start & end dates: March 2015 – August 2017
Open Science Commons: http://go.egi.eu/osce

EGI-Engage is co-funded by the Horizon 2020 Framework Programme of the European Union under grant number 654142.

The mission: Accelerate the implementation of the Open Science Commons by expanding the capabilities of a European backbone of federated services for compute, storage, data, communication, knowledge and expertise, complementing community-specific capabilities.

The Competence Centres (CCs)

The eight CCs were set up to support high-impact Research Infrastructures and communities by joint development of customised services for these based on core EGI capabilities, by user engagement and training.

They are:
> **ELIXIR**
http://www.elixir-europe.org/
> **BBMRI**
http://bbmri-eric.eu/
> **MoBrain**
http://www.wenmr.eu
> **LifeWatch**
http://www.lifewatch.eu/
> **DARIAH**
http://dariah.eu/en.html
> **EISCAT_3D**
https://www.eiscat3d.org/
> **EPOS**
http://www.epos-eu.org/
> **Disaster Mitigation**

EGI-ENGAGE

EGI-Engage will broaden the adoption of a federated identity management, will extend accounting to include new services and types of resources, and will provide tools for Service Level Agreements (SLA), service discovery and allocation in a federated environment. The EGI Federated Cloud and its operations will evolve to provide IaaS, PaaS and SaaS, and the HPC capacity and capabilities will be expanded by federating the access to distributed accelerated computing co-processors. Publication, use and reuse of open data will be facilitated.

EGI-Engage will evolve solutions and their related business models with approaches targeted at each user group for improved sustainability and integration with other infrastructures in Europe and worldwide. The project will develop business relationships with industry and SMEs and provide an innovation space where general purpose compute and data services can be offered to develop big data technologies, applications and foster reuse of research data. The technical input to standards, policy and procedure developments, software and service innovation, business model innovation and know-how produced by the project will be offered to user groups, Research Infrastructures, industry/SMEs, service providers, funding agencies and decision/policy makers.

In summary, what we put together is an ambitious project that will push us towards new grounds. EGI-Engage will strategically advance EGI in key areas:

> user engagement with the private sector and Research Infrastructures on the ESFRI roadmap,

> technical capabilities,

> business development,

> and cooperation with e-Infrastructures of European dimension.

By the time the project ends in August 2017, we will have an expanded set of capabilities to support a European backbone of federated e-Infrastructure services for research. And the results will be a huge step towards the implementation of the Open Science Commons.

EGI-Engage timeline

September 2014 – The project was submitted as a proposal to the EINFRA-1-2014 call led by EGI.eu and involving 43 beneficiaries from across Europe, the USA and six countries in the Asia-Pacific region.
January 2015 – EGI-Engage is successfully reviewed by the European Commission with a score of 15/15.
March 2015 – Start of the project.
April 2015 – Grant agreement signed (#654142)
18 May 2015 – Kick-off meeting at the EGI Conference in Lisbon

EGI-Engage objectives

1: Ensure the continued coordination of the EGI Community in strategy and policy development, engagement, technical user support and operations of the federated infrastructure in Europe and worldwide.
2: Evolve the EGI Solutions, related business models and access policies for different target groups aiming at an increased sustainability of these outside of project funding. The solutions will be offered to large and medium size RIs, small research communities, the long tail of science, education, industry and SMEs.
3: Offer and expand an e-Infrastructure Commons solution
4: Prototype an open data platform and contribute to the implementation of the European Big Data Value.
5: Promote the adoption of the current EGI services and extend them with new capabilities through user co-development

Chipster: tools for Next Generation Sequencing in the EGI Federated Cloud

Diego Scardaci writes about an open source platform for data analysis

Chipster is a user-friendly analysis software for high-throughput data developed by CSC, the Finnish IT Center for Science and ELIXIR node.

Chipster contains over 340 analysis tools for next generation sequencing (NGS), microarray, proteomics and sequence data. Users can save and share automatic analysis workflows, and visualize data interactively using a built-in genome browser and many other visualizations. Chipster's client software uses Java Web Start to install itself automatically and it connects to computing servers for the actual analysis. Chipster is open source and the server environment is available as a virtual machine image.

Collaboration between the Chipster team and EGI started in 2014 in the context of Genome Analysis and Protein Folding virtual team led by Afonso Duarte (ITQB-UNL, Portugal). One of the objectives of this VT was to identify interesting tools and scientific applications not yet supported by EGI and to see what is needed to make them available. Considering its features and its potential to attract new communities to EGI, Chipster was one of the selected applications. The EGI User Support Team started to work in collaboration with the Chipster team to deploy and integrate the tool in the EGI Federated Cloud. I talked to Eija Korpelainen, Chipster Product Manager at CSC, and she said:

"Life scientists face three major requirements when analysing next generation sequencing data:

> Installation of a large number of software and reference data, which need to be kept up to date.

> Unix and programming skills

> Computing platform with sufficient CPU and memory.

The Chipster virtual machine provides a comprehensive collection of up-to-date analysis tools and Ensembl-based reference data in a ready-to-use format. The data and the tools can be used either on command line, or via an intuitive graphic user interface, which also provides powerful visualizations, workflow functionality, and analysis metadata tracking. While Chipster has become very popular, many users and institutes in Europe are still struggling to set up their own server as they lack a suitable computing platform. Ability to launch Chipster easily in the FedCloud holds great promise to solve this problem."

Porting activities started in the autumn of 2014. The INFN Bari cloud provider offered its resources for this prototyping phase and actively participated to the support activities through its team of cloud experts.

We completed the integration in early 2015, exploiting different features offered by the FedCloud:

> the Virtual Appliance marketplace: to store a FedCloud compliant Chipster VM image

> contextualisation: we exploited this feature to properly configure the Chipster service on the fly during the VM starting time

> the OCCI interface: to manage the Chipster VMs:

> the block storage: to store the Chipster datasets in the EGI FedCloud and share them with different running Chipster VMs through a NFS

In production

Chipster moved to production after successful conclusion of the prototyping phase. The INFN-Bari site committed to support Chipster also during the production phase, furthermore other two cloud providers, CESNET and GRNET, offered their resources for Chipster and they will be able to support it shortly.

Now that Chipster is ready, it is time to spread the word and offer this service to the many scientific communities that could benefit of its integration in the EGI infrastructure!

More information

About Chipster
http://chipster.csc.fi/index.shtml

Instructions to get started:
http://chipster.csc.fi/access.shtml

The MoBrain Competence Centre

Alexandre Bonvin writes about the CC set up to serve translational research from Mo*lecule to* Brain

Today's translational research era calls for innovative solutions to enable researchers and clinicians to build bridges between the microscopic (molecular) and macroscopic (human) scales. This requires building both transversal and vertical connections between techniques, researchers and clinicians to provide them with an optimal e-Science toolbox to tackle societal challenges related to health.

The main objective of the MoBrain Competence Centre (CC) is to lower barriers for scientists to access modern e-Science solutions from micro to macro scales. MoBrain builds on grid- and cloud-based infrastructures and on the existing expertise available in WeNMR, N4U and technology providers (NGIs and other institutions, OSG). This initiative aims to serve its user communities, related ESFRI projects (e.g.

INSTRUCT) and in the long term the Human Brain Project (FET Flagship), and strengthen the EGI services offering.

By integrating molecular structural biology and medical imaging services and data, MoBrain will kick-start the development of a larger, integrated, global science virtual research environment for life and brain scientists worldwide. The mini-projects defined in MoBrain are geared toward facilitating this overall objective, each with specific objectives to reinforce existing services, develop new solutions and pave the path to global competence centre and virtual research environment for translational research from molecular to brain.

There are already many services and support/training mechanisms

in place that will be further developed, optimized and merged during the operation of the CC, building onto and contributing to the EGI service offering. MoBrain will produce a working environment that will be better tailored to the end user needs than any of its individual components. It will provide an extended portfolio of tools and data in a user-friendly e-laboratory, with a direct relevance for neuroscience, starting from the quantification of the molecular forces, protein folding, biomolecular interactions, drug design and treatments, improved diagnostic and the full characterization of every pathological mechanism of brain diseases through both phenomenological as well as mechanistic approaches.

MoBrain's partners

The MoBrain partners are:
> Utrecht University, Bijvoet Center for Biomolecular Research, the Netherlands
> Consorzio Interuniversitario Risonanze Magnetiche Di Metalloproteine Paramagnetiche, Florence University, Italy.
> Consejo Superior de Investigaciones Cientificas (and Spanish NGI)
> Science and Technology Facility Council, UK
> Provincia Lombardo Veneta Ordine Ospedaliero di SanGiovanni di Dio – Fatebenefratelli, Italy
> GNUBILA, France
> Istituto Nazionale Di Fisica Nucleare, Italy
> SURFsara (Dutch NGI)
> CESNET (Czech NGI)
> Open Science Grid (US)

More information

WeNMR
http://www.wenmr.eu

N4U
http://neugrid4you.eu

Alexandre Bonvin is a professor of computational structural biology in the University of Utrecht (NL) and was the coordinator of the WeNMR project. Alexandre is now leading the MoBrain CC under EGI-Engage.

LifeWatch: a Competence Centre for the environment

Jesús Marco introduces a CC geared to support scientific problems and environmental management

LifeWatch is a European Research Infrastructure set up to address problems in biodiversity and ecosystems, and to support decision making in environmental management. LifeWatch will have its headquarters in Seville, Spain, and Spain will also be responsible for the construction of the distributed e-Infrastructure. Italy will implement the service centre and the Netherlands will support the Virtual Labs. All common services will be shared by the different LifeWatch national initiatives.

The scientific and managerial questions that LifeWatch aims to answer can benefit from Big Data techniques, for example, to support to real-time data streams or to handle the post-processing of large volumes of diverse data from multiple disciplines: meteorology, geophysics, hydrology, chemistry, social and also life sciences.

The LifeWatch Competence Centre (LW CC) will provide the support to use these techniques in the EGI framework, exploiting the experience being developed within the EGI community. It will be also useful as a collection of best practices that can be offered to local LifeWatch national initiatives.

LifeWatch: a use case
The first use case in LW CC will explore an ongoing experience by LifeWatch Belgium on marine biodiversity research.

This field of research is very dependent on specific data types: species identification and behaviour, occurrence, biomass, abundance and many others similar. For a long time the collection of this type of data has been mainly a manual process that includes sampling and sample preparation, counting, weighing, database input, and so on. The use of biosensors and sensor networks for in-situ observation seems to be one of the most promising approaches as this method eliminates the need for taking physical sampling and avoids labour intensive sample preparation processes; moreover the dataflow can be automated and requires less workload from the scientists.

Following this lead, the Flanders Marine Institute (VLIZ) has started the installation of a number of biosensors on board of the Research Vessel Simon Stevin, as part of the Flanders Marine LifeWatch Observatory. This project requires the use of a powerful e-Infrastructure able to handle about 50Tb of data per year and the computational power to collect video and images in quasi real.

The VLIZ use case is a good example of how LifeWatch provides access to data (from different domains), analytical tools and computational facilities to equip scientists with a state-of-the-art virtual research environment for their studies.

Citizen science
Another key ingredient of LW CC is citizen science. In the context of biodiversity and ecological research, our idea is to explore a very ambitious possibility: to support the direct contribution of citizens contributing observation records, in particular those including sounds or images uploading.

We will explore the integration and deployment of pattern recognition tools on EGI specific resources, including for example servers with GPUs or other relevant hardware for image/sound recognition, to support an assisted tag of the records submitted by the citizens.

More information

LifeWatch ERIC
http://www.lifewatch.eu/

LifeWatch Marine VRE
http://marine.lifewatch.eu/

Flanders Marine Institute
http://www.vliz.be/

Jesús Marco is a researcher at IFCA-CSIC in Santander and the NGI International Liaison for IBERGRID. He coordinates the LifeWatch competence centre.

DARIAH meets EGI

The DARIAH team presents the plans for a Competence Centre to support the Arts and Humanities

The Digital Research Infrastructure for the Arts and Humanities (DARIAH) aims to enhance and support digitally-enabled research across the Arts and Humanities by offering a portfolio of services centred on European research communities.

The DARIAH e-Infrastructure is a social and technological infrastructure - it aims to bridge the gap between traditional and digital Humanities and Arts through a connected network of tools, information, knowledge and people across the broad spectrum of the Digital Humanities and Arts.

DARIAH uses standards and best practices, allowing collaborations with several research infrastructures and offering opportunities for innovative research. For the various affiliated projects, services for data sharing and digital publishing will be offered, alongside technical systems for persistent identification, authentication and long-term preservation.

Partners contribute to the DARIAH community with a diverse range of national activities, services or content. These 'in-kind' contributions can be divided over a range of contribution types: e.g. Access, Expertise, Interoperability, Content Hosting, Tools and Software, Training and Data.

By bringing together national activities from several countries, DARIAH will be able to offer a broad spectrum of services including training initiatives, such as summer schools and transnational curricula, a knowledge repository with standards and good practices for digital asset management, and guidance on repository certification and digitisation processes.

DARIAH partners also contribute in more than 20 working groups divided over 4 Virtual Competency Centres (VCC's): e-Infrastructure, Research and Education Liaison, Scholarly Content Management and Advocacy, Outreach and Impact.

DARIAH and EGI

The cooperation with EGI will be directed by the e-Infrastructure VCC and a Working group will be founded for this purpose.

Cooperation with EGI is important for DARIAH.

DARIAH offers a portfolio of services and activities centered on research communities. It develops a research infrastructure for sharing and sustaining digital Arts and Humanities knowledge.

EGI can help to boost these activities because a lot of e-Humanities research is based on large corpora and by their raw non-structured nature huge computer processor capacity.

Researchers will use DARIAH to:

> find and use a wide range of research data across Europe

> exchange knowledge, expertise, methodologies, and practices across domains and disciplines

> ensure that accepted standards are adopted and best practices are followed

> experiment and innovate in collaboration with other scholars.

About the authors

Henk Harmsen, Chief Integration Officer (DANS, Den Haag, NL)

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The EISCAT_3D Competence Centre

Ingemar Häggström introduces the goals of the activity

EISCAT_3D is a system of distributed phased array radars that enable comprehensive three-dimensional observations of the atmosphere and ionosphere in the European Arctic regions.

The EISCAT_3D system will be built in three remote sites, all in Northern Scandinavia at a distance in the order of 100 km from the main core site.

The entire system is expected to operate continuously in a number of modes with different degrees of activity, and is ready to flexibly respond to space weather events and other phenomena that occur at unpredictable time. The lifetime of EISCAT_3D is projected to be 30 years.

EISCAT_3D Competence Centre

The design of EISCAT_3D opens up opportunities for physicists to explore many new research fields. On the other hand, it also introduces significant challenges in handling large-scale experimental data which will be massively generated at great speeds and volumes. This challenge is typically referred to as a big data problem and requires solutions from beyond the capabilities of conventional database technologies.

Within the ENVRI FP7 project, a pilot study was setup to identify existing services and new services that can tackle the EISCAT_3D big data challenge. A collaboration was formed among EISCAT_3D, EGI and the EUDAT infrastructures, and the first steps towards the EISCAT_3D big data strategy were taken.

The result of the pilot, a small set of EISCAT level 1 (raw samples) and level 2 (spectral data) data was transferred into EUDAT and the EGI Federated Clouds. A test portal was setup with crude MetaData parameters and was able, using OpenSearch, to deliver data from the different storages within the clouds as well as from the EISCAT archive. The access rights of the users were taken into account based on EISCATs normal IP rights as well as certificates.

The pilot started as part of the case study will be developed into a fully functional portal with improved possibilities to access and work with the archived data of EISCAT. The objective of the projects is to build a common e-Infrastructure to meet the requirements of a big scientific data system such as EISCAT_3D with a demonstration of the developed e-Infrastructure supporting the EISCAT science community in their acquisition, curation, access to and processing of the data.

The EISCAT_3D competence centre will train data scientists who can explore new approaches to solve problems via new data-centric way of conceptualising, organising and carrying out research activities, which will lead to new discoveries and significant scientific breakthroughs. The system will be robust and allow refinements and further developments of the access of data. Important is also the training of the users, with valuable feedback, making the updated system ready for wider use. The system is also expected to lay a foundation for the development of a data archive for EISCAT_3D.

More information

EISCAT_3D
https://www.eiscat3d.se/node

Ingemar Häggström, Head of Operations at EISCAT, is leader of the EISCAT_3D Competence Centre. He is responsible for the design of the main radar modes, operation planning, data archive and its reduction into physical quantities of the ionosphere.

Welcome to Lisbon!

The EGI Conference 2015 will take place in Lisbon, Portugal, between 18-22 May

The EGI Conference 2015 is dedicated to the theme: *Engaging the Research Community towards an Open Science Commons* and will be hosted by EGI.eu and IBERGRID, a partnership between the Portuguese National Distributed Computing Infrastructure (INCD) and the Spanish National Grid Initiative.

The event will provide a great opportunity for research collaborations and e-Infrastructure providers to share their technical roadmaps, discuss new emerging requirements and opportunities of collaboration, and in this way to innovate and grow.

The main theme of the first day will be the EGI-Engage project, set up to expand the capabilities of a European backbone of federated e-Infrastructure services for research, and its partner Research Infrastructures. The EGI-Engage competence centres will be the focus of the afternoon session chaired by Gergely Sipos, Technical Outreach Manager at EGI.eu, with talks by:

> Rafael Jiménez, from ELIXIR
> Alexandre Bonvin, from MoBrain
> Jesús Marco, from LifeWatch
> Eric Yen, from the Disaster Mitigation group
> Ingemar Häggeström, from EISCAT_3D
> Daniele Bailo, from EPOS
> Petr Holub, from BBMRI

On Tuesday the conference will host a day-long session about the Open Science Commons, what it is, what it means and where can it take us in the future. The goal of the workshop will be to discuss with representatives from funding agencies, policy makers, data archiving organizations, knowledge institutions and research infrastructures how they can contribute to the development of an Open Science Commons.

On Wednesday we will have a day dedicated to the implementation of the Open Science Commons, with sessions focussing on:

> Data licencing and policies, chaired by Chris Morris
> EGI services to support individual researchers or small collaborations
> EGI Marketplace: goals and requirements

The rest of the week is organised around technical sessions designed to bring together Research Infrastructures and user communities with EGI's experts, to discuss themes of common interest:

> Tuesday, 19 May: Cloud IaaS (compute and storage)
> Wednesday, 20 May: Cloud Platforms
> Thursday, 21 May: Open Data Cloud Platforms
> Friday, 22 May: AAI

See you in Lisbon!

More information

18-22 May 2015 - Lisbon, Portugal

EGI Conference 2015 website
http://conf2015.egi.eu

Registration
http://go.egi.eu/reg2015

Timetable
http://go.egi.eu/c15

Posters
http://go.egi.eu/posters

Demos
http://go.egi.eu/demos

Speakers
http://go.egi.eu/speakers

Open Science Commons
http://go.egi.eu/osce