

**PROJECT INFORMATION DOCUMENT (PID)**  
**APPRAISAL STAGE**

Report No.: AB3480

<b>Project Name</b>	Information Technology (IT) Industry Development
<b>Region</b>	LATIN AMERICA AND CARIBBEAN
<b>Sector</b>	Information Technology (100%)
<b>Project ID</b>	P106589
<b>Borrower(s)</b>	GOVERNMENT OF MEXICO
<b>Implementing Agency</b>	
	United Mexican States Mexico
	Secretariat of Economy Alfonso Reyes No. 30 Col. Hipódromo Condesa Mexico, D.F. Mexico Tel: +52 55 5729 9221
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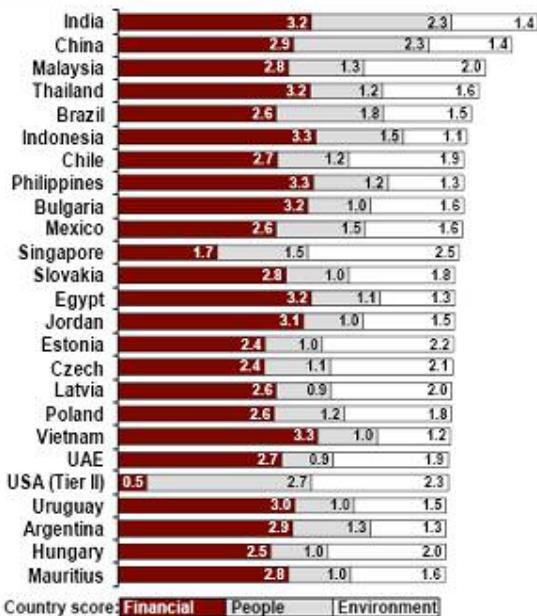
1. Country and Sector Background

1. In the wake of the 1994 crisis, México implemented impressive reforms that led to a more open economic and political system and a better integration within the world economy (México belongs to the OECD), and achieved investment grade. However, México still faces substantial challenges to reduce poverty, improve competitiveness, reform its institutions and manage the environment. The Country Partnership Strategy (CPS) of March 18, 2004 focused precisely on these pillars through targeted interventions in strategic sectors and selected areas where “the Bank can bring value added expertise and quality support to México while being more selective in initiating the preparation of lending operations”<sup>1</sup>. The Bank is preparing a new CPS that is based on Calderon Administration’s National Development Plan five pillars: (1) rule of law and public safety; (2) economic competitiveness and generation of jobs; (3) equality of opportunities; (4) environmental sustainability; and (5) effective democracy and responsible foreign affairs.

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<sup>1</sup> Report No. 28141-ME of March 18, 2004.

**Figure 1: Global Service Location Index – 2007**



Source: AT Kearney (2007)

IT/ITES sector can be developed in a relatively short time. For example, a focused initiative in the state of Andhra Pradesh in India resulted in IT/ITES exports increasing from US\$0.45 billion to US\$2.86 billion between 2001 and 2006.

4. Due to its geographical proximity to, and same time zone as the USA, its large labor pool and Spanish language (which can give access to the entire Spanish-speaking population in Latin America and Spain (405 million) and within the US (45 million)), México has a distinct opportunity to develop as a leading hub for IT/ITES in Latin America<sup>3</sup>. According to the *AT Kearney Global Services Location Index 2007*<sup>4</sup>, Figure 1, México ranked 10th amongst the top 50 worldwide potential off-shoring destinations for IT/ITES (third best in Latin America).

5. However, Mexican firms do not use extensively IT in their business processes: the IT industry in México accounts only for 3.1% of the GDP, compared to 5.3% in Latin America,

<sup>2</sup> IT services include application development, software design, systems integration, IT consulting, R&D services, hardware and software maintenance, network administration and help desk services. IT enabled services are services that can be remotely delivered using ICTs, such as call centers, data processing, reservation and information services, accounting services, human resource management, sales contact centers, medical transcription services, tele-marketing, etc.

<sup>3</sup> See “Global Outsourcing Report 2005”, Horasis and Going Global Ventures Inc. (Page 4, 8, 43); and “NASSCOM-McKinsey Report 2005” NASSCOM (page 163)

<sup>4</sup> The *AT Kearney Global Services Location Index* measures the Financial Structure, People and Skills Availability and Business Environment in countries around the World.

2. In this context, the global services outsourcing offers a distinct opportunity for México to improve competitiveness and generate employment. (Pillar No. 2). According to one estimate, the addressable market for global offshoring of IT services and IT enabled services (ITES) was roughly US\$300 billion in 2005, of which only about ten percent has been executed<sup>2</sup>. While the off-shore IT industry grew at 21% annually from 2001 to 2005, the offshore ITES industry grew at an impressive 49%. India, by far the biggest player in this field, generated export revenues of US\$23.6 billion in 2005-06, and employed nearly 1.3 million people in the IT/ITES industry. According to some estimates, each job in the IT/ITES sector creates 3 to 4 jobs in sectors such as transportation, construction, health, entertainment and others.

3. With the right policy mix and a clear Government commitment, the

7.1% in high-income countries and 8.8% in the USA<sup>5</sup>. IT is an essential ingredient in raising productivity in firms and improving the competitiveness of the Mexican firms. In addition, Governments (Federal, State and Local) represent only 12% of the IT Sector revenues, because most of their IT systems and services are developed in house, lowering their effectiveness and impeding transparency.

6. Recognizing the potential of the IT industry, the Mexican Government (GoM) requested the Bank to support a study of the IT and ITES Industry Sector in México. Using FMTAAS funding, the Bank accordingly engaged AT Kearney to conduct a study on the “Development of an IT and ITES services industry in México”.

7. The study took a disaggregated view of the potential for developing the IT/ITES sector in different states of México. The study found that even though México ranks No. 10 in the world in attractiveness<sup>6</sup>, there are important disparities among Mexican States, as shown in figure 2 below<sup>7</sup>.

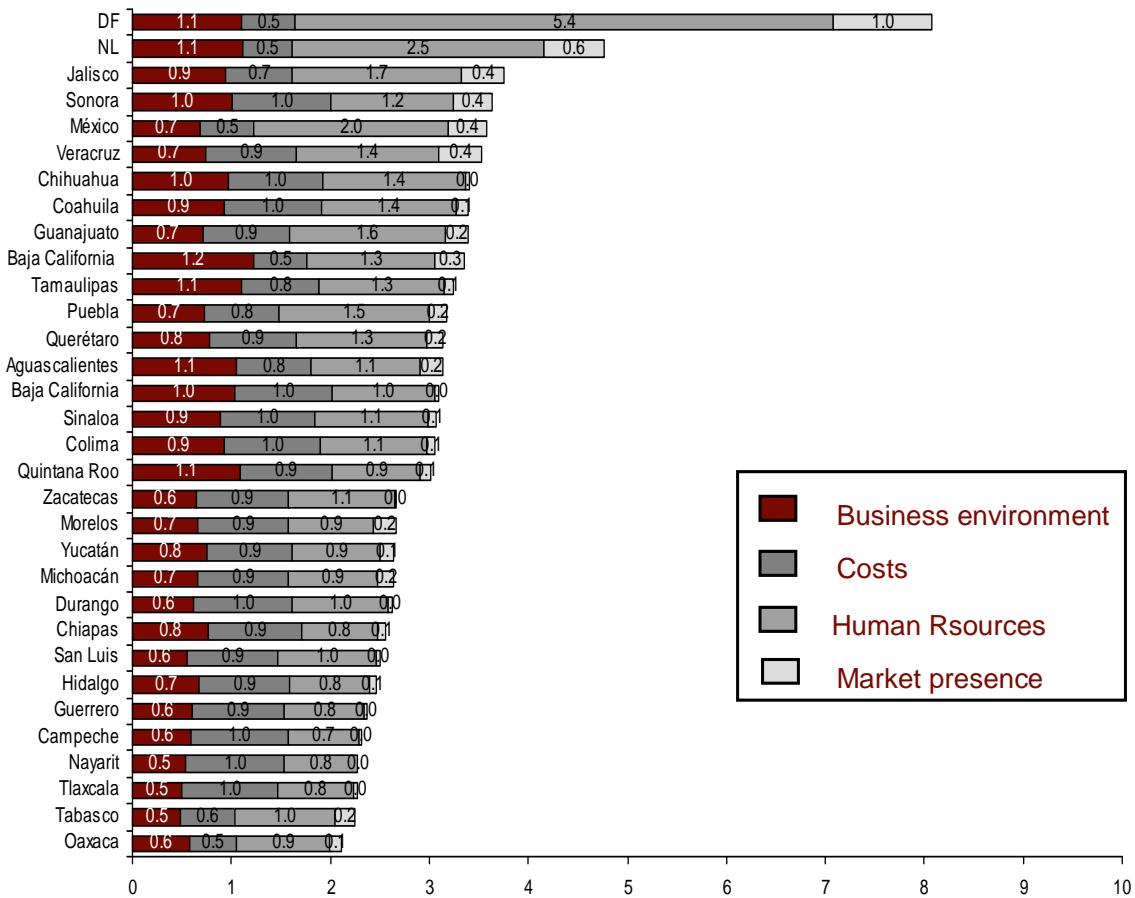
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<sup>5</sup> “ICT for Development”, 2006, World Bank

<sup>6</sup> India is No. 1, followed by China and Malaysia, note that Brazil is 5 and Chile 7.

<sup>7</sup> AT Kearney, Op. Cit.

**Figure 2: States Ranking for IT services**



8. The study specifically analyzed incremental opportunities to boost the current IT/ITES industry growth in México. While focusing on 5 states<sup>8</sup> of various sizes and income levels, the study found that many other states in México could potentially participate to a lesser or greater degree in the IT/ITES sector. However, while the strategy for Nuevo Leon or Jalisco focuses on advanced IT services to add high value to exports, the strategy for Zacatecas would be centered on entry level BPO for Mexican firms. Table 1 summarizes some of the key issues that would need to be addressed by the States: (1) lack of qualified manpower, both in terms of quality and quantity, (2) weakness or absence of IT clusters at State level and lack of sources of funding of IT/ITES companies. 3) lack of support infrastructure in the form of technology parks, (4) absence of the IT sector participation in Government services; and 5) weaknesses in the policy, legal and regulatory framework,

9. First, the Study found that adequate human resources in each specialized fields, both in terms of quality and quantity, is absolutely key to achieving success in the IT/ITES sector. The World Economic Forum placed México in position 81 (out of 122) in the quality of the educational

<sup>8</sup> Nuevo Leon and Jalisco are two large states with higher income, Queretaro and Coahuila are medium-size and income level, geographically close to Nuevo Leon y Jalisco, and Zacatecas, a poor state at the center of the country.

system<sup>9</sup>. In Education in the IT Sector, México faces several issues that need to be addressed. First, IT companies spend around US\$60,000 and take 18 months to train each new engineer, mainly because of the absence of certain specialized courses and English language<sup>10</sup>. Second, there is a shortage of high quality managers in small and medium size IT companies. Third, there are not enough network and computer technicians (AS degree equivalent). Finally, there are not enough English-speaking operators for call centers.

10. Second, States that are being successful in the IT/ITES sector show strong agglomerations between Industry, the State's Government and Academia called "IT Clusters". These clusters leverage effectively the States' endowments (human resources, infrastructure, industries, etc). However, the A.T. Kearney study found that not all States have these Clusters, and that in some cases where they exist, they do not work effectively. Finally, the IT industry complains of the lack of adequate financing. Small and medium enterprises do not have access to venture capital funds, and local bank loans terms and conditions are usually neither suitable nor affordable. IT companies do not have physical assets that can serve as collateral to Bank's loans. A PROSOFT program that allows companies to obtain bank loans by providing them with the guarantees is still very limited and does not address the lack of systematic analysis of software companies.

11. Third, the supporting infrastructure needed by the IT Industry is generally not available in México, with few exceptions. IT firms normally operate using shared infrastructure in the form of IT Parks providing all the needed communications facilities and services, usually located in urban areas where there is abundant labor force and universities that can provide training for their employees, and close to major airports. A recent study funded by infoDev found four factors critical for success of IT Parks: (1) private management and anchor investor; (2) location of the Park near airports, large urban centers, universities, housing and recreational facilities; (3) qualified and skilled manpower; and (4) availability of angel investment, venture capital and private equity<sup>11</sup>.

12. Fourth, a recent study by Evalueserve<sup>12</sup> confirmed that Governments (Federal, State and Local) develop most of their IT systems and services in house and do not use the IT industry as much as in other countries. Experience in many countries has shown that the Government, being the largest user of IT Services, could promote the development of the IT Industry, and at the same time improve its efficiency and effectiveness by subcontracting these services, or outsourcing them to the private sector. This modality has the added benefit of increasing the transparency of the Governments, as Government processes, purchases and information becomes available online to the benefit of all the population. The Austerity Decree established by

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<sup>9</sup> World Economic Forum and INSEAD "The Global Information Technology Report 2006-2007" by Soumitra Doutta, Irene Mia, Editors, 2007.

<sup>10</sup> Only a few Universities require students in IT careers to learn English language to graduate; public universities do not. Changing the program in public universities requires 4 years, a very long time for the need of the dynamic IT Industry.

<sup>11</sup> Price Waterhouse Coopers, "International Best Practice for Establishment of Sustainable IT Parks", April 2007 (forthcoming publication).

<sup>12</sup> "Country Assesment Report for Identifying Potential Public Private Partnerships in e-Government" Evalueserve, 2007. México ranked 56<sup>th</sup> globally and 7<sup>th</sup> in the LAC Region in the e-Services adoption index, even though the outlook of the Mexican Government towards e-Government is favorable.

President Calderon in December of 2006 has recently mandated federal government entities to purchase services as opposed to equipment, opening the door for Public Private Partnerships for the provision of E-Government services by the private sector.

13. Fifth, we commissioned a Study to identify and analyze obstacles posed by the current enabling legal and regulatory framework to the development of IT and IT Enabled Services (ITES) industries. The review included an assessment of the current framework, taking into account, but not limited to, risks, advantages, loopholes, overlaps and development detrimental laws and regulations and a proposal to improve current regulatory and institutional schemes. This Study found that Mexico should modernize its comprehensive IT-ITES enabling regulatory and legal framework<sup>13</sup>. In doing so, the Government should raise awareness within public and private sectors, academia and civil society in order to facilitate general consensus and smooth approval process. Given the disparity or lack of regulations technical assistance from local and foreign experts should be sought in order to obtain high-skill input on regulatory reform issues ranging from trade barrier analysis to harmonization of electronic signature regulations. Simultaneously, Mexico is in need to train its Judiciary sector, legislators, trial experts, law enforcement, government officials and practitioners in the regulatory treatment and legal interpretation of new technologies. The Mexican Government jointly with the private sector and academia has pursued many valuable initiatives to foster internet security, online trust, combat cybercrimes and raise awareness on piracy issues. Those initiatives along with new programs should be granted continuous support along with other new initiatives such special IP courts, or the creation of online dispute resolution mechanisms.

14. In general, Mexico possesses an established legal environment that allows public private participation and collaboration. This environment includes laws governing concessions and/or privatizations, clear processes for dispute resolution and the ability to enforce contracts, as well as lender remedies under bankruptcy and insolvency. Most of Mexico's PPPs deal with infrastructure, however, the Mexican Government recognized the provision of services by the private sector. The so-called Project for the Supply of Service model was introduced in Mexico as a means of achieving the objectives of sustainable development that are stated in the National Development Plan. Even though all procurement contracts require an internal governmental and budgetary approval, the PPPs must pass a specific and rigorous criteria mentioned under the Rules and the Guidelines, consisting mainly of a cost-benefit analysis at a profile level and at a pre-feasibility level. The process seeks to address and ensure that the PPP option is less costly to government than a regular procurement contract funded through direct payment of capital expenditures in the federal budget. However, this regulation is complex and discourages civil servants from using PPPs for Government services.

## 2. Objectives

15. The objective of the Project is to assist the Government of Mexico to implement an alternative strategy for PROSOFT to foster the creation of jobs in Mexican IT Companies by improving their competitiveness and efficiency through access to: (a) a larger supply of trained

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<sup>13</sup> Bendersky, Matias, "Legal and Regulatory Barriers in the Development of Information Technologies and Information Technology Enabled Services ("IT/ITES"), November 3, 2007

personnel; (b) technologies, quality standards and global marketing networks of multinational corporations; and (c) private debt finance.

16. The Project would initially focus on States that have better potential to grow the IT industry. The success of these States is likely to have a strong demonstration effect, benefiting Mexico as a country and improving the competitiveness and efficiency of the Mexican economy and fostering the development of SMEs.

17. The following indicators would be used to monitor progress toward achieving the Project objective. SE would hire an independent firm to monitor the results and report progress every year:

- IT/ITES jobs created by the IT Industry as a result of training programs (jobs)
- IT Companies' satisfaction rating with the IT Links Program (percentage of good and better responses)
- Increased overall debt portfolio of IT Companies in the financial system (US\$ million)

### 3. Rationale for Bank Involvement

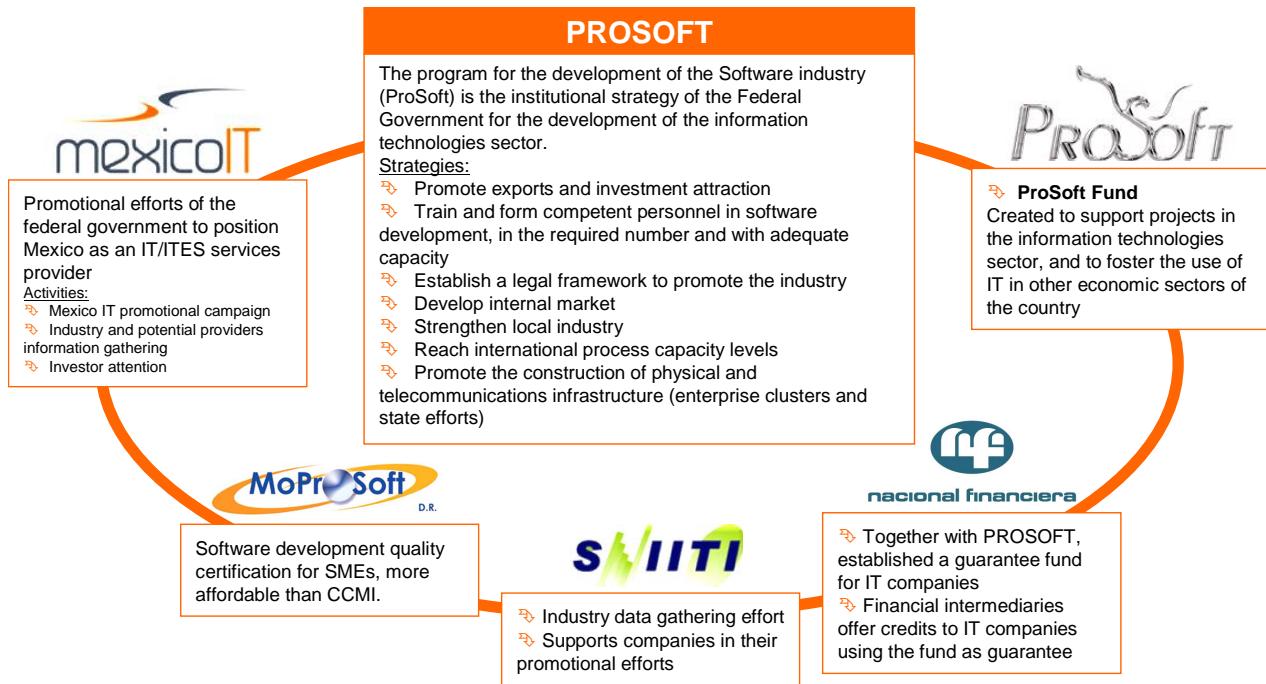
18. The Mexican Government has requested the Bank's support to help improve and expand PROSOFT in order to foster the development of the IT and ITES industries. Specifically, the Mexican Government strategy is to support the IT Industry growth in the short term, while reducing the subsidies to the Industry over the long term. The design of the present Project builds on the achievements of the PROSOFT program. The project would support PROSOFT to implement an alternative strategy to expand the number of jobs in the Industry from 80,000 to at least 100,000, address several critical human skills deficits, link Mexican companies with multinational corporations, develop solutions for financing IT companies, and provide technical assistance to continuously monitor, evaluate and improve PROSOFT, among other things.

19. The Bank is particularly qualified to do this, thanks to the experience that its staff gathered in supporting similar initiatives in a number of countries including India, Russia, and Sri Lanka<sup>14</sup>. The development of the sector requires a multi-dimensional approach and the Bank has a wide range of expertise in relevant areas. Furthermore, the World Bank Group offers unique synergies, as it can bring to the table private sector financing through its IFC arm, and public funding through World Bank loans to the Government. Even though the proposed Project is small compared to the larger PROSOFT Program, the Mexican Government wishes to expand the initiatives that the Project would support in the medium term in order to catalyze a new and improved PROSOFT Program.

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<sup>14</sup> See section "D. Lessons Learned and Reflected in the Project Design" for detail explanation on the Bank's experience in each of the components of the Project.

**Figure 3. PROSOFT Program: Main Initiatives**



Source: ProSoft, AT Kearney, 2007

20. The Bank is already supporting the GoM through the “Innovation for Competitiveness Project” (I&C Project), which provides policy-related support to enhance innovation, finances CONACYT program to promote business innovation through the use of innovative technology, and funds scholarships for improving México’s science and technology skill base. This Project and the proposed one are complementary and would mutually reinforce each other. The growth of the IT/ITES sector under the ongoing I&C Project would open up new technological and business possibilities for innovation, which would in turn bring the benefits of using new technologies to Mexican companies trying to move up the value chain. The I & C project would also help prepare the ground for the growth (economic and in number) of businesses engaged in KPO (Knowledge Process Outsourcing) type of activities. Details are in Annex 2.

#### 4. Description

21. The project is designed in response to a strong demand from State Governments<sup>15</sup>, and strongly reinforces previous efforts made by the *Secretaría de Economía* through the PROSOFT program. The project would cost **US\$80.0 million**, financed by the Bank. It is expected that the State Governments and the Private Sector (including Universities) would contribute to these funds, as explained in Annex 1 (Table A1.2). Assuming similar proportions in their collaboration to those shown in previous years, State Governments and the private sector should add \$38.0 and \$122.1 million, respectively.

<sup>15</sup> Initial requests were presented to the Bank by the States of Nuevo Leon and Zacatecas, followed by Jalisco, Coahuila, and Queretaro. Other States have expressed interest though they have not formally requested support.

22. To achieve its objectives, the Project would: (a) build an institution to ramp up the availability of skilled manpower for the IT Industry; (b) create a program to develop and improve linkages between Mexican companies and global corporations; (c) help companies to improve their managerial skills to obtain financing for their projects, (d) assist the State Governments to attract private companies to invest in IT Parks; (e) assist federal, state and municipal governments to outsource services to the private IT Industry; and (f) improve the IT Policy, Legal and Regulatory Framework. The project would include the following components with Bank financed amounts in parenthesis (more detail in Annex 4):

A. Human Skills Development (US\$38.3 million)

23. This component would help the IT/ITES industry to compete globally by increasing the quantity, and improving the quality of skilled manpower. The Project would support establishing the *México Federal Institute for Remote Services and Technology* (MexicoFIRST), using a PPP approach that would bring together leading corporations, industry organizations, global standards bodies, academia and government entities. MexicoFIRST is conceived as an apex institution focusing on internationally recognized certification, mentoring and ‘training the trainer’ programs, in keeping with industry needs. It would facilitate the design of courses and skill development programs for niche specializations in areas having good market potential, and in line with industry requirements. It would complement existing university programs thereby overcoming the lack of flexibility in adapting academic curriculum to industry needs. The component would also assist English language training programs for the IT and ITES sector.

24. Under this component, the Project would finance:

- (a) Technical assistance to start up MexicoFIRST, establish global alliances for the Institute, recruit its key staff, design of first year programs and operational costs of the entity (US\$2.8 million); and
- (b) Training grants for technical, managerial, and English courses, certifications, seminars and workshops for faculty, students, industry professionals, and potential recruits for the IT Industry (US\$35.5 million).

B. Strengthening of IT Clusters (US\$9.0 million)

25. This component would help existing IT Clusters and associations in promising States having high potential in the IT/ITES sector. It includes the following sub-components:

- (a) The IT.Link (*Information Technology Linkages Network*) would provide Mexican SMEs with access to technologies, processes and markets by linking up with global IT companies. The Project would finance several IT experts who would serve as liaison between the Mexican IT Industry and global corporations, their travel and operating costs. (US\$1.5 million)
- (b) This component would also provide technical assistance to the IT Clusters that have developed strategies and have the needed resources to develop the IT/ITES sector. This technical assistance would provide support for the implementation of specific activities aimed at increasing their maturity and competitiveness, to help them grow

- their local industry and give them access to international markets, including awareness and dissemination campaigns. For those IT Clusters that have not yet developed a strategy but have enough resources to develop the industry<sup>16</sup>, the project would support them with the design of their IT/ITES strategy. (US\$1.2 million)
- (c) Workshops aimed at raising awareness on the benefits of outsourcing and the usage of information technology in business and production processes will be carried out. The main audience for these events is composed of local businessmen in every State, and they would be organized in close coordination with local IT Clusters. (US\$1.3 million)
  - (d) In order to increase the competitiveness and maturity of IT Clusters through the improvement of quality, this component will award certification grants through the PROSOFT fund. Internationally recognized certification programs will allow cluster companies to engage in more ambitious projects and to participate more actively abroad. (US\$5.0 million)

#### C. Financing of the IT Industry (US\$2.9 million)

26. This component will create the “Financing of IT Companies Accreditation Program” (FIT). This program will seek to reduce the information asymmetry between Financing Intermediaries (FI) and enterprises and thus facilitate credit to the sector. Business schools and other training centers would be invited to participate in the FIT program.

27. This component would provide:

- (a) Technical assistance to design the Financing of IT Companies Accreditation Program “FIT” that would improve management, project management and implementation capacity of IT companies, including the selection of a reputable institution to manage the program. (US\$0.3 million);
- (b) Certification Grants to IT companies to participate in the FIT Program. (US\$1.4 million)
- (c) Technical assistance to FIs and Banks to develop capacity to appraise IT projects and IT companies (US\$1.2 million);

#### D. Supporting Infrastructure (US\$10.1 million)

28. Experience in other countries shows that the IT industry can develop faster through agglomeration and clustering of small, medium and big companies in close proximity to research centers, universities, financial institutions and incubators. Linkages between demand and supply, skill development and industry, and between financing and entrepreneurs, can produce the so-called “Silicon Valley” effect. The establishment of IT Parks is one of the most effective vehicles to promote such agglomerations. In México, ProSoft has supported the establishment of small IT Parks and some of them are in the middle of their design phase. However, the process of attracting IT/ITES companies to these parks requires a new approach by

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<sup>16</sup> These requirements include, inter alia, a critical mass of human capital, a constant flow of students from local universities and a relatively big local industry. These States were identified as part of the study undertaken by the Bank.

leveraging Public-Private Partnerships (PPPs) to channel investments from the private sector. Further the relative strengths of the private sector in marketing, management and operating the facilities for IT/ITES companies would be tapped to capture the benefits of agglomeration.

29. This component would finance:

- (a) Technical assistance to prepare feasibility studies, design, and bidding specifications based on a PPP model for IT Parks in selected locations (US\$0.9 million); and
- (b) The Federal Government part of the investment required for each PPP for the IT Parks. (US\$9.2 million).

**E. Outsourcing of Government Services (US\$2.7 million)**

30. Experience in many countries has shown that the Government, being one of the most important users of IT and IT services, can help promote the development of the local IT industry by strategically sourcing its requirements from the private sector. The increased use of IT in government can also help improve efficiency, transparency and accountability within the public sector besides delivering better services to citizens. In México, most e-Government services in the past have been developed in-house, at all levels of government (Federal, State and Municipal). The recent Austerity Decree, will however bring about a radical departure from this approach. The Decree prohibited Federal Government departments from purchasing computers and hardware in general, forcing them to purchase IT services from the private sector instead. As a result of this Decree, there is an opportunity for the Government to use PPP models to tap the private sector to invest in development and operation of those services for the Government.

31. This component would finance:

- (a) Technical Assistance to review the legal and regulatory framework of PPPs for Government services and to propose and draft new changes and regulations and/or rules to simplify the implementation of PPPs (US\$0.3 million);
- (b) Technical Assistance to carry out feasibility studies, design and bidding specifications preparation for PPPs to outsource selected Government services to IT companies (US\$1.0 million);
- (c) Training of Government officials on the design and implementation of PPPs for e-government (US\$0.9 million); and
- (d) Technical Assistance and equipment to support the creation of an Integration Competency Center to help government agencies and private sector players to adopt a flexible, agile and highly modular approach to e-government including the adoption of Service Oriented Architecture (SOA), and setting up of cost-effective Technology Escrow arrangements to improve the prospects of SMEs in securing business within and outside of the government (US\$0.6 million).

**F. Strengthening of the IT Legal and Regulatory Framework and Institutions (\$6.1 million)**

32. This component would include:

- (a) Technical assistance to draft changes and/or improvements to the IT legal and regulatory framework<sup>17</sup> (US\$1.2 million);
- (b) Awareness raising campaigns for specific programs such as the Trustmark Seal Program and other improvements of sector laws and regulations and their enforcement (US\$1.1 million);
- (c) Tailor-made professional training for legislators, judges, public servants, law enforcement officers, technical experts in trials, and professors and lawyers in general on IT issues, regulations and enforcement best practices (US\$1.9 million);
- (d) Creation of a Dispute Settlement Center within the Mexican Software Consortium (US\$1.0 million); and
- (e) Support the creation and/or strengthening of local Masters programs in IT Law, training professors of Law on IT issues, regulations and enforcement best practices (US\$1.0 million).

#### **G. Strengthening of PROSOFT and Project Management (\$3.6 million)**

33. This component would create an International Consultative Commission in PROSOFT to advice SE on new developments in the global IT industry to formulate new policies for the sector. It would finance:

- (a) Operational costs including travel and logistics of the members of the International Consultative Commission in PROSOFT (US\$0.6 million);
- (b) Technical assistance to carry out studies on the IT sector in México, as requested by PROSOFT's International Consultative Commission, and to bring international experts to México to organize lectures, carry out workshops, consultations and other learning events (US\$1.5 million); and
- (c) Operational costs of the Team (“*Direccion de Economia Digital*”) in *Secretaria de Economia* to manage, implement, monitor and evaluate the Project. (US\$1.5 million).

#### **5. Financing**

<b>Source</b>	<b>Local</b>	<b>Foreign</b>	<b>Total</b>
International Bank for Reconstruction and Development	79.8	0.2	80.0

#### **6. Implementation**

34. The *Dirección General de Comercio Interior y Economía Digital* (the “Team”) in *Secretaría de Economía* (SE) would be the implementing agency. This is the same Team that has managed the PROSOFT Fund, since 2003 and in 2008 has a budget of \$61 million. This Team is a very effective group and the Bank has appraised its capacity to implement the Project. The Team

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<sup>17</sup> The areas are described in Annex 4, and based on M. Bendersky report.

would be assisted by a small number of individual consultants to manage and implement the Project.

35. The PROSOFT Fund Operation works as follows: IT companies or universities (the “beneficiaries”) request support to projects to PROSOFT through a Promotion Agency (CANIETI, AMITI or a State Promotion Agency). During appraisal, the Bank found that the Fund is the ideal vehicle for project implementation because it delegates the implementation of sub-projects to the beneficiaries. The following table summarizes the implementation by component. To minimize the implementation costs, the Team in SE will provide technical assistance to the beneficiaries indicated in the table to implement their respective activities.

**Table 3. Project Implementation Arrangements by Component**

<b>Component</b>	<b>Implementation / Beneficiary</b>	<b>Mechanism for Funds Transfer</b>	<b>Promotion Agency</b>
1. Human Skills Development:			
(a) Start up of MexicoFIRST	CANIETI	PROSOFT Fund	AMITI
(b) Operations of MexicoFIRST	SE/Mexico FIRST <sup>18</sup>	PROSOFT Fund	State Promotion Agencies, AMITI
2. Support to IT Clusters			
(a) IT.LiNks	CANIETI, AMITI	PROSOFT Fund	AMITI, CANIETI
(b) Support to Clusters	IT Clusters	PROSOFT Fund	AMITI, CANIETI
(c) Awareness raising workshops	IT Clusters	PROSOFT Fund	AMITI, CANIETI
(d) Certification programs	IT companies	PROSOFT Fund	State promotion agencies
3. Financing			
(a) Design of Accreditation Program	CANIETI, AMITI	PROSOFT Fund	AMITI, CANIETI
(b) Accreditation grants	IT companies	PROSOFT Fund	State promotion agencies
(c) Technical Assistance (TA) to FI	SE	Direct/PROSOFT Fund	TBD
4. IT Parks			
(a) Studies, design of PPP	State clusters	PROSOFT Fund	CANIETI, AMITI
(b) Construction, finishing, equipment.	Real Estate developer	PROSOFT Fund	State promoting agencies
5. Outsourcing of Government Services			
(a) Legal and Regulatory Review	SE	Direct/PROSOFT Fund	TBD
(b) Feasibility Studies, design of PPPs:			
(i) to Federal Entities	SE	Direct/PROSOFT Fund	TBD
(ii) To State Entities	States	PROSOFT Fund	CANIETI, AMITI
(c) Training of Gov. Officials	SE	Direct/PROSOFT Fund	TBD
(d) Integration Competency Center	SE	Direct/PROSOFT Fund	TBD

<sup>18</sup> SE will carry out this component until MexicoFIRST has a financial management system in place in a manner satisfactory to the Bank.

6.	Legal and Regulatory		
(a)	Review of regulatory framework in the country	AMIPCI	PROSOFT Fund
(b)	Trustmark Seal program	AMIPCI	PROSOFT Fund
(c)	Training	UNAM	Direct/PROSOFT Fund TBD
(d)	Dispute Settlement Center	Consorcio Mexicano de Software	PROSOFT Fund
(e)	Creation of a Masters program in IT Law	ITAM	PROSOFT Fund
7.	PROSOFT strengthening and Project Management	SE	Direct
			n.a.

## 7. Sustainability

36. The aim of this Project is to implement actions that would be sustainable in the future, reducing the need for Government subsidies to the industry in the long run. Therefore, each component has been designed with sustainability in mind, reducing transfers of public funds to the industry in the long term. All components have elements that try to ensure future sustainability. The majority of the components were designed using Public Private Partnerships. The Private Party would own the majority share and manage the PPP, thereby ensuring proper operation and future sustainability of the initiative. Another principle used in the Project design is that the public funds be used to support public goods, for example in the training components. The reason for this support is to compensate for the gap between the level of education of the young graduates and the level required for their employability. In this case, the role of MexicoFIRST would be reduced over time, as universities in México gradually modify their programs and adapt faster to industry needs.

## 8. Lessons Learned from Past Operations in the Country/Sector

37. The major components of this project – Human Skill Development, Cluster Support and Infrastructure are based on the international experience in countries like India, China, Malaysia and the Philippines to develop a pool of skilled manpower for the IT/ITES sector. These experiences indicate that the best outcomes are obtained when the private sector participates in the design and implementation of the programs to develop the Industry. Therefore, the Project has been designed with strong private sector participation. The government's role would be limited to PPP concept design and promotion and also contributing minimum public funds to mitigate risks for private sector investments.

### a. *Development of Skills*

38. There are a number of international examples of attempts to develop skills for the IT/ITES sector. Prominent among these have been (i) China's 'Thousand – Hundred – Ten' initiative<sup>19</sup> that hopes to train nearly half a million people for the BPO sector, (ii) Penang Skills Development Center<sup>20</sup> in Malaysia has forged a close linkage with industry to develop skills, (ii)

<sup>19</sup> <http://www.chnsourcing.com/article/thousand/Index.asp> (site accessed on November 21, 2007)

<sup>20</sup> <http://www.psdccom.my/> (site accessed on November 21, 2007)

Nasscom's efforts in India include an assessment of competency<sup>21</sup> for benchmarking of skill gaps in BPO. A common lesson from all these examples is that it is necessary to have close linkages with the private sector for skills development initiatives to succeed. The IT/ITES skills development initiative for Mexico under the present project is therefore anchored in an institution that is largely private sector driven.

*b. English language Training*

39. The availability of a talent pool that is conversant with the English language is one of the key drivers of investments in the IT/ITES sector. Countries like India and the Philippines have benefited greatly from this advantage, while even a potentially major player like China has been handicapped by the low availability of English speaking workers. Consequently a component focusing on the development of English language skills has been thought necessary for inclusion in the project.

*c. Importance of Global Networks*

40. In an increasingly globalized world, much can be gained from forging partnerships with diverse international players. For example, global co-innovation networks (COINS) are being increasingly used by the private sector for innovating new products and services. Investment promotion agencies like CORFO in Chile have attempted to make strategic use of transnational networks for attracting investments in high technology<sup>22</sup>. The concept of MexicoFIRST aims to establish a network of global partnerships focused specifically on developing skills. Using best in class organizations and expertise for skills development can compress time along the learning curve, and also build a brand for Mexico that can capture the mindshare of potential investors.

*d. Leveraging the Private Sector for Development of IT Infrastructure*

41. A global study carried out for infoDev on the international experience in the development of IT Parks found four factors critical for success of IT Parks: (1) private management and anchor investor; (2) location of the Park near airports, large urban centers, universities, housing and recreational facilities; (3) qualified and skilled manpower; and (4) availability of angel investment, venture capital and private equity<sup>23</sup>. Parks that were developed solely with funding from the government e.g. in Hubli - India<sup>24</sup>, did not succeed as compared to parks developed through private sector investments. Consequently the funding model proposed for the development of IT Parks under the project is one that leverages private sector investments for developing Park infrastructure.

*e. Integration Competency Center*

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<sup>21</sup> [http://chdit.nic.in/nac\\_test.pdf](http://chdit.nic.in/nac_test.pdf) (site accessed on November 21, 2007)

<sup>22</sup> Nelson, Roy C, Transnational Strategic Networks and Policymaking in Chile: CORFO's High Technology Investment Promotion Program, 1 July 2007, Journal of Interamerican Studies & World Affairs, Volume 49; Issue 2.

<sup>23</sup> Price Waterhouse Coopers, "International Best Practice for Establishment of Sustainable IT Parks", April 2007 (forthcoming publication). More details in Annex 4.

<sup>24</sup> infoDev, March 2007, International Best Practice for Establishment of Sustainable IT Parks (report prepared by PWC).

42. It has been the experience of many governments that a strong system of governance is essential to benefit from interoperability and from economies in the use of shared infrastructure and services. In the case of the US the Office of e-Government is located within the Office of Management and Budget, while in Canada it is the Treasury Board that exercises oversight for e-government. It will be important that the proposed Integration Competency Center should be properly plugged into the decision making processes and hierarchy of government.

*f. Public Private Partnerships*

43. While PPPs in e-government can be highly successful, they also pose a number of challenges. These challenges are largely centered on unfriendly government regulations and problems in structuring financial arrangements and risk sharing mechanisms. It is important therefore that a cautious and well sequenced approach is adopted for PPPs in Mexico. The project would therefore first conduct feasibility studies duly identifying issues that need to be addressed for each of the e-government PPP candidates. Only if the approach is found feasible would actual funding of PPPs be taken up.

9. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
<a href="#">Environmental Assessment (OP/BP 4.01)</a>	[X]	[ ]
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	[ ]	[ ]
Pest Management ( <a href="#">OP 4.09</a> )	[ ]	[ ]
Physical Cultural Resources ( <a href="#">OP/BP 4.11</a> )	[ ]	[ ]
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )	[X]	[ ]
Indigenous Peoples ( <a href="#">OP/BP 4.10</a> )	[ ]	[ ]
Forests ( <a href="#">OP/BP 4.36</a> )	[ ]	[ ]
Safety of Dams ( <a href="#">OP/BP 4.37</a> )	[ ]	[ ]
Projects in Disputed Areas ( <a href="#">OP/BP 7.60</a> )*	[ ]	[ ]
Projects on International Waterways ( <a href="#">OP/BP 7.50</a> )	[ ]	[ ]

10. List of Factual Technical Documents

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45. ——. 2006. “Desarrollo de la Industria de Servicios de TI y EPN en México.” Reporte de Avance – Etapa 1. Presentación. 7 de diciembre. México, D.F.

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\* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

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49. Bendersky, Matías. 2007. “Legal and Regulatory Barriers in the Development of Information Technologies and Information Technology Enabled Services (IT/ITES).” Recommendation for the Project. Washington, D.C.
50. Environmental Resources Management. 2008. “Environmental and Social Management Framework for IT Projects involving IT Parks”. Final Report. January 10, 2008.
51. InfoDev. 2007. “Financing Technology Entrepreneurs and SMEs in Developing Countries: Challenges and Opportunities.” Report. Washington, D.C.
52. PriceWatersHouseCoopers. 2007. “International Best Practice for Establishment of Sustainable IT Parks: Review of Experiences in Select Countries, Including Three Country Studies.” Washington, D.C.

11. Contact point

Contact: Eloy Eduardo Vidal  
Title: Lead Telecommunications Engineer  
Tel: (202) 458-2694  
Fax:  
Email: [Evidal@worldbank.org](mailto:Evidal@worldbank.org)

12. For more information contact:

The InfoShop  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 458-4500  
Fax: (202) 522-1500  
Email: [pic@worldbank.org](mailto:pic@worldbank.org)  
Web: <http://www.worldbank.org/infoshop>