

PRODUCTION SECTOR

This is the third
in a series of six
thematic bulletins
dedicated to each
chapter of:



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Editor: Jennifer Ross
Design: Francisca Lira
Translation: Jennifer Ross

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Photo: First Tuesday



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The challenge of incorporating ICTs into the production processes of businesses

Despite the high level of connectivity among the companies of the region, the effective incorporation of ICTs into the management, organization and production processes of businesses, particularly in SMEs, is still lacking. The main article reviews the current state of use and adoption of new technologies in the production sector and details the lines of action in this area of the project "Inclusive political dialogue and exchange of experiences," being implemented by UN-ECLAC under the EU's @LIS2 Programme. [\(More on pages 2 & 3\)](#)

Results of the First Follow-Up Meeting for the Regional Action Plan eLAC2010

Delegates from 22 countries presented their progress towards eLAC2010 goals, while 13 Working Groups detailed their work plans. Two documents were approved regarding the creation of Working Groups and their financing, and the roles of all eLAC actors were revised. [\(More on page 4\)](#)

First Tuesday: Building networks and training entrepreneurs in the use of ICTs

The First Tuesday Americas network, which encourages high-potential entrepreneurship, is expanding across the region. The founder of this initiative explains its activities as well as the efforts of his own business to train Chilean SMEs in the productive use of ICTs. [\(More on page 6\)](#)

The adoption of ICTs in agriculture and livestock farming

This article reviews the current state of ICT use in these sectors and details some projects that aim to improve their incorporation, such as training farmers in cell phone use, digitalizing agricultural information, and initiatives to trace livestock and sell them with virtual auctions. [\(More on page 7\)](#)

Four eLAC2010 Working Groups report progress towards production sector goals

The coordinators of four Working Groups addressing goals in this chapter discuss the importance of these issues, their progress to date, as well as the objectives they seek to accomplish and products they expect to submit until 2010. [\(More on pages 8 & 9\)](#)

Monitoring progress towards eLAC2010 in Caribbean businesses and SMEs

Highlighting portions of a report by UN-ECLAC's Port of Spain office, this article also details the results of business surveys, innovations in software development and accreditation, events and initiatives by countries and by CARICOM, as well as the challenges faced by Caribbean SMEs. [\(More on page 10\)](#)



The challenge of incorporating ICTs into the production processes of the region's businesses

By Giovanni Stumpo, coordinator for the productive impact component of ECLAC's @LIS2 project

Information and Communications Technologies (ICTs) can play an important role in improving the competitiveness and productivity of businesses. Various studies indicate that the spread of ICTs have contributed significantly to the growth of domestic production in developed countries.

For example, in the United States, productivity began increasing in the mid-1990s, reaching levels of around 5% per year, primarily as a consequence of the incorporation of ICTs in business processes – a surge that came after having grown at an average annual rate of just 3% during more than 20 years¹.

In Latin America, the corporate use of Internet has grown in recent years. The percentage of businesses with more than 10 employees that are using the Internet is quite high in many countries of the region and differs little from rates in developed countries, as can be seen in the graph.

Nevertheless, mere access to the Internet is an insufficient indicator for measuring the effective incorporation of ICTs into the management and production processes of businesses. It is only through such

incorporation that companies can achieve real improvements in quality and competitiveness.

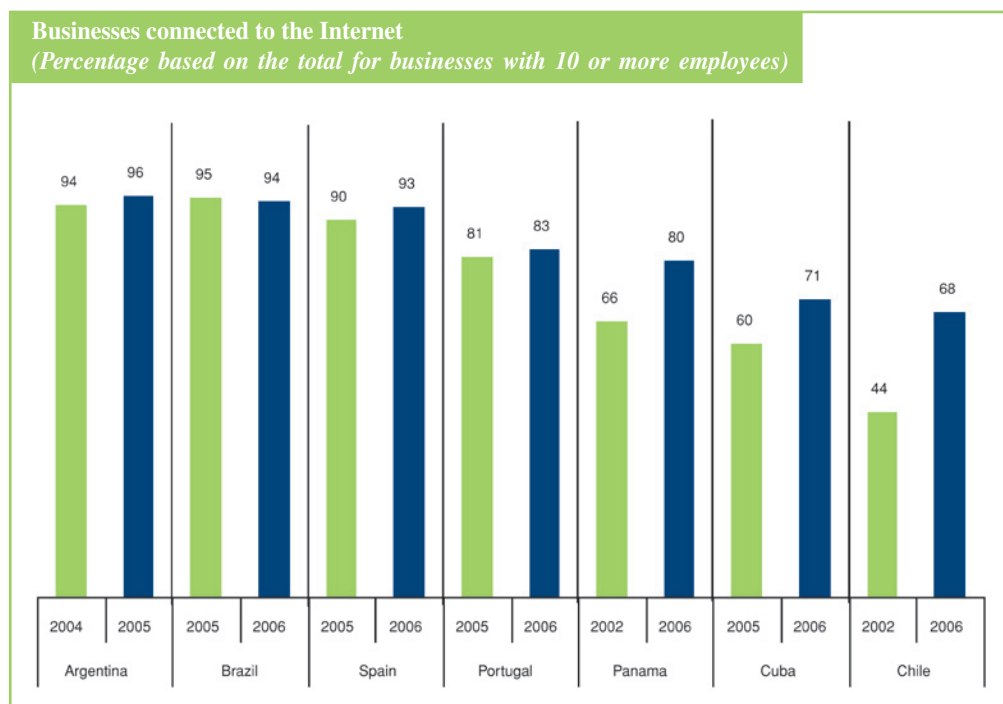
Such information is scarce across the region, particularly in terms of quantitative indicators collected frequently related to business use of ICTs (for example, use of e-commerce, web pages, enterprise resource planning (ERP) systems, computer-assisted design and manufacturing (CAD and CAM) tools, telework, etc.). There is also a dearth of analytical studies to evaluate the use of these technologies and link them to a firm's performance.

This is the first challenge for the governments of the region, because without information systems and appropriate analytical instruments, it is quite difficult to define or evaluate the impact of policies and instruments appropriate to the needs of beneficiaries.

At the same time, one must take into account that the introduction of ICTs in businesses is not an automatic or a universal process. In all countries, not only in the region, these technologies are first incorporated by large corporations. This can be attributed to the magnitude of the investments, to the specific competencies executives and technicians in these firms must possess, as well as to the availability of specialized technical assistance. The latter is more

difficult in small- and medium-sized enterprises (SMEs), but such training is necessary to adapt technologies to the specific needs of a company.

In Latin America, there is far greater heterogeneity among productive agents than in developed countries. There are few highly productive companies that compete efficiently in international markets and which can, and must, make frequent changes in their productive and organizational structures. These companies are in a position to introduce new technologies in their processes, given that they have the financial and human resources as well as the necessary information. At the same time, the fiercely



Source: ECLAC, OSILAC, with official information for each country and data from the "Information Economy Report 2006 & 2007-2008", UNCTAD.

¹ "Explaining a Productive Decade" by Stephen D. Oliner, Daniel E. Sichel, and Kevin J. Stiroh, preliminary version prepared for the Brookings Panel on Economic Activity, March 29-30, 2007.



competitive context in which they operate makes the incorporation of such new technologies necessary to remain successful.

On the other hand, Latin America is home to an important percentage of firms with low productivity, which have difficulty accessing credit markets, technology, human resources, technical assistance, or mere information. These companies have a hard time adopting technologies that could radically change their competitiveness. This is primarily due to two reasons. The first has to do with the greater restrictions they face in terms of human resources, finances and access to information; and in a context of scarce capital, medium-sized enterprises must be very selective in their investments.

The second reason relates to the organizational change that firms must undergo in order to take advantage of ICTs. It is important to consider that an optimal incorporation of these technologies is only possible if accompanied by profound changes in the internal processes of these companies and in their relations with providers, clients and partners. These changes are part of a process that is not automatic, nor easy. The costs can be high and adaptation times can be long. In the case of smaller enterprises, their very size represents a limitation for the use of complex organization and information systems.

A second challenge arises from the internal elements of businesses (such as their structure, organization, technology in their productive processes and the skills of their executives and workers), which can facilitate or entangle the process of dissemination and use of ICTs. Some studies suggest that the spread of these technologies is linked to the degree to which firms develop their endogenous capabilities (which include the ability to manage existing technology, innovate, and modify their internal communication and organization). As a result, the need arises to connect policies for incorporating ICTs in businesses with policies that favour the development of endogenous competencies, such as national technology policies.

Along the same lines, it is necessary to identify the minimal requirements for ICTs to be incorporated by companies so as to generate a relevant increase in their competitiveness. These requirements will differ according to the sector and, even more so, to the size of the firm. In the case of SMEs and micro-enterprises, the challenge for public lending institutions will be to define specific solutions for the introduction of ICTs, as well as organizational changes that can be incorporated by firms to generate productivity gains.

The elements mentioned imply a complex scenario for the region. They lead one to conclude that there are various challenges to the design of policies that favour the introduction and effective use of ICTs in the companies of the region. One can identify the most relevant restrictions according to supply factors that influence their incorporation (credit, human resources and technical assistance). Such restrictions differ among the countries of Latin America, given the divergent situation of their markets and of their

institutional capacity to intervene with corporate development policies. Nevertheless, the region cannot afford to miss out on the opportunities that ICTs provide for making development processes more dynamic and reducing the productivity gap with developed countries.


In this context, the project “Inclusive political dialogue and exchange of experiences,” in its line of study on productive impact, aims to produce several results that can contribute to confronting the challenges faced by the region’s policy-makers. The project seeks to increase knowledge on the impact of ICTs in the production sector and on the economic growth of the region. Its research activities follow three main lines.

First, we must reflect on the changes in companies since the incorporation of ICTs: Do they relate to an organizational or a technical change? Which areas of the business are primarily being affected by ICTs? What are the results in terms of a firm’s performance? Does this differ from the experience in more developed countries? What are the connections between the incorporation of ICTs, the capacities of enterprises, and the organizational changes needed in the various segments of productive agents that make up the economic structure of the countries of the region?

In second place, we must analyze the relationship between the productive structure and the incorporation of ICTs. It seems necessary to examine which structural changes have been promoted and favoured by the adoption of ICTs and, on the other hand, which characteristics of the productive structure speed up and deepen the insertion of ICTs.

Thirdly, the project seeks to continue along the line of research developed by UN-ECLAC between 2004 and 2008 under the European Union’s Alliance for the Information Society (@LIS) Programme, related to the impact of ICTs on the economy as a whole. A fourth line of work will focus on identifying the best policies and instruments across the region aimed at incorporating ICTs in businesses. This will make it possible to evaluate such support measures and determine whether they can be replicated at a larger scale.

Another challenge the project will have to confront is that of raising awareness among lending institutions as to the economic and productive impact of ICTs in Latin America and the Caribbean. To this end, the results of the aforementioned research will be of great use for identifying fundamental elements for the design of policies and instruments that promote the corporate introduction of ICTs, along with organizational changes, while considering the specific needs of the various segments and sectors of the productive structure.

At the same time, we will have to raise awareness among policy-makers around the need to improve information systems in the region so as to generate updated and precise indicators to support the design of policies that can respond to the real needs of the region’s businesses 

Opinion column: ICTs, SMEs and productivity

Pablo Accuosto

AGESIC, Uruguay
Thematic Coordinator for the
production sector, eLAC2010
pablo.accuosto@agesic.gub.uy

Photo: Pablo Accuosto



During the inauguration of the First Follow-Up Meeting to the Regional Action Plan for the Information Society in Latin America and the Caribbean (eLAC2010), UN-ECLAC's Executive Secretary highlighted the importance of information and communications technologies (ICTs) for confronting the challenges presented by the global economic and financial crisis, underscoring their potential to increase productivity, create competitive advantages and extend the coverage of public services.

Various studies reinforce this declaration. The UN-ECLAC publication, *The information society in Latin America and the Caribbean: Development of technologies and technologies for development*, compiles research that demonstrates the positive effect of ICTs on production processes, and, as a result, on economic growth. This is more pronounced when there is greater complementarity between investment in ICTs and other variables that affect the development and diffusion of knowledge (research and innovation, education, labour training, legal frameworks and infrastructure, among others).

The *San Salvador Commitment* recognizes this relationship through a combination of goals aimed at ensuring a solid base for the productive development of our countries. In particular, goals 49 to 59 of the Regional Action Plan seek to promote increased productivity and competitiveness of the production sector and improve working conditions through the incorporation of ICTs in both productive processes as well as the operations and management areas of businesses. This chapter equally highlights the role of both skills training in technological areas, and the promotion of new types of work made possible by ICTs, as fundamental components of development.

Of the 11 goals included in Chapter V of eLAC2010, five relate to the need to improve access to, and use of, ICTs by small- and medium-sized enterprises (SMEs). This reflects the relevance that our countries assign to ICTs as a means for facilitating the participation of SMEs in today's highly competitive markets, while at the same time recognizing the positive social impact of these businesses and their importance as dynamic agents for economic development. That we arrive at Lima 2010 having reached all of these aspirations is the responsibility of all of the actors involved 🌐

Results of the 1st. eLAC2010 meeting: Governments highlight the importance of the Regional Action Plan eLAC2010 in addressing the economic crisis

“We are going through difficult times that require, now more than ever, a new approach towards development, with a comprehensive perspective,” said UN-ECLAC's Executive Secretary Alicia Bárcena during the inauguration of the First Follow-Up Meeting to the Regional Action Plan for the Information Society in Latin America and the Caribbean (eLAC2010). “However, in light of the current scenario, with the many priorities countries in our region must address, investments in ICTs and other relevant aspects in the development of the information society are running the risk of being postponed. If this happens, not only will countries be making a mistake in the present, but even worse, they will be compromising the competitive capabilities of our countries in the future.”

During this meeting, which took place 28-29 April 2009 at UN-ECLAC headquarters in Santiago, Chile, delegates from 22 countries reasserted their support for the eLAC2010 Regional Action Plan, which promotes the use of new technologies as a means of improving productivity, competitiveness and social inclusion. National Focal Points, thematic coordinators and the 13 eLAC2010 Working Groups presented their progress and work plans. They also discussed three documents, one of which outlines the roles and responsibilities of the various eLAC representatives, a document which was left open for discussion until the end of May.

The assembly approved two other documents, related to the creation of new Working Groups and their financing. A total of US\$ 10,000 was earmarked to cofinance products for each eLAC Working Group until the Ministerial Conference in Lima, slated for November 2010. A maximum number of 13 Working Groups was set prior to that meeting, as were the steps to follow for soliciting funds and creating new groups. New instructions for the membership of these groups were also laid out, which include ensuring representatives from at least five countries and one member of each of the subregions of eLAC.

“I am a firm believer that the eLAC process is prepared for this quantum leap: to become transversal, permeate in priority areas, and spread,” stated Ambassador Miguel Angel Alcaine, of the Foreign Ministry of El Salvador, country that holds the presidency of eLAC2010.

The meeting included a fruitful debate on the strategies and approaches to implementing the Regional Action Plan until Lima. During this discussion, delegates reasserted the need to foment the generation of synergies and public-private partnerships in order to increase investment in ICTs, as well as promote the creation of contents, connectivity and capabilities.

Ambassador Jaime Pérez Vidal, head of the European Commission's Delegation in Chile, noted the importance of this Regional Action Plan for Europe, which directly supports its implementation and assessment through the project “Inclusive political dialogue and exchange of experiences,” co-funded by the European Union's @LIS2 Programme and by UN-ECLAC 🌐



IN'FORMAR Project: Digital literacy allows young Brazilians to escape poverty

Alex is 24 years old and works in an important computer company in Brazil, despite having only recently finished his schooling. He makes three times the national minimum wage there, something he never dreamed as a teenager.

This is all thanks to his talent and to IN'FORMAR, a project that promotes social inclusion among youth with low levels of schooling, through training in information and communications technologies (ICTs), in the communities of Pilar and Peixinhos in the Brazilian state of Pernambuco. The project works with residents that are sometimes even illiterate, training them for the workforce. Most are highly vulnerable youths who live in marginalized neighbourhoods. Through this programme, youth become interested in increasing their education levels and they are better able to do so thanks to the cognitive abilities they've acquired by learning about ICT. It represents an innovative pedagogical model that is easily replicated in other contexts.

During their education and skills training, youths receive other benefits, including individual therapy, cultural activities, English classes, courses to help them prepare for high-level exams, as well as conferences and discussions about a variety of issues. The ultimate goal is to improve the quality of life of a community that is highly vulnerable to prostitution, drugs, domestic violence and other problems.

Just like Alex, other trained youth have found jobs; many have learned to read and write; and several have returned to formal education to finish their schooling. In some cases, their salary is half the minimum wage, but this represents income they didn't formerly have and they are involved in a growth process.

Among the results identified by IN'FORMAR is the increased confidence these youths display during the training process, as well as a sense of responsibility for their obligations, and a proactive approach to life. From the standpoint of their work prospects and professional development, they obtain valuable working tools, increase their level of schooling and are inserted into the workforce, among other positive effects.

Due to its innovative nature and the simplicity of this model that allows its replication in diverse situations, IN'FORMAR was a finalist in the 2008 Social Innovation Experiences Contest organized by UN-ECLAC with the support of the Kellogg Foundation. Moreover, this project contributes to goals 49, 55 and 57 of the eLAC2010 Regional Action Plan



Photo: IN'FORMAR



Photo: AHCJET

Opinion column: Doing, saying and convincing

Matías Rodríguez Perdomo

Executive Council, AHCJET.
Observer for the private
sector, eLAC2010
mrodriguez@antel.com.uy

The Hispano-American Association of Centres of Telecommunications Research and Enterprises (AHCJET) is developing, together with the Ibero-American General Secretariat (SEGIB) under the mandate of its Summit of Heads of State and Government, a plan to promote and transfer best practices related to ICTs in production sectors. Dedicated to this task, and in its role as observer for the private sector to eLAC2010, AHCJET participated this past April in the fruitful Follow-Up Meeting for the Regional Action Plan in Santiago, Chile.

Said in simple language, our Association sees eLAC2010 as the “great plan” for the development of ICTs in the region. It represents a melting pot where governments, businesses and organized civil society can share information and coordinate resources, overcoming obstacles in the march of our communities towards the information society.

However, the very “simple language” we allude to may be lacking in this sphere of experts, diplomats, activists and entrepreneurs with which we so enthusiastically engage. Professional vocabulary is by definition defensive. Veterans and neophytes use turns of phrase and words specific to their science or art, whose side-effect is to exclude. When tasks are undertaken by experts in diverse areas, the risk of articulating alienating messages increases.

We must not forget that the final objective of our great effort is the people of Latin America and the Caribbean, who must appropriate this “great plan,” lead, and improve it. Nevertheless, it is difficult for them to identify with proposals conjured up and negotiated in technical or diplomatic jargon. Perhaps this is one of the reasons the region's private sector has yet to commit to the degree expected, and its citizens have yet to appropriate this great regional plan to the degree we would like.

AHCJET is calling on its more than 60 partner firms to participate actively in the eLAC Working Groups and we have enthusiastically incorporated the collective agenda of eLAC2010 into our own activities. We would also like to contribute our own vision, based on the world of markets and competition which we come from. Clear and seductive communication is essential for the success of any offer and optimizing this is indispensable. Those who do not convince have a hard time winning



Building networks and training SMEs in ICT use

In June 2008, the small business Medularis landed two of its first sales thanks to a four-minute meeting at an event by First Tuesday, a non-profit network focused on promoting high-potential entrepreneurship in the region.

“We participated in the first-ever First Tuesday meeting, when we were still newbies,” recalls Oscar Giraldo, co-founder and General Manager of Medularis, a Chilean company that helps businesses with a web presence increase their sales. “We were searching for capital but what we found was an entrepreneur who gave us fundamental feedback that led us to change our business model. Soon thereafter, we participated in a ‘speed-dating’ event, where we met executives from La Polar and Movistar and we achieved two of our first sales.”

This type of brief business meeting, dubbed ‘speed-dating’ for its similarity to the minute-long romantic dating introductions, is just one of the three formats of events that First Tuesday Americas (Firsttuesdayamericas.com) organizes at a local level the first Tuesday of each month. The other two styles include a classical encounter, which runs from 7 – 11 p.m., includes an opening speech and three 90-minute business presentations by selected emerging companies, all in an informal cocktail atmosphere. Lastly, there is a full-day course with eight sessions on practical issues, such as how to raise capital or how to improve sales using the Internet.

The entrepreneurs involved in First Tuesday Americas tend to be related to new technologies, processes, patents or Internet start-ups. Approximately 500-600 people take part in this network’s local monthly meetings in the cities of Concepción and Santiago, Chile, London, San Francisco and San Salvador, and the goal is to expand the initiative to other cities in the region. Worldwide, First Tuesday now has more than 41,000 members.

This network also offers databases and online tools to help entrepreneurs find clients, partners, employees and investors; it helps investors find new opportunities with local or regional partners; and it assists technology companies with adopting their platforms.

Since its re-launch in Chile in March 2008, First Tuesday now has 3,500 members and thanks to its in-person meetings, more than 40 business deals (sales or first clients) have been sealed, five direct formal investments have been achieved and five more are now negotiating term sheets. In Chile, the initiative is supported by Endeavor (endeavor.org), a

non-profit organization working in 12 countries to promote the initiation and development of new entrepreneurs in emerging markets.

“We need to create a culture of entrepreneurship, particularly in countries that face economic stagnation,” explains the founder of First Tuesday Americas, Tim Delhaes, a passionate German who has been involved in technological entrepreneurship in Chile for the past 12 years. “At the first First Tuesday meeting in El Salvador this past April, I could see that people really got into this and it kind of sparked the idea, or reestablished the dream, that they can do important things at a local level.”

A self-proclaimed “serial entrepreneur,” Delhaes is also the Managing Partner of Tigabytes.com, which offers consulting services, Web solutions and support for businesses implementing their digital strategies. He recalls how his first company spent US\$ 5,000 on publicity with Google Adwords from the year 2000 to 2004, and he says it generated more than US\$ 450,000 in project sales as a direct result. Today, supported by the SME networks of BCI Bank and Movistar, Tigabytes reaches a broad spectrum of clients, offering Web 2.0 products with no software to implement or systems to maintain. This eliminates many of the traditional entry barriers for SMEs to adopt ICTs.

This month, Tigabytes begins working on the massive training of SMEs in the introduction of ICTs in their production processes. The effort focuses on the use of Google Apps, a platform that provides cutting-edge collaborative tools at a low cost. This will be done with the help of SOFOFA Chile, a technical training

organism that supports business development through the use of a Chilean tax exemption (SENCE) that allows companies to write-off up to 1% of their taxable income spent on training.

In order to attract more investments in Latin American start-ups, this month First Tuesday, together with Endeavor and the magazine *AméricaEconomía*, are launching the first regional contest for high-potential entrepreneurship, the “Entrepreneurs Choice Awards” (eca09.com).

“Venture capital is super local and investors want to invest abroad but they see Latin America as not being very interconnected; so we need to create synergies between high-potential entrepreneurship in the region and make it more visible – and for this, networks are fundamental,” assures Delhaes 🌐



Photo: First Tuesday



The use of ICTs in agriculture and livestock

At first glance, the still scarce statistics on the use of information and communications technologies (ICTs) in farming and livestock reveal a lag in comparison with other productive sectors. In Chile, in 2006, only 6% of qualified farmers and livestock workers used the Internet – with online banking being their main productive activity. Rural areas tend to have lower levels of Internet connectivity and producers do not report using ICTs in their work. The penetration of cell phones, however, has grown steadily in the agricultural sector and rural areas.

OSILAC data for Mexico, Panama and Honduras indicates that mobile phone coverage reached more than 50% of the rural population in 2007. As such, these phones have become powerful tools for managing information about finances, climate, markets, prices, etc. According to ECLAC's Unit for Agricultural Development, these tendencies, in addition to the high levels of illiteracy and the lack of network coverage in various rural areas, suggest the need for differentiated strategies for incorporating technology. These should consider the user, the information they require and the type of technology they are using. Mobile phones (with or without Internet) are ideal for the agriculture and livestock sector because they are portable and inexpensive. Radio and television continue to be the most popular technologies in rural areas and they should be exploited more intensively.

Given the importance of agriculture – which represented 5.6% of the region's GDP in 2007 – and given its low productivity in comparison with other regions and sectors, ICTs should be considered as tools for improving the productivity and efficiency of this sector. They allow users to: obtain timely, trustworthy and quality information, access markets and financial instruments, track productive cycles, optimize management, identify and protect environmentally sensitive areas, control plagues and diseases, etc. For this, various technologies can be used, such as: remote sensors, Global Positioning Systems (GPS), Geographical Information Systems (GIS), IP networks, specialized software, decision-making support systems, etc.

In Jamaica, the Agricultural Business Information System (ABIS) is a web-based information system developed by the Rural Agricultural Development Authority (RADA). It collects, processes and provides information on a wide range of activities, including: registration of farmers and other stakeholders, output forecasts based on inputs and applied practices, marketing and production, and tips on how to facilitate trade. At a regional level, initiatives include the recent agreement between Google, the Inter-American Institute for Cooperation in Agriculture (IICA) and Costa Rica's Centre for Investigation and Teaching in Tropical Agriculture (CATIE), to digitize more than 9,000 agricultural books located in their libraries. For human resources training, the ILO's Inter-American Research and Documentation Centre on Vocational Training (CINTERFOR), provides technical assistance, horizontal cooperation, knowledge-management and research in this area.

This 15 June, Chile's Estrategia Digital and InnovaChile announced a public-private investment for more than US\$ 7.6 million to promote the



Photo: Andrés Monera Lanzarotti (courtesy of DatAgro)

use of ICTs in almost 10,000 rural businesses. The initiative will include projects such as DatAgro which seeks to improve the use of mobile technology by small-scale farmers. DataDyne.org has developed a system for sending SMS messages with relevant local information on climate, emergency alerts, agricultural innovations and sustainability. Moreover, it includes a news service in RSS format and works even over less-than-GPRS networks, expanding its potential rural users. The project is coordinated by Zoltner Consulting Group, which has been working with 30 farmers to produce a software and content based on their needs, which will be extended to all 400 members of their cooperative (COOPEUMO). "This allows us to find information about prices: supply prices, product prices, about the weather, and what's going on in international markets," explains Ricardo Danessi, Executive Manager of COOPEUMO. "When there's an excess of production in one place, the prices go down here. Or when there is a sudden disaster or catastrophe somewhere else, the prices improve here. ... Everything is related in this connected world, and small-scale farmers aren't left out of that reality."

In the livestock sector, one of the primary motivations for using ICTs around the world has been the increasing emphasis on registering the movement of animals, for both legal and sanitary reasons, including international norms and quality certification requirements of the European Union and other meat importers, as well as the ever more complex subsidies and commercial measures. Traceability systems are at different degrees of progress in Latin America. Most countries have opted for systems based on visual identifiers, while the adoption of technological components has been an individual decision. In Uruguay, the use of a chip implanted on the livestock is mandatory, technology that has become an important management tool, particularly when it allows information about the animal to be stored.

During the First Regional Meeting on ICTs in Livestock, held 18 to 19 May in Asunción, Paraguay, the livestock traceability systems of Argentina, Chile, Paraguay and Uruguay were presented, along with other best practices in the sector. These included a simulation tool that allows one to study and evaluate the impact of decisions on dairy farms in Uruguay (dairy producers are more advanced in their adoption of ICTs than are meat producers). One of the event organizers, AHCJET, also launched an interactive website about livestock, where users can share experiences, programmes and best practices. Also featured were Uruguay's virtual auctions, which have become the country's main source of e-commerce. Estimates are that this method of doing business could reduce by some 15% the negative impact on productivity, due to the wear on animals transported to fairs 🌐



eLAC2010 Working Groups progress towards production sector goals



Viviana Laura Díaz

Ministry of Labour, Employment and Social Security, Argentina. Coordinator of the WG on Telework
vdiaz@trabajo.gov.ar



Gonzalo Carbajal

TELAM National News Agency, Argentina. Coordinator of the WG on Creative Industries and Contents
gonzalo.carbajal@telam.com.ar

Telework is a way of organizing productive activities at a distance, via information and communications technologies (ICTs). A cultural reorganization is needed to ensure the efficient application of this cross-cutting alternative, where one's work space plays a more decisive role in an employee and employer's direction and organization. Technological development has brought about important changes in the labour market. New technology-driven business models are an essential tool for confronting the economic crisis, that also respond to the need to lower infrastructure and business organization costs, all of which implies the need for reorganization. However, unlike what occurred during the 1990s, today this will be possible without workforce cutbacks, but rather by lowering the costs of transportation, per diems, office rental, etc.

Telework is a form of employment that allows for social inclusion while improving the quality of decent employment. As a result, this June, a Regional Center for Excellence in ICTs and Telework will be created to serve as a continuous forum for regional experts. It will facilitate the exchange of knowledge and information in the region with a view to establishing norms and standards, developing continuous education and training programmes, and elaborating a manual of best practices. At the same time, the Telework Group will underline the importance of promoting such best practices at both a national and international level, to generate opportunities for the social inclusion of vulnerable groups in the workforce. This initiative is oriented by Certification of Telework Competencies programmes for unemployed youths and for people over 45 and up. These programmes seek to recognize the skills acquired by teleworkers, based on their experience. Argentina's Ministry of Labour, Employment and Social Security is certifying the positions of Virtual Tutor, Web Designer and Accounting Analyst.

Argentina's Youth Telework Programme, for unemployed young adults aged 18 to 24, is developing a first level of training in ICTs and telework to encourage their entry into the workforce. For those with work experience, but who have been rejected from the workforce due to their age, telework represents a tool to help re-insert them into the business world, make them manage and organize their own activities, and encourage entrepreneurship. In conclusion, telework is a productive sector that allows for social and workforce inclusion, improves the quality of employment, makes it possible to reconcile work and family life - all while taking advantage of technological progress to help confront the challenges of new labour relations 🌐

The scenario the region faces in terms of contents is concerning, given the enormous concentration this sector occupies at each level of production, distribution and consumption of the products of creative and cultural industries.

The Working Group on Creative Industries and Contents has reached this conclusion as a result of research conducted for the first Regional Action Plan eLAC2007. That report illustrated the situation of these sectors and recommended the creation of an Observatory for Creative Industries and Contents that could monitor the situation and promote research being conducted in the area.

The importance we assign to this issue often does not coincide with the place it occupies in the studies or budgetary priorities of the international organisms that finance research and investments. Rather, it is lumped in with the problem of connectivity or networks, seen as the only determining aspect that can guarantee citizens access to media and ICTs.

It is not a mere question of hierarchy; we want to point out the importance of the very contents that circulate on these networks, with a view to meeting commitments regarding the diversity of sources and messages, laid out in the San José, Costa Rica Pact. Signatory States must intervene in order to guarantee freedom of expression. In order to make decisions, they must have access to trustworthy and up-to-date information.

To situate the driving idea for the task ahead, it is important to remember what we agreed to, under Goal 54 of the San Salvador Commitment, which establishes the basis for our work until 2010:

“Devise other regional cooperation mechanisms for addressing common challenges, such as those posed by the need to protect cultural heritage, strengthen national identities, finance intangible goods and increase the production capacity for local content that respects cultural diversity and identity.”

Our Working Group aims to promote discussion and awareness among all signatory countries of the importance of this issue; that is why we push for its inclusion in forums, seminars and other conferences taking place across the region 🌐





Photo: MDIC

Francelino Grandó

Secretary of State for Industrial Technology, Brazil's Ministry for Development, Industry and Foreign Trade. Coordinator of the WG on Software
sti@desenvolvimento.gov.br

The Working Group on Software covers some of the most cross-cutting areas and topics of all the eLAC2010 groups. There is a necessary interaction among the issues that make up the Regional Action Plan's 83 goals (such as health, education, access, etc.).

To confront these challenges, the Secretariat for Industrial Technology of Brazil's Ministry for Development, Industry and Foreign Trade (STI/MDIC) has evaluated the goals that seem most compatible with activities related to regional development. Following this evaluation, goals 49, 50, 56 and 59, which focus on the development of the production sector, stood out.

In keeping with the Work Plan of the eLAC2010 WG on Software, the STI/MDIC is planning to host the "First International Seminar on Software, Innovation and Information and Communications Technologies: business strategies for Latin America and the Caribbean," in October 2009.

The main objective of this event will be to bring together representatives of the private sector, governments and universities in the region in order to debate issues of the software industry in their various business models, either developed as freeware or proprietary software.

Progress towards these goals should make the region's businesses more competitive, through the appropriation or internalization of ICT tools in their respective productive processes.

One of the main objectives of this seminar will be to stimulate the exchange of experiences and best practices among public- and private-sector actors, and among the governments of Latin America and the Caribbean, to strengthen regional cooperation in the area of public policies for ICTs.

This First International Seminar on Software will include participants from across the region to engage in discussion and eventually conclude with proposals and recommendations aimed at stimulating the software industry in our countries, thereby promoting digital inclusion.

We believe that training is a fundamental issue for the region. As a result, until January 2010, we will be training human resources, as well as regional educators in a position to multiply their knowledge and expand access to technologies, in various eLAC member countries. It is our understanding that the ICT industry does not require previous experience; however, it does need a large workforce. Covering both characteristics will provide youths with an important opportunity to engage in the information society 🌐



Photo: ECLAC

Cosette Castro

Coordinator of Brazil's National Reference Centre for Digital Inclusion (CENRID/IBICT), Coordinator of the WG on Interactive Digital Contents
cosette@ibict.br

Created at the end of 2008, the Working Group on Interactive Digital Contents arose in response to the approval of eLAC2010 Goal 83 at the Ministerial Conference in San Salvador. It seeks to create a Regional Center for the Production of Interactive and Interoperable Digital Contents, to encourage investigation and the production of audiovisual contents geared towards various technological platforms, such as: digital radio and television, cell phones, computers with Internet, and online videogames. This goes for the various countries of the region and for projects aimed at digital inclusion.

The transition from the analogue to the digital world, coupled with the arrival of new convergent media with interactive and interoperable possibilities, is still an emerging issue in almost all the countries of Latin America and the Caribbean. The WG thus has a double task: on the one hand, to raise awareness among the governments that decide on public policies related to information, communication, telecommunications and digital inclusion, and on the other hand, to raise awareness among professionals and academics of the changes to come and the new skills and professions that are arising. To this end, the WG is encouraging and organizing international seminars and participating in roundtables and debates in various countries, including: Uruguay (24-26 May), Brazil (May, June, September), Peru (June) and Paraguay (August).

Another activity of our WG is to promote the creation of National Centres for the Production of Interactive and Interoperable Digital Contents in each country that is interested in producing, investigating, and developing audiovisual digital contents for different types of technology. This issue is directly related to the production sector, as it involves training new social actors, as well as learning and developing new trades in ICT. It also involves research and development budgets, focused on creating software applications for various technological platforms for interactive and interoperable projects that also consider their usefulness, cultural diversity and accessibility to all publics.

The production of audiovisual digital contents includes the development of interactive, interoperable and convergent projects, designed to improve services, distance education, information, culture, entertainment, innovation, health and active citizenship – services that can be offered free-of-charge on the various technological platforms. For the first time in the history of the region, it is possible for us to be more than mere consumers of audiovisual products. In a not-so-distant future, we may be able to watch our countries turn into producers of contents geared towards the convergence of digital media. In short, we have a unique opportunity to eventually export audiovisual digital contents developed by our own independent producers, small enterprises, public television stations, academics and civil society – rather than leaving such content in the hands of large (analogue) communications companies, as occurs today 🌐



Monitoring progress towards eLAC2010 goals in Caribbean businesses

According to a soon-to-be-published report by UN-ECLAC's Port of Spain Office, which tracks the Caribbean's progress towards the Regional Action Plan (eLAC2010), the large business sector has made strides in its adoption of ICTs, while the situation in Small- and Medium-sized Enterprises (SMEs), so crucial to the development of the sub-region, is not as clear.

"In the Caribbean, comprised primarily of Small Island Developing States, a key avenue of growth and prosperity is the development of our Micro-, Small- and Medium-Sized Enterprises (MSMEs)," explains John Mollenthel, Deputy National Chief Information Officer for Trinidad and Tobago, who also represents the sub-region as Presiding Officer for eLAC2010. "Regional MSMEs are constantly searching for innovative ways to attain a competitive advantage and to expand their horizons. Many of them are embracing the potential that ICTs offer to their business strategies and objectives."

Increasing and improving the use of ICTs by SMEs is at the heart of eLAC goals 49 and 58. UN-ECLAC's draft report indicates that electronic banking applications are widespread throughout the Caribbean. It also notes that the presence of multi-national corporations in regional industries such as natural gas in Trinidad and Tobago, bauxite in Jamaica and in large corporations in general, has helped generate widespread use of ICTs in that sector. For SMEs, which report less use, several incubation projects across the Caribbean aim to help such business acquire and/or use ICTs, such as Jamaica's Technology Innovation Centre (<http://www.ticjamaica.com/>).

The Antigua and Barbuda E-Readiness Survey Report 2008 details the findings of a survey on the use of ICTs in the business community, with respondents from 102 companies. The majority (92%) indicated that they used computers and 71% had up to ten computers (this number suggests that most of the respondents were from SMEs). Most businesses (98%) indicated that they have access to the Internet, citing email and research as their primary uses, followed by purchasing and customer services employed by roughly half of the respondents, while only 36% used it for online sales. This suggests that SMEs in Antigua and Barbuda are using the Internet to some extent to facilitate business activities. This is further supported by the number of companies that reported having websites (62%).


As for innovations in hardware, software and content (eLAC2010 goal 50), UN-ECLAC's draft report indicates that growth needs to be encouraged in enterprises providing those products or technology-based services. The experience of SymSure, a Jamaican software company that specializes in fraud-detection products, is telling. After two years in business, it had successfully landed several international contracts. Unfortunately, to do so, SymSure says it had to market itself as a North American entity. This underscores some of the challenges faced by indigenous technology-based companies. The perception that small economies cannot produce high value-added technology-based goods and services comparable to "first

world" economies, is one of several challenges the UN-ECLAC report says need to be addressed. Other factors include: the availability of capital and adequately skilled staff as well as the ability to retain talented personnel.

There has been greater progress towards ICT Training Accreditation Standards (eLAC goal 55) throughout the English-speaking Caribbean. At the secondary and tertiary levels, uniformity in such standards is facilitated through the Caribbean Examinations Council (CXC), which prepares curricula and examinations on information technology. At the national level, institutions such as the Accreditation Council of Trinidad and Tobago address such standards generally. The HEART Trust in Jamaica (which has 27 training institutions across the island) offers a range of ICT-specific vocational certification. Additionally, two fairly new initiatives, National Qualifications Register (NQR) and Learning Management System (LMS) have been implemented to support the accreditation process and provide competency assessments based on specific skill-sets.

Last June (2008), the CARICOM Secretariat hosted an SME Roundtable in St. Lucia, in which participants worked on a five-year plan for ICT marketing, networking, financing, and institutional capacity-building. Over a two-year period, the plan aims to increase awareness of ICTs by 25% among SMEs. Over a three-year period, all CARICOM countries agreed to: approve policy and legislative frameworks for e-commerce at the national level; reduce ICT investment costs by 40% for regional SMEs; increase ICT infrastructure by 30% to enable greater access for SMEs; and upgrade ICT skill levels among 100 SMEs annually in each CARICOM country.

"SMEs must engage in regional and global economic business networks which, in turn, demand provision of a prerequisite level of access to, and use of, ICTs," says Jennifer Britton, Senior Project Officer – ICT, for the CARICOM Secretariat, which will be working to finalize the Strategic Plan and Coordinating Mechanism on SMEs during 2009, along with the Caribbean Association of Small- and Medium-sized Businesses. "Unless these prerequisites are in place, these SMEs are set to lose out on opportunities to integrate into the global supply chain, bid for outsourcing businesses, and increase their internal productivity and efficiency."

To promote greater use of ICTs in Caribbean production sectors, the Government of Trinidad and Tobago held the "First ICT Business and Innovation Symposium," from November 16–18, 2008. It was the flagship event of a larger promotion and awareness campaign for ICT development, geared to mobilize and inform the national business community and other stakeholders of the opportunities available in a knowledge-based economy. More than 500 people participated in the Symposium, which is now slated to become an annual, regional event. Trinidad and Tobago also recently hosted the "II Regional Seminar on Competitiveness: ICTs to improve the productivity of SMEs," organized by SELA, IBERPYME and CARICOM this past 25 March, in which 10 Caribbean countries presented best practices, strategies, methodologies and success stories for improving small business productivity through ICTs 



ICT-related news briefs

Uruguay launches S&T Plan during Americas Innovation Forum

The II Americas Innovation Forum, which took place from 24 to 26 May in Montevideo, Uruguay, focused on: public policies for innovation, the latest business trends and sectoral issues, as well as the need to encourage greater regional cooperation during periods of crisis. The event also featured the announcement of Uruguay's new Strategic National Plan for Science, Technology and Innovation, prepared by the country's Ministerial Cabinet for Innovation. There were presentations on a range of topics, such as: innovating for exporting during economic crises, clean production for innovation, approaches to promoting competitiveness and stimulating entrepreneurship in the business sector, and innovation in the agro-industrial supply chain, among others. The forum also featured a panel on cultural industries in the digital era, which included the coordinators of both related eLAC2010 Working Groups. UN-ECLAC's Unit for Innovation and ICTs also made a presentation on the importance of innovation in development processes, including the relevant challenges Latin America faces in this area, and details of the regional cooperation agenda.

DESCA Programme encourages technological competency in MSMEs

By contributing to technological and commercial frameworks, the German regional cooperation programme for Sustainable Economic Development in Central America (DESCA) seeks to strengthen micro- and small- and medium-sized enterprises (MSMEs) with potential for growth, so as to increase the number of internationally competitive businesses and encourage formal employment. The objective of this programme, lead by the German Federal Ministry for Economic Cooperation and Development (BMZ), is to improve the political and institutional conditions for encouraging the technological and commercial competencies of innovating MSMEs. The resulting impact on income and employment are expected to also reduce poverty. The programme is now getting underway in El Salvador, Honduras and Guatemala.

ALETI announces new members and projects during general meeting

The Latin American Association of Information Technology Entities (ALETI) has expanded its horizons, now promoting the use, development, exchange and commercialization of technologies and the creation of related policies in 20 countries. "Our entity is growing, not only in size but also in synergies," explains ALETI's General Director, Silvia Bidart. Its XIX Assembly, held in Argentina 27 to 28 April, featured a Seminar on IT Business Opportunities in Latin America and Spain, which included the participation of the Presidency of Argentina and various ministers. The meeting included the signing of a MERCOTIC agreement that aims to strengthen associations in the Southern Common Market (MERCOSUR); an agreement to create a Regional Observatory for Tax Policies; a new project on regional clusters forged with the Inter-American Development Bank (IDB); and the announcement of a new alliance between ALETI and the ESI Center of Spain.

OSILAC workshop reviews state of ICT questions in business surveys

This past 6 to 8 April in Rio de Janeiro, Brazil, the Fifth Workshop on Measuring the Information Society in Latin America and the Caribbean was hosted by UN-ECLAC's Observatory for the Information Society in Latin America and the Caribbean (OSILAC), with the help of the Brazilian Institute for Geography and Statistics (IBGE), SOFTEX and the Brazilian Internet Steering Committee. During the workshop, the countries of the region reported their progress and challenges in the production and analysis of indicators on access and use of ICTs, particularly in households and businesses, but also in areas such as education, health and e-government. OSILAC presented the 2009 edition of the Compendium of Practices, according to which 10 countries in the region have now included questions on ICT use in their business surveys. The workshop also included presentations and a debate of proposals for creating new indicators to monitor the goals of the eLAC2010 Regional Action Plan.

CAF seeks to strengthen the software industry in Ecuador

With the successful implementation of the project "Improving the Competitiveness of the Software Chain in Ecuador," the Andean country's software industry has been endorsed as an indispensable route for technological development. Eight Ecuadorian enterprises benefited from this project, which was led by the Ecuadorian Software Association (AESOFT), the Ministry for Industries and Competitiveness (MIC) and the Andean Development Corporation (CAF). The initiative focused on implementing international quality standards in production processes and providing a combination of best practices aimed at improving productivity, optimizing results, reducing costs, and increasing satisfaction among the agents involved. It also strengthened the development of business management through the adoption of Project Management Programmes (PMPs).

Creating a Digital Library for SMEs in Venezuela

The Venezuelan Institute for Superior Studies in Administration (IESA), together with the Foundation for Sustainable Development in Latin America (FUNDES), are spearheading a project to strengthen the country's entrepreneurial culture through the creation of informative and training material to promote the sector's consolidation. The Digital Library for SMEs project aims to become a reference point for research in this sector, as well as for assistance in project elaboration. This is achieved by increasing the amount of information, constantly updating it, digitalizing and disseminating selected material from the Library, and incorporating new external documents in its collection. These resources are now available to the public in digital format and through freeware. As such, this new online tool should not only increase synergies with the entrepreneurial sector, but also support virtual learning in general.



Recent publications on ICTs in the production sector



Challenges and opportunities for the software industry in Latin America

ECLAC, Mayol. Editors: Paulo Bastos Tigre and Felipe Silveira Marques
March 2009. 307 pp. (Spanish only)
ISBN: 978-958-8307-56-5.

This book is the result of research in six countries and reflects a broader UN-ECLAC initiative to analyse the economic and social aspects of ICTs. The publication evaluates the potential, difficulties and strategies that the countries of Latin America have adopted in order to participate in the global industry of software and computer services.



EnREDos: Regulation and corporate strategies for confronting technological convergence

ECLAC, Mayol. Editors: Marcio Wohlers and Martha García-Murillo
March 2009. 231 pp. (Spanish only)
ISBN: 978-958-8307-57-2

The convergence of ICT networks is leading towards a period of uncertainty and “a web” of complexity. This book argues that the rules, norms and regulation of this sector need to be readapted according to technological convergence, and it proposes a new approach based on public and private innovation and competition models.



Supporting innovation in SMEs

USAID and the Idea Foundation.
February 2009. 116 pp. (Spanish only)
http://www.fundacionidea.org.mx/admin/documentos/publicacion/pymes_innovacion_web.pdf

This document, which includes eight case studies, analyses the conceptual mechanisms for promoting innovation in the region's SMEs. It analyses programme selection criteria and underlines the importance of evaluating their impact.



Learning Guide for Dynamic Entrepreneurship

Multilateral Investment Fund (IADB)
2009. 238 pp. (Spanish only)
<http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=1552516>

This guide identifies the factors that facilitate dynamic entrepreneurship projects and offers tools for their promotion. It highlights the key components for start-up growth: the availability of financial products and access to high-value-added networks and support.



The transformation of access points into knowledge hubs: analysis of ten experiences with community telecentres in Latin America

María Angélica Celedón and Alicia Razeto
LC/W.233. April 2009. 101 pp. (Spanish only)
<http://www.eclac.org/socinfo/publicaciones/>

The main objective of this study is to review the current state of development of 10 community telecentres in seven countries of the region. The analysis focuses on the services offered by public access centers and their strategies for incorporating added value.



The Information and Communications Technology Sector in Brazil 2003-2006

Brazilian Institute for Geography and Statistics (IBGE)
2009. 79 pp. (Portuguese only)
<http://www.ibge.gov.br/home/estatistica/economia/stic/publicacao.pdf>

This publication compiles the results of yearly service, industry, and commerce surveys of Brazil's IBGE, as well as import and export registries, to provide an overview of the relative weight of the ICT sector and its contribution to generation employment in Brazil.



Information Society Indicator (ISI): The situation of Information Technologies

Everis, IESE Business School of the University of Navarra
March 2009. 86 pp. (Spanish only)

<http://www.everis.es/prensa%2Dy%2Dpublicaciones/publicaciones/estudios/#>

Published since 2005, this yearly report provides a historic perspective for the development of ICTs in Latin America. It provides a barometer for measuring the evolution in their use and of the sphere of the information society (economy, infrastructure, etc.).



Information and Communication Technologies in Spanish enterprises 2008

ONTSI, Spanish Ministry of Industry, Tourism and Commerce
April 2009.

<http://observatorio.red.es/articles/detail.action?id=3253>

Based on the results of ICT business surveys in Spain, this report reveals that for the first time, more than half of micro-enterprises (53%) have access to Internet, while in medium and large enterprises the use of mobile phones to connect to the Internet increased by five percentage points in one year.

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ECLAC, SOCINFO Programme, Division of Production, Productivity and Management
Dag Hammarskjöld 3477, Vitacura, Santiago, Chile – Tel.: +562 210 2239 or +562 210 2000 - Fax: +562 210 2590
Internet site: www.eclac.org/socinfo - Email: socinfo@eclac.org
w.cepal.org/socinfo - Email: socinfo@cepal.org

