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Newsletter

ACCESS and INFRASTRUCTURE

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CONTENTS

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Broadband as a Universal Public Service to Spur the Region's Development

The article reviews the current state of broadband Internet service and the growing digital divide in this area. It suggests adopting public policies to expand access so as to stimulate competitiveness and social inclusion. It also details the lines of action around access and infrastructure of the project "Inclusive political dialogue and exchange of experiences," executed by UN-ECLAC under the European Union's @LIS2 Programme. (Pages 2 & 3)

Photo: ECLAC

Regional Network of Telecentres and Chilean Academy Launched

In Santiago, two initiatives that aim to professionalize telecentre operators were launched, to achieve their social, economic and administrative sustainability. The event also featured a keynote speech on progress in India's rural areas by renowned economist MS Swaminathan. (Page 4)

Photo: ATACH

Ensuring Access to ICTs for the Disabled

Several modern ICT tools and programmes are increasingly opening doors for people with disabilities. Digital accessibility is a fundamental mandate of the United Nations Convention on the Rights of Persons with Disabilities and there are various global initiatives under to achieve it. This article also details the activities underway by the eLAC2010 Working Group on ICT and disability. (Page 6)

Photo: SNIT Chile

The Growth of Spatial Data Infrastructures in Latin America and the Caribbean

Territorial information systems and their associated infrastructures contribute to public sector transparency, allow cross-referencing of data, and support the prevention and management of disasters in the region. Recently, countries proposed the creation of a UN virtual platform for best practices in Spatial Data Infrastructures in the region. (Page 8)

Broadband as a universal public service to spur the region's development

By Valeria Jordan, Coordinator of the "digital inclusion" component of the ECLAC project financed by the European Union's @LIS2 Programme

Information and Communications Technologies (ICTs) can yield new job opportunities, social interaction and integration in the community. Those who do not have access to these technologies, or who lack the capacities to use them effectively, run the risk of remaining marginalized and becoming the victims of a new form of exclusion. The issue of the digital divide has been and continues to be an area of concern in ICT policy agendas.

Competing priorities

At times, the role of the State in popularizing access to these technologies is questioned, particularly when, at first glance, there are other perhaps more pressing social, economic and political matters for the countries of Latin America and the Caribbean. Nevertheless, closing the digital divide is urgent given that telecommunications and ICT services, including Internet and broadband, are essential for supporting the activities of modern societies and economies of the present and the future. They can also determine the level of competitiveness and development of our countries.

The digital divide is not a question of preferences or interests, but of limitations derived from socio-economic factors that restrict the consumption of ICT and telecommunications services and the capacities for their use. In Latin America, household access to the Internet among the richest segment of the population is 30 times greater than access among the poorest segment (in 11 of 14 countries for which OSILAC has relevant data).

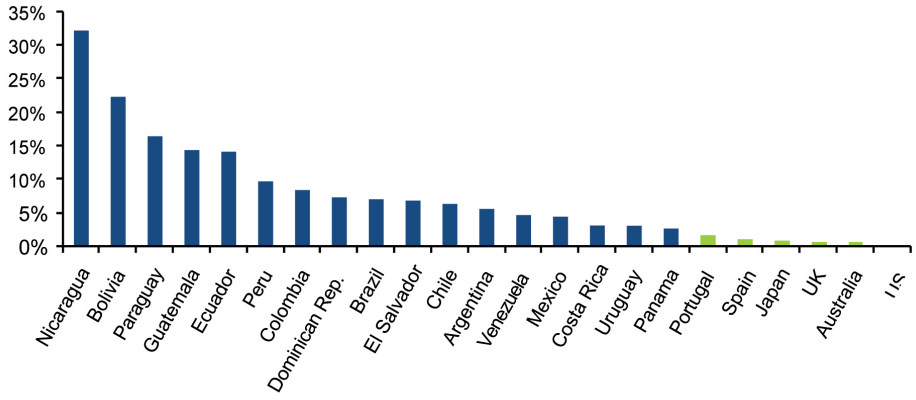
The digital divide keeps growing

The countries of Latin America and the Caribbean have undertaken important efforts to reduce the digital divide. Nevertheless, this has not prevented the growing divide in broadband Internet connectivity. In 2008, only five percent of the population had access to this service, versus 26% in OECD countries. Moreover, it is more expensive and slower than in more developed countries. The average download speed in such countries is 17 Mbps, whereas even in the more advanced countries of Latin America and the Caribbean it does not exceed 2 Mbps.

The challenge of digital inclusion is complicated by technological dynamics. ICTs are in constant development, which leads to ever-changing speeds and technologies. Prices also play a fundamental role. The lowest average monthly tariff for broadband subscribers in OECD countries is 19 dollars in the United States (PPP), while in Mexico and Chile this rate is 29 and 35 dollars (PPP), respectively. The situation is even more serious when one compares the level of service tariffs with users' ability to pay, which demonstrates that broadband is simply out of reach for a large portion of the population in our region.

Many countries have liberalized their international corridors in an attempt to reduce tariffs and improve the quality of service. To this end, they have granted licenses or concessions to multiple agents and stimulated competitive access to essential installations. Most countries have spearheaded initiatives to privatize network operators and telecommunications service providers, a process accompanied by regulatory schemes to promote competitive and efficient markets.

Lowest monthly tariffs for broadband connections at a speed of at least 256kbps, in relation to per capita monthly income, 2008



Source: ECLAC, based on ITU data from the "World Telecommunications Indicators Database", 2008.

The need for public policies to stimulate broadband

Given the potential of ICTs – and Internet in particular – for social and economic development, the implementation of public policies to stimulate the spread of broadband are fundamental. These must be conceived within the framework of national development policies, and include a long-term vision.

France and Switzerland were the first countries to guarantee Internet access as a basic human right in their constitutions in 2008. In October of 2009, Finland announced a norm to guarantee citizens the right to broadband Internet. As of 1 July 2010, Internet providers in that country will need to provide "an Internet connection at a reasonable price and minimum speed of 1 megabyte".

State initiatives to popularize broadband

Various countries have been recognizing this problem and diverse initiatives have been coined to expand broadband to the most vulnerable sectors of the population. The Japanese government has introduced stimuli, both through the purchase of broadband for governmental use as well as the granting of credits and tax exemptions for such services in rural areas where the expansion of networks is more costly. As a result, Japan has managed to secure 150 Mbps services at a cost of $60 dollars per month.

In the United States, the current maximum speed for residential connections is 50 Mbps at prices ranging from $90 to $150, which represents a certain lag for the country and illustrates the need to improve service infrastructure. This has led the country to address the issue in its development policies, earmarking more than $7 billion to this end. Moreover, various OECD countries have launched national broadband stimulus packages, which in many cases are framed within a wider economic recuperation policy aimed at confronting the global financial crisis (see chart).

In our region, Brazil's public-private association, announced this November, is noteworthy. It seeks to provide broadband services to the remaining 165 million of its inhabitants (currently 15 million have broadband) by the year 2018, at a cost of nearly $5.7 billion. In October, the Government of Panama launched a "National Network to ensure Universal Internet Access for all", with which its citizens are granted free Internet access at speeds of at least 512 kbps. More than 500 access points in 22 cities already feature this free wireless Internet service and this government programme will continue to expand across the entire country.

Broadband as a universal public service

In most countries, broadband stimulus packages are focused on providing the service to specific groups or disadvantaged communities, as well as to improving the quality of access in terms of speed and coverage. In many cases, specific connection speeds are established, to ensure that the needs and requirements of modern usage of this technology can be met. What's more, in some cases, coverage objectives are defined within a specific period. In others, universal broadband Internet access or services have been defined as a political priority. These important investments no doubt reflect the relevance and priority that the development of broadband is receiving at a global scale, as a pillar of modern economies. The development of broadband should be dealt with at the same level as other priorities such as energy or roads, and it should be managed and classified by the State as a service in the public interest.

Outline of the ECLAC-EU @LIS2 project

The ECLAC project "Inclusive political dialogue and exchange of experiences", gives continuity to the @LIS2 (Alliance for the Information Society) cooperation initiative financed by the European Union, whose objectives support and are in line with the Regional Action Plan for the Information Society (eLAC). Currently in its second phase, this plan includes 17 goals specifically targeted to the improvement and expansion of access and infrastructure in the region.

State initiatives for broadband development

Country	Period	Amount	Speed
Australia	2010 - 2018	US$ 1.130 billions	100 Mbps
Canada	2009 - 2012	US$ 211 millions	ND
Finland	2009 2015	US$ 291 millions (PPP)	2010: 1Mbps
			2016: 100 Mbps
France	2008 - 2012	US$ 22 m. and US$13 bil. next 10 years	ND
Germany	2009 - 2014	US$67 billions	50 Mbps
Greece	2009 - 2016	US$ 3 billions	100 Mbps
Ireland	2009 - 2010	US$ 318 millions	1,2 Mbps
Japan	2009 - 2010	US$ 395 millions	ND
Rep. of Korea	2009 - 2012	US$ 890 millions	1 Gbps
Portugal	2009 - 2010	US$ 1.168 billions (credit line)	ND
Singapore	2009 - 2013	US$ 710 millions	1 Gbps +
Spain	2009 - 2012	US$ 118 millions	30 Mbps +
United Kingdom	2010 - 2012	To be define	2 Mbps
United States	2009 - 2010	US$ 7.2 billions	ND
Brazil	2010 - 2015 (pend, aprobation)	US$ 5.740 billions	ND

Source: ECLAC, based on "Confronting the crisis, ICT Stimulus Plans for Economic Growth", second Edition, ITU, 2009.

The project is monitoring the dynamic of convergence in the region, both among large actors as well as in the area of regulation and sector-specific development policies, and identifying best practices in these areas.

The project is also undertaking technical assistance activities in some countries, particularly around the development of policies for the ICT and telecommunications sectors, regulation and policies for ensuring universal access, and will seek to facilitate the exchange of experiences among countries of the region and between Latin America and Europe.

Opinion column:

Seeking growth in telecommunications infrastructure harmony with the environment

Photo: Telecom Costa Rica

Randall Treviño. Director of Networks and Telecommunications Systems, Deputy Ministry of Telecommunications, Costa Rica. Thematic coordinator for access and infrastructure (eLAC2010) rtrevino@telecom.go.cr

The concept of visual contamination has been validated as an environmental impact, especially in more developed countries. For many years, the development and proliferation of telecommunications installations was undertaken without environmental considerations. But from this moment on, the increasing regulation both in the United States as in the most developed countries in Europe has tended to establish certain parameters for the height permitted, the materials with which towers can be manufactured, the colours allowed, places where they can be installed, etc.

Part of the problem of visual contamination is aggravated by the following two elements. The first is that the environmental impact is directly related to efficiency in the use of space. A second element has to do with the fact that communications towers are sometimes located in protected areas, particularly those that facilitate radio waves as a result of their geographical characteristics. At the same time, these areas tend to have a scenic value that is worth conserving.

It seems obvious that the best way to minimize visual contamination is the efficient use of towers. As a result, national regulations need to contemplate and encourage shared use; otherwise, network operators will be obliged to build their own networks, which leads to a proliferation of installations. From both an environmental and economic standpoint, this is clearly inefficient.

When considering the need to promote the co-location of towers, and in this particular case of antennae, regulators should ideally consider environmental impacts and try to ease the requirements for permits, while lowering tariffs in an attempt to establish incentives for the practice of co-location.

The most recent tendency in mitigating this environmental impact consists of camouflaging towers in a manner consistent with the local landscape. This practice has gained a following among civil society and even among ecological movements normally opposed to the installation of such towers. Of course, this option should not be the first alternative in places where installations already exist and where co-location or other buildings can better-reduce the impact – again for environmental and economic reasons – but it should be considered in places where new installations are the only option.

Finally, the idea is to anticipate future normative frameworks and escape the inaction around this, and other, issues that is so common when it comes to issues seen as too environmental for the development priorities of the sector.

Regional Network of Telecentres and Chilean Academy Launched

In order to reach those most excluded from digital development, we must move beyond providing public access and teach people how to take advantage of the productive potential of information and communications technologies (ICTs). To this end, two important initiatives were launched during the international meeting "Rural and urban digital inclusion: ICT access points as strategic spaces for the implementation of public policies for development and innovation," the 29 and 30 of October at the headquarters of the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), in Santiago, Chile.

"We need to train the sherpas who accompany these people in their entry to the digital world," said Florencio Ceballos, Programme Manager for Telecentre.org (mp3 interview, in Spanish). "As a result, we need to train telecentre operators and create an environment for open knowledge".

Photo: ECLAC

For this, the role of the telecentre (or public Internet access centre) operator is fundamental. However, they are often volunteers without formal training who need to update and diversify their skills.

Telecentre Academy for Chile

The first initiative, launched October 29, was the Telecentre Academy of Chile, which also organized the event along with the Association for Active Telecentres in Chile (ATACH) and ECLAC's Information Society Programme.

The academy will seek to professionalize the role of the telecentre operator with an end to ensuring the center's social, economic and administrative sustainability. The informal educational institution will begin a pilot project in March 2010 which includes a four-month training programme for 500 operators among the nearly 600 telecentres in Chile.

"In the initial phase, we will develop a model for sustainability that will allow linkages, through training, between the needs of the State (in terms of public policies) and the needs of telecentre networks," explains Angélica Rojas, coordinator of the Telecentre Academy run by ATACH, the organization

that will design the training courses. Their partner Biblioredes will contribute content and the Universidad de la Frontera (UFRO) will provide certification.

Fifth academy at a regional level

This will be the fifth academy for the region (others exist in Brazil and Colombia, and both Peru and Bolivia are mounting new initiatives), and it will be part of the broader Global Telecentre Academy, supported by Telecentre.org, an initiative of Canada's International Development Research Centre (IDRC), Microsoft and Sweden's COSUDE. The objective of the Global Academy is to train a million citizens through such national academies by the year 2010.

Creation of a regional network

The creation of a new regional network of telecentres will unite 30 organizations representing close to 6,000 telecentres in 30 countries across the region. The goal is to facilitate coordination and contact between these centres, with a view to strengthening their sustainability – which has been one of their main challenges.

"The idea is that those organizations that have been working in the region constitute the membership of this network of networks," explained Ethel Monge of the El Salvadorean NGO Conexión. "The plan is to formalize an institution that will represent the interests of telecentres before international institutions".

Photo: ECLAC

Keynote speech by MS Swaminathan

The event at ECLAC also included a keynote speech by Professor MS Swaminathan (see video), renowned Indian economist who has been prized by the UNDP for his technological innovation in rural areas and the ICT-related work of his foundation. Swaminathan noted the importance of creating content and of capacity-building to ensure true digital inclusion.

"Telecentre operators are agents for change," stressed Swaminathan. "In this world, seemingly impossible tasks can be achieved by mobilizing the power of partnerships and, in this respect, the UN is the perfect venue in which to launch this initiative".

Opinion column:

Pending tasks for the eLAC2010 Working Group on Access and Infrastructure

Photo: AGESIC, Uruguay

Santiago Paz, Agency for the Development of e-Government and the Knowledge and Information Society (AGESIC), Uruguay. Coordinator of the eLAC2010 Working Group on Access and Infrastructure. santiago.paz@agesic.gub.uy

The construction of an integrating information society focused on development requires reinforcing the need for equity in Internet access. In this sense, expanding the penetration of broadband in the different countries of the region is fundamental, and is a central component of the San Salvador Commitment and the eLAC2010 Regional Action Plan.

The Latin America and the Caribbean region has witnessed an important increase in broadband penetration among its various countries, although the average continues to be low in comparison with other regions. According to CISCO's Digital Barometer, the average broadband penetration in Latin America is roughly 5%, with maximum levels close to 10%.

From the standpoint of access and infrastructure, traditional technologies such as DSL or Modem are predominant, although wireless technologies such as WiMax are also present. Currently, all countries in the region have a WiMax network, and the case of Paraguay is particularly noteworthy given its fast rate of expansion, reaching nearly 45,000 users in less than two years.

Moreover, in the Southern Cone, there are several initiatives to ensure access, such as Plan Ceibal (Uruguay) and digital inclusion projects in the Argentine province of San Luis, both of which inundate sectors of the population with free wireless Internet connections, free laptops for school children, and other measures. It is worth noting the particular importance of ensuring such access at an early age given its direct impact both on children and on their family and environment.

Another important point to recall in this subject area is access to IPv6. According to statistics from the Latin American and Caribbean Internet Addresses Registry (LACNIC), a total of 220 IPv6 allocations and assignments have been granted to date to regional organizations, of which 77 were granted in 2009 (the greatest single-year registration since the assignment of allocations was undertaken by this organization).

The eLAC2010 Working Group on Access and Infrastructure is working on both issues: broadband access and IPv6 migration. On the other hand, it is also examining the issue of interconnection among service providers. As part of its work plan for 2010, the Group plans to create a guide for network interconnectivity, aimed at policy-makers. The goal is to review and update this guide periodically, for which the collaboration of all group members will be essential.

Photo: ATACH

Ensuring access to ICTs for the disabled

"With technology like the JAWS screen reader, we are able to compete on an equal footing with other people because we have the tools," says María Avalos, telecentre operator, who has been blind from birth. Two years ago, she recalls having to offer to work for free just to convince employers that she was capable. Today, she works as an English professor and dedicates her spare time to training other people with various types of disabilities in how to use ICTs, at Corporación Armamater, a social enterprise that seeks to integrate its members into the mainstream workforce.

Novel software and programmes for the disabled

Several modern information and communications technology (ICT) tools and programmes are increasingly opening doors for people with disabilities. For example, the software development company Nuance Communications invented a technology based on voice commands to help people who cannot use keyboards. There are also adaptations of "eye-tracking" programmes that monitor retinal movement to allow users to surf the Internet. Moreover, the DeafBlind Communicator (DBC) is a computer with a Braille keyboard, connected by Bluetooth to a mobile phone.

The right to access

Digital accessibility is a fundamental mandate of the United Nations Convention on the Rights of Persons with Disabilities, approved in December 2006. Given that the Convention focuses on results without providing specific solutions, the United Nations Global Alliance for ICT and Development (UNDESA GAID) launched the Global Initiative for Inclusive ICTs (G3ict) in 2008, to facilitate the implementation of the Convention through public-private cooperation. In April 2009, G3ict published a virtual toolkit that provides a framework for the development of policies and strategies for incorporating digital accessibility at a national, regional and international level. It also promotes the application of accessible ICTs with a view to expanding their use among people with disabilities. A recent report by the International Telecommunications Union, entitled the "Situation of persons with disabilities in regard to ICT access," recommended adopting legal instruments to establish access to ICTs as a right and fundamental obligation of States. As a result, its primary recommendations include the need to:

- implement policies to ensure these rights, using the G3ict toolkit as a guide;
- adopt policies to reduce the cost of broadband access and of specific applications and services;
- initiate and implement policies to train people with disabilities;
- establish special funds to finance initiatives that promote ICT for the disabled; and
- develop global standards that guarantee the interoperability of infrastructures.

Simplifying Web sites

Although various programmes now allow the blind to read Web sites, many sites are too complex for these applications (or are programmed in different languages), which makes them unreadable. During the Internet Governance Forum (IGF) in Egypt this November, the ITU organized a workshop on ICT access for the disabled, organized by the Dynamic Coalition on Accessibility and Disability, created in 2008 to defend the need to guarantee the right to Internet access for all. China also organized a best practices forum on access for people with disabilities, which urged organizations to simplify their Web sites and adhere to international programming standards.

eLAC2010 Working Group on ICT and Disabilities

The Regional Action Plan for the Information Society in Latin America and the Caribbean (eLAC2010) identifies the need to "promote and give impetus to quality ICT, ensuring their access and sustainability for people with disabilities, with a view to achieving their true social, educational, cultural and economic inclusion" (Goal 11). At the same time, a special eLAC Working Group was established on ICT and disabilities in the region, coordinated by Ecuador (see work plan, in Spanish). By November 2010, the Group plans to:

- produce research and dissemination projects for ICT in special education;
- develop and promote the use of ICTs as tools for people with disabilities;
- give impetus to the use of ICT tools applied to the pillars of development;
- formulate plans to ensure access; and
- compile a list of best practices with adequate solutions for institutions and countries, to share and replicate.

Encouraging steps in the migration towards IPv6 Internet Protocol

By Raul Echeberria
Executive Director of LACNIC, raul@lacnic.net

In recent years, the issue of implementing IPv6 (the next-generation Internet Protocol version designated as the successor to IPv4), has become a popular issue that is found in the agendas and activities of several countries and organizations. And attention is increasing as we near the hypothetical date in which the central pool of Ipv4 directions will end (at some point in the year 2011).

Organizations that are actively promoting IPv6

The Latin American and Caribbean Internet Addresses Registry (LACNIC) has without a doubt been the most active organization in the region up until now in promoting IPv6, providing information, financing projects, organizing information activities in various countries to raise awareness of this protocol and of important aspects around the transition. This year, we have trained nearly 1,000 people in technical, hands-on activities. The task is no longer simply publicizing IPv6, but preparing people from a technical standpoint to lead the necessary transition in their business or organization.

Photo: LACNIC

But LACNIC is not the only organization working on this issue. Internet Society (ISOC), the Brazilian Internet Address Registry (NIC Brasil – which has directly trained more than 200 technicians and Internet providers in Brazil in 2009 and has also implemented popular online courses), as well as some governments, international organizations (such as CITEL and the CTU), and various workplace groups created at a national level in different countries – they are among the actors who are actively contributing to the creation of synergies in this process.

Are we ready?

It is quite common to hear concerns over the level of progress we have made in the adoption of IPv6, and doubts as to whether we will be prepared when the time comes. While many of us would already like to see IPv6 spread throughout the infrastructure of the region, to ensure that the transition will be successful, in truth the moment when this will really be necessary is when there are no longer any IPv4 addresses left

The point is not only the level of progress made to date if not whether we will be ready by the time we need to be. LACNIC has an optimistic perspective on this issue; we believe the conditions are in place to ensure that everything goes as planned. The most important issue is ensuring that we have sufficient trained human resources for the transition, and that is the area we have been working on most intensely.

The region's progress towards IPv6

We are already seeing important progress in the spread of IPv6. Internet Exchange Points (IXPs) in at least six countries of the region are already working on a native IPv6 protocol, including emblematic cases such as Haiti, which has illustrated that developing countries can also be leaders in these issues. At least 75% of the country code top-level domains (ccTLDs) of the region are accessible via IPv6. Several root servers installed in Latin America and the Caribbean by LACNIC, under the +Raíces programme already function on IPv6.

The number of IPv6 addresses assigned has increased significantly this year and, even more importantly, the number of Internet addresses of this type that are being announced in the region is growing at a steady pace, which demonstrates that the organizations that are receiving IPv6 addresses are effectively beginning to use them. Although much remains to be done in the transition to IPv6 in the region, and all actors certainly have a role to play, it is still good to know that we are on the right track and that the results are beginning to show.

Campus Party's Digital Inclusion Programme seeks to train and baptize new users

Consolidating itself as a nucleus for digital inclusion for vulnerable populations, through a programme supported since 2008 by Telefónica and the Governments of Brazil, Colombia and Mexico, Campus Party's Digital Inclusion Programme is initiating some 30,000 people in the most disadvantaged sectors of Brazil and Colombia, in the use of information and communications technologies (ICT). Another 6,000 were reached in Mexico in November and in 2010, the programme will be extended to Peru, Chile and Argentina.

The first three countries involved have undertaken strong investments in their network of free public Internet access centers (or telecentres). Nevertheless, many disadvantaged groups remain excluded from these services because they cannot overcome a basic barrier – they have never come into contact with a computer and therefore do not know how technology can improve their lives. The first pillar of the programme, Digital Baptism, is aimed at such people.

Baptizing the technologically marginalized

Campus Party's workshops teach people with low income, the displaced, disabled, elderly, unemployed, or those with jobs that don't involve interaction with technology (such as mobilized soldiers in rural areas or domestic workers, for example). They learn how to use a mouse, use the Internet or create an email account. All of this is done in a very practical way, using a CDRom-based tutorial as a guide for self-learning, combined with the help of specially-trained helpers.

Educating educators

the teaching can go anywhere from how to use a computer to more advanced functions like undertaking electronic transactions to improve their productivity and perform cost-modeling.

At first, such activities were concentrated in the Campus Party Week (with some 800 participants per day), but today, they have been extended to the entire year in Colombia and Brazil, thanks to agreements with local authorities. The programme is executed by a group of civil society organizations E3 Futura, with headquarters in each country, with financing from local governments and private donours.

Photo: Campus Party

Campus Party Week

Since 2007, E3 Futura has been organizing the Campus Party Week in Spain. It has come to be recognized as the largest technology, innovation and digital Internet culture