Thematic Report on Information and Communication Technology

Latin America, Caribbean and European Union

Network on Research and Innovation

EU-CELAC SOM Working Group on Information and Communication Technology

Chile – Finland

ALCUE NET: Latin America, Caribbean and European Union Network on Research and Innovation

Acknowledgement

Disclaimer

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Introduction

The Chilean National Commission for Scientific and Technological Research (CONICYT) and the Technical Reseach Centre of Finland (VTT) coordinated this Thematic Report on ICT. Although the general information and background material was developed by the two institutions, the definition of topics (Annex 1) was developed with a group of experts that were convened in Santiago, Chile during a Thematic Workshop on Information and Communication Technologies that took place on March 19th and 20th. The main objective of this Report is to present to the Senior Officials Meeting (SOM) of the EU – CELAC Joint Initiative on Research and Innovation recommendations for future funding.

ICT is one of the four areas that will present a Thematic Report at the SOM, the other ALCUE-Net groups that have undergone a similar process in order to present a document are Energy, Bioeconomy and Biodiversity & Climate Change. All four documents will suggest the SOM key areas that should be priority for funding during the years to come, which will be implemented by future EARNet – LAC projects.

Over 40 experts convened at the Thematic Workshop on ICT organized by CONICYT and VTT. The two main topics discussed were e-Health and Smart Cities. During the workshop the participant developed the recommendations on these topics to present to the SOM the main reasons why these topics should receive finance in the years to come and how they are able to effectively tackle societal challenges present in both EU and LAC countries.

The two specific call topic suggestions are:

- Improving wellbeing through inclusive e-Health.

- Smarter, inclusive and sustainable cities.

1   Objective of the thematic report

The main objective of this Thematic Report is to be used as a guideline to support the decision making process related to ICT for Societal Challenges which will be carried out during the Senior Officials Meeting and that will take place in San José, Costa Rica on the 3rd and 4th of April 2014.

2   Bi-regional Cooperation Activities in ICT

Thematic area background in Latin America, Caribbean and the European Union

In a global economy, the Information and Communication Technologies (ICT) are the new driving forces of development, as well as progress. The implementation of ICT in the daily routine of social, culture and economic relations has opened a vast range of possibilities of development and eliminated barriers of space and time between regions and communities.

The ICT theme is horizontal to the societal challenges and supports the development of global priorities. With the aim of targeting the societal challenges broadly, the work of the ICT group has focused on four main areas: e-Inclusion; e-Health; Smart Cities; and Living Labs. These four topics have been previously identified by the SOM Working Group on ICT as central for the development and cooperation between both regions.

ICT have been widely developed in the last decades: infrastructure, hardware, software and applications have the potential of creating a hyper-connected world. These developments though have not been deployed evenly to allow inclusiveness and uniform delivery of public services, creating thus a digital and economic divide between and across societies.

ICT are recognised as effective means of tackling societal challenges, through a multidisciplinary approach and including multiple fields of application.

The lack of coordination among initiatives at the government, research and societal levels has hindered the uniform implementation of ICT solutions within and between countries and regions.

There is a wide cooperation between EU and LAC in the ICT field, ranging from research cooperation to joint entrepreneurship and established technology platforms in Internet of the Future. In a short overview, there is an enhanced cooperation around the following topics: e-Health, Future Internet, Intelligent Transportation Systems, Internet and Internet of Things, Education and Climate Change.

Political framework: EU-CELAC Senior Official Meetings (JIRI), EU-CELAC Summits (Action Plan 2013-2015)

European Union (EU) – Latin America and Caribbean (LAC) Summit in 2010 adopted **Madrid Action Plan** in order to develop and reinforce bi-regional cooperation in six fields. The first of these fields is **Science, Research, Innovation and Technology**.

The main objective in this area is to develop the "EU-LAC Knowledge Area" through:
  i) improving cooperation in research and innovation;
  ii) strengthening scientific and technological capacities, and infrastructures;
  iii) supporting research, innovation and knowledge sharing taking into account the contribution of ancestral and traditional knowledge;
  iv) boosting the use of new technologies and technology transfer underpinning sustainable socio-economic development;

v) fostering cooperation between both regions with respect to the digital economy and the reduction of the digital divide for improving competitiveness while making social inclusion a cross-cutting issue.

The **Joint Initiative for Research and Innovation**, called **JIRI**, was endorsed by the 2010 Madrid Summit Action Plan. Its mandate is, among others, to "establish regular bi-regional dialogue on science, research, technology and innovation to consolidate EU-LAC cooperation and to update common priorities, encourage mutual policy learning and ensure the proper implementation and effectiveness of cooperation instruments".

Five senior officials working groups were established in 2011 within the JIRI to mobilize stakeholders on priority areas of mutual interest. Calling on a wide range of experts from both regions with the support of several INCONETs, the **five thematic working groups** are the following:

- Bioeconomy including food security – co-led by Argentina and France
- Information and Communication Technologies (ICT) for meeting societal challenges – co-led by Chile and Finland
- Biodiversity and Climate Change – co-led by Colombia and France
- Energy – co-led by Mexico and Spain
- Funding and good practices for collaboration – co-lead by Mexico and Portugal

The thematic working groups have narrowed down objectives for the short – and medium term and outlined concrete activities and funding options to be further elaborated for bi-regional cooperation in their focus areas.

In 2013, a sixth Working Group was created in the area of Health.

The main aim of the **Working Group on ICT for Societal Challenges** is to enhance the cooperation and integration of Latin America and the Caribbean and the European Union in ICT and thereby contribute to the mutual development of policies and inclusiveness in the field.

The ICT theme is horizontal to the societal challenges and supports the development of global priorities. With the aim of targeting the societal challenges broadly, the work of the ICT group is focused on **e-Inclusion, e-Health, Smart Cities, and Living Labs**, addressing challenges in the fields of social cohesion, inclusiveness, sustainability and innovation for the benefit of the populations both in Latin America, the Caribbean and Europe. These four topics have been identified by the SOM Working Group on ICT as central for the development and cooperation among both regions.

The thematic priorities developed and implemented by the ICT working group are:

- Mapping of current and past bilateral and bi-regional ICT projects in the areas of e-Inclusion, e-Health, Smart Cities and Living Labs. The data base includes more than 200 projects and 1800 researchers and stakeholders.

- Latin American and Caribbean Network of Living Labs connected to the European Network of Living Labs (ENoLL), created in 2012.

- Thematically oriented Latin American Technology Platforms connected with European Technology Platforms, to be carried out in 2014-2015.

- Network of Smart Cities: promote the opportunities for cooperation among Latin American and European megacities

EU framework programme and other regional and bilateral joint projects

Within the ongoing "Latin America, Caribbean and European Union Network on Research and Innovation – ALCUE NET Project" funded by the Seventh Framework Programme, CONICYT from Chile alongside with VTT from Finland and FCT from Portugal have collected information from LAC funding agencies and European multipliers specifically related to the ICT field of research in order to identify the specific topics with the greatest potential for successful EU-LAC research collaboration. The objective of this task was to identify key stakeholders, policies and regulatory frameworks (at national and regional levels), national priorities, and granted projects in the last five years with emphasis in the areas of e-inclusion, e-health, living labs and smart cities. This effort allowed to the ALCUE NET project to identify and engage all Latin American and Caribbean researchers and stakeholders in a joint database with more than 200 projects comprising over 1800 researchers and stakeholders reviewed, in order to provide a complete and comprehensive overview of the cooperation of key actors in ICT. The final list includes almost 150 projects. This database was analysed by experts from the ICT WG co-leaders countries, which identified the research projects with more potential to collaborate, in two specific areas related to E-Inclusion – particularly e-Health for remote areas, and Smart Cities. The complete report on the results of the mapping is under development.

The outcome of this mapping exercise shows the state of the art of current ICT research between both regions. In geographical terms, the most active countries are Brazil, Chile, Argentina, Colombia, Uruguay and Peru, on the LAC side, and France, Spain, United Kingdom, Italy and Germany on the EU side. Also China, India, United States and Israel are cooperation partners on ICT with the EU-LAC region.

In terms of fields and technologies, the selection of the topics was done observing the projects analysed in terms of technological developments and field applications. The outcome shows a very wide range of topics covered through the current EU-LAC cooperation. The following is a brief overview of the findings of the mapping:

Field	Field	Field
13 e-Health	2 Algorithms	1 Intelligent Transport System
10 Future Internet	1 Voice recognition	1 Content Languages
10 Intelligent System and	1 Ubiquitous Computing	1 Content and Mobility
Transport	1 Serious Games	1 Communication networks
6 Internet and Internet of	1 Remote connectivity	1 Communication
Things	1 Rehabilitation	1 Collaboration
6 Education	1 Radio communication	1 Children protection
5 Climate/climate change	1 Perception	1 Bioinformatics
3 Telecommunications	1 Networking	1 Augmented reality
3 Cloud Computing	1 Multimedia Content	1 Astronomy
2 Image recognition	1 Mining	1 Artificial Intelligence
2 Energy and Energy	1 Mathematical modelling	1 Aerospace
efficiency	1 Living Labs	1 Active ageing
2 Computer System		
2 Big Data		

It is clear, though, that the data base of current and recent projects in ICT between EU and LAC still needs to be extended to include a more comprehensive set of data, as well as a wider geographical coverage.

Concerning the EU Framework Programme, the participation of Latin America in ICT and e-Infrastructures projects has increased significantly in the recent years: from 80 participations in FP6 to 153 in FP7. Brazil with 48 organisations participating as partners in projects funded under the EU ICT R&D and e-Infrastructures programmes represents more than 25% of all Latin American participants in these programmes.

In terms of number of projects, although the participation of Latin America countries in FP7 is still weak, evidence also indicates that ICT and e-Infrastructures are gaining relevance within international cooperation projects funded by the European Commission.

Regarding the ICT projects with a bi-regional dimension funded by the Seventh Framework Programme, it is noticeable that there has been a very strong and continuous support in FP7 for the bi-regional dimension of research in ICT and e-Infrastructures.

Hereunder is an overview of selected FP7 projects with a bi-regional scope. Broadly, the projects can be divided into two categories:

1. ICT research projects or projects in E-Infrastructures oriented towards EU-LAC cooperation

2. Coordination and support actions of the political dialogue in ICT

Concerning the first category and for the purpose of this report, we have only selected projects with a specific bi-regional scope in the research carried out, leaving out ICT projects with participation of specific Latin American countries but oriented towards general research topics. With this in mind, there is a predominance of projects focused on the following areas:

- **e-Health**, with COMOESTAS, MEDNET and ACTION-Grid
- **e-Infrastructures**, with EELA-2, ACTION-Grid, GISELA, ELCIRA, RISC and EVALSO.
- **Free and open software**, with FLOSSINCLUDE
- **Networked Electronic Media**, with SALA+ and SALA3D

Project Acronym	Project Title	Project Description	Period
EELA-2	E-science grid facility for Europe and Latin America	EELA-2 aims to build, on the current EELA e-Infrastructure, a high capacity, production-quality, scalable Grid Facility providing round-the-clock, worldwide access to distributed computing, storage and network resources for a wide spectrum of applications from European and Latin American scientific communities.	2008-2010
COMOESTAS	COntinuous MOnitoring of Medication Overuse Headache in Europe and Latin America: development and STAndardization of an Alert and decision support System	COMOESTAS aims to develop an innovative ICT system that allows patients with a chronic condition to receive continuous and personalized treatment. Medication Overuse Headache (MOH) is a significative example of a disorder that can benefit from an ICT-assisted approach developing innovative systems and services for monitoring chronic conditions.	2008-2010
FLOSSINCLUDE	Free/Libre and Open Source Software: International Cooperation development roadmap	The FLOSSInclude project aims to strengthen Europe participation in international research in FLOSS (Free/Libre/Open Source Software) and open standards, by studying what is needed to increase the deployment, development and societal impact of FLOSS in Africa, Asia and Latin America.	2008-2010
ACTION-Grid	International Cooperative Action on Grid Computing and Biomedical Informatics between the European Union, Latin America, the Western Balkans and North Africa	ACTION-Grid is a Specific International Cooperation Project on healthcare information systems based on Grid capabilities and Biomedical Informatics (BMI) between Latin America, the Western Balkans and the European Union (EU).	2008-2009
SALA+	Support Action for a European and Latin American strategic cooperation on networked media RandD	SALA+ is a Support Action (SA) intended to foster International Cooperation in the area of Networked Electronic Media (NEM) between Europe and Latin America. The global aim of the project is to prepare for future concrete partnerships between Europe and Latin American countries.	2008-2010

MEDNET	Latin American Health Care Network	MedNET aims to establish a collaborative framework with counterparts in Latin America to promulgate access in underserved regions of Latin America to efficient, cost effective, high level and high quality medical resources. The proposed healthcare database and medical platform will directly impact on patient safety by enhancing clinical services and improving the primary healthcare in the pilot locations	2008-2011
EVALSO	Enabling Virtual Access to Latin-American Southern Observatories	The project proposes to create a physical infrastructure (and the tools to exploit it) to efficiently connect these facilities to Europe. The infrastructure will be complementary to the international infrastructures created in the last years with the EC support (RedCLARA, ALICE, GEANT) and will be another step in the creation in Latin America of an advanced instrumentation GRID.	2008-2011
SALA 3D	European and Latin American Strategic Cooperation on 3D Internet R&D	SALA3D is a Support Action (SA) aiming at fostering the cooperation among European researchers and Colombian and Uruguayan researchers in the field of content aware networks, network-aware applications and 3D Media Internet through the alignment of research priorities between the Colombian and Uruguayan R&D Programmes with European R&D programmes.	2010-2012
GISELA	Grid initiatives for e-science virtual communities in Europe and Latin America	The GISELA project objective aimed at ensuring the long-term sustainability of the European - Latin American e- Infrastructure, thus guaranteeing the future of the Computing paradigm of the Virtual Research Communities(VRC) using it.	2010-2012
ELCIRA	Europe Latin America Collaborative e-Infrastructure for Research Activities	The ELCIRA Project aims to coordinate a series of collaboration tools and services that are being developed in Europe and Latin America in order to provide an interoperability framework that facilitates the work of European-Latin American research teams and to foster collaboration in joint research projects.	2012-2014
RISC	A Network for Supporting the Coordination of Supercomputing Research between Europe and Latin America	The RISC project aims at deepening strategic R&D cooperation between Europe (EU) and Latin America (LA) in the field of High Performance Computing (HPC) by building a multinational and multi-stakeholder community that will involve a significant representation of the relevant HPC R&D EU and LA actors (researchers,	2011-2013

		policy makers, users).	
M-Inclusion	Mobile Inclusion Platform for Europe and Latin America	The project aims at creating a cooperation framework between EU and LATAM mobile solution developers and different entities (e.g., public bodies, Third Sector associations) voicing the digital inclusion needs of people at risk of exclusion in LATAM in order to improve their personal autonomy, and through that, their social integration.	2011-2013
ELLA	Feasibility Study for a direct Europe Link with Latin America	Projects analyses the feasibility of a submarine communications cable linking Europe and Latin America that would improve collaboration between research and education communities in these countries and bring down connectivity costs.	2011-2013
WINDS Caribe	Widening Caribbean participation in European ICT Research	Deepen strategic Research and Development cooperation between Europe and the Caribbean in the field of information and Communication Technologies by mobilizing existing networks and research communities around the priorities of the EU FP7, resulting into a multinational and multistakeholder community of researchers, policy makers and users.	2008-2009
TUCAN3G	Wireless technologies for isolated rural communities in developing countries based on cellular 3G femtocell deployments	Design a technologically feasible and yet economically sustainable solution for the progressive introduction of voice and broadband data services in isolated rural communities of development countries, using commercial cellular terminals, 3G femtocells and heterogeneous backhauling.	2013-2015

In general terms, the projects are oriented towards issues where Latin America has a significant added value or a natural condition for developing specific projects or e-Infrastructure, such as the infrastructure of astronomical observatories addressed in EVALSO or the significant developments of e-Health applications.

In the field of coordination and support actions of the political dialogue and international cooperation, the range of projects has been significant. Projects supporting specifically the ongoing political dialogue in ICT, such as PRO-IDEAL (enlarged to four additional countries though PRO-IDEAL PLUS), FORESTA, FIRST, CONECTA2020, AMERICAS and LEADERSHIP have contributed significantly to the development of an EU-

LAC scientific community in ICT and e-Infrastructures, as well as to the coordination of national and international funding agencies and stakeholders. An important feature is also the fact that the individual projects have had continuity (such as FIRST with CONECTA2020) or have been directly interlinked with each other through new projects (such as FORESTA with AMERICAS and LEADERSHIP). Other – more general – projects also support the bi-regional political dialogue in ICT, such as ALCUE-Net, the four bilateral projects with Argentina, Brazil, Chile and Mexico, as well as the ERANet-LAC project. In all, the different past and ongoing coordination and support actions have increased the connections between both regions at all levels.

Project Acronym	Project Title	Project description	Period
PRO-IDEAL	PROmotion of an ICT Dialogue between Europe and America Latina	PRO-IDEAL aims to promote the ICT programme in Argentina, Brazil (São Paulo southwards), Chile and Uruguay. The project carries out a series of activities that are geared at improving the overall performance of the countries' research community in the ICT programme.	2008-2011
PRO-IDEAL PLUS	PROmotion of an ICT Dialogue between Europe and Latin America – extension towards Mexico, Colombia, Cuba, Costa Rica	The project aims to strengthen the research dimension of Information Society policy dialogues in the target region, establishing a sustainable ICT research community and developing synergies.	2010-2011
FORESTA	Fostering the Research Dimension of Science and Technology Agreements	The project wants to boost the research dimension of ICT cooperation and policy dialogue between the EU and the Latin American region by following two directives: individuating immediate opportunities for cooperation between researchers of the two communities and looking at long-term perspectives.	2010-2011
FIRST	Implementing cooperation on Future Internet and ICT Components between Europe and Latin America	The project aims to extend the concept of European Technology Platforms (ETPs) to Latin America, by gathering strategic stakeholders from the different sectors included in the Future Internet, ICT Components and systems fields into one national ICT Technology Platform per country in Argentina, Brazil, Chile, Colombia and Mexico.	2010-2011
CONECTA2020	Cooperation and Networking between Latin America, the Caribbean and Europe to Coordinate Research Opportunities around ICT and Horizon 2020	CONECTA2020 follows the FIRST project, that successfully created 5 (LATPs) in Argentina, Brazil, Chile, Colombia and Mexico, and proposes the creation of 3 new ICT-based Technology Platforms (TPs) in three countries of Latin America: Costa Rica, Peru and Uruguay.	2014-

		challenges via Technology PlAtforms	
AMERICAS	Latin America-Europe ICT Cooperation Advanced Strategies	The AMERICAS project aims at supporting sustainable ICT policy dialogues and fostering ICT R&D cooperation between the EU and strategic partner countries in Latin America, by enabling new synergies and effective collaboration through policy makers, researchers and key stakeholders networks in ICT and international cooperation.	2011-2013
LEADERSHIP	Latin America-Europe Advanced Dialogues to Enhance ICT Research and Innovation partnership	The LEADERSHIP project seeks to ensure continuity and enhance collaborative ICT research and innovation in Horizon 2020, supporting the evolving dialogues on EU-LAC cooperation in ICT, by providing input at bilateral level to the S&T dialogue and at bi-regional level to the EU-LAC SOM ICT Working Group.	2013-2015

Previous and ongoing bi-regional projects on ICT have supported the selection of the two main areas in which EU-LAC should concentrate in this field: e-Health and Smart Cities. In the e-Health field, projects such as ACTION-Grid, COMOESTAS and MedNET have already advanced in implementing e-Health components in the EU-LAC region. The recollection of these experiences will be crucial for the future development of e-Health projects. Furthermore, the future mapping in the LEADERSHIP project of good practices in technology and knowledge transfer will be an opportunity to identify additional experiences that will serve as a basis for both e-health and smart cities initiatives. Previously listed projects have strengthened the ICT dialogue between the EU-LAC region in the ICT field, supporting the standing point in which future projects will be developed. The implementation of projects such as TUCAN3G or M-Inclusion, for example, have supported the e-inclusion component that are a crucial basis in order to implement e-Health and Smart Cities initiatives.

EU-Brazil Coordinated Calls on ICT

Brazil and the European Commission launched the first ICT coordinated call for proposals in September 2010 in the field of Future Internet, e-infrastructure, Microelectronics/Microsystems and Embedded System & Control with a total budget of ten million euro. A total of five projects were funded. The second coordinated call for ICT R&D proposals in September 2012 opened new opportunities for researchers and industries in the areas of cloud computing for science, sustainable technologies for a Smarter Society, smart Services and applications for a Smarter Society and hybrid broadcast-broadband TV applications and services. Five projects, with a total budget of ten million euro, were selected for funding.

According to the survey made by Instituto Brasileiro de Informação em Ciência e Tecnologia (IBICT) in the framework of the AMERICAS project[1], the coordinated calls between the EU and Brazil were overall

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[1]*D4.1: Feasibility study on joint strategies for future cooperation initiatives with Latin America countries*

evaluated as very positive, however, also faced the following problems that should be addressed to improve this effective and efficient instrument:

- Make the coordinated calls more attractive for the enterprises, involving also funding agencies in the field of innovation and entrepreneurship.
- Availability of funding and coordination of budgetary restrictions, since most countries have yearly funding periods that limit the possibility to effectively coordinate the opening and funding periods of the calls.
- Establishment of clear common rules to be adopted in the process of launching, evaluating, negotiating and implementing the coordinated calls.

IBICT points out that even taking into account the existing problems for implementing the coordinated calls between Brazil and the EC, the case of the ICT area serves as a relevant example that this cooperation instrument shall be reinforced and expanded. And this expansion should include other Latin American countries that have already expressed their interest in using this instrument.

In the 2014-2015 ICT Work Programme, a new coordinated call with Brazil is envisaged. In total three calls will be launched under the title *EU-Brazil Research and Development Cooperation in Advanced Cyber Infrastructure* and in the areas of Cloud Computing, High Performance Computing and Experimental Platforms. The call will be published mid-October and has an indicative budget of 7 million euro for funding each of the Brazilian and European projects coordinated under this call.

Towards Horizon 2020

ICT research and innovation related topics can be found in many of the Horizon2020 priorities throughout the three main pillars of Framework Programme, namely Excellence Science, Industrial Leadership and Societal Challenges[2].

Excellence Science section comprises advanced research and new technological possibilities in ICT in the 'Future and Emerging Technologies' (FET) calls divided in FET Open: for fostering novel ideas, FET Proactive: for nurturing emerging themes and communities, and FET Flagships: for pursuing grand interdisciplinary science and technology challenges, whereas ICT contributions to R&I are addressed in the European Research Infrastructures (e-Infrastructures).

R&I activities on generic technologies are addressed in the 'Leadership in enabling and industrial technologies' (LEIT) part of the Industrial Leadership section, under 'Information and Communication Technologies', allowing participation through bottom up approach or following industrial roadmaps. LEIT themes include micro and nanoelectronic technologies, photonics; content technologies and information management; advanced computing; future internet; robotics and a new generation of components and systems.

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[2] A guide to ICT-related activities in WP2014-15;
https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/ICT%20in%20H2020%20WP2014-15_0.pdf

Within Societal Challenges section several multi-disciplinary ICT actions to tackle different societal challenges can also be found, such as ICT for health, demographic change and wellbeing; ICT for secure, clean and efficient energy; ICT for smart, green and integrated transport; ICT for climate action, environment, resource efficiency and raw materials; ICT for inclusive, innovative and reflective societies; and ICT for secure societies. They are related with many others topics, addressing the 'Human-Centric Digital Age', 'Internet of Things and Platform of Connected Smart Objects', and the Cyber-security and trustworthy ICT topics.

3 Cooperation Actions and instruments: Road Map for implementation

Action	Activity	Work progress	Instruments[3]	Indicators + Impact
Scientific areas/topics	Enhance international cooperation in: - e-Inclusion - e-Health - Smart Cities - Living Labs Enhanced coordination of the five LATPs at the regional level, specifically regarding the thematic working groups, and link the LATPs with the European TPs.	On the basis of current trend in research, the four main scientific areas of work of the ICT working group have been narrowed down to concrete areas where scientific cooperation should be pursued. The areas were divided into two categories: **Transversal research topics:** - E-Inclusion - Living Labs **Scientific areas:** - Smart Cities - e-Health Specific suggestions for topics of mutual interest in the two scientific areas have been developed in a workshop in March 2014 in Santiago. They are included in annex 1 in this report. Regarding the **LA technology platforms** and their link to the European TPs, the work has been centered on	The EU-CELAC working group on ICT will propose the specific research topics to the SOM, requesting the endorsement of the topics. If endorsed by the SOM, ERANet-LAC will continue the implementation of a specific call in the selected topics. ALCUE-Net will implement a specific work on the LATPs in 2014. CYTED and other funding instruments, such as Horizon 2020, STIC-Amsud and the bilateral schemes, will continue funding projects in these topics. CYTED included a specific call on Smart Cities and mobile technologies and connectivity in 2014.	Specific calls in the two proposed topics will allow an enhanced cooperation in the field, with a potential societal impact related to the specific projects developed under this scheme. Enhanced coordination of the LATPs can have a potential economic and innovation impact in the involved countries.

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[3] Include instruments (Key tools) to implement the further cooperation actions: EU-CELAC Working Groups, ALCUE NET Project, ERANet-LAC Project, CYTED and other thematic projects and Initiatives (Technology Platforms, Joint Technology Initiatives, etc)

		mapping the state of the art of the five LATPs, as well as contact to the CONECTA2020 project.		
Observatory/ Mapping	Mapping of researchers with experience in bi-regional ICT projects.

Includes:
- Bi-regional and bilateral projects

- Researchers and stakeholders

- Collection of national policy papers on ICT and Digital Agendas

- Collection of reports on ICT-LAC cooperation on ICT from past FP7 CSA projects | Contact was made with all ALCUE-Net partner funding agencies.

More than 200 projects have been mapped.

More than 1600 researchers and stakeholders from both regions have been identified.

The main Digital Agendas and other reports have been collected.

The mapping still lacks several projects from international agencies, such as IDB, World Bank, UN, ECLAC etc., as well as large scale national projects that can be twinned among each other. | Contact will be continued with ALCUE-Net partners for enlarging the projects included in the mapping.

The LEADERSHIP project has created permanent LAC expert working groups on Digital Agendas and Regulation, whose results will be fed into the mapping.

ALCUE-Net will further support the matchmaking between projects and stakeholders. | Indicators:
- Digital agendas revised

- Mapping completed

- Analysis made

Impact:
Upon the analysis of the different aspects of the mapping, matchmaking and specific cooperation activities can be pursued, enhancing thus concrete cooperation between both regions. |
| Capacity Building | Enhance international career development of early-stage researchers in both academia and industry.

Promote EU-LAC mobility and exchange of doctoral candidates, early stage researchers, including access to specific research infrastructures, test beds and pilot initiatives.

Enhance cooperation between entrepreneurship programmes such as Start- | Initial mapping of LAC schemes for researcher career development, Start-Up schemes in both Latin America and Europe, as well as international scholarship and mobility schemes across both regions.

Information on mobility and entrepreneurship programmes has been disseminated in the ICT scientific community. | The SOM Working Group on Researcher Career Development will be discussed at the SOM. If adopted, the group will significantly enhance the information and cooperation on opportunities for international career development, also across sectors.

LEADERSHIP will support capacity building in Living Labs through a Living Labs Spring School | Indicators:
Possibilities for capacity building in ICT surveyed and mapped.

Impact:
Create a stronger link between early stage researchers and postgraduate students in EU and LAC. |

	Ups, focusing on opportunities for ICT projects.		in 2015. ERANet-LAC has funding for coordination of already existing schemes, providing an opportunity for creating joint programmes of research infrastructures, Start-Ups and mobility programmes.	
Innovation	Innovation and technology transfer (between both regions) is central and inherent to theme of ICT for societal challenges. Pursue the enhanced involvement of companies, industry associations and networks of industrial actors in the SOM ICT WG and in the different activities. Specific activities focus on LA Technology Platforms (described above) and good practices for joint technology development and knowledge transfer in ICT.	Innovation and technology transfer aspects have been included transversally in the different SOM ICT WG activities, and is a cross-cutting topic of great importance in the suggestions for development of the scientific areas included in annex 1.	LEADERSHIP will implement the Co-Innovation Lab on ICT in 2014 and develop a guide on good practices for technology and knowledge transfer. The activities also include in-depth interviews with industrial stakeholders. The LAC Expert Groups also include a large number of innovation actors. ALCUE-Net support the coordination and further development of the LA Technology Platforms.	Indicators: In-depth interviews carried out and analysed. Guide on good practices developed. LATPs coordinated. Impact: Larger cooperation among entrepreneurs, start-ups and enterprises in the ICT field between both regions.

Annual Work Plan	
Activities	**Timeline**
Constitution of the LAC Expert Group on Digital Agendas, ICT Regulations and Funding Mechanisms.	April 2014
Joint workshop of Latin American Technology	July 2014

Platforms to explore future work. Involves representatives from the five LATPs.	
Co-Innovation workshop on ICT	Second semester 2014
Matchmaking event of LAC and EU stakeholders and project participants in ICT	November 2014
Good practices guide for technology and knowledge transfer in ICT	April 2015
Living Labs Spring School	First semester 2015

4 Formulation of topics to be considered in the activities of the ERANet-LAC project

Scientific research area (up to 3 areas)

Short background on the scientific research area *(1000 characters maximum)*

ICT have been widely developed in the last decades: infrastructure, hardware, software and applications have the potential of creating a hyper-connected world. These developments though have not been deployed evenly to allow inclusiveness and uniform delivery of public services, creating thus a digital and economic divide between and across societies.

ICT are recognised as effective means of tackling societal challenges, through a multidisciplinary approach and including multiple fields of application.

Smart Cities and e-Health initiatives focus on increasing the quality of life and well-being of societies offering solutions that enhance economic, social and environmental sustainability. Emphasis is on inclusion (social and economic), human capital, governance and wise management of natural resources.

The lack of coordination among initiatives at the government, research and societal levels has hindered the uniform implementation of ICT solutions within and between countries and regions.

This situation demands innovative and grass root level approaches, involving a wide range of stakeholders – citizens especially – in the co-creation of solutions.

Added value of EU-CELAC cooperation in this area *(1000 characters maximum)*

Although ICT has been rendered to be a most effective tool for supporting economic growth and enhancing wellbeing of citizens, there are still huge opportunities for broadening ICT use through bi-regional cooperation. It will create a solid framework for exchanging experiences and allowing access to best practices in both regions. In the context of the SOM, EU-CELAC cooperation in ICT for addressing societal challenges has identified main topics of collaboration and common interest, being e-Health, e-Inclusion, Smart Cities and Living Labs.

These societal challenges are very dependent on the cultural and social environment and the bi-regional cooperation allows fitting the technologies to different scenarios in a process of cultural and social customization. By intensifying the mutual exchange it is expected to achieve tangible gains for citizens. This creates a spill over effect to other areas of the society, so strong emphasis needs to be given to change management as well as to co-creation.

Increasing societally relevant ICT applications will also enhance high technology entrepreneurship and the growth in the market for ICT-based solutions in both regions.

Expected long-term impact (5-10 years) impact of EU-CELAC cooperation in this area *(1000 characters maximum)*

The cooperation will allow the alignment of the EU-LAC approaches to ICT implementation, including policymaking, infrastructure, access, capacities and ownership.

There will be gains in learning and understanding of the role of social actors in both societies to address societal challenges and how ICT can be used as means for promoting inclusion and empowerment, especially of the disadvantaged populations. These will allow for promotion of e-inclusion and generation of new opportunities for individual's development and social mobility.

Increased ICT R&I joint activities will open new opportunities for both regions, regarding cooperation in governance and public services delivery, scientific and industrial development, benefiting both societies as a whole. Collaborative public and private partnerships between organizations of both regions will enhance business opportunities, accelerate high technology entrepreneurship and improve quality of services. Opportunities for partnerships along development of technological breakthroughs and radical innovations will be identified as well as consolidation of existing partnerships.

Specific call topic suggestion

For each scientific area: Specific call topic suggestions (max. 3 topics per scientific area, in order of priority)

TOPIC 1-3: TITLE	- Improving wellbeing through inclusive e-Health

Specific challenge: Why is this topic relevant and which societal challenges does it address? (400 characters maximum)	Access to effective health care is often limited for certain at-risk populations, such as individuals having restricted access to services, including those living in remote areas. e-Health, as an effective e-inclusion instrument, makes health systems more responsive to people's needs, expectations and supports economic and social sustainability. National e-Health strategies are not common across the countries, and research initiatives have been scattered.

Scope: Added value gained from EU-CELAC cooperation for both regions (400 characters maximum)	Innovation in health systems is a strategic goal in EU-CELAC to be achieved through joint R&D initiatives and harmonization of standards, including data security and interoperability. Proposals should focus on designing and deploying pervasive ICT-based access to health care. It shall map best practices, stakeholders and their needs and enable ecosystems for implementing e-Health solutions, including serving remote areas and promoting inclusiveness.
Expected impact for both regions: (400 characters maximum)	- Enhanced mechanisms to prevent, monitor and treat conditions such as chronic and ageing related diseases and maternal and child care. - Improved access to primary health care, including for the underprivileged and residents of remote areas. - Established synergies between CELAC-EU e-Health innovation to improve technology adoption and business opportunities. - Modernized national e-Health strategies and action plans.
Type of action suggested: Research project, networking activities, mobility etc. (100 characters maximum)	- Awareness and capacity building - Coordination and support actions - R&D projects - Support e-infrastructure development

Specific call topic suggestion

For each scientific area: Specific call topic suggestions (max. 3 topics per scientific area, in order of priority)

TOPIC 1-3: TITLE	- Smarter, inclusive and sustainable cities

Specific challenge: Why is this topic relevant and which societal challenges does it address? (400 characters maximum)	Urbanization puts pressure on resources and city services. Over 80% of LAC people live in cities, requiring understanding of challenges cities face. The increased unplanned urban growth results in decreased quality of life due to pollution, low quality transport, energy and water shortage, poor readiness for natural disasters, poor waste management, social exclusion, poor data management and scarce e-infrastructure. These challenges can be met with smart ICT solutions.
Scope: Added value gained from EU-CELAC cooperation for both regions (400 characters maximum)	Understanding cities as live laboratories for creating wellbeing, R&I will develop and implement innovative ICT solutions considering urban development as means of achieving social, economic and environment sustainable solutions. Pilots or test beds shall be applied in both regions and increase contributions to the state of the art, develop smart cities technologies and support the generation of a bi-regional community for best practices in smart cities.
Expected impact for both regions: (400 characters maximum)	A bi-regional cooperation on smart and inclusive cities will allow enhancing the quality of life of citizens using ICT. Expected impacts are: increased social, economic and environmental sustainability of cities; enhanced human capital for innovation; more ICT-based business opportunities; proposed viable solutions for smart cities across different urban settings and increased joint efforts to implement digital services for smarter neighbourhoods.
Type of action suggested: Research project, networking activities, mobility etc. (100 characters maximum)	- R&I project - Mobility - Coordination and support action - Capacity building - e-infrastructure development

5   Summary of EU-CELAC SOM decisions-making issues

    a.   Thematic topics suggested for the first and the second Joint Call

It is envisaged that the Senior Officials Meeting review and give suggestions to the two topics proposed in chapter 4 of this thematic report, regarding the scope and content of the thematic areas.

    b.   Inclusion of innovation actors and entrepreneurs in the cooperation

ICT is a very dynamic field, oriented towards research and innovation, and considers the inclusion of entrepreneurs and companies as a main pillar of the international cooperation. The comments of the Senior Officials regarding the possibilities to further enhance this pillar and strengthen the participation of innovation actors in the ICT field will be an asset to further develop the mechanisms in this area.

6   Acronyms

ALCUE NET	**Latin America, Caribbean and European Union Network on Research and Innovation**
CELAC	Community of Latin American and Caribbean States
CONICYT	National Commission for Scientific and Technological Research (Chile)
CYTED	Ibero- American Programme for Science, Technology and Development
EU	European Union
EULAC	European Union, Latin America and the Caribbean
FP7	Seventh Framework Programme
JIRI	Joint Initiative for Research and Innovation
LA	Latin America
LAC	Latin America and the Caribbean
MINCYT	Ministerio de Ciencia, Tecnología e Innovación Productiva (Argentina)
SOM	Senior Officials Meetings
STI	Science Technology and Innovation
TORs	Terms of references
VTT	Technical Research Centre of Finland
WG	Working Group