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Project Acronym: MAGIC

Magic

Middleware for collaborative Applications
and Global vIrtual Communities

Deliverable D1.2

Progress Report (First Reporting Period)

Part B

Period covered by the report: from 01/05/2015 to 30/04/2016

Periodic report: Year 1

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[9] The term 'project' used in this template equates to an 'action' in certain other Horizon 2020 documentation

Executive Summary

This deliverable reports the work and achievements of the MAGIC Project during its first year of implementation. The MAGIC Project seeks to establish a set of agreements for Europe, Latin America and other participating World Regions, aiming at consolidating and completing the building blocks of middle-ware necessary for the establishment of a marketplace of services and real-time applications for international and inter-continental research groups which facilitates mobility and the work of global science communities.

To reach this objective the project has established four specific objectives:

a) to promote the adoption of a set of technologies that facilitate the access and use of services for people who work in a global environment. This implies that they have to travel and access networks when abroad, hence the need for eduroam; they need to access services requiring identification and authorisation mechanisms working worldwide, hence the need for AAI and eduGAIN, and they need to do this in a secure environment, hence the need for security awareness.

In this first year the project has been able to carry out several dissemination and training activities in the Middle East (ASREN region) and the Caribbean (CKLN region). Furthermore, the training material has been translated into French and Russian in preparation of the training in the WACREN and CAREN (Central Asia) regions.

During this period, AAI implementations were successfully developed in Algeria and Morocco, while Pilots are already in place in Lebanon, Jordan, Malawi, Uganda, South Africa and WACREN. In this way we already have pilots in 3 regions covered by the project.

b) To agree on a standard for Group Management and develop a model for inter-operation between NREN cloud application markets of participating world regions. A test pilot must be deployed and services provided by different regions will be integrated into the pilot.

The project started from the Colaboratorio developed during the ELCIRA Project and developed an improved version capable of being deployed in different World regions as it can be adapted to different languages, stand alone or cloud implementations, with federated access and most of all, capable of implementing the GroupWare technologies selected. This pilot infrastructure (Colaboratorio) has already been implemented in several Latin American countries, in WACREN, to serve the West and Central Africa and is already in the process of deployment in several Arab and African countries.

As for the Group Management technology, the project adopted the VOOT technology as a basic protocol to exchange information about groups, designed the interoperation schemes and is currently in the implementation phase of the pilot using this technology. This will allow that groups of users (user communities) access applications on different NRENs and service providers in a transparent way, similarly to the use of AAI technology for the identification of a person.

c) To seek consensus among participating world regions on the importance of interoperability of real-time applications.

The work during this period has been focused on promoting the adoption of NRENnum, the technology allowing to assign a global numbers to different devices (videoconference equipment, phones, etc) and manage the operation using the DNS servers already in operation by all NRENs. Training and dissemination has been carried out in Chile, the Asia Pacific and other regions.

We can report that five (5) new NRENs have al already implement NRENum.net and became part of the worldwide service. The three new NRENs are (chronologically added): CEDIA from Ecuador, RAICES from El Salvador and recently CUDI from Mexico, REUNA from Chile and RAU from Uruguay. Several countries in Africa and Asia Pacific have been contacted with the support of the regional partners and work is under way to include them in the coming months as NRENum delegated areas. Sri Lanka has joined from the Asian region and several others are in the process of carrying out their internal decision processes.

d) To foster the collaborative work of Global Science Communities by actively promoting the participation of Latin American and other regions' researchers in European Commission Calls and developing joint activities.

The activity of the prior has been focused in the establishment and strengthening of the Global Science Communities: Biodiversity, Environment, e-Health and Remote Instrumentation. After the development of the opening sessions, each group has proposed and developed specific activities with its members. Another key activity has been the virtual days on the Horizon 2020 calls and on worldwide priority fields.

An important achievement of this period has also been the development and implementation of the new Funding and partners system, changes on the feed, usability and management were mae with respect to the pre-existing system developed during the ELCIRA Project. Training material for the use of the collaboration tools has been developed and published in the project website.

The project has carried out intensive dissemination of the project goals and results in key meetings where the NRENs meet, such as TNC, the UbuntuNet Conference, TICAl, the WACREN Meeting, the eAGE Conference and others. The project maintains a website and spreads the news of its activities using social networking tools.

1. Explanation of the work carried out by the beneficiaries and Overview of the progress

1.1 Objectives

General Objective:

The MAGIC Project seeks to establish a set of agreements for Europe, Latin America and other participating World Regions, aiming at consolidating and completing the building blocks of middle-ware necessary for the establishment of a marketplace of services and real-time applications for international and inter-continental research groups which facilitates mobility and the work of global science communities.

Specific Objectives:

a) To foster the deployment of the platforms that enable mobility of people and seamless access to services by promoting the establishment of identity federations interconnected via eduGAIN, creating awareness of privacy and security issues and spreading eduroam by: sharing experiences, carrying out training and making available shared infrastructure to ease the process in the partner world regions.

The Work package on Mobility (WP2) focused first on preparing a roadmap for the work of deploying Identity Federations in the different project regions: Arab Countries, South and East Africa, West Africa, Central Asia, the Caribbean, Asia-Pacific and Latin America, identifying in those regions by focal points, NRENs or institutions, which were interested in AAI and eduroam. Besides this an on-line training to implement an Identity federation was developed and translated into French, Spanish and Russian in order to spread even more the amount of technicians trained. Two workshops on Identity Federations and eduroam were carried out during this period: one for the Arab States region on September, 2015 in Amman and the second one for the Caribbean region hold on October 2015 in Kingston, Jamaica.

During this period, AAI implementations were successfully developed in Algeria and Morocco, while Pilots are already in place in Lebanon, Jordan, Malawi, Uganda, South Africa and WACREN.

b) To develop a model for inter-operation between NREN cloud application markets of participating world regions, based on cloud provisioning and taking advantage of applications developed and run by NRENs across different continents to create a model for a worldwide application market for collaboration tools and services

In Work-package 3 the work has been focused on two activities: a) the improvement and deployment of the Colaboratorio collaboration tool for the use of different NREN partners and b) the analysis of the group-ware standards available for group collaboration.

In the deployment of shared collaboration tools we can report that a personalized version of the Colaboratorio has been deployed for the use of Nigeria in Africa for the use of WACREN (in synergy with TANDEM) as well as CEDIA in Ecuador and several other NRENs are already in several stages of use and/or deployment of this tool. Also several applications are being added to the portal in order to increase the number of applications provided to the users of different regions around the World.

In the Group-ware standards, the WP has found that 5 middle-ware technologies that can be used for the purpose of applications integration with working groups: OPENCONEXT, PERUN, SYMPA, SCIM and UNITY. The WP is now working on completing a set of basic minimum set of inter-operation requirements and then will move into the testing and construction of a test-bed for the integration of several tools requiring Group Management into the Colaboratorio portal.

c) To seek consensus among participating world regions on the importance of interoperability of real-time applications and work towards the adoption of standards such as those proposed by the

Global CEO Forum to promote the creation of a worldwide environment for these applications.

In Work-package 4 the activities have been centred around the adoption of NRENum. For this, training was conducted at the TICAL2015 meeting in Viña del Mar, Chile. In this training workshop participated 11 participants from five Latin American countries: Chile, Costa Rica, Ecuador, Mexico and Peru. The material developed for this workshop was then uploaded to RedCLARA's e-Learning website and translated in to English and French where the material is ready for use in the implementation of NRENum around the World. A training Workshop was also conducted in Manila, The Philippines during the APAN meeting in January 2016.

The other key activity of WP4 has been the support to the adoption of NRENum. We can report that five (5) new NRENs has become members of NRENum.net service. The three new NRENs are (chronologically added): CEDIA from Ecuador, RAICES from El Salvador and recently CUDI from Mexico, REUNA from Chile and RAU from Uruguay. Several countries in Africa and Asia Pacific have been contacted with the support of the regional partners and work is under way to include them in the coming months as NRENum delegated areas. Sri Lanka has joined from the Asian region and several others are in the process of making decisions.

d) To foster the collaborative work of Global Science Communities by actively promoting the participation of Latin American and other regions' researchers in European Commission Calls and those of other international funding agencies with high impact in the participating regions and other networking activities.

For WP5 the first period has been focused in the establishment and strengthening of the Global Science Communities: Biodiversity, Environment, e-Health and Remote Instrumentation. After the development of the opening sessions, each group has proposed and developed specific activities with its members. Referred to the Alert funding system, the WP was been involved in activities for a new version of the service with changes on the feed, usability and management. Training material for the promotion and enhance of the Colaboratorio has been developed and published in the project website. Another key activity has being the virtual days on the Horizon 2020 calls and on worldwide priority fields.

Finally, the Dissemination and Training activities have been extensive. The MAGIC project has been present in the following Meetings: IST Africa 2015 in Maputo, Mozambique; TNC2015 in Porto; TICAL2015 in Viña del Mar, Chile; RNP Forum in Brasilia, Brazil, ICT 2015 in Lisbon, Portugal; APAN41, Manila, The Philippines, Asia; UbuntuNet Connect 2015 Conference and e-AGE 2015, Casablanca, Morocco, Arab States. During these events brochures and give-aways have been distributed to position the project and the projects' ideas among the researchers, policy makers and technicians of NRENs around the World.

1.2 Explanation of the work carried per WP

1.2.1 Work Package 1: Management

The management tasks carried out in this period were as follows:

- To organise the Kick-off Meeting in Paris and make sure that all Work Packages organised themselves and their work progress. As reported, the Kick-off took place in Paris on June 11-12, 2015, and was attended by representatives of 19 out of the 20 partners. Only SURFNet excused its attendance.

- To agree on and sign a Consortium Agreement. Issues which required discussed for the Consortium Agreement included the treatment of Intellectual Property Rights, the level of distribution of the applications and other matters such as the distribution of the funding and the mechanisms to include

and exclude partners. The Consortium Agreement, modelled upon the DESCA Model (www.desca.-2020.eu) was signed by all partners as of August 18, 2015.

- To distribute the funding from the European Commission as agreed in the Consortium Agreement. This was done between July 01, 2015 and August 20, 2015.

- To maintain regular Steering Committee meetings to ensure the correct implementation of the project. These meetings took place by Video-conference, with the exception of the Kick-off Meeting which was a face-to-face meeting. Steering Committee Meetings were held on the following dates:

  - June 11-12, 2015 (The Kick-off Meeting)
  - July 23, 2015
  - September 24, 2015
  - November 25, 2015
  - January 25, 2016
  - April 27, 2016

The minutes of the Meetings are available in the wiki of the MAGIC Community maintained in the Colaboratorio Portal.

- To oversee the Deliverables and Milestones.
  - All deliverables have been submitted to the EC through the H2020 Project Management System.
- The milestones have the following status:
  - MS1 completed
    - Kick off Meeting Minutes; Project Website
    - Event participation plan
  - MS2 has been completed as of October 2015, i.e., Month 6 instead of Month 4 because of changes in the procedures to sign MoUs internally in GÉANT due to its internal restructuring.
    - The agreement itself
  - MS3 has been completed by September 29, 2015
    - The pilot portal itself has already been deployed in Latin America: Ecuador (CEDIA), Costa Rica (CONARE) and Mexico (CUDI) and in Africa where jointly with TANDEM we have deployed the portal in Nigeria (NgREN) for the service of WACREN. Further implementations are under way.
  - MS4 has been completed as of February 25, 2016, after completing the launch events of 4 User Global User Communities:
    - e-Health: February 2nd, 2016 https://eventos.redclara.net/indico/event/634/ Biodiversity: February 11th, 2016, https://eventos.redclara.net/indico/event/639/
    - Environment: February 18th, 2016, https://eventos.redclara.net/indico/event/640/
    - Remote Instrumentation: February 25th, 2016, https://eventos.redclara.net/indico/event/641/
  - MS5 Assessment of group management platforms has been successfully completed on October 30, 2015 as described in D3.2
  - MS6 has been successfully completed as NRENum.net has been deployed in 5 countries in Latin America: El Salvador (RAICES), Ecuador (CEDIA), Chile (REUNA), Uruguay (RAU) and Mexico (CUDI).
  - MS7 Four Communities established (each with a thematic Champion) in December 2015: e-Health, Environment, Biodiversity, Remote Instrumentation
  - MS8 Training in AAI has already been completed for The Caribbean, the Arab Countries (ASREN), West Africa (WACREN) and East and Southern Africa (UbuntuNet). eduroam training is complete in CKLN, ASREN and WACREN. Planned workshops will complete training for the remaining regions during 2016 (See. D2.4).
  - MS9 Completed by April 29, 2012. The training material in PDF available at the website.
  - MS10 The information system on funding opportunities is available since April 6, 2016. It is available through the Colaboratorio portal.

- o MS11 This Milestone is yet to be completed, only one Asian NREN, Sri Lankan NREN. More candidates are studying their possibilities to join. We are very confident that we will reach the target of at least 3 Asian NRENs joining NRENnum.
    - o MS12 All dissemination activities have been completed. See D6.4.

- No major problems have occurred during this period, the project has run smoothly, except for the delays that have already been reported. There are three main reasons for these delays:
    - o A slow start affecting above all the time needed to reach agreements between European and Latin American Projects.
    - o The difficulty to identify user communities willing to become test communities and the time-consuming work of collecting information on researchers and research groups.
    - o The difficulty in creating Identity Federations. As in other countries this is a slow process. Nevertheless, it can be seen that there is a lot of interest and it is expected that there will be four Identity Federations by the end of the project, though it is possible that additional time may be needed for the project to achieve all of its goals.
    - o The delay in the beginning of the CAREN II Project that is intended to foster the development of NRENs in the Central Asia region, a pre-requisite for eduGAIN and eduroam deployment.
    - o The difficulty to convince Asian NRENs to adopt NRENum as planned. We are certain that we will be overcome this difficulty in the coming period with the active support of TEIN and APAN.

- No changes in the consortium, except for the merge of DANTE and TERENA into GEANT. Nevertheless the 2 organisations keep separate names, namely GEANT Ltd. And GEANT Association.

1.2.2 Work Package 2: Platforms for Mobility

During this first year, the activities were focused on planning, dissemination and training. The activities were coordinated by RNP.

In the Arab Region, ASREN conducted the first workshop "First workshop on Joining eduroam and Identity Federation" in Amman, 8-10 September 2015 at ASREN headquarters. The workshop was organised in cooperation with the MAGIC and EUMEDCONNECT3[1] projects, and was designed for staff of National Research and Education Networks (NRENs) and Universities.

The workshop mainly discussed the technical and policy issues related to implementing eduroam, AAI and joining eduGAIN. There were eleven (11) participants from six (6) countries: Algeria, Jordan, Lebanon, Morocco, Palestine and Tunisia.
AAI is successfully implemented during MAGIC Project at: MARWAN (Morocco), ARN (Algeria); pilot status in AUB (Lebanon), JUNet, (Jordan) and planning to implement in Palestine and Egypt

Regarding eduroam, it is successfully implemented in Saudi Arabia, United Arab Emirates, Lebanon, Algeria, Morocco and ASREN. It is important to be noted that it was in operation in Saudi Arabia and the United Arab Emirates, as well as in Morocco, before the start of MAGIC. Eduroam is successfully at pilot level in Jordan, Tunisia and Oman and is starting in Egypt and Palestine.

In the South Africa region, a Federated Applications (FedApps) Training session was held on 26-28 April 2016 in Dar es Salaam as part of UbuntuNet Alliance's strategy for deployment of AAI in the region. The training - supported by the MAGIC project - was facilitated by UbuntuNet Alliance and SANReN, South Africa. The training was attended by 22 engineers from 14 NRENs.

Concerning eduroam, the Research and Education Network for Uganda (RENU) in January 2016 became

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[1] www.eumedconnect3.net

the 4th NREN in Eastern and Southern Africa to deploy and join eduroam after SANREN (South Africa), KENET (Kenya) and ZAMREN (Zambia). UbuntuNet Alliance continues to promote deployment of the service in the region. During the Federated Applications training in Dar es Salaam in April 2016, eduroam was not covered extensively, but it was teaser enough to spark the interest in additional training. With the eduroam experts from SANREN, UbuntuNet Alliance is currently looking into the possibility to provide this training in the coming months.

All other regions were investing effort in planning and trying to create the commitment of institutions or NRENs to join the project. The result of this work will support the implementation of new federations and new national roaming operators of eduroam.

1.2.3 Work Package 3: Cloud Provisioning and Group-ware Standards

During the reporting period, the work package team has worked in three tasks:
1) The preparation of the beta portal that will contain the applications and implement the groupware standards,
2) The assessment, evaluation and recommendation of global group and attribute management for inter-operation standardisation, and
3) The planning and design of a framework for group inter-operations and service catalogue implementation between cloud infrastructures

In the first task we started from the Colaboratorio tool built during the ELCIRA Project, and perform the following changes necessary to for the task of becoming a prototype for a global portal:
- Modifications to the Registration System (SSO and Federated access)
    - Upgrade of the registration system for using a modular approach and remove external software dependencies, graphic improvements
    - Responsive design to fit mobile and desktop interfaces on registration system
- Preparation for multiple languages including the use of extended characters set
    - Multi-language adjustments (encoding and visualization) on registration system
    - Multi-language adjustments (encoding and visualization) on communities system
    - Multilanguage for academic breaking news,global agenda
- Modification for multiple instances deployment
    - Graphical user interface (GUI) enhancement and securing
    - VCEspresso access modifications to allow personalization (NREN logo, and moderation key)
- Communities system changes
    - Registration system graphical user interface (GUI) enhancement and securing
    - Responsive design to fit mobile and desktop interfaces on communities system
    - Usability improvements in the communities system
    - Modularization of modules for news and agenda to multiple sources
    - Allow the NREN to define its own sources for news and agenda
   - Allow NRENadmin to define information sources from the NRENs

In order to deploy the pilot infrastructure (Colaboratorio), after initial contacts with the candidate RREN/NREN at management level, the work package team usually works directly with service and technical leaders of the RREN/NREN to work on the Colaboratorio pilot service implementation. Decisions like service look and feel, federated access deployment and which services to integrate are taken into account within the deployment process.

There are still some challenges in trying to convince some NRENs not to start every service from zero. NRENs seems to think that they need to install every service in their own premises to achieve a proper knowledge transfer. Thanks to the promotion, and a close work with each NREN, several of then have changed this mindset and understood that it is better to join forces in a federated effort, and learn together in the process. Colaboratorio promotion and dissemination has been done through several activities well

described in the work package 5 report in this document.

During this first year Colaboratorio has been implemented for the Ecuadorian NREN (CEDIA) that passed Colaboratorio in production on November 22/2015 and Mexico (CUDI). Colaboratorio is implemented in different flavours to fit the NREN requirements. For instance, in CUDI's case, the integration used the services VCEspresso, eNVIO, SIVIC, and the Funding systems from Colaboratorio, but in WACREN (deployed in the context of the TANDEM Project) and CKLN's cases, they use the entire system and localize some services like VCEspresso and mailing-lists for service convenience.
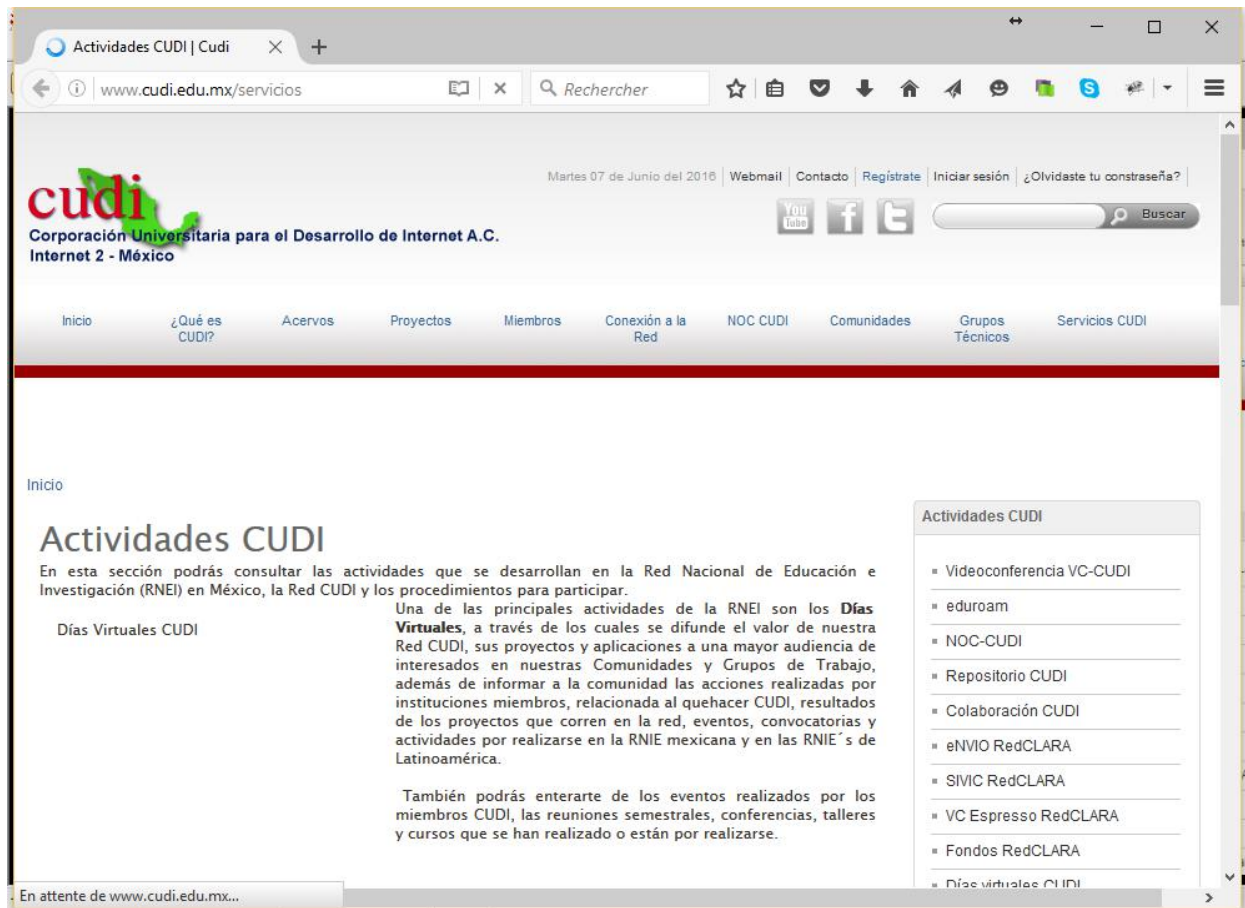
The Colaboratorio Portal in the Mexican NREN deployment

There is an undergoing work with South Africa (SANREN), Middle East (ASREN), and Ethiopia (EtherNet), to deploy Colaboratorio, and it is foreseen that to have at least 4 new deployments by the end of the project.

Collaboration with RENATER (France), WACREN and the TANDEM project resulted in Colaboratorio's translation to French language.
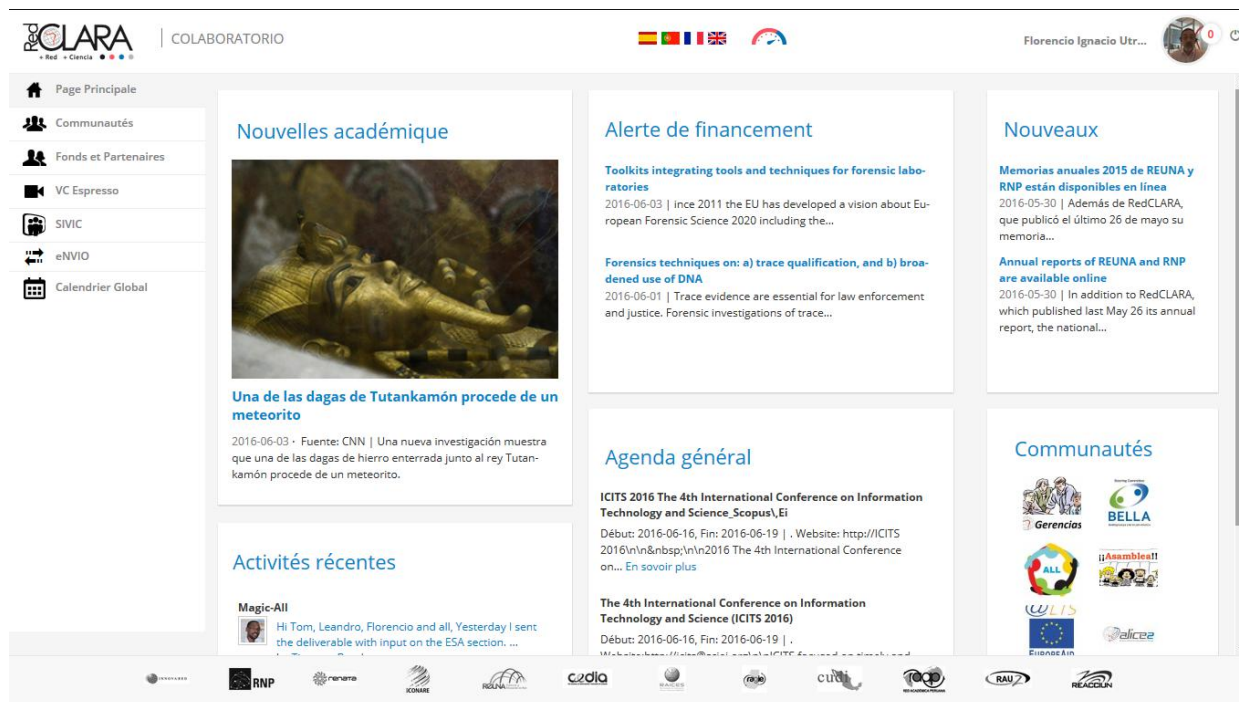
The Colaboratorio Portal in French

For the second task, the assessment of the existing group management standards, NRENs tools and value services for the global communities, the WP carried out the following tasks:

Group Management Standards
    Research study and testing of group management tools
    Testing on demonstrative and development platforms
Applications and tools
Research of Open Source tools to be included
   Etherpad
    Open edX
    CNC (Virtual storage)
VCEspresso System
    Allow multiple recording servers and allow moderation access
Open repositories service
    Upgrade of the DSPACE repositories system to the latest version
    Connect the repositories system to the federated environment
    DSPACE graphical user interface (GUI) modifications

To decide on the standards to be chosen and the pilot implementation strategy for the groupware the working group had a face to face meeting in March 10 to 11 of 2016 in Vienna (AT) with representatives from the NRENs from Middle East (ASREN), France (RENATER), Czech republic (CESNET), Greece (GRNET), Caribbean (CKLN), Mexico (CUDI) and Latin-America (RedCLARA). In this meeting, the main objective was agree on how to deploy the group management feature between federations. The subject was discussed in previous meetings and from the result from the Vienna work it was established an architecture using a Group Management entity attached to an SAML attribute authority (AA). The architecture can be summarized as in the following picture:
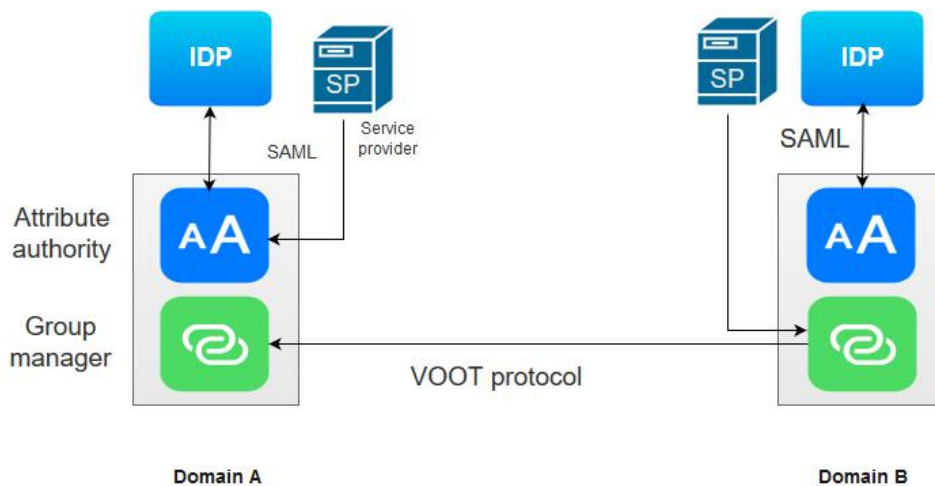
The group agreed that the group managers can be a separate entities that reside in the attribute authority, so no additional trust relation would have to be set up. The only connection that still must be agreed between providers is between group managers through the VOOT protocol. The main agreements achieved were:

a) The group management deployment shall be formed by three components: a) an SAML attribute authority (AA), b) a group manager (GM) application, and c) a group management proxy (GMP).

b) The protocol to exchange group information will be VOOT. VOOT is an adaptation of the SCIM protocol, for the NREN needs.

c) The group membership would be validated using standard SAML attributes.

For the third task, the planning and design requirements for the federated group management pilot was done. The work involved the definition of the services (FileSender, Colaboratorio, Docuwiki), the use cases, and the protocols for the implementation. This work required a high level of interaction among the partners, and the provisioning of resources by various of them. RENATER offered Sympa, and a service instance of the FileSender; RedCLARA provided Colaboratorio, and CESNET provided PERUN and Docuwiki. The integration of these applications using the VOOT protocol was designed and defined in several meeting, including the presence meeting at Vienna (Austria) in March 10-11. The result from this interactions was to use a service implementation integration a SAML Attribute Authority, the VOOT protocol and the group manager, as shown in the following picture:

The working group decided that the following will be the minimum applications for the pilot integration between regions:

- Sympa-FileSender,
- Colaboratorio
- PERUN-Dokuwiki

At the date of this report, the working group is advancing in the pilot set up, and is testing the PERUN, and SYMPA service instances created for this purpose.

In the fourth task, the activities have been focused on the definitions for the pilot implementation, i.e.
   a) Service authorization based on group information,
   b) Group members action, and
   c) Group mailing list action.

The first case, service authorization based on group information, allows to provide access to a privileged resource based on the group membership available in the network; the second case, group

members action, allow to do a get operation of the group members that the user belongs to, and do some action with it; and the last case, group mailing list action, allows to use a mailing list associated to a group to invite its members without disclosing members information. Some of the characteristics worth highlighting in the pilot are the integration to eduGAIN, and that groups' information will be shared used a direct agreement between parties. With regard to the service catalogue, the group did the evaluation of the GÉANT catalogue, how it works, and was agree to carry out the installation for the MAGIC applications. The directory application will be installed to feed applications when the report have being delivered.

1.2.4 Work Package 4: Agreements for Real Time Collaboration

The work of this WP, led by RENATA has focused during this period on NRENum training and implementation as well as setting the necessary agreements for the implementation of interoperation of real time applications.

In particular, an agreement of MAGIC with GÉANT to work on RTC standards has been developed and signed. Also, agreements are under way with APAN (Asia Pacific) and AARnet (Australia), who have extensive experience in RTC applications and are leading the Global CEO working group on RTC.

The first NRENum.net training activity was carried out during the TICAL 2015 conference held in Viña del Mar - Chile, in July 2015 where 11 participants from different countries in Latin America were trained on how to implement NRENum.net. People who attended this event were contacted by RENATA to start working on the implementation of NRENum.net in their countries.

An On line training course was also developed to ease training in the different world regions. The course is available on line in English, French and Spanish. The course is intended to guide NRENs on delegation and technical issues related to establishing an NRENum.net service. RedCLARA has offered its Moodle Platform to host these training courses and RENATA deployed documentation about the use and implementation of NRENum.net service. This course is oriented to systems administrators of NRENs in charge of running this service for their users and institutions.

Online training material is On line in the following links:

- Spanish: http://cursos.redclara.net/course/view.php?id=47

- English: http://cursos.redclara.net/course/view.php?id=48

- French: http://cursos.redclara.net/course/view.php?id=49

Invitations to participate on NRENum.net service offering RENATA's support were sent to all NRENs in Latin America as well as, through the different world regional leaders, to the other participating regions. A special emphasis has been put to invite NRENs from Asia Pacific and Africa.

In Latin America, RAICES from El Salvador and RAU from Uruguay showed immediate interest on this service. A meeting has been done with each of them to explain information, benefits and to schedule a work plan for delegation of the NRENum.net zone to the NREN itself.

Following this effort, three (3) new NRENs have already become members of NRENum.net service. The three new NRENs are (chronologically added): CEDIA from Ecuador (24 July 2015), RAICES from El Salvador (30 September 2015) and recently CUDI from Mexico (15 October 2015). This information has been taken from NRENum.net news on https://nrenum.net.

With RedCLARA support, CEDIA has been guided in their delegation process of the NRENum.net zone (+593). CEDIA did a very fast step with configurations and proceedings so they were the first delegated country.

RAICES the Salvadorian NREN did a very good job and RENATA supported every step in the configuration of the DNS zone for the country code (+503), they had to overcome technical issues because their DNS haven't had reverse domains registered but finally zone was fully delegated.

CUDI from Mexico did a very good job on installation of DNS servers and the configuration of the NRENum.net zone (+52) on them. They had the same problem because their DNS servers haven't had reverse domains registered, after these problems were solved and configurations were set the zone it is now delegated.

A work plan has been made in order to break down necessary steps to implement NRENum.net by an NREN and we have been using it with newly delegated countries to accomplish the Deliverable 4.2. "NRENum.net deployed in 3 new NRENs" with deadline month 12th. These are the newly delegated country codes to NRENs (chronologically added):

- RAU from Uruguay (27 November 2015)

- LEARN from Sri Lanka (14 December 2015),

- REUNA from Chile (7 January 2016).

This information has been taken from NRENum.net news on https://nrenum.net.

RAU from Uruguay had a great expertise in DNS set up, thus the process ended very fast and finally the zone "8.9.5.nrenum.net" was delegated according to the +598 E.164 country code.

LEARN the Sri Lanka NREN created the zone for +94 country code and after fulfilling delegation requirements they made it, LEARN did a great job becoming our first member of APAN joining to NRENum.net service.

REUNA Chilean NREN after completed the zone creation for the +56 country code in their two DNS servers zone was delegated with no complications on the way.

Unfortunately, we were not able to achieve the goals of Milestone 11, i.e. to incorporate three (3) Asia pacific countries to the NRENum.net service, we have sent many invitations in collaboration with TEIN*CC, but we did not have the impact we expected. Nevertheless, we have recently made advances and we are very confident that we will be able to complete this MS by the end of the next period.

NRENum.net service had a great acceptance in Latin America and now we want to spread this service in other regions.

We consider these are the main reasons we found in the adoption of NRENum.net service: lack of promotion in order to understand how works this service, what are the benefits for NRENs and in some cases technical issues.

We have moved forward on DNSSEC activities related to the Deliverable D.4.3, currently we have RENATA from Colombia and RAICES from El Salvador that has secured their respective zones using DNSSEC technology.

WP4 has been led by RENATA with contributions from CEDIA, CUDI, NIIFI, RedCLARA, RENATER, REUNA, RNP, and WACREN

### 1.2.5 Work Package 5: Global Science Communities

During the reported period, one of the main activities was centred in the definition of the priority areas that will be taken to the creation of global science communities. After looking at several considerations, that include a direct consultation to the partner NRENs and RRENs, the the partners decided to adopt the results of the ELCIRA project "Report on Key Research Communities", because even though it represents the information provided in Latin America, it also has similarities with the situation of other regions. For example, a report from CKLN showed that the Caribbean region had the following priority areas: Health, Earth Sciences, Security, Agriculture, Forestry & Fisheries and Education.

The areas presented in ELCIRA are: Biodiversity, Environment, e-Health and High Energy Physics. Having looked at feedback coming from the regions, partners decided not to include High Energy Physics at present, but to continue with a proposal from Mexico to create a Community on Remote Instrumentation on nano-structured materials.

The overall goal for these MAGIC Global Science Communities is to enable thematic experts and people with same interests from different parts of the world to interact and share experiences with each other with the aim of advancing knowledge and tackling global challenges.

With this objective as a guide, it was sent a call to regional partners to submit names and contact details of potential participants from all MAGIC regions to join the Global Science Communities in the identified priorities, efforts were directed at identifying champions for each community. The champions are a crucial figure in the work of the communities, especially because the communities being academic/scientific in nature require someone who is an insider in the field to guide and coordinate the work with fellow specialists.

Opening Conferences for the four Global Science Communities were held during the month of February 2016. The following was the format and presentations for the opening meetings for each community.
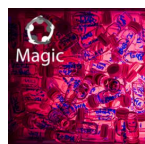
Global Science Community on E-Health
Objective: The Global Science Community on eHealth aims to increase engagement of practitioners, researchers, academics and students of eHealth from various countries across the world, in identifying issues, concerns and sharing best practices with a view to establishing global networking and collaboration, and greater use of the Colaboratorio platform.
Opening Conference: 2 February 2016 (https://eventos.redclara.net/indico/event/634/)
Members: 58
Countries: Belize, Brazil, Canada, Colombia, Chile, Germany, Dominican Republic, Etiopia, France, Jamaica, Mexico, Malawi, Nigeria, South Africa, Uganda.
Community Champion: Prof Luiz Ary Messina, National Coordinator of RUTE (Rede Universitária de Telemedicina), Brazil.
Webpage: http://www.magic-project.eu/index.php/global-science-communities/gsc-biodiversity
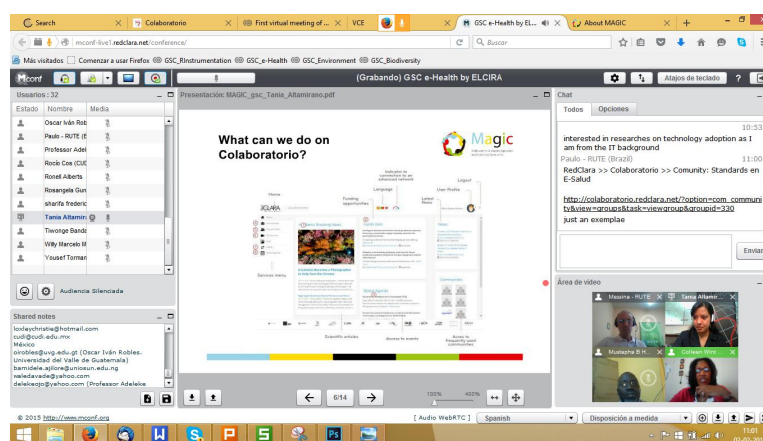
First virtual meeting of the Global Science Community on e-Health

Global Science Community on Biodiversity
Objective: The Biodiversity Community aims to increase engagement of practitioners, researchers, academics and students of biodiversity from various countries across the world, in identifying issues, concerns and sharing best practices with a view to establishing global networking and collaboration, and greater use of the Colaboratorio platform.
Opening Conference: 11 February 2016
(https://eventos.redclara.net/indico/event/639/)
Members: 31
Countries: Argentina, Colombia, Chile, Dominican Republic, France, Ghana, Jordan, Libano, Malawi, Mexico, South Africa.
Community Champion: Prof José Ramón Martínez Professor and researcher of the Universidad Autònoma de santo Domingo (UASD), Dominic Republic.
Webpage: http://www.magic-project.eu/index.php/global-science-communities/gsc-biodiversity
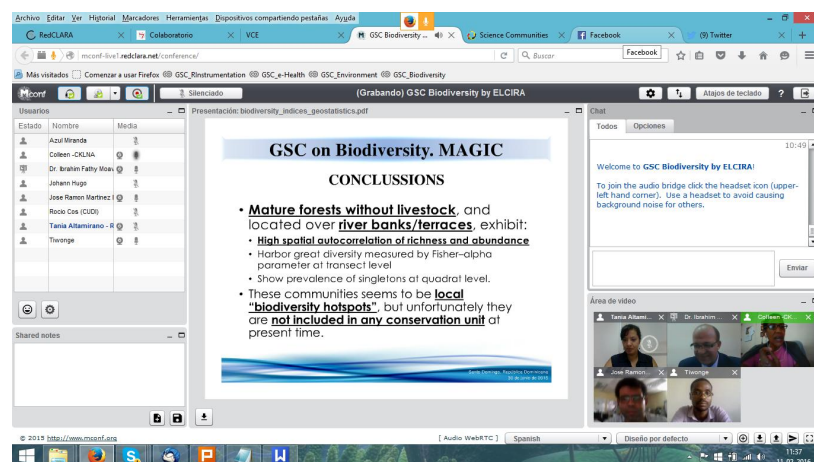
First virtual meeting of the Global Science Community on Biodiversity
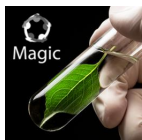
Global Science Community on Environment
Objective: The Environment community aims to increase engagement of practitioners, researchers, academics and students of the environment from various countries across the world, in identifying issues, concerns and sharing best practices with a view to establishing global networking and collaboration, and greater use of the Colaboratorio platform.
**Opening Conference:** 18 February 2016
(https://eventos.redclara.net/indico/event/640/)
Members: 28
Countries: Argentina, Chile, Dominican Republic, France, Ghana, Jamaica, Malawi, Mexico, Nigeria.
Community Champion: Dr David C. Smith, Coordinator Institute for Sustainable Development, The UWI, University of the West Indies, Jamaica.
Webpage: http://www.magic-project.eu/index.php/global-science-communities/gsc-environment

First virtual meeting of the Global Science Community on Environment
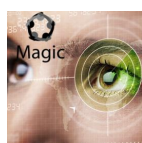
Global Science Community on Remote Instrumentation
Objective: The Remote Instrumentation community aims to increase engagement of practitioners, researchers, academics and students involved or interested in remote instrumentation from various countries across the world, in identifying issues, concerns and sharing best practices with a view to establishing global networking and collaboration, and greater use of the Colaboratorio platform.
**Opening Conference:** 25 February 2016 (https://eventos.redclara.net/indico/event/641/)
Members: 16
Countries: Chile, Colombia, Dominican Republic, Malawi, Mexico, South Africa, Uganda.
Community Champion: Prof Patricia Santiago, Associate Professor Physics Institute, Universidad Autònoma de Mèxico (UNAM), Mexico
Webpage: http://www.magic-project.eu/index.php/global-science-communities/gsc-remote-instrumentation
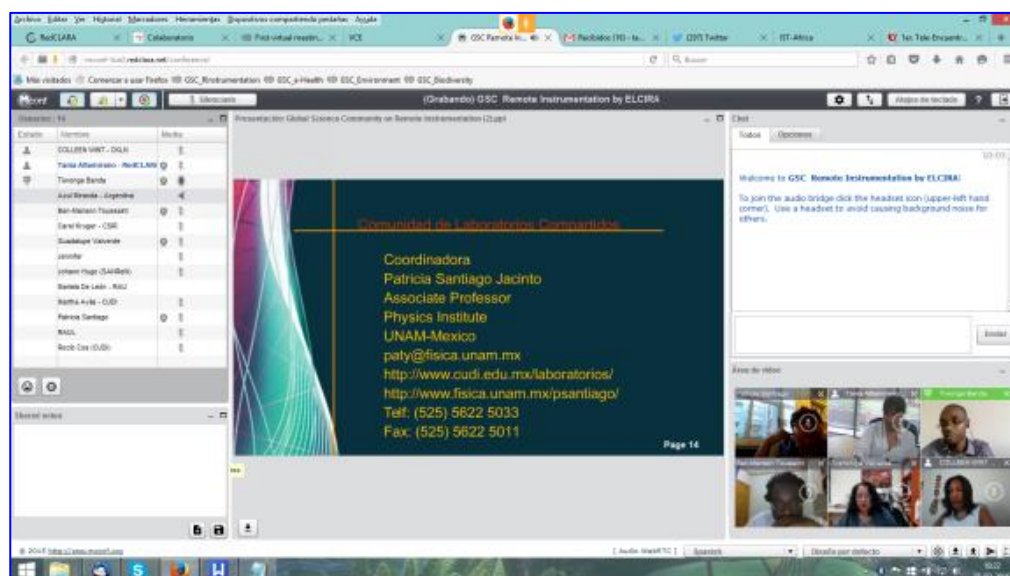
First virtual meeting of the Global Science Community on Remote Instrumentation

The results of the opening meetings provide a sense of the diversity of the communities. In the e-Health GSC, one output was the development of a survey among the members to identify themes of interest and current activities of the participants. The results showed that the main areas are: Cardiology, Child and Adolescent Health, Standards for Telemedicine, and Health Informatics. The next steps include a grand round about this topics in the month of July, 2016, coordinated and led by the champion, Luiz Messina, from RUTE, RNP, Brasil.

The Biodiversity community scheduled a second activity on May 5th, 2016 entitled "Experiences from around the World" with the participation of representatives from Egypt, Brazil, Trinidad & Tobago and Dominic Republic.
https://eventos.redclara.net/indico/event/661/

The Biodiversity community call to join

For the Remote instrumentation the next steps include an informative session scheduled for June 16, 2016, on "Nanoparticles for Drug Delivery in Parkinson".

Another topic that was thought to be very useful for communities is Science Communication, simplifying research studies and findings for various audiences (policy makers, end users, founders etc).

Information System on Worldwide Funding Opportunities

Another important activity was the work on the identification of open calls to feed the Information System on Worldwide Funding Opportunities and Partner Search database, which is accessible through Colaboratorio. To follow up the activity, a report system was developed that allows access to calls published in a specific period. The report of the publication is available on line and can be seen in (link for internal use, not for dissemination):

http://dev1.redclara.net/joomla4_new/joomla4/reporte_fondos/

Besides, the system had a process of improvement that included:

❖ Adjustment of the form used to feed the data base - September 15th, 2015.
❖ Report system about the calls uploaded in the system - October 20th , 2015.
❖ Adjustments of the information display on the public page - January 29th, 2016.
❖ Implementation of the options to edit and eliminate entries published on the system - March 3rd, 2016.
❖ Weekly dispatch to the Colaboratorio user´s email with information about open calls according of their area of interest specified on their profile - March 8th, 2016.
❖ Enable the option of publishing a calls in different language (Spanish, English and Portuguese) when available - April 6th, 2016.

Global virtual days on Horizon 2020 calls

A three day session dedicated to Latin America and the Caribbean titled: "Segundo Ciclo Virtual para América Latina y el Caribe sobre Horizonte 2020" (Second Virtual Cycle for Latin America and the Caribbean about Horizon 2020)[2] was developed. It took place on June 17-24, 2015 and was developed jointly with the Argentine Bureau for Enhancing Cooperation with the European Union (ABEST III), the Latin America, Caribbean and European Union Network on Research and Innovation (ALCUENET) and the Ministry of Education and Culture of Uruguay.

For the organization of the activity, a web page was created (See: https://eventos.redclara.net/indico/event/495/overview) on the event manager of the collaborative platform, Colaboratorio (See image below).

Webpage of the Virtual Information day on H2020

The dissemination activities included news, a newsletter and invitation by email to potential participants from the region (See image). The event was hosted using H323 videoconference, therefore those interested had to register their videoconference rooms through the form available on the website and had take part in the test session to guarantee the quality of the transmission during the actual event.

The impact of the activity was shown in the elevated number of videoconference rooms registered to participate in the cycle: 56 in total. Additionally, the event was streamed live through the Internet, with a peak of 120 users connected at the same time and a total of 290 participants by streaming on the three days (See image below).

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[2] This was a second version of a previous activity developed; the information is available here: https://eventos.redclara.net/indico/event/435/

H2020 Virtual Information Day

Global virtual days on priority worldwide fields

Another activity planned with the communities is the development of global virtual days on priority worldwide fields. In this context, on December 15th, 2015 a virtual day on Politics and models of implementation of Open Access in the world. took place

 For the coordination of the event, a web page was created (see: https://eventos.redclara.net/indico/event/623/)

The activity was mainly directed to the African region, thence all the presentations and the material generated (available for download from the home page of the web site) was in English. The agenda included the participation of representatives from Latin America, Africa and Europe who presented their respective experiences.

Virtual day on Politics and models of implementation of Open Access

For the dissemination of the activity, an informative article was generated and published in the web pages of the RedCLARA, MAGIC and was also included in the informative material of the partners institutions (See image below).

The event was conducted using a H323 videoconference system with a streaming transmission. The participation included 22 videoconference rooms registered and a peak of 20 participants by Internet. For those connected remotely, there was the option of sending their comments and questions using the Skype account: dias.virtuales to interact with the speakers.
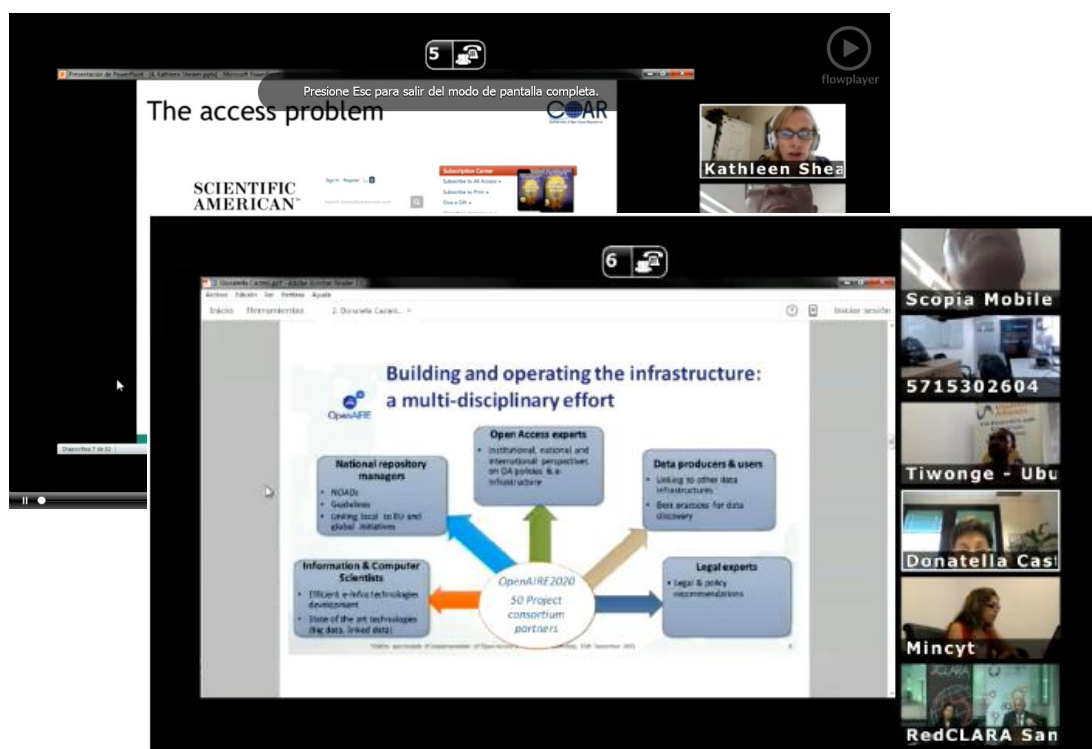
Training materials to show the uses and benefits of the global collaborative tools

To enhance and support the work of the Global Science Communities, a User Guide on the Colaboratorio was developed. It presents an easy and friendly explanation on the main elements of the platform and how to take advantage of them in daily work. The material is available in English and Spanish from the MAGIC website: http://magic-project.eu/index.php/training
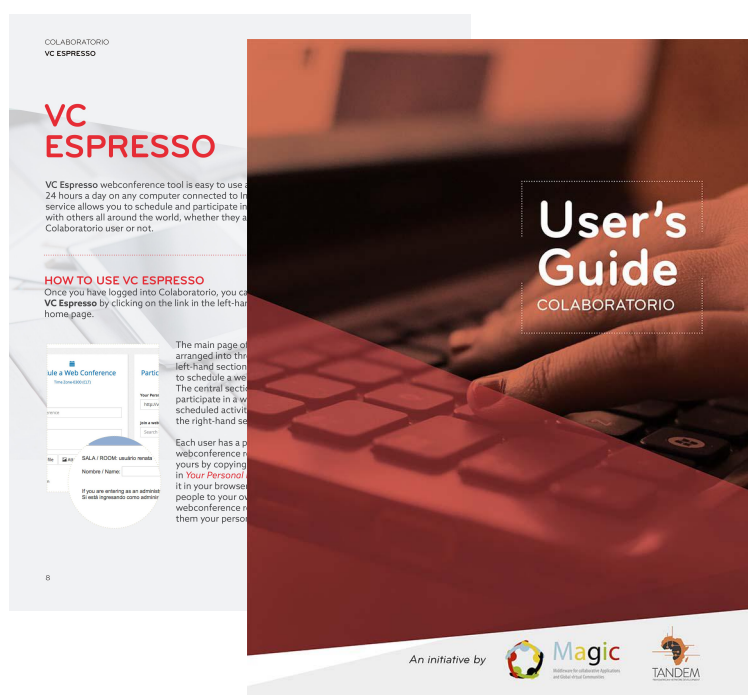
The User Guide to the Colaboratorio

1.2.6 Work Package 6: Dissemination and Training

Training in Latin America, Arab countries and The Caribbean:

Within the reported period three face-to-face training sessions were carried out:

- **Federated** Applications (FedApps) Training
  Date: 26-28 April 2016
  Venue: Ramada Resort, Dar es Salaam, Tanzania
  Attendees: 22 engineers from 14 NRENs members of the UbuntuNet Alliance

- **Federated Access and eduroam workshop in the Caribbean**
  Date: October 7 to 9, 2015
  Venue: Jamaica Tertiary Education Commission, 14 Gibraltar Camp Way, Mona Campus, University of the West Indies, Jamaica
  Attendees: 16 participants from 11 institutions and three Caribbean countries (Jamaica, Grenada, Dominican Republic) and one Latin American country (Mexico).
  Note from CKLN: "Attendees are expected to deploy the pilot and implementation in their respective NRENs/Institutions on the subsequent phases of the project".

- **Workshop on Joining eduroam and Identity Federation**
  Date: September 8 to 10, 2015
  Venue: Talal Abu-Ghazaleh University (TAGI-UNI), Amman, Jordan
  Attendees: 13 participants representing five Arab countries: Morocco, Algeria, Lebanon, Palestine and Jordan.
  Note from ASREN: "Participants should start immediately working on eduroam then idp".

- **Mobility Federated Services and Nrenum.net**
  Date: July 8, 2015
  Venue: Viña del Mar, Chile. Enjoy Conference Center
  Attendees: 11 participants from five Latin American countries: Chile, Costa Rica, Ecuador, Mexico and Peru.

Intense dissemination to the on-line open course on NRENum.net and DNS - was carried out by means of the MAGIC communication channels and of those of its partners as well.

On-line presence:

MAGIC's on-line presence consists in its Intranet, which is based in Colaboratorio, its Website, Facebook and Twitter social interphases and its by-monthly Newsletter.
Regarding its Intranet, it is extensively used by the project partners for all its internal communications and for the different WP interaction.
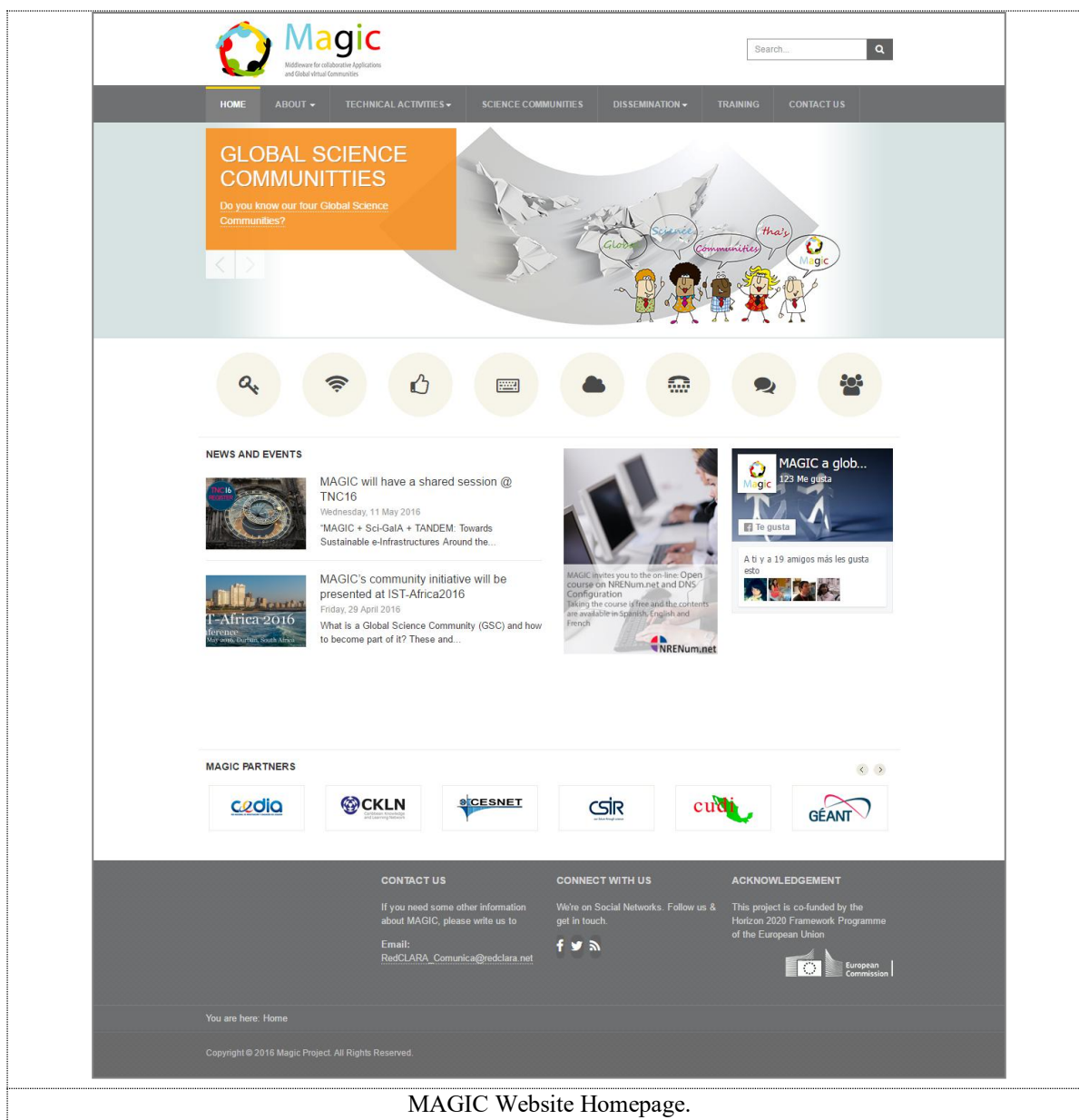
MAGIC Website Homepage.

The MAGIC website was developed during M01 and M02, and delivered on-line on 8 June 2015 (M02) with the URL http://www.magic-project.eu/. The MAGIC social network presence was delivered on the same date in Facebook and Twitter.

The success of the website and the social network pages, has been statistically measured by WP6. The website usage is measured using the Piwik open-source tool which started taking website statistics on 16 June 2015, and the main numbers are the following ones:

	Jun.'15	Jul.'15	Aug.'15	Sep.'15	Oct.r'15	Nov.'15	Dec.'15	Jan.'16	Feb.'16	Mar.'16	Apr.'16	May '16
MAGIC Project												
Number of unique visitors	231	211	340	328	427	849	412	563	408	378	417	261
Number of pages seen	751	610	905	875	943	2062	887	1102	876	821	779	622

MAGIC Website main statistics of usage

On May 2016, "MAGIC a global connection" /Facebook) and "@MAGIC_our_voice" (Twitter)

showed a growth of more than 200% each in its outreach.

Regarding the project's newsletter, under the name of "MAGIC TIME" five editions were delivered to all the project members, three in 2015 and 2 in 2016 (January and May), all of them can be checked out at http://magic-project.eu/index.php/2015-05-28-22-53-32/newsletter.

First edition of the MAGIC TIME, July 2015.

The following table show the statistics of the five newsletters:

	July	September	November	January	May
Opened emails	42	42	38	44	78
Recipients	73	78	78	83	184
Total recipients clicks	15	9	5	9	7
Total clicks	48	10	6	42	10

Brochures and promotional material done

In order to serve the different dissemination needs, project brochures were printed in Spanish (1000 copies), English (1500 copies), and Portuguese (1000 copies) and also translated into French. All these brochures have been published in the website under Dissemination section, tab >> MAGIC Brochures (http://magic-project.eu/index.php/2015-05-28-22-53-32/magic-brochures) for its downloading in PDF format, and most of them were distributed in those international events where MAGIC had representation.

Regarding the branded promotional goodies, within the reported period we did the following pieces for its distribution in the international events in where MAGIC had representation within a booth:

400 umbrellas
1000 speakers for mobile devices
1500 vintage puzzles
150 pen-drives and key holders

The distribution of these material will be explained in the following paragraphs.

Participation in international events
Within the reported period, the MAGIC project was disseminated within three major international events, the first two of them in Latin America and the third in Europe. In all these events MAGIC had space in a stand were it distributed brochures and branded promotional goodies among the attendees.

July 6ᵗʰ to 8ᵗʰ, TICAL2015, Viña del Mar, Chile, Latin America:
MAGIC had an exhibition booth at TICAL2015 were brochures in Spanish and umbrellas with MAGIC's logo were delivered. A video explaining MAGIC in Spanish was generated for the occasion MAGIC and also published in MAGIC's Facebook interphase. In addition, videos of the attendees were recorded and published through MAGIC's Facebook and Twitter accounts. Training sessions within TICAL's Conference framework were coordinated.

August 25ᵗʰ to 27ᵗʰ, RNP2015 Forum, Brasilia, Brazil, Latin America:
MAGIC had a space at RNP stand. Brochures of the project were translated into Portuguese and distributed among the attendees. In addition promotional MAGIC umbrellas were given away between those who requested more information about our project. Videos of the attendees were recorded and published through MAGIC's Facebook and Twitter accounts.

October 20 to 20nd, ICT2015, Lisbon, Portugal, Europe:
In a common effort with TANDEM and Sci-GaIA, under the name of GIIISC (Global ICT Infrastructures for International Scientific Collaboration), the MAGIC project had a shared exhibition booth at the INCO Village, and a Networking Sessions in ICT2015. Within the stand MAGIC delivered brochures with the Project information in English, Spanish and Portuguese, and branded goodies: vintage puzzles and speakers for the mobile devices.

November 16th to 20th , Maputo, Mozambique, Africa:
MAGIC had a relevant participation in **Sci-GaIA Workshop on Open Science**, by means of the presentations made by representatives of GRNET and RedCLARA

During November 18th and 19ᵗʰ, MAGIC was introduced to the attendees of the **UbuntuNet Connect 2015 Conference**, throughout three presentations made by representatives of RedCLARA and GRNET.

e-AGE 2015, December 7 and 8, 2015, Casablanca, Morocco, Arab States:
With a stand shared with TEIN*CC where the MAGIC project information and promotional material was distributed and its participation in the Conference third session, entitled as "Evolving Services for Science, Research, and Education Communities", by means of the presentations of representatives of GRNET and RedCLARA, the global collaboration project could share in a face-to-face fashion the importance of the participation of the Arab research and education community in the project.

APAN41, January 24 - 29, Manila, The Philippines, Asia:
At the 41st Asia Pacific Advanced Network Meeting - Manila Revisited: Enabling Connectivity for an Integrated World, MAGIC was represented by RedCLARA through a presentation entitled as "MAGIC Project and NRENum Service Middleware for collaborative Applications and Global Virtual Communities".

The following table shows the number of dissemination and promotion pieces given away in all these events.

	Number of pieces delivered in each international event				
Pieces	TICAL2015	RNP2015 Forum	ICT2015	UbuntuNet Connect 2015	e-AGE 2015
Brochures in Spanish	600 (the Ecuadorian and the Chilean NRENs asked for brochures to send to their members)		100		
Brochures in Portuguese		300	130	100	
Brochures in English			500	200	300
Umbrellas	257	60		60	
Speakers			500	250	
Puzzles			700	300	
Pendrives-key holders					200

Also, within the reported period MAGIC's participation in two international events was under preparation: IST-Africa 2016 and TNC16. This will be reported in the upcoming Progress Report.

WP6 has been lead by RedCLARA with contributions from ASREN, CKLN, CUDI, GÉANT, NITC, RNP, TEIN*CC and WACREN.

1.3 Impact

As the information on expected impacts is relevant as was proposed in the DoW, we will go one by one analysing the advances in the Indicators and expected dates to reach its full achievement.

a) Adoption of European infrastructure standards eduroam and eduGAIN in several developing countries. Globalisation of these standards.

Following the strategy of extensive training carried out at regional meetings followed up afterwards with training material on an e-learning platform, and the availability of a service platform to lower the barrier of hardware and software deployment plus the leadership of a local NREN in each region, the project will create the basis for a deployment of eduroam and eduGAIN in each region involved in the project.

Indicator (DoW): Number of trained technicians in AAI from Africa, the Arab Countries, the Caribbean, Central Asia and Asia Pacific is over 30.

Advances in the Indicator:

Training in the Arab Countries	*Number of trained engineers 11*
Training in The Caribbean	*Number of trained engineers 15*
Training in the East and South African countries	*Number of trained engineers 22*
Total so far	*Number of trained engineers 48*

b) Coordination with several continents in basic infrastructure deployment

The project includes the collaboration of NRENs and Regional Networks in Africa, Asia, the Caribbean, Europe and Latin America on the development of agreements, human capacities and a network of collaborators that will foster the deployment of basic infrastructure needed for secure, authenticated access to collaboration tools as well as a means to application-sharing across the NREN world with the potential to include the commercial market serving NRENs and the university/research community. This basic infrastructure is eduroam, eduGAIN and the proposed agreement for the interoperable groupware management system.

Indicators: *12 countries having signed eduroam agreements with MAGIC*
4 new pilot federations

Advances in the Indicator:

Number of countries committed to eduroam so far: 10
Latin America
Caribbean   1 (Jamaica)
Arab Countries (ASREN)   5 (Algeria, Lebanon, Jordan, Tunisia and Oman
East and South Africa (UbuntuNet)   2 (Uganda, Malawi)
West Africa (WACREN)   3 (Senegal, Ghana, Nigeria)

Pilot federations already created and in process of becoming eduGAIN members
Morocco
Algeria
Lebanon
Jordan
South Africa: SAFIRE
Malawi
Uganda
WACREN eduID

c) Facilitation of standards to develop a global interoperable market of collaboration services for academia and other interest groups. Potential to ease the creation of a global market.

The project will include several world regions in the discussion for Open Standards in Real Time Collaboration and Service Delivery, including Groupware Management. This will ease the way for a global adoption of these standards which will help the creation of a global market for collaborative and other applications, be these provided by one NREN, or by external providers, to the academic community.

Indicators: *3 world regions incorporated in the pilot federated groupware service*

Advances in the Indicator:

The regions committed are: Europe, Arab Countries, The Caribbean and Latin America. It is expected that West Africa and East/Southern Africa will also join the pilot.

d) Concertation in the development of worldwide services

The project will work jointly with the GÉANT project as well as the GSD and GRTC groups of the Global CEO Forum in order to promote and pilot the agreements reached for Real Time Collaboration standards as well as application sharing and service delivery. This will make it possible to include in these agreements several world regions that have been absent from these forums, such as Africa, Central Asia and the Caribbean

Indicators: 6 countries in 2 regions having incorporated NRENum.net for Global dialling

Advances in the Indicator:
> *5 countries in LA already joined NRENum.net*
> *1 Countries in Asia has already joined*

Conversations are under way to include several Asian countries in NRENnum. Our estimate is that over three more countries will join in the next reporting period.

e) Application-sharing among NRENs and the global academic community.

The project will select applications being provided by NRENs and will propose a model for application-sharing so that NRENs may become providers of one to the other and/or to/from Regional Networks to take advantage of efforts made in one part of the world in benefit of another one. In particular, this will boost the use of academic applications developed by NRENs by adding a significant number of potential users to them and favouring in this way collaboration and economies of scale.

Indicators:
> *5 NRENs using applications built and deployed/hosted by another.*
> *2 NRENs with a pilot cloud applications portal implemented*
> *The number of applications deployed in the pilot test will be at least 2*
> *The Directory of the applications provided by NRENs available for use of other NRENs contains at least 10 applications*

Advances in the Indicator:
> *Within the Colaboratorio container developed by RedCLARA, the following applications are contained:*
> *Filesender, developed by UNINET and modified by RENATER is hosted in RedCLARA*
> *MCONF, an Open Source WebConference System modified by RNP and RedCLARA, is hosted in RedCLARA, RNP and soon RENATA, ASREN and NgREN*
> *The Funding & Partners funding database hosted in RedCLARA*
> *These applications are being used by CEDIA (Ecuador), CONARE (Costa Rica), NgREN/WACREN (Nigeria), ASREN, EtherNet and others are coming. The above result is added to the existing Colaboratorio implementations in RENATA (Colombia), CKLN (Caribbean), CUDI (Mexico) and the undergoing work with INNOVARED (Argentina) that is on testing phase.*
> *Currently, the following applications are being implemented as shared applications*
> > *Docuwiki, a wiki system to be hosted in CESNET*
> > *JITSI, a webconference system implemented at RENATER*
> > *Etherpad, a collaborative editing system hosted in RENATER*
> > *CNC, a cloud storage system developed and hosted in RNP*
> *Other applications are being studied to be included.*
> *Thus, we currently already have over 5 NRENs using shared applications*

Over 4 NRENs with the applications portal implemented
The number of new test applications in the pilot will exceed 4
The Directory of applications is currently under development but it will certainly contain well over 10 applications.

f)   Worldwide research communities using collaboration tools to improve their daily work

The project will foster the use of collaboration technology among worldwide research communities working in three (3) selected areas. This will serve as a proof of concept and support dissemination by developing NRENs among their researchers of the potential of the use of these tools for their collaboration work across the world. The project will also extend the Funding Opportunities Database and Partner Search application developed by the ELCIRA Project to cover the developing regions and provide valuable funding information for the defined global communities and others. Finally, the project will support dissemination of funding opportunities available in the H2020 project and other funding opportunities through regional Virtual Information Days that follow the EC Information days and other international call for proposals.

Indicators: *The number of global research communities selected for special support will be three   (3).*
The number of information days will be at least two (2) each year depending upon the number of existing calls.
Finally, the database of funding opportunities will be a key result for all researchers to find collaboration opportunities worldwide.

Advances in the Indicator:
4 global research communities have been selected and are active: Biodiversity, Environment, e-Health and Remote Instrumentation
2 information days have been organised in Year 1, 4 more are planned for Year 2.
The Database of funding is complete and providing information on a global at a Global scale

2. Update of the plan for exploitation and dissemination of result (if applicable)

No update is necessary

3. Update of the data management plan (if applicable)

No update is necessary

4. Follow-up of recommendations and comments from previous review(s) (if applicable)

No review yet

5. Deviations from Annex 1 (if applicable)

5.1 Tasks

Two tasks that has been delayed:

A) The Workshop of User Communities was delayed in two months. This was due to two factors: 1) the slow start in UbuntuNet and 2) the longer than expected time needed to define the areas of interest common to all world regions.

B) The Pilot on AAI and the Completion if the Training in AAI. This is delayed to October 2016 due to the delay in the start of CAREN2, necessary for Central Asia to organise their NRENs.

5.2 Use of resources

The following table shows the amount of resources spent which amounts to € 765,955 and is requesting reimbursement for € 575,356. This amounts to 42% of the foreseen claims in manpower and 38% in travel expenses. This deviation is mainly due to the fact that the second project meeting has taken place in Month 13 and another conference is planned for March 2017.

Participant	(A) Direct personnel costs	(B) Other direct costs	(C) Direct costs of subcontracting	(F) Indirect costs (=0.25* (A+B+E))	(H) Total eligible costs (=A+B+C+D+F +G)	(K) Requested Reimbursement
CLARA	152.882 €	42.580 €	16.146 €	€ 48.866	€ 260.475	260.475 €
GEANT Ltd.	4.024 €	1.889 €	0 €	€ 1.478	€ 7.392	7.392 €
GEANT Association	9.466 €	10.225 €	0 €	€ 4.923	€ 24.614	24.614 €
RNP	22.350 €	8.680 €	0 €	€ 7.757	€ 38.787	0 €
RENATA	10.983 €	1.124 €	0 €	€ 3.027	€ 15.134	15.134 €
REUNA	9.473 €	2.633 €	0 €	€ 3.027	€ 15.133	15.133 €
CEDIA	1.310 €	3.270 €	0 €	€ 1.145	€ 5.725	5.725 €
CUDI	90.043 €	12.450 €	0 €	€ 25.623	€ 128.116	0 €
UbuntuNet	23.434 €	6.540 €	0 €	€ 7.493	€ 37.467	37.467 €
WACREN	29.044 €	5.545 €	0 €	€ 8.647	€ 43.236	43.236 €
ASREN	35.525 €	4.407 €	0 €	€ 9.983	€ 49.915	49.915 €
CESNET	8.199 €	1.930 €	0 €	€ 2.532	€ 12.662	12.662 €
GRNET	18.898 €	7.246 €	0 €	€ 6.536	€ 32.680	32.679 €
SURFNET	1.221 €	0 €	0 €	€ 305	€ 1.526	0 €
CSIR(SANREN)	6.160 €	2.880 €	0 €	€ 2.260	€ 11.301	0 €
RENATER	20.422 €	1.970 €	0 €	€ 5.598	€ 27.989	27.989 €
NIIFI	8.116 €	3.203 €	0 €	€ 2.830	€ 14.148	14.148 €
CKLN	11.439 €	8.584 €	0 €	€ 5.006	€ 25.028	25.028 €
CAREN NOC	700 €	2.307 €	0 €	€ 752	€ 3.759	3.759 €
TEIN*CC	2.304 €	5.754 €	0 €	€ 2.015	€ 10.073	0 €
Total	€ 465.994	€ 133.216	€ 16.146	€ 149.803	€ 765.159	€ 575.356

In general, the use of resources is in line with the planning, the only deviations to underline are:

UbuntuNet Whose slow start explain the low use of manpower during the first months. Now that additional personnel has been hired, they will invest more time to catch up with their activities, specially in WP5.

RENATA That went through internal reorganisation which forced them to concentrate their participation in WP4 only. The efforts committed in the other packages will be done during Year 2.

CESNET, SURFNet, GRNET, RENATER. Whose activities will be more centred in the coming months with their participation in WP2, WP3 and WP4.

In terms of manpower, the partners have spent a total of 141 PMs, i.e., 47% of the total manpower committed which is in line with the time elapsed which corresponds as average to 50% of the total time. The following is the detail of PMs spent by partner:

	WP1	WP2	WP3	WP4	WP5	WP6	Total Person/ Months per Participant
CLARA	8,4	0,3	18,2	2,4	11,7	9,5	50,7
GEANT Ltd.	0,4	0,0	0,1	0,0	0,1	0,1	0,7
GEANT Associati	0,3	0,8	0,1	0,0	0,0	0,0	1,1
RNP	0,5	3,5	0,7	0,7	1,0	1,0	7,4
RENATA	0,3	0,0	0,0	7,0	0,0	0,0	7,3
REUNA	0,5	0,3	0,6	1,9	0,0	0,0	3,2
CEDIA	0,2	0,3	0,4	0,0	0,0	0,0	0,9
CUDI	1,5	12,7	5,1	7,1	3,4	3,1	32,9
UbuntuNet	1,1	1,1	0,0	0,0	2,2	0,6	5,1
WACREN	0,3	1,5	0,8	1,3	1,5	0,5	5,8
ASREN	0,4	5,3	0,8	0,1	1,6	1,0	9,2
CESNET	0,2	0,5	2,5	0,0	0,0	0,0	3,2
GRNET	0,2	1,7	1,7	0,0	0,0	0,0	3,5
SURFNET	0,1	0,0	0,1	0,0	0,0	0,0	0,1
CSIR(SANREN)	0,5	0,0	0,1	0,0	0,5	0,3	1,3
RENATER	1,2	0,6	1,3	0,4	0,0	0,0	3,5
NIIFI	0,3	0,0	0,2	0,3	0,9	0,0	1,7
CKLN	0,4	0,2	0,2	0,0	0,7	0,0	1,5
CAREN NOC	0,3	0,2	0,2	0,0	0,0	0,0	0,7
TEIN*CC	0,2	0,4	0,2	0,0	0,2	0,3	1,3
Total Person/Months	17,2	29,4	33,0	21,2	23,8	16,4	141,0

As requested by the reviewers, we hereby detail the expense of partners per task in each Workpackage.

Workpackage 1: Management

The following table shows the separation by task in WP1 of PMs reported by the partners.

Partner	T1.1 Administrative Management	T1.2 Technical Management
CLARA	6,00 PM	2,43 PM
GEANT Ltd.		0,44 PM
GEANT Association	0,13 PM	0,13 PM
RNP	0,25 PM	0,25 PM
RENATA	0,25 PM	
REUNA	0,40 PM	0,05 PM
CEDIA	0,09 PM	0,10 PM
CUDI	0,70 PM	0,78 PM
UbuntuNet	1,12 PM	0,00 PM
WACREN	0,25 PM	
ASREN	0,20 PM	0,20 PM
CESNET	0,24 PM	
GRNET	0,09 PM	0,10 PM
SURFNET		0,06 PM
CSIR(SANREN)	0,25 PM	0,25 PM
RENATER	0,60 PM	0,60 PM
NIIFI	0,29 PM	
CKLN	0,43 PM	
CAREN NOC	0,30 PM	0,00 PM
TEIN*CC	0,20 PM	
Total per Task	**11,79 PM**	**5,39 PM**
Total per WP	**17,17 PM**	

Reported PMs for WP1 per partner for Year 1

The following table shows the originally planned expenses in PMs for Year 1.

Partner	T1.1 Administrative Management	T1.2 Technical Management
CLARA	5,00 PM	2,70 PM
GEANT Ltd.		0,25 PM
GEANT Association	0,25 PM	0,25 PM
RNP	0,25 PM	0,25 PM
RENATA	0,25 PM	0,25 PM
REUNA	0,13 PM	0,13 PM
CEDIA	0,13 PM	0,13 PM
CUDI	1,00 PM	1,00 PM
UbuntuNet	0,03 PM	0,00 PM
WACREN	0,13 PM	0,13 PM
ASREN	0,20 PM	0,20 PM
CESNET	0,25 PM	
GRNET	0,1 PM	0,1 PM
SURFNET		0,125 PM
CSIR(SANREN)	0,55 PM	0,55 PM
RENATER	0,13 PM	0,13 PM
NIIFI		
CKLN	0,13 PM	0,13 PM
CAREN NOC	0,25 PM	0,00 PM
TEIN*CC	0,13 PM	0,13 PM
Total per Task	**8,9 PM**	**6,4 PM**
Total per WP	**15,3 PM**	

Planned PMs for WP1 in Year 1

The difference between the planning and the actual PMs spent is a consequence of the larger effort that had to be done in coordination, specially by the Coordinator. In all the expense differs in only 12.2% from the original plan.

Workpackage 2: Platforms for Mobility

The table of reported PMs divided by task is:

Partner	T2.1 – Sharing the experience of the ELCIRA Project with the participating regional research and education networks.	T2.2 – Creation of in-class training to train regional experts in AAI and eduroam in order to replicate the action in their NRENs and with their customers.	T2.3 – Action and Policy Coordination with other regional AAI organisations and federations.	T2.4 - On line Training Material on AAI development for Staff training	T2.5 –Implementation of AAI interoperability and interoperation and eduroam with regional NRENs and their European counterparts.
CLARA	0,03 PM	0,00 PM	0,11 PM		0,14 PM
GEANT Ltd.	0,03 PM				
GEANT Association	0,19 PM		0,30 PM		0,30 PM
RNP	0,70 PM	0,70 PM	0,70 PM	0,70 PM	0,70 PM
RENATA					
REUNA	0,20 PM		0,10 PM		
CEDIA	0,25 PM			0,08 PM	
CUDI	7,22 PM	0,98 PM	1,38 PM	2,15 PM	0,99 PM
UbuntuNet	0,02 PM	0,34 PM	0,00 PM	0,00 PM	0,74 PM
WACREN			1,00 PM	0,50 PM	
ASREN	0,60 PM	1,00 PM	1,00 PM	0,20 PM	2,50 PM
CESNET		0,46 PM			
GRNET			0,80 PM		0,87 PM
SURFNET					
CSIR(SANREN)					
RENATER				0,58 PM	
NIIFI			0,03 PM		
CKLN					0,20 PM
CAREN NOC	0,00 PM	0,00 PM	0,20 PM	0,00 PM	0,00 PM
TEIN*CC			0,20 PM		0,20 PM
Total per Task	**9,24 PM**	**3,48 PM**	**5,82 PM**	**4,21 PM**	**6,64 PM**
Total per WP	**29,40 PM**				

Reported PMs by task in WP2, Year 1

The planned distribution by task was:

Partner	T2.1 – Sharing the experience of the ELCIRA Project with the participating regional research and education networks.	T2.2 – Creation of in-class training to train regional experts in AAI and eduroam in order to replicate the action in their NRENs and with their customers.	T2.3 – Action and Policy Coordination with other regional AAI organisations and federations.	T2.4 - On line Training Material on AAI development for Staff training	T2.5 –Implementation of AAI interoperability and interoperation and eduroam with regional NRENs and their European counterparts.
CLARA	2,00 PM	0,50 PM	1,25 PM		0,60 PM
GEANT Ltd.	0,15 PM				
GEANT Association	0,13 PM	0,13 PM			
RNP	0,70 PM	0,70 PM	0,70 PM	0,70 PM	0,70 PM
RENATA	0,25 PM		0,25 PM		
REUNA	0,13 PM		0,13 PM		
CEDIA			0,25 PM		
CUDI	2,50 PM	1,00 PM	1,00 PM	1,00 PM	1,00 PM
UbuntuNet	0,25 PM	0,25 PM	0,50 PM	0,25 PM	0,75 PM
WACREN			1,00 PM		0,50 PM
ASREN	0,60 PM	1,00 PM	1,00 PM	0,20 PM	2,50 PM
CESNET		1,00 PM			
GRNET			0,8 PM		0,8 PM
SURFNET					
CSIR(SANREN)			0,13 PM		0,13 PM
RENATER		0,50 PM	0,50 PM	0,25 PM	0,50 PM
NIIFI	0,4 PM				0,6 PM
CKLN			0,50 PM		0,50 PM
CAREN NOC	0,00 PM	0,00 PM	0,13 PM	0,00 PM	0,00 PM
TEIN*CC			0,13 PM		0,13 PM
Total per Task	7,1 PM	5,1 PM	8,3 PM	2,4 PM	8,7 PM
Total per WP	31,5 PM				

Planned distribution per task WP2 for Year 1.

As can be seen, individually there are some deviations from the planning, but in all the deviation is only 2.1 PMs representing 6.7% of the original plan. This is mainly due to the late start of the activities in some regions harder to coordinate.

Workpackage 3: Cloud Provisioning and Groupware Standards

The following is the table of reported PMs per task

Partner	T3.1. Implement applications portal for 2 new NRENs	T3.2. Assessment, evaluation and recommendation of global group and attribute management for inter-operation standardisation	T3.3. To plan and design a framework for group inter-operations and service catalogue between cloud infrastructures	T3.4. Service definition and pilot implementation including service catalogue	T3.5. Evaluate results and survey specific groups of users	T3.6. Define a set of recommended core requirements which cloud service providers are expected to meet, covering the following fields: intellectual property rights and ownership, legal aspects, security,
CLARA	4,73 PM	6,80 PM	3,40 PM	3,30 PM		
GEANT Ltd.		0,05 PM				
GEANT Association		0,06 PM				
RNP	0,12 PM	0,12 PM	0,12 PM	0,12 PM	0,12 PM	0,13 PM
RENATA						
REUNA		0,40 PM	0,06 PM	0,05 PM		0,05 PM
CEDIA		0,15 PM	0,20 PM			
CUDI	1,04 PM	1,03 PM	1,38 PM	1,34 PM	0,33 PM	0,00 PM
UbuntuNet	0,00 PM	0,00 PM	0,03 PM	0,00 PM	0,00 PM	0,00 PM
WACREN	0,25 PM	0,50 PM				
ASREN	0,40 PM	0,05 PM	0,05 PM	0,20 PM	0,05 PM	0,05 PM
CESNET		2,44 PM	0,04 PM			
GRNET		0,73 PM	0,73 PM	0,20 PM		
SURFNET		0,03 PM	0,03 PM			
CSIR(SANREN)		0,05 PM				
RENATER		0,60 PM	0,70 PM			
NIIFI		0,19 PM				
CKLN						0,19 PM
CAREN NOC	0,00 PM	0,00 PM	0,10 PM	0,00 PM	0,00 PM	0,10 PM
TEIN*CC		0,20 PM	0,00 PM			
Total per Task	6,54 PM	13,40 PM	6,84 PM	5,21 PM	0,50 PM	0,52 PM
Total per WP	33,00 PM					

Reported PMs per task, WP3, Year 1

The corresponding planned PMs per task is the following

Partner	T3.1. Implement applications portal for 2 new NRENs	T3.2. Assessment, evaluation and recommendation of global group and attribute management for inter-operation standardisation	T3.3. To plan and design a framework for group inter-operations and service catalogue between cloud infrastructures	T3.4. Service definition and pilot implementation including service catalogue	T3.5. Evaluate results and survey specific groups of users	T3.6. Define a set of recommended core requirements which cloud service providers are expected to meet, covering the following fields: intellectual property rights and ownership, legal aspects, security, continuity, confidentiality, communication, billing and technical requirements.
CLARA	3,00 PM	2,00 PM	1,00 PM	3,50 PM		
GEANT Ltd.		0,15 PM				
GEANT Association		0,13 PM	0,13 PM			
RNP	0,12 PM	0,12 PM	0,12 PM	0,12 PM	0,12 PM	0,13 PM
RENATA						
REUNA	1,00 PM	0,50 PM	0,50 PM	0,50 PM		
CEDIA	0,13 PM	0,13 PM				
CUDI	1,00 PM	1,00 PM	1,50 PM	1,50 PM	1,50 PM	0,75 PM
UbuntuNet	0,00 PM	0,50 PM	0,25 PM	0,25 PM	0,00 PM	0,00 PM
WACREN	0,75 PM					
ASREN	0,40 PM	0,05 PM	0,05 PM	0,20 PM	0,05 PM	0,05 PM
CESNET		2,70 PM	0,30 PM			
GRNET		0,7 PM	0,7 PM	0,2 PM		
SURFNET		0,063 PM	0,063 PM			
CSIR(SANREN)	0,10 PM	0,10 PM	0,06 PM			
RENATER		0,50 PM	0,50 PM			
NIIFI		0,2 PM				
CKLN	0,05 PM	0,10 PM	0,10 PM			
CAREN NOC	0,00 PM	0,00 PM	0,13 PM	0,00 PM	0,00 PM	0,00 PM
TEIN*CC		0,13 PM		0,13 PM		
Total per Task	6,5 PM	9,1 PM	5,4 PM	6,4 PM	1,7 PM	0,9 PM
Total per WP	30,0 PM					

Planned PMs per task WP3, Year 1

The difference of 3 PMs equivalent to 10% of the total is explained by the effort in the preparation of the Pilot platform to become a tool easy to deploy in different regions of the World, the tasks described in full in &1.2.3 were necessary to make the platform a multilingual, group-ware ready platform as was requested by the partners during the development of the project. This extra effort was done mainly by RedCLARA which duplicated the effort with respect to the original plan. This major larger effort will be compensated by changing PMs from other WPs and using larger non-funded resources if required.

Workpackage 4: Agreements for Real Time Collaboration

The table of PMs per task for this WP are as follows:

Partner	T4.1. Training and Deploying NRENum.net as the global dialing standard.	T4.2. To promote the implementation of DNSSec to enhance security of NRENum.net implementations.	T4.3. Design guidelines for integration architecture between legacy video networks and webconferencing	T4.4. To integrate the legacy (SIP capable) Global Video network with one open-source webconferencing system, and a VoIP network based on NRENum.net.	T4.5. Development of an on-line course and video tutorials on how to integrate real-time collaboration networks.
CLARA	0,22 PM	0,88 PM	1,33 PM	0,00 PM	
GEANT Ltd.		0,02 PM			
GEANT Association					
RNP	0,14 PM	0,14 PM	0,15 PM	0,15 PM	0,15 PM
RENATA	4,00 PM	3,00 PM			
REUNA	1,60 PM	0,25 PM			
CEDIA	0,02 PM				
CUDI	4,06 PM	1,92 PM	0,00 PM	0,00 PM	1,13 PM
UbuntuNet	0,01 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
WACREN	0,70 PM	0,55 PM			
ASREN	0,05 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
CESNET					
GRNET					
SURFNET					
CSIR(SANREN)					
RENATER	0,09 PM			0,30 PM	
NIIFI		0,32 PM			
CKLN					
CAREN NOC	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
TEIN*CC					
Total per Task	**10,89 PM**	**7,08 PM**	**1,48 PM**	**0,45 PM**	**1,28 PM**
Total per WP	**21,18 PM**				

Reported PMs per task WP4

Partner	T4.1. Training and Deploying NRENum.net as the global dialing standard.	T4.2. To promote the implementation of DNSSec to enhance security of NRENum.net implementations.	T4.3. Design guidelines for integration architecture between legacy video networks and webconferencing	T4.4. To integrate the legacy (SIP capable) Global Video network with one open-source webconferencing system, and a VoIP network based on NRENum.net.	T4.5. Development of an on-line course and video tutorials on how to integrate real-time collaboration networks.
CLARA	0,50 PM	0,00 PM	1,00 PM	0,00 PM	0,00 PM
GEANT Ltd.		0,15 PM			
GEANT Association					
RNP	0,14 PM	0,14 PM	0,15 PM	0,15 PM	0,15 PM
RENATA	3,00 PM	2,50 PM			
REUNA	1,25 PM				
CEDIA					
CUDI	2,00 PM	1,00 PM	1,00 PM	1,00 PM	1,00 PM
UbuntuNet	0,25 PM	0,25 PM	0,25 PM	0,00 PM	0,00 PM
WACREN	0,70 PM	0,55 PM			
ASREN	0,05 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
CESNET					
GRNET					
SURFNET					
CSIR(SANREN)	0,13 PM	0,13 PM			
RENATER	0,50 PM	0,50 PM			
NIIFI					
CKLN	0,13 PM	0,13 PM			
CAREN NOC	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
TEIN*CC					
Total per Task	8,6 PM	5,3 PM	2,4 PM	1,2 PM	1,2 PM
Total per WP	18,7 PM				

Planned PMs per task WP4

The larger effort of 2.48PMs, essentially concentrated by RENATA amounts to almost a 50% extra by RENATA, bur in all the extra effort amounts to 13.3% of the total.

Workpackage 5. Global Science Communities

The reported PMs per taks in this WP is as follows:

Partner	Task 5.1 Agreements on a set of worldwide user communities of common interest to the participating regions	Task 5.2 Implementation of an Information System on worldwide funding opportunities aimed at the end users and the user communities	Task 5.3: Development of a set of Worldwide Virtual Days to foster collaboration at a worldwide scale on the above selected topics	Task 5.4: H2020 Virtual Information Days to promote participation in International Calls	Task 5.5: Training material for the use of cloud-provided applications for collaboration	Task 5.6: Worldwide User Communities virtual meetings and seminars
CLARA	2,70 PM	4,51 PM	1,26 PM	0,85 PM	1,42 PM	1,00 PM
GEANT Ltd.	0,02 PM				0,02 PM	0,02 PM
GEANT Association	0,02 PM					
RNP	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,15 PM
RENATA						
REUNA						
CEDIA						
CUDI	0,86 PM	0,55 PM	0,31 PM	0,50 PM	0,36 PM	0,81 PM
UbuntuNet	1,17 PM	0,00 PM	0,14 PM	0,00 PM	0,31 PM	0,62 PM
WACREN	0,50 PM		0,50 PM			0,50 PM
ASREN	1,00 PM	0,00 PM	0,10 PM	0,10 PM	0,10 PM	0,30 PM
CESNET						
GRNET						
SURFNET						
CSIR(SANREN)	0,20 PM	0,20 PM	0,05 PM			
RENATER						
NIIFI	0,43 PM		0,10 PM			0,35 PM
CKLN						0,73 PM
CAREN NOC	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
TEIN*CC	0,18 PM					
Total per Task	**7,25 PM**	**5,43 PM**	**2,63 PM**	**1,62 PM**	**2,39 PM**	**4,48 PM**
Total per WP	**23,79 PM**					

Reported PMs per task WP5

The planned PMs per task was as follows:

Partner	Task 5.1 Agreements on a set of worldwide user communities of common interest to the participating regions	Task 5.2 Implementation of an Information System on worldwide funding opportunities aimed at the end users and the user communities	Task 5.3: Development of a set of Worldwide Virtual Days to foster collaboration at a worldwide scale on the above selected topics	Task 5.4: H2020 Virtual Information Days to promote participation in International Calls	Task 5.5: Training material for the use of cloud-provided applications for collaboration	Task 5.6: Worldwide User Communities virtual meetings and seminars
CLARA	1,0 PM	3,0 PM	3,0 PM	1,0 PM	2,0 PM	1,0 PM
GEANT Ltd.	0,05 PM				0,05 PM	0,05 PM
GEANT Association						
RNP	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,15 PM
RENATA	0,50 PM		0,50 PM			0,50 PM
REUNA						
CEDIA						
CUDI	1,00 PM	1,00 PM	1,00 PM	1,00 PM	1,00 PM	1,00 PM
UbuntuNet	1,00 PM	0,50 PM	0,75 PM	1,00 PM	0,50 PM	1,00 PM
WACREN	0,50 PM	0,50 PM			0,50 PM	
ASREN	1,00 PM	0,00 PM	0,10 PM	0,10 PM	0,10 PM	0,20 PM
CESNET						
GRNET						
SURFNET						
CSIR(SANREN)	0,10 PM	0,05 PM		0,05 PM		0,1 PM
RENATER						
NIIFI						
CKLN	0,05 PM	0,00 PM	0,05 PM	0,05 PM		0,10 PM
CAREN NOC	0,13 PM	0,00 PM	0,13 PM	0,00 PM	0,00 PM	0,00 PM
TEIN*CC	0,13 PM		0,13 PM			
Total per Task	5,6 PM	5,2 PM	5,8 PM	3,4 PM	4,3 PM	4,1 PM
Total per WP	28,4 PM					

Planned PMs per task WP5

The difference of 4.61PMs, equivalent to minus 16.23% is explained by the slow start of the WP due to the difficulty to assign manpower in the leader of the WP (UbuntuNet) and consequent the delay in the planning of the virtual and face to face meetings. This difference is being solved during year 2.

Workpackage 6. Dissemination and Training

The reported PMs per task can be seen in the following table:

Partner	T6.1 Coordination and management	T6.2 Planning of dissemination and co-ordination of training activities.	T6.3 Creation and management of the project's website: depicting information related to the project development,	T6.4 Publication of online and physical dissemination material tailored to different audiences/users and project needs.	T6.5 Participation in specific regional events in order to promote the advances and success of the project and make them coincide with	T6.6 Support to WP5 activities.
CLARA	2,50 PM	1,54 PM	2,00 PM	0,50 PM	2,00 PM	1,00 PM
GEANT Ltd.		0,03 PM	0,03 PM	0,03 PM		0,03 PM
GEANT Association						
RNP	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,14 PM
RENATA						
REUNA						
CEDIA						
CUDI	0,31 PM	0,32 PM	0,13 PM	0,97 PM	0,60 PM	0,75 PM
UbuntuNet	0,61 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
WACREN					0,50 PM	
ASREN	0,20 PM	0,20 PM	0,10 PM	0,10 PM	0,30 PM	0,10 PM
CESNET						
GRNET						
SURFNET						
CSIR(SANREN)					0,30 PM	
RENATER						
NIIFI						
CKLN						
CAREN NOC	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
TEIN*CC	0,15 PM				0,15 PM	
Total per Task	**3,94 PM**	**2,26 PM**	**2,43 PM**	**1,77 PM**	**4,02 PM**	**2,02 PM**
Total per WP	**16,44 PM**					

Reported PMs per partner WP6

The planned expense in PMs was:

Partner	T6.1 Coordination and management	T6.2 Planning of dissemination and co-ordination of training activities.	T6.3 Creation and management of the project's website: depicting information related to the project development, advances, achievements, training activities,	T6.4 Publication of online and physical dissemination material tailored to different audiences/users and project needs.	T6.5 Participation in specific regional events in order to promote the advances and success of the project and make them coincide with training activities.	T6.6 Support to WP5 activities.
CLARA	2,25 PM	1,00 PM	3,00 PM	2,00 PM	2,00 PM	2,00 PM
GEANT Ltd.		0,05 PM	0,05 PM	0,05 PM		
GEANT Association						
RNP	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,17 PM	0,15 PM
RENATA						
REUNA						
CEDIA						
CUDI	0,50 PM	0,50 PM	0,50 PM	1,00 PM	1,00 PM	1,00 PM
UbuntuNet	0,75 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,50 PM
WACREN					0,50 PM	
ASREN	0,20 PM	0,20 PM	0,10 PM	0,10 PM	0,30 PM	0,10 PM
CESNET						
GRNET						
SURFNET						
CSIR(SANREN)						
RENATER					0,50 PM	0,50 PM
NIIFI						
CKLN	0,05 PM	0,10 PM			0,10 PM	
CAREN NOC	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM	0,00 PM
TEIN*CC	0,13 PM				0,13 PM	
Total per Task	4,0 PM	2,0 PM	3,8 PM	3,3 PM	4,7 PM	4,3 PM
Total per WP	22,2 PM					

Planned PMs per partner WP6

The difference is an expenditure of 5.46 PMs less than foreseen that is explained by the change in the year of execution of some of the Dissemination activities, such as TNC 2016 and other events. This difference will be caught in Year 2.

Summarizing, the following table shows the difference between planned and reported PMs for each WP.

	WP1	WP2	WP3	WP4	WP5	WP6	Total
Planned	15,30 PM	31,54 PM	29,99 PM	18,69 PM	28,41 PM	22,15 PM	146,06 PM
Reported	17,17 PM	29,40 PM	33,00 PM	21,18 PM	23,79 PM	16,44 PM	140,98 PM
Difference	1,87 PM	-2,14 PM	3,02 PM	2,49 PM	-4,61 PM	-5,71 PM	-5,08 PM
Percentage	12%	-7%	10%	13%	-16%	-26%	-3%

Thus, in average, despite the ups and downs of the different WPs the resources have shown to be appropriate for the first year and correspond roughly to 50% of the total PMs budgeted.

Other Direct Costs

The reviewers requested that we explain the Subcontracts which are indeed the direct costs associated with printed material, give-aways, room rental and other services related to the organisation of training and workshops. We have spent €16.146 as detailed in the following Table. The expenses are necessary for the dissemination and training tasks.

Dissemination material	€7.583
Facility rentals	€1.419
Give-aways	€3.872
Refreshments	€1.838
Registration in conferences	€1.435
	€16.146

5.2.1 Unforeseen subcontracting (if applicable)

None

5.2.2 Unforeseen use of in kind contribution from third party against payment or free of charges (if applicable)

None