**EGI-InSPIRE**

Specification of Requirements for EGI Training Services

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| AbstractThis document provides a list of requirements for the EGI training services that are to be accessible in the first instance through http://www.egi.eu/ by leading readers to http://training.egi.eu/ and other relevant repositories of data as deemed appropriate according to circumstances. This document’s content is based on usability analysis of the current ‘Training’ website and requirements collected from various parties of the EGI collaboration. This document aims to define the features for the training services that should be implemented by forthcoming releases of relevant web-sites. The Training service developer and operator team should continuously review and improve the web-sites based on the requested features.This document supersedes earlier versions of the same but additionally draws heavily on the document titled “EGI InSPIRE Training Web Site” dated 5/11/2010 (EGI-MS302-final, <https://documents.egi.eu/document/104>).  |

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1. Document Log

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1. Application area

This document is for internal purposes inside NA3.

1. Document amendment procedure

Amendments, comments and suggestions should be sent to the authors. The procedures documented in the EGI-InSPIRE “Document Management Procedure” will be followed:
<https://wiki.egi.eu/wiki/Procedures>. - Note that all changes will initially be subjected for scrutiny/approval through the EGI Training Working Group.

1. Terminology

A complete project glossary is provided at the following page: <http://www.egi.eu/about/glossary/>.

1. PROJECT SUMMARY

To support science and innovation, a lasting operational model for e-Science is needed − both for coordinating the infrastructure and for delivering integrated services that cross national borders.

The EGI-InSPIRE project will support the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting ‘grids’ of high-performance computing (HPC) and high-throughput computing (HTC) resources. EGI-InSPIRE will also be ideally placed to integrate new Distributed Computing Infrastructures (DCIs) such as clouds, supercomputing networks and desktop grids, to benefit user communities within the European Research Area.

EGI-InSPIRE will collect user requirements and provide support for the current and potential new user communities, for example within the ESFRI projects. Additional support will also be given to the current heavy users of the infrastructure, such as high energy physics, computational chemistry and life sciences, as they move their critical services and tools from a centralised support model to one driven by their own individual communities.

The objectives of the project are:

1. The continued operation and expansion of today’s production infrastructure by transitioning to a governance model and operational infrastructure that can be increasingly sustained outside of specific project funding.
2. The continued support of researchers within Europe and their international collaborators that are using the current production infrastructure.
3. The support for current heavy users of the infrastructure in earth science, astronomy and astrophysics, fusion, computational chemistry and materials science technology, life sciences and high energy physics as they move to sustainable support models for their own communities.
4. Interfaces that expand access to new user communities including new potential heavy users of the infrastructure from the ESFRI projects.
5. Mechanisms to integrate existing infrastructure providers in Europe and around the world into the production infrastructure, so as to provide transparent access to all authorised users.
6. Establish processes and procedures to allow the integration of new DCI technologies (e.g. clouds, volunteer desktop grids) and heterogeneous resources (e.g. HTC and HPC) into a seamless production infrastructure as they mature and demonstrate value to the EGI community.

The EGI community is a federation of independent national and community resource providers, whose resources support specific research communities and international collaborators both within Europe and worldwide. EGI.eu, coordinator of EGI-InSPIRE, brings together partner institutions established within the community to provide a set of essential human and technical services that enable secure integrated access to distributed resources on behalf of the community.

The production infrastructure supports Virtual Research Communities (VRCs) − structured international user communities − that are grouped into specific research domains. VRCs are formally represented within EGI at both a technical and strategic level.

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# Introduction

Training will invariably be an underpinning element in the successful use and application of the ‘tools’ that become available through EGI. It is thus essential that suitable mechanisms are put in place to ensure the effective promotion (advertising), administration, documentation, tracking, and reporting of training programs and events, potentially even of online e-learning programs. A ‘Web site of training services’ was established under the EGEE project to meet these needs and this will continue to provide the principal vehicle for achieving the functions into the future. Nevertheless, the University of Edinburgh, which undertook much of the underpinning work to support this Activity (NA3), has just had to withdraw its involvement from this part of the project. This report therefore attempts to baseline the Training Web-site in its current state and look at the way forward for the provision of EGI Training Services in the near future.

A Training Working Group (TWG) has been convened to discuss the needs of the EGI community with respect to training and to capture and evaluate these requirements in order to support the effective development of the training ‘Market Place’ that will ultimately enable users and the user community to respond to the challenges and opportunities arising from the evolution of the EGI e-Infrastructure. The Group is accountable to the User Community Support Team (UCST) under WP3 of the EGI-InSPIRE project and its remit is as follows:

* To consider how User Support Teams from the NGIs and other partners can cooperate most effectively from the perspective of the delivery of quality training to as many members of the user community while avoiding duplication and wastage.
* To contribute and discuss training requirements and process these through the UCST Requirements Tracking System[[1]](#footnote-1).
* To provide feedback to their organisations regarding the processing of training requirements.

The broad aims of this new training system will be to fulfil the evolving management and coordination role by creating an on-line Training ‘Market Place’, a sustainable framework within which the community of current, potential and future users can collectively build a comprehensive training resource on a collaborative basis. In as much as is possible, this collaborative training system will aim to:

* provide the ‘Road Signs’ to training related resources
* link training resources to relevant Applications and tools
* centralise and automate essential elements of the training advertising
* use self-service and self-guided services
* provide a centralized access to repositories of learning content
* consolidate training initiatives on a scalable web-based platform
* support, promote and establish standards relevant to training delivery
* enable knowledge reuse
* promote social bookmarking as a means of recording trainers and their credentials
* gather feedback and requirements
* provide statistical performance reports

Though EGI.eu has neither the mandate nor the capacity to undertake a training management function, to a large extent, the above stated tasks mirror many of the functions that traditionally form the basis of a Training Management System’, namely:

* Organisation wide training conformance
* Automated training set up (selection, bookings etc)
* Scheduling and assignment (of courses, trainers, venues, trainees and resources)
* Real time reporting (metrics for value/impact measurement)
* Streamline workflow
* Training histories

The Training Web-site[[2]](#footnote-2) that was established by The University of Edinburgh under the EGEE and later in the EGI-InSPIRE project already incorporates many of the above functions but rising user expectations mean that advances must be made if the site is not to slip into becoming more of an historical record rather than an actively trading ‘Market Place’.

# The Vision for the Training ‘Marketplace’

## Concept

The training Marketplace brings together the Digital Library as a repository of training-related material and the Training Events Calendar together with any other resources that emerge as being crucial to the maintenance of a thriving training marketplace. For example, a simple mechanism whereby users can share and comment upon links to resources elsewhere on the Internet might be a shortcut to collating information. These disparate services must appear to be cohesive to the end user and should be integrated to the EGI Applications Database[[3]](#footnote-3) and the monitoring services. Furthermore, the NGIs and other partners should be capable of rebranding and integrating these services into their own sites. The Virtual Research Communities (VRCs) will want to do this with their Scientific Gateways also. As with any market place success is predicated on the enthusiasm and tenacity of the traders and the buyers. Think of this as an Ebay for e-Infrastructure training.

How do we achieve this?

## Procedures

The existing User Community Support Team (UCST) Requirements Gathering process will be used to feed refinements into the development of the Market Place. The UCST will also have to play role of promoting and running the Market Place as a service. The Training Working Group[[4]](#footnote-4) will capture and refine requirements for training and will welcome input and/or participation from across the EGI ecosystem. UCST will also suggest and gather material relating to the process of supporting communities and technologies and the market place will therefore support the people across the EGI community who provide support and services as well as the researchers themselves.

# CURRENT WEBSITE STATUS

## Web Site Training Services

The focal point for the EGI Training Services has evolved from an EGEE hosted website (which had grown over the 6 years of the EGEE project) to its current location under the EGI banner at <http://training.egi.eu/>.

1. Training Events List: This allows trainers/organisers to advertise their training events and for readers to become aware of other relevant training events being run within the EGI community. It also hyperlinks readers to further sources of information about events, institutions where the events are held and about subject matter experts within their specialist fields locally and globally. The list should detail future events and from an historical perspective, it provides an archive of previous events together with, where possible, post event feedback.
2. Training Materials: This function is intended to provide access to a form of digital library which holds all types of training related material used during training (and afterwards). The concept is thus to permit trainers and organisers to store prepared training material in a way that renders it available to be searched and shared amongst Users and the Community (trainers and trainees) at large.
3. Trainers information: The intent is to maintain a repository of information about trainers throughout the EGI area to help individuals/trainers to contact each other and thereby promote collaborative support and personal development. Recorded information could range from simple contact information through to professional achievements, titles, positions, awards and areas of specialisation.

The full set of Training Services as it currently exists is becoming increasingly widely distributed and thus presents a challenging scenario to potential users wishing to access the full range of available resources. Furthermore, the continued growth of the ‘User Community’ can only exacerbate the distribution of training resources and the size of the challenge of providing fast and effective access to required information.

### Training Events List

Training Events List: The Training Event List (<http://training.egi.eu/> ) is currently more of an historical listing of courses that have been run within the area of responsibility of an NGI rather than a forward looking advertisement of training that may be of value to readers. Events currently being added to the list are at best taking place as they are loaded onto the web-site and as such the offer no hope for users wishing to identify training which they could potentially undertake. This trend needs to be reversed if the Training ‘Market Place’ is to become a realistic and valuable service. The database is loaded with hyperlinks to web-pages chosen by the organiser/trainer; often, but not always, these web-pages may be INDICO pages which are well structured and may even provide access to training material and useful details about the venue and trainer. Courses are not ‘tagged’ to show their applicability/utility to specific groups of readers, be they general tags showing the suitability of the course (Administrators, Researchers etc) nor the field of interest (Life Sciences, High Energy Physics etc) and neither is there any functionality for key word searching. This would greatly limit the value of the database by comparison to other ‘Market Place’ sites (such as e-bay for example). At present the Events List provides no logical link between Applications being fielded to the User Community and Feedback reports and basic attendance data can be loaded into the Events list upon completion of the training event but the process is followed inconsistently and as such, statistical data cannot be used reliably.

### Training Materials

A Training Materials storage site is available at <http://training.egi.eu/material/index.cfm> and this currently reports to contain over 9000 documents within a Fedora based digital library (the currency of these documents has not been reviewed). Training materials are additionally found stored within INDICO (and linked to the pages set up when training events have originally been organised) and in other sites which will have seemed logical to the organiser/trainer at the time of preparing the training event. The key issue with regards to Training Materials would appear to be that while a single comprehensive library offers one method for storage, search and retrieval of training material, in practice, the Community is unlikely to adhere to such a rigid system and a more flexible and dynamic approach is required in addition to the digital library. Training material must also be closely linked to the training event where it was used and at present, such linking is more likely to be found through INDICO than through the digital library. Finally there are the difficult issues of ownership and resourcing of the database managers who will need to upload documents, maintain the database and develop functionalities.

### Trainers Information

An EGI Trainers information site exists at <http://training.egi.eu/trainers/index.cfm> and currently reports approximately 50 records. The danger with this sort of data store is that it can rapidly become out of date and forgotten if the data records are not at the forefront of each individual trainer’s attention. The information list as it currently stands inspires little confidence of being up to date and so its value is judged as questionable. The growing popularity of Social Bookmarking suggests that this may well offer a simple yet highly effective solution to this perceived requirement and the issue of currency and validity of displayed information is placed entirely within the hands of the individual trainer. It is considered that this could become a highly effective method of providing personal information (“folksonomy”) without requiring any additional effort from the EGI federation other than ‘sign-posting’ a supported Social Bookmarking resource (for example the professional LinkedIn site).

# specification of requirements for users

## Users of Training Services

Users of EGI Training services will be working individually or collaboratively within Virtual Organisations (VOs), Virtual Research Centres (VRCs) or NGIs. The Users & User Community comprise:

* Researchers (end-users).
* Developers (of grid scientific applications, portals, applications services etc.)
* Administrators (support the Researchers and applications services provided by Developers)
* Trainers (training of researchers, developers, administrators, trainers (levelling up the qualification or new trainers recruitment etc.))
* Publishers (the responsible person who publishes the event) is likely to be the organiser or his representative within either his/her NGI or VRC.
* EGI User & Community Support Team (UCST) staff.

For more details about the users classification please refer to deliverable D3.1 document[R5].

## Key Functions Required by Users

The following section briefly details the key functions within a Training Service that are required by users as defined above

### Functions required by all Users

 **General actions for Web-site:**

* 1. Establish a ‘Single Point of Entry’ to the Web-site
	2. EGI.eu User & Community Support page to be used as ‘entry point’

 **General actions for training Events service:**

* 1. Request or suggest a training event
	2. Register to a training event (the applicant would like to register to the event and see the list of participants if applicable)
	3. Receive notifications about the event status which attender registers to (if event was cancelled or any information was updated for that event)
	4. Retrieve publicly available material for or related to the event (download the slides or files to be used in the event etc.)
	5. Comment on event, material, trainer (publicly available comments for other people to read)
	6. Subscribe for notifications about training events in flexible ways (only in a given country or region etc.)
	7. Categorization of the events (event for researchers, for developers, for administrators, for trainers and sub-categories for gLite, ARC, UNICORE, job submission, data management etc.)
	8. Filtering the events (events by Date, by Country, by Trainer, by Event Category etc.)

 **General actions for Materials repository service:**

* 1. Request new material
	2. Upload or update material(the files, articles, video, slides or references to them)
	3. Comment on material (publicly view available comments for other people to read; add personal vote on material/comments)
	4. Subscribe to receive notifications about new material in flexible ways (by category etc.)
	5. Categorization of the material (material for researchers, for developers, for administrators, for trainers and sub-category for gLite, ARC, UNICORE, job submission, data management etc.)
	6. Filtering the material (materials by Date, by Provider, by Category, by profile etc.)
	7. Profile management (users should be able to manage their profile)
* Create (create new profile)
* Update (update the details of profile)
* Delete (delete the profile)
	1. Profile synchronization (with other services)
* Indico
* Social Bookmark (LinkedIn, Facebook, Twitter)

### Functions required by Specific Users

 **Developers: Specific actions for training Materials service:**

* 1. Profile synchronization (with other service profiles)
* Upload material
* add details to Applications Database profiles (<http://appdb.egi.eu/>)
* Link to training material / document Library
* Link to training event

 **Publisher or Trainer: Specific actions for training Events service:**

* 1. Register a new training event:
* Register into the local training registry
* Register into the central EGI training registry (local training registry should be able to populate new entries into the central one)
* Load event details
* Load training material
* Load post event feedback/report/summary
	1. Publisher’s profile management (publisher should be able to manage his profile)
* Create (create new profile)
* Update (update the details of profile)
* Delete (delete the profile)
	1. Publisher’s profile synchronization (with other services)
* Indico
* Trainers database (if the Publisher is the Trainer of the Event)
* Social Bookmark (LinkedIn, Facebook, Twitter)

 **Trainers: Specific actions for Trainers database service (Social Bookmarking):**

* 1. Trainer’s profile management (trainer should be able to manage his profile)
* Create (create new profile)
* Update (update the details of profile)
* Delete (delete the profile)
* Search (for specific profile attributes)
	1. Trainer’s profile synchronization (with other services)
* Indico
* Events service (if the trainer is the Publisher of the Event)
* Applications service
* Social Bookmark (LinkedIn, Facebook, Twitter)

 **EGI UCST Staff: Specific actions for training Events service:**

* 1. Accept registration of a new training event:
* Accept/Reject/Edit into the central EGI training registry
* Load event details
* Load training material
* Load/edit post event feedback/report/summary
* Review all details
* Compile statistical data from selected events

# Conclusion

The EGI Training Services Web-site (a database of Training Events, Trainers and a library of training material) has provided a repository for training related material under the stewardship of the University of Edinburgh. Success of the website is becoming limited through a number of reasons including the availability of human resources to maintain the site and also through the growing expectations of users in the ‘EGI User Community’. The web-site is currently in danger of becoming a historical archive.

Action is required to make the Training Services into more of a trading ‘Market Place’ which prospers through the proactive and collaborative effort of the entire user community. EGI.eu needs to make this ‘Market Place’ more immediately accessible to users, initially by providing a visible and highly accessible single point of entry to the Training Services web-site. New tools have flourished since the Training Services web-pages were first developed, most significantly with regards to Social Bookmarking and Grid Application Databases – effort needs to be devoted to creating the framework within which these advances can be best applied/embraced by the user community and applied to best effect. The Events list needs additional functionalities while the scope of the Training Materials library needs to be reconsidered. Wherever possible, the dependence on in house resources for maintenance of data bases should be minimised. By contrast, greater effort needs to be focused on developing the framework within which collaborative effort by all categories of Users can be channelled more effectively.

# References

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| --- | --- |
| R 1 | Training Eventshttp://training.egi.eu/ |
| R 2 | Training Repositoryhttp://training.egi.eu/material/index.cfm |
| R 3 | Trainershttp://training.egi.eu/trainers/ |
| R 4 | MS305 document |
| R 5 | D3.1 document |

1. Further information on Requirement Tracking and processing: <https://wiki.egi.eu/wiki/Requirements_gathering_details> [↑](#footnote-ref-1)
2. Training Web-site: <http://training.egi.eu> [↑](#footnote-ref-2)
3. EGI Application Database: <http://appdb.egi.eu/> [↑](#footnote-ref-3)
4. EGI Training Working Group: <https://wiki.egi.eu/wiki/Training_Working_Group> [↑](#footnote-ref-4)