**EGI activities for Virtual Research Environment projects
and for Centres of Excellence**

This document provides information about the contributions and type of partnership that EGI is willing offer to project consortia (e.g. for the VRE call, and the CoE call) that include activities around service provisioning, distribution of applications and open source software, exploitation and technical support to user communities and SME/industry, community liaison and business development. The document aims to provide indication of how project proposal can collaborate with EGI by exploiting existing services and by expanding these. The document aims to help projects achieve coherent and sustainable integration of their VRE’s services in the European e-infrastructure ecosystem.

A partnership with EGI requires:

* Capability of the platforms to be developed to be fully integrated with EGI so that the platforms will be capable of using of EGI resources and services as necessary to support the VRE
* Commitment to run the platforms/services after the end of the project. EGI can participate in the definition of a business model and contribute to the sustainable operations of the platform.
* Integration of the VRE community’ own training, exploitation activities and user support services into a broader programme of EGI. This would allow the VRE project to reach out to a broader user community including SMEs and industry and to exploit the EGI promotion channels to reach various audiences.

Collaboration with EGI can be established through EGI.eu - the coordinating organization of EGI - and/or its members, the National Grid Initiatives (NGIs) and European International Research Organisations (EIROs).

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# Summary of EGI activities

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| **Activity/service** | **EGI.eu** | **NGI/EIRO** |
| 1. Resource provisioning for testing and production activities, for operation of platforms (grid or cloud). |  | **Funded or in-kind** contribution depending on other roles of the consortium and amount of resource required. |
| 2. Operation tools for the VRE (monitoring, accounting, registration) | Existing services; Can be provided as **unfunded** contribution to the project.  | Technical developments of the tools, if required, need **funding** in the project. |
| 3. Helpdesk  |  | Requires **funding** in the project.  |
| 4. Software and application distribution (AppDB and UMD) | Existing services; Can be provided as **unfunded** contribution to the project.  | Development of tools, if needed, requires **funding** in the project.  |
| 5. User support to new communities | Contribution to the EGI distributed competence centre. **Funding** for at least 0.5 FTE in the project that can be allocated to EGI.eu or granted to any consortium member.  |  |
| 6. Training and education programme | Integration of the project training activities into the EGI training programme can be **unfunded**. Development and delivery of training in the project requires **funding**.  |  |
| 7. Champions programme | Integration of a Champion from the project into the EGI champions programme is **unfunded**. Support for the champion requires **funding** in the project. (mostly travel) |  |
| 8. Outreach to SMEs and industry | Active participation in the EGI business engagement programme requires **funding** in the project.  |  |
| 9. Community liaison | **Funding** in project |  |
| 10. Service Management (FitSM) | **Funding** in project (effort or direct cost)  |  |
| 11. Platform operation, business development, sustainability  | **Funding** in project | Operations of the platform in the long run based on agreements with resource providers.  |

The rest of the document provides additional information on the various services and activities mentioned in the table above.

# Description of the activities

**Technical Areas:**

1. **Resource provisioning:** EGI is a federation of cooperating resource infrastructure providers from the European NGIs and EIROs and from peer-infrastructures worldwide. Resource providers are responsible for the maintenance of their services, as well as for the coordination and integration of new resource centres that contribute to individual e-infrastructures, such as those underpinning VREs. Resource providers operate resources and services to their geographical- (e.g. national or regional for NGIs) or domain-specific (e.g. life sciences) research communities. EGI.eu can arrange support from different types of providers for VREs:
	1. Grid resource providers: Provide computing, storage and data management facilities that are most suitable for high-throughput data analysis, for handling and storing big datasets.
	2. Cloud resource providers: Provide virtualised resources to run any environment the VRE community defines in the form of Virtual Machine Images, and provide cloud storage for easier sharing of data within and outside of the images.
	3. Pay-for-use providers: Most of the EGI resource centres currently operate within publicly funded research and academic environments providing services free at point of delivery for users from academia. During the last 12 months EGI defined and implemented the basic ability to provide pricing, accounting and charging mechanisms for pay-for-use customers on the infrastructure and signed agreements already with 29 resource centres (20 grid and 9 cloud) to provide pricing information pay-for-use services for VREs and other partners. These pay-for-use resources can serve both academic and commercial usage and can provide several benefits to certain workloads and communities.

**EGI.eu can help the VRE choose and find the suitable types of resources and providers from the NGIs, and can help the VRE form an e-infrastructrure from these to serve its customers. The conditions of resource provisioning must be discussed with the resource providers.**

1. **Operation tools:** EGI Operations binds individual services into e-infrastructures to ensure for VREs that the services are delivered at an agreed service level and that services and resources are both seamlessly integrated and evolving according to the needs of the user community. EGI provides various operational tools that VREs can benefit from, e.g. to **monitor** the availability, reliability and correctness of e-infrastructure and VRE components (such as computing and storage resources; PaaS services; gateways; datasets), to collect **accounting** information across sites, to keep a **registry** of services that participate in their infrastructure, to resolve infrastructure issues via helpdesk systems connected to dashboards.

**EGI.eu can help the VRE choose the required services for the robust operation of the VRE and can identify the most suitable providers for the operation of these tools as well as of the VRE platform compoents. The conditions of support must be discussed with the providers.**

1. **Helpdesk.** EGI can offer a project dedicated helpdesk which is fully integrated with the EGI helpdesk system, but offering a customized and dedicated skin, so that the helpdesk can be project branded and at the same time fully integrated with the EGI helpdesk infrastructures, simplifying the transfer of tickets and responses across national and topical support teams.
2. **Software and applications distribution:** EGI provides an Applications Database (AppDB)[[1]](#footnote-1) and the EGI Software Repository[[2]](#footnote-2) as centralised services to
3. store information about software tools integrated with the EGI infrastructure;
4. to make new software releases available for sites and for communities;
5. to share information about EGI-related software with other members of the ERA and with the general public.

The items in these two registries can include scientific applications, science gateways, workflow systems; workflows; Virtual Machine Images and middleware components and tools for developers.

**The VRE project is expected to register its software in the EGI AppDB to make them visible and accessible to EGI members and to the broader communities. Optionally the VRE can use AppDB and the Software Repository to endorse and to roll-out Virtual Machine Images and middleware software code onto the resources that support their e-infrastructure.**

**Outreach, support, policy areas:**

1. **User support to new communities:** A **Distributed Competence Centre (DCC)** exists[[3]](#footnote-3) in EGI across its NGIs, partner projects, scientific communities and technology providers. The DCC includes user support personnels that can be accessed by research communities to support their research activities with distributed computing services linked to EGI. The VRE is expected to delegate support personnel(s) into this DCC from the area of VRE expertise that is linked to EGI (for example workflows; space science data management; medical imaging). The contribution will be made visible for new communities via the EGI DCC webpage, and will be offered for those new users and new communities who require technical assistance in the specific area. The delegated persons are expected to join the regular teleconference meetings that EGI organises for DCC members.

**The VRE is expected to contribute to the DCC with approx. 0.5 FTE during the duration of the VRE project. Possible continuation after the project should be discussed during the project itself. The effort can be allocated to any member of the consortium who is willing to join and support new users via the EGI DCC instrument and can be an effort that is shared for other responsibilities. (The 0.5 FTE does not have to be a dedicated effort for EGI DCC participation)**

1. **Training and education programme:** EGI operates training and educational services to support the training needs of its members, of the European e-infrastructure and Research Infrastructure communities, and of the whole European Research Area. Training and education also supports capacity building within the NGIs to ensure they have the human skills as well as technical capabilities to serve their user communities sustainably, to meet national policies and benefit from the shared endeavour of EGI. The EGI training and education services includes:
2. Training **coordination**: Assess community training needs based on direct feedback via EGI’s Training Marketplace[[4]](#footnote-4), experience, foresight and market intelligence. Examine training courses and options to find which fit best for the EGI community.
3. Training **delivery**: Deliver training on topics of expertise of the VRE to EGI members and beyond. Use the EGI Webinar programme, EGI Forums and other EGI/NGI-related events to host VRE training.
4. **Train-the-trainers**: Organise training events for the NGIs and user communities within them to build up trainer communities about specific topics related to the VRE. Use EGI Webinars and events to deliver such trainings.

**The VRE should contribute to the EGI training programme by**

1. **Registering its courses in the EGI Training Marketplace. This will make the events visible and accessible for the broader e-infrastructure communities.**
2. **Organise training events at the EGI Forums and/or under the EGI Webinar umbrella.**

**The effort required for this activity can be allocated within the VRE to any consortium member who has interest and the right expertise for the delivery.**

1. **EGI Champion Programme:** EGI Champions are enthusiastic scientists or technologists using grid and cloud services from EGI for their research and keen to go to international conferences and spread the word about the benefits of working with EGI.

**The VRE should delegate one person into the EGI Champion Programme and support his/her attendance as an EGI Champion at least at 1 international conference or workshop per year. The Champion has to contribute to the event programme and articulate the benefits of the VRE and of working with EGI in his/her contribution.**

1. **Outreach to SMEs and industry:** EGI will launch its business engagement programme in 2015. The programme will facilitate EGI’s engagement with private organisations (SMEs, large enterprises, non-profit) and define a framework for them to establish collaborations with members and partners of EGI. The VRE can contribute to the EGI industry programme by
2. Providing information about the conditions by which private organisations can use VRE services.
3. Promoting EGI services alongside their VRE services when they speak to private organisations, supporting EGI members to establish collaborations with industry.
4. Working with EGI on new, innovative business models that can facilitate the uptake of VRE and EGI services within the private sector.

**The exact scope of joint work in this area must be discussed with EGI representatives. Sufficient effort must be allocated from the VRE project for EGI.eu to cover the contribution.**

1. **Community liaison:** EGI organises 2 forums and several other workshops and community events each year. These, as well as other online forms of communication enables VREs to bring together their existing and potential future users, to promote new achievements, to discuss requirements, to identify possible solutions, to define collaborative roadmaps. Besides, EGI can also foster liaising with communities by organising community-specific or topical workshops, running online surveys, sharing and communicating content via the EGI channels. Over the years EGI has established communication channels with various communities of practice in the ERA as well as with relevant policy-makers and the with the broader public. VREs can use all these channels to reach and influence new audiences.

**The exact scope of joint work in this area must be discussed with EGI representatives. Sufficient effort must be allocated from the VRE project for EGI.eu to cover the contribution.**

1. **Service Management (FitSM):** EGI has considerable experience in the professionalisation of management and delivery of e-Infrastructure services. EGI was involved in the development of FitSM, a lightweight service management suitable for e-Infrastructures, and was an early adopter of it. IT Service Management (ITSM) is crucial for building sustainable services, of high quality, that are aligned to user needs. FitSM provides certified training, backed by TÜV SÜD, that gives both providers and customers a framework for thinking about, understanding, specifying and agreeing services. EGI can broker FitSM certified training for VRE community members, which can serve to let them both specify services and service needs more clearly to e-Infrastructures, and to provide higher quality services to VRE user communities. EGI can also provide consultancy on ITSM introduction based on FitSM, drawing on experience of ITSM introduction for EGI communities.
**VREs should discuss ITSM needs to make realistic plans for the level of implementation of ITSM based on available resources. VREs should also consider reservation of direct costs to cover exam fees and other external training costs.**
2. **Platform operations, business development and sustainability:** EGI through its technical partners can offer to be the provider of the platforms to be developed and offered through the project proposal. The long term provisioning requires the development of a business model for the recovery of the costs in using the e-Infrastructure building blocks, the user-facing services and the required support products (like open data, software etc.).
1. EGI Applications Database: <http://appdb.egi.eu> [↑](#footnote-ref-1)
2. EGI Software Repository: <http://repository.egi.eu/> [↑](#footnote-ref-2)
3. EGI Distributed Competence Centre: <http://go.egi.eu/dcc> [↑](#footnote-ref-3)
4. EGI Training Marketplace: <http://go.egi.eu/training> [↑](#footnote-ref-4)