

FINANCING
TECHNOLOGY
ENTREPRENEURS &
SMES IN DEVELOPING
COUNTRIES:
CHALLENGES AND
OPPORTUNITIES

ARGENTINA
Country Study

AN *infoDev* PUBLICATION PREPARED BY

Roberto Zavatta

Economisti Associati SRL in
collaboration with

Zernike Group BV

Meta Group SRL

June 2008

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ABBREVIATIONS AND ACRONYMS

BA	Business Angel	MNC	Multinational Corporation
BPO	Business process outsourcing	MSME	Micro, Small and Medium Enterprise
CGS	Credit Guarantee Societies		
CRM	Customer Relationship Management	MST	Ministry of Science and Technology
EDP	Electronic Data Processing	R&D	Research and Development
ERP	Enterprise Resource Planning	SeCyT	Secretariat of Science and Technology (<i>Secretaria de Ciencia, Técnica e Innovación Productiva</i>)
EU	European Union		
IADB	Inter-American Development Bank	SePyME	Sub-secretariat of SME and Local Development (<i>Subsecretaria de la Pequeña y Mediana Empresa y Desarrollo Regional</i>)
ICT	Information and Communication Technology		
ICTE	ICT Enabled		
IFC	International Finance Corporation	SME	Small and Medium Enterprise
IFI	International Financial Institutions	S&T	Science and Technology
ISP	Internet Service Provider	TOR	Terms of Reference
IT	Information Technology	VAS	Value-added Services
MERCOSUR	Common Market of South America – (<i>Mercado Común del Sur</i>)	VC	Venture Capital
MIF	Multilateral Investment Fund	VoIP	Voice over Internet Protocol
MFI	Micro-finance Institutions	WB	World Bank

Exchange Rates

US\$ 1 = ARS 3.0914 (Average 2006)

EUR 1 = ARS 3.8829 (Average 2006)



EXECUTIVE SUMMARY

The development of Argentina's ICT industry started in the 1980s. The process was slow, but until 2000 Argentina has been leading many other Latin American countries regarding technological development. Towards the end of the 1990s, the growth accelerated following the global expansion of the 'dot.com' market. Then, in 2001, Argentina was hit by a profound economic and financial crisis which severely affected all sectors of the economy and the society as a whole. In addition, the end of the 'dot.com' bubble at the global level further impacted on ICT business perspectives. The hardware industry, mainly based on imported products, suffered the most from this conjuncture. However, this helped the establishment of a more competitive domestic industry and a moderate expansion of exports. At present, the ICT/ICTE industry includes 1,200–1,500 companies half of which active in the software and IT services segment, and the remainder being mainly hardware assemblers and Internet service providers. There are more than 10,000 cybercafés and Internet points, mainly concentrated in the capital city. The majority of ICT/ICTE enterprises are micro and small businesses, often recently established, but there are also huge captive operations established by foreign MNC. In 2006, the overall *turnover* is estimated at US\$ 3.1 billion in 2006, of which US\$ 1.3 billion relate to software and ICT/ICTE activities. Sales are still predominantly in the domestic market but exports of ICT applications have recently shown an increasing trend. Outsourcing activities are gaining momentum, both in the field of IT services and regarding call centers, whose seats reached 40,000 units this year. Total *employment* is estimated at 150,000, with the demand increasing by 20,000 per year.

For several years the Government's attitude to the ICT sector has been characterized, by substantial deregulation and a lack of active policies. After 2001, however, this approach changed significantly,

and the Government started to elaborate strategic plans and pass specific laws and regulations in support of the high-tech industry. The bulk of intervention in these areas occurred after 2004 and the measures adopted included fiscal benefits, support to exports, financial schemes, capacity-building initiatives, investments in infrastructure and education. At the same time, programs for the digital inclusion has been designed and implemented, sometimes with the support of the international donors' community. In this category, fall projects in the field of e-government, e-learning and e-commerce. In this regard, the most important acts in support of ICT have been: (i) the Strategic Plan for Software and IT services 2004–2007; (ii) the "Law on Software" (2004); and (iii) the National Plan for Science and Technology 2005–2015. The main State's body involved in the set up and implementation of activities in the field of ICT is the *Secretariat of Science and Technology* (SeCyT) and its related Agency (ANCyT), whose fields of activities range from incubation, to cross-border programs, to special projects in support of industry's development as the recently launched FONSOFT—a fund for the promotion of the software industry and financing of R&D and development projects.

In 2001–2002 Argentina was stricken by a severe financial crisis, triggered by the State's insolvency on multilateral debt. The downturn was characterized by a rapid devaluation of the local currency, and the massive flight of foreign investments. The whole financial system was harshly hit by the recession. Several domestic banks defaulted, and most of foreign banks discontinued their activities. The VC industry, that had already suffered the burst of the 'dot-com bubble', rapidly declined: of 40 institutional investors active in 2000 only a dozen were still operating in 2004. The economic recovery started in 2003. In the banking sector a series of policies and measures aimed at making the system stronger was taken by the monetary authority. In 2005, for the first time after the crisis, the Argentina's banking system as a whole posted a profit. The reverse trend was mainly driven by State-owned banks which replaced foreign institution at the head of the system. Today, banking sector has

almost entirely re-gained the confidence of clients and investors, and regarding financial solidity it displays a fairly high capital-asset ratio of 17%. There are 80 active institutions, summing up altogether US\$80 billion assets. SME access to bank's financing is restricted by extremely conservative policies and by the high interest rates applied. However, various financing instruments for small businesses has been set up such as factoring and leasing schemes, export pre-financing schemes and a dozen credit guarantee societies.

Also VC industry is re-gaining momentum, although at a slower pace. The private equity firms which remained active after the events of 2001–2002, become much more risk-averse and turned to more sizeable operations at later stage of development. The interest for ICT enterprises drops dramatically and only recently there appear signs of a renovated attention. In absolute terms the private equity industry today accounts for about 10–15 players and a total capital of US\$250 million. Besides big late-stage operators, it is interesting to notice the emergence of a handful of second-generation VC active in the SME segment partly supported by public funds and IFI. In parallel, also business angels operations are scaling up. In particular, in 2005 it was established the first business angel club that has promoted so far no less than seven operations.

The results of the Study suggest the existence of a financing gap for SMEs active in the ICT/ICTE sector. The evidences collected indicate that the problem is particularly acute for enterprises having reached the development stage of their lifecycle, but at a lesser degree also startups and firms in the first expansion phase are affected. In monetary terms the gap hits projects with value ranging from as little as US\$ 50,000 up to US\$1.0 million, but the most problematic area is between US\$200,000 to 500,000 window. This situation is caused by a series of factors including:

- **Financing Policies**—The financial crisis of 2001–2002 have induced an extreme risk-wary attitude in financiers, including both bankers and VC. The level of loan collateral requested by bank is by far the highest in the region, and the interest rate applied is also above the average. The new generation of VC funds tend to avoid dealing with start-up and young enterprises, and

after the burst of the 'dot-com bubble' ICT sector is no longer prioritized;

- **Lack of Innovative Equity Financing Schemes**—There are practically no seed funds available, and very few examples of schemes co-financed by public and private sector;
- **Constraints on the Demand Side**—SME's widespread informality and lack of transparency represents a major obstacle in dealing with financiers. Many entrepreneurs are also unable to prepare sound business plans and to defend it vis-à-vis external investors. In addition, Argentinean entrepreneurs tend to have a risk-averse attitude, and more often than not prefer to stay small rather than make recourse to external financing;
- **Understanding of ICT**—Bank officers and to a lesser extent equity fund administrators have often a scarce knowledge of the various ICT/ICTE business models, and therefore are more inclined to reject request of financing in this area;
- **Business Environment Constraints**—The regulatory and fiscal framework for private equity operations need substantial reform in order to attract foreign investments. Exit routes, in particular through IPO, are very narrow. The overall business climate and investors confidence are still somewhat influenced by the early-2000 crisis.

Some possible measures to mitigate the gap and facilitate access to financing for small ICT/ICTE firms have been identified. To begin with, concrete actions should be aimed at increasing the amount and accessibility of risk capital, which is notoriously a crucial feature of a healthy IT ecosystem. This could be achieved through the establishment of private-public matching schemes providing some sort of incentives to the participation of private investors for instance in the form of down-side protections schemes, leveraged returns schemes. The feasibility of the establishment of such schemes should be preliminarily investigated through a dedicated study, which should also identify the best model according to Argentina's legal framework and business environment. In addition to that, initiatives can also be envisaged to strengthen and expand the Business Angels industry, promoting for instance the establishment of new Business Angels groups and providing assistance to the existing ones. In the field of access to bank financing, it appears

particularly useful to concentrate on the phenomenon of the credit guarantee societies that have mushroomed in Argentina over the past few years. In particular, it should be explored the possibility of setting up a facility of this type dedicated to the ICT/ICTE sector. Another obstacle to SME financing is determined by the scarce ability of entrepreneurs to deal with financiers in a proper way, such as. providing transparent and reliable financial statements, preparing sound business

plans. This could be improved enhancing the capacity of intermediary organization and business incubators to provide assistance on these matters, or through the establishment of dedicated schemes. Finally, ways should be devised to remove obstacles generated by the information gap on ICT/ICTE. To this end, it could be worth supporting initiatives of various natures, aimed at improving and circulating the information in this field with the support of the numerous existing stakeholders.



I. INTRODUCTION

This report (the “Report”) has been prepared by *Economisti Associati* in collaboration with *Meta Group* (the “Consultant”) within the framework of the assignment on “Scaling up Innovation and Entrepreneurship in Developing Countries: The Role of Private Sector Finance” (the “Assignment” or the “Study”). The overall objective of the Assignment is to analyze issues in the financing of small and medium enterprises (SMEs) in developing and emerging countries, with special reference to small businesses active in the information and communication technology (ICT) sector as well as in ICT-enabled (ICTE) activities.

This Report reviews recent developments in the ICT/ICTE sector in Argentina, with special emphasis on current conditions for the financing of ICT/ICTE small enterprises. The Report is based on the results of a field mission in Argentina (April 24–28, 2006) as well as on the analysis of a variety of secondary sources.

The Report is structured as follows:

- Section II presents a country overview including the ICT/ICTE industry, the relevant policy and institutional framework, and the financial system;
- Section III analyzes the features related to the financing of small ICT/ICTE enterprises;
- Section IV offers conclusions and recommendations.

The Study also includes a series of Annexes, providing supporting evidence for the elements presented in the main text. In particular:

- Annex A provides additional information on the ICT/ICTE industry;
- Annex B illustrates the institutional setting for the ICT/ICTE sector;
- Annex C presents the salient features of selected banks and private equity firms;
- Annex D provides the list of entities and persons met during fieldwork;
- Annex E presents the profiles of SMEs financing organizations;
- Annex F presents the profiles of small ICT/ICTE enterprises interviewed during fieldwork



II. THE COUNTRY BACKGROUND

II.1 THE ICT/ICTE SECTOR¹

Overview: The Argentinean ICT industry was severely hit by the financial crisis of 2001 and by the end of 'dot-com' bubble, but it is now showing encouraging signs of recovery. At present, the industry includes around 1,000 companies, the majority of which are micro and small businesses, many recently established. The distribution of IT equipment and the provision of 'basic' services account for the most, but software developers and providers of value-added services hold a substantial market share. The overall *turnover* is estimated at US\$3.1 billion (2006), of which US\$1.3 billion relates to software and ICT/ICTE activities. The remainder relates to the fairly developed hardware assembly industry. Sales are predominantly in the domestic market, where the devaluation triggered a major trend toward import substitution. However, exports of ICT applications have recently shown an increasing trend. In particular, outsourcing activities are gaining momentum, both in IT services and call centers, whose seat number reached 40,000 units this year. The total *employment* is about 150,000, with call centers accounting for the majority.

Telecom: The Argentinean telecom market was privatized in 1991, when the state-owned *Empresa Nacional de Telecomunicaciones* (ENTel) was split into two entities. Both of the entities were sold to private investors. The first was sold to *Telecom Argentina*, which was controlled by France Telecom and is now controlled by Telecom Italia. The second was sold to *Telefónica de Argentina* (TASA), which is a subsidiary of Spanish *Telefónica*. This duopoly lasted until November 2000, when free market competition was officially introduced in the telecom sector. The telecom market, like the rest of the Argentinean economy, was hit by the 2001 down-

turn. The number of fixed-line telephone subscribers declined for several years, but in 2004, the recovery started. Today, there are 8.5 million active lines, which represents one out of every 22 persons. The recovery of the mobile market is more impressive—in 2006, this segment accounted for 32 million subscribers. The main mobile operators are *Movistar*, which is controlled by Telefonica, and *CTI Movil*, which is controlled by America Movil. Each of them accounts for 30–35% of the market share. The third ranked mobile operator is *Personal*, which is controlled by Telecom Asrgentina and accounts for 25% of the market share.

Internet Services: In Argentina, there are 3 million subscribers to Internet services, and there are more than 13.0 million users. This represents a 33% penetration rate. Argentina is now one of the most connected countries in Latin America. The Internet Service Provider (ISP) market includes a large number of players, likely in excess of 200. Some of them operate only in small areas, while others have a national coverage. As of the beginning of 2005, this sector employed 6,000 IT professionals, one-third of whom are IT engineers and technicians. Unsurprisingly, the ISPs connected to the telecom operators are much larger than the standalone businesses. The market shares of the former are steadily growing due to: (i) 'phone plus Internet' packages at competitive rates; and (ii) large efforts in broadband services. Two of the leading ADSL services—*Arnet Highway* and *Speedy*—are supplied by the two incumbent telcoms, *TASA* and *Telecom Argentina*. Over the past two to three years, Internet broadband services have outnumbered traditional dial-up, but the most popular type of connection remains the Internet-free. This is a special type of 'phone plus Internet' package, in which unlimited and free Internet access is granted in return for a small surcharge on telephone fares. Internet access is also available through a vast network of public Internet points and cybercafés. It is estimated that in the greater Buenos Aires region alone, there are at least 9,000 facilities of this kind.

¹ A more detailed overview of Argentinean ICT/ICTE industry is provided in Annex A.

ICT/ICTE Activities: With the notable exception of the recession of the early 2000s, Argentina has proved to be a fairly dynamic and diversified ICT/ICTE industry. The *Software and IT Services* sector has grown steadily since 2003, fueled by several improvements in the overall environment regarding the legal and institutional framework, the infrastructure, and the global competitiveness. In 2005, the turnover generated by this industry amounted to US\$1.3 billion. Exports also rose, mainly due to the favorable exchange rates—they currently account for 25–30% of total revenues. The number of active players is estimated to be around 700, mostly based in the capital city or in other IT centers such as Rosario, Córdoba, Mendoza, Tandil, Mar del Plata and Bahía Blanca. The industry encompasses a few large foreign-owned companies. There are a multitude of domestic enterprises, which are mostly small or micro-sized, with 15–20 employees on average and an annual turnover in the US\$1.0–3.0 million range. Half of the domestic firms are involved in software development and customization; 18% are involved in basic assistance and maintenance services; 15% are IT consultants; the rest perform miscellaneous types of services. IT outsourcing activities are among the most dynamic segments of ICT/ICTE industry. The interest of large foreign MNCs in outsourcing to Argentina is growing, both in the form of ‘captive’ operations and of ‘third-party’ outsourcing. The Argentinean IT-outsourcing sector is the third-largest in Latin America, after Brazil and Mexico. It is estimated that this sector will reach a turnover of US\$500 million next year. In particular, call centers are rapidly expanding. It is estimated that Argentinean call centers currently account for 40,000 seats.

Argentina is also home to a quite developed *hardware* and electronic industry. Most Argentinean hardware firms were established in the 1980s and 1990s. They are mainly assemblers of foreign import products, rather than manufacturers. Precise data on the number and size of PC and IT equipment assemblers is not available, but very likely there are at least 200–300 active units, employing 5,000–6,000 staff. In terms of revenues, the hardware sector is in the US\$1.0 billion range—to a large extent generated by the internal market. Exports account for a thin US\$50 million. The 2001 crisis had a huge impact on the internal PC market, reducing sales significantly. The conjuncture was especially negative for branded, imported

goods—this underpins the later expansion of the locally-assembled hardware industry that currently accounts for 60% of sales.

II.2 LEGAL AND INSTITUTIONAL FRAMEWORK²

Overview: The privatization and deregulation process carried out by the government during the 1990s, has had a huge impact on the participation of Argentina in the global dot.com economy. During post-liberalization years, the Argentinean telecom and ICT market attracted sizeable amounts of direct foreign investments, which helped to create a solid base for the technology industry to grow. However, this drive was accompanied neither by measures for the supporting of domestic IT SMEs, nor by investments in research, innovation and quality. Therefore, Argentinean IT enterprises could not fully exploit the favorable situation of the late 1990s, and suffered more than they might have from the subsequent downturn. After several years of deregulation and lack of active policies, the government changed its approach, and started elaborating strategic plans and passing specific laws and regulations in support of the high-tech industry. After 2004, the measures adopted included fiscal benefits, support to exports, financial schemes, capacity-building initiatives, and investments in infrastructure and education. At the same time, programs for digital inclusion were designed and implemented, sometimes with the support of the international donor community. This included projects in e-government, e-learning and e-commerce. The main state body involved in the set-up and implementation of ICT activities, is the *Secretariat of Science and Technology* (SeCyT), which was established under the aegis of the Ministry of Education, Science and Technology. A number of ICT initiatives have also been carried out by the *Secretariat of Industry, Trade and SMEs*.

Legal and Policy Aspects: Some important policy papers and pieces of legislation for the ICT/ICTE sector have been issued over the past few years. In particular:

² Brief profiles of the main public and private sector institutions involved in the Argentinean ICT/ICTE sector are illustrated in Annex B.

- The Law 25.922 / 2004, known as the Law on Software, is the most important act in support of the software industry. It provides for the following: (i) the “Fiduciary Fund for the Promotion of the Software Industry” (FONSOFT); (ii) a 60% discount on the income tax; and (iii) the stability of the tax regime for a period of ten years;
- The “Plan Estratégico de Software y Servicios Informáticos 2004–2007” (Strategic Plan for Software and IT services 2004–2007) was launched in 2004. It will serve as the benchmark for the adoption of subsequent regulatory actions and concrete measures;
- The Law 25.856 / 2005 assimilates software development to industrial productive activities, thereby determining the extension of a series of fiscal benefits and other incentives to enterprises active in this segment.
- The “National Plan for Science and Technology 2005–2015” was issued in 2005. It was the first long-term plan ever devised in this field in Argentina. The S&T plan includes a section dedicated to “Advanced Technologies” that provides a series of policy recommendations for the ICT sector.

Support to Private Sector Development: The apex body for providing support to the technology sector, including ICT/ICTE enterprises, is the *Secretariat of Science and Technology SeCyT* (Secretaría de Ciencia, Técnica e Innovación Productiva). Directly—or through its implementing agency, ANCyT—the SeCyT is responsible for numerous programs aimed at the development of ICT in Argentina. An example of these initiatives is the “Information and Telecommunication Technologies (ITT)” program. Its objectives include: (i) supporting the adoption of ICT technologies by the productive sector; (ii) diffusing ICT for social inclusion and e-government practices; (iii) implementing special technology projects for SMEs aimed at enhancing productivity and competitiveness; (iv) fostering the growth of IT clusters; and (v) promoting the development of cross-border digital corridors. Other SeCyT initiatives involve the establishment of a network of Business Incubators and Technology Parks. Another important measure decreed by the “Law on Software”, is the establishment of a fund for the promotion of the software industry (FONSOFT). This fund is not yet fully operative. Moreover, the US\$3 million it currently

has at its disposal appears to be insufficient to cope with the ambitions of the initiative. The FONSOFT will support: (i) R&D projects; (ii) training programs and high level courses; (iii) projects aimed at fostering innovation in software; and (iv) projects aimed at promoting entrepreneurship in the ICT/ICTE sector. The FONSOFT will be administered by ANCyT. The *National Secretariat of Industry, Commerce and SMEs* has recently launched the Forum on Competitiveness of Software and Computing Services, which has the objective of discussing and designing public policies for the IT sector together with private sector representatives. The work of the Forum was crucial in the drafting of the 2004 Strategic Plan.

E-Government: In April 2005, the national plan for e-government was approved, along with specific guidelines for the various bodies of the public administration. The objectives of this plan are: (i) to leverage the use of ICT in the state’s administration as a means of improving the relations with citizens and the management of resources; (ii) to increase participation and transparency; and (iii) to reduce the overall administrative costs. Previously, e-government regulations have been adopted by the local governments of the Buenos Aires district (2002) and the Misiones district (2003). E-government initiatives are also promoted within the framework of the SeCyT’s Information and Telecommunication Technologies program.

II.3 THE FINANCIAL SECTOR³

The Banking Sector: The recent history of the Argentinean banking system has been profoundly affected by the 2001–2002 financial crisis. The downturn was mainly triggered by the state’s inability to repay the national debt, but it also reflected the weaknesses of a system that had slowly become centered on the dollar without the support of an adequate monetary policy. This period has been characterized by: (i) a severe devaluation of the national currency; (ii) a series of bank defaults; and (iii) a massive flight of foreign capital. The social and economic consequences have been disruptive—people’s confidence in the banking system fell precipi-

³ A more comprehensive analysis of the Argentinean financial system is provided in Annex C.

tously. In 2003, with the change of administrations, a recovery process was initiated. This consisted of a series of policies and measures aimed at making the financial system stronger and improving the control over the monetary authority. The state-owned banks took the lead in this process. The influence of foreign-controlled banks, which had previously dominated the system, declined substantially. For the first time since the crisis, in 2005, the Argentinean banking system posted a profit. In 2006, the progress continued regarding quantitative performances, such as value of assets, level of credit to private sector, net profits and financial soundness and solidity. The capital-asset ratio reached 17%, which is higher than most developing countries. Today, there are 80 banks in Argentina, which together have about US\$80 billion in assets. The total credit to the private sector is US\$25 million. Public sector banks account for 40% of the total assets; private domestic banks account for another 32%; and international institutions account for 27%⁴. Regarding lending activities to the private sector, the percentages are different: foreign banks account for the relative majority (37%), and state-owned banks for the least (25%). The system is moderately concentrated. The top five banks, (i) *Banco de la Nacion Argentina*, (ii) *Banco Rio de la Plata*, (iii) *BBVA Banco Frances*, (iv) *Banco de Galicia y Buenos Aires*, and (v) *Banco de la Provincia de Buenos Aires*, account for half of the total assets. Bank policies for SME financing are quite strict, and the interest rate applied is usually very high. Few banks operate SME-dedicated credit lines. However, *Banco Credicoop* and *Banco Macro* have set up a US\$10 million facility for small business loans. *Banco*

de la Nacion Argentina has created—in conjunction with its associates, *Banco de la Provincia de Buenos Aires* and *Banco de la Ciudad de Buenos Aires*—a factoring financing scheme for SMEs. In addition, several credit guarantee societies have been established, whose main features are summarized in Box 1.

Venture Capital: During the 1990s, several private equity firms were active in the country. They were especially active in high growth potential Internet projects⁵. The VC industry was fairly diversified—it included funds that focused on seed and startup financing, such as *Antartic Ventures* and *Flatiron Partners* (from Chase Capital Partners). Many of these early VCs were active in the fields of the Internet, software, IT services, and media, in connection with the global scaling-up of the ‘new economy’. However, the bursting of the ‘dot-com bubble’ and the contextual financial crisis of Argentina in 2001, radically transformed the landscape. Many of these early VCs incurred significant defaults. Most of the foreign players withdrew from the country. The few investors that remained turned to more sizeable and less risky deals in other sectors. Since 2003, the macroeconomic situation has improved, and investor confidence in the potential of Argentina’s IT sector has slowly been restored. However, the number and size of VC operations currently in the country is still limited. There are no more than a dozen active players, with a total capital of around US\$250 million. A number of private equity firms, such as *Pegasus Capital*, and *Dolphin Fund Management*, have a distinct preference for late-stage investments in well-established enterprises. However, the industry does include operators entirely or mostly active in the SME segment, such as *Penguin Circle*, *PCP*, *SLI Venture* and *Holdinvest*⁶. In addition, there are a couple of players in the ‘micro-equity’ segment, *Chrysalis* and *IOL Trust*⁷. The industry

BOX 1. Credit Guarantee Societies

As a consequence of the narrow access of SMEs to mainstream bank financing, several credit guarantee societies have been created in Argentina over the past decade. CGSs are established as commercial entities, and regulated by commercial law. They provide its members the real guarantees necessary to obtain bank loans and other forms of financing. They operate as mutualistic institutions, with the members virtually being simultaneously lenders and borrowers. In addition, CGSs can provide technical assistance to their members on financial issues. CGSs operate credit guarantee funds set up with resources from SMEs and other public or private financial institutions, with members’ funding mandatory being in excess of 50% of the fund capacity. SEPYME supports this type of facility through the FoGaPyME, which is a US\$33 million Guarantee Fund for SMEs. The FoGaPyME provides both refinancing for CGSs and direct guarantees to eligible SMEs. At present there are a dozen active CGSs in Argentina including, *Garantizar*, *Avaluar*, *CAES*, *Macroaval*, *Azul PyME*, *Propyme*, and *Agroaval*.

4 The remaining 1% refers to non-banking financial institutions.

5 According to a study conducted by the Fundacion Endeavor in 2000 there were 40 active funds in Argentina. The vast majority of these funds operated in the Internet and ICT sector, and one-third of them were interested in seed and startup financing.

6 Penguin Circle is a scheme focusing on high-tech and Internet, active at the startups and development stage, and financing operations in the US\$ 100,000 to 500,000 range. Holdinvest manages a US\$7.0 million fund financed by national investors, focused on deals in the US\$1–3 million in sector software, services, food industry, and tourism. SLI Venture is mainly active in the fields of technology, telecom, logistics and media, financing operation in the US\$0.5 to 5 million range promoted by enterprises at development/expansion stage. PCP is more skewed on medium-sized enterprises at the expansion stage, financing projects above the US\$3.0 million mark.

7 Chrysalis is a generalist scheme originated from a group of business angels investing typically from US\$50,000 to 150,000. IOL Trust specializes on start-ups with operations below US\$250,000.

includes an SME-dedicated fund called *Inverpymes*, which is co-sponsored by IADB and two local banks. However, *Inverpymes* has thus far concluded no deals. Further improvements are expected from the implementation of the publicly-funded FONSOFT, which will provide risk capital to SMEs active in the software and IT services sector. Another interesting initiative is the “Programa Universidades” (University Program), which was launched by the *Banco Río*. Its main objective is to create good matches between entrepreneurs and potential equity investors. The program addresses business plans presented by bank clients coming from universities, incubators, and business schools. To be eligible, projects should: (i) be in innovative sectors; (ii) be oriented toward exports; (iii) require from US\$100,000 to 1.0 million; (iv) be already in operation. If the project is selected, *Banco Río* will help find potential equity investors, and may directly participate to the investment.

Business Angels: Argentina is home to an active Business Angel Club. It was established in 2005, by a group of alumni of *IAE Business School* and the *Centre of Entrepreneurship of Universidad Austral* in Argentina. The activities of this association include: (i) scouting and assessment of investment opportunities in startup enterprises; (ii) managing relations among promoters, investors, incubators and other stakeholders; (iii) organizing monthly presentations of projects; and (iv) assisting its members throughout the various phases of the investment process. The Club does not operate a fund—each member decides on an individual basis whether to participate in the investment opportunities presented. When a number of members have reached a consensus on a given deal, a specific fiduciary fund is created to effectuate the investment. The Club currently has 60 members. Every month 8–10 projects are screened and 2–3 are presented to the membership during monthly meetings. The deals proposed usually range from US\$50,000 to 150,000, but larger transactions may be considered. Thus far, the largest project financed amounted to US\$600,000. Since its inception, seven projects presented by the Club have received financing, for a total amount of US\$1.75 million. Another US\$1.0 million worth of transactions are currently under discussion. The club operates in all sectors. Aside from one company involved in e-commerce, ICT/ICTE has not seemed to receive special attention.

Other Financing Institutions and Schemes: In Argentina there are various financing schemes and facilities focusing on SMEs, sometimes with a special focus on the ICT/ICTE sector. Most of these initiatives are promoted by a series of autonomous agencies linked with the central government, in collaboration with private sector and international organizations. These initiatives include:

- **CREAR-CIT Program:** Launched in 2002 by SECyT, it aims to promote the development of the risk capital market in the country. Among the concrete activities implemented, the “Risk Capital Forum” is particularly notable. The first edition of the forum was held in 2004. It has been the most important event in this field, attended by entrepreneurs and several stakeholders from public institutions, universities, VC firms, and BAs.
- **SECyT’s Funds:** The SECyT manages three funds aimed at supporting projects in the fields of scientific innovation and technology. The first, FONSOFT, is a recently-launched financial instrument for the software industry. It made its first request in 2006 for an overall US\$3.5 million. The second fund, FONTAR, is the main Argentinean technological fund. It provides grants, fiscal credits, and loans to enterprises, universities, incubators and other types of institutions active in the field of technology. The third fund, FONCYT, is focused on the promotion of research activities in the S&T field.
- **SEPYME:** The Sub-secretariat for SMEs and local development is SEPYME, which is attached to the Ministry of Economy and Production. It is entrusted with the design and implementation of measures in support of SMEs, such as fiscal credit, financing for the import substitution, guarantee schemes, and export pre-financing. In the ICT sector, SEPYME manages a multi-staged program that features a financing instrument, the FONAPYME TICs. This is a credit line with an overall corpus of US\$3.3 million, which is dedicated to software and IT services MSMEs. It provides soft loans of up to US\$80,000, at a rate of 6–7%.

International Donors and IFIs: Several funds and programs promoted by government agencies and financial institutions are supported by the donor community and IFIs, through a series of technical

assistance and financing schemes. The following are among the various organizations involved:

IADB/MIF has recently financed the third round of the Technological Modernization Program—TMP (2006–2010), with a prospected contribution of US\$280 million. TMP aims to enhance innovation and technological development in Argentina’s productive sector. The program is comprised of four components: (i) Consolidation of Innovation in the Productive Sectors; (ii) Consolidation of Capacities in R&D; (iii) Promotion of Collaboration in the Productive Sector; and (iv) Consolidation of S&T Institutions⁸. IADB also co-sponsors the program “Iniciar”, with an investment of US\$100 million. Iniciar is aimed at refinancing commercial banks

that set up lending schemes for SMEs. Loans available under this scheme must not exceed US\$50,000 on a four to five-year term. Eligible final borrowers are SMEs with an annual turnover below US\$500,000. The **World Bank** is involved in the financing of various programs in Argentina. The ‘country assistance strategy (CAS)’ for the period of 2006–2008, anticipates an overall financial assistance of US\$3.3 billion, mainly for investment projects. The PyMExporta facility is among the successful instruments for SMEs developed in the past by the World Bank. The PyMExporta facility supports SMEs involved in the export segment.

⁸ Source: the IADB’s official website: www.iadb.org.

III. ISSUES IN THE FINANCING OF ICT/ICTE SMALL BUSINESSES

III.1 SME FINANCING NEEDS – THE DEMAND SIDE

Argentina hosts a relatively developed and diversified ICT/ICTE industry, including large foreign MNCs as well as domestic micro-firms. Small Internet-based firms and IT services providers are the least exigent, in term of amounts. In the initial period, the requests tend to be for small amounts, typically in the US\$10,000–30,000 range. The start-up of software developers is slightly more capital intensive, due to the larger R&D investment required. However, with the exception of certain hardware companies, call centers and other BPOs, the initial financing needs are usually quite limited. In later stages of maturity, the financing needs scale-up. After the first expansion stage, the needs voiced by IT entrepreneurs typically rise above the US\$1.0 million mark. In terms of rationale, while R&D initially absorbs the bulk of resources, well-established enterprises need to put increasing amounts of capital into maintaining and expanding their commercial networks, especially in the case of export-oriented firms. Some considerations on the demand of financing expressed by Argentinean ICT/ICTE enterprises in the various stages of development are provided in Table 1.

III.2 ISSUES IN ACCESSING FINANCING – THE SUPPLY SIDE

Issues in Accessing Bank Financing: As a consequence of the financial crisis of 2001–2002, the

banking system has become more and more cautious in its lending policies. On the one hand, Argentina certainly holds one of the healthiest banking sectors in the region. It is largely compliant with international standards. It is endowed with a credit information system whose coverage is much larger than the average for OECD countries⁹. On the other hand, the conditions applied to loans by the majority of banks are so strict, that a huge share of the productive system is *de facto* excluded from financing. According to the World Bank's "Enterprise Surveys", banks accounts for just 6.8% of the total financing of Argentinean enterprises, and in the case of enterprises with less than 20 employees, the proportion reduces to 2.9%. More than 75% of the financial resources that small Argentinean businesses can count on come from internal sources, and when investment capital is involved, the proportion is even higher¹⁰. The main cause for this restrained access is the high level of collateralization required. According to the "Enterprise Surveys", the average amount of collateral needed for a loan in Argentina is 160% of the loan amount, which is 12 points above the regional average. In the case of small enterprises, the situation is even worse. The value of collateral requested is 212%—i.e. more than twice the loan amount. Under these circumstances, it is very unlikely that an SME can obtain bank financing. For ICT enterprises, the situation is worse yet, because firms active in this segment notoriously lack material assets to provide as security. A second major obstacle is posed by the relatively high cost associated with bank financing for SMEs. Although inflation has significantly decreased over the past few years, interest rates are still quite high. Small IT entrepreneurs prefer to live on their own resources, rather than incur expensive debts that they are afraid they will not to be able to repay. Against this background, various initiatives have been set up with the support of government agencies and IFIs, for the provision of loans and other financing instruments at zero or reduced interest rates. An important

⁹ On this subject see the World Bank's "Doing Business" Report, www.doingbusiness.org.

¹⁰ Source: the World Bank's Enterprise Surveys, www.enterprisesurveys.org.

TABLE 1. *Summary Presentation of ICT/ICTE Financing Needs*

Lifecycle	Amount Sought	Comments	Examples ¹¹
Early-Stage	Up to US\$100,000	Most Argentinean IT SMEs are at the early-stage of development. This phase goes from the conception of the business idea (seed stage) to the first commercialization. Financing needs are fairly limited for business models that are mainly based on immaterial assets such as Internet companies, web-designers and most IT services providers. The startup of a software house could be somewhat more expensive, depending on the necessary patent licenses. BPOs and call centers are at a completely different level—they normally require an intense initial effort for the purchase of equipment and the training of personnel. As a rule of thumb, most of the investments at this stage, are destined to R&D activities, and basic business services, such as market analysis, and consultancies. When commercialization begins, additional resources are necessary for a proper establishment of the business and the setting up of a commercial network. Typically at this stage, entrepreneurs need 'smart money'—financing accompanied by technical assistance.	<ul style="list-style-type: none"> ■ Tecnosophy – Software for visual recognition ■ Inngen Informatica – ERP solutions
Development	US\$100,000 to 700,000	At this stage, the company is properly established, but needs to consolidate its position while sustaining its growth. It is a very challenging step that greatly influences the evolution of the business in the future. Financing needs at this stage are very diversified. They include quality certifications, the enlargement of the client-base, the product/service refinement, the hiring of new staff, and the building of an adequate working capital. Enterprises aiming at selling abroad should also start investing in setting up commercial relations that could serve in the future for large-scale expansion projects.	<ul style="list-style-type: none"> ■ Jakarta – Software development, ERP ■ Software Santa Fe – Software and IT services
First Expansion	US\$700,000 to 2.0 million	This phase normally entails a diversification of the business, with the introduction of new products and services, or the upgrade of the original ones. At this stage, most Argentinean IT enterprises focus on expanding beyond borders—into regional markets or the US and Europe. They seek financing to sustain their commercial strategies, which can foresee opening a presence in other countries, hiring commercial personnel, marketing campaigns, and acquiring all licenses and certifications that are required to operate in the targeted markets. Software developers may also need to 'translate' their product into the language of the market of destination. At the same time, the diversification of the offering entails a continuous investment in R&D and related activities.	<ul style="list-style-type: none"> ■ Globant – BPO solutions ■ Accendra Networks – Software and IT services
Second Expansion	More than US\$2.0 million	The second expansion phase represents a major change in the scale of operations. The diversification and upgrading processes continue, and sometimes a certain degree of vertical integration may be considered. Companies start considering strategic acquisitions of smaller ventures. Typically, at this stage, enterprises have already established strong commercial ties overseas.	<ul style="list-style-type: none"> ■ Core Security – IT security systems ■ IDEA factory – IT outsourcing services

program of 'soft loans'—"Programa de Bonificación de Tasa"—is managed by SePyME¹². Since its establishment in 2003, it has effectuated 200,000 operations for an overall disbursement of over US\$400 million. In addition, SePyME administers two credit programs for MSMEs—one denominated in US dollars and the other in Argentinean pesos—for loans of up to US\$1.0–\$3.0 million for medium-size enterprises, at controlled rates.

Another obstacle for the access to financing for IT SMEs is represented by the absence of schemes dedicated to this industry. Bankers often hold a

limited understanding of the economic aspects of the ICT sector and of the specificity of IT businesses' financial needs. They are generally less willing to consider these types of deals, because of their unfamiliarity with the sector.

¹¹ Some of the examples provided in this table involve enterprises encountered during the fieldwork, other cases are drawn from the company presentation at the third Risk Capital forum, held in Buenos Aires on August 17–18, 2006. A brief profile of the companies directly interviewed is provided in Annex F.

¹² The Program provides subsidies to SMDEs to partially cover the interest rate paid on bank loans. The amount of the subsidy varies according to the regions, the rationale of the loan, investment or working capital, and the duration. Roughly, it cuts down the interest rates by 25–50% or by eight points—whichever is less.

Issues in Accessing Equity Financing: The first generation of Argentina's VC funds enjoyed a favorable national and international conjuncture, especially with reference to the booming 'new economy'. In that context, VCs made substantial investments in barely elaborated businesses, paying insufficient attention to the solidity of the businesses and relinquishing control to the promoters. The financial crisis, and the sizeable losses that followed as a consequence, demonstrated painfully that this was the wrong approach. The mistakes frequently cited involve: (i) scarce diversification of portfolios; (ii) overvaluation of companies' values; and (iii) overly optimistic expectations about the availability of exit options and the rapidity of liquidity events. VCs have learned the lessons, and their operational modalities have undergone major changes. In general, SMEs have a more restricted access to equity financing under the current conditions than they had during the first wave of VC investment. This is also due to constraints existing on the demand side and on changes in the overall business environment. The access to risk capital sources is basically hampered by two types of factors: (i) endogenous factors, such as VC policies and characteristics of the demand; and (ii) exogenous factors, such as the legal, economic and social environment. The endogenous factors can be described as follows:

- **Investment Stage Policy:** After the 2001 recession, the few remaining VC players stayed away from early-stage investments—which previously had represented one-third of the operations—and focused on late-stage deals. At that time, VCs decided that the risks connected to startups were prohibitive. They preferred to work with well-established firms, which are more likely to operate profitably on the international market—which is a further protection against possible devaluation of the national currency. With few exceptions, the second generation of VC funds has maintained this cautious attitude toward startups, even in the case of SME-oriented schemes.
- **Size of Operations:** Connected to the matters discussed above, is the issue of transaction size. The largest Argentinean VCs prefer to invest at least US\$3–5 million per deal. This is even more true of foreign VCs. Funds that are accessible to SMEs, such as *Holdinvest*, *SLI Ventures*, *Inverpymes*, *CAP Venture Capital* and *PCP*, seldom

consider deals below the US\$1.0 million mark. At the lower tier—where most of the demand is concentrated—business angels and a couple of institutional operators are the only options available, and their funding capacity is limited.

- **Attitude toward ICT:** In this respect, the differences between the first and the second generation of VCs are considerable. In the 1990s, the Internet and the ICT sector were the main focus for a good share of players. Today, most of the funds have a generalist approach. Technology is still a priority area for many operators, but the interest has moved from highly volatile Internet businesses to more solid business models, such as IP software, applications for specific verticals (e.g. automotive and healthcare), media and biotechnology.
- **Constraints on the Demand Side:** The problem of entrepreneurs' lack of readiness for risk capital financing is often cited as a major obstacle to the overall development of the VC industry in Argentina. There are three main issues producing a negative impact in this area. The first issue involves informality. Most young enterprises operate with a high degree of informality, regarding the payment of taxes and grey market transactions. Institutional investors are unwilling to deal with these companies for fear of possible legal problems in the future, and for fear that the financial data provided by those companies will prove to be unsound and unreliable. The second issue involves the quality of projects. In the words of Chrysalis' CEO: "It is the end of the PowerPoint era". By this he meant that it is the end of investments based on simple and nice presentations of business ideas, which characterized the first generation of VC investment. Today's VCs ask for very detailed and sound business plans, and pay special attention to the reliability of the projections. Unfortunately, small entrepreneurs are often ill-equipped to elaborate plans at the desired quality level. The third issue involves cultural approach. According to various observers, Argentina lacks a widespread entrepreneurial mentality, which is a fundamental ingredient for the development of Silicon Valley-like ecosystems. This condition is reinforced by the insufficient efforts made to promote vocational education, and by the social stigma and legal consequences that accompany business failures. Argentinean entrepreneurs tend to be very risk-averse. They often prefer to

remain small rather than venture into high-risk/high-gain operations, if the latter entails making recourse to external financing.

In addition to the issues described above, VC operations are also hindered by a series of factors related to the overall business environment:

- The legal and fiscal framework for VC establishments and operations is not particularly conducive. In particular: (i) investor protection is inadequate¹³; (ii) protection of Intellectual Property Rights is inadequate; (iii) there are too many restrictions on pension funds and insurances regarding investment in unlisted equity funds; and (iv) the level of taxation is unattractive;
- The capital market is still insufficiently developed, and offers few options for exits;
- The efficiency of the public administration is considered largely inadequate by foreign investors, and sometimes transparency is an issue. In addition, the judicial system is apparently not truly independent from other state powers; therefore, in case of a dispute with a public authority, there are serious risks of undue influences.¹⁴

Issues Related to Government and Donor

Schemes: The Argentinean Government is quite active in the field of access to financing for SMEs. A number of interventions have been carried out over the past five years to support SME-oriented instruments, such as credit guarantee schemes, soft loan schemes, grants for R&D, participation through equity, and other initiatives aimed at improving the overall business environment. The public bodies involved in these programs are principally SeCyT and SePyME. An important financial support to public policies in this field is provided by IFIs, especially IADB/MIF and the World Bank Group. However, it should be noted that, with few exceptions, most of these initiatives are of a generalist nature—ICT-dedicated instruments remain rare and/or bound to specific activities.

III.3 THE FINANCING GAP – NATURE AND SEVERITY

Overview: The available evidence suggests the existence of a financing gap affecting SMEs active in

the Argentinean ICT/ICTE sector. Innovative enterprises with significant growth potential often face insurmountable obstacles in finding external capital to finance their investments. This problem is particularly acute for enterprises in the development stage. In monetary terms, the gap extends from projects whose value is as little as US\$50,000 up to US\$1.0 million, with a major problematic area in the US\$200,000–500,000 window. As discussed in the previous section, the gap has more to do with a mismatch of resources, than with a lack of liquidity in absolute terms. This situation is caused by a combination of: (i) restrictive and risk-wary policies adopted by financiers; (ii) a lack of readiness on the side of promoters; and (iii) a business environment that has not fully recovered from the 2001–2002 crisis. Various efforts have been made to create a sound ecosystem for the IT industry, including: (i) the development of incubators and technoparks; (ii) the strengthening of ties between academic research and the market; and (iii) the establishment of institutions and programs to assist IT entrepreneurs. In the medium-to-long run, these initiatives will likely be of significant help, but the immediate obstacles to the financing of small IT projects remain substantial. The various initiatives aimed at supporting entrepreneurship, and at improving in a general sense the performances of SMEs, could in the short-run produce a sharpening of the financing gap. One output of these programs could be an enhanced number of ‘good projects’ worthy of being financed. If the financing options scale-up to the same degree, the final outcome will be an increased pressure on the supply side of the risk capital market.

Financing Gap & Stages of Development: A summary presentation of the financing gap faced by ICT/ICTE SMEs in their various stages of development is provided in Figure 1.

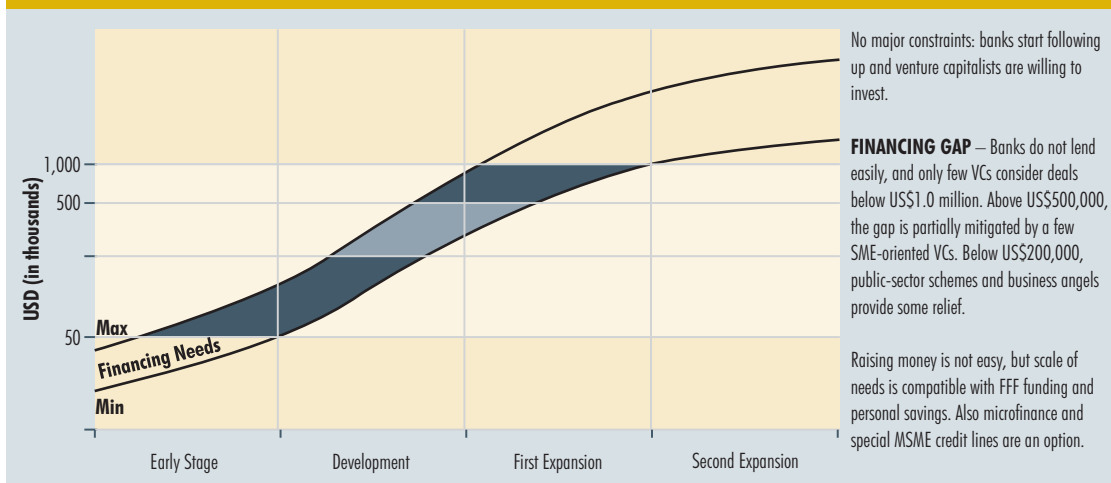
As indicated in the Figure 1, financing constraints faced by IT companies are comparatively more serious in the development and first expansion phases—the situation is more nuanced in the later phases. In particular:

- Firms at the *early-stage* typically make recourse to internal sources of financing, such as owner’s

¹³ According to the World Bank’s “Doing Business” Report, Argentina is ranked at 99th out of 175 economies regarding the level of investor protection. For more information see www.doingbusiness.org.

¹⁴ For more information see the LAVCA’s scorecards 2007, www.lavca.org.

Figure 1. Nature and Severity of Financing Gap



savings, friends, and family members, and they constantly re-invest earnings in the business—this is known as ‘bootstrapping’. A useful complement to cover the initial investments is represented by: (i) soft loans and ‘zero rate’ schemes made available by the SePyME; and (ii) financing for R&D provided by SeCyT and other local government facilities. For financing up to US\$80,000, IT enterprises can tap into the FONAPYME TIC credit line, which is dedicated to this sector. Common commercial loans are more difficult to obtain, unless secured by the various credit guarantee societies. Other types of financing, such as factoring, leasing, and overdraft, are quite easily available. However, in all of these cases, the cost of financing can represent a major issue. In the field of equity financing, opportunities are offered by the fledging business angel community and by micro-equity institutional firms such as *Chrysalis*—which is in practice an ‘institutionalized’ business angels investment group. The operations financed by these types of players may vary from US\$50,000–200,000 and above, in terms of amount. However, the volume of operations thus far is marginal, and for IT firms seeking US\$50,000 and above, there is an apparent scarcity of risk capital sources;

- The financing gap is particularly severe for firms in the *development* and *first expansion stages*, and for projects with values up to US\$1.0

million. Usually, these are enterprises in a critical stage of growth. They have developed their business at a small but profitable scale, and they need to scale-up investments in order to sustain their growth. In particular, enterprises at this stage need to strengthen their commercial network, often with a view toward overseas markets. However, they normally lack the requisites to access bank financing, especially regarding the collateralization of loans. The problem of financing costs can be mitigated through SePyME-assisted credit lines, but since the requests for loans are processed by accredited financial institutions, the conditions applied for proper securitization remain the same. Venture capital represents a remote financing option for companies at this stage. The amounts sought are typically too small for institutional VC firms to consider, and enterprises—especially at the development stage—are perceived as too risky. The existence of a handful of SME-oriented funds mitigates the financing gap above the US\$500,000 mark, but their capacity is still small, and with a couple of exceptions they have no specific focus on the ICT/ICTE sector. In the near future, improvements are expected with the implementation of the FONSOFT program. This equity financing scheme will address the sub-sector that probably suffers the most from the financing gap—software developers and IT services providers. FONSOFT will reportedly

operate in the most critical area that is not currently covered by any of the other existing VC funds. The initial capacity of the fund is limited, but if the performance is good, it is reasonable to anticipate that this program will have further closings in the coming years;

- For the few enterprises that have reached the *second expansion stage*, access to financing becomes less difficult. First, it is easier to meet the conditions requested by banks in terms of collateral, and the cost of financing is more bearable. At the same time, bankers are more willing to invest—therefore, the conditions become negotiable. Second, the companies are sufficiently established, and the projects are sizeable enough to attract institutional VCs. This is especially true with firms that have already set up commercial relations with overseas clients, or are in the process of doing so. Export-oriented firms are the favorite target of those big foreign

VCs that specialize in high-tech, and whose presence is currently increasing in the Argentinean private equity landscape.

The above considerations broadly apply to ICT/ICTE enterprises in general, although there are situations in which the financing gap is comparatively less severe—for example, with *call centers* and, to a lesser extent, *BPO operations*. These businesses are generally established as subsidiaries of telecom operators, or as joint ventures with large foreign partners. When a new facility is created, sizeable contracts are already in place. Under those circumstances, the need for external financing is reduced: (i) at the initial stage, in which the startup capital is typically provided by the parent company; and (ii) in subsequent phases, when the nature of the outsourcing contracts gives the company access to a steady cash-flow.

IV. CONCLUSIONS AND RECOMMENDATIONS

Introduction: After the severe recession of the early 2000s, Argentina has been slowly catching up with its former leading role in the regional in the field of innovation and technology. The confidence of foreign investors has been restored, and ‘the big guys’ from the Silicon Valley are looking at Argentina with an increased interest. Important IT clusters are growing in Buenos Aires, Rosario and other main cities. At the same time, Argentina’s ICT sector is becoming more global, and there are cases of Indian firms outsourcing to Argentina. The globalization of Argentinean IT firms is sustained by various factors. These include: (i) the presence of a well-educated workforce; (ii) the cost-effectiveness induced by the devaluation of the Peso; and (iii) the possibility of reaching the huge Spanish-speaking markets, which is a determinant factor for the call center industry. However, aside from a few national champions, the industry is still comprised of micro and small businesses, which are largely informal, and unlikely to grow significantly. There are several issues hampering the development of these small ‘technopreneurs’, including difficulties in access to financing. As discussed in the previous section, the financing gap is due to factors connected to the supply side of the market, such as: (i) the conservative attitude of bankers; (ii) the scarce development of the risk capital industry; and (iii) the limitations of public-sector schemes. There are also constraints coming from the demand side, as well as obstacles related to the overall business environment. The Argentinean financial system is undergoing a rapid mutation. The establishment of new players, and programs and schemes that have been announced over the past twelve months, will likely help to bridge the financing gap. The recommendations proposed in this section try to take account of the likely developments that will occur, and to focus on the aspects that deserve more attention.

The results of this study indicate a number of measures that could help mitigate the financing gap faced by Argentinean ICT/ICTE SMEs. Three categories of intervention could be envisaged: (i) measures aimed at facilitating access to equity financing; (ii) measures aimed at facilitating access to bank financing; and (iii) measures aimed at enhancing enterprises’ capacity and improving the interaction with financing sources. Given the nature of the *infoDev* Program, the recommendations put forward concentrate on ‘soft’ and preliminary activities, that could be useful for subsequent ‘investment’ operations that could eventually be funded through donors and IFIs.

IV.1 MEASURES AIMED AT FACILITATING ACCESS TO EQUITY FINANCING

An adequate flow of risk capital is widely considered to be an essential ingredient for the establishment of healthy IT ecosystems. The important IT clusters worldwide, such as Bangalore in India and Sao Paulo/Campinas in Brazil, demonstrate that the presence of a liquid, dynamic and visionary VC industry with strong ties to research poles and incubators, acts as a formidable multiplier for the growth of a solid and innovative ICT/ICTE sector. Over the past few years, Argentina has made significant steps forward in the creation of a constructive S&T system, and in improving the relations between research centers and the market. However, regarding the availability of risk capital, the situation has remained less than ideal. Most VCs remain skewed toward the late-stage operations. There are only a few small funds that operate at the lower tier. Against this background, three types of intervention could be fruitfully deployed: (i) support to the establishment of SME financing schemes, with a mixed participation of public and private investors; (ii) design of a mechanism aimed at alleviating the costs incurred by fund managers in the finalization of small deals (ii) support to the formation and operation of business angels’ networks. A brief

description of these measures is provided below.

Support to the Establishment of SME Financing Facilities: Today, the Argentinean VCs are mostly uninterested in ICT/ICTE SMEs for two main reasons: high risk and low return perspectives. The risk-wariness is largely a consequence of the crisis of 2000–2001—and it is reinforced by the persisting high mortality rate of startups. The low expectations, in terms of return, are linked to the fact that small deals are intrinsically less profitable, and to the fact that it takes a long time for SMEs to reach a sufficient degree of development. Compared with Brazil, Argentina has done very little to provide incentives to the institutional VCs to operate in this segment. In particular, public-private financing schemes—which have proved very successful in other contexts—are only marginally developed in Argentina. A useful initiative in this field could be a study of possible government-supported financing mechanisms that could attract private investors through various incentives. Those incentives could include: (i) co-investment schemes, in which the government participates in privately-managed funds or invests along with private investors on a *pari passu* basis—with the result of reducing the risk for private operators; (ii) leveraged return schemes, in which public entities participate in the capital of VCFs, but receive a less than proportional share of profits, thus leveraging the ‘upside’ potential for private investors; (iii) guarantee schemes, in which private investors are protected from ‘downside’—these schemes are often set up to reimburse the nominal value of the initial investment in case of default.

Alleviating the Venture Capitalists’ Transaction Costs Problem: The costs related to the handling of investment proposals include screening, due diligence, finalization, and follow-up. These costs emerge as a major obstacle to the greater involvement of venture capital funds in the financing of small deals. This is especially true of ICT/ICTE firms, which, due to their particular nature, often require specific expertise. The impact of these transaction costs is proportionally higher as the value of investment decreases. This makes deals under a certain benchmark, such as US\$500,000, particularly unattractive. One possible way to overcome this problem would be to set up a transaction costs facility that refunds—at least partially—VCF administrators for the expenses incurred in the handling of investments in the ICT sector below a certain threshold. The operational

mechanisms of this facility should be adjusted in order to ensure that incentives work in the desired direction. For example, eligibility criteria could be designed so that they favor determined business models or geographic areas. If the amount of the subsidy is not excessive, the risk of ‘moral hazard’ connected to such a mechanism could be effectively neutralized.

Promotion of Business Angel Networks: In Argentina, the business angel industry is still in its infancy. However, over the past few years important improvements have been recorded. These include the introduction of the first Business Angel Club, and the presence of a VC firm that *de facto* operates as a business angel group—*Chrysalis*. The presence of a lively and dynamic business angel industry—organized in groups that maintain constant relations with incubators, universities and intermediary organizations—is a fundamental feature for the growth of ICT/ICTE SMEs. Business angels are a crucial source of financing for firms that are too little for institutional VCs and too big or ambitious for bootstrapping. Support for the creation and operation of a business angel network could have many benefits. These include the following: (i) information on investment opportunities could be disseminated among investors in a more systematic way, and interactions with promoters would be facilitated; (ii) the matching process could be streamlined through periodic presentations of projects, events, and pre-screening activities; (iii) acting as a group, BAs may exert a greater pressure on policymakers to make the necessary improvements in the legal and institutional framework. For example, assistance could be provided in the form of small grants subordinated to the organization of matchmaking events, advocacy and awareness initiatives, and other operational activities—and for the establishment of a basic secretarial support service.

IV.2 MEASURES AIMED AT FACILITATING ACCESS TO BANK FINANCING

In reaction to the numerous bank defaults that occurred during the years of the financial crisis, the Argentinean banking system adopted policies and measures to minimize the risk of future crises.

Besides systemic improvements in such areas as the credit information system, these measures have largely involved restrictions on access to credit. The requirements for SMEs to obtain loans have become particularly stringent, and the interest rates applied are particularly high. Over the past few years, the range of services offered by banks has expanded remarkably—instruments like factoring, leasing, export pre-financing, bill discounting, and bridge financing are currently provided by most of the institutions. An area that deserves more attention involves loans for investments and working capital—currently, the requested collateralization may easily double the amount of the loan. Government-supported schemes, such as those administered by SePyME, certainly mitigate the problem, but they are not decisive. On the contrary, a significant improvement could result from the strengthening of the credit guarantee mechanisms for ICT/ICTE SMEs.

Support to Credit Guarantee Societies: Argentina is home to twelve credit guarantee societies (CGSs). These are a particular type of credit guarantee scheme that has a mutualistic nature. The enterprises that form the member-bases of CGSs, are simultaneously the suppliers of the CGS' capital and its borrowers. In Argentina, the state contributes significantly to these schemes, through the SePyME. There is also a CGS entirely supported through public capital. The relatively wide diffusion of CGSs suggests that they could play a role in facilitating access to financing for small IT businesses. In particular, it could be worth analyzing the possibility of setting up a facility of this type dedicated to the ICT/ICTE sector, either in the form of a branch of an existing scheme, or as a stand-alone facility.

IV.3 IMPROVING THE INTERACTIONS BETWEEN SUPPLY AND DEMAND

Interventions in the business environment have a less direct impact on the financing gap than the interventions discussed above. Nevertheless, they may yield important results—they could be especially helpful in the creation a conducive ecosystem where ICT/ICTE entrepreneurship could nurture and grow. Two types of interventions can be

envisaged. The first would be aimed at improving the understanding of ICT/ICTE. The second would be aimed at enhancing entrepreneurs' capability to deal with financing institutions.

Improving the Understanding of the ICT Sector:

In order to determine the real scalability of a project, it is necessary to have a thorough knowledge of the business model proposed and the relevant market. The general lack of familiarity with the ICT/ICTE sector, combined with some biases determined by the poor performances of the late-1990s operations in this field, represent a major obstacle to the financing of small IT businesses in Argentina. The information gap on these matters has only been marginally mitigated by a series of initiatives recently organized by incubators, public agencies, and business associations. Therefore, a useful intervention in this field could be aimed at supporting actions such as meetings, trainings, and publications, and other initiatives with the objective of disseminating information on the economic and financial aspects and peculiarities of the IT sector.

Enhancing Capabilities to Deal with Financial Institutions:

The problems in accessing financing are not entirely due to the policies and attitudes of bankers and investors. Evidence from the fieldwork demonstrates that another side of the problem is the lack of 'deserving' enterprises and good projects. Informal practices and unreliable financial statements are widespread problems among all Argentinean SMEs, including IT companies. This has a negative impact on the possibility of obtaining a bank loan or being picked by an investor. In addition, entrepreneurs tend to refrain from embarking on ambitious growth plans with the support of external financiers, for lack of a genuine entrepreneurial culture. For the enterprises undergoing an incubation program, these problems are partially mitigated by the training, capacity building and technical assistance provided by some incubators. Useful interventions in this area could be:

- (i) supporting matchmaking initiatives and interactions between entrepreneurs and financiers;
- (ii) enhancing the role and capacity of intermediary organizations and incubators in improving the entrepreneurs' ability to present their business ideas and meet the quality standards requested;
- (iii) providing direct technical assistance to ICT/ICTE SMEs through dedicated schemes.





ANNEXES



ANNEX A – THE ICT/ICTE SECTOR¹⁵

A.1 TELECOMMUNICATION

Argentinean telecom market was privatized 1991, when the state-owned *Empresa Nacional de Telecomunicaciones* (ENTel) was sold and a duopoly was created. In practice, ENTel was split between *Telecom Argentina*, which controlled central to northern Argentina and *Telefónica de Argentina* (TASA), which controlled the central to southern region of the country. Long-distance call services was instead entrusted to *Telintar*, an entity co-owned by *Telecom Argentina* and *TASA*. This duopoly lasted until November 2000, when free market competition was officially introduced in the telecom sector. In the early-2000s, Argentina's telecommunications market faced a real hard time due to severely weakened domestic economy, but also to the global economic slowdown and which particularly affected telecommunications industry. The situation started to improve in 2004, with the reversal of the declining trends that had characterized the previous period. Although it took years before the situation returned at the levels of before the December 2001 crisis. Today there are 8.5 million active lines being one each 22 people. Both fixed-line operators placed also much effort in the improvement of the infrastructure laying broadband lines throughout the country to support the development of ADSL services. As of 1Q 2005 180,000 high-speed lines were already in operation. Much more impressive has been the recovery of mobile market that in 2006 accounted for in excess of 23 million subscribers, being a 60% penetration rate. Operators have consistently put resources into the development of the GSM networks to bring it to under-served areas of the country and at the same time have invested in the deepening of the offering regarding value-added services. As of today the main operators in this segment are *Movistar*, controlled by Telefonica, and *CTI Movil*, controlled by America

Movil, which hold 30–35% of the market each, followed by *Personal*, controlled by Telecom Argentina, accounting for 25%.

Liberalization policies were adopted in Argentina since January 1997, but regarding the fixed-line segment the competition has remained for a long time limited to the two incumbents *Telecom Argentina* and *TASA*. On the one hand this was due to the scarce interest display by other telecom operators to the wired segment compared to mobile. On the other hand the duopoly was reinforced by norms allowing the two incumbents to operate in each other's markets, *Telecom Argentina* in the north and *TASA* in the south, and by the consequent expansions of their networks to previously untapped area, thus leaving less room for the entrance of new local competitors. Today, there is a large number of operators licensed, including multiple licensees, and small regional players active in specific geographic areas. In addition, not all of the licensees have started operations due to the overall economic conjuncture of early 2000s and to other obstacles related to the last-mile liberalization.

A consolidation process is currently on-going both in the fixed and mobile markets. In January 2005, *Telefónica Móviles*, the parent company of *Telefónica Comunicaciones Personales SA* (TCP, which operated as *Unifón*), completed its acquisition of *BellSouth's* Latin American mobile operations, including *BellSouth Argentina*, also known as *Compañía de Radiocomunicaciones Móviles—CRM—*or *Movicom*. The merge of the two operators has generated *Movistar Argentina*, an undertaking that in 2005 could count on more than 6.0 million subscribers and a market share of 42.5%. Mexico's incumbent operator *Telmex* has entered the fixed-line segment as a consequence of the acquisition of AT&T Latin America which has operations in Argentina, and has become the third largest operator in this sector.

¹⁵ The data provided in this section are drawn from various sources including: (i) Comisión Nacional de Comunicaciones; (ii) Instituto Nacional de Estadística y Censos; (iii) Fundación Observatorio PyME; (iv) Instituto Nacional de Tecnología Industrial (Inti); (v) Cámara de Empresas de Software & Servicios Informáticos (CESSI); (vi) Cámara de Informática y Comunicaciones de la República de Argentina (CICOMRA).

A.2 INTERNET SERVICES

Internet Services: Since its debut in Argentina, the Internet enjoyed the support of public policies aimed at lowering entrance barriers and promoting free market competition. At the same time the development of the Internet market was driven by the investments in the connectivity backbone made by the main telecom operators and by the State-budget, as for instance the “Internet 2 Argentina” project for the development of high-speed data network. The Government also promoted measures aimed at bridging the digital divide, as for instance the “argentin@internet.todos” program whose activities include interventions in the field of infrastructure, IT services, and universal access. A role in the diffusion of the Internet in the country was also played by the growth of an e-content industry in local language and related to the local context. Several web-site designers and Internet VAS providers have accompanied the expansion of the Internet access market. Today, the “.ar” domain is the third-largest in Latin America.

The Internet Service Provider (ISP) market includes a huge number of players, likely in excess of 200 some of which operating only in small areas while others having a national coverage. As of beginning of 2005, this sector employed 6,000 IT professionals, one-third of which being IT engineers and technicians. Unsurprisingly, the ISPs connected to telecom operators are much larger than standalone business and their market shares are steadily growing due to: (i) ‘phone plus Internet’ packages at competitive rates; (ii) a larger effort in the field of broadband services, two-lead ADSL services—*Arnet Highway* and *Speedy*—are supplied by the two incumbent telcos *TASA* and *Telecom Argentina*. In particular over the past two to three years Internet broadband services have outnumbered traditional dial-up, but the most popular type of connection remains the Internet-free—which is a special type of ‘phone plus Internet’ package where unlimited and free Internet access is granted in turn of a small surcharge on the telephone fares. In absolute terms the number of Internet subscribers is likely in the order of 3.0 million, but the actual users are definitely more than that. According to a Microsoft’s research Internet surfers in Argentina are no less than 13.0 million, being a 33% penetration rate of the Internet. Other estimates are more

conservative, but nonetheless Argentina is certainly one of most connected country in Latin America.

A vast network of public Internet points and cyber cafés complements the private access to the Internet. It is estimated that only in the greater Buenos Aires region there are at least 9,000 facilities of this kind, which sum up altogether more than 50,000 PC connected to the web.

A.3 THE ICT/ICTE SECTOR

Overview: In Argentina, the development of a domestic ICT sector started in the 1980s. The process was slow due to the constant macroeconomic and institutional constraints and did not benefit from any support from the public sector. Although today the overall picture is much improved, still new ventures suffer from a series of constraints that persist in the business environment such as: excessive bureaucracy, barriers to business start-up, inefficiency of the policy-makers, property rights climate and financial market instability are still a barrier for business creation and development in Argentina.

It is worth to notice that Argentina has a distinguished tradition of scientific discovery and technological innovation. At present, the big challenge for all stakeholders both from the public and private sector is how to replay the favorable conditions that led to several scientific and technologic accomplishments in the past. A first important element is the capacity to attract significant private-sector direct investments, especially from abroad. Apparently, with the notable exception of the 2001 crisis period, Argentina has proved to be fairly interesting for foreign investors in ICT, and recently examples of Indian IT giants outsourcing to Argentina are recorded. At the same time, these operations are unlikely to foster the development of the domestic ICT/ICTE industry unless accompanied with measures that render the business environment more conducive and many respects, like legal, institutional, educational, fiscal, financial.

To date the ICT sector encompasses no less than 1,000–1,200 formal enterprises, including hardware and software companies. The recession on the internal market and favorable exchange rates, have pushed exports up, especially towards Latin

America, Spain and the USA. Government and policy-makers have started taking concrete steps in the direction of support the growth through investments in education and infrastructure, the promotion of the global access to ICT and concrete measures in support of micro and SMEs.

ICT/ICTE Activities: Over the past few years the Argentinean *Software and IT Services* sector has recorded a dynamic growth, fuelled by several improvements in the overall environment regarding the legal and institutional framework, the infrastructure, and the global competitiveness. In 2005, the turnover generated by this industry amounted to US\$1.2 billion. Exports rose at a double-digit rate as a result of the favorable exchange rates determined by devaluation of pesos, and currently account to no less than 25–30% of the total revenues. One-fourth of exports are absorbed by US and Canada, while the rest is mainly destined to the regional markets. The number of active players is estimated in the order of 700–800 units, accounting altogether for 50,000 workers. Most of players are based in the capital city, but other important IT clusters have emerged also in Rosario, Córdoba, Mendoza, Tandil, Mar del Plata and Bahía Blanca, fuelled by strong entrepreneurship programs, availability of universities and research centers with training courses in IT and in some cases by the presence of large MNC seeking for suppliers. Foreign-owned undertakings are small in numbers but are usually large-sized and represent the highest tier of the software industry. Several renowned global MNC have established a presence in Argentina, including IBM, Microsoft and Oracle. Domestic enterprises are more numerous but usually of micro or small size. With the exception of a handful of national champions with revenues above the US\$ 20 million, the bulk of Argentina's software industry is composed by firms with 15–20 employees on average and annual turnover in the US\$1.0–3.0 million range. According to a study conducted by the *Observatorio PyME*, half of the domestic firms are involved in the software development and customization, 18% are involved in basic assistance and maintenance services, 15% are IT consultants and the remainders perform miscellaneous type of services¹⁶. The study also highlights that for more than two-thirds of IT SMEs the business conditions are improving, and, especially medium-size enterprises have been growing at an accelerated pace over the past few years.

IT outsourcing activities appear to be among the most dynamic segment of ICT/ICTE industry. The factors that concur to determine a supportive environment for this type of operations include: (i) the cost-effectiveness of workforce: Argentinean IT professionals are fairly skilled and it is estimated that they cost on average at least 10% less than fellows in Bangalore; (ii) the growing business of services for Hispanic Americans: in USA this market encompasses 40 million individuals; (iii) the quality of Argentinean firms: due also to the public-sector support, most Argentinean firms have adopted CMM standard certification for software companies. The interest of foreign 'big guys' for outsourcing to Argentina is growing both in the form of 'captive' operations and of 'third-party' outsourcing. Some examples of the former are provided by the *Oracle's eStudio* based in Buenos Aires, and *Motorola's* cell phone software factory in Cordoba, while for the latter it can be cited the case of the joint venture between *Indian Tata Consultancy Services* and the local *Datco*. *Call Centers* is also a growing business. Regional giants like *Atento* have already set up its 3,000-seats facility some years ago, but new players continuously add up. It is estimated that altogether Argentinean call centers account for 40,000 seats. Overall, the turnover of Argentina's IT-outsourcing sector is estimated to hit US\$500 million next year, being the third-largest in Latin America after Brazil and Mexico.

Argentina is also home to a quite developed *hardware* and electronic industry. Mainly established in the 1980s and 1990s, Argentina's hardware firms are mainly assemblers of foreign import products rather than manufacturers. Altogether, the hardware and electronic sector encompass 1,200 players and employing an estimated 18,000 workers. Precise data on the number and size of PC and IT equipment assemblers are not available but according to CADIEEL, this segment is among the most developed¹⁷. In terms of revenues the hardware sector is in the US\$1.0 billion region, to a large extent generated by the internal market. In 2005 export of PC and other EDP equipments amounted to a meager US\$50 million, while components,

16 Source: Fundacion Observatorio PyME, "Situación Actual y Desafíos Futuros de las PyME de Software y Servicios Informáticos, 2005–2006", in collaboration with CESSI (Camara de Empresas de Software & Servicios Informáticos).

17 For more information see the official website of the Camara Argentina de Industrias Electronicas, Electromecanicas y Luminotecnicas (CADIEEL), www.cadiell.org.ar

A.5 BASIC INDICATORS¹⁸

Brazil	2000	2004	Latin America & Caribbean 2004
Economic and social context			
Population, total (million)	37.0	38.0	541.0
Urban population (% of total population)	90.0	90.0	77.0
Poverty (% of population below US\$1 per day)	7.7	3.3	9.5
GNI per capita, Atlas method (current US\$)	7,490.0	3,720.0	3,600.0
GDP growth, 1995–2000 and 2000–4 (%)	2.7	–0.1	1.5
Adult literacy rate (% ages 15 and over)	97.0	—	89.0
Primary, secondary, tertiary school enrollment (% gross)	92.0	95.0	82.0
ICT sector structure			
Separate telecommunications regulator	Yes	Yes	—
Status of main fixed-line operator	Private	Private	—
Level of competition: international long distance	P	C	—
Level of competition: mobile	P	C	—
Level of competition: Internet service provider	C	C	—
Government prioritization of ICT (scale 1–7)	—	2.7	3.5
ICT sector performance			
Access			
Telephone main lines (per 1,000 people)	215.0	210.0	181.0
International voice traffic (minutes per person) ^a	25.0	40.0	—
Mobile subscribers (per 1,000 people)	164.0	353.0	324.0
Population covered by mobile telephony (%)	—	95.0	76.0
Internet users (per 1,000 people)	71.0	196.0	104.0
Personal computers (per 1,000 people)	70.0	97.0	75.0
Households with television (%)	95.0	97.0	88.0
Quality			
Telephone faults (per 100 main lines per year)	—	—	—
Broadband subscribers (per 1,000 people)	1.0	13.5	5.2
International Internet bandwidth (bits per person)	12.0	320.0	165.0
Affordability			
Price basket for fixed line (US\$ per month, residential)	20.0	6.6	9.0
Price basket for mobile (US\$ per month)	—	8.3	9.1
Price basket for Internet (US\$ per month)	—	13.3	31.5
Price of call to United States (US\$ per 3 minutes)	2.77	—	0.90
Institutional efficiency and sustainability			
Total telecommunications revenue (% of GDP)	2.8	2.4	3.3
Total telephone subscribers per employee	448.0	593.0	—
Total telecommunications investment (% of revenue)	23.9	11.9	—
ITC applications			
ICT expenditure (% of GDP)	4.3	5.7	5.3
E-government readiness index (scale 0–1)	—	0.64	0.39
Secure Internet servers (per 1 million people)	6.4	10.1	8.6
Schools connected to the Internet (%)	—	—	—

Notes: P = Partial; C = Competition

including components for consumer electronics, for another US\$30–40 million. Over the past decade the landscape of hardware industry changed several times. In 2000, Argentina was responsible for 10% of the market of PC in the region with one of the highest rate of PC *pro capita*. The 2001 crisis, which causes an extreme fall of purchasing power of Argentinean salaries, dramatically reduced the sales of imported products, with MNC having lost 99% of their market. The prevalence of Argentinean PC market in the region as of 2002 was reduced to 1%. The sale of PCs on the internal market fell from

more than 600,000 units to just 100,000 in 2002. This conjuncture was partially favorable only to exporters which initially expanded their operations but then was also hit by recession, import of parts has soon became very expensive. The recovery started in 2003–2004, and as of today the capacity of internal market has been fully restored. Before 2001 branded products made the majority of the market share, but today locally assembled no-brand PC, ‘clones’, are sold the most.

18 Figures are drawn from World Bank, Internet World Stats

ANNEX B – THE INSTITUTIONAL SETTING

B.1 PUBLIC ENTITIES

Comision Nacional de Comunicaciones (CNC)¹⁹:

The National Commission for Communications is the Telecommunication's Regulatory Authority. The CNC was established in 1996 as an independent body linked to the National Secretariat of Communications. The CNC is entrusted with the application and monitoring of the current regulations on radio, telecommunications and mail services, including the prevention and sanctioning of anticompetitive practices. It also assists the Secretariat of Communications on the development and implementation of Technical Plans for Telecommunications.

Secretaria de Ciencia, Tecnica e Innovacion

Productiva (SeCyT)²⁰: Established in 1981, the Secretariat of Science and Technology is a body attached to the Ministry of Education, Science and Technology responsible for the design and implementation of policies, plans, programs, measures and instruments for the functioning of the “National System of Science and Technology”. SeCyT acts also as the coordinator of the various initiatives and agencies which operate in this field. Among SeCyT's concrete intervention in the ICT sector it can be cited the “Information and Telecommunication Technologies (ITT)” program, and the establishment of a network of Business Incubators and Technology Parks.

Agencia Nacional de Promocion de la Ciencia y la Tecnica (ANCyT)²¹:

Placed under the aegis of the SeCyT, the National Agency for the Promotion of Science and Technology is a public body dedicated to the promotion of activities related to science, technology and innovation in the productive sector.

Founded in 1996, ANCyT is currently responsible for three main funds: (i) the FONCyT—for the support to scientific and technological research; (ii) the FONTAR—which promotes S&T projects oriented to the enhancement of social, economic and cultural conditions in the country; and (iii) the recently established FONSOFT—for the promotion of projects in support of the software industry.

B.2 PRIVATE ENTITIES

Cámara de Informática y Comunicaciones de la República Argentina (CICOMRA)²²:

The Argentina's Chamber of Information and Communication is an association of ICT enterprises active in the field of production, sale and services. Established in 1985, CICOMRA can count today on a hundred members including national and foreign operators of variable size. The activities of CICOMRA concern the IT policies, the export of ICT products and services and the R&D for ICT. Every year since 1992 CICOMRA is involved in the organization of the *Expo Comm*, an internationally-attended fair displaying the status of art of Argentinean telecommunications and ICT.

Camara de Empresas de Software & Servicios Informaticos (CESSI)²³:

Created in 1983 as the Camara de de Software - CES (Software Company Chamber), and later merged with the Cámara de Servicios de Computación—CAESCO (Chamber of Computer Companies), the Cámara de Empresas de Software y Servicios Informáticos—CESSI (Software and Information Service Company Chamber) is the most representative intermediary organization of the ICT/ICTE sector in Argentina. It encompasses enterprises of different size and nature active in sectors diverse, such as software, hardware, IT services, telecom, Internet Services, Electronic, BPO. CESSI's

¹⁹ For more information see www.cnc.gov.ar

²⁰ For more information see www.secyt.gov.ar

²¹ For more information see www.agencia.secyt.gov.ar

²² For more information see www.cicomra.org.ar

²³ For more information see www.cessi.org.ar

members are almost 300, representing in terms of revenues 85% of the ICT/ICTE industry and in term of employment 35,000 units. CESSI is the initiator of IT projects that have achieved important results, including: (i) Empretic—a project aimed at creating a

network of IT entrepreneurs to pursue of sector collective interests; and (ii) Finantic—a program for the design, development and implementation of financing instruments for the ICT sector.

ANNEX C – THE FINANCIAL SECTOR²⁴

C.1 BANKING SECTOR

TABLE 2. *Salient Features of Selected Commercial Banks*

Bank	Total Assets (US\$ billion)	Comments
Banco de la Nación Argentina	19.3	Funded in 1891, the Banco de la Nación Argentina (BNA) is the largest institution of the country. BNA is entirely State-owned. The level of credit to private sector amounts to US\$2.6 billion, being more than 10% of the total. Its network currently includes more than 600 branches nationwide. BNA is one of the most committed banks in Argentina as regard the financing of SMEs. A wide range of services are offered to small businesses including: loans for investment and for working capital, financing of import and export operations, overdraft, factoring and leasing schemes.
Banco Santander Rio	5.3	Formerly known as Banco Rio de la Plata, the Banco Santander Rio (Banco Rio) is among the top-five private commercial banks of Argentina, and the third-largest in terms of credit to the private sector. Banco Rio has a client-base of one million individuals, 30,000 businesses of which 600 large firms. The banks' services are diversified and include also a series of instruments for SMEs. Banco Rio is the leader regarding the emission of credit card and debit card, which are particularly appreciated by small entrepreneurs. Few years ago the bank also launched the 'University Program' an equity-financing matching facilities for innovative startups.
Banco Macro	3.1	Banco Macro was established in 1985 and was authorized to operate as commercial bank three years later. It steadily grew throughout the nineties through a series of M&A which culminated in 2001 with the fusion with Bansud. Today macro is one of the largest private bank in Argentina and the third-largest in term of net assets. In the field of SMEs Banco Macro operates a US\$10 million schemes for factoring services dedicated to small businesses.
Banco Credicoop	2.1	The Banco originates from the merge of 44 credit cooperatives in 1979. As a cooperative itself, Credicoop is organized as a not-for-profit institution with a distinct orientation towards MSME. Today, it is among the largest private bank with 100% Argentinean capital, and is the principal cooperative bank in Latin America. Credicoop operates 232 branches nationwide. Among the various initiatives in the field of SME financing it can be mentioned: (i) a US\$10 million scheme for SMEs based on factoring instruments; and (ii) the participation to the SME-oriented VC fund "Inverpymes".

24 The information provided in this section is mainly drawn from: (i) Juan Carlos Carullo, "Proyecto Estrategia para el Capital de Riesgo en la Argentina. Características, Problemas y Recomendacione", Centro REDES; (ii) SEPYME, "Programa de Apoyo a la Industria del Software Y Servicios Informatico"; (iii) José Luis Segade, "Angeles Inversores", Manana Profesional; (iv) Florencia Barreiro, "A la búsqueda del Capital de Riesgo", El Economista; (v) Asociación de Bancos de la Argentina, "Annual Report 2006"; (vi) Instituto para la Pequeña y Mediana Empresas (IdePyME); Asociación de Bancos Públicos y Privados de la República Argentina (ABAPPPRA).

C.2 VENTURE CAPITAL.

Salient Features: The salient features of Argentinean's private equity industry can be summarized as follows:

- **Origin of Funds:** The Argentinean private equity industry is largely dependent upon funds provided by international investors. This includes private sector investors and multilateral organizations, as in the case for instance of Inverpymes which is co-funded by IADB. Domestic funded initiatives are mainly promoted either by individuals, as in the case of Chrysalis, or by banks such as Credicoop and Banco Rio.
- **Investment Policy:** The bulk of Argentinean equity financing goes to well-established companies at mature stages of development. This is particularly true for private-sector international VC, which reportedly hardly consider deals below US\$5.0 million. After the 2001 financial crisis, very few operators have remained in the low tier of the risk capital market, and most of VC are wary to deal with startups, with the notable exception of *Chrysalis* and *IOL Trust*. Relatively small funds such as *PCP* and *Holdinvest* currently work with SMEs and finance deals starting from US\$1.0 million, however a requisite for the promoter is to have already started trading profitably and possibly to have an inclination to export. The attitude towards ICT sector also changed radically. In the 1990s the VC industry was mainly fuelled by investments in Internet and the 'dot-com' enterprises, but after 2001, the operations in this segment drop significantly and today most of the existing funds have a generalist approach. The only exception is represented by FONSOFT—the public-sector initiative in the field of software and IT services, Penguin Circle and SLI Ventures which reportedly are prevalently interested in technology sector.
- **Operating Modalities:** Most funds appear to associate equity investments with quasi equity financing. Other financing devices are used like the participatory loans. At a large extent investors operate through Fiduciary Funds. Given the high level of interest rates in Argentina, the benchmark for returns in the VC industry is set at a particularly high level. Operators in the low tier may easily expect from their investees growth rates in the 20–30% range

per year. However, in contrast with the VC operating in the 1990s which largely suffered from an overvaluation of companies, current players pay much more attention to company's cash flow rather than to capital gain only.

- **Performance:** The first major wave of Argentinean VC which ended in 2001, end up with poor performance. The rate of default in the portfolios of the then operators was easily in the 70–80% range. A mix of inexperience and excessive trust in the perspective of the Internet economy led to the financing of projects that were only inside the mind of their promoters. At the same time the then investors apparently did not realize the importance of a hands-on approach when startups are concerned. At present, VC are more cautious and tend to have diversified portfolios in order to reduce the risk. An indication on the performances of this second generation of funds is premature; however it is reasonable to expect that current VC funds will result more successful than their predecessors.

Institutional Aspects: The recovery of the Argentinean VC industry appeared hampered by a series of constraints of various natures that still affect the domestic business environment. Despite improvements mainly related to the quality of accounting practices and minor revisions of the legal framework for corporate governance, according to the Latin American VC Association (LAVCA) the scaling up of VC operations in Argentina is severely challenged by specific factors²⁵:

- The legal framework for the formation and operation of VC/PE fund is incomplete and unsupportive. The main issues regard in particular the regulation for foreign-invested funds.
- Tax incentives on VC/PE investments are marginal. Tax pass through are applied only to certain type of funds.
- There are restrictions on institutional investors investing in VC/PE, in particular regarding pension funds and insurance companies.

In addition it should be noted that the level of corruption perceived in the system is still high and

²⁵ The LAVCA's Scorecard Report analyzes the environment for VC in 12 Latin American and Caribbean (LAC) countries. The evaluation is made on the basis of twelve distinct indicators which—combined—provide an overall score measured on a scale from 0 to 100. In 2007 Argentine's overall score was 43. For more information see www.lavca.org.

also little has been done to increase investors' confidence in the judicial system.

C.3 OTHER FINANCING INSTITUTIONS AND SCHEMES

CREAR-CIT Program: It was launched in 2002 by SECyT within the framework of the Program for the promotion of Risk Capital. CREAR-CIT aims at promoting initiatives related to the financing of firms in the area of S&T and innovation. The program's main objectives include: (i) fostering the growth of Argentinean VC industry; (ii) stimulating the development of a risk culture among entrepreneurs, investors, academics and other stakeholders; (iii) supporting the deployment of innovative financing instruments, also modeled on foreign experiences; (iv) facilitating the matching of demand and supply of financing and the development of a conducive ecosystem for technology and innovation; and (v) providing technical assistance to public institutions in the setting up of risk capital instruments. Among the concrete activities implemented through the CREAR-CIT Program it can be mentioned the periodical organization of the "Risk Capital Forum". Started in November 2004, the risk capital forum gathers public institutions, universities, VC firms, BA and entrepreneurs with the aim of supporting the development of the risk capital market in Argentina, as a viable alternative for early-stage financing of innovative and ambitious ventures.

SECyT's Funds: The SECyT also manages three funds aimed at supporting projects in the fields of scientific innovation and technology, FONSOFT, FONTAR, and FONCYT. In particular:

- **FONSOFT** is the newest financial instrument created with funds from the State's budget specifically in support of the software industry. The fund's scope of activity includes: (i) R&D projects; (ii) training programs; (iii) other type of support throughout the whole productive chain; and (iv) initiatives for the promotion of entrepreneurship. SECyT has already launched a call for proposal in 2006 targeting projects oriented to export. The corpus of this first call has been quite limited, US\$3.5 million to be

lent to 10 distinct SMEs active in the field of software development searching;

- **FONTAR** is the Argentinean Technological Fund, and it is co-sponsored by public and private entities. It supports innovation projects through either periodical public calls or permanent 'one-stop shops'. Public calls may have different nature, like grants, fiscal credits, and loans subordinated to specific conditions, while 'one-stop shops' typically offer credit-lines to firms, research centers and other institutions. The types of activity that could be financed through FONTAR include: technological development and update, IPR procedures, patenting mainly, technological services for institutions and SMEs, training, technical assistance, mentoring programmes, incubators and technology parks;
- **FONCYT** is the National Fund for S&T. It supports projects and activities aimed at improving the S&T national readiness in terms of both pure knowledge and applied research. The fund provides grant to public and private research institutions based in Argentina.

SEPYME: The Sub-secretariat for SME and local development is a body attached to the Ministry of Economy and Production entrusted with the design and implementation of a series of measures in support of SMEs. Among SEPYME's programs figure an initiative dedicated to the software and IT services sector. This is a multi-staged program featuring several components, in particular: (i) quality enhancement; (ii) training of IT professionals; (iii) development of IT clusters; (iv) export promotions; (v) MSME-enabling through IT; (vi) ICT sector observatory; and (vii) financing of IT SMEs. Regarding this last point, various measures are being launched on a periodical basis. Among the most recent initiatives the following can be mentioned:

- **FONAPYME TICs:** it is a credit line with an overall corpus of US\$3.3 million dedicated to software and IT services MSMEs. It provides soft loans of up to US\$80,000 at a rate of 6–7%. The loan can be used for investments, business services, R&D activities.
- **FONAPYME Bursatil:** under this scheme SEPYME can acquire up to 50% of the tradable bonds emitted by SMEs, maximum US\$500,000. The financing should be used for capital goods, services, investments in human resources.

Another recent initiative of SEPYME is the establishment in partnership with the Government of Santa Fe of a US\$15 million fund for the financing of up to the 50% of interests paid by local SMEs on loans contracted with accredited financial institutions: *Nuevo Banco de Santa Fe*, *Banco Credicoop*, *BICE*, *Santader Río* and *Banco de Galicia y Buenos Aires*. The loans eligible to this scheme must not exceed US\$350,000 with a three to five-year tenure.

International Donors and IFIs: Several funds and programs promoted by Government's agencies and financial institutions are supported by donors' community and IFI through a series of technical assistance and financing schemes. Among the various organizations involved it can be mentioned:

IADB/MIF has recently financed the third round of the Technological Modernization Program—TMP (2006–2010), with a prospected contribution of US\$280 million. TMP aimed at enhancing innovation and technological development in Argentina's

productive sector. Reportedly, the program comprises four components: (i) Consolidation of Innovation in the Productive Sectors; (ii) Consolidation of Capacities in R&D; (iii) Promotion of Collaboration in the Productive Sector; and (iv) Consolidation of S&T Institutions²⁶. In this framework, in July this year, a US\$50 million credit line for SMEs has been launched. In addition to that, IADB has recently financed the “E-Business for Small and Medium-Sized Enterprises” program. This is a US\$150,000 grant for technical assistance in the design of a project for the deployment of ICT among SMEs. Also the **World Bank** is involved in the financing of various programs in Argentina. The ‘country assistance strategy (CAS)’ for the period 2006–2008 anticipates an overall financial assistance of US\$3.3 billion, mainly for investment projects. Among concrete instruments for SMEs developed in the past by WB, it can be cited the PyMExporta facility, a program for the support of SME's export which proved particularly successful.

26 Source: the IADB's official website: www.iadb.org

ANNEX D – LIST OF ENTITIES INTERVIEWED

D.1 PUBLIC INSTITUTIONS

- Programa CREAR-CIT, Secretaria de Ciencia, Tecnica e Innovacion Productiva–Secyt
- Instituto de Emprendimientos Cientificos y Tecnologicos – IECyT
- Agencia Nacional de Promocion Cientifica y Tecnologica

D.2 FINANCIAL INSTITUTIONS AND SCHEMES

- Chrysalis Argentina
- Mark Fund Argentina
- Holdinvest
- Ombu
- Cyrus Capital
- Programa Universidades, Banco Rio – NEXO EMPRENDEDOR

D.3 ICT/ICTE ENTERPRISES

- Core Security
- Calipso Software
- Software Santa Fe
- Globant
- CEICOM
- Movilog



ANNEX E – PROFILES OF SME FINANCING ORGANIZATIONS

PROFILE #1 . *Chrysalis Argentina*

Salient Features

<i>Denomination</i>	Chrysalis Argentina
<i>Nature</i>	Chrysalis is a company active in the scouting and support of innovative enterprises. Chrysalis provides seed and startup equity financing and strategic guidance to the invested companies.
<i>Location</i>	Chrysalis is based in Buenos Aires, Argentina.
<i>Geographical Coverage</i>	Chrysalis is a national scheme.
<i>Establishment</i>	Chrysalis was established in 2003 and started operations in 2004.
<i>Funding</i>	Chrysalis was founded by a group of professionals from different disciplines acting as a business angel group. It does not manage a closed end fund but mobilize the capital for investments on a case-by-case basis.
<i>Investment Policy</i>	<p>Chrysalis targets enterprises in the early stage, without any sector preference. Chrysalis' follows a three-pronged approach:</p> <ul style="list-style-type: none">■ direct funding, from US\$50,000 to 150,000, and indirect funding, such as. assistance in finding other co-investors;■ networking: Chrysalis helps establishing relations with institutions, investors, enterprises both at the national and international level;■ strategic collaboration: Chrysalis takes an active role in the invested companies, adding value to the business through the professional and market experience of its partners. <p>Financing is in the form of straight equity and the duration of investment is probably five years.</p>
<i>Operations</i>	Since its launching in March 2004, Chrysalis has closed two deals and a third is in the pipeline. The first regards the ICT sector. The project consists on the development of a software for veterinarians and breeders. The project is implemented through a joint venture with the Universidad del Centro, and Chrysalis contributed to 70% of the total, being US\$100,000. The second deal is in the field of commercialization of opportunities emerging in the field of biotechnology. The amount invested is of US\$70,000.

Other information

- Chrysalis is also involved in the set up of the Club de Business Angels, founded by 25 alumni of the Escuela de Dirección y Negocios de la Universidad Austral. The club, which started operation in 2005, requests its member to invest at least US\$20,000 per year.

Sources on the Web

- www.chrysalisargentina.com.ar.

PROFILE #2. Pegasus VC

Salient Features

<i>Denomination</i>	Pegasus Venture Capital
<i>Nature</i>	Pegasus is an investment firm, with activities ranging from growth stage equity financing to large M&A operations.
<i>Location</i>	Pegasus' main offices are located in Buenos Aires and Boston
<i>Geographical Coverage</i>	Pegasus is a regional scheme, with portfolio companies in Argentina, Mexico and the US. Operations concentrate in Argentina.
<i>Establishment</i>	Pegasus was founded in August 2000
<i>Funding</i>	Pegasus has ten senior partners, all of whom with relevant background in international finance and business management. Since its inception, Pegasus has invested an estimated US\$100 million.
<i>Investment Policy</i>	The main focus of Pegasus is on mezzanine and late stage investment. This can include turnaround or distressed situations requiring capital for restructuring and active management involvement. Well-established early stage companies may however be considered when perspectives of significant growth are present. Typically, it targets sectors like: retail, logistics, telecom, BFSI, and to a lesser extent also ICT/ICTE. To operate in this field, Pegasus has recently made a joint venture with a firm specialized on high-tech business, and created <i>Aconcagua Ventures</i> a financial vehicle for early-stage investments in technology domains. Financial instruments include equity, quasi-equity, senior or subordinate debt. The size of transaction closed by Pegasus is normally undisclosed but likely range from US\$3-5 million in the case of growth capital operations up to US\$20 million and more for late-stage acquisitions.
<i>Operations</i>	As of today, Pegasus has completed seven deals, one of which based in Mexico and another being a US-Argentina operation. Two transactions were made in the ICT sector.

Other information

- The ICT enterprises in Pegasus portfolio are:
- Core Security Technologies – a leading provider of state-of-the-art Information Security technology to large corporate clients in 30 different countries. Core has offices in Boston and Buenos Aires, and its customers include corporation, like IBM, Microsoft, Ernst & Young, Accenture, government agencies and military organizations. Pegasus invested US\$5.0 million in Core in February 2001. It also provides assistance for the development of the business plan, economic and financial models, growth strategy and organizational design of the company, and supported the entrance into the US market. Recently, Core staff has reached 100 units.
- MasNegocio, is a Mexican application solution provider which specializes on ERP and CRM systems for SMEs throughout Latin America. Pegasus invested in MasNegocio in November 2000 and took two seats in the Board of Directors.
- In 2006, Pegasus has made a joint venture with Core-Core for the establishment of Aconcagua Ventures, a VC firm that will focus on deals in technology sector. Core-Core is a group of Argentine entrepreneurs specialized in the creation and operation of high-tech businesses, among which it is worth to mention the Pegasus-invested Core Security Technology. According to the information available Aconcagua Ventures has not closed yet its first deal.

Sources on the Web

- www.pegasusvc.com

PROFILE #3. CAP Venture Capital

Salient Features

<i>Denomination</i>	CAP Venture Capital, where CAP stands for <i>Compañía Argentina de Participaciones</i>
<i>Nature</i>	CAP is a venture capital schemes focusing on high-potential enterprises at the expansion stage.
<i>Location</i>	CAP VC is based in Buenos Aires
<i>Geographical Coverage</i>	CAP VC has a national coverage.
<i>Establishment</i>	CAP VC was established in 2007
<i>Funding</i>	CAP VC has been established with an overall corpus of US\$33 million. The funders of the initiative include: IADB, the Corporación Andina de Fomento, Grupo Los Grobo, Storm Ventures and IRSA.
<i>Investment Policy</i>	CAP VC is a generalist scheme particularly focused on biotechnology, agribusiness, high-tech and services. The fund will target well-established firms in development and expansion phase. Deals will likely range from as little as US\$1 million up to 4–5 million. CAP VC will acquire minority stake in the invested companies but the intention is to actively participate in the management.
<i>Operations</i>	CAP VC was launched this year and no transactions have been concluded so far. Presently there are 50 projects under analysis, and for three of them a deal is in the pipeline.

Narrative Description

CAP VC partners include the following:

- **The Inter-American Development Bank;**
- **The Corporación Andina de Fomento (CAF):** The CAF is a multilateral financial institution that supports the sustainable development of its shareholder countries and regional integration. It serves the public and private sectors supplying multiple financial products and services to a broad portfolio of clients, formed by the governments of the shareholder States, financial institutions and public and private companies;
- **Grupo Los Grobo:** one of the largest Argentinean agribusiness company;
- **Storm Ventures:** A Silicon Valley VC firms with US\$500 million currently under management;
- **IRSA:** the Argentina's largest and most diversified real estate company. IRSA's shares are listed in the Bolsa de Comercio de Buenos Aires and The New York Stock Exchange.

Sources on the Web

- n.a.



ANNEX F – PROFILES OF ICT/ICTE SME

CORE SECURITY

Operations

Core Security was established in 1996 in USA based company, by six partners with extensive background in the ICT sector. It is a software development company committed to the delivery of breakthrough information-security (IS) technology solutions that address the strategic IS needs of large organizations and specializes in offering security products, research and consulting services.

Core Security has become an international IS Company with headquarters in Boston (MA) and a development centre in Buenos Aires and counts on 80 employs in both countries. During its history, the company has developed commercial software products for other security vendors, collaborated with leading consulting firms to provide IS expertise and published extensively in the industry.

Financing

During the start up phase, the company was financed through the founders' own savings. By the end of the first year of operations, the turnover was estimated to US\$4 million. In 1999, the company received an external financing of US\$50,000 from personal contacts in Canada. Nearly in the same period, *Core* presented a detailed Business Plan to a Business Angel investor and obtained a contribution of US\$700,000 and just three years later it received another financing of US\$5 million from the VC firm *Pegasus*. The main reason for succeeding in having external financing concerns both, the great growth potential of the company and the fact that it was oriented towards foreign markets, especially the US.

More recently, another round of funding was closed in 2005 with Morgan Stanley Venture Partners. The US\$4.5 million investment will allow *Core* to aggressively expand sales and marketing, further enhance product development and strengthen customer support services.

Other

- *Core Security* has participated in the First Risk Capital Forum organized in 2004 in Argentina by the Program Crearcit from the Secretariat of Science and Technology.
- By the year 2005 *Core* was invited to the Second Risk Capital Forum as a “best experience”.
- Nowadays some of its members are actively participating from several activities organized by the Secyt. In fact, they are also consulted as opinion leader.
- The company has also joined the “*Fundacion Ecodar*”, which promotes the Argentinean Diaspora.
- One of *Core's* co-founders is currently involved in the creation of a venture capital fund named *Aconcagua*.

CALIPSO SOFTWARE

Operations

Established in 1993, the company counts today 100 people in its team and serves more than 400 clients. *Calipso* is a leading company in providing ERP – Enterprise Resource Planning to medium size and big companies. The company has strategic agreements with the most important consultancy firms and software developers within the region and has offices in Uruguay, Chile, Mexico, and Spain. It is currently working to expand to new markets.

Financing

The company started its activities with capital provided by the founders. Later, they finance the expansion of the business basically through the company's revenue. No other external sources of financing have been ever used.

Other

Calipso Software has signed a strategic cooperation agreement with *Software Santa Fe* (see below) that foresees the development by *Calipso* of new products that will serve for a new project that *Software Santa Fe* is going to launch. Both companies believe in the benefits that technological association can bring and the agreement is considered as a very efficient way to gain experience, visibility and recognition in the region.

SOFTWARE SANTA FE

Operations

Established in 2003 and located in the Incubator of the Technology Park Litoral Centro S.A.P.E.M. (Santa Fe-Argentina), the company specializes in the creation and development of new solutions in the ICT sector. *Software Santa Fe* left the incubator in 2005, after two years of sustainable grow within the Incubator environment. Currently, the team of experts counts 50 persons, most of them professional with graduate and postgraduate background. The development of products that fulfill all quality standard requirements, allows them to access regional and international markets.

Financing

The establishment of the company is strictly linked to the National Technological University, whereas initial financing saw a mixed participation of the University and local investors.

Other

The establishment of *Software Santa Fe* is strictly connected to the emergence of the province of Santa Fe as one of Argentina's IT clusters. The main centre is in Rosario City, where the *IT Quality Centre* is based. The center is a private initiative supported by the public, and it acts as a major facilitator for software companies in the area.

GLOBANT

Operations

The company was founded in 2002 by four young partners dedicated to the production of technology

offshore services. It now has 230 employees, and offices in Massachusetts and London. *Globant* provides enterprise consulting application and outsourcing services solutions for companies in Latin America, the US, and Europe. It focuses exclusively on business applications, providing full lifecycle software projects. The onsite/offshore development model can help organizations achieve a world-class level of technical excellence, for much less than half the cost of having the same work done by other e-business and outsourcing leaders. Among its clients are companies, such as: Renault, Santander Group, Accenture, and Dell.

Financing

During the start up phase, Endeavor Argentina Network was crucial for the company, both in terms of external financing and business contacts. Then, *Globant* knew how to exploit the incredible growth the technological services had in India so they managed to access that market. From the very beginning, the founders looked forward to specializing in solutions and technologies, and to create an export-oriented company. And as a matter of fact, currently *Globant* accounts for 90% on services oriented to export and is doubling its turnover year by year, from more than US\$3 million in 2005.

Other

At the beginning the company provided services along three main lines: software development, infrastructure management and Internet marketing.

They developed open source solutions and to be more flexible they structured a team of specialists ready to move everywhere, according to the clients' needs. *Globant* has always had clients in India and Russia. Obviously, there disadvantages due to the exchange rate, jet lag, distance, but nevertheless according to the company, the key of their success was the human resources and business model created for India.

MOVILOG

Operating

Established in 1999 as a spin-off of *Core Security*, the company specializes in developing software for electronic manual devices, like Palm Pilots. The first application was on banking system; currently they

offer two products, MoviBank and MoviBroker, specially designed for the financial sector. They have already commercialized it to the Bank Boston Brazil with a preferential contract. They are now developing similar applications for other industries and also offering wireless solutions. The team is determined to make *Movilogic* a leader of the remote technology. The network of clients includes: Bank Boston Brasil, 3Com, Coca Cola, Banco Do Brasil, Johnson & Johnson, Unisel,

Financing

They developed due to the success of their first product MoviBank. In 2001 the company received a US\$1.2 million investment, and now is evaluated at US\$10 million.

CEICOM

Operations

Established in the early 1990s, *Ceicom* has more than 15 years of experience in offering IT solutions for the air travel industry. The technology allows the reduction of operational costs to airline companies by incorporating various information levels for sales, from travel agencies to the monitoring and control of credit cards and promotions.

The company provides services, developed in English, Spanish and Portuguese, to more than 15 companies in 40 different countries and counts

through its clients Varig, Aerolíneas Arg., Tam, LAPA y Southern Winds, East African, Spanair, and has signed an agreement with Lufthansa for support services. The company has 50 employees and besides the headquarters in Buenos Aires, has opened offices also in Brazil, Uruguay, Chile, Peru, Venezuela, Ecuador, Colombia, Germany and Italy.

Financing

The company has experienced a fast growth, at 35% per year, especially during these last years. Market penetration is 3% worldwide. Sales that in 2001 were registered at US\$6 million, have reached US\$50 million by 2005, with 97% of the earnings coming from the international markets.

Nevertheless, according to the interviewee, the main barrier to growth in Argentina is represented by the difficulties in accessing external financing, mainly bank credit lines. As a consequence, the company is obliged to refuse large projects because of the lack of working capital. In Madrid (see below) the situation is completely different; it is easier to obtain bank loans, moreover with facilities, like with reduced interest rates at 7% annually.

Other

Ceicom chooses to start operations in Spain after an offer for cooperation they had from the Instituto Madrileño de Desarrollo (Development Institute of Madrid) – IMADE, a public organization directly depending from the City Council.

About *infoDev*

infoDev is a partnership of international development agencies, coordinated and served by an expert Secretariat housed at the World Bank, one of its key donors and founders. It acts as a neutral convener of dialogue, and as a coordinator of joint action among bilateral and multilateral donors—supporting global sharing of information on ICT for development (ICT4D), and helping to reduce duplication of efforts and investments. *infoDev* also forms partnerships with public and private-sector organizations who are innovators in the field of ICT4D.

infoDev's mandate is to help maximize the impact of ICTs in global efforts to achieve the internationally-supported Millennium Development Goals. These include improving education and health services, making public institutions more efficient and transparent, supporting rural livelihoods, and contributing to economic growth by supporting small and medium-sized enterprises that use ICT for their business.

For more information visit www.infoDev.org or send an email to infoDev@worldbank.org

