



Multilateral Investment Fund  
Member of the IDB Group

# IMPACT EVALUATION OF THE BUSINESS DEVELOPMENT PROGRAM FOR THE SOFTWARE INDUSTRY IN URUGUAY

## Final Report

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## Abbreviations

BEE	Business enabling environment
CMM	Capability Maturity Model
CUTI	Uruguayan Chamber for Information Technology
IDB	Inter-American Development Bank
ISO	International Organization for Standardization
MIF	Multilateral Investment Fund
M&E	Monitoring and evaluation
PASS	Business Development Program for the Software Industry in Uruguay
PPMR	Project performance monitoring report
SME	Small and medium enterprise
SPICE	Software Process Improvement and Capability Determination
TA	Technical assistance
VAT	Value-added tax

## Executive Summary

Launched in 2002 with funding from the Multilateral Investment Fund (MIF) of the Inter-American Development Bank (IDB), the Business Development Program for the Software Industry in Uruguay (hereafter “the program”) played an important role in supporting the development of small and medium enterprises (SMEs) at a time when no one else was responding to these companies’ needs. The program was designed to help increase the global competitiveness of SME software producers in Uruguay. The choice of the software industry was appropriate—the industry had a competent set of beneficiaries and showed good potential for success.

The program, as originally conceived, was aimed at providing the initial inputs for quality enhancement, managerial strengthening, and standard setting for the software industry. As such, it was not aimed at dealing with surrounding enabling conditions for self-driven development of the sector over the long term. However, a practical, responsive attitude on the part of MIF staff and a forceful and effective program manager within the Uruguayan Chamber for Information Technology (CUTI) were instrumental in responding to conditions as they emerged. Both enabled the growth and development of the sector.

Throughout its 3.25 years of operation (March 2002–July 2005), the program completed at least 217 separately budgeted program activities, spending a total of \$1.62 million. The completed program activities resulted in outputs and contributed to outcomes that include: (i) training or technical assistance for at least 160 SMEs in the software sector; (ii) an estimated 600 SME staff trained on internationalization, management, and quality control; at least \$2.5 million in new exports by participants SMEs; (iii) new sales in the amount of at least \$3.78 million by participants SMEs; (iv) an estimated 88 new high-value added jobs created by SMEs through 2005 and 302 through 2009; and (v) an increase in the client base of participants of at least 316 new clients.

The impact evaluation conducted had six general objectives: (i) identify and measure outcomes among participant enterprises with, to the extent possible, attribution of observed outcomes to program activities; (ii) assess the sustainability of observed program results; (iii) assess the structure and quality of internal processes related to program operations; (iv) assess the program’s institutional structure and financial sustainability of the program; (v) assess the extent to which activities or methodologies used in the program were replicated or brought to scale by other local institutions in the country and determine the aspects of the Program that can be easily transferred or standardized in other projects, sectors or countries; and (vi) recommend actions for improving program results, outcome sustainability, financial sustainability, and internal processes, and for designing future programs in this area.

We evaluated the program by assessing:

- The overall program lifecycle and the rationale behind it, as well as the specific achievements and goals of each of the program’s components.

- The five key dimensions, namely: (i) scope and strategic relevance; (ii) internal quality; (iii) likely impact; (iv) dialog and dissemination; and (v) stakeholders' and beneficiaries' roles.

Overall, the evaluation included in-depth interviews with more than 30 stakeholders and beneficiaries, including 9 MIF staff members. It also included a survey completed by 12 participants and 65 nonparticipant software sector companies. Some gaps in the data that were made available for the evaluation, mainly at the budget level, limited the scope of the evaluation, particularly with respect to the assessment of the ratio of costs to outcomes.

On the whole, the program had satisfactory results, in terms of the goals and results framework that had been defined at the time of program approval. The sustained increases in sales, exports, and jobs recorded by beneficiary firms during the program lifecycle and through 2009 spilled over to other firms in the sector, achievements that attest to the potential as well as the actual impact of the program. If anything, with greater attention to potential gaps, such as sustained access to capital and human resources and development of broader partnerships with countries or firms that have showed large-scale market capabilities, the sector could gain a stronger foothold in an extremely dynamic and changing market environment. During the program, CUTI evolved from an association of hardware industries to a broader body that supports its membership for the development of the sector.

Among the factors that contributed to the program's success, several deserve special mention: (i) a practical review by IDB/MIF staff, consultants, and potential beneficiaries of beneficiaries' needs in the near future; (ii) a bottom-up approach in the design and execution phase of the program lifecycle that allowed for an aligned set of activities pragmatically focused on the development of the sector, particularly the support provided to small software companies in meeting international quality standards through quality control, cost control, and management strengthening; (iii) pragmatic and flexible management of the program that allowed for timely adjustments to evolving conditions; and (iv) the quality of Uruguayan education at the university and technical levels, coupled with support from the government in the form of fiscal incentives.

The method used to track implementation—designed in terms of activities and outputs and specified in the donors' memorandum—limited the possibility of estimating the real impact on beneficiaries in terms of sustained development at the end of the program. However, our evaluation shows that the intervention of the MIF was effective and generated lasting impact in at least some of the beneficiaries. For the period 2002–09, the beneficiaries surveyed reported increases of 142% in number of employees, 132% in sales, and 270% in exports, figures that are much higher than those of the control group.

Information obtained from the participating companies (through interviews and surveys) is ample enough to allow for reasonable inferences about the impact of program activities on the companies' development. The program appears to have had a direct impact through substantial improvements in financial management processes, marketing strategy, and quality and cost control, as well as in opening new international markets for the beneficiaries. While the plausible attribution of these improvements

by interviewees is not uniform (varies from 30% to 70% depending on the company and the type of activity in which it participated), there is little doubt that such improvements can be attributed to the program.

The program's evolution suggests that there is potentially room for more systematic institutional interactions on the design, approval, and implementation of this type of dynamic and experimental programs. Among the issues to be considered are: (i) the support needed by counterpart agencies, so that MIF (and others) can enhance reliance on their own fiduciary controls; (ii) the appropriateness of greater reliance on a more programmatic approach to managing resources (one based on intermediate benchmarks), as opposed to disbursing small amounts on individual items, which distracts attention from the overall objectives been sought; and (iii) the policy and institutional constraints that prevent the sector from developing organically on its own and from attracting foreign investors and venture capital, without the involvement of external donors or the public sector. All of these issues require systematic interaction between staff and management as programs are designed and implemented. The cultivation of such interactions may be helpful for operations in other sectors that may require or benefit from similar evolution in thinking.

Perhaps the main question for the future is how to ensure further development without special (and potentially distortionary) incentives through the development and introduction of forms of assistance that will free the sector from reliance on special subsidies or MIF support.

## 1. Evaluation Objectives

The purpose of this impact evaluation, as determined by the Multilateral Investment Fund (MIF), was to assess the success of the Business Development Program for the Software Industry in Uruguay (hereafter “the program”) in achieving and sustaining results over time. The evaluation had six general objectives:

- 1 Identify and measure outcomes among participant enterprises and, where justified, attribute observed outcomes to program activities.
- 2 Assess the sustainability of observed program results.
- 3 Assess the structure and quality of internal processes related to program operations.
- 4 Assess the program’s institutional structure and financial sustainability to include the capacity of the Uruguayan Chamber for Information Technology (CUTI) to sustain program activities.
- 5 Assess the extent to which activities or methodologies used in the program were replicated or scaled up by other local institutions in the country.
- 6 Recommend actions for improving program results, outcome sustainability, financial sustainability, and internal processes, and for designing future programs in this area.

The impact assessment combined an overall program lifecycle analysis with an assessment of specific program outputs and outcomes. In regard to the program lifecycle, Dalberg Global Development Advisors (hereafter the “evaluators”) looked at four stages: (i) design of the program (assumptions and diagnostic studies that influenced program component choices; alignment with country strategy and reflection of country realities); (ii) implementation (quality standards and best practices; monitoring of program activities according to set timelines; quality of internal processes; and continuity of dialogue between CUTI and MIF); (iii) supervision (MIF’s level of involvement in program follow-up; actions taken by MIF to implement intermediate recommendations; checks and balances, adaptability, and process for overcoming obstacles); and (iv) evaluation (review of outputs/outcomes; planned vs. actual outputs; accomplishment of goals; quality of implementation and supervision; response to beneficiary needs; and significance of observed change and counterfactual).

To achieve the above-mentioned goals, the evaluators used qualitative and quantitative data and information to assess the program’s outputs and determine its long-term effects.

The analysis was performed within the broader context of the MIF private sector development interventions, the priorities of which are: (i) knowledge transfer; (ii) program interactions with other institutions and initiatives; (iii) ability of program management to make adjustments and course corrections, (iv) alignment with IDB country strategy and with future programs, systems, and the public policy framework; and (v) identification of lessons learned.



## 2. Program Background

The Business Development Program for the Software Industry in Uruguay (hereafter PASS or “the program”) was a non-reimbursable MIF facility approved in May 2001 and formally launched in March 2002. PASS took the form of a partnership between MIF and Uruguay’s Software Association (CUS), later renamed the Uruguay Chamber of Information Technology (CUTI). The program was implemented over a 3.25-year period but experienced an eight-month delay in implementation owing to slow compliance with conditions for the first disbursement. This delay was made up by two extensions of three months each.

PASS operated from June 26, 2002, to December 31, 2005. During this time it was the only program in Uruguay focused on a sector cluster. Although the program was designed to be national in reach and scope, its main activities and beneficiaries were based in Montevideo.

### **Context: Strengthening Management of Uruguayan Software SMEs**

The overall objective of the program was to help increase the international competitiveness of small Uruguayan software producers. That objective was to be achieved by strengthening the management and cooperation capacity of the businesses and their entrepreneurial spirit. The program was structured around the idea of helping companies improve various aspects of their management, with the aim of generating competitive platforms in domestic and foreign markets that favor the convergence of products, markets, and technologies. To this end the program included three components: (i) quality and cost control; (ii) strengthening of business management; and (iii) standards, norms, and venture capital. Participating firms had annual sales of no more than \$8 million and no more than 50 employees.

Although no changes were made in the nature and objectives of PASS’s components over the course of the program, some of the original activities designed for each component were modified at CUTI’s request two years after the first disbursement. The request for changes reflected the deterioration of the country’s macroeconomic conditions, which caused a drop in domestic demand. The changes in activities and program indicators placed greater emphasis on internationalization and less on management strengthening.

### **PASS at a glance**

#### **Funding:**

CUTI: \$729,000 (45%)

MIF: \$891,000 (55%)

**Total budget:** \$1.62 million

#### **Components:**

- Quality and cost control
- Strengthening of business management
- Standards, norms, and venture capital

#### **Date of**

**first disbursement:** March 7, 2002

#### **Date of**

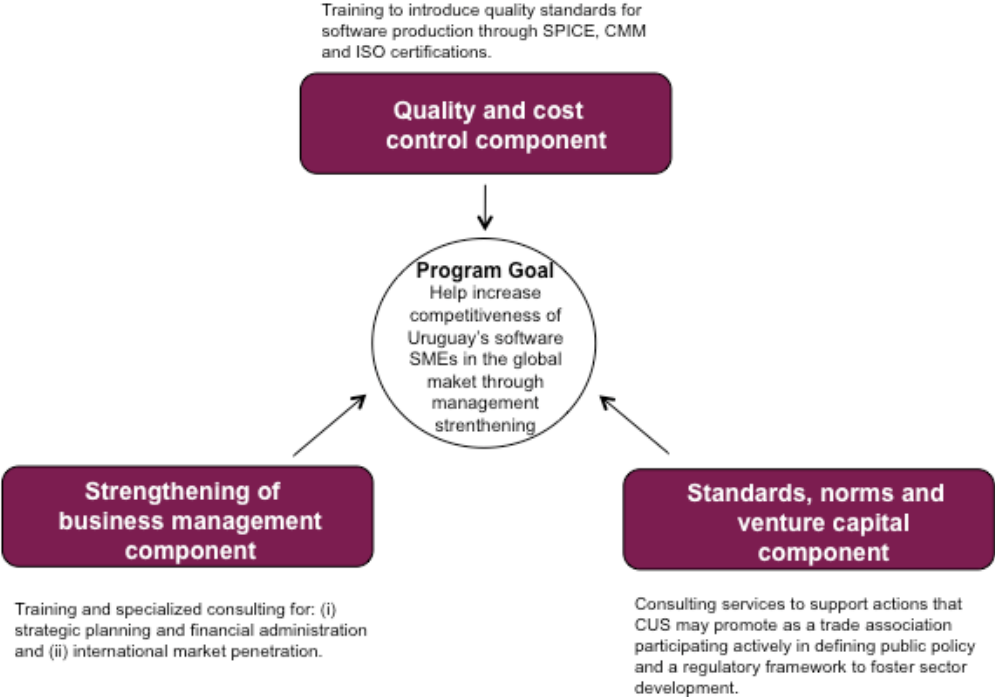
**final disbursement:** July 26, 2005

**SMEs assisted:** 72

CUTI, Uruguay’s software association was the executing agency for the program. A small but active organization, CUTI had about 170 member companies at the outset of the program—about 68% of all software companies in the country at the time. The program’s technical committee (comprising two members from CUTI, one from the Universidad ORT de Uruguay, one from the Universidad de la República, and one from the Uruguayan government’s online initiative) supervised the program’s activities. The technical committee was assisted by the program director responsible for management and an administrative coordinator.

As shown in Exhibit 1, the program’s components were designed (i) to enable small software firms to implement and use internationally accepted quality standards such as the Capability Maturity Model (CMM), Software Process Improvement and Capability Determination (SPICE), and ISO norms; (ii) to give business owners the basic tools they need for strategic planning, business management, and marketing logistics, and to involve them in trade promotion missions and events; and (iii) to identify and design fiscal mechanisms and incentives capable of promoting growth and strengthening the sector and to identify appropriate financing schemes to promote greater fluidity in the high-risk process of technology innovation in the sector.

**Exhibit 1: PASS program components**



The goals of the components on quality and cost control and strengthening of business management were achieved through technical assistance, specialized consulting, trade missions, and studies of market and business conditions. The third component was developed through studies of norms and standards. In general, the program was effective in achieving and in some cases exceeding the outputs

and activities specified in the donor memorandum, as modified. Only in a few cases, as shown in table 1, were these goals not achieved.

**Table 1: Program outputs**

Program component	Activities according to the program framework	Original verifiable indicators	Modified verifiable indicators	Final result	Level of performance (%)
I. Quality and cost control	- Technical assistance projects in quality	30	25	23	92
	- Businesses receiving technical assistance in quality	30	25	23	92
	- Businesses receiving training in quality				
	• training events	12	12	21	175
	• participant businesses	40	40	97	242
	• participants	400	400	281	70
II. Strengthening of business management	- Businesses receiving technical assistance in marketing and internationalization	60	60	65	108.3
	• businesses receiving technical assistance in internationalization	40	50	56	112
	• businesses receiving technical assistance in marketing	10	10	9	90
	- Businesses receiving technical assistance in business management	36	10	6	60
	- Businesses that participates in marketing seminars (training events)	3	10	14	140
	- Market studies	8	8	9	112.5
	- Trade missions	6	6	5	83.3
	- Trade rounds	1	1	1	100
III. Standards, norms, and venture capital	- Studies on standards and financing	3	3	5	166.7

Chief among the risk factors that may have affected the program were changes in Uruguay's macroeconomic situation (instability) and consolidation of the regional integration process. However, changes introduced by management in response to emerging conditions helped overcome these challenges, as explained in Section 5.2.2.

Financial execution of the program, as shown in table 2, was in line with original budget, with a small increase in expenses (8.6% of the original budget, according to the final report) related to the components on quality and management strengthening. The overrun was covered from local sources. MIF's bore 50.6% of the program's cost, with local sources assuming the rest (49.4%).

**Table 2: PASS program budget (\$ thousands)**

Component	Original budget	Final project cost	Share of final cost (%)	MIF input	Local input
Program administration	304.5	320.70	18	74.60	246.10
Quality	344.90	337.10	19	176.10	161.00
Management strengthening	815.40	1,005.90	57	618.30	387.60
Norms and standards	105.0	78.90	4	9.90	69.00
Evaluation, audit, and miscellaneous	50.20	18.10	1	12.10	6.00
<b>Total</b>	<b>1,620.70</b>	<b>1,760.70</b>		<b>891.00</b>	<b>869.70</b>

### 3. Impact Evaluation Questions

The data and information used for the analysis were gathered from various sources, including program documents and reports, interviews, surveys, and statistical information. For the collection of the qualitative data, the evaluators prepared three types of in-depth interview guides, one for stakeholders, one for the beneficiaries, and one for companies that did not participate in the program. The guides were structured around five specific dimensions that are the center of the analysis, and also the framework used to develop the six general impact evaluation objectives of the assessment. The five dimensions are<sup>1</sup>:

*1. Scope and strategic relevance.* This dimension was aimed at assessing existing conditions in the SMEs, such as changes in the institutional and operational framework originally planned for the development of the program, beneficiaries' interest in program activities, and beneficiaries' assessment of the rationale for those activities. The questions focused on identifying: (i) clarity of task objectives; (ii) relevance of the task to the country and to the company's productivity, management, and internationalization; (iii) degree of government interest in the program; (iv) reasons for participating in the program; (v) degree of support received from the technical assistance consultant; and (vi) factors addressed by the activities.

*2. Internal quality.* The focal points of this dimension were how well the program was executed and the content, quality, and scope of the activities linked to the objectives of specific components and to other country priorities. Questions were designed to gauge (i) the quality of activity design and implementation; (ii) the quality of content and analysis; (iii) the quality of conclusions and recommendations; (iv) the quality of capacity building efforts; and (v) the quality of the dissemination and scaling-up efforts (as appropriate).

*3. Likely impact.* This dimension explored judgments about the potential impact of program tasks and activities in relation to achievement of the program's goals (outputs and outcomes), the program's strategy for maximizing impact, the sustainability of that impact, and capacity building efforts, among others. The questions focused on identifying: (i) the long-term impact of the program on the

<sup>1</sup> The questionnaires, guidelines, and surveys are detailed in the annex.

participating SME; (ii) beneficiary needs at the beginning and the end of the program; (iii) current beneficiary needs; (iv) program outputs and the likelihood of meeting program indicators and objectives; and (v) likely impact on stakeholders.

*4. Dialogue and dissemination.* This set of questions probed how and to what degree government officials and other stakeholders were partners and active participants in the task under review. The questions focused on: (i) the quality of government and stakeholder participation in implementing the program; (ii) the quality of partnership with donors; (iii) the quality of partnership with other donors; and (iv) the quality of efforts to disseminate and scale up program results (as appropriate).

*5. Inputs and processes.* This section assessed the program’s financial and human resources as well as the processes followed by stakeholders and beneficiaries to carry out the program. It also explored the quality of the team and the quantity and quality of services provided. Among the questions posed were: (i) Was enough time allotted to complete the task? (ii) Were resources used effectively? (iii) What lessons did participants learn?

#### 4. Description of Evaluation Methodology

The evaluation methodology was structured around three objectives:

- To identify and measure the outcomes among participant SMEs according to the indicators set in the logical framework and the research work plan.
- To assess whether the goals were achieved for each of the program’s three primary components.
- To identify the strengths and weaknesses that, together with the impact evaluation, will be used by MIF for the purposes stated in the program’s terms of reference.

In pursuit of these objectives, the evaluators structured the impact assessment around three phases, each with specific objectives as shown in table 3:

**Table 3: Goals of execution phase**

Assessment phase	Goal	Timeframe
<b>Phase I:</b> Review of program background, methodology and processes	To collect and examine documents and data related to the design and execution of the program in its three components, including background documents, databases, performance indicators, semiannual activity reports, consultant reports, mid- and end-term evaluation reports, project completion report, and relevant correspondence, among others.	12 weeks
<b>Phase II:</b> Identification / analysis of outputs and outcomes	To meet with the firms that participated in the program and with relevant stakeholders and to conduct in-depth interviews a selected sample of beneficiaries and with a control group to identify the program’s impact, outputs, and outcomes. The evaluators also surveyed beneficiaries and nonparticipating companies to assess the program’s impact, level of satisfaction with program implementation, and comparable results.	8 weeks

<b>Phase III:</b> Assessment of program impact and dissemination	To integrate within a final report, case study, and video, the overall assessment of the program in achieving the six general objectives implemented under the three primary components, with particular reference to lessons learned, areas of strength, and areas needing improvement for later use by MIF.	6 weeks
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The methodological approach used in the evaluation was flexible, and some adjustments to the original timeframe were necessary to compensate for delays in gathering and collecting information from sources, including the executing agency, and for the time it took to collect the survey answers.

In addition to the documents reviewed, the evaluators interviewed 9 MIF/IDB staff members, 5 members of CUTI’s board of directors (including 2 former presidents and the current president), and a staff member. A survey was administered between April 26 and May 17, 2010. The invitation to participate in the survey and follow up e-mails were sent to 38 program participants and to 246 nonparticipating SMEs to create a control group (based on the answers of nonparticipants that matched the profile of the beneficiaries that answered the survey)<sup>2</sup>. Evaluators received responses from 12 PASS beneficiaries (32% of the surveys sent) and from 65 nonparticipants (26% of surveys sent).

To create the control group, three different samples with equal variance t-tests were applied to the nonparticipants who completed the survey. The indicators were as follows: (i) sales, employees, and exports in 2002 and 2009 (with borderline statistical significance of 15% in 2009 only); (ii) sales and employees in 2002 and 2009; and (iii) sales in 2002 and 2009 (borderline statistical significance of 16% in 2009 only). The “sales only” paired t-test for 2009 came back statistically significant, with a 93% confidence interval. Based on the “sales only” sample, the consultant created a statistically significant match test group with 10% confidence interval in 2009. The low confidence interval is explained by the limited data that were available for the formation of a match group (full data were available for just seven participant companies). While statistical significance might have improved with a larger sample, the results for the survey and control group are relevant from the point of view of the differences observed in interval sales, exports and higher value employment generation indicators, as shown in section 5.2.3 Likelihood of Sustained Impact of this report.

The assessment was organized into three phases: (i) review of program background, methodology, and processes; (ii) identification and analysis of outputs and outcomes; and (iii) assessment of program impact and dissemination, as shown in Exhibit 2.

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<sup>2</sup> CUTI provided the consultant with a list of 55 of 72 program beneficiaries. Of these 55 beneficiaries coordinates were available for 38. For the control group, the consultant used a list provided by CUTI of software companies that did not participate in the program. One survey was sent to participants and a different survey to nonparticipants.

## Exhibit 2: Activities performed

Review of program background, methodology and processes	Identification / Analysis of outputs and outcomes	Assessment of program Impact and dissemination
<ul style="list-style-type: none"> <li>✓ Visited Uruguay for preliminary information gathering and interviews with stakeholders (MIF and CUTI).</li> <li>✓ Checked availability of documents and data for evaluation.</li> <li>✓ Prepared research plan.</li> <li>✓ Reviewed and examined all relevant documentation leading to the approval of the operation and its execution, including the PPMR, mid-term and final reports.</li> <li>✓ Conducted in person and phone interviews with CUTI's Directors and MIF staff involved in project design and execution.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Prepared fieldtrip visit to Uruguay and interview with program stakeholders, beneficiaries and control group according to research plan.</li> <li>✓ Prepared In-depth interview guide and survey questionnaire.</li> <li>✓ Conducted over 25 in person interviews with program participants and non participants in Uruguay.</li> <li>✓ Conducted survey to 282 companies including program beneficiaries and non-beneficiaries.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Assessment of situation after project for each of the 3 primary components of the project, including problems solved and its effects on SMEs competitiveness.</li> <li>✓ Assess project's outputs and outcomes compared to original goals.</li> <li>✓ Prepared 5-page case study and 10-minutes video.</li> </ul>
<p>PPMR = project performance monitoring report.</p>		

The assessment methodology also combined the general framework for the program lifecycle analysis with the study of four key elements across each of the program components. Exhibit 3 below shows the scope of the analysis for each of the four key elements.

## Exhibit 3: Key elements of review of program components

<p><b>Beneficiaries</b></p>	<ul style="list-style-type: none"> <li>• Impact on beneficiary enterprises' achievement of ISO, CMM, and other performance standards. Rational for supporting CMM and SPICE over ISO in Quality and Cost Component.</li> <li>• Impact on beneficiary enterprises in terms of business practices part of Quality and Cost and Business Strengthening Components. Outcomes vs. program goals comparison.</li> </ul>
<p><b>Sustainability</b></p>	<ul style="list-style-type: none"> <li>• CUTI's current services to its members (compared with services as part of the project). Cost of current services, charges to companies served, financing of its administrative expenses</li> <li>• Assess the sustainability of observed Program results</li> </ul>
<p><b>Demonstration effect</b></p>	<ul style="list-style-type: none"> <li>• Adaption of program components/ design in other countries or sectors</li> <li>• Program impact on other high potential sectors in Uruguay (wine, biochemicals?)</li> </ul>
<p><b>Plausible attribution</b></p>	<ul style="list-style-type: none"> <li>• Assessment of software sector in Uruguay before and after the project. Industry factors/indicators considered in project design. Level of depth analysis on software industry determinant development factors.</li> <li>• Impact on the business enabling environment (tax, legal, and financial).</li> <li>• Extent to which Program facilitated linkages between software developers and foreign firms</li> <li>• Identify and measure outcomes among participant enterprises and, to the extent possible, plausibly attribute observed outcomes to Program activities</li> <li>• Identify Social Capital Contributions</li> </ul>

Analysis of the four elements made possible an overall assessment of the program's impact on beneficiaries, including the identification of sustained impact on beneficiaries' performance indicators (sales, employees, export growth). The absence of a baseline set of indicators limited assessment of the program's impact. That limitation, combined with the fact that the assessment was not designed as a statistical analysis, explain the use by the consulting team of "plausible attribution" as an assessment element.

## **5. Key Evaluation Findings**

### **5.1 General Overview**

Throughout its 3.25 years of operation (from march 2002 – July 2005), the Program for the Support of the Software Sector in Uruguay completed at least 217 separately budgeted program activities, utilizing a total budget of \$1.62M. The completed program activities resulted in outputs and contribute to outcomes that include:

- Training or technical assistance for at least 160 SMEs in the software sector.
- Training in internationalization, management and quality control for an estimated 600 SME staff.
- At least \$2.5 million in new exports by participating SMEs.
- New sales in the amount of at least \$3.78 million by participating SMEs.
- An estimated 88 new, high-value added jobs created by SMEs through 2005 and 302 through 2009.
- An increase of at least 316 new clients in the participants' client base.

With strong private sector involvement in the various stages of the program's lifecycle, PASS pragmatically focused on the most critical needs of Uruguay's software SMEs: internationalization, new-product development, quality control and cost management, business development, and certification.

#### **5.1.1 Strong Points**

The program had a good experimental character and achieved satisfactory results by providing seed money to facilitate practical implementation of solutions devised by consultants providing technical assistance. MIF/IDB staff were able to recognize and react to evolving conditions, and to adapt the resources available in the program to the changing needs of beneficiaries. The program was developed and executed with strong reliance on local entities, particularly CUTI, which in the process evolved from an association of software firms to a broader body that supports its membership for the development of the technology sector. The joint efforts of MIF and CUTI were characterized by good communication and mutual accommodation as the program was being carrying out. While MIF's role was basically fiduciary and limited to the administrative review of the program, the program was able to make necessary adjustments to emerging conditions, with the Uruguayan team providing guidance for adjustments that were necessary during execution, and MIF staff responding adequately to changing conditions, as needed.



Most beneficiaries are satisfied with CUTI's activities and support for the sector, according to the survey and interviews. Four out of five participants said that CUTI supported their companies through information, training, and representation.

### **5.1.2 Areas Needing Improvement**

As noted, PASS beneficiaries were generally satisfied with program activities and with the executing agency, and the achievement of tangible results reflects good management and appropriate responses to evolving conditions, some opportunities for improvement are evident. In future dialogues and in MIF/IDB sector operations consideration should be given to ways to enable the sector to lead, rather than respond to, change. Among the areas requiring attention are the following:

- Upfront diagnosis of sector policy and of institutional issues standing in the way of sustained productivity, sales and export growth, and business development.
- Mobilization of appropriate technical skills and international knowledge and experience to provide value added through the identification of human and financial resources to be mobilized
- Fuller understanding of the organizational and resource implications of introducing new technical and organizational standards and, more broadly, selection of proper international benchmarks to help local stakeholders learn from experiences and good practices elsewhere, accompanied by substantive dialogue with beneficiaries to accelerate the learning process.
- Development of a more deliberate and explicit review of program performance at different levels of processing of the operation, to enable various levels of management within MIF/IDB to interact, learn, and generate feedback from and to the program and the executing agency. Effective feedback will depend on regular self-assessment not only of fiduciary processes but also of technical aspects of the sector.

### **5.1.3 Systemic Lessons**

Bearing in mind the small size of MIF operations, and thus the need to sharpen the value proposition beyond the items directly financed by the program, greater alignment with other efforts could achieve broader and sustainable results, through:

- Deliberate attention to policy and institutional constraints (such as appropriate capital market development, exit strategies, and fiduciary controls in the local agencies), in such a way that the sector will increase its ability to mobilize resources, whether human or financial, without resorting to the national government or international donors.
- Alignment of the strategic direction of MIF operations with those of other entities, including multi-donor institutions and local organizations such as academic institutions (in the case of the PASS it would be the computing and information system faculties from national universities) and public sector related institutions (e.g. science and technology research and development bodies, Ministry of Communications and Technology), to allow for a more programmatic (rather than

project-specific) approach; to strengthen the capacity of local institutions to handle their own fiduciary, managerial and other responsibilities (particularly pertinent in Uruguay, where firms, institutions, and organizations have a good capacity to absorb and benefit from technical assistance); and to focus greater attention on substantive issues in the sector concerned while reducing transaction costs associated with disbursement, accounting/tracking, relocation of resources, and other administrative matters.

- Development of a resilient results framework, with intermediate milestones reflecting more explicitly on outcomes, including those associated with externalities to be sought from such operations.

Specific examples of greater alignment to achieve broader and sustainable results include: (i) shifting emphasis from program preparation and approval toward hands-on supervision; (ii) intense and interactive involvement in implementation, learning, and course correction during program execution; (iii) strong reliance on (or strengthening of) the institution that "retails" resources to ultimate beneficiaries; (iv) sharply graduated responses through agreed intermediate benchmarks that provide the basis for disbursements or new operations and (iv) development of partnerships with multinational companies, academic and government institutions related to the sector where the intervention is taking place .

## **5.2 Assessment of Program Results**

**The private sector played a key role in the design of the program.** PASS dates back to the late 1990s, when a group of successful entrepreneurs realized the growth potential of Uruguay's software sector. They knew that moving from craftsmanship to quality software development was the key to sustained growth. Thus began a broad dialogue that continued in the form of discussion forums promoted by the entrepreneurs. Those discussions, in turn, resulted in a broader discussion between potential beneficiaries (through CUTI) and MIF/IDB staff that crystallized into a program focused on some of the basic developmental needs of the sector, particularly support to enable SMEs to meet international standards through quality and cost controls, enterprise management, and financial and marketing skills.

**MIF played a pioneering role by making new levels of support available to the sector.** MIF/IDB support was defined in broad and generic terms at the outset, when the program was appraised and approved. From a fiduciary perspective that support helped create a structured program with follow-up routines, standards, and administrative norms that translated into reasonably good use of available resources. The combination of MIF's know-how in fiduciary program management and CUTI's pragmatic and flexible program approach resulted in the development of a program with satisfactory outputs and outcomes, in terms of the achievements and results defined at program approval. In hindsight, some important externalities (strengthening of CUTI's institutional capacities, as explained in Section 5.2.3, and acceleration of beneficiaries' development, as explained in the next paragraph) emerged. Those externalities constituted important outcomes beyond the program itself. Because they spilled over to the sector as a whole, they probably were as important, if not more important, than the goals set out at the beginning of the program.

**PASS helped accelerate beneficiaries' development, which would otherwise have taken more time at a greater cost.** Besides being the first sector-cluster initiative in Uruguay, PASS was a trigger and catalyst for different organizations. Although not specifically designed to support the executing agency's institutional capacity, the program enabled CUTI to strengthen its member services and to learn to manage complex projects. In doing so, CUTI increased its membership base, benefiting the sector as a whole in terms of cohesion and participation of SMEs. Many beneficiaries and CUTI's directors remarked on the clear difference, for both CUTI and the country's software sector, in the situation before and after PASS. At the level of beneficiaries, PASS affected sales, exports, high-value employment, and international market presence, accelerating processes and the growth of many beneficiaries. Specifically, PASS affected beneficiaries in areas such as: (i) ISO certifications; (ii) internationalization and growth of international clientele through trade missions to the United States (California), Chile (two missions), Mexico, and Spain; and (iii) improvement of management processes (business plan development).

**Information gaps at the budget level limited the scope of the evaluation with respect to the ratio of costs to outcomes.** The available budget and expenses data were insufficiently disaggregated to permit a full assessment of cost per outcome. A true understanding of the return on MIF's subsidy would require weighing the outcomes and impacts of each activity against their cost, for which information is not available. However, some basic gross efficiency ratios were calculated using the aggregated data. Based on these, the management strengthening component used 57% of the program's budget, a 20% increase in the financial resources initially budgeted for the component. (The increase was financed through reductions in the norms and standards component and in evaluation and audit.) MIF therefore provided the greatest input for the two most active program components, which had the greatest impact on beneficiaries. Table 4 reports the components' costs, the number of beneficiaries per component, and a gross cost-per-output ratio for each. It should be kept in mind that the gross cost includes the cost of the seminars and in some cases the cost of other activities developed as part of each component.

**Table 4: Cost ratios for program components**

Component	Component cost (\$ thousands)	MIF share of budget	No. of SMEs assisted	Gross cost per SME
Quality component	337.10	52.24 %	23	\$14,656.00
Management strengthening component	1,005.90	61.47 %	65	\$15,474.38
			No. of studies	Approximate cost per study
Norms and standards component	78.9	12.55 %	5	\$15,780.0

According to the program’s final report, each \$1 of subsidy generated \$13.57 in new exports, for a total of \$ 2.2 million in new exports generated by 11 beneficiaries that started their export process during the program.

### 5.2.1 Strategic Relevance

- **A coincidence of different factors, rather than a planned process made PASS a “reasonable fit” for Uruguay.** Despite the fact that the program emerged not from a deliberate planning process but from the coincidence of a series of factors and the leadership of a group of successful entrepreneurs, PASS properly addressed the demands and needs of SMEs at a time when no other institutions were doing so. However, the existence of other conditions that gave meaning to the operation cannot be underestimated. The good quality of education in Uruguay’s universities and technical institutes, together with support from the government—the president declared the software industry to be of national interest in the early 2000s, which translated into tax incentives for the sector—made software a good candidate for MIF support. The presence of entrepreneurial and creative talents in the sector also facilitated the development of the program concept and execution based on local input, largely coordinated and steered through CUTI. The combination of these conditions, including a competent set of beneficiaries, laid the groundwork for a program that had significant potential. While there was no particular window of opportunity for this operation, the time was ripe for its execution, as the sector was both growing and aware of its needs for further development. In view of the limited local market and the country’s macroeconomic difficulties, export development was particularly important.
- **A bottom-up approach in the program design resulted in a sound program that addressed SMEs’ needs within a practical scope of work.** Beneficiaries were active in the program design—notably through the steering committee set up by CUTI to identify sector needs and program components. The bottom-up approach to the identification of needs and activities was an important contribution to the later success of the program. In the opinion of many beneficiaries, it had a positive impact on the level of participation and the good results obtained. This participatory approach to program design was complemented by the broad mix of skills and knowledge of MIF design team, resulting in a good balance between beneficiaries’ needs and the program’s timelines and budgets. From a broad perspective, the program components reflected the needs identified by CUTI’s committee in the early 2000s and included activities recognized as areas of top strategic concern for software SMEs in a sector that lacked both knowledge of potential markets and international recognition for its products.

The participation of beneficiaries in program design was a positive force. But if MIF’s interventions are to promote structural changes and enable the sector to thrive without continuing assistance from government or donors, it will be necessary to create a favorable business-enabling environment by addressing sector gaps, issues, and policies.

- **Although the government did not participate in the execution of the PASS program, it provided a measure of support.** Despite the fact that the software industry was among the fastest-growing sectors in Uruguay in the early 2000s, public policies had not been adopted to foster sector growth and sustainability. As noted previously, the coincidence of various conditions set the ground for the

dialogue between the stakeholders that created the program, with little government intervention. However, while the government was not the central focus or beneficiary of the program, it supported its inception and implementation by approving exemptions for the software sector from business and value-added taxes. Those exemptions took effect before the start of the program and were renewed during the program execution. More often than not, this type of support produces unsustainable dependency among beneficiaries and creates distortions that negatively affect SMEs in the long term. In the case of PASS, however, they played an initial role in supporting the development of the software sector.

### 5.2.2 Internal Quality

- **PASS's contribution to the creation of an enabling environment for sustainable sector growth and development was weak, despite the norms and standards component.** The design and execution of PASS were based largely on dialogue between MIF, CUTI and potential beneficiaries, rather than on a sectorwide diagnosis of gaps, sector policy, and institutional issues to be addressed. The direct dialogue with beneficiaries and their participation in the program's design was a positive and necessary factor for the program's success, but it was not sufficient to achieve sustained, structural growth and development of the sector. Although the norms and standards component included consulting services and studies to promote participation in defining public policy and a regulatory framework to foster sector development, there is little evidence that it produced a vision to achieve a quantum change for the software industry from the perspectives of comparative and competitive advantage. The program supported a few isolated studies on access to capital markets, intellectual property, and fiscal support to the sector, but there is little evidence that those studies have improved the business-enabling environment of the sector. PASS's other two components (on quality and management strengthening) did not spell out strategic objectives but are recognized by beneficiaries and sector representatives as being more successful.
- **The demand-driven methodology for the identification of beneficiaries' technical assistance programs ensured responsiveness to the needs of participating SMEs.** In regard to the specific activities undertaken during the program, the demand-driven approach—whereby beneficiaries designed technical assistance services and submitted them for approval to the program's technical committee—resulted in services that were deemed to be of satisfactory quality and content and to be responsive to beneficiaries' needs. This tailor-made approach to management technical assistance, together with international trade missions, strengthened beneficiaries' financial and marketing capacities and exposed them to the challenges of operating in international markets. Many beneficiaries expressed their satisfaction with the program activities and with CUTI. In a survey of a sample of 21% of the program beneficiaries, 83% said that the program responded to the specific needs of firms, namely: (i) internationalization; (ii) management of product quality and cost control; (iii) product development; (iv) growth in client base; (v) certifications; and (vi) human resources. In regard to CUTI, 90% of surveyed participants said the organization had made positive contributions to the development of their companies between 2002 and 2005 through training and information support, PASS activities, sector cohesion, and advocacy.

- **Efficiency was generally recognized by beneficiaries, who perceived value for money.** Program participants believe that the technical assistance services provided warranted the costs. Once services were approved, the process of their implementation was—with a few exceptions—fast and smooth. In some cases, beneficiaries’ perception of value for money may have been skewed by the fact that they did not bear the full cost of services, but most beneficiaries interviewed and surveyed had few complaints about the part they did pay and understood the importance of co-financing to ensure buy-in and to help companies reduce the costs of their development process<sup>3</sup>. The co-financing format used for the custom-made technical assistance of two of the program components was highly valued by beneficiaries (in fact, it was mentioned as the main reason for participation in the program by surveyed participants).
- **The program was able to make necessary adjustments to emerging conditions.** With the unyielding leadership of the program manager, the Uruguayan team provided guidance for adjustments that were necessary during execution, and MIF staff responded adequately to changing conditions, as needed. As the country’s macroeconomic conditions deteriorated during the program’s execution, threatening the program’s success by increasing the chance that beneficiaries would lose interest, the program shifted some of its activities, shifting emphasis toward internationalization and away from the certification activities of the management strengthening component. Also, when it became clear that SPICE and CMM certifications were out of reach for most of the beneficiaries (because of their cost and complexity) the program shifted its focus to ISO certifications. These adjustments in program execution reflect the pragmatic approach to execution that prevailed during the program’s lifetime.
- **Ongoing program monitoring and evaluation provided a limited understanding of impact and outcomes.** The project performance monitoring reports (PPMRs) emphasized itemized tracking of counterpart financing and implementation progress according to the logical framework defined in the donor memorandum, with relatively little emphasis on the outcomes. This way of reporting makes it hard to estimate real, sustained impact on beneficiaries. Although the PPMRs make some broad reference to growth in sales and exports, they do very little to explain how the program contributed to the development of beneficiaries’ capacities for sustained growth and development. The specific program goals, set out on the basis of compliance with itemized activities (number of technical assistance activities, number of events and international missions, number of studies), are not accompanied by baseline indicators that would make it possible to compare growth and development, making it very difficult to assess PASS’s overall outcome on the sector. Only over time, particularly toward the end of the program, did the focus begin to shift from activities to outcomes, reflecting an evolution of thinking as the program evolved.

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<sup>3</sup> Beneficiaries had to pay 50% of the costs of the technical assistance they received under PASS’s quality and management components. Their share varied between \$4,000 and \$10,000.

### 5.2.3 Likelihood of Sustained Impact

- **The business performance of surveyed participants on different indicators points to the likelihood of sustained impact on key company results and growth indicators.** During the three years execution interval sales, exports and higher value employment generation increased substantially and such increase was sustained five years after program completion, including growth taking place in firms not covered originally under the program, according to survey results and in-depth interviews. Moreover, some of the externalities in the sector that have benefited from the “spill over” effect attest the potential, if not likely impact of the program.

As shown in table 5 below, there are different indicators that show not only impact during program lifetime but also sustainability four years after program completion. According to the conducted survey, presence in international markets of surveyed beneficiaries increased from 12 markets at the beginning of the program (2002) to 19 at the end of program (in 2005), and to 23 in 2009. The number of employees of surveyed beneficiaries grew from 212 at the beginning of the program (2002) to 300 at the end of program (in 2005), and to 514 in 2009. Overall sales of surveyed beneficiaries rose from \$9.78 million at the beginning of the program (2002), to \$13.56 million at the end of program (in 2005) and to \$23.3 million in 2009. The 38.6% growth in sales by beneficiaries between 2002 and 2005 far exceeded the sector’s overall sales growth of 13.4% during same period (table 5). Overall exports of surveyed beneficiaries increased from \$2.61 million at the beginning of the program (2002), to \$5.12 million at the end of program (in 2005), and to \$9.69 million in 2009. The 96% growth in exports by beneficiaries between 2002 and 2005 dwarfs the sector’s overall export growth of 30.4% during the same period.

**Table 5: Key indicators of survey results**

Companies	Sales Growth	Exports Growth	Employees Growth	Clients Growth
<b>Beneficiaries</b>	- 2002 - 2005: 38.65% - 2005 - 2009: 71.83%	- 2002 - 2005: 96.17% - 2005 - 2009: 89.26%	- 2002 - 2005: 41.51% - 2005 - 2009: 71.33%	- 2002 - 2005: 106.76% - 2005 - 2009: 124.35%
<b>Control Group</b>	- 2002 - 2005: -7.84% - 2005 - 2009: 64.34%	- 2002 - 2005: -27.41% - 2005 - 2009: 77.96%	- 2002 - 2005: 11.76% - 2005 - 2009: 48.42%	- 2002 - 2005: 22.50% - 2005 - 2009: 42.86%

Source: PASS Impact Evaluation Assessment Survey. May 2010.

It is important to mention that sales, exports and job growth happened in a period of economic crisis in Uruguay, where the IT sector jobs grew a rate of had 21.5% in the 2002-2004 period.

Beyond these positive results, the main question for the future is how to ensure further development without recourse to special (and potentially distortionary) incentives, by introducing vehicles of resource mobilization and international partnership that will free the sector from reliance on special subsidies or MIF support. MIF interventions have the greatest potential to generate change where they enhance long-term sustainability of firms and sectors. Specific activities

that address potential adverse conditions that could negatively impact beneficiaries (such as some of the externalities identified by the consultant and mentioned in this report) and that provide beneficiaries with tools to better face the challenges resulting from these conditions will be helpful in strengthening beneficiaries' capacities and skills, thereby enhancing their sustainability.

The evaluator built a control group for the counterfactual comparison of participants result, however the size of the nonparticipants that answered the survey was limited affecting the statistical significance, as explained in Section 4.

- **The norms and standards studies conducted during the program had little impact on sector policy and institutional issues.** Changes in business enabling conditions, such as the approval of a copyright law and the passage of an exemption for software companies from the value-added tax and business-income tax were undertaken before the program began. In the area of corporate financing, the program promoted relations between investors and companies through activities aimed at promoting the use of venture capital in the sector. The program even promoted the establishment of the first venture capital fund in Uruguay.
- **The program was effective in the strengthening of CUTI's institutional capacity.** The PASS program director later went to work for CUTI as its executive director (before dying just a year later). The skill and persistence of that individual, combined with the support of the CUTI's board of directors, allowed CUTI to acquire the skills it needed to undertake other international cooperation projects (with agencies such as the European Union and the United Nations). Among the capacities gained through the execution of PASS, the following stand out: (i) fulfillment of conditions for disbursements; (ii) coordination of activities under different program components; (iii) project monitoring and follow up through the PPMR; (iv) preparation of terms of reference; (v) design and execution of workshops, events, and international trade missions; (vi) management of bid processes; and (vii) selection of consultants. CUTI's membership grew from less than 150 before the program started to more than 180 at the end of the program and more than 250 today. The organization currently has working committees in areas relevant to the sector's development—among them internationalization, financing, human resources, and the regulatory framework. Six years after the program's completion, CUTI is assisting its members with similar activities and services—such as information on international markets, general workshops, and seminars. However, the consultant did not identify activities such as international missions or customized technical assistance for management of quality and costs control.

#### 5.2.4 Dialogue and Dissemination

- **Additional impact could have been achieved by creating synergies with other MIF efforts.** Although there were other programs under way at the time of PASS implementation, such as strengthening of SMEs' competitive capacity in Uruguay through the ISO standards and a program of technological development, there was no explicit or formal coordination neither among them or with other programs being implemented by other organizations. Each program had its own dynamic and separate activities. Companies chose the programs in which they would participate.



- **CUTI played a key role in making decisions during program execution.** The high degree of autonomy that the executing agency had was helpful in providing a level of flexibility that made it possible to eliminate bottlenecks and to deal with what at times were perceived to be rigid fiduciary processes. This operational mode—in which beneficiaries would design their own technical assistance, choose a consultant, and present the project to the PASS technical committee for approval—created a fluid project flow and progress (with the exception of a delay at the onset of the program that was due to a failure to comply with the conditions for the first disbursement), and the program was executed according to the set timeframe. The client, particularly CUTI and its membership, were the drivers for the effort, thereby ensuring ownership and responsiveness to their needs. MIF focused more on fiduciary responsibilities and the review of PPMRs.
- **The program focused chiefly on local firms operating in the sector,** and as such did not identify or address institutional or other conditions affecting the sector, focusing on SMEs and to some extent academic institutions involved in the effort. No specific productivity indicators—such as cost factors, type and number of new products developed, market segmentation, or technological, marketing, or sales skills—were used in dialogues with stakeholders. Thus it is difficult to gauge the underlying progress the sector is making to gain a solid and competitive foothold in the international marketplace, if not for the basic exports indicator. Although the program had a norms and standardization component that addressed some business enabling conditions, it neither focused on legislators or civil society groups nor followed up on the few regulatory studies conducted. Because of its relatively low performance on this component, the program lost a good opportunity to have a broader impact on structural or associated issues.

#### 5.2.5 Roles of Stakeholders and Beneficiaries

- **Once the contract was signed and the first disbursement made, the implementation of the program was heavily, if not fully, managed and influenced by the executing agency.** CUTI, through the program director and the technical committee, and with the support of the board of directors, had the leading role in the development and management of the various activities of the program. The way PASS operated left little room for MIF’s participation from a technical standpoint, where it could have contributed to the program and its participants by bringing to bear its technical knowledge for the development of the sector. MIF’s role was basically fiduciary and limited to the administrative review of the program, including fund disbursements, contract change approvals, preparation of PPMRs, and drafting of the final report.
- **Participation by the beneficiaries** included the definition of the scope of work for the technical assistance they received under the program components on quality improvement and management strengthening, as well as selection of consultants from a prequalified list.

MIF could have maximized the impact of its intervention by participating more actively in the technical aspects of the program at the different stages of the program lifecycle, especially in its execution. Few institutions in the region have the access to such a broad base of sector knowledge or the experience of operating in many different countries that IDB/MIF has. MIF should ensure that these resources are actively used to benefit the participants in each intervention.

## 6. Lessons and Implications

- **Program success relies on a combination of factors.** Empirical evidence from PASS suggests that the success of a MIF program cannot be attributed to a single aspect, but rather to a combination of a series of factors that include private sector participation in the design and execution of the program, strong leadership from the project director, and an approach that is flexible enough to permit adjustments to changing conditions. The direct participation of beneficiaries during the different stages of the PASS program created a dynamic system that translated into the achievement of expected results and observed outcomes within the program scope. The participatory process (adapted to individual needs for technical support purposes) strengthened the development of the project, directly aligning objectives and activities with the needs and interests of the participating companies. The flexible approach facilitated, in this case, the generation of some externalities not explicitly planned for at the design stage, such as the building up of CUTI as an effective advocate for its membership, as a trusted institution capable of providing statistics and other information to support public policy, and as institution capable of exploring international market opportunities on behalf of its members.

To fully leverage MIF interventions, its experience and knowledge need to be incorporated throughout the program's lifetime taking into consideration that design and execution are part of the responsibilities of the same team. An effective way to guarantee this is through the continuous participation of the staff involved in the design stage (both at the country and headquarter level) during the program execution and impact evaluation. This guarantees the alignment of the original objectives of the program with the activities that are implemented and any changes or modifications that arise along the implementation.

- **PASS's impact on participants varied, with better results for companies at a relatively higher level of development.** Although there were differences among participants in the level of growth in sales, exports and job creation, the overall program assessment in this regard is positive. However, empirical evidence shows that the larger and better-organized SMEs showed a higher level of business development, sustainability, and progress, even though the selection of program participants was random. This is the case of participant companies Geocom, Pranasys and Top Systems whose sales grew about 100% during the program's execution. For future interventions, MIF might want to consider the possibility of including selection factors designed to assess knowledge-absorption capacity and minimum performance standards from potential participants. Doing so could improve the intervention's systemic impact on key economic and social development indicators. It seems that entrepreneurial values among participants make a difference in sustainability of program impact. With greater concern among donors for poverty reduction, environmental issues, and the sustainability of MIF interventions, it is conceivable that efforts to support the software industry may take a second place in the aid effort thus is important that PASS type interventions focus on key impact indicators that may have a greater contribution to poverty reduction through job creation and business growth. In this sense the PASS experience shows that

the larger and better-organized participant SMEs showed a higher level of business development, sustainability, and progress in the level of growth in sales, exports and job creation.

By supporting companies with these characteristics through identification and selection of participants MIF can greatly increase its impact while generating greater spillovers onto the sectors and economies in which its interventions take place.

- **An impact evaluation demands a minimum of information that allows for the optimal data processing of outputs and outcomes and its analysis against various assessment dimensions.** During the project lifecycle, performance-related data must be collected consistently, accurately and comprehensively in a centralized platform that enables cross-project comparisons and impact assessment. For a proper assessment it is important that various documents related to the design, execution, and assessment of program results are collected and stored. Those documents include: (i) approval committee documents, including notes and minutes; (ii) baseline studies of beneficiaries and control groups; (iii) M&E reports; (iv) terms of reference and consultants' reports generated during the project lifetime; (v) fiduciary oversight documents; (vi) peer review comments and meeting minutes throughout the project life cycle; and (vii) procurement and financial management documents.
- **The potential adverse effect and critical role that externalities play in risk assessment should not be underestimated.** The PASS experience clearly shows how externalities can pose a risk to a program and its beneficiaries. With the deterioration of Uruguay's macroeconomic situation, the program properly reacted to transform a risk into an opportunity for companies to reach out to international markets as a way to overcome adverse demand conditions in the local market. More recently the appreciation of the peso against the U.S. dollar has put at risk the sustainability of the international initiatives of many beneficiaries, reducing profit margins and adding pressure in an already competitive international environment. Risk factors that could affect the sustainability of program results need to be reflected in the form of specific activities that help beneficiaries to develop skills to face the challenges that emerge from changing conditions. With greater attention to potential gaps—including sustained access to capital and human resources and development of broader partnerships with countries and firms that have demonstrated large-scale market capabilities—the sector could gain a stronger foothold in an extremely dynamic and changing market environment, thus creating the conditions for sustained growth.

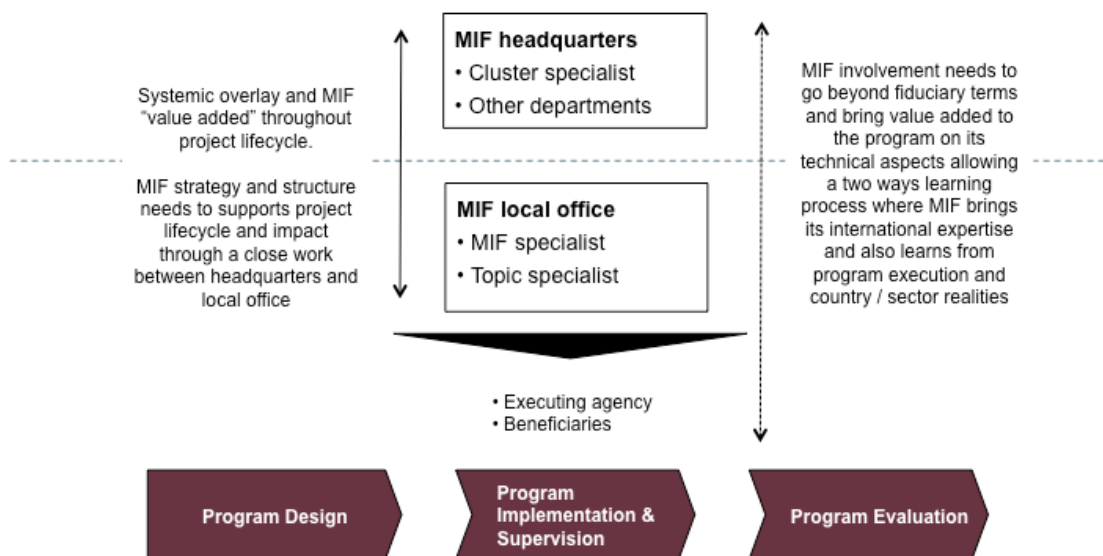
## 7. Recommendations for Future MIF Programs

- **MIF interventions can make a greater contribution to sector development through a comprehensive approach that extends beyond the initial program momentum.** It appears necessary to develop a more deliberate and explicit review of project performance at different levels of processing of the operation, to enable various levels of management within MIF/IDB to interact, learn, and generate feedback from and to the project and the executing agency through the following means: regular self-assessment on fiduciary processes; management oversight of project processes; maintenance and updating of the Bank's Operational Policies and Procedures in

line with current policies and field requirements; ready access to operational documentation; and improvements in operational risk management. With MIF/IDB's greater access to global knowledge, it could provide the necessary international experience to better complement local capabilities and help detect relevant experiences elsewhere to be considered for fast-track modernization in Uruguay.

As shown in Exhibit 4 below, different levels of management within MIF/IDB, the executing agency and the beneficiaries need to develop a systemic relation that adds value to the participants and the sector throughout the program lifecycle.

**Exhibit 4: MIF – executing agency – systemic relations among beneficiaries**



To help MIF/IDB focus its activities on improving the business-enabling environment and sector conditions, and to enable it to draw lessons from its progress reports and self-evaluations, future programs should consider the following priorities:

- Emphasizing institutional development and capacity building even more strongly and deliberately.
- Making sustainability and knowledge transfer explicit program goals at the design stage in order to empower companies to maintain progress and develop systems that support sustainable change.
- Placing greater operational emphasis on enabling conditions to promote growth and private provision of finance and support.
- Providing support to countries in which policies and institutions are improving, while also finding ways to improve poorly governed sectors.

- Introducing greater focus on benchmarks of performance as a basis for disbursements, thereby reducing whenever possible line-item controls to encourage greater focus on substantive issues and to introduce flexibility into programs with well-managed middle-income countries.
- Making better use of the MIF/IDB's knowledge and technical assistance for project design and execution.
- Improving monitoring and evaluation for results, moving where possible from tracking activities and outputs toward measuring what is important in terms of milestones along the road to desired outcomes.
- Improving coordination within IDB and across other institutions to maximize complementarities, and alignment of assistance to enhance synergy among individual programs.

MIF also needs to move beyond generic support by tailoring programs and projects to the circumstances of each country, and to better adapt strategies to shared conditions. To boost impact, interventions must move from “good practices” to “good fits” by conducting preparatory diagnoses that yield a better understanding of country realities and needs and that align the intervention’s objectives and activities to those needs. By recognizing and reacting with good common sense to country needs in its interventions, MIF will increase its overall impact. A program design should combine MIF’s overall strategy and thematic agenda with local needs, otherwise MIF runs the risk of ignoring areas of particular importance in a given country.

- **M&E indicators need to reflect not only an itemized list of activities but also specific effects on the beneficiaries’ development.** Indicators measured largely in terms of finished activities and outputs—such as seminars, technical assistance, number of trade missions, and so on—provide limited insight into substantive changes in the operating conditions of participating companies (such as new niche markets developed, new products developed, acquisition of new clients, productivity, and efficiency) and of the IT sector as a whole (cluster development, research and innovation centers, and leading IT companies worldwide) since the beginning of the program. However, the program’s outcome is in good part premised on externalities, as defined earlier, and thus the results framework needs to reflect such thinking for the continuing development of the sector.
- **Coordination between MIF and the executing agency needs to be more direct.** In order to avoid the risk that MIF may be held hostage by the executing agency in terms of knowledge and follow up on program progress, impact, and results, it would be useful to have a MIF representative participate in the direction of the program in a role similar to that of an honest broker. In the case of PASS, the technical committee would have been the locus for this role. This innovation would help ensure a level of contribution that went beyond the formal fiduciary role, so that the program does not miss the opportunity to benefit from MIF’s worldwide knowledge and experience.

## 7.1 Potential for Program Replication and Scalability

- **Under certain conditions, working with local agencies in the early stages of their development maximizes the impact of MIF interventions.** In developing sectors undergoing rapid spontaneous growth, strengthening an organization that fosters cohesion and participation by addressing sector needs and providing key advisory services creates a virtuous cycle that promotes development at different levels, even if the organization is in an early stage of development. In other words, MIF's intervention should aim to strengthen the executing agency, which will in turn benefit the agency's members and contribute to sector development. This is particularly important in countries that lack institutions that can support and galvanize economic development, or where those institutions are weak. The presence of a leading and proactive private sector, combined with MIF's international knowledge base and expertise, can make a significant contribution to the development of the local economy in terms of jobs and other efficiencies.
- **Participants' size, level of organization, and, in some cases, entrepreneurship skills have a direct impact on program outputs and outcomes.** Although SMEs' participation in PASS was random, empirical evidence shows that the largest SMEs within the participant sample achieved better development, sustainability, and progress, and thus made the greatest contribution to achievement of the program's goals. For future MIF projects, it might be interesting to consider the use of a mechanism that would ensure the participation of beneficiaries at the specific level of development that would allow them to contribute the most to program success and have the greatest impact on the local economy through contributions to jobs, sales, and exports.
- **Committed intermediaries are the best way to identify high-potential SMEs and their critical development needs.** Intermediaries like proactive private sector associations with entrepreneurial leadership can provide access to large numbers of SMEs with a high potential to benefit from MIF interventions. Such access considerably enhances the efficiency of SME selection and needs assessment. The private sector association benefits by being able to provide increased services and cohesion to the sector it represents, while SMEs benefit from a set of customized and specialized services at a lower cost. This alignment of incentives helps to ensure effectiveness in a scaled-up intervention.

## 8. Conclusions

**PASS served a clear market need.** If not used carefully, grant-assisted services can be inefficient by providing an unnecessary subsidy to businesses that otherwise could have afforded to pay for the support they need. They may also distort markets by supporting uncompetitive businesses or crowding out existing commercial providers of services for SMEs. However, the evaluators found a reasonable justification for the use of MIF funds to support SMEs in Uruguay's software sector for the following reasons: (i) There were needs at the program's inception that were not being met by any other organizations in the way that PASS met them. (ii) MIF's intervention started a virtuous cycle that supported the development of a thriving class of SMEs that catalyzed the sector growth.

As expressed many times in the interviews, most participants would not had been able to achieve the results they did without PASS support. Indicators such as company size, number and skill level of employees, and level of exports were far from the levels that would had allowed them, without assistance, to strengthen their management capacity and so increase their ability to compete in the global market.

**Unless the impact evaluation exercise and its results are broadly discussed and internalized by at different levels of MIF, the institutional gain will be minor.** MIF’s impact-assessment efforts need to be seen as part of a dynamic process in which analyses of (i) resources invested in each sector/country and the likely results of those investments; (ii) synergies developed throughout project lifecycles; (iii) knowledge generated and lessons learned; and (iv) allocations of responsibilities among various MIF units (at the local and headquarters levels are used to foster systemic institutional development. Only in the context of continuous exchange of experiences and lessons, and the appropriate application of those experiences and lessons in new programs, can impact evaluations have a significant impact on MIF’s institutional development.

**On the whole, PASS achieved satisfactory results, with some areas of the project showing good potential for improvements.** Following is a rating table for each of the dimensions assessed that can be used to facilitate transparency and eventual comparability with other MIF programs. The impact scores range from 1 to 6, according to the following scale: 1 (highly satisfactory), 2 (satisfactory), 3 (moderately satisfactory), 4 (moderately unsatisfactory), 5 (unsatisfactory) and 6 (highly unsatisfactory).

**Table 6: Impact evaluation rating results**

Program dimension	Impact score	Reasons for impact (or lack thereof)	Alignment of dimension with evaluation objectives
Scope and Strategic Relevance	2	<p>The choice of the software sector was a good strategic choice where the potential for success was great. A growing sector with a competent set of beneficiaries was supported by a program with clear goals and activities. Key factors of assessment include:</p> <ul style="list-style-type: none"> <li>• Intervention was a reasonable fit for the sector at a time when a coincidence of factors made success likely.</li> <li>• MIF’s pioneering sector role in Uruguay.</li> <li>• Bottom-up design.</li> <li>• Deficient in addressing policy and institutional sector constraints.</li> </ul>	Program’s objective and component design reflected the sector’s main challenges, with program structure and operations meeting a good quality standard.
Internal quality	2	Adequate focus on strengthening preconditions for beneficiaries’ development. Quality of content of activities was satisfactory and responsive to the	Quality of activities and internal processes adequately reflected

Program dimension	Impact score	Reasons for impact (or lack thereof)	Alignment of dimension with evaluation objectives
		<p>local constituencies. Key assessment factors include:</p> <ul style="list-style-type: none"> <li>• Program components reflect sector’s needs.</li> <li>• Activities answered specific SME needs.</li> <li>• Beneficiaries were pleased with effectiveness of technical assistance received and with overall program impact in sector.</li> </ul>	<p>program objectives and operations.</p>
Likely impact	2	<p>Basic indicators show sustained growth among beneficiaries, and companies express high level of satisfaction with program’s impact on their development. Key assessment factors include:</p> <ul style="list-style-type: none"> <li>• <b>Pro:</b> Sustained increases in sales, exports, and high value-added employment.</li> <li>• <b>Pro:</b> Institutional strengthening of executing agency.</li> <li>• <b>Con:</b> Lack of follow-up on studies and activities under norms and standards component.</li> </ul>	<p>Impact evaluation made it possible to identify and measure specific outcomes among participants and sustainability in specific indicators such as sales, exports, and high value-added employment.</p>
Dialogue and dissemination	4	<p>Weak systemic approach to maximize program activities and other ongoing efforts. Key assessment factors include:</p> <ul style="list-style-type: none"> <li>• <b>Pro:</b> Active role of CUTI and beneficiaries.</li> <li>• <b>Con:</b> Lack of coordination with other relevant programs.</li> <li>• <b>Con:</b> Weak identification and addressing of institutional and other conditions for sustained development.</li> </ul>	<p>The evaluator did not identify program methodologies or activities brought up to scale by other local institutions.</p>
Stakeholder and beneficiary roles	3	<p>Active role of beneficiaries and executing agency, with contribution from MIF on fiduciary aspects of program execution. Opportunity to enhance value by developing a more systemic institutional interaction in different stages of project lifecycle. Key assessment factors include:</p> <ul style="list-style-type: none"> <li>• <b>Pro:</b> CUTI and beneficiaries participation in demand-driven, bottom-up approach translated into a pragmatic approach that reflected SMEs’ needs and supported program success.</li> <li>• <b>Con:</b> MIF could have provided greater value</li> </ul>	<p>Program’s institutional structure and the active role of stakeholders allowed for an efficient execution in terms of outputs and outcomes, with a good standard of execution quality. CUTI’s institutional capacity grew with program’s development. Six years after program completion not all the same type of activities</p>



Program dimension	Impact score	Reasons for impact (or lack thereof)	Alignment of dimension with evaluation objectives
		added to sector in terms of public policy and sector issues for sustained development.	are being conducted.

## **9. Annexes**

Annex I: Case Study

Annex II: PASS program participants

Annex III: Research Plan. In-Depth Interview Guides: Stakeholders, Beneficiaries, Control Group

Annex IV: Survey Results: Participants, Control Group

Annex V: Interview and discussion notes. Individuals Interviewed

Annex VI- Organizations potentially interested in replicating PASS

Annex VII: Project Background Documentation Relevant for Impact Assessment and Bibliography