GISELA

IDENTIFICATION OF SUPPORTED VRCs AND EXECUTION PLANS FOR THE 1ST YEAR

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Abstract: This deliverable presents the initial Virtual Research Communities to be supported by GISELA, as well as the execution plans and the training agenda foreseen for the first year of the Project.

Delivery Slip

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TABLE OF CONTENTS

TABLE OF TABLES

TABLE OF FIGURES

1. INTRODUCTION

1.1. PURPOSE OF THE DOCUMENT

This document presents the initiatives of Work Package 3 (WP3) "User Communities Support" to identify the Virtual Research Communities (VRCs) to be supported by GISELA and describes the corresponding work plan and training program for the first year, as well as the approach to evaluate continuously the progress of the work.

1.2. DOCUMENT ORGANISATION

Section 2 - Executive Summary - presents the document highlights. Section 3 introduces all necessary definitions related to VRCs, their necessary support services and classification and the early-identified Communities. Section 4 outlines the strategies that will be developed to attract and integrate new VRCs. Section 5 presents the methodology adopted for the evaluation of the WP3 progress. Section 6 summarises first year actions and conclusions are drawn in Section 7.

1.3. APPLICATION AREA

The target audience for this document is:

- The members of the Project;
- All VRCs already or eager to become user of the GISELA e-Infrastructure;
- The European Commission (Project Officer, Reviewers,...);
- The External Advisory Committee (EAC);
- The general public.

1.4. DOCUMENT AMENDMENT PROCEDURE

Amendments to this document can be requested by any Project Member to the Project Coordinator, via the Project Office (hlp-gisela@hlpdeveloppement.fr).

1.5. GLOSSARY

CB	Consortium Board
CE	Computing Element (Core in case of multicore node)
CLARA	Cooperación Latino Americana de Redes Avanzadas
CHAIN	Co-ordination and Harmonisation of Advanced e-INfrastructures
DCI	Distributed Computer Infrastructure
DEGISCO	http://degisco.eu
DoW	Description of Work
EAC	External Advisory Committee
EC	European Commission
EDGS	Equivalent Domestic Grid Structure
EELA	E-Infrastructure shared between Europe and Latin America
EELA-2	E-science grid facility for Europe and Latin America
EGEE	Enabling Grids for E-science in Europe
EGI	European Grid Initiative
EGI_DS	EGI Design Studies
e-IRG	e-Infrastructure Reflection Group
e-IRGSP	e-Infrastructure Reflection Group Support Project
EPIKH	Exchange Programme to advance e-Infrastructure Know-How
ESFRI	European Strategy Forum on Research Infrastructures
EU	European Union
FTE	Full Time Equivalent
GILDA	Grid INFN Laboratory for Dissemination Activities
gLite	Lightweight middleware for Grid Computing
INCT	Instituto Naciona de Ciência e Tecnologia
IST	Information Society Technologies

JRU	Joint Research Unity
KoM	Kick-Off Meeting
LA	Latin America
LAC	Latin America and Caribbean
LGI	Latin American Grid Initiative
MPI	Message Passing Interface
NGI	National Grid Initiative
NREN	National Research & Education Network
OurGrid	http://www.ourgrid.org/
PDCA	Plan, Do, Check and Act cycle
PC	Project Coordinator
PGP Key	Pretty Good Privacy Key
PM	Person Month
PMA	Policy Management Authority
PO	Project Office
RC	Resource Centre also sometimes called Site
TP	Training Program
VO	Virtual Organisation
VRC	Virtual Research Community
VRC	Virtual Research Environment
WP3M	Work Package 3 Management

2. EXECUTIVE SUMMARY

The support of Virtual Research Communities (VRC) is a crucial element of the successful accomplishment of WP3 objectives. In fact VRC can be used as a key concept to promote the use of Grid technology to sustain e-Research and collaboration between Europe and Latin America. A proper VRC classification of the communities is necessary to optimise the application of resources to their needs, maximising every project outcome. As there is no commonly worldwide-agreed definition of VRC, we have adopted a VRC definition contextualised with the communities addressed by the project. It eases the determination of the comprehensive list of Support Services provided by this Work Package, ranging from the digital identity management to the Scientific Application support.

The foreseen Support Services are listed and mapped onto existing VRCs characteristics, in order to determine which kind of resources should be engaged during the course of the project. The outcome of this process proposes a VRC classification matrix that will be used to clearly identify a list of VRC supporting actions.

The document presents the list of early-identified VRCs that originates mainly from Life Sciences, Earth Sciences and High Energy Physics scientific domains.

Finally a comprehensive methodology is proposed to carry out the list of actions foreseen and to evaluate the work progress over the first year of the project.

3. VIRTUAL RESEARCH COMMUNITIES

A good understating of the concept of Virtual Research Communities is crucial for the successful accomplishment of WP3 objectives. Indeed, a VRC-oriented approach can be used as a key concept to promote the use of Grid technology to sustain Research and collaboration between Europe and Latin America. Moreover, a classification of VRCs according to their characteristics is required to optimise the application of resources to the research communities' needs, in order to maximise every project outcome. As there is no commonly worldwide-agreed definition of VRC. We have adopted a definition of VRC contextualised with the communities addressed by the Project.

We have then mapped to the various kinds of VRCs identified, the list of Support Services that will be provided by WP3.

3.1. VRC DEFINITION

A VRC can range from:

- A group of researchers working together, sharing distributed resources to carry out common investigations, such as instruments, computing, storage and software tools;
- Up to large international well-structured collaborations with a long range scientific programme involving hundreds to thousands of scientists-engineers, rather advanced research methodologies and substantial distributed resources (scientific apparatus, large instruments, mega-scale computing facilities, Petabyte data centres, attached technical support and also administrative and financial services).

They have in common to base their research, every day more, on a so-called Virtual Research Environment (VRE) that comprises online tools, Distributed Computer Infrastructure (DCI) systems and processes interoperating to enable and enhance the research process.

From the legacy of previous projects (EELA and EELA-2), one clan clearly map the previous definition of VRC onto two sorts of EU-LA communities with the following characteristics:

- Small user communities, typically 1-2 institution group(s), alone or collaborating with a few others. Most of them are located in Latin America and their use of the infrastructure is to learn Grid technology by grid-enabled application(s) and thus to evaluate the potential of the grid computing model for their current and future research, sometimes through a scientific collaboration with an European group. In most cases the Grid technology knowledge has been brought by EELA and EELA-2. In the future it should pass progressively under the National Grid Initiatives (NGI) / Equivalent Domestic Grid Structures (EDGS) and Latin American Grid Initiative (LGI) responsibility, as foreseen in the LGI model proposed in the GISELA DoW[1];
- Large collaborations (High Energy Physics, Life Sciences, Earth Sciences, etc.) that usually have their base in Europe or in the United States of America. The primary goal of each partner is to use the e-Infrastructure to contribute, as committed, to the computing effort of its collaboration. On the other hand, these VRCs are more and more needing integrated tools (e.g. Web 2.0 based portals) that ease and improve the efficiency of their work.

[1] http://documents.gisela-grid.eu/record/32?ln=en

3.2. SUPPORT SERVICES FOR VRCS

The continuous surveys of the Scientific Communities supported by EELA and EELA-2 spotted the following list of basic Support Services needed by the Communities:

- Computing resources provisioning – offer a wide set of computing power and storage (WP4 in GISELA) in order to perform the desired research by the scientific groups;
- Computing resources deployment support – provide specific training on installation of grid enabled computing and storage resources;
- Computing resource operation support – offer specific training on operation of grid resource centre;
- Middleware service development – develop a middleware customisation, offering or service to cope with the requirements of a specific research community;
- Digital identity management – educate community users on how to manage Grid certificates and digital identity;
- Grid technology induction – induce research communities to use grid technologies through short tutorials aiming at simple job submission, application demonstration and grid service installation;
- Grid enabling application support – prepare a community application/software/tool to use and profit from a grid enabled infrastructure;
- Application tutorial – instruct community users on how to use a grid-enabled application;
- Web portal development – integrate a grid-enabled application within a web portal in order to hide grid complexity from the end user, spreading the use of the available technology to grid illiterate users.

A pictorial representation of the above list is depicted in Figure 1. It is anticipated that all grey Services will be afforded directly by the Project through its Work Packages, while the blue ones will be provided in collaboration with other projects such as EPIKH (Exchange Programme to advance e-Infrastructure Know-How - http://www.epikh.eu/ and CHAIN - Co-ordination and Harmonisation of Advanced e-Infrastructures - http://www.chain-project.eu/. In addition, since GISELA is a multi-middleware project[2], WP3 will possibly act as an interface between specific middleware expert teams and supported VRCs.

[2] GISELA currently supports gLite, Ourgrid and DIRAC.

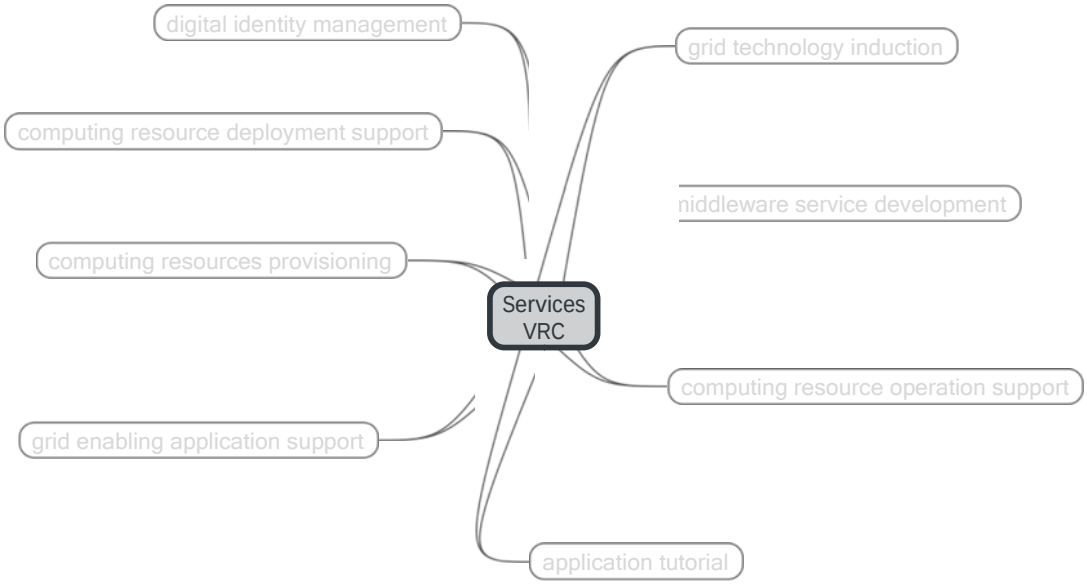

Figure 1: Identified services for GISELA VRCs

3.3. VRC CLASSIFICATION

In Section 3.1, we introduced two major types of communities: (a) small communities, typically 1-2 institution group(s), alone or collaborating with a few others, and (b) Large collaborations that usually have their base in Europe or in the United States of America. On top of that, we also identified that different groups with different needs compose each kind of community, which showed the necessity to partition each VRC type into two (2) categories each.

- Small communities of type (a) can conveniently be divided into:
  - (*category-i)* embryonic stage groups which demand digital identity management and induction tutorials, Resource Centre deployment and operation support, as this was the focus of in EELA and EELA-2. This group will be addressed using the synergies developed with other projects, such as EPIKH and CHAIN.
  - (*category-ii*) groups are already acquainted with Grid technologies. They are the major legacy left from EELA and EELA-2, where they tested their applications in a Grid environment and evaluated the added value to their research. They need to be addressed through specific actions in order to get them continuous users of the Grid technologies.
- From the large collaborations perspective, type (b) Communities can be split in:
  - (*category-iii*) groups that only need Resource Centre deployment and operation support since these groups embraced the entire Grid technology cycle, and comprise their own support teams able to provide every kind of Support Service.

- (*category-iv*) groups that ask for more advanced integrated Services e.g. Web portal development, to maximise the outcome of their Grid computing model. From the GISELA point of view, they request support for an extended palette of Services that includes Application tutorial and portal development support.

It should be commented that this classification is likely to be revised during the course of the project, in order to get better acquainted with any new requirement or request originating from GISELA communities.

Table 1 shows the current mapping of Support Services presented in the previous section and VRC type and category.

Table 1: VRC Classification

Support service / VRC classification	a		b	
	i	*ii*	*iii*	*iv*
Digital identity management	□	□		□
Grid technology induction	□			
Computing resource deployment support	□	□	□	□
Computing Resource operation support	□	□	□	□
Grid enabling Application support		□		
Computing Resource provisioning		□	□	□
Middleware service development		□		□
Application tutorial				□
Web portal development		□		□

3.4. EARLY-IDENTIFIED VRCS

Table 2 presents the list of early-identified VRCs. The first VRC is the Life Sciences community and it is supported by two Virtual Organisations: biomed and enmr.eu. The second VRC is the Earth Sciences community and it is using the legacy VO *prod.vo.eu-eela.eu* to support its activity. The last VRC is the High Energy Physics community and five (5) Virtual Organizations support it.

These VRCs were selected based on their readiness, support level and the background work built during previous projects such as EELA and EELA-2.

Table 2: Early-identified VRCs

VRC	Legacy applications	Virtual Organisations	Type
Life Sciences	Haddock, Cyana, Xplor-NIH, CS-ROSETTA, MD, Amber, MDD, etc[3,4]	biomed, enmr.eu	*iv*
Earth Sciences	CAM and WRF[4]	prod.vo.eu-eela.eu	*ii*
HEP	applications managed by each VO	ALICE, ATLAS, AUGER, CMS and LHCb	*iii*
Catch-all	CLARA Communities, Mexican Industry Community, Applications inherited from EELA and EELA-2, etc.	prod.vo.eu-eela.eu	*i*

Besides the early-identified VRCs, GISELA will also provide support to new communities proposed by GISELA Partners (and external collaborating Institutions) and legacy applications inherited from EELA and EELA-2. A Catch-all VRC will make this support available. More information on the selection process of this VRC will be presented in Section 6.1.

[3] More information can be obtained at http://www.enmr.eu/eNMR-tutorials

[4] More information can be obtained at http://applications.eu-eela.eu/app_list.php?l=20

4. STRATEGIES TO CREATE AND/OR INTEGRATE NEW VRCS

Besides the exhaustive set of Support Services introduced in previous sections, a series of measures should be foreseen at several organisational levels in order to foster the creation or formation of VRCs. This process is another task of this Work Package. It assures the creation of the necessary conditions for a sustainable e-infrastructure and it will be driven by two strategies:

a. A top-down strategy that is essentially the breaking down of emergent VRCs into compositional groups. Each group needs will be analysed and refined into greater detail in order to specify specific actions that can leverage the consolidation of the emergent VRC. Then, every group will be contacted by WP3 to agree on a list of support actions. This strategy will also profit from a close collaboration with our sister projects such as EGI, CHAIN, etc.

b. A bottom-up strategy based on large collaboration projects that have already pieced together research groups and tailor necessary actions to bring new GISELA related partners on board. This strategy will be implemented using the concept of "seed model", whereby specific support will be provided to select partners in GISELA coverage. WP3 will request from the selected "seed groups" that they run production as intensively as possible on GISELA, aiming at saturation the e-Infrastructure.

The top-down strategy will be performed in close collaboration with Latin American scientific contacts (see Section 6.1) in order to foster the creation of new VRCs or to encourage their collaboration with the existing ones. The bottom-up strategy will promote the collaboration with several European scientific projects (see Section 6.2) in order to identify new partners or to provide necessary support to use the e-Infrastructure.

5. OVERALL PROGRESS EVALUATION

A Plan-Do-Check-Act (PDCA)[5] cycle will be used to evaluate the effectiveness of support actions and the achievements of both strategies presented on previous sections. The WP3 PDCA cycle, depicted in Figure 2, is implemented with the following components:

- Plan:
  - Assess the VRC support in order identify and recognise problems;
  - Identify new VRC groups in LA;
  - Evaluate the scientific impact through publishing metrics;
  - Produce training material and scheduling;
  - Outline methods, actions and protocols that can be taken to address new requirements.
- Do:
  - Deploy prototypes and protocols on pilot groups;
  - Evaluate methods and actions on trial runs;
  - Assess the effectiveness of new training material on selected test groups.
- Check:
  - Evaluate the outcomes of the tests carried out, i.e., the "Do" phase;
  - Analyse the effective impact of planned measures onto the VRC strategies;
- Act:
  - Implement the proposed changes;
  - Integrate the proposed changes into the current practices.

Each cycle (four phases) has the duration of three months and will be reported on every quarterly report.

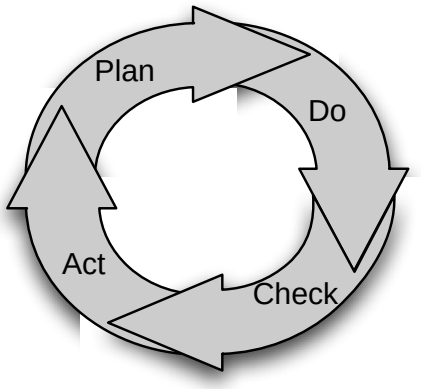

Figure 2: PDCA cycle

[5] Deming, W.E. 1986.*Out of the Crisis*. MIT Press. Cambridge, MA, page 88

Table 1 presents an extended version of the WP3 metrics. It also includes the current status of each metric used during the "plan phase" of the first WP3 PDCA cycle. It should be noticed that quality metric number 2 only reflects to 2 (two) groups that are effectively using the infrastructure. In the next section, the current actions performed during the first quarter in order to attain this metric will be presented.

Table 3: WP3 Metrics

	Quality metric	Current Status Q1	After year I	After year II
1	Number of supported VRCs	3	≥ 2	≥ 3
2	Number of application's groups from Latin America	2	≥ 15	≥ 36
3	Number of training events	2	≥ 1	≥ 4
4	Number of self-training material (video-lessons or guideline documents)	13	≥ 20	≥ 40
5	Number of papers published	n.a	≥ 5	≥ 20

6. FIRST YEAR ACTIONS

6.1. COORDINATION ACTIONS

During the first quarter, the work package management (WP3M) performed the following activities:

- Deployment of the Feng Office management tool (Figure 3). This tool allows WP3M to manage tasks of WP3, documents, communication with co-workers, schedule meetings and events and share any kind of electronic information;
- Implementation of the regular schedule for the WP3 management meetings (OFM - Ordinary Fortnightly Meetings);
- Preparation of deliverables: activity plan and quarterly report;
- Creation of proper communication channels with partner's human resources and mailing lists;
- Construction of new synergies with other projects;
- Coordination, with WP4 and WP5, of a group of actions to build the DIRAC framework that will be used as a standard grid-enabling platform.
- Participation on the EGI Technical Forum[6] in Amsterdam (Netherland);
- Participation on the GISELA Kick-off meeting[7] in San Luis Potosí (Mexico).

Amongst the above activities, the participation in the EGI Technical Forum was decisive on the selection of early-identified VRCs because WP3M was able to carry on agreements with a number of existing Virtual Organization teams. For instance, we established a close collaboration with the enmr.eu VO team[8] in order to support all Latin American users, providing distinct training on grid technologies. Moreover, we initiate collaboration with EGI in order to expose our legacy applications on its communication channels such as its application database.

[6] http://www.egi.eu/EGITF2010

[7] http://indico.gisela-grid.eu/conferenceDisplay.py?confId=8

[8] http://www.enmr.eu/

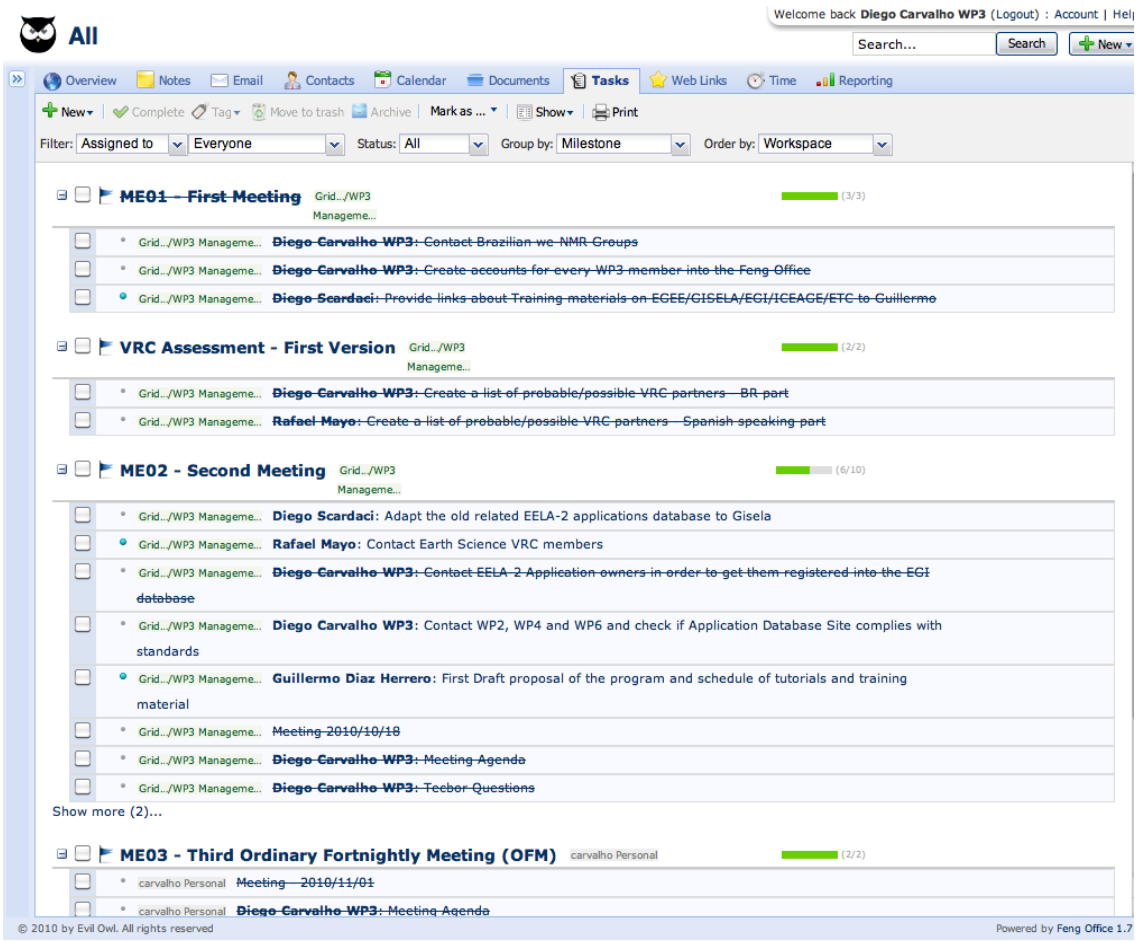

Figure 3: Example of use of the Feng Office Tool

Besides the activities presented above, the management contacted every Latin American GISELA Partner in order to survey contacts for new VRCs groups in the area. WP3M received from the Brazilian representative a list of National Science and Technology Institutes (INCT – *Institutos Nacionais de Ciência e Tecnologia*[9]), a governmental initiative to foster and fund research. Moreover, these institutes must be implemented inside scientific networks, which increases the number of related scientists. This list was then used to provide a list of 125 contacts (one per INCT). The survey shows that the majority of Brazilian groups could be classified as Life Science Communities, as depicted in Figure 4. It should be noticed that the High Energy Physics groups were not covered by the INCT initiative, since they have a different instrument for funding: regardless, all contacts have been already established during previous projects (EELA and EELA-2) and they are amongst the early-identified VRCs.

[9] http://www.cnpq.br/resultados/2008/015.htm & http://www.cnpq.br/resultados/2008/015a.htm

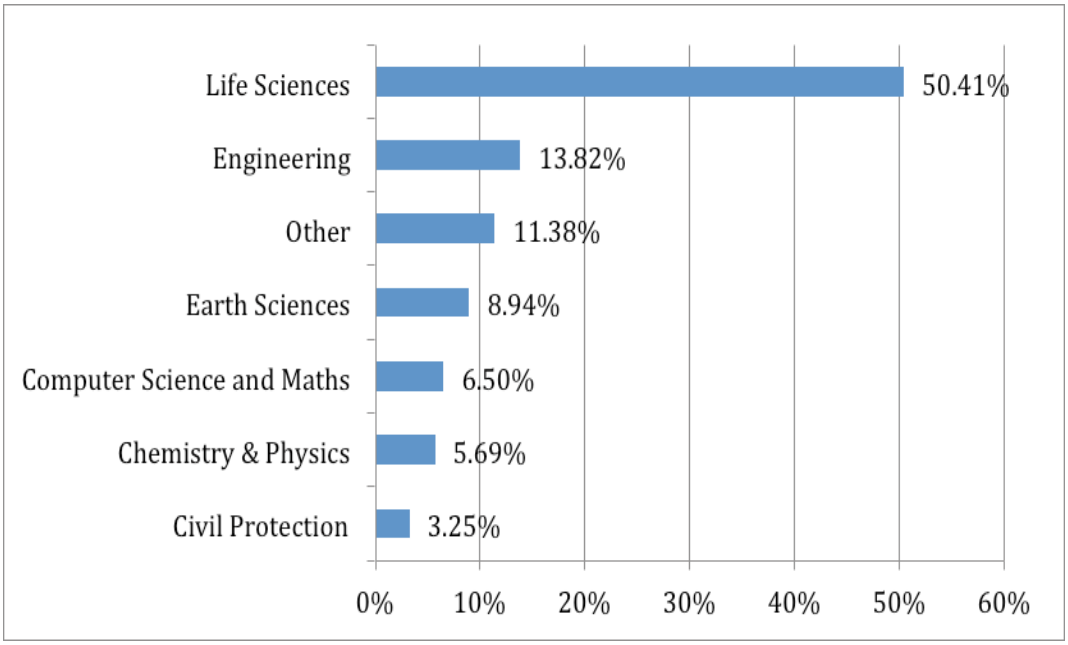

Figure 4: Brazilian groups classified by scientific domain

WP3M also conducted a survey in other LA countries and compiled a list of scientific leaders, totalizsng 80 contacts, which can drive the formation of seed groups. Figure 5 presents the breakdown per scientific domain of Latin American Spanish speaking contacts.

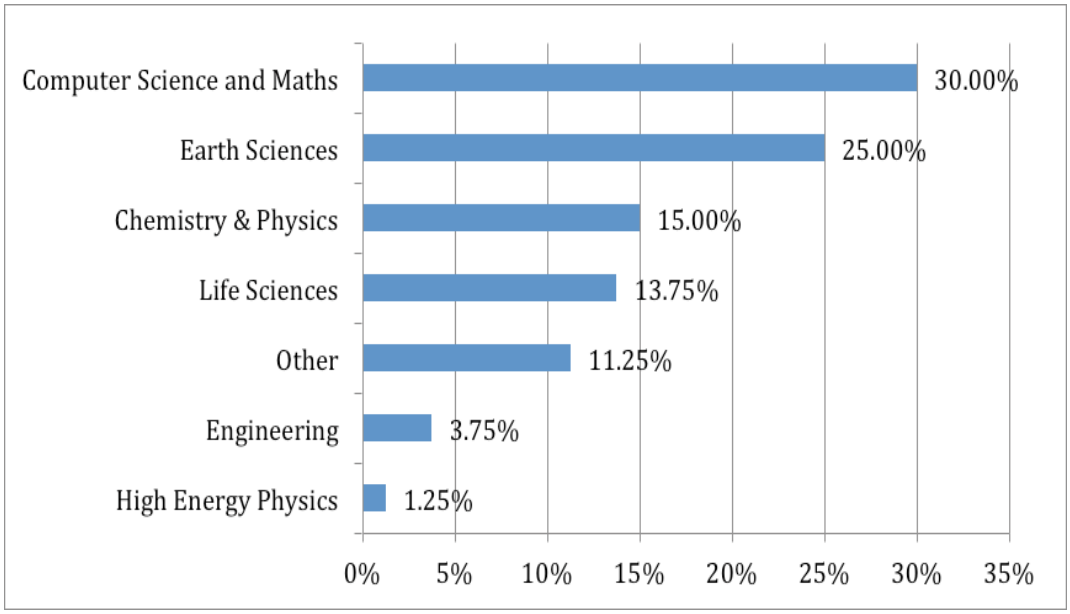

Figure 5: Spanish speaking communities classified by scientific domain

Both pictures presented above had an influence on the selection of the early-identified VRCs. It should be emphasised that only the Computer Science and Maths community was not selected due to its readiness condition.

Besides the actions performed by WP3M, some GISELA partners are helping on the fosterage of new communities. In this direction, CLARA is performing a survey amongst network users in order to identify new research communities and the Mexican Join Research Unity promoted an industry open section during the GISELA KoM.

With the contact lists produced by above initiatives, WP3M will contact every group representative in order to evaluate their readiness status. This information will be used to implement the Top-down strategy in every PDCA cycle. Any deviation will be reported or updated in GISELA Quarterly reports.

6.2. LIAISON WITH EGI-RELATED AND OTHER EXTERNAL ENTITIES

Every new potential Latin American VRC will be selected in close collaboration with the CLARA partner, profiting from user commonalities. Users can also be advised to join previous identified VRCs, such as HEP, Life Sciences, Earth Sciences etc.

As another important step to enlarge the network of GISELA communities is to engage a close collaboration with European Grid Infrastructure (EGI[10]) in order to create common policies to contact large VRCs and define a strategies to let existing VRCs know of non-European Regional communities related to GISELA.

In addition, a close collaboration between GISELA and CHAIN is envisaged. The latest also plans to create a roadmap of necessities and commonalities of mature Grid VRC across the regional areas previously funded by the European Commission (Latin America, Mediterranean zone, Africa and Asia). Thus, joint actions and efforts will be produced in order to empower the obvious synergies that both initiatives hold.

Moreover, we envisage another way to increase the number of VRCs supported by creating collaboration with the European Strategy Forum on Research Infrastructures (ESFRI) projects[11]. ESFRI is a strategic instrument to develop the scientific integration of Europe and to strengthen its international outreach. We consider ESFRI projects the preferential candidates to create synergies with the GISELA project. During the first months of the project we collected contacts and information about every ESFRI project. From now on, WP3M is going to contact some ESFRI project coordinators, in collaboration with EGI, to understand how new synergies can be built up.

6.3. VALIDATION, DOCUMENTATION AND TRAINING

A Training Plan (TP) was developed as a coordination guidance and tentative schedule for the 1st year. The primary objective is to approach Virtual Research Communities (VRCs) in Latin America. The TP is going to be quarterly updated, in the context of the PDCA cycle, to cope with VRCs requirements.

The approach is to capitalise on former EELA, EELA-2 successful training programs and to collaborate with EGI-related projects in organising common training events.

[10] http://www.egi.eu/

[11] http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=esfri

- Tutors from GISELA member institutions and with experience in previous EELA-2 training events, shall be requested to attend those organised by GISELA.
- Synergies with other FP7 funded projects, as EPIKH, CHAIN and DEGISCO projects are already operational, in particular with EPIKH (4 Tutorials co-organised so far in Mexico and Chile).

The anticipated Training Courses and Workshops will cover multiple disciplines, such as (but not limited to):

- Accessing to Grid computing and storage facilities;
- Administration of Resource Centres (RCs) e.g.:
  - Installing and integrating new Resource Centres to the Grid;
  - Upgrading already existing RCs to newer versions of the middleware;
  - Setting up support to MPI enabled applications (which enables the execution of broader range of scientific applications and therefore the outreach to more VRCs);
  - Porting new scientific applications to the grid. Support and assessment will be provided whenever a newly identified VRC attending any these training events comes with a set of applications not yet ported to grid infrastructures.
- Providing training on abilities and capabilities related to specific tools and codes as required by certain VRCs.

Tutors from member institutions attending these training events will be in charge of generating new self-training material or improving those created during previous projects such as ICEAGE[12], EELA and EELA-2. In order to guarantee the quality of the training material, it will be reviewed and validated by other GISELA participants designated by WP3M. Every training material produced will be tagged and made available through the GISELA Documents Server, where users, administrators, developers and new comers will be able to search for the training materials in an easy and effective way.

6.3.1. Tentative training agenda

According to the DoW, four (4) training events are foreseen during the lifetime of the project. However, it is not possible to establish right now a detailed VRC-oriented training plan due to the transient phase of the project, since several VRC groups have not been identified yet. This situation obliges a permanent review of the training plan, as indicated in the PDCA cycle. The program and its effectiveness will be quarterly assessed and any deviation will be reported in GISELA quarterly reports.

Table 4 shows a tentative time schedule of training events for the first year, taking into account events jointly organized with the EPIKH and CHAIN projects.

[12] http://www.iceage-eu.org/v2/index.cfm

Table 4: Training event tentative schedule

Event	Month	Date	Country	Main focus	Organized with
1	M3	Nov, 2010	Mexico	*Applications*	EPIKH
2	M4	Dec, 2010	Chile	*Applications*	EPIKH
3	M9	May, 2011	Brazil	*t.b.defined*	-
4	M11	July, 2011	-	*t.b.defined*	CHAIN, EPIKH

It should be noted that Event 1 in Mexico was successfully organised and Event 2 is ready to commence as this deliverable is being written.

There is no training for trainers event expected in GISELA. Therefore, already trained tutors from EELA-2 shall have the responsibility of attending the scheduled training events. A list of qualified tutors[13] is available and these tutors will be contacted to check their availability. The competence of the available tutors will be matched to the needs of newly identified VRCs.

6.3.2. Training and documentation supporting tools

The following sections describe the tools that will support the training process.

6.3.2.1. Training support database

A database[14] created to collect relevant information about GISELA training activities is deployed and designed to contain the following information:

- **Trained people**: name, institute, country and contact data;
- **Tutors**: the tutor list offers an immediate overview of the territory coverage, the experience gained by each tutor, the preferred language, etc. The tutor list for GISELA will start being the same as the one for EELA-2;
- **Training events**: event raining, providing also links to the GISELA event server.

The training database will be a key resource to: (1) extract data, graphs and statistics to prepare reports and documents as Deliverables; (2) make fast and deep analysis of training activities and (3) keep track of user communities.

6.3.2.2. Application database

The application database[15] keeps track of the applications that are being used or ported to the GISELA grid infrastructure. It gives a detailed description of each application and it publishes its current status.

[13] http://applications.eu-eela.eu/tstats.php?l=201

[14] http://applications.gisela-grid.eu/tstats.php?l=201

[15] http://applications.gisela-grid.eu

It also contains FAQ guides for tutors and application developers, as well as links to self-training material in the Documents Server and to future tutorials and workshops, in the Event Server.

6.3.2.3. Event server

The GISELA INDICO Event Server[16] publishes all relevant GISELA events. As for training events, the Server mainly provides a central point of information about tutorials, workshops and grid schools: types, dates, location, timetable, presentation documents and registration procedures.

6.3.2.4. Document Server and Training Material

The Document Server[17], like the Event Server, is not exclusively dedicated to training activities, but rather to the whole project. However, a considerable amount of relevant training material, user guides, installation instructions and tools manuals will be available in the Document Server.

All self-training material shall be stored in the Project Document Server and should be considered as a central point of information. In order to ease the selective search of training material by all kind of users, the following training collections and sub-collections are proposed:

- **General Overview** - general overview documents, like a general introduction to grid, a document explaining security and digital management tools, dissemination documents explaining general overview of CLARA network, etc;
- **Applications** - one sub-category per identified VRC during the project; every identified VRC would have at least one document named "GISELA Guidelines for the *XXX* Virtual Research Community", where *XXX* is the name of the specific VRC, such as Life-Sciences, Earth-Sciences, High Energy Physics, etc;
- **User interfaces** - this category shall contain documents explaining usage of existing portals or user interfaces for accessing underlying grid resources, test-beds, or running applications;
- **Middleware** – this category contains all documentation related to any middleware that composes the GISELA grid infrastructure;
- **Grid services** - documents or presentations describing RC and ROC services;
- **Virtualisation** - documents explaining application of virtualisation techniques in Grid environments;
- **Application porting** - grid enabling process FAQ document. Moreover, for every new-ported application, a document entitled "Porting of application XYZ to grid computing facility", should explain application context, porting difficulties, solutions and results;
- **Software developers** - documents about specific developing tools such as MPI, GPGPU programming, grid APIs, etc.

[16] http://indico.gisela-grid.eu

[17] http://documents.gisela-grid.eu

7. CONCLUSIONS

This deliverable presented the GISELA vision of Virtual Research Communities likely to be customer of its e-Infrastructure. It encompasses small teams of Researchers as well as large international well-structured Collaborations. These VRCs have been further categorised according to the list of Grid related Support Services that will be supplied by GISELA.

Life Sciences, Earth Sciences and High Energy Physics Communities have been selected as early-identified VRCs and they will receive direct support from WP3 to use the GISELA infrastructure for production. In addition WP3 is developing strategies to foster the creation of new VRCs in the EU-LA area.

The methodology adopted for the evaluation of WP3 progress has been described. The first year actions have been ascertained. They include, on top of casual coordination activities, the consolidation of the relations with EGI and related projects and the establishment of the training plan and the "mise en oeuvre" of the associated Document Server housing the whole Training material.