

# Argentina and the Information Society

## 1. Connectivity and Communication infrastructure

For the last ten years, the Argentine Government has been fostering ICT-related public policies focused on the elimination of the digital divide, understanding that this decision contributes to reduce poverty and to put in practice the basic principles for social justice, bringing people closer to the possibility to benefit from development through telecommunications/ICTs, on the basis of equal rights and opportunities for men and women.

### *a. Argentina Conectada (Argentina Connected)*

*The National Plan Argentina Conectada is a comprehensive connectivity strategy aimed at improving the conditions of every-day communications for all the inhabitants in our country, since access to information and communication is essential for national development.*

*Argentina Conectada is a state policy whose main goal is to create a digital platform of infrastructure and service destined to the governmental sector and citizen connection.*

The focal points of Argentina Conectada are the following:

**Infrastructure and equipment for connectivity:** establishment of a safe, strategic and sovereign fibre-optic network, starting with areas without infrastructure and federalizing quality, prices and digital contents.

**Governmental services and cultural contents:** technology for better communication management and quality among the different government areas. Encouragement to develop convergent contents with social value.

**Digital inclusion:** implementation of spaces destined to access new technologies allowing the incorporation of skills and dynamizing tools for the development of communities.

### **b. ARSAT and Argentina Aerospace Plan**

The kick-off measure to move forward in the transformation of the telecommunication market in ARGENTINA was the decision to create the company ARSAT S. A. (Empresa Argentina de Soluciones Satelitales S. A.).

The role of ARSAT S. A., comprised by 100% state capital, is to implement telecommunication/ICT-related projects, at their different stages, in an inclusive and federal fashion according to the requirements of the public sector (cooperatives and local operators, small medium enterprises -SMEs), the social and cultural movements, and the productive, scientific and technological sector.

Also, this Plan is connected to other projects that share the connectivity strategic vision to universalize and federalize communications, pushing forward the National Telecommunication Plan called “Argentina Conectada” established by Decree N° 1552/2010, improving the conditions of every-day communications for all the inhabitants in our country, since access to information and communications is essential for national development.

The main purpose of this historic and transcendental decision for Argentina (the creation of ARSAT S. A.) is to build THREE telecommunication satellites, planned on a short and mid term basis. However, Argentina seeks to position itself as a satellite manufacturer to cover domestic and global demand in the long term.

The first satellite has already been finished and it is bound to be launched into space from the French Guyana next September. The second one is in a progress stage of 50% and the third one will commence construction shortly.

It is important to point out that these satellites will allow the provision of telephone, data, internet and television services nationwide and to all South America.

Another executing arm related to the technology present in science, telecommunications and ICTs is INVAP, a state owned company dedicated to pace technology. It is the only Argentine company qualified by NASA to execute space projects due to its proven capacity to design, build, test and operate satellites.

In September 2010, the Centro de Ensayos de Alta Tecnología S.A. (CEATSA) is created through the joint efforts between ARSAT S.A. and INVAP S.E., combining ARSAT's experience in satellite signals operation with INVAP's more than 35 years of work in the development of high-technology equipment. Its purpose is to provide environmental testing services for the satellite, aeronautical, electronic, automotive, defence, energy and general capital goods industries.

CEATSA was envisioned to meet the needs of the national industry when complementing the productive processes by providing tests and measurements to control the quality of complex products and technological systems. This way, the company is positioned as the first and only benchmark in its category, turning into a key promotion instrument for the development of South America.

At the beginning of 2014, the National Communications Commission (CNC) and the Centro de Ensayos de Alta Tecnología S.A. (CEATSA) subscribed a cooperation agreement destined to join efforts to push forward the development of telecommunication and ICT services nationwide.

**Fuente de información: Presidencia de la Nación – REPUBLICA ARGENTINA**  
**Ministerio de Relaciones Exteriores y Culto**  
**Ministerio de Planificación Federal, Inversión Pública y Servicios**  
**Empresa Argentina de Soluciones Satelitales – ARSAT S.A.**  
**Secretaría de Comunicaciones - SECOM**  
**Comisión Nacional de Comunicaciones - CNC**

### **c. Federal Fibre-optic Network**

Argentina Conectada fosters the rolling out of fibre-optic across the country for a total of 58 000 km.

The civil work of the Federal fibre-optic Network (duct channelling and burial) has already reached 90% progress. Meanwhile, the actual roll out of fibre cable is in a 52% progress stage.

ARSAT is in charge of the operative phase implementing the whole network, its operation and maintenance, thus bringing the possibility of broadband access to all corners of the territory.

The backbone network is divided into nine regions. This transport network will allow interconnection between the National Access Point to the network (located in ARSAT's station in Benavidez, province of Buenos Aires), and the province access points that will connect to the backbone and will extend service to the different provinces and regions.

### **d. Free-to-the air Digital Television (TDA)**

Within this plan's frame, the Argentine State is promoting the development of **OPEN DIGITAL TELEVISION (TDA)**, established by Decree N° 1148/2009. This means free access to good quality television, free of charge, with national coverage. The goal of this public policy is to guarantee the democratization of information and knowledge, digital inclusion, respect for cultural diversity, national industry enhancement and development, employment promotion, and scientific and technological advance in order to promote good quality television contents and citizen participation.

TDA is the social plan through which the Argentine State implements new Technologies that allow the deployment of Digital Terrestrial Television and Digital Television via Satellite.

***In order to bring this service to 82% of the population nationwide, 83 Digital Transmission Stations have already been installed in different parts of the country to broadcast the TDA signal.***

With the purpose of guaranteeing all Argentines access to this service, the national State has already distributed 1.2 million digital television set-top boxes, free of charge, among social plan holders (people who get a government subsidy for being in a marginal and/or vulnerable situation), including persons with disabilities or with specific needs, retired people or pension holders earning the minimum amount, as well as social organizations or institutions. This way, traditional logic indicating that

access to the latest technologies should start in the higher-income sectors and then go down to lower-income sectors is inverted.

It is important to highlight that Argentina has chosen the Japanese digital television standard ISDB-T for its technological infrastructure, the one adopted by most of the Latin American countries.

### ***TDA and International cooperation***

During the celebration of Argentina's Bicentennial, the country hosted the II ISDB-T Standard International Forum, held 4 - 5 May 2010, with the purpose of sharing the experience gained during the implementation of the standard and the development of Digital Television in the ARGENTINE REPUBLIC, and in other countries around the world.

This International Forum managed to gather several governmental authorities from Latin America and other countries, leaders of the entrepreneurial sector and the Argentine chambers, university scholars, technical specialists and free-lance content producers, which shows enormous participation of all the voices involved and interested in this matter.

Among other activities of interest for the participants, there were exclusive guided tours for governmental delegations to ARSAT's earth station, located in the suburban area of Benavidez (province of Buenos Aires), and to the transmission plant and studios of the Public Television Channel.

These key actions destined to gather governments, regulators, the private sector and the academia, among others, were some of the first steps in the implementation of a new communication model, with strong inclusive and integrating goals that foster federal dialogue and diversity. Moreover, they were associated to the new public policies that consolidated the execution of productive national projects included in the State's agenda (industry, education, the media, telephony, television, genuine job creation, etc.), and at the same time, they became guarantees and propellers of the telecommunication sector evolution, both nationally and globally.

Consequently, Argentina was the driving force in the creation of the Intergovernmental Conference on Digital Terrestrial Television for the Americas Region, established by the subscription of the "Declaration of Santiago de Chile", on 29 March 2011. The Conference is comprised by Argentina, Bolivia, Brazil, Chile, Costa Rica, Ecuador, the Philippines, Paraguay, Peru, Uruguay and Venezuela; Japan is also a part in its capacity as special guest.

This international instrument is based on the importance gained by the global advance of the ISDB-T standard, particularly in our region. With an enabling environment, Argentina assumed the coordination of the Ad-hoc Working Group for the creation of the general rules to establish the basis for the smooth running of the Conference.

The goal of this Conference is to create an intergovernmental space to exchange experiences and to articulate and develop joint proposals related to digital terrestrial

TV with an integration and inclusive view. These proposals will take into consideration matters that have a social, cultural and technological impact. This goal is framed in a spirit of complementarity with the ISDB-T International Forum and other international organizations.

This Digital Terrestrial Television International Forum extends admission to countries that have expressed their interest in adopting the ISDB-T standard so that they can have access to the exchange of information and experiences in this field.

#### **e. New bands for the 4G mobile service**

Another public policy adopted by President Dr Cristina Fernández de Kirchner in terms of technological innovation of the telecommunication/ICT sector is the invitation and/or call for bids of the new bands of the 4<sup>th</sup> generation (4G) mobile service. The measure comes as a response to the increased demand for mobile communication services experienced since the economic growth Argentina has had for the last decade.

Currently, there are 45 million active lines to get this new navigation technology in mobile devices. The national Government has had a complementarity role in this to guarantee the interconnection of cooperatives and small medium enterprises (SMEs) with the virtual mobile operators (VMO), accompanied by the Communications Secretariat, CNC and ARSAT.

#### **f. National Plan for Cultural Equality**

The National Telecommunication Plan also embraces the **National Plan For Cultural Equality** – inclusion in diversity, established by Decree N° 345/2012, considering access to ICTs and culture an essential right for all the inhabitants of Argentina.

Goals:

- To integrate and articulate the ongoing public policies related to communication and culture in order to enhance their effects and extend their scope.
- To enable the technological and infrastructure conditions that guarantee equal opportunities in the access, production and dissemination of cultural goods and services, in a federal and inclusive manner.
- To promote the production of cultural goods, key for job creation, social integration and encouragement of the national culture, both locally and internationally.
- To foster the production, circulation and exchange of cultural goods across the country.

The key in the implementation of public policies is their articulation and complementarity spirit, which allow the enhancement of the national public policies in terms of culture, telecommunications/ICTs, development and technological industry.

Digital Open Television (TDA), Argentina Connected and Cultural Equality are projects focused on persons with a plural, inclusive and federal social perspective.

The enabling component of this TRIAD of digital platforms is the Federal Fibre-optic Network. It has achieved greater penetration in the use of telecommunication/ICT services, increasing capillarity and improving the quality in access to broadband Internet, television and video.

## **2. Education and Contents**

### **a. Conectar Igualdad (*Connect Equality*)**

Another milestone for the National Government's public policies is the Program *Conectar Igualdad* created in April 2010 through Decree N° 459/10 and signed by President Dr Cristina Fernández de Kirchner to recover and value public schools and to reduce the digital, educational and social gaps across the country.

As a digital inclusion policy with federal scope, Conectar Igualdad goes across the country to distribute net books to all students and teachers in state managed secondary schools, especial education institutions and teachers' training colleges. So far, 4 million net books have been distributed.

The program offers the use of net books both at school and at home for students and teachers, causing a strong impact in the every-day lives of all the families and the most heterogeneous communities of Argentina. Thus, the goal of Conectar Igualdad is to work towards a society rich in new ICT technologies literacy, with chances of a democratic access to technological resources and information, regardless of the social or economic group, and of the most diverse geographical areas, both rural and urban.

The program also provides for the development of training schemes, connectivity provision and content production through the portal Educ.ar.

To this date, more than 35 000 learning objects have been developed, including videos, infographies, comics and didactic sequences. The contents and applications are partly developed by the State, partly provided by companies of the sector, and partly obtained from the exchange with other countries in the region

Students, teachers, families, directors and technological authorities are part of this process that pursues deep transformations to strengthen the school for the consolidation of a fair, free and sovereign Argentina.

## **b. Audiovisual media**

The regulatory frame of the audiovisual media emerged as another milestone that marked a turning point in Argentina's telecommunication/ICT market with the enactment of the Audiovisual Communication Services Act Nº 26.522, whose purpose is the regulation of audiovisual communication services nationwide and the development of mechanisms destined to the promotion, decentralization and encouragement of competition in order to democratize, universalize and decrease the cost of the new information and communication technologies.

To this end, the Generation of Contents program, including the Operational Plan and the Audiovisual Production Nodes Program was developed. It is worth pointing out that in recent publications, Argentina appears as the FOURTH global producer of audiovisual contents in the International market.

The Argentine Government, with a view to promoting a high quality television, more inclusive and closer to the citizens, defined public policies that stimulate the development of the audiovisual industry. To do this, it became essential to create spaces to foster training, production and dissemination of audiovisual contents both at national and regional level.

This access to content democratization policy that encouraged dialogue nationwide facilitated the creation of the Argentine Audiovisual Bank of Universal Contents (BACUA).

This agency of vital importance is an easy-access digitalized network, comprised by the material provided by the different players in the audiovisual field of all the Argentine regions. BACUA seeks to supply audiovisual contents with universal reach, both for the transmitting spaces that emerge and the current ones. Thus, cultural dialogue among the different Argentine regional identities is promoted through the audiovisual field. The communities in each region of the country will be able to watch, through their local TV stations, the contents produced in other regions and distributed by BACUA.

This allows the consolidation of a space for federal audiovisual exchange whose end is to seek, organize, digitalize and socialize audiovisual contents that reflect Argentina's cultural diversity.

## **c. TECNOPOLIS for everyone**

Since July 2011 until now, year after year, the Presidency has promoted the mega event TECNOPOLIS: a science, technology, industry and art mega exhibition, with headquarters in Argentina, and the biggest in Latin America. It is located in the Bicentennial Park, in the north of the Buenos Aires metropolitan area.

With free access, 10 000 Argentineans visited TECNOPOLIS during its three editions.

The exhibition gathers science, art, technology and innovation combined through the creativity, knowledge, talent and strength of all Argentineans.

### **3. Regulatory framework**

#### **a. Cibersecurity**

With the exception of the Digital Signature act (25.506) and the Cybercrime act (26.388), our country has not issued specific regulations to control the actions that take place in the digital world.

In activities such as e-commerce, whose yearly increase is significant, the ordinary rules are applicable: the Civil and Commercial Codes, the Copyright Act (11723), Consumer Defense (24240), etc.

Discussions are in place about the convenience of issuing new and specific regulations applicable to digital issues or to the inclusion of these novel aspects in the current regulations.

As regards the Cybercrime Act (modifying the Criminal Code), the legislative criterion followed was, rightly so, not to create a law with new types of crimes, but to incorporate new computer-related offences to the current types of crimes.

The applied model, in a certain way, was inspired by the Budapest Convention on Cybercrime of the European Council, sanctioning all the criminal behaviors stipulated in the Convention. From the point of view of Argentina's general criminal legislation, this decision put the country in a position that allowed it to get access to said convention, a process that has already started. In this respect, it should be pointed out that through the Ministry of Justice a bill has already been drafted to be submitted to the approval of the Congress during the next legislative term. It would make effective the incorporation of Argentina to the Convention.

A special aspect related to cybersecurity is critical infrastructures.



Resolution N° 580/2011 of the Chief of Ministers Cabinet created the “National Program for Critical Information Infrastructures and Cybersecurity”- ICIC, within the scope of the Information Technologies Office (ONTI).

The main goal of this program is the “elaboration of a specific regulatory frame, enabling the identification and protection of critical and strategic infrastructures of the entities defined in Article 8 of Act 24 156”.

The ICIC is based on four Working Groups:

- **GICI:** its main target is to survey, identify and classify strategic and critical information infrastructures. The infrastructures are defined as follows: premises, networks, services and, physical and IT equipment, whose functioning is essential to provide services to citizens and institutions.
- **GAP:** the Working Group responsible for monitoring IT systems and services exposed in networks. It conducts evaluations and qualifications of the Data Centres through security audits. It will submit an annual report on cybersecurity.
- **CERT:** the response team in the event of computer incidents specifically dedicated to the public sector. It promotes coordination among IT network administration units of the national public sector, acting on prevention, detection, handling and compilation of information about security incidents.
- **HEALTHY INTERNET:** an action program destined to educate and raise awareness, especially among children and teenagers regarding the use of new technologies and the risks associated to their use.

Additionally, a Group of Experts in legal Issues has been created to analyze and make proposals regarding the regulatory frame for cybersecurity. This group has drafted a proposal for the creation of two new criminal definitions of the offence: Digital Identity Theft and Service Denial Attacks (DOS).

Also, within the scope of the Undersecretary of Management Technologies, at the National Office of Information Technologies, a process has started with the participation of all the governmental sectors with the purpose of drafting a National Cybersecurity Strategy.

## **b. Argentine Commission on Internet Policies (CAPI)**

On 22 April 2014, the Communications Secretariat issued Resolution 13/2014 which established the creation of the Argentine Commission on Internet Policies (CAPI) in order to design a national strategy to address Internet and its governance. The goal of this entity is to gather all the specialized areas in the field that can provide technical support to get greater and better representation of the ARGENTINE REPUBLIC in forums and international organizations.

The determining factor to form this Commission was the fact that the generation, processing and transmission of information have become key elements in the functioning of societies and access to ICTs, as a source of growth and development.

Therefore, Internet is a key element to promote development and to improve social practices and interactions with relation to infrastructures, transactions and exchanges of information at international level.

For all these reasons, it is extremely important for the national State to participate in a proactive and orderly fashion, counting on the collaboration of the other sectors in the internet ecosystem nationwide, in the current debate on "Internet Governance", including topics such as 1) Internet as an engine for growth and sustainable development; 2) security, taking into consideration legal, regulatory and other frameworks with respect to personal data protection, privacy, spam, hacking and cybercrime, bearing in mind that it is essential to guarantee respect for the right to protect personal data, honor and intimacy in all the aspects related to Internet, as well as aspects related to national security and defense; 3) network neutrality; 4) critical Internet resources such as internet DNS assignments, and Internet Protocol version FOUR addresses (IPv4) and Internet Protocol version SIX addresses (IPv6); 5) the "Internet Governance" multistakeholder model; and, 6) economic, financial and tax challenges related to the extended use of Internet.

The Communications Secretariat, under Decree N° 1142/03, is responsible for representing the ARGENTINE REPUBLIC at the different international telecommunication agencies and organizations. Therefore, it has implicit competence to articulate the participation of multiple areas in the National Public Sector with jurisdiction in essential matters related to Internet.

The different areas that to this date comprise the Argentine Commission of Internet Policies are the following: National Department of Internet Domain Registration, a branch of the Legal & Technical secretariat of the Presidency; the National office of Information Technologies, a branch of the Secretariat of the Cabinet and Administrative Coordination of the Chief of Ministers Cabinet; the Secretariat of Science, Technology and Production for Defense, a branch of the Ministry of Defense; the Undersecretary of Economic Coordination and Competitiveness Improvement, a branch of the Secretariat of Economic Policy and Development Planning of the Ministry of Economy and Public Finance; the Undersecretary of Coordination and Registry Management Control, a branch of the Secretariat of Registry Affairs of the Ministry of Justice & Human Rights; The Secretariat of International Economic Affairs, a branch of the Ministry of Foreign Affairs; and the National communications Commission, a decentralized agency within the scope of the Communications Secretariat of the Ministry of Federal Planning, Public Investment and Services, *inter alia*; and any other organization or institution to be determined, when applicable.

This Commission will create its Internal Operational Rules in order to articulate the participation of different players...

#### **4. Internet Governance**

Since the WSIS Phase I preparatory process (Geneva), the ARGENTINE REPUBLIC has been deeply involved in Internet Governance issues.

During the last WSIS preparatory meeting held in Tunisia (2005), Argentina was the first country to propose the creation of a forum. This proposal resulted in the conformation of the Internet Governance Forum (IGF).

Argentina has taken part in eight Internet Governance Forums making relevant contributions since 2007 with the participation of Dr Olga Cavalli in the Multi-stakeholder Advisory Committee of the Secretary General of the United Nations.

Argentina is also an Observer in the Group on “Enhanced Cooperation”.

In 2007, within the frame of the e-LAC Regional Plan for the Information Society, Argentina proposed the creation of a regional Working Group on Internet Governance, nowadays the only regional coordination space on the matter. Argentina currently holds the vice-chair of this group that meets regularly to address topics of interest for our country and for the region.

Argentina has an active participation in different activities related to Internet governance, such as ICANN meetings, a predominant role in the GAC –Government Advisory Committee-, in the Argentine Chapter of the Internet Society, and academic participation in the Escuela del Sur de Gobernanza de Internet.

#### **5. e-health**

Argentina is carrying out regional actions in its capacity as coordinator of the Working Group on e-health, framed in the Regional Plan for the Information Society in Latin America and the Caribbean e-LAC 2015.

As part of this plan, Argentina and other countries in the region have committed to carrying out the following actions with regard to this issue:

- To make an assessment of the situation of health services, with relation to the macro variables that are essential for the development of e-health:
  - Human resources
  - Basic technology (phones, broadband, Internet and e-mail)
  - E-medicine
  - Standards and interoperability

- Regulatory framework
- Applications in use:
  - Definition of the variables to be monitored encompassed in each of the macro variables.
  - Articulation with the Observatory for the Information Society in Latin America and the Caribbean (OSILAC) and establishment of a joint activities mechanism and calendar.
  - Articulation with the PAHO initiative “E-health Strategy and Action Plan (2012-2017)” and establishment of a joint activities calendar
- To propose regulatory recommendations.
- To propose recommendations for the use of standards.
- To recommend the use of data in each institution of every country that, under previous authorization from the patient, can be visualized and exchanged regionally in an interoperable fashion.
- To promote, in each country of the region, the creation, execution and assessment of effective, integrated and sustainable public policies on the use and application of ICTs in the sanitary environment, contributing to define priorities and instruments:
  - To participate in the E-health Technical Advisory Committee of the PAHO.
  - To contribute to define e-health policy priorities at local, national and regional level.
  - To support the establishment of a National Intersectoral Network (civil society/ public network/ private network) to participate in the processes of policy-making, creation of standards and decision-making for e-health-related issues.
  - To participate in the regional lab proposed by PAHO destined to policy analysis and development, with methodologies and tools that can bring support to the implementation of e-health policies.

## 6. Telework

The chair of the e-LAC 2015 Telework Group is Dr Viviana Laura Díaz from Argentina, the person responsible for the Telework Coordination of the Ministry of Labor, Employment and Social Security. The vice-chair is Ms Adriana Benavidez Viquez from Costa Rica.

The fourth meeting of the Working Group was held in Sao Paulo, Brazil, in April 2013 with representatives of Argentina, Brazil, Costa Rica, Ecuador and México.

fuente de información: **Presidencia de la Nación – REPUBLICA ARGENTINA**  
**Ministerio de Relaciones Exteriores y Culto**  
**Ministerio de Planificación Federal, Inversión Pública y Servicios**  
**Empresa Argentina de Soluciones Satelitales – ARSAT S.A.**  
**Secretaría de Comunicaciones - SECOM**  
**Comisión Nacional de Comunicaciones - CNC**

Main topics discussed:

- The experience of the Argentine Unions (as part of the PROPET program implemented by the Telework Coordination of the MTEySS) and the experience of utility company Telecom S.A.
- Mexican experience: scope of the Telework Act N° 1221 of 2008 and of Decree N° 884 of 2012 (implementing regulations of the act).
- Advancements on the importance of telework in the context of modernization and the progress made in the field by Argentina and Costa Rica. The main points highlighted were the organizations' increase in productivity after the implementation of telework schedules, the profile of the workers and their respective roles, and the estimated savings that telework can bring for the organization.
- The factors that motivate work inclusion of persons with disabilities through Telework in Ecuador.
- The guideline "Telework: key to environmental improvement".
- Efforts focused on the vulnerable populations of each country, seeking social and labor inclusion opportunities through Telework.
- Promotion of the need to create strategies allowing mass ICT access, use and appropriation as the basis to promote telework through strategic public- private partnerships.
- Consensus on the need to work on training and education programs to develop telework skills.
- Argentina was selected as the venue for the fifth meeting.

The fifth meeting of the Working Group was held in Buenos Aires, Argentina, in September 2013 with the participation of Brazil, Colombia, Costa Rica, Ecuador, Mexico and Argentina. During the meeting, the initiative to proclaim 16 September as the International Day for the Promotion and Protection of Telework was addressed and also the Certification Program of Good Practices in Telework was presented. In addition, national and foreign presenters took part in the event to share the vision and experience of companies and unions currently implementing telework in Italy, Argentina, Colombia and Costa Rica