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Magic

Middleware for collaborative Applications and Global vIrtual Communities

Deliverable N° D5.1

Guidelines, objectives, directives, and strategic work plan of the MAGIC Global Science Communities

This project is co-funded by the Horizon 2020 Framework Programme of the European Union

A project implemented by RedCLARA

MAGIC Deliverable: D5.1

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Document Full Name	**D5.1 Guidelines, objectives, directives, and strategic work plan of the MAGIC Global Science Communities**
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Abstract. This Deliverable aims at setting the basic principles and some key elements of the applicable practice of how to arrive at the desired Global Science Communities by exploiting experiences from earlier projects of similar intents but by a less ambitious geographical (regional) coverage at that earlier attempts.

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For more information on MAGIC, its partners and contributors please see http://www.magic-project.eu.

DELIVERABLE ROUTE

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1. EXECUTIVE SUMMARY

WP5 of the MAGIC project is devoted to creating and coordinating relevant research communities (Global Science Communities) comprising representatives from all possible world regions. After selecting the attained small number of such communities, the project team will introduce/train them in the use of the collaboration applications, and help them find funding opportunities for their joint research activities. Emphasis will also be put on disseminating the collected information worldwide and specifically to the selected user communities.

This Deliverable D5.1 (as an output of Task 5.1) aims at setting the basic principles and some key elements of the applicable practice of how to arrive at the desired Global Science Communities by exploiting experiences from earlier projects of similar intents but by a less ambitious geographical (regional) coverage at that earlier attempts.

First a set of priority areas common to MAGIC regions upon which Global Science Communities is introduced by reviewing, on one hand, some available more general priority classifications and, on the other hand, by investigating regional research priority areas as described by regional scientific bodies.

Based on the agreed priority areas the guidelines and the objectives for establishing three Global Science Communities (as examples for similar future efforts) was developed by specifying how to select and invite research organizations to join. Recommendations on what communities (priority areas and regional institutions) to select and how to build/operate the related Global Science Communities will be listed. Sustainability of the communities will be based on jointly developed strategic workplans while encouraging wider exploitation of the experiences will be supported by monitoring and disseminating the achievements.

GLOSSARY OF TERMS

EC	European Commission
EU	European Union
EU-LAC	Europe, Latin America and the Caribbean
H2020	Horizon 2020
NREN	National Research and Education Network
GSC	Global Science Community

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1. INTRODUCTION

1.1. Purpose of the Document

This document is Deliverable D5.1 of the MAGIC project. It provides a description of the introductory phase of the project in its efforts in establishing Global Science Communities, which are composed of research organisations and/or individuals from all possible global regions with common interests. The project identified and established four Global Science communities around the themes of: a) e-Health; b) Biodiversity; c) Environment; and d) Remote Instrumentation. A Champion, a leader, was also identified for each community to facilitate and sustain the need for collaboration. The document also contains guidelines, objectives, directives and strategic workplan for the management of the communities.

1.2. Structure of the Document

The document consists of eight major sections. The first one presents an introduction: information about the project and the deliverable, and an introductory outline of the content. The second one deals with the process of identifying the thematic priority areas while the second one is devoted to the activities carried out in developing and animating Global Science Communities. Guidelines, Objectives, Directives and Strategic WorkPlans of the Global Science Communities are included in sections 4 followed by Next Steps in section 5 and Recommendations in section 6. An Appendix lists the initial composition of the Global Science Communities.

2. INVESTIGATING AND SELECTING PRIORITY AREAS

In investigating and selecting priority areas upon which to establish the Global Science Communities, WP5 followed the same MAGIC strategy (Described in D1.2.5) which makes use of regional representatives from the different world regions participating the project. Each partner has a specific contact who coordinates the activities of WP5 in their respective region. The regional representatives from all the 7 world regions participating in MAGIC are listed in Table 1, including the name of the contact person.

Table 1: Regional Representatives in MAGIC WP5

Region	Organisation	Responsible Person
Arab countries	ASREN	Yousef Torman
Eastern and Southern Africa	UbuntuNet Alliance	Tiwonge Banda
West and Central African countries	WACREN	Omo Oaiya
Asian countries	TEIN*CC	Patch Lee
Caribbean countries	CKLN	Colleen Wint
Latin American countries	CLARA	Tania Altamirano
European countries	GEANT	Roberto Sabatino / Tom Fryer

The work with the priority areas started with the definition of some basic criteria to be used when selecting those topics that could be of interest for the major part of the regions involved in the project. The diversity of activities as well as local problems were elements to be considered while identifying how to continue with this process.

The first step was the definition of a community in the context of this work package and this was agreed to be *a group of experts (researchers and/or academics) from different parts of the world with a common interest, working together on activities, sharing best practice, knowledge and experiences.*

Initially, it had been decided that as a way of collecting information about common priority areas in the MAGIC regions, a questionnaire would be prepared and administered similar to the one that was used in the ELCIRA project. However, during the course of the planning it was felt that perhaps the approach was not going to work appropriately in a global context. Instead, after making several considerations, the project decided to adopt the priority areas that were identified by the ELCIRA project as described in Deliverable D6.9 Report on Key Research Communities[1].

The following is an excerpt from ELCIRA D6.9 regarding communities:

In the last five years, RedCLARA has developed experience in the promotion and support of academic communities, and the design and implementation of mechanisms for their development as Well. Along with collaborators working closely to research groups, it has identified three key elements in the conformation of innovative academic communities:

a) *Innovative academic communities focus on regional issues that attract the interest of research groups disseminated along the Continent (i.e E-Health Latin American Community).*

b) *These communities attract new talents and The Strength of new young researchers building science (i.e.CEVALE2 Community).*

c) *Communities consolidate their scientific production focusing on the study of wealth and issues related to the natural elements of their region (i.e. Biodiversity Community of Latin America).*

The topics identified by ELCIRA are: e-Health, Biodiversity, Environment, and High Energy Physics

The project team then crosschecked these priority areas with the participating regional organisations to see if these were considered as really high priority topics in the respective regions. At the same time, the project team received a proposal from an active group in Mexico, which is part of the NREN, CUDI, working on

1 http://elcira.eu/docs/Deliverables/ELCIRA_D6.9_Report_on_Key_Research_Communities_v1.1.pdf

remote instrumentation on nanostructure materials, to establish a Global Science Community on the subject.

A WP5 Face to Face meeting was held in Maputo, Mozambique on 17 November 2015 ahead of the UbuntuNet-Connect 2015 conference and there the project team reviewed the four ELCIRA priority areas and decided to adopt them except for High Energy Physics because it is not a really preferable priority area in some of the involved regions and also because there is already a well organised multi-regional community around the subject. In addition, the project team agreed to include Remote Instrumentation as requested by the Mexican group simply because it was community initiated priority topic and because the group had shown interest, enthusiasm and willingness to enhance the work developed earlier by their members as well as to have the opportunity to learn and share knowledge with peers from around the world. Therefore, the selected priority areas are as follows:

- e-Health
- Biodiversity
- Environment
- Remote Instrumentation

3. ESTABLISHING GLOBAL SCIENCE COMMUNITIES

3.1. Procedure for Establishing the Communities

After selecting the priority areas at the face to face meeting of the Work Package that took place in Maputo, Mozambique, the next task was to make the Global Science Communities a reality. In this regard, the project team outlined a framework for the structure of the communities and for the steps of establishing them. Three elements were defined:

a) ***Call for Community participants:*** A call for participants to join Global Science Communities around the 4 identified priority areas was sent out via the regional representatives, who in turn forwarded to their constituent National Research and Education Network (NRENs) and/or Communities of Practice. The result was lists of potential participants that had accepted to join the various

communities. The door has been left open for more members to join later, as work progresses.

b) ***Identification of Community Champions:*** To ensure that the communities are properly anchored, community Champions were proposed from among renowned experts in the identified priority areas. Major aspects were: considerable community facilitation experience, activity and practice of working in international initiatives and co-operations, as well as availability and readiness to lead the community. Champions are supposed to not only accept this function and role of leadership but also to motivate his/her peers in the process of consolation and work of the group.

c) ***Community Space on Colaboratorio:*** To ensure that the established Global Science Communities are able to easily communicate and collaborate, the Communities would have a space on Colaboratorio and will receive the necessary information on how to use the tools of the platform.

d) ***Opening Conferences for the Communities:*** All the participants being formally invited to join a Global Science Community, will also receive an invitation to participate at an Opening Meeting and coordinate actions.

3.2. Animating the Global Science Communities

The four Global Science Communities were constituted at the end of January 2016 as described in section 5.1 and the opening conferences were held during the month of February 2016. Table 2 shows some information about the 4 GSCs as at the time of the opening conferences. The Community Champions have been key in animating the Communities and in maintaining the need to collaborate at global level. Using their experience and personal networks, they have also been inviting their colleagues from other networks to participate in the activities of the project.

As observed, all the Community Champions come from either Latin America or the Caribbean. This was not intentional, but as a result of availability and acceptability

of the individuals to take on the task. The project team tried its best to ensure a regional balance in championship, with one from Africa, but those that were approached turned down the offer citing reasons of availability. However, participation in the activities of the GSCs includes many members from Africa.

Table 2: Some information about the Global Science Communities

	**Global Science Community on E-Health** **Opening Conference**: 2 February 2016 **Members**: 58 **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
	**Global Science Community on Biodiversity** **Opening Conference**: 11 February 2016 **Members**: 31 **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
	**Global Science Community on Environment** **Opening Conference**: 18 February 2016 **Members**: 28 **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

Global Science Community on Remote Instrumentation

Opening Conference: 25 February 2016

Members: 16

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

In animating the GSCs Colaboratorio is central as it is a portal that acts like a gateway to collaborative tools and community building. Each GSC has a Community space on Colaboratorio, which also comes with a mailing list, file sharing tool, web conferencing and other tools for collaboration. In addition, community members receive notifications about Funding and partners every week according to their interests. See Image 1, a screen capture of the e-Health Community space on Colaboratorio).

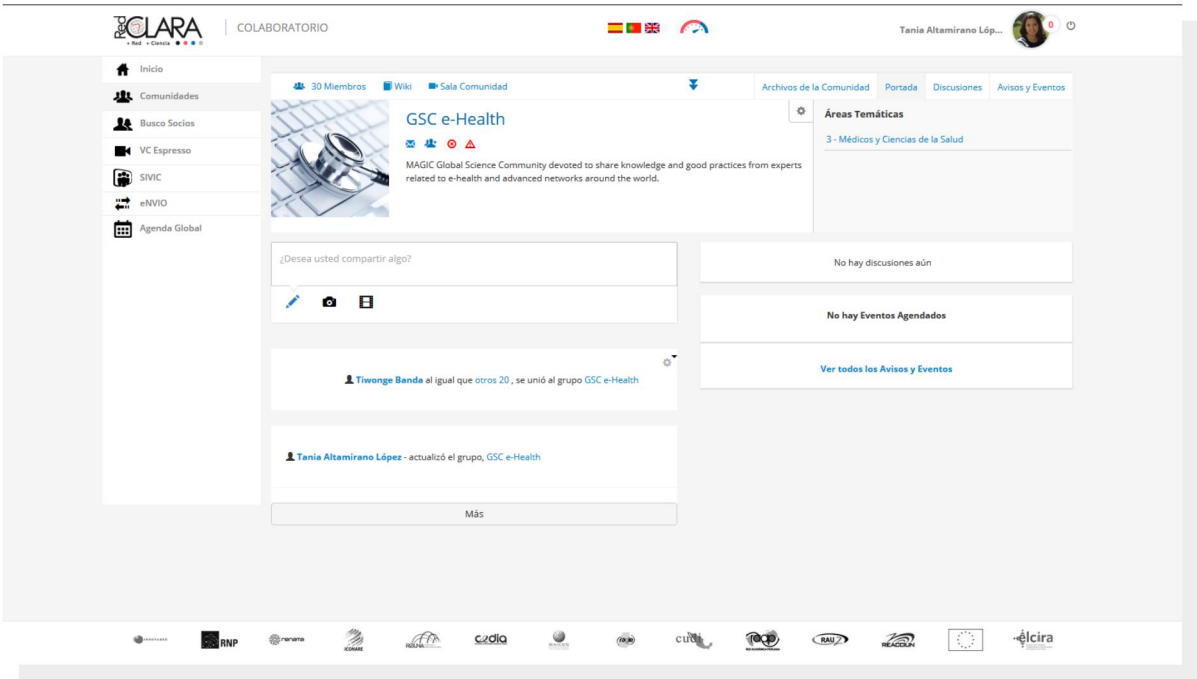

Image 1: Colaboratorio of the e-Health Global Science Community

4. GUIDELINES, OBJECTIVES, DIRECTIVES AND STRATEGIC WORKPLANS OF THE GLOBAL SCIENCE COMMUNITIES

From the onset of MAGIC's interaction with the GSCs it was made clear to the communities that the project did not have an idea in advance of the direction that the communities would take, hence it was up to the community to decide on the activities that they need to carry out. The reason being the members of the community themselves are the experts in the field and have an understanding of the emerging and trending issues in the field.

In all activities, the project team will support the champions by providing secretarial and logistical work. This will ensure that the Community Champions and members of the community are not over-burdened with GSC activities especially because they will not be paid for.

Activities of the GSCs will mostly be virtual, however where necessary, community specific workshops may be organized collocated with major events of the Regional RENs, such as UbuntuNet-Connect conference, WACREN Conference, RedCLARA`s TICAL conference, ASREN`s e-AGE, etc.

A high level strategic workplan is presented in this section for the broader activities of the GSCs, where necessary, specific workplans and schedules will be developed with further details for the particular GSCs.

4.1. Purpose and Objective of the MAGIC Global Science Communities

The overall goal for the 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. Specific objectives for the respective GSCs are presented below:

e-Health Community 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.

Biodiversity Community 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.

Environment Community 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.

Remote Instrumentation

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.

4.2. Operating Principles

In their operations, the Global Science Communities will be guided by the following principles:

- Member focus – the GSCs are member focused and composed of members from different parts of the world. The activities of the communities will be guided by the needs of the members as they seek knowledge and share it.
- Sharing Knowledge – the GSCs primary aim is to collaborate and share experience in their bid to share knowledge.
- Communication – the GSCs communicate with each other using the advanced and efficient technologies that are enabled through the Internet and Research and Education Networks
- Collaborate – the GSCs are all about collaboration with like-minded peers from all over the world in tackling common and emerging challenges

4.3. Strategic Workplan

Below is a strategic workplan for the Global Science Communities.

Objective	Task/Activity	Output/Deliverable	Timeframe
1. Foster collaboration in the	1.1 Identify community champions	Community Champion identified	

selected priority areas of the GSC on a global level to tackle common problems	1.2 Organise Opening conferences for each community	Virtual event	
	1.3 Conduct a survey on community needs or priority areas	Survey Results	
	1.4 Prepare a schedule of events/webinars based on community needs	Calendar of events	
	1.5 Identify presenters through either a Call for abstracts or by invitation of presenters	Presenters identified	
	1.6 Organise webinars on identified topics	Virtual events	
	1.7 Publish all session materials (presentations and video recordings)	Presentations and video recordings published	On-going
2. Build the capacity of community members in the use of virtual collaboration tools	2.1 Conduct training sessions on the use of Colaboratorio and the various collaborative tools	Virtual training sessions Colaboratorio User Guide How to toolkits	
	2.2 Conduct testing sessions in advance of all virtual events	-	On-going
3. Promote experience sharing on best practice in organizing and managing virtual communities	3.1 Invite presentation on experience and best practice in working with communities in virtual environments	Invitations	
	3.2 Organise virtual events on sharing experience and best practice or organizing and managing virtual communities	Virtual events	
4. Enhance information flow on funding	4.1 Share information or funding opportunities via email alerts to all members of the	Customised alerts based on user interests	

opportunities under the EUs H2020 and other international calls	communities		
	4.2 Organise Virtual Infor Days on Horizon 2020 to promote participation of research communities in international calls	Virtual events	

5. NEXT STEPS

Building on from what has already been achieved in developing the Global Science Communities, especially for the e-Health Community, work is progressing in developing the other 3 Global Science Communities. Concerning the near future activities, the following next steps are foreseen:

1. Continue animating the Global Science Communities to keep them active with exciting activities and to appeal to other existing communities in related fields.
2. Extend the reach of the Global Science Communities. As is the case now, membership of the communities is dominated by people from Latin America, the Caribbean and Africa. The project will put extra effort to increase the participation of members from other parts of the world, e.g. the East.
3. Extend and explore areas of possible collaboration with communities in other H2020 projects such as Sci-GaIA and TANDEM
4. Start developing sustainability options for the Global Science Communities. The project team would like to ensure that the communities continue to be relevant after the MAGIC project finishes in April 2017-
5. Develop Workplans for the GSC is a next step being of key importance in order to keep the Community alive, active, and sustainable. Taking care of the development of preliminary versions for such Workplans should have been a preparatory element of arranging for the start of the GSCs. Involving such draft Workplans in this deliverable has also been suggested by the Description of Work. However, due to delays in establishing the GSCs, it has been decided that the GSCs themselves will begin discussions on next steps and start

building materials for the Workplans upon launching the GSC activities at the Opening Conferences.

6. Dedicated representatives of the WP5 will accompany and support the community leaders, and monitor the activities of the Communities. This will provide useful information about the evolution of the GSCs and will help identify key topics for the Informative Days of the task 5.3 (Development of a set of Worldwide Virtual Days to foster collaboration at a worldwide scale on the above selected topics).

6. CONCLUSION AND RECOMMENDATIONS

The project team has so far registered some level of success in this initiative to build Global Science Communities by identifying potential members and bringing them together. This has proved to be a tough exercise and as yet it is too early to determine how successful the approach will be. However, learning from other initiatives, it is much easier to work with already existing communities or to support initiatives that are driven by the communities themselves and give them the means to deepen their co-operation. If there is no inherent motivation to collaborate globally, any efforts to get such a collaboration started from the outside is doomed to fail. That is why the project team felt it necessary to adopt the GSC on Remote Instrumentation, since it was driven from the community itself. To motivate the members of the GSCs to perceive the project as a valuable endeavor and the GSCs as useful platforms, the project team will have to present relevant tools and services. Colaboratorio provides some very important, well applicable, friendly, and efficient such tools and services.

As the project proceeds, the project team will put emphasis on carefully follow the developments:

- observe the uptake of the project offerings in the GSCs, as well as

- doing further research into the needs and requirements of the different GSCs, by investigating, among others, if they have identical needs or are they domain specific.

Depending on the experiences, an adaptive approach is applied in order to achieve as much impact on GSC collaboration as possible.

7. DOCUMENT AND AMENDMENT PROCEDURE

Requests for amendments to this document should be made to the authors, Tiwonge Banda, F&A Manager, UbuntuNet tiwonge.banda@ubuntunet.net and Lajos Balint, Director of International Relations, NIIFI lajos.balint@niif.hu (both WP5) and copied to the Management of the MAGIC project: magic-all@listas.redclara.net

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Name	Affiliation	Country
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APPENDIX 2: MEMBERS OF THE GLOBAL SCIENCE COMMUNITY ON BIODIVERSITY

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4. Tony Nuñez	Professor, UAFAM	Dominican Republic
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8. Ibrahim Fathy Moawad	Ain Shams University	Egypt
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10. Dr Dorothy Okello	Makerere University	Uganda
11. Dr Mitulo Silengo	Mulungushi University	Zambia
12. Dr C Chomba	Mulungushi University	Zambia
13. Prof. Jacob Mwitwa	Copperbelt University	Zambia