



# LEADERSHIP

Latin America-Europe ICT Research  
& Innovation partnership

## Country brief on EU-LAC

R&I cooperation in ICT:

# Brazil

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This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 611099



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## 1 Introduction

The **LEADERSHIP project** supports the evolving dialogues on European and Latin American research and innovation (R&I) cooperation in ICT by providing input to bilateral and bi-regional dialogues on Science, Technology and Innovation, thus ensuring continuity and enhancing collaborative ICT R&I in Horizon 2020 and other programs. To support dialogues and partnership building for ICT cooperation, LEADERSHIP focuses on action-oriented dialogues and well-targeted capacity-building events that stimulate innovation and engagement, as well as on providing input on key aspects that contribute to enhance EU-LAC cooperation in ICT. To this purpose, the project has elaborated the following documents addressing LEADERSHIP target countries – Argentina, Brazil, Chile, Colombia and Mexico:

- **Input Papers on Digital Agendas:** presenting an analysis of the Digital Agendas in Latin America vis-à-vis the Digital Agenda for Europe.
- **Input Paper on Funding Mechanisms:** mapping of Latin American Programs and Financing Mechanisms that support International Cooperation in ICT R&I describing access to funding programs and recommendations.
- **Input Paper on ICT Regulations:** identifying indicators, tools and methodologies to measure the gaps and distance to an efficient Regulatory and Institutional Framework in LAC.
- **Report on ICT R&I Priorities in LAC:** identifying ICT R&I priorities in LAC, assesses their alignment with the ICT priorities of the EU R&I programme Horizon 2020 and thus explore common areas for future EU-LAC cooperation in ICT R&I.

All the content addressing Brazil within these documents feed the “**Country Brief on EU-LAC R&I cooperation in ICT: Brazil**”. The Country Brief gathers the knowledge and results – relevant to Brazil, produced in the elaboration of the above documents. It aims to **provide a targeted country overview** and to highlight **main findings and recommendations** to enhance R&I cooperation in ICT with Europe.

The content included hereby has been produced by the LEADERSHIP consortium (see [www.leadershipproject.eu](http://www.leadershipproject.eu)) along with the support of LAC-ICT Expert Group and relevant ICT stakeholders and decision makers that were consulted. Findings and recommendations provided throughout this document are an initial step to build an integrated overview of the complex and fragmented LAC ICT landscape which should be further updated by respective country policy makers and experts.

## 2 Spotlight on Brazil EU-LAC R&I Cooperation

Brazilian ICT priority R&I areas have much in common with the European ones, defined by the EU Framework Programme for Research and Innovation Horizon 2020 (H2020). Brazil is one of the few LAC countries whose ICT priority R&I areas are equally aligned with both H2020 pillars societal challenges and Industrial Leadership, specifically with the Leadership in Enabling and Industrial Technologies – ICT. Among priority societal challenges topics for Brazil are: Inclusive, Innovative and Reflective Societies; and Health, demographic change and wellbeing. Among ICT topics: Micro- and nano-electronic technologies; Photonics; Future Internet; and ICT Cross-Cutting Activities were prioritised. This creates a solid basis for future cooperation between Europe and Brazil in ICT R&I.

In regards to LAC Digital Agendas, in Brazil there is not an official Digital Agenda up to this date, instead, it exists in several initiatives from government ministries and state governments. The current status on the development of Brazil Digital Initiatives, including its main action lines and implementing stakeholders, is well described taking into account four main initiatives: the first, elaborated in 2001, the Green Book "*Libro Verde*"; the second, formulated in 2010, the National Broadband Plan "**Plano Nacional de Banda Larga (PNBL)**"; the third initiative is the National Strategy for Science, Technology and Innovation (ENCTI 2012-2015), launched by the Ministry of Science, Technology and Innovation (MCTI) in 2011; and finally, the fourth initiative is the "Strategic Programme for Software and IT Services" (**TI MAIOR**), which has five pillars: Economic and Social Development; International Positioning; Innovation and Entrepreneurship; Scientific Production; and Technology and Innovation and Competitiveness.

Concerning Brazilian funding mechanisms, multiple ministries and national entities provide funding for ICT research and development. A total of 18 Brazilian ICT research funding programs were identified amounting US\$ 16,283.37, the higher amount in target countries studied. Of this funding, 30% (\$ 4,923.65) has European eligibility. The most prominent funding organisations in Brazil are the [Ministerio da Ciencia, Tecnologia e Inovação \(MCTI\)](#), the [Ministerio de Desenvolvimento, Industria e Comercio Exterior \(MDIC\)](#), the [Ministerio das Comunicações \(MC\)](#), and the [Ministério da Educação \(MEC\)](#).

In the light of the Brazilian ICT regulations to create appropriate conditions to strengthen international cooperation, the following sectorial regulations have been detected as crucial: consumer empowerment, quality of service best practices, and licensing and authorization best practices.

Further detail on these points is presented in the sections below.

### 2.1 ICT R&I priorities

To explore potential areas for future cooperation in ICT R&I between Latin America and Europe, the LEADERSHIP project identified ICT R&I

priorities in Latin American target countries<sup>1</sup> and assessed their alignment with the ICT priorities of the EU Research and Innovation programme Horizon 2020.

To this purpose, an online survey was conducted from 16 June to 15 July 2014. In Brazil the questionnaire was answered by a total of 72 participants from Universities and research centres (46%), followed by the industry (40%) and government institutions (6%). They represent both large and small and medium size organisations, including SME, with a clear research profile. Overall, the majority of respondents in Brazil belong to R&I performing organisations since more than 50% affirmed to dedicate more than 10% of their budgets and full-time employees to R&I activities.

Regarding R&I International cooperation, more or less half of Brazilian participants (52%) indicated they have participated in R&I international cooperation activities, funded by bilateral programmes, IDB programmes, FP7 and other European programmes, and their experience in participating in previous EU-funded projects was assessed as positive by 60%. However, only 24% of Brazilian participants indicated they were planning to participate in R&I projects funded by EU Horizon 2020 programme, which could be explained by the fact that Brazil is not automatically eligible for EU funding.

The survey respondents were asked to rate the selected R&I areas (33 in total) gathered in 12 topics across H2020 ICT-related work programmes. Each R&I area was ranked by respondents (from 1 – not relevant to 4 – very relevant) according to their expertise, knowledge and relevance for EU-LAC cooperation.

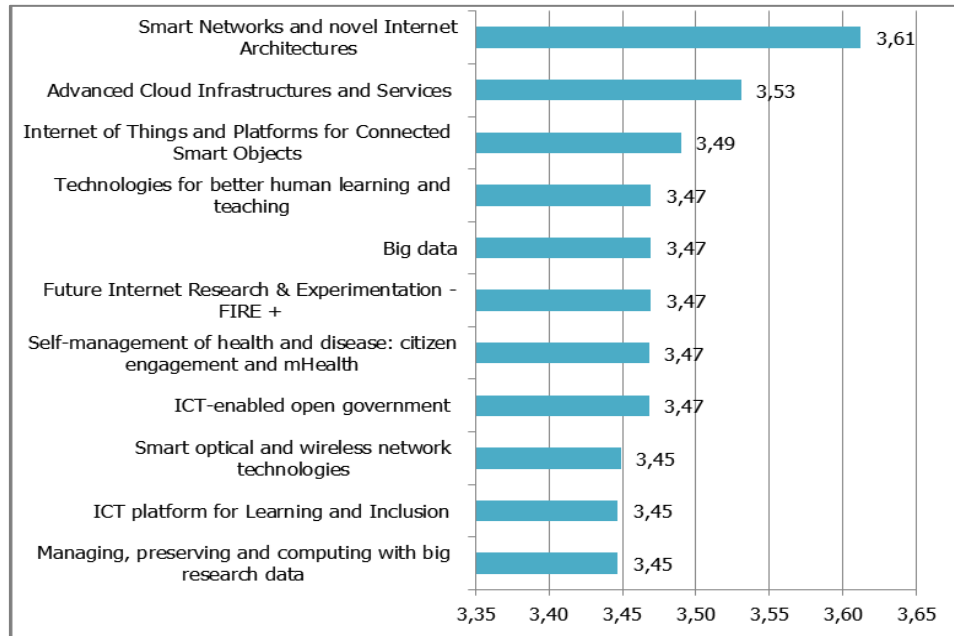
Overall, **ICT priority R&I areas in Brazil** are equally related to societal challenges topics as to ICT topics, being one of the few LAC country that presented this behaviour. Among societal challenges topics we can highlight Inclusive, innovative and reflective Societies; and Health, demographic change and wellbeing. Among ICT topics Micro- and nano-electronic technologies, Photonics; Future Internet; and ICT Cross-Cutting Activities were prioritised.

Based on the findings of the survey indicate that priorities of common interest exist in Latin America for ICT research and innovation. Most of the following **top 10 ICT priority areas in Brazil** are shared by the rest of LAC countries analysed. In Brazil, the number one priority is smart networks and novel Internet architectures within Future Internet, which is the only one priority that is not included in the general LAC Top 10 ranking.

Moreover, in Brazil there exist a clear interest in advanced cloud infrastructures and services (second priority), as cloud computing is a priority of EU-Brazil ICT coordinated calls and it is outlined in the ICT H2020 work programme EUB1-2015 call.

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<sup>1</sup> **Consult the overall survey methodology and results:** Report on ICT Research and Innovation Priorities in Latin America. Results from LEADERSHIP Survey”, LEADERSHIP project – [www.leadershipproject.eu](http://www.leadershipproject.eu), funded by the European Commission



**Figure 1: Top 10 ICT R&I priority areas**

Overall, most of LAC priorities identified in the LEADERSHIP survey – including Brazil, are aligned with the European R&I priorities defined in Horizon 2020 Work Programmes 2014-2015, specifically under Leadership in enabling and industrial technologies – ICT and Societal challenges work programmes. This creates a solid basis for future cooperation between Europe and Latin America in ICT R&I.

## 2.2 Digital Agendas

The study on LAC Digital Agendas<sup>2</sup> builds on top of results obtained in the LEADERSHIP survey to identify ICT R&I priorities, analysing Latin American Digital Agendas vis-à-vis the Digital Agenda for Europe in order to identify potential synergies between both regions and continuing the EU-LAC policy dialogue in ICT.

In the context of international cooperation between Europe and Latin America, a number of projects have been supporting this on-going policy dialogue and Brazil has participated in some of them<sup>3</sup>. Projects such as [PRO-IDEAL](#), [PRO-IDEAL PLUS](#), [FORESTA](#), [FIRST](#), [AMERICAS](#), and currently [LEADERSHIP](#) and [CONECTA2020](#), have contributed significantly to the development of an EU-LAC research community in ICT and e-Infrastructures, as well as to the coordination of national and international funding mechanisms, agencies and stakeholders. Other – more general – projects also support the bi-regional political dialogue in ICT, such as [ALCUE NET](#), the four bilateral projects with Argentina, [Brazil - BB.BICE+](#), Chile and Mexico, as well as the [ERANet-LAC](#) project. As a result, the connections between both regions at all levels have increased significantly.

<sup>2</sup> **Consult the overall Input Paper methodology and results:** “Input Paper on Digital Agendas – Analysis of the Digital Agendas in Latin America and their relations with the Digital Agenda for Europe”, LEADERSHIP project – [www.leadershipproject.eu](http://www.leadershipproject.eu), funded by the European Commission

<sup>3</sup> Both AMERICAS and LEADERSHIP have the participation of the Ministry of Science, Technology and Innovation through the [Brazilian Institute of Information in Science and Technology \(IBICT\)](#).

When analysing the status on the development of Latin American Digital Agendas, the study identified that the term "Digital Agenda" is not commonly applied in all LAC countries. In Brazil for example, there is not an official Digital up to this date, instead, it exists in several initiatives from government ministries and state governments.

The current status on the development of Brazil Digital Initiatives, including its main action lines and implementing stakeholders, is detailed below.

#### a) Policy framework

The strategy for the Information Society in Brazil was formulated in 2001 in the Green Book "*Libro Verde*", which was the first digital agenda elaborated in the region and it was considered a model for other Latin American countries. The Green Book established different action lines that prioritize Science, Technology, Education and Culture leading other areas.

In 2010 the government decided to elaborate the National Broadband Plan "**Plano Nacional de Banda Larga (PNBL)**". The **PNBL** is a large infrastructure plan to connect all Brazilian municipalities and people by providing a better coverage service and speed in smaller cities. It is broadcasted as the "Communication Platform for the Future". The plan was designed for the use of every citizen, benefiting the public and private sectors.

The objectives of the PNBL are:

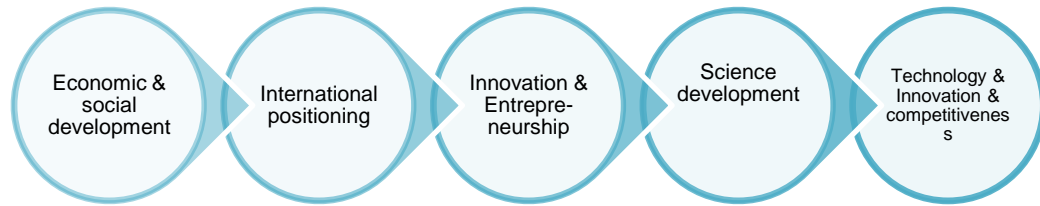
- Digital inclusion between all classes
- Increase the base for e-Government activities
- Increase economic growth

Action Points:

- A governmental controlled national backbone
- Tax incentives for service operators

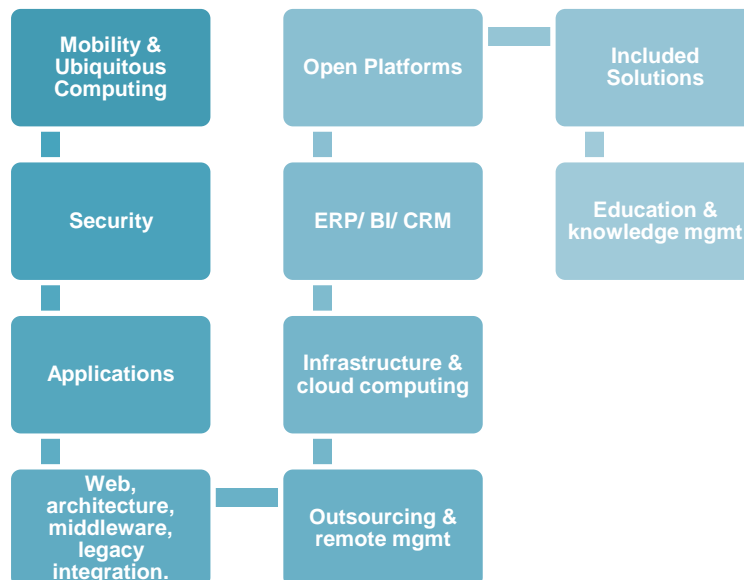
The National Strategy for Science, Technology and Innovation (ENCTI 2012- 2015), launched by the Ministry of Science, Technology and Innovation (MCTI) in 2011, advocates the ST&I as the central dynamism of the economic and social development of the country. As part of the Priority Programme for ICT, it proposes building a strategy for the sector of software and IT services, and thus to help Brazil position as a global player in the industry.

The "Strategic Programme for Software and IT Services" (**TI MAIOR**) has five pillars as presented in the figure below: Economic and Social Development, International Positioning, Innovation and Entrepreneurship, Scientific Production, Technology and Innovation and Competitiveness.



**Figure 2: Brazil TI MAIOR Pillars**

TI MAIOR's main trends and topics are represented in the figure below and include: Mobility and Ubiquitous Computing; Security; Applications; Web, architecture, middleware, legacy integration; Outsourcing and remote management; Infrastructure and cloud computing; ERP/ BI/ CRM; Open Platforms; Included Solutions; and Education and knowledge management.



**Figure 3: Brazil TI MAIOR main trends and topics**

Other programmes to develop several action plans have their own structure and planning:

1. Start up Brasil
2. CERTICS (Certificação de Tecnologia Nacional de Software e Serviços)
3. Ecosistemas Digitais (education, national defence and cyber security, health, oil and gas, energy, aerospace, big sport events, agriculture and environment, finance, telecommunications, mining, strategic technologies)
4. Brasil Mais TI
5. Atração de Centros Globais de P&D
6. Inteligência de Mercado
7. Fundos de Investimentos Integrado
8. Pólos Internacionais
9. Marco Regulatório Competitivo



### **b) Ministry/agency responsible**

*Ministério de Ciência, Tecnologia e Inovação (MCTI), Ministry of Communication (MC), Ministry of Health (MS), Ministry of Foreign Affairs (MRE), Promoting Research Agencies, industries and Universities.*

### **c) Implementing Stakeholders**

Ministério de Ciência, Tecnologia e Inovação (MCTI), Funding Agencies, Federation Industries, Universities and the Ministry of Health, Ministry of Foreign Affairs (MRE), Administrating Committee of the Digital Inclusion Program, (*Comitê Gestor do Programa de Inclusão Digital- CGPID*), Universities and other public and private entities, businesses and organizations.

### **d) Official website**

<http://www.mc.gov.br/programa-nacional-de-banda-larga-pnbl>  
<http://timaior.mcti.gov.br/>

## **2.3 Funding Mechanisms**

The study of LAC Funding Mechanisms<sup>4</sup> provided a mapping of the main programs and financing funds supporting international cooperation in ICT R&I in Argentina, Brazil, Chile, Mexico, Colombia, Costa Rica and Peru. It also identified complementary funding mechanisms for cooperation with Europe in ICT R&I and reviewed access for European researchers of LAC programs and funding mechanisms, in terms of their eligibility and reciprocity.

In Brazil, 18 ICT funding programs were identified amounting US\$ 16,283.37 million. Of this funding, 30% (US\$ 4,923.65 million) has European eligibility, while 9% of the funds (US\$ 1,524.12) are targeted to country nationals only. The focus of the remaining US\$ 9,817.60 million is not specified. Furthermore, the existence of international funding mechanisms not solely applied to Brazil should also be considered.

In Brazil, multiple ministries and national entities provide funding for ICT research and development. A large number (12) of Brazilian ICT research funding programs explicitly accept European researchers. Among them, the *Ministerio da Ciencia, Tecnologia e Inovação* (MCTI), the *Ministerio de Desenvolvimento, Industria e Comercio Exterior* (MDIC), the *Ministerio das Comunicações* (MC), and the *Ministério da Educação* (MEC) are the most prominent ones. Among the public sector funding programs accepting European ICT researchers, seven explicitly do so.

Beyond the federal public sector institutions, most states comprise entities (foundations, incubators) that also support ICT research and development. Among them, the states with sizable ICT innovation programs include Sao Paulo, Minas Gerais, Amazonas and Rio de Janeiro, both of which accept European researchers.

<sup>4</sup> **Consult the overall Input Paper methodology and results:** "Input Paper on Funding Mechanisms – Mapping of Latin American Programs and Financing Mechanisms supporting International Cooperation in ICT R&I, access to programs and recommendations", LEADERSHIP project – [www.leadershipproject.eu](http://www.leadershipproject.eu), funded by the European Commission

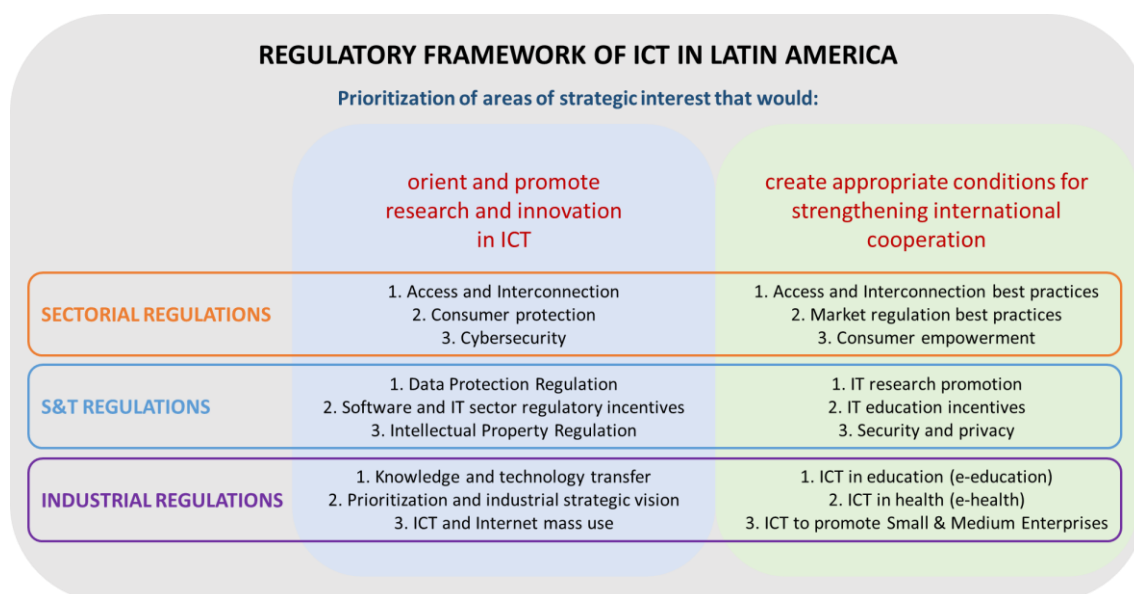
Finally, several Brazilian private sector entities (e.g. foundations and industry associations) are extremely active in the supply of ICT R&D funding opened to European and other nations' researchers.

## 2.4 ICT Regulations

The study of LAC ICT Regulations<sup>5</sup> allowed defining a prospective and convergent ICT frame of reference to identify ICT trends, ICT indicators and ICT indexes globally and across the EU and LAC measuring the gaps and distance in the development of the ICT sector between the two regions.

A careful review on ICT R&I regulations and policies was performed in EU and Latin America – including Brazil, resulting in the elaboration of a framework that allowed to perform a benchmarking of LAC ICT R&D Regulations. As a result, ICT regulatory areas of strategic interest were identified and were validated with the ICT Regulations Working Group experts and additional decision makers and experts from LAC.

Building on a convergent and prospective vision of ICT, and consolidating the expert opinions, a set of priorities were identified from Latin America perspective to orient and promote research and innovation in ICT as shown in the figure below.



**Figure 4: Prioritization of LAC ICT regulatory areas of strategic interest**

Source: CINETEL, based on the responses of ICT regulation experts to the LEADERSHIP online questionnaire.

Brazilian priorities to orient and promote R&I in ICT follow the same line as those in LAC but presents some differences. Related to **sectorial regulations** Brazilian top 3 priorities are: satellite communications, quality of service and cybersecurity. Additionally, on the **industrial regulations** point of view, entrepreneurs risk assessment mechanisms is also a priority ICT regulatory area.

<sup>5</sup> **Consult the overall Input Paper methodology and results:** "Input Paper on ICT Regulations – Analysis of Latin American ICT R&D Regulatory and Institutional Framework, best practices and recommendations", LEADERSHIP project – [www.leadershipproject.eu](http://www.leadershipproject.eu), funded by the European Commission

On the other hand, in order to create appropriate conditions for strengthening international cooperation, priorities on **sectorial regulations** for Brazil are: consumer empowerment, quality of service best practices, and licensing and authorization best practices.

Regarding to **S&T regulations**, topics that would strength cooperation are: security and privacy, data protection for ICT users, and start-ups promotion (boot camps and accelerators). Finally, on **industrial perspective**, ICT in education, transportation, and ICT in health, are the three priorities to reinforce international cooperation.

### 3 Recommendations

In line with the survey on ICT R&I priorities it is recommended that Brazilian Federal and State funding agencies for ST&I could promote a better dissemination of information related to H2020 and give support in finding European partners and in setting up project proposals.

In the context of the Brazilian Digital Initiatives, it is suggested to update priority areas for ICT on the basis of recent surveys and insights from relevant stakeholders involved in the development and implementation of Digital Agendas; as well as explicitly including innovation in the structure of their Digital Agendas. It is also recommended that an administrative office for “ICT affairs” be established with two main purposes: to follow-up the implementation of the National Digital Agenda beyond the extent of successive government administrations, and to establish coordination mechanisms across LAC Digital Agendas.

ICT research institutions and projects in Brazil should be aligned with the national ICT policies and Digital Initiatives. Therefore, it is recommended that Brazilian Funding Mechanisms create a country-wide comprehensive institutional framework for defining basic principles guiding funding for research and innovation in ICT. Implementing such a framework would improve the efficiency in the allocation of resources and would serve as matching platform between fund-seeking and the national priorities.

Finally, it is recommended that Brazilian ICT regulations move forward in the following areas: broadband regulation, cybersecurity, security and privacy, data protection for ICT users, strengthening ICT industry, reviewing ICT sector entities, clinical records, universalization of social insurance as well as tele health and telemedicine. To this purpose it is suggested to share experiences and know-how with other LAC and EU countries with the support of associations, regulatory authorities, regional organizations and institutions involved in tackling the digital divide while promoting economic growth and social inclusion.

Further analysis on these points is presented in the sections below.

#### *3.1 ICT R&I priorities*

The recommendations from the LEADERSHIP survey on ICT R&I were provided by respondents of the questionnaire with the overall objective to enhance EU-LAC cooperation in ICT R&I.

The findings of the LEADERSHIP survey indicated that in spite of the interest of Brazilian researchers to participate in ICT R&I projects, there are still some important barriers that need to be overcome to increase their participation. Major obstacles perceived by respondents were associated with the lack of access to information about EU programmes, difficult access to funding for LAC participants and lack of experience in participating in EU projects.

To tackle these challenges, survey participants selected the following actions as the most valued: facilitating access to key information about

H2020 work programme and calls, networking activities to find partners, and engagement of LAC countries to fund R&I cooperation with Europe. In addition, there was a general agreement on the need of enhancing the ICT policy dialogue and selecting ICT priorities for R&I cooperation between Latin America and Europe.

### *3.2 Digital Agendas*

The recommendations of the Input Paper on Digital Agendas are intended to provide input to strengthen and improve the coordination of the Latin American Digital Agendas, which will contribute to enhance ICT cooperation between Latin America and Europe.

For Brazil, the following **recommendations addressed to Latin American Governments/ICT Agencies, are applicable to the Ministry of Science, Technology and Innovation (MCTI)**. LEADERSHIP recommendations suggest updating priority areas for ICT in the content of the Digital Agendas or National Digital Strategies, on the basis of recent surveys and insights from relevant stakeholders involved in the development and implementation of Digital Agendas; as well as explicitly including innovation in the structure of their Digital Agendas.

In addition, the MCTI should establish an administrative office for “ICT affairs”, so each country can follow up the implementation of the National Digital Agenda despite changes in the government administration; as well as to establish coordination mechanisms through Digital Agendas in Latin American countries. Possible mechanisms should be discussed and promoted in international events or spaces for discussion and interaction between the ministries, agencies and stakeholders involved in the development and implementation of the ICT policies in Latin American countries.

### *3.3 Funding Mechanisms*

The recommendations of the Input Paper on Funding Mechanisms are intended to incrementally improve the efficiency in financial resource allocation. In Brazil, some of the programs are integrated within institutional frameworks typically laid out at the country level. For example, by offering multiple ICT research funding programs, FINEP functions as the coordinating institution that provides consistency across funding principles, eligibility frameworks, and allocation transparency across programs.

However, considering that many funding programs beyond those handled by FINEP, the need to deploy a country-wide comprehensive institutional framework for defining basic principles guiding the funding of ICT research and innovation is apparent.

Developed and managed by each country entities such as the Ministry of Science and Technology, these institutions are expected to act as a link translating the objectives of a country’s ICT national strategy into guidelines for the allocation of funds to be followed by the different programs offered by public (national and sub-national) and private sector institutions.

This framework would provide a single set of eligibility principles aligned with the objectives of the ICT national strategies and Digital Agendas. Along these lines, in order to compete for funds, institutions and researchers should be aligned with the national ICT policies and strategies, and funds would be steered to strategically important areas of research. Such a framework would be a highly effective mechanism to improve alignment and efficiency in the allocation of funds across researchers, research centers, and start-ups.

Furthermore, the framework could standardize application processes reducing redundant efforts that currently need to be carried out by units seeking for funds. Along these lines, the framework not only serves as a mechanism to streamline funding applications, but it also becomes a “matching platform”, aligning the need for funds with the adequate programs in light of a unified view of national priorities.

The framework would serve as a basis to build a platform that would enhance visibility of all sources of funding programs to facilitate visibility by individual researchers and institutions. We recognize that some partial efforts are already being deployed in that regard. For example the *Comunidad de Estados Latinoamericanos y Caribeños* (CELAC) is evaluating the possibility of developing such a platform. Similarly, the *Federación de Asociaciones de América Latina, España y Portugal de Entidades de Tecnologías de Información y Comunicación* (ALETI), as well as different local associations of venture capital firms are conducting similar efforts. The recommendation should not aim at developing a redundant framework, but aims to integrate the existing ones within a single platform.

### ***3.4 ICT Regulations***

Overall, recommendations from the Input Paper ICT Regulations are intended to improve the LAC ICT R&D Institutional and Regulatory Frameworks that would orient and promote ICT R&I creating appropriate conditions for strengthening international cooperation with Europe. According to the results of the analysis and benchmarking presented in the Input Paper on ICT Regulations and taking into account the analysis and results on prioritization, the following recommendations are summarized for Brazil.

To improve the LAC ICT Institutional Framework, Brazil should harmonize the legal and institutional framework that would ensure a coordinated approach to overall development of ICT; encourage continued work of EU and LAC ICT regional groups and forums setting foundations for ICT public policy and ICT regulation; and establish effective organisational and governance frameworks to coordinate the implementation of S&T strategies, ICT public policies, broadband plans and regulatory agendas within and across levels of governments in the LAC region, identifying clear responsibilities to ensure overall coordination of their implementation in all sectors of the economy.

Main areas where Brazil could improve its regulatory framework and learn from EU and other LAC countries are: broadband regulation, cybersecurity, security and privacy, data protection for ICT users, strengthening ICT industry, reviewing ICT sector entities, clinical

records, universalization of social insurance, tele health and telemedicine.

As consequence, Brazil should set up regulatory measures concerning the relevant markets for wholesale (physical) network infrastructure access and wholesale broadband access based on non-discrimination obligations and cost-oriented methodologies. In addition, it should provide the backing and support to the various regulators, associations, regulatory authorities, regional organizations and institutions involved in promoting access, adoption and use of broadband services so as to help reduce the digital divide while promoting economic growth and social inclusion.

On the other hand, the Brazilian government should foster a climate of trust among LAC ICT users in relation to information security and network security, authentication, privacy and consumer protection. The government should help consumers understand their rights and protect their interests by designing effective consumer policies, examining issues of global relevance to consumers, and developing principles to promote efficient, transparent and fair global markets for consumers.

Brazil should encourage cooperation in the LAC region to promote Internet security as well as the implementation of internationally recognised market-driven security standards and EU best practices to promote online security.

Furthermore, Brazil should promote an open internet network that supports the free flow of information, research, innovation, entrepreneurship, basic & applied research as well as collaborative knowledge and innovation networks. Another recommendation is to boost the creation and development of the ICT application software industry driven by innovative production clusters, made up of universities, high-level technological centres and leading businesses, angel and venture capital funds, and a culture of entrepreneurship.

Finally, on e-health Brazil should maximize ICT potential for enhancing the quality of health care for its citizens, through public-private collaborations that bring together specialized professional teams to integrate medical, public-health and ICT knowledge. It is suggested to learn and follow-up the EU eHealth Action Plan 2004-2011 covering electronic prescriptions and health cards to new information systems that reduce waiting times and errors, to explore the feasibility of integrating telemedicine into health systems.



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\* The LAC-ICT Expert Group detailed description and members can be found in [www.lac-ictexpertgroup.eu](http://www.lac-ictexpertgroup.eu)



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