PROYECTA 100,000
TOWARDS A REGION OF KNOWLEDGE

PROPOSAL OF THE **MEXICAN CONSULTATION GROUP OF THE BILATERAL FORUM ON HIGHER EDUCATION, INNOVATION AND RESEARCH** (FOBESII)

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Foreword

Mexico has decided to make the promotion of higher education, innovation and research a top priority in order to create a knowledge economy which will serve as the basis for Mexico's competitiveness and prosperity in the 21st Century. As part of this initiative, Mexico is looking to deepen its relationship with its trading partners in these areas.

Mexico and the United States (U.S.) have wide educational, academic, and scientific ties. However, these areas still do not reflect the same intensity as other areas do such as trade and the bonds between both societies. The potential to develop cooperation in higher education, innovation and research to benefit citizens of both countries must be seized.

The Presidents of Mexico, Enrique Peña Nieto, and the United States, Barack Obama, announced the formation of the Bilateral Forum on Higher Education, Innovation, and Research (FOBESII) on May 2nd, 2013, in Mexico City. The FOBESII seeks to develop a strategic approach to existing cooperation programs in these areas, in order to promote human capital and economic development in Mexico and the U.S., with the ultimate goal of transforming North America into a region of knowledge. The Forum will emphasize areas and sectors that will increase the competitiveness of the two countries, through university-industry linkages.

The Mexican Consultation Group of the FOBESII was created to analyze the current educational, academic and scientific linkages between Mexico and the U.S., as well as to make recommendations to promote greater interaction. This Group is formed by Mexican experts from 35 institutions from the academic, public, private and social sectors. The Group decided to create eight working groups: Relevance, Undergraduate Mobility, Graduate Studies, Academic Exchange, Technological Development and Innovation, Internships, Languages, and Promotion.

After a laborious process of analysis, debate and synthesis, that took place from June to September 2013, the Group prepared "**Proyecta 100,000 Towards a Region of Knowledge. Proposal of the Mexican Consultation Group of the FOBESII**", that was presented to the Government of Mexico. This document includes concrete actions to promote mobility for students, researchers and academics between Mexico and the U.S., the creation of knowledge and innovation, as well as recommendations for public policies and ways to achieve them.

Mexico City, September 9th, 2013.

Proposal from the Mexican Consultation Group of the FOBESII

Within the framework of the Bilateral Forum on Higher Education, Innovation and Research (FOBESII, as per its Spanish acronym), the Ministry of Foreign Affairs (SRE, as per its Spanish acronym), the Ministry of Public Education (SEP, as per its Spanish acronym), and the National Council of Science and Technology (CONACYT, as per its Spanish acronym) invited a group of Mexican experts from 35 institutions from the academic, public, private and social sectors to state their point of view and recommendations as to develop a joint proposal on the scope of FOBESII from Mexico's standpoint. This group of experts forms the "Mexican Consultation Group of the FOBESII". To conduct their work, the Group decided to create 8 working groups (Relevance, Undergraduate Mobility, Graduate Studies, Academic Exchange, Technological Development and Innovation, Internships, Languages, and Promotion). In addition, to prepared this report, the Group was supported by a Technical Secretariat presided jointly by the Scientific and Technological Consultation Forum and Universia.

The Group has held five plenary sessions from June 5th to September 4th, 2013. This document is its first outcome. Generally speaking, it gathers all the proposals made verbally and in writing by the members, reflecting their overall agreement.

Group members are listed in alphabetical order:

- **Sergio M. Alcocer Martínez de Castro,** Ministry of Foreign Affairs.
- **Salomón Amkie,** Universia.
- **Carlos Arámburo de la Hoz,** National Autonomous University of Mexico.
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- **Gabriela Bernal,** United States-Mexico Commission for Educational and Cultural Exchange.
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- **Felipe Cuamea Velázquez,** Autonomous University of Baja California.
- **Jesús E. de la Rosa Ibarra,** Confederation of Industrial Chambers.
- **Ricardo Duarte Jáquez,** Autonomous University of Ciudad Juárez.
- **Gabriela Dutrénit,** Scientific and Technological Consultation Forum.
- **Luis Rubén Durán Fontes,** Ministry of Health.
- **Ana Luisa Fajer Flores,** Ministry of Foreign Affairs.
- **Guillermo Fernández de la Garza,** United States-Mexico Foundation for Science.
- **Enrique Fernández Fassnacht,** National Association of Universities and Higher Education Institutions.

- **José Franco López,** Mexican Academy of Science.
- **Blanca Heredia,** Economic Reseach and Teaching Center.
- **Ernesto Hernández,** American Chamber of Commerce of Mexico.
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- **Antonio López de Silanes,** Silanes Group.
- **Fernando Óscar Luna Rojas,** Autonomous University of the State of Hidalgo.
- **Emir José Macari,** California State University.
- **Humberto Marengo Mogollón,** Academy of Engineering.
- **Lorenzo Martínez Gómez,** UNAM Institute of Physics.
- **Wilebaldo Martínez Toyes,** Autonomous University of Ciudad Juárez.
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- **Nora Méndez López,** Televisa Foundation.
- **Patricia Moctezuma Hernández,** Autonomous University of Baja California.
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- **Martha Navarro,** Mexican Agency for International Development Cooperation.
- **Carlos Noriega Arias,** Confederation of Industrial Chambers.
- **Carlos Ortiz Gómez,** Ministry of Energy.
- **José Ignacio Peralta Sánchez,** Ministry of Transportation and Communications.
- **Erika Quevedo Chan,** American Chamber of Commerce of Mexico.
- **Juan Manuel Romero Ortega,** National Autonomous University of Mexico.
- **Enrique Ruelas Barajas,** National Academy of Medicine.
- **Joaquín Ruíz,** University of Arizona, Tucson.
- **María Dolores Sánchez Soler,** National Council of Science and Technology.
- **Marcela Santillán,** Ministry of Public Education.
- **José Ignacio Santos Preciado,** Ministry of Health.
- **Fernando Serrano Migallón,** Ministry of Public Education.
- **Juan L. Silanes,** United States-Mexico Foundation for Science.
- **Jorge Fernando Toro Vázquez,** Autonomous University of San Luis Potosí.
- **Reyna Torres Mendívil,** Ministry of Foreign Affairs.
- **Raúl Urteaga Trani,** Ministry of Agriculture, Livestock, Rural Development, Fisheries and Food.
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- **Juan Manuel Valle Pereña,** Mexican Agency for International Development Cooperation.
- **Salvador Vega y León,** Metropolitan Autonomous University.
- **Humberto Augusto Veras Godoy,** Autonomous University of the State of Hidalgo.
- **Juan Villanueva Jiménez,** School of Postgraduate Studies.
- **Manuel Fermín Villar Rubio,** Autonomous University of San Luis Potosí.
- **Javier Villazón Salem,** Alumni Association of UNAM School of Engineering .
- **José Antonio Zabalgoitia Trejo,** Ministry of Foreign Affairs.

Appendix 3 includes the directory of group members.

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1. The ultimate aim of our efforts

The main purpose of the Bilateral Forum on Higher Education, Innovation and Research[1] (FOBESII) is the sustained economic development and social welfare in the United States (U.S.) and Mexico by training human resources, research and innovation.

The links between both countries have moved forward in terms of commercial integration through the North American Free Trade Agreement (NAFTA). Trade, flows of people and money, as well as sharing and creating value chains amounting to circa 500 billion dollars are proof of this progress.

However, today's global trend is to compete in value chains amongst the different regions and not anymore between countries or products. Accordingly, it is important to expand collaboration on higher education, research and innovation to allow flows of knowledge, and evolve from a trading relation to settling the foundation for a competitive region of knowledge in the new global economy; creating a new Productive Partnership in North America.

A proposal of a joint U.S.-Mexico action plan on educational, research and innovation policies constitutes an essential element to increase productivity, improve competitiveness, enrich mutual understanding, boost trade and broaden economic opportunities, as well as reinforce the protection of the enviroment, border management and citizen security. This plan may result in benefits for thousands of young people from both countries in terms of better work skills, wages and quality of life. To achieve this, a systemic approach must be adopted to integrate higher education, research and innovation and to close the gap between cultural integration, training and employment.

2. Why should we strengthen bilateral collaboration in higher education, research and innovation?

Why is collaboration important? The Mexican Consultation Group believes that collaboration on higher education, innovation and research is a key priority to build a competitive and prosperous region that highlights knowledge as an strategic factor for integration, resulting in social and economic benefits for Mexico, the U.S. and the region as a whole.

For what purpose? Likewise, the Group believes that collaboration objectives must be clear. It suggests that cooperation should be promoted in order to have more and better human resources and to allow talent proliferation, broaden knowledge, generate the appropriate conditions for innovation advancement, increase understanding amongst citizens of both countries, build personal and institutional networks, overcome language and cultural barriers and encourage greater cultural integration.

Cooperation through academic mobility and exchange programs exposes young people and researchers from both countries to new ideas, models and cultures, resulting in a significant impact on both countries, since it represents a talent source of professionals and researchers for the region and establishes conditions to create synergies for the generation of knowledge on common issues.

1. This document defines "research" as all activities related to scientific and technological research and technology development.

Cooperation for technological development and innovation allows a better articulation of value chains by taking advantage of each country's strengths, allowing them to face regional challenges better prepared, like the Trans-Pacific Partnership negotiations.

Having a comprehensive approach is fundamental and facilitating different cooperation means, in order to create the appropriate conditions to learn from experiences and diversity, as well as taking advantage from the movement of people (diaspora) and removing hurdles to allow a better coordination amongst companies, to be able to generate synergies and increase competitiveness.

3. Vision, Mission Statement and Objectives of the FOBESII

The Group proposes the following principles for a shared Vision, following the implementation of FOBESII's work. It also proposes FOBESII-specific Mission and Objectives..

Mexico and U.S. Vision through FOBESII

To be a prosperous, competitive and inclusive region, based on knowledge, which promotes sustainable development by encouraging bilateral cooperation for higher education, innovation and scientific research.

The FOBESII Mission Statement

To encourage mutual understanding and bilateral cooperation between Mexico and the U.S. through student mobility and academic exchange programs, research on common issues or areas of mutual interest and innovation, in order to benefit a large number of students, researchers, teachers, companies, value chains and clusters, to contribute to the competitiveness and economic development of the region, to encourage talent and train competitive human resources, as well as to achieve a gender-oriented social inclusion, environmental protection and preservation, cultural integration and citizen security.

The FOBESII does not intend to replace ongoing experiences with a sole framework, rather generate a forum to share experiences, encourage the reproduction of successful practices, overcome challenges and, mainly, benefit a large number of young people from both countries.

Specific Objectives

The FOBESII's Specific Objectives are to:

1. Create comprehensive initiatives which improve the development of human capital and expertise in strategic sectors.
2. Develop regional human capital for the 21st Century based on linkages between education, research and the business sector, encouraging knowledge application to high-impact productive activities and on high-quality social development.
3. Deepening the Mexico - United States relation through the enhanced and improved integration of value chains in both countries.
4. Contribute in developing solutions that address common regional issues affecting both nations.
5. Develop a shared vision on educational cooperation and policy coordination.

To meet Objective 1: "Create comprehensive initiatives which improve the development of human capital and expertise in strategic sectors", joint scientific, technological and innovation projects must be created focused on high-value productive chains relevant to science and technology.

More specifically:

- It is proposed to advance towards: identifying strategic sectors in productive chains and on the areas of science and technology; encouraging bilateral cooperation and sharing of experiences on human capital on the areas of science, technology and innovation; promoting sharing of experiences of the linkages between the academic and productive sectors in both countries; particularly, in more dynamic strategic sectors and with growth potential; and generating exchange and cultural integration between both countries.
- The key challenges and opportunities are: promoting student exchange programs based on industry needs, on production dynamics, and on new technologies, as well as their inclusion in the productive centers, identifying business areas with growth potential through trained human resources.

To meet Objective 2 "Develop regional human capital for the 21st Century based on linkages between education, research and the business sector, encouraging knowledge application to high-impact productive activities and on high-quality social development", it is proposed to develop and encourage mobility programs and employment of human resources. This requires policies on educational cooperation, talent repatriation, inclusion of students in productive projects, student internships, exchanges of experiences and information. This objective:

- Intends to establish cooperation models between educational and business sectors to allow learning from successful experiences, in order to strengthen human resources training schemes; to develop schemes aimed at closing the gap between skills and knowledge given by universities and those required by regional productive chains; and to encourage a global perspective in the regional human resources.
- The challenges and opportunities include promoting efficient communication between educational and research institutions and the business sector.

To meet Objective 3 "Deepening the Mexico - United States relation through the enhanced and improved integration of value chains in both countries", the following is proposed:

- To identify sectors and regions of each country and projects based on competitive development opportunities for value chains through programs including businesses and the main organizations from both countries, considering medium-term objectives, in order to ensure competitive positions facing the progress made by similar chains in other regions;
- To encourage the use of regional expertise to develop productive innovation projects that have high impact on strategic bilateral trade production chains;
- To develop bi-national technological platforms by using mechanisms that allow the development of medium and long run research strategies in training of specialized personnel and procedures in support of innovation; procedures to generate a long run shared vision on the main educational, research and innovation challenges on economic and social matters that are key for both countries;
- To promote a closer regional cooperation on human resources, technology, services and the active participation of State governments, chambers, business organizations and businesses, in order to identify high-impact projects with a regional focus on each country.
- The challenges and opportunities include analyzing strategic sectors and regional productive purposes, in order to identify areas of opportunity in regional/industrial value chains.

To meet Objective 4 "Contribute in developing solutions that address common regional issues affecting both nations", our proposal is to develop joint projects on scientific and technological development which contribute to finding solutions to common problems.

To meet Objective 5 "to develop a shared vision on educational cooperation and policy coordination", it is proposed to set the criteria for cooperation and coordination for educational policies, that allow the increased exchange of practices and information to face common challenges in this regard.

To achieve the above objectives, the following must be considered:

a. The Objectives require cooperation across the academic, public, private and social sectors.

b. The Objectives require focus on strategic sectors and with each country's regional vision. This vision's definition must be based on several criteria:
   i. Common issues requiring a cross-cutting focus, including, but not limited to:
      - Reduction of carbon emission, use of renewable energies, and toxic waste disposal.
      - Nutrition (obesity, diabetes), genetic and neurodegenerative diseases, public health and neuroscience (BRAIN Initiative)
      - Gulf ecosystem
      - Non-conventional fuels
      - Ecosystem preservation, protection and restoration
      - Agri-food security
      - Arid areas and water resources
      - Border development
      - Natural and anthropogenic disasters
      - Infrastructure
      - Communication and information technologies
      - Biotechnology
      - Digital literacy and inclusion
      - Forensic science and technology
   ii. Industries with capabilities, experience and coordination in production chains, including, but not limited to:
      - Mining
      - Machinery and equipment
      - Chemicals products
      - Construction
      - Hydrocarbons
      - Electronics
      - Automotive
      - Business support services
      - Appliances
      - Textiles
      - Agribusiness
      - Telecommunications
      - Logistic services
      - Tourism

      The number of strategic sectors is based on a national approach; it does not follow a geographical pattern, but it provides a useful reference on the degree of progress for production chain development. For example:
      - Baja California and San Luis Potosi are the States with the larger number of sectors -seven-, followed by Chihuahua with six, then by the State of Mexico and Jalisco with five.
      - In the northern border States (Baja California, Sonora, Chihuahua, Coahuila, Nuevo Leon and Tamaulipas) over four strategic sectors were identified.
      - In the southeastern States (Chiapas, Tabasco, Yucatan, Oaxaca and Quintana Roo) only two strategic sectors were identified.
   iii. Emerging sectors, including, but not limited to:
      - Information technologies (IT and BPO services, big data, security, governance, supercomputing, etc.)

- Electricity generation and distribution
- Renewable energies
- Aerospace
- Research services
- Creative industries
- Life sciences (food biotechnology, biosafety, etc.)
- Specialized and scientific instrumentation
- Pharmaceuticals and cosmetic products
- Nano and new materials
- Medical equipment
- Advanced manufacturing
- Transportation and logistics

iv. Cutting edge scientific projects and bi-national laboratories on areas of shared interest, such as:

- Bi-National Astrophysics Laboratory in San Pedro Martir, BC.
- Complex systems
- High Energy bi-national Laboratory *High Altitude Water Cerenkov*, Sierra Negra, Puebla
- Oceanography and marine sciences
- Neuroscience
- Basic and applied synthetic chemistry, bioinorganic chemistry, green chemistry
- Addictions and anti-addictive vaccines
- Physics, astrophysics and nanosciences
- Research on Quantum Information
- Migration, development and human rights
- Molecular biophysics and biomaterials
- Genomics
- Environmental science
- Agri-food
- Renewable and non-renewable energy

During the first phase of the FOBESII, the Group proposes to address the following sectors of the economy:

- Energy
- Infrastructure
- Automotive industry
- Agribusiness
- Information and communication technologies
- Aerospace
- Health
- Services

c. The required number of skilled human resources must be defined. . The Group proposes to focus on the areas of science, technology, engineering and mathematics (STEM) for border issues, emerging trends, national issues and to increase the skilled workforce required by the labor market in a sustained competitive region that is currently facing new challenges. Likewise, social sciences and the humanities are relevant, since problems have become crosscutting issues. Social sciences and the humanities play a key role as they provide knowledge about behavior of each stakeholder (e.g. researchers, businesspersons, farmers) and organization (e.g. universities, research centers, national laboratories, governments, businesses, NGOs), the cultural, social and political context, as well as the analysis of incentives that could promote change in behavior of actors

4. Goals

The main goals of the FOBESII may be summarized as follows:

- Increase undergraduate and graduate student mobility.
- To significantly increase scholarships and programs for:
  i. undergraduate stays
  ii. graduate studies
  iii. post-doctorate
  iv. internships
- Increase academic mobility and the creation of knowledge networks.
- Encourage exchanges and cooperation between programs and university-industry consortia in both countries.
- Increase the number of joint research and innovation projects.
- Encourage bi-national public-private partnerships, networks and consortia.
- Create virtual research and innovation centers.
- Increase funding for joint research programs.

According to the Institute of International Education, the number of students in exchange and mobility programs in higher education between Mexico and the U.S. (considering Mexican students in formal exchange programs, that are accredited) amounts to 13,893 distributed as follows:

- **Undergraduate level: 7,564** representing **54.4%** out of the total number (including students in 2-year and 4-year institutions).
- **Graduate studies: 4,188** representing **30.1%** out of the total number.
- **Other: 1,096** representing **7.9%** (students in courses without a degree, including intensive English courses).
- **OPT - Optional Practical Training: 1,045** representing **7.5%** (temporary jobs, related to Visa F-1. These students are under a student visa regime from their school or university, thus still considered international students even after they have completed their studies).[2]

In opposite direction, 4,167 U.S. students participate in exchange programs in Mexico.

The FOBESII aims at increasing bilateral mobility for 150,000 higher education students and professors by 2018.

To meet these goals, 100+50 Strategy is proposed: 100 thousand Mexican students in the U.S. and 50 thousand U.S. students in Mexico by 2018. This strategy would contribute decisively to meet the "100,000 strong in the Americas" initiative goal set by the U.S. government, where 100 thousand students from Latin America will study in the U.S. and 100 thousand U.S. students would do so in Latin America.

2. Institute of International Education. (2012). "International Students by Academic Level and Place of Origin, 2011/12." *Open Doors Report on International Educational Exchange.* Seen at http://www.iie.org/Research-and-Publications/Open-Doors/Data/International-Students/By-Academic-Level-and-Place-of-Origin/2011-12.

This 100+50 Strategy implies that Mexico will become the third country with the highest number of international students in the U.S. and that U.S. will become the first country with international students in Mexico. If the number of Indian students were to decrease in the U.S., Mexico could become the second country. Furthermore, this strategy recognizes that it is in the best interest of both countries that the development of higher education, innovation and research is conducted between trading partners whose economies are integrated.

The proposal is to name the Mexican program on the 100+50 Strategy as follows: **Proyecta 100,000.**

Proyecta 100,000 intends to go from 14,000 Mexican students studying the U.S. to 100 thousand in 2018. **Proyecta 100,000** aims at benefiting nearly 320 thousand Mexican students studying in the U.S. from 2014 to 2018. To achieve this goal, it is proposed in Table 1 a gradual and sustained increase in the number of Mexican students.

It also intends to create:

- 38 research consortia and other graduate study agreements
- 20 virtual innovation centers or bi-national projects for innovation in strategic sectors and areas.

In addition, it seeks to increase languages proficiency, cultural integration as well as to developing promotion activities (see Tables 4 and 5).

Regarding the number of U.S. students in Mexico, the proposal is to reach 50 thousand students by 2018. This means a twelvefold increase compared to the 2012 data. Social sciences and the humanities, in addition to Spanish as a foreign language, are relevant areas of study. In addition, the favorable cost-quality ratio of tuition payments in several Mexican universities compared to U.S. universities is an advantage that should encourage mobility in undergraduate and graduate studies. Lastly, internships in Mexican and U.S. businesses based in either country offer comparative advantages that must be pointed out and, therefore, encouraged.

Table 1. Proyecta 100,000

Sending students to the U.S. to:	Level	2012 data	2014	2015	2016	2017	2018	2014-2018
Stays with no credits, 3 months	Undergraduate level	ND	5,000	9,000	13,000	17,000	20,000	64,000
Stay with course credits, 6 months	Undergraduate level	7,564	8,000	11,000	14,000	17,000	20,000	70,000
Stay with course credits, 6 months	Graduate studies	4,188	8,400	14,000	20,000	25,000	30,000	97,400
Degree	Graduate studies		1,600	4,000	6,000	8,000	10,000	29,600
Internships		1,045	2,000	5,000	7,500	10,000	12,500	37,000
Other brief courses, English		1,096	2,000	3,000	4,000	5,000	7,500	21,500
TOTAL		**13,893**	**27,000**	**46,000**	**64,500**	**82,000**	**100,000**	**319,500**

5. Learning from experience

There is wide experience in bilateral collaboration across several fields - education, research and business- that are considered to be pilot experiences that, in general, due to different reasons, have not evolved into a more mature developed collaboration. However, there has been a pronounced learning curve to learn about the advantages and challenges of collaboration.

5.1 Collaboration programs between Mexico and the U.S.

Programs have been focusing mainly in short and medium term mobility programs (including graduate study scholarships), academic stays, research and innovation-related activities across several activity sectors and areas of knowledge. The most widely spread programs are summarized in Table 2.

The numbers shown below confirm that they are pilot programs. For instance, COMEXUS grants a yearly average of 200 scholarships to Mexican (100 scholarships) and U.S. (100 scholarships) students, researchers, and professionals.

Table 2. Main collaboration programs between México and the U.S.

	Type of collaboration	Program
Mexico-U.S.	Mobility Graduate studies Research Languages Professionalization	• Mexico-U.S. Commission for Educational and Cultural Exchange (COMEXUS)
	Graduate Research	• Agreements between CONACYT and U.S. Universities
	Research Mobility	• FUMEC - AmCham joint program for summer stays in the U.S. for young researchers and stays in Mexico for distinguished professors. • CONACYT-I/U-CRC collaboration to create partnerships in specific sectors • MAES (Latinos in Science and Engineering)
	Innovation	• Small Business Innovation Research
	Technology businesses	• Technology Business Accelerator (TechBA)
	Entrepreneurship	• Boot Camp for entrepreneurs
	Science, Technology, Engineering and Mathematics (STEM) Education	• INNOVEC and Basics on Engineering - PLTW
	Research Innovation English	• PEACE CORPS
Mexico-U.S.-Canada	Mobility Research	• Program for North American Mobility in Higher Education (PROMESAN)
	Mobility	• Consortium for North America Higher Education Collaboration (CONAHEC)

Table 2. Main collaboration programs between México and the U.S.

	Type of collaboration	Program
U.S.-Latin America	Innovation	• USAID Innovation Fund for the Americas (IFA)
U.S.-Mexico universities	Research	• *UCMexUS*: University of California-CONACYT Agreement with the participation of researchers from Mexican universities • Call for proposals for the AmCham-FUMEC Distinguished Visiting Professor Program
	Graduate studies	• Dual Degree programs, Research Center on Advanced Materials/University of Texas, Autonomous University of Chihuahua/New Mexico State University, *Colegio de la Frontera Sur*/Colorado State University, Monterrey Technological Institute and Higher Education/UT Austin; University of San Diego, Stuart School of Business (IIT)
	Research Innovation	• University of Arizona - CONACYT Agreement
	Innovation	• Advanced Technology Transfer Program (ATTP)
	Technology marketing	• University of Texas in Austin/CONACYT
Border region	Innovation	• Innovation without borders. San Diego Dialog
Government of Mexico	Mobility Research	• AMEXCID
	Mobility Innovation	• Network of talented Mexicans living abroad.
U.S. Government	Mobility Graduate studies	• 100,000 Strong in the Americas
Appendix A2.1 summarizes a description of these programs		

5.2 Student mobility from and to the U.S.

According to the most recent data from the Institute of International Education for 2012, there were 14,000 Mexican students in U.S. universities, 54% in undergraduate and 30% in graduate studies. Mexico contributes with 1.8% of international students in the U.S. , being the first place in Latin America, but the third country with U.S. students (see Table 3).

Student mobility, when compared to the population and trade levels between each country and the U.S. shows an unsatisfactory performance by Mexico (Table 4). Considering the importance of trade and the size of the population, there still is a great potential to increase mobility between Mexico and the U.S.

CONACYT reports that U.S. is the first country receiving Mexican students with new scholarships. Even when over the past years these scholarships have been increasing, the number is still low (1,171 students with a CONACYT scholarship and 447 in academic stays). Furthermore, mobility programs from some public and private universities are considered in this number, as well as some dual degree programs in Mexican universities or research centers and U.S. universities.

This data shows that there is still potential to increase the flow of students in both directions. More specifically within the framework of "100,000 strong in the Americas" aiming at reaching 100 thousand exchange U.S. students in Latin America and vice versa over the next four years (2012-2016). In the case of Mexico, the challenge is to change the composition of students by giving preference to graduate studies.

Table 3. Foreign student mobility between Latin America and the U.S.

Country of origin	Number of students in the U.S. (2012)	Number of U.S. students (2011) in:
Mexico	13,893	4,167
Brazil	9,029	3,485
Colombia	6,295	200
Venezuela	6,281	117
Peru	2,702	2,448
Chile	2,203	3,280
Ecuador	2,160	*3,107*
Argentina	1,888	4,589
Honduras	1,407	1,004
Costa Rica	1,078	*7,230*
Bolivia	1,025	306

Source: Institute of International Education. (2012). "International Student Totals by Place of Origin, 2010/11-2011/12." *Open Doors Report on International Educational Exchange.* Seen at http://www.iie.org/opendoors

Table 4. Foreign students in the U.S., by population and trade

Country	Number of students in the U.S. (A)	Population (millions of inhabitants) (B)	A / B (every 100 thousand inhabitants)	Total trade of goods with the U.S. (D) (million USD)	A / D (every 100 million USD)
China	194,029	1,350	14	536,062	36
India	100,270	1,221	8	62,620	160
South Korea	72,295	49	148	101,179	71
Saudi Arabia	34,139	27	127	73,639	46
Canada	26,821	35	78	616,476	4
Taiwan	23,250	23	100	63,206	37
Japan	19,966	127	16	216,347	9
Vietnam	15,572	92	17	24,890	63
Mexico	13,893	116	12	493,501	3
Turkey	11,973	81	15	18,813	64

(A) Period from 2011-2012. Source: *Open Doors Fact Sheet 2012*. http://www.iie.org/Research-and-Publications/Open-Doors
(B) Estimated numbers to July 2013. Source: CIA, *The World Factbook*. https://www.cia.gov/library/publications/the-world-factbook/rankorder/rawdata_2119.txt
(C) Students in the U.S. / Population * 100,000
(D) Numbers on the total trading of goods in 2012. Source: *U.S. Census Bureau.* http://www.census.gov/foreign-trade/about/index.html
(E) Students in the U.S. / Bilateral trading * 100,000,000

5.3 Comparative Analysis of Mobility Programs between Latin America and the U.S.

To explore the mobility strategies from other Latin American countries comparable to Mexico, it has was selected the top 5 countries with U.S. and Latin America mobility from the Global Mobility Report published in 2010 by the United Nations Educational, Scientific and Cultural Organization (UNESCO). Case studies are as follows: Mexico-U.S., Mexico-U.S.-Canada, U.S.-Brazil, U.S.-Colombia, and U.S.-Peru. Data is shown in Appendix 2.

It is time to move towards a more organized collaboration in higher education, research and innovation. The FOBESII does not intend to replace lessons from previous experiences with a sole framework, rather generate a forum to share experiences, encourage the reproduction of successful practices, overcome challenges and, mainly, benefit a large number of young people from both countries.

5.4 Network of talented Mexicans living abroad (RTM)

Mexico is one of the countries with the highest indexes of qualified migration. According to the 2012 Current Population Survey (CPS), from the Census Bureau, only in the U.S, there are 893,134 Mexicans with a degree living in the U.S.: 762,552 have a bachelor degree and 130,582 have a graduate degree. There are 80,000 persons with a PhD degree in Mexico; where 73,000 are Mexicans, out of which 20,000 (27%) live in the U.S. (CPS, 2010).

The Network of talented Mexicans living abroad is considered to be as an inter-connected global network, which allows the development of collaboration projects that encourage scientific, technological and innovation development of Mexico and the country where the talented Mexican live. This Network will strengthen bilateral cooperation within the framework of the FOBESII.

Currently, the RTM in the U.S. has 11 Chapters in Los Angeles, Orange County, San Francisco, Silicon Valley, San Diego, Boston, Detroit, Houston, El Paso, New York and Washington, D.C., mobilizing over 2 thousand participants who work focused in the following four pillars:

- Research, science, academia and technology
- Business entrepreneurship and innovation
- Social responsibility
- Knowledge transfer

In this context, collaborating with the RTM would allow generating innovation, increase productivity, and promoting development by taking advantage of knowledge, contacts and strategic positioning of highly qualified Mexicans in the U.S.

6. Proposals

This document outlines an activity schedule including different dimensions of the collaboration that may contribute, as a whole, to generate a change in the nature and dynamics of bilateral cooperation. Proposals related to the following subjects are included:

- Undergraduate mobility (short stays, for up to a semester in universities, national laboratories or businesses)
- Graduate studies
- Academic exchange
- Technological development and innovation
- Internships
- Languages
- Promotion

Although the program is divided into stages, from the beginning a wider level of collaboration is outlined. An annual evaluation is required to properly tune it throughout its course.

Proposed programs with their respective goals for 2014-2018 are summarized in Table 5. Appendix 1 further details these proposals.

Table 5. Action Proposals

Type of collaboration	Programs	Target numbers	
		2014	2014-2018
Undergraduate mobility	• Short-term stays for undergraduate students • Academic stays • Young entrepreneurs (professional stays in businesses and/or internships) • Encourage high school students to study STEM • Share higher education best practices	• 13,000 Undergraduate students	• 134,000 Undergraduate students
Graduate studies	• Consolidation of graduate school training activities in Mexico and the U.S. (Increase the number of Mexican students studying a Master's or PhD degrees in higher education institutions and enable a larger number of U.S. students to take Master's and PhD programs in Mexican universities) • Academic stays for graduate students • Educational Management Analysis of U.S. universities for graduate studies • Comparative analysis on school training methodologies for graduate studies in Mexico and the U.S. • Graduate Chairs taugh in English in Mexico • Dual recognition agreements for graduate studies	• 10,000 Mexican graduate students in mobility • 1 agreement for graduate degree • 25 graduate study Chairs	• 127,000 Mexican-graduate students in mobility • 4 agreements for graduate degree • 50 graduate study Chairs
Academic exchange	• Bi-national research consortia • Research stays for professors and postdoctoral fellows • Similar agreements to *UCMexUS* with other U.S. universities • Chairs taught by high-level researchers	• 650 Researchers • 6 Agreements or consortia • 50 Chairs	• 3,400 Researchers • 34 Agreements or consortia • 400 Chairs
Technological development and innovation	• Collaboration between Mexican and U.S. higher education institutions on issues of interest for U.S. businesses based in Mexico and vice versa. • Collaboration between universities in Mexico and the U.S. to support programs for innovation in SME. • Share successful U.S. and Mexican experiences of university-industry cooperation aligned with companies' technological strategies with a long term vision. • Bi-national road map for advanced manufacturing and the establishment of a bi-national innovation center for advanced manufacturing. • Innovation bi-national centers by using existing initiatives in both countries • PROMEXFAM Program: Productive Projects in Mexico for Relatives of Legal Residents	• 212 Businesses • 33 Researchers / professors • 30 Undergraduate students • 30 Graduate students • 6 Consortia / projects	• 955 Businesses • 189 Researchers / professors • 150 Undergraduate students • 150 Graduate students • 12 Consortia / projects
Internships	• Professional internships in businesses for young people.	• 2,000 students	• 37,000 students
Languages	• Increase proficiency of the English language in Mexico through online courses and low-cost platforms and Spanish language in the U.S. • Strengthen the capabilities and professionalization of language teaching programs. • Strengthen capacities to offer standardized English tests (TOEFL)	• 2,000 students • 250 tutors	• 21,500 students • 3,250 tutors

Table 5. Action Proposals

Type of collaboration	Programs	Target numbers	
		2014	2014-2018
Promotion	• Mexico-U.S. and U.S.-Mexico mobility websites	• Mexico-U.S. mobility website with 4,000 visits per day • U.S.-Mexico mobility website with 1,000 visits per day	• Mexico-U.S. mobility website with 30,000 visits per day • U.S.-Mexico mobility website with 5,000 visits per day
	• Mexico-U.S. inter-institutional ties	• 4 annual visits to the U.S. per year and 4 annual visits to Mexico per year. Participation of 15 higher education institutions from Mexico and 15 from the U.S. per visit.	• 4 annual visits to the U.S. per year and 4 annual visits to Mexico per year. Participation of 30 higher education institutions from Mexico and 30 from the U.S. per visit.
	• Participate in mobility fairs	• Annual Fair in five U.S. cities with the participation of 50 higher education institutions.	• Annual Fair in 15 U.S. cities with the participation 50 higher education institutions.
	• Promotion Group "I studied in Mexico"	• 2 lectures per year in 15 higher education institutions in the U.S.	• 2 lectures per year in 50 higher education institutions in the U.S.
	• Promotion Group "My experience studying in the U.S."	• Lectures in 50 Mexican higher education institutions per year. Contacting 5,000 students.	• Lectures in 100 Mexican higher education institutions per year. Contacting 20,000 students.
	• Webinars	• 6 per year with 80 contacts enrolled in each webinar.	• 8 per year with at least 1,200 contacts enrolled in.

7. Main challenges

Existing experiences have allowed identifying a number of barriers that hinder a better collaboration. Some challenges to a better collaboration are:

- **Language proficiency**
  The low penetration of English courses in education in Mexico and Spanish in the United States is one of the main challenges that must be overcome in order to achieve student mobility. Programs must be developed to increase the number of bilingual students in both countries.

- **Gap in tuition fees**
  Overcoming the income gap between both countries calls for the collective processing of reduced fees and tuition with Institutions of Higher Education in Mexico and the United States, by making Mexican students eligible for In-State Tuition.

- **Visa formalities for students, post-doctorates and academic exchanges**
  The procedures and costs of obtaining visas, especially for short stays, hinder student and academic mobility. The establishment of formal diplomatic procedures to facilitate the bilateral flows of those involved in the academic interaction, would be one way to address this challenge, as well as flexible requirements and reduced visa processing fees.

- **Travel alerts to Mexico**
  The Travel Alerts to Mexico issued by the U.S. State Department indiscriminately affect student and academic mobility to our country. This matter must be discussed in order to temper/mitigate the effects the warnings produce on student and academic mobility. It would be convenient to emphasize greater geographical and regional specificity of the travel warnings.

- **CONACYT-NSF Alliance**
  It is urgent to create a strategic partnership for priority sectors and issues in order to develop research, science and technology, innovation, dissemination of knowledge and the joint training of qualified personnel with an a industrial and regional focus.

- **Student Exchange**
  Mexico must improve the presentation of its study programs to increase arrival of U.S. students in order to reduce the gap between the ratio of U.S. students in Mexico and Mexican students in the U.S.

- **Obtain additional sources of funding**
  Development of the actions proposed in the Forum calls for expanded scholarship and research budgets at the different agencies and institutions, while also engaging the private sector in providing supplemental funding.

- **Engaging U.S. parent companies**
  Involve U.S. parent companies with subsidiaries in Mexico focused on advanced engineering and technological development programs, by creating collaborative efforts designed to strengthen ties between higher education institutions and the productive sector, and guarantee the involvement and commitment to innovation required by the private sector.

- **Engaging innovative and exporting Mexican and U.S. SME**
  Small and medium-size firms are very valuable in Mexico and the U.S. because of the number of jobs they create, it is required to increase their number and link their activities to matters related to innovation and competitiveness.

- **Get the National Science Foundation to receive researchers and let them participate in the SBIR-STTR** program evaluation processes, in person, to help share views and practices, and disseminate relevant information in the bi-national region.

- **Encouraging the participation of the qualified Mexican diaspora in the U.S. through the Network of Talented Mexicans living Abroad (RTM, as per its Spanish acronym)**
  Incorporationg the RTM will allow bonding between Mexican scientists, professionals, businesspersons, professors and students abroad, and their counterparts both in Mexico and the U.S.

In general terms, the proposals for the FOBESII call for the ongoing involvement and commitment of the government of the two countries, as well as higher education institutions, research centers, businesses, public and private organizations seeking to develop institutional mechanisms to facilitate the coordination of plans and actions.

8. Proposal for the operation of the FOBESII

8.1 FOBESII Operation

From the experience and findings of the eight working groups, it is proposed that the FOBESII develops its activities through a:

- **Bi-national Committee**
  - Membership: representatives, at undersecretary level from relevant government agencies. The U.S. side would include the Departments of State and of Education, the National Science Foundation and the White House Office of Science and Technology Policy. The Mexican side would include the Ministries of Foreign Affairs and of Public Education, CONACYT and the Science, Technology and Innovation Coordination of the Office of the Presidency.
  - Annual meeting: decision-making, progress evaluation, analysis of required changes, monitoring the private sector support to students.

- **Ad hoc Subcommittees**
  - **Relevance Subcommittee**
    - Activities: identify strategic sectors and regional advantages in each country regarding production chains and science and technology fields, as well as relevant projects and initiatives to meet FOBESII's goal. To monitor students' return to their home countries to facilitate their insertion in the labor market.
    - Membership: stakeholders from government, academic and business sectors from both countries.
  - **Evaluation Subcommittee**
    - Activities: define the evaluation criteria and procedures to fund projects; measure the impact of executed projects compared to the proposed objective, the specific goals and FOBESII's aim.
    - Membership: stakeholders from government, academic and business sectors from both countries.
  - **Consultation Subcommittee**
    - Activities: to suggest new proposals.
    - Membership: stakeholders from government, academic and business sectors, including ANUIES, FIMPES, the Association of American Universities (AAU), the American Council on Education (ACE) and the Scientific and Technological Consultative Forum (FCCyC).

8.2 Bi-national meetings

The Group proposes the promotion of bilateral meeting of:

- Presidents of public and private universities, in order to create a Presidents Consortium that includes representatives from the Asociación Nacional de Universidades e Institutos de Educación Superior (ANUIES), the Federación de Instituciones Mexicanas Particulares de Educación Superior (FIMPES), the Association of Technological and Polytechnic Universities, the Association of American Universities (AAU), the American Council on Education (ACE) and the American Association of Community Colleges (AACC).
- Presidents from border states universities
- Science and Technology, Culture and Education Commissions from both Congresses

- Business chambers and confederations, including the American Chamber
- Academies (science, engineering, medicine)
- Professional associations and technical societies.

8.3 Funding

The Group proposes creating a bi-national fund to run the 100+50 Strategy with contributions from:

- Government ministries for projects in areas of their interest, e.g., the Ministry of Energy and the Department of Energy for energy-related projects.
- Universities to waive part of tuition payments to allow under- and graduate mobility and to contribute with mobility funds.
- NSF and CONACYT for joint research and mobility joint projects from researchers and postdoctoral students.
- Business associations and companies from both countries to support the efforts developed by Mexican and U.S. governments and agencies.

If the creation of a bi-national fund entails regulatory or bureaucratic issues, it is proposed that each country develops its own fund, but its strategic purpose has to be consistent and complementary to each other.

This effort intends to incorporate:

- Distinguished graduates from U.S. universities to sponsor the project
- U.S. graduate associations based in Mexico.

To facilitate **Proyecta 100,000** operation, it is proposed the following general considerations:
The operation of **Proyecta 100,000** must be done through a call for proposals intended at covering, at least, the following themes and conditions, either separately or in a combined fashion:

  - » For the mobility of students from universities based in states that are lagging behind in educational terms.
  - » For strategic sectors and areas.
  - » For technology-oriented institutions.
  - » Special requirements determined by specific donors.
- Public resources must be managed by public institutions (SEP, CONACYT, AMEXCID, etc.)
- It is convenient that private resources are managed by private institutions that have experience in the projects to be developed. However, it is also possible that a private sector donor intends to manage the funds directly.
- Higher education institutions and research centers willing to participate would be in charge of managing applications submitted in response to calls for proposals and fulfill its requirements.
- The FOBESII would require a coordination office, with modest human resources and materials, to coordinate the efforts and, particularly, to raise funds and gain public support. Likewise, it will provide legal, financial and administrative support to **Proyecta 100,000** and other initiatives derived from the Forum. However, it will not replace the existing capacities of participating institutions, such as CONACYT, Universia, and Televisa Foundation, just to mention three institutions.

The Consultation Group considers that, based on these guidelines, the Relevance Subcommittee must develop an operational proposal considering the contributions and scope of action of the involved sectors.

9. Proposed U.S. Higher Education Institutions with whom to reach exchange agreements.

To broaden the work scope, It is proposed to start mobility bi-national relations with the two main higher education institution associations in the U.S.: the American Council on Education (ACE) and the American Association of Community Colleges (AACC).

ACE is the most visible and influential higher education association in the U.S.; it has over 1,800 members in partner institutions across the U.S., including public and private universities. On the other hand, AACC is made up of over 1,200 partner institutions covering 13 million enrolled students.

Table 6. Higher education institutions in the U.S. with the largest number of international students per degree 2011-2012

Top 10 Doctorate Institutions, 2011/12				
Rank	**Institution**	**City**	**State**	**Total international students**
1	University of Southern California	Los Angeles	CA	9,269
2	University of Illinois - Urbana-Champaign	Champaign	IL	8,997
3	New York University	New York	NY	8,660
4	Purdue University - Main Campus	West Lafayette	IN	8,563
5	Columbia University	New York	NY	8,024
6	University of California - Los Angeles	Los Angeles	CA	6,703
7	Northeastern University	Boston	MA	6,486
8	University of Michigan - Ann Arbor	Ann Arbor	MI	6,382
9	Michigan State University	East Lansing	MI	6,209
10	Ohio State University - Main Campus	Columbus	OH	6,142
Top 10 Master´s Institutions, 2011/12				
1	California State University - Northridge	Northridge	CA	2,803
2	California State University - Long Beach	Long Beach	CA	2,563
3	San Francisco State University	San Francisco	CA	2,469
4	San Jose State University	San Jose	CA	2,177
5	Rochester Institute of Technology	Rochester	NY	2,131
6	California State University - Fullerton	Fullerton	CA	2,109
7	Johnson and Wales University	Providence	RI	2,093
8	CUNY Baruch College	New York	NY	1,834
9	University of Bridgeport	Bridgeport	CT	1,813
10	California State University - East Bay	Hayward	CA	1,536
Top 10 Associate's Institutions, 2011/12				
1	Houston Community College	Houston	TX	5,829
2	Santa Monica College	Santa Monica	CA	3,296
3	De Anza College	Cupertino	CA	2,551
4	Lone Star College	The Woodlands	TX	1,957
5	Montgomery College	Rockville	MD	1,787
6	Miami-Dade College	Miami	FL	1,649
7	Diablo Valley College	Pleasant Hill	CA	1,556
8	Northern Virginia Community College	Annandale	VA	1,446
9	City College of San Francisco	San Francisco	CA	1,433
10	Green River Community College	Auburn	WA	1,407

Source: Institute of International Education. (2012). "International Students by Institutional Type, 2011/12." *Open Doors Report on International Educational Exchange*. Seen at http://www.iie.org/Research-and-Publications/Open-Doors/Data/International-Students/Leading-Institutions-By-Institutional-Type/2011-12.

As a second strategy and to have a quick impact on mobility, it is proposed to contact universities that have the highest number of international students participating in mobility programs, considering the degrees of higher education given the most relevance, as well as universities in border States.

As a third strategic step, it is suggested to contact those U.S. states with the highest index of student mobility.

According to the latest statistics for 2011-2012, a group of universities listed in Tables 6 and 7 must be considered.

Table 7. Top 25 higher education institutions with the largest number of students participating in international mobility, 2011/12

Rank	Institution	City	State	Total international students
1	University of Southern California	Los Angeles	CA	9,269
2	University of Illinois - Urbana-Champaign	Champaign	IL	8,997
3	New York University	New York	NY	8,660
4	Purdue University - Main Campus	West Lafayette	IN	8,563
5	Columbia University	New York	NY	8,024
6	University of California - Los Angeles	Los Angeles	CA	6,703
7	Northeastern University	Boston	MA	6,486
8	University of Michigan - Ann Arbor	Ann Arbor	MI	6,382
9	Michigan State University	East Lansing	MI	6,209
10	Ohio State University - Main Campus	Columbus	OH	6,142
11	Indiana University – Bloomington	Bloomington	IN	6,123
12	Penn State University - University Park	University Park	PA	6,075
13	Boston University	Boston	MA	6,041
14	University of Minnesota - Twin Cities	Minneapolis	MN	5,661
15	Arizona State University	Tempe	AZ	5,616
16	University of Florida	Gainesville	FL	5,588
17	Harvard University	Cambridge	MA	5,453
18	University of Washington	Seattle	WA	5,372
19	SUNY University at Buffalo	Buffalo	NY	5,357
20	University of Texas – Austin	Austin	TX	5,324
21	University of Pennsylvania	Philadelphia	PA	5,296
22	Texas A&M University	College Station	TX	5,013
23	University of California – Berkeley	Berkeley	CA	5,004
24	Georgia Institute of Technology	Atlanta	GA	4,973
25	University of Houston	Houston	TX	4,879
	Top 25 Total (20.6% of all international students)			157,210

Source: Institute of International Education. (2012). "Top 25 Institutions Hosting International Students, 2011/12." *Open Doors Report on International Educational Exchange*. Seen at http://www.iie.org/Research-and-Publications/Open-Doors/Data/International-Students/Leading-Institutions/2011-12

As an additional strategic approach, it is suggested to reach out to those U.S.: States with the highest numbers of international student (Table 8).

Table 8. Top 10 U.S. States with the highest number of international students

Rank	State	2010/11	2011/12	% of change
1	California	96,535	102,789	6.5
2	New York	78,888	82,436	4.5
3	Texas	61,636	61,511	-0.2
4	Massachusetts	38,698	41,258	6.6
5	Illinois	33,766	35,920	6.4
6	Pennsylvania	30,507	33,398	9.5
7	Florida	29,719	32,567	9.6
8	Ohio	24,709	26,427	7
9	Michigan	24,668	25,551	3.6
10	Indiana	20,112	22,194	10.4

Source: Institute of International Education. (2012). "*Open Doors Fast Facts, 2012*". Seen at http://www.iie.org/~/media/Files/Corporate/Open-Doors/Fast-Facts/Fast%20Facts%202012.ashx.

Some U.S. associations with Mexican members working in or owning U.S. businesses may be points of contact with businesses and universities in areas of interest for Mexico. Some of them are summarized in Table 9.

Table 9. U.S. associations with Mexican members

Association	Description	Objectives	Area of knowledge	Participating institutions
SACNAS	• An association of scientists striving to encourage the success of Hispanic/Chicano and Native-Americans scientists. Its mission is to encourage students and professionals to take further courses, majors and leadership positions in science.	• Increase the number of Hispanic/Chicano and Native-Americans scientists with advanced science degrees and have the motivation to become leaders. • Increase the number of Hispanic/Chicano and Native-Americans scientists in science research, teaching and leadership at all levels. • Increase the government's commitment to move forward together with Hispanic/Chicano and Native-Americans scientists in science, resulting in an increase of resources, eliminate barriers and increase equality.	• Scientific areas	• Utah State University • NASA • Cornell University • University of Minnesota • NREL • ICERM • The National Academies Advisers to the Nation on Science, Engineering and Medicine
Hispanic Association of Colleges and Universities (HACU)	• It represents over 400 higher education institutions in the U.S., Puerto Rico, Latin America and Spain: Institutions for Hispanic people	• Encourage the development of HACU affiliated institutions; to improve access and quality of post-secondary educational opportunities for Hispanic students; and to meet the needs of the business and government sectors through collaboration programs and by sharing resources and information.	• Scientific areas	• 491 institutions including the U.S. and Hispanic countries

Table 9. U.S. associations with Mexican members

Association	Description	Objectives	Area of knowledge	Participating institutions
Society of Hispanic Professional Engineers	• National organization of professional engineers that serve as models for the Hispanic community	• Change lives by strengthening the role of the Hispanic community by maximizing its development to impact world through STEM knowledge, access, support and development	• STEM • Chemistry, Civil • Electrical • Environmental resources • Water Geotechnicians • Mechanic and Structural Engineering • Environmental Systems, Environmental Sciences • Geology • Hydrogeology • Geography • Computing science	Over 300 universities and schools across the U.S.

10. Recommendations to the Government of Mexico

In addition to the established goals and objectives, the Mexican Consultation Group recommends the Government of Mexico, in the very short term, to:

- Request the U.S. Government to:
  1. Make a significant reduction in tuition fees by considering **Proyecta 100,000** participants eligible for In-State Tuition.
  2. Make the process of issuing U.S. student visa easier and bear their cost .
  3. Issue Type J visas for **Proyecta 100,000** participants.
- Implement a promotion strategy in order to generate demand and willingness to take part in the above projects.
- Develop a broad capacity building program in English.
- Establish a mandatory 6-month stay in the U.S. for PNPC registered PhD programs.
- Identify state and regional strategic sectors and interests.
- Make presentations, with the support of ANUIES, to governors and Secretaries (or their equivalent) of the States' Departments of education, financial development, science, technology and innovation, health, among others, highlighting the linkage between regional vocations and strategic sectors, aimed at human capital formation, innovation and research, to encourage the participation of the states in **Proyecta 100,000**.
- Open a permanent registry for Mexican researchers abroad in the National Researcher System.
- Set a goal on the percentage of international students in Mexican institutions (e.g., 2% of Mexico academic enrollment).
- Include English language courses starting in elementary.
- Encourage higher education institutions to teach some core major subjects in English.
- Create a database that allows to know the interests, skills and capacities of all Mexican Talent Network U.S. chapters members, with the goal of achieving specific convergences and synergies.
- Contact U.S. college alumni associations based in Mexico as well as distinguished alumni to invite them as FOBESII's and **Proyecta 100,000** leaders.

In the short term:

- Evaluate the creation of science, technology and innovation departments in the Embassy of Mexico to the U.S. (CONACYT-SRE).
- Evaluate the creation of regional science, technology and innovation departments in Southern and Northern California, Texas, New York, Illinois (Chicago) and Massachusetts (Boston) (CONACYT-SRE).
- Encourage the creation of joint and dual degrees in Mexican universities.
- Specifically, generate the necessary conditions to:
  - » Return participants in the proposed programs (vacancies, laboratories, etc.), particularly those that studied abroad.
  - » Strengthen existing higher education and research institutions and create new ones, in order to be able to meet the demand of **Proyecta 100,000** students.
  - » Encourage private sector co-responsibility , in order to promote the return and assimilation of trained students.
- Analyze the existing academic and administrative methods in the U.S., in order to strengthen and guide under- and graduate programs (e.g., university-industry consortia with the NSF).
- Analyze the feasibility, and if applicable, establish a single admission test to enter the Mexican higher education system, at least for graduate studies.
- Align FOBESII's proposals with the strategies and actions established within the Special Science, Technology and Innovation Program (PECiTI, as per its Spanish acronym), as well as with those strategies from the National Science, Technology and Innovation Agenda.

APPENDIX 1
Proposals of the FOBESII

APPENDIX 1. PROPOSALS OF THE FOBESII

Table A1.1 Proposals by the Undergraduate Mobility Group

Projects	Short-term stays for undergraduate students	6-month academic stays
Objective	• Offer students the opportunity to learn about research conducted in both countries and getting to know their cultures. • Encourage students to continue with graduate studies, research and develop technology. • Improve the English and Spanish language proficiency, as applicable	• Strengthen the professional training of young participants
Actions / Scope	• Mexican and U.S. students visit U.S. and Mexican universities, national laboratories, research centers or businesses for a 2-month period.	• Mexican and U.S. students visit higher education institutions for a 6-month period to take courses in the target institution that will be later accredited by the sending institution.
Impact	• Program participants are better qualified for the labor market; are highly motivated to study a graduate degree or do research, as well as know more about the culture and language of the other country.	• Increase of Mexican and U.S. student participation in both countries' higher education institutions. • Promotion of postgraduate studies on research and technological development.
Participants	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • U.S. Embassy in Mexico • U.S. and Mexican higher education institutions. • Private sector. • SES (SEP) • SRE Mexico • Universia • Televisa Foundation	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • U.S. Embassy in Mexico • U.S. and Mexican higher education institutions. • Private sector. • SES (SEP) • SRE Mexico • Universia • Televisa Foundation
Goals 2014-18 Target number	• 2014: 5,000 • 2014-2018: 64,000	• 2014: 8,000 • 2014-2018: 70,000
Challenges	• Foreign language proficiency. • Tuition payments. • Characteristics of the student mobility visa. • Receiving and sending students, even in cases where there is no one-on-one academic exchanges agreement.	• Foreign language proficiency • Tuition payments. • Characteristics of the student mobility visa. • One-on-one academic exchange agreement

Table A1.2 Proposals by the Graduate Studies Group

Project 1	Consolidation of graduate school training activities in Mexico and the U.S.
Objective A	• Increase the number of Mexican graduate students in U.S. universities and of U.S. graduate students in Mexican universities.
Actions / Scope 1	• Grant more scholarships in specific U.S. universities through both current and new procedures and agencies, as well as through new internal forms -agreements with current and potential financing agencies.
Impact	• Increase the number of graduate in renowned universities.

Participants	• CONACYT • SEP • Mexican universities • COMEXUS • U.S. universities
Goals 2014-18 Target number	• 2014: 1,600 • 2014-2018: 30,000
Challenges	• Budget allocation.
Project 1	**Consolidation of graduate school training activities in Mexico and the U.S.**
Objective A	• Increase the number of Mexican postgraduate students in U.S. universities and of U.S. postgraduate students in Mexican universities.
Actions / Scope 2	• Establish procedures to make special student visa processing much easier for Mexican postgraduates studying in the U.S., similarly to those established through COMEXUS / Bilateral - diplomatic work teams.
Impact	• Minimize non-school-related issues of Mexican students in the U.S. and to facilitate their cultural integration.
Participants	• SRE • COMEXUS
Goals 2014-18 Target number	• Special visas for postgraduate students.
Challenges	• Operational feasibility. • Diplomatic agreements for visa processing.
Project 1	**Consolidation of graduate school training activities in Mexico and the U.S.**
Objective A	• Increase the number of Mexican postgraduate students in U.S. universities and of U.S. postgraduate students in Mexican universities.
Actions / Scope 3	• Formalize the monitoring/follow up of postgraduate interns and students in the U.S. / Domestic - agreements proposed by financing institutions.
Impact	• Generate constantly updated information on Mexican talents in the U.S.
Participants	• CONACYT • SEP • Mexican universities • ANUIES • Institute of International Education
Goals 2014-18 Target number	• Program and required technical support to run it.
Challenges	• Coordinate the monitoring/follow up of alumni from graduate programs.
Project 1	**Consolidation of graduate school training activities in Mexico and the U.S.**
Objective B	• Increase the number of Mexican students and researchers in research stays related to postgraduate studies.

Actions / Scope 1	• Reach more cooperation agreements with U.S. universities / Bilateral-through bi-national consortia
Impact	• Increase mobility actions and academic exchange between Mexico and the U.S.
Participants	• CONACYT • Mexican universities • COMEXUS • U.S. universities • AAU.
Goals 2014-18 Target number	• 10 agreements per year
Challenges	• Identify common projects between academic institutions or similar organizations.
Project 1	**Consolidation of graduate school training activities in Mexico and the U.S.**
Objective B	• Increase the number of Mexican students and researchers in research stays related to postgraduate studies.
Actions / Scope 2	• Extend academic stays for postgraduate students in the U.S. (6 months)
Impact	• Deepen academic exchanges in the U.S. for Mexican postgraduate students.
Participants	• CONACYT • SEP • Mexican universities • U.S. universities • COMEXUS
Goals 2014-18 Target number	• 2014: 8,400 • 2014-2018: 97,000
Challenges	• Find additional financing sources.

Table A1.3 Proposals by the Academic Exchange Group

Project 1	**Similar agreements to UCMexUS with other U.S. universities**
Objective	• Contribute significantly to improve bi-national scientific cooperation and make positive contributions to society, in Mexico and in the U.S., particularly in areas of shared interest.
Actions / Scope	• Encourage collaboration between professors and researchers from both countries to strengthen the region as a science and research leader. • Train new scientific researchers as leaders in their field. • Promote postdoctoral stays in Mexico and the U.S. to reinforce the role of research and innovation at regional level
Impact	• Jointly develop specific scientific-technological research projects. • Exchange and training of experts and scientists within cooperation projects.
Participants	• Universities and research centers in the U.S. and Mexico. • CONACYT

Goals 2014-18 Target number	• 2014: 3 • 2014-2018: 16
Challenges	• Identify U.S. universities to sign this type of agreements. • Find new funding sources.
Project 2	**Bi-national consortia for research of common problems (e.g. Reduction of carbon emissions and the use of renewable energies, obesity, diabetes and genetic disorders, agri-food security, natural disasters, water resources. There is an existing "Arid Zone" consortium).**
Objective	• Generate basic knowledge and develop monitoring tools to address the problem. • Develop strategies that allow better adaptation to changes, including the development of human resources to increase social capabilities and encourage public-private partnerships; and • Form bi-national scientific groups to work together to address the problem
Actions / Scope	• Identify institutions from both countries with ICT skills to address the problem. • Establish a Research Committee, both parties represented equally, to become the decision-making body. • Obtain funds. • Publish calls for proposals of bi-national projects. • Include graduate students in projects.
Impact	• Generate knowledge about the problem. • Find knowledge-based solutions to the problem. • Train human resources for regional development. • Create business opportunities.
Participants	• Mexican and U.S. universities • Research Centers • National laboratories
Goals 2014-18 Target number	• 2014: 3 (including the Arid Zone agreement, which is on kick-off stage) • 2014-2018: 18
Challenges	• Obtain funds from the private sector. • Identify research groups in both countries interested in the consortia.
Project 3	**Research stays for professors and postdoctoral fellows**
Objective A	• Encourage faculty mobility and the creation of bi-national research networks. • Encourage faculty mobility and the creation of research networks.
Actions / Scope 1	• Mexican professors from different fields participate in 3 to 9-month stays in U.S. institutions.
Impact	• Increase the number of Mexican researchers in renowned U.S. institutions. • Establish a researcher network from both countries with similar interests. • Create bilateral research projects.
Participants	• COMEXUS • CONACYT • U.S. universities.
Goals 2014-18 Target number	• 2014: 600 • 2014-2018: 3,000

Challenges	• Increase funding for scholarships. • Find additional funding sources .
Project 3	**Research stays for professors and postdoctoral fellows**
Objective	• Encourage faculty mobility and the creation of bi-national research networks. • Encourage faculty mobility and the creation of research networks.
Actions / Scope 2	• U.S. professors- from different fields- participate in 3 to 9-month stays in Mexican institutions.
Impact	• Establish a public diplomacy program where U.S. researchers in Mexico help improve Mexico's image and research centers in the U.S. • Strengthen research centers in Mexico
Participants	• COMEXUS • CONACYT • U.S. universities
Goals 2014-18 Target number	• 2014: 300 • 2014-2018: 1,500
Challenges	• Increase funding for scholarships. • Find additional funding sources.
Project 4	**Chairs**
Objective A	• Broaden mutual understanding regarding research carried out in both countries. • Position in the public debate strategic subjects for Mexico and its bilateral relation with the U.S. • Have a better understanding of the U.S., that allows more relevant bilateral relations.
Actions / Scope	• Renowned Mexican professors - from different fields - give a "Mexico Chair" in a top U.S. university for one semester or one academic year. • During their stay, they must give one course per semester, participate in lectures and publish at least one relevant white paper.
Impact	• Recognize the quality of the Mexican academia to improve Mexico's image in the U.S. • Influence U.S. and world elites that study in top U.S. universities.
Participants	• Mexican universities • U.S. universities.
Goals 2014-18 Target number	• 2014: 150 • 2014-2018: 400
Challenges	
Project 4	**Chairs**
Objective B	• Strengthen Mexican universities reputation by having the participation of U.S. professors. • Position in the public debate strategic subjects for Mexico and its bilateral relation with the U.S. • Broaden mutual understanding regarding research carried out in both countries.

Actions / Scope	• U.S. professors - from different fields- give a "U.S. Chair" in Mexican universities for one semester or one academic year.
Impact	• Broaden mutual knowledge on research in both countries.
Participants	• Mexican universities • U.S. universities
Goals 2014-18 Target number	• 2014: 50 • 2014-2018: 400
Challenges	

Table A1.4 Proposals by the Technological Development and Innovation Group

Project 1	**Collaboration between Mexican and U.S. higher education institutions on issues of interest for U.S. businesses based in Mexico and viceversa**
Objective	• Improve training for experts that work in U.S. businesses with advanced engineering and technological development functions in Mexico, through higher education institutions in Mexico and the U.S.
Actions / Scope	• To identify and work with U.S. businesses, based in Mexico, with advanced engineering and technological development functions. • Once the needs and programs have been identified in Mexican higher education institutions, to establish a plan with the American Chamber and specialized organizations such as FUMEC, to analyze how to strengthen Mexican higher education institutions through cooperation programs with U.S. higher education institutions, particularly with businesses, headquarters that are currently participating with them.
Impact	• At company level: Meet the increasing demand of experts for TDI (Technological Development and Innovation) projects as this has been a bottleneck for growth of these roles in businesses. • At a country level: Generate a supply of experts to attract foreign investments to Mexico for this type of activities.
Participants	• *American Chamber* FUMEC • U.S. businesses based in Mexico from the following sectors: aerospace, automotive, electronics, health technologies, IT. • Professional associations, such as SAE (Society of Automotive Engineers) • Mexico and U.S. higher education institutions.
Goals 2014-18 Target number	• Stage 1: Analysis of at least 10 businesses to identify their specialized HR needs and their experiences with Mexican higher education institutions, and to find out how to strengthen U.S. higher education institutions. • Stage 2: Proposal of specific actions for individual businesses and higher education institution. • Stage 3: Program with medium and long-term objectives to approach other businesses and broaden business cooperation with higher education institutions in a sustained and increasing fashion.
Challenges	• Interaction with businesses headquarters in the U.S. and U.S. higher education institutions to reach formal cooperation agreements.
Project 2	**Collaboration between universitites in México and the U.S. to support programs for innovation in SME**
Objective	• To improve capabilities to support innovation in SME offered by the universities from both countries within a framework of internationalization. • To improve student and professor training through their participation in university programs to support SME innovation.

Actions / Scope	• Exchange experiences, procedures, strategies and networking, making the most of existing capabilities and bi-national networks, and allowing opportunities for businesses based in one country to cooperate with companies of the other country. • To increase the number of joint projects conducted by universities in both countries through courses, workshops, visits, sites, exchange, etc. (bilateral projects). • Joint search for financing sources to implement scheduled activities (bilateral search).
Impact	• To improve university skills in both countries to support SME liaison and innovation. • To improve teacher and student training on SME liaison an innovation. • To improve liaison, innovation and export opportunities for SME with interactions with businesses in other countries.
Participants	• Universities • SMEs • State and National Programs to support SME liaison, innovation and exports. • Bi-national organizations, such as FUMEC, with experience in SME liaison, innovation and exports. • National organizations, such as REDNACECYT, with experience in encouraging SME liaison and innovation.

Goals
2014-18 Target number
	• Over the first year (in each country):
	  • 2 Universities
	  • 30 companies
	  • 6 professors
	  • 60 students
	  • 2 local and 1 nationwide program
	• Over the fifth year (in each country). Directly:
	  • 10 Universities
	  • 150 companies
	  • 30 professors
	  • 300 students
	  • Indirectly:
	  • 20 Universities
	  • 150 professors

Schedule	• Over 4 months:
	  • Advisory Council
	  • Experts
	  • Universities
	• Over the next 4 months:
	  • Professors
	  • Businesspersons
	  • Exchanges
	  • Workshop 1
	  • Site design
	• Over the next 4 months:
	  • Servicing businesses
	  • Exchanges
	  • Courses
	  • Workshop 2
	  • Stays
	  • Site test

Challenges	• Appropiate financing at the right time and sufficient funds. • Innovative and exporting SME participation. • Creation of cross-institutional and bi-national coordination and articulation teams.

Project 3	Bi-national road map for advance manufacturing
Objective	• To align efforts made by businesses, universities and institutions participating in the route map initiatives for Advanced Manufacturing in both countries.
Actions / Scope 1	• Forming a bi-national work team.
Impact	• To finance mobility.
Participants	• ProMexico • CONACYT • CONACYT Technological Centers • Business chambers • Universities
Goals 2014-18 Target number	• 2 route maps to strengthen value chains of businesses in both countries.
Challenges	• Unequal progress in the integration of the route map in both countries.
Project 3	**Bi-national road map for advance manufacturing**
Objective	• To align efforts made by businesses, universities and institutions participating in the route map initiatives for Advanced Manufacturing in both countries.
Actions / Scope 2	• Operate a network of specialized Centers on advance manufacturing to strengthen training programs.
Impact	• Have response capabilities to develop new innovation iniciatives.
Participants	• CONACYT • U.S. universities
Goals 2014-18 Target number	• To make expert training programs on advanced manufacturing equivalent in both countries.
Challenges	• Find additional financing sources.
Project 3	**Bi-national road map for advance manufacturing**
Objective	• To align efforts made by businesses, universities and institutions participating in the route map initiatives for advanced manufacture in both countries.
Actions / Scope 3	• Operate a specialized center network on advanced manufacturing to support specific initiatives of companies that may integrate in supply chains.
Impact	• Have response capacities to put new innovation initiatives in place.
Participants	• ProMexico • CONACYT • CONACYT Technological Centers • Business chambers
Goals 2014-18 Target number	• To increase the number of businesses in both countries integrating supply chains, in at least 3% anually.

Challenges	• Achieve a high level of participation from leading businesses.
Project 3	**Bi-national road map for advance manufacturing**
Objective	• To align efforts made by businesses, universities and institutions participating in the route map initiatives for Advanced Manufacturing in both countries.
Actions / Scope 4	• Integrate a public-private consortium to support the development of innovation projects of businesses that are part of bi-national value chains.
Impact	• Financing innovation
Participants	• ProMexico • CONACYT • Business chambers.
Goals 2014-18 Target number	• Annual increase of 3% in the number of new businesses in bi-national value chains.
Challenges	• Find quick and efficient management methods.
Project 3	**Bi-national road map for advance manufacturing**
Objective	• To align efforts made by businesses, universities and institutions participating in the route map initiatives for Advanced Manufacturing in both countries.
Actions / Scope 5	• Develop a portfolio with new technological inventions to fill gaps in the advanced manufacture route map.
Impact	• Develop leadership in emerging technologies.
Participants	• ProMexico • CONACYT • CONACYT Technological Centers • Business chambers.
Goals 2014-18 Target number	• Indicators of technology transfer to bi-national supply chains.
Challenges	• Find additional sources of financing.
Project 4	**Share successful U.S. and Mexican experiences of university-industry cooperation aligned with companies technological strategies with a long term vision**
Objective A	• Generate bilateral cooperation for market-oriented technological research and development through specific projects in the fields of ICT and Advanced Materials.
Actions / Scope	• Identify businesses, researchers and institutions with the potential to participate in projects that interest both Mexico and the U.S. within the framework of the I/U-CRC program.
Impact	• Encourage Mexican businesses and researchers to participate in IT projects with global impact.
Participants	• CONACYT • NSF • ICT and advanced material-related businesses (e.g. Honeywell Aerospace, UABC and CETYS BC)

Goals 2014-18 Target number	• 2 projects: one for ICT and one for advanced materials
Schedule	• 13 months for identification • 1 to 3 years for project execution
Challenges	• Project financing once they have been identified.
Project 4	**Share successful U.S. and Mexican experiences of university-industry cooperation aligned with companies technological strategies with a long term vision**
Objective B	• Participation of Mexican researchers in programs aimed at supporting innovation, such as I/C-CRC and U.S. NSF SBIR-STTR programs in the U.S.
Actions / Scope	• Specific for Mexico: Mexican researchers may integrate to business expert networks, from universities working in market-oriented advanced research projects. • To know the self-evaluation trends and take advantage of their skills in industry-related projects. • Understand U.S. work models and to find a way to implement them in Mexico or to improve the existing ones. • Specific for the U.S.: Take advantage of Mexican researchers' experience in evaluation procedures and to allow cooperation amongst research groups from both countries to result in benefits for both countries and, more specifically for U.S. institutions and businesses.
Impact	• Make technology transfer more effective and the business-academia relationship oriented to solve market issues.
Participants	• CONACYT • Public and private research centers. • Private sector from the country's strategic sector. • Universities
Goals 2014-18 Target number	• At least one specific visit for Mexican researchers to participate in evaluation processes of U.S. programs.
Challenges	• Funding. • NSF authorization for the participation of researchers in evaluation processes in person.
Project 5	**Innovation bi-national Centers (IBCs)**
Objective	• Take advantage of infrastructure, skills and resources from both countries on priority bilateral issues of mutual interest..
Actions / Scope	• Each IBC shall be run by a coordinating entity, which shall be enabled to create and manage information sources for bilateral resources and skills specific for any topic being addressed at an IBC. • Project management. • Integration of work teams • Taking advantage of existing infrastructure in both countries. • Identifying and obtaining financial resources. • Technological product commercialization as a result of the projects developed at the IBC.

Impact	• The main expected impacts are the following:
	  • Robust cooperation procedures may be developed, having direct impact in the increase of competitiveness in each country and the region.
	  • Become instances to address issues of interest and mutual benefit in a focused and specific manner
	  • Encouragement of public and private investment.
	  • Developing projects, businesses and actions that may, in turn, generate employment, wealth/welfare and solutions to significant issues.
	  • Allowing and encouraging specialized training for human resources

Participants	• IBCs consider the following stakeholders from both countries:
	  • Higher Education Institutions
	  • Research Centers
	  • Businesses
	  • NGOs
	  • Government agencies and entities at all levels

Goals
2014-18 Target number
	• Annual Program 2013
	  • To define the operating rules of the Program.
	  • To select pairings per REGION/TOPIC.
	  • To create a funding plan for a first Call made by an IBC per region.
	  • To convene the first group.
	  • Total IBCs: at least 4
	• Annual Program 2014 to 2018 (5 year-program)
	  • Adjust the program as necessary.
	  • Select pairings per REGION/TOPIC.
	  • Create a funding plan for a first call made by four IBCs (one per region).
	  • Two calls a year.
	  • Total IBCs: at least 8 per year.

Schedule	• Annual Program 2013
	  • 3Q 2013
	  • 1.- Approval of the general proposal.
	  • 2.- Bilateral approval of the bilateral general proposal.
	  • 3.- Development of a detailed schedule.
	  • 4.- Bilateral approval of the detailed schedule.
	  • 5.- Decision on the creation of a bilateral body to manage the Program (BBRP).
	  • 6.- Discussion on pairings per REGION/TOPIC for the first call and further calls.
	  • 4Q 2013
	  • 7.- Resource management for the first call.
	  • 8.- Management and BBRP kick off, as applicable.
	  • 9.- Publication of calls.
	  •
	• Annual Program 2014 to 2018 (5 year-program)
	  • 1Q
	  • 10.- Submission of proposals
	  • 2Q
	  • 11.- Selection of proposals
	  • 3Q
	  • 12.- IBC operation kick-off
	  • 4Q
	  • 13.- Kick off of program monitoring and evaluations (continuous process after kick-off)

Challenges	• Achieve a broad and large dissemination to gather participants and the required resources. • Get the required financial resources for IBC instrumentation and emerging projects. • Create a design by using the skill complementarity of participants from both countries. • Reach quick agreements to define the compound per REGION/TOPIC. • Have efficient management schemes following transparency and accountability best practices. • Have all IBCs seen as leader entities in the topics that have been assigned to them.
Project 6	**PROMEXAM Program: Productive Projects in Mexico for Relatives of U.S. Legal Resident**
Objective	• Take advantage of infrastructure, skills and resources from both countries, to promote business. • Encourage relatives of U.S. legal residents to establish businesses in Mexico that may become real job opportunities. • These businesses may be affiliates of U.S. companies and may become a source of employment for relatives of U.S. legal residents. • Convert the large amount of remittances into permanent benefits that are currently use to pay daily expenses. • Boost the resources allocated for the creation and expansion of businesses, by complementing remittances with financial support, counseling and training human resources from institutions from both countries.

Actions / Scope	• The main characteristics of PROMEXFAM are as follows:
	  • Promote projects that establish new businesses or affiliates of U.S. companies in Mexico.
	  • To be a part of any economic activity, although those activities that promote innovation in strategic areas shall be preferred.
	  • Projects will be partially funded by the productive application of remittances, complemented with financial support, counseling and training of human resources of government and private institutions from both countries.
	  • Participating institutions from both countries will reach collaboration agreements to establish the use of methodologies and standardized information systems.
	• The program will be conducted by existing U.S. institutions (SBA, AEM, etc.) and Mexican organizations (INADEM, CONACYT, NAFIN, Endeavor, etc.); therefore, creating new institutions is not required.
	• Procedures to manage the program must be established by participating institutions.

Impact	• Direct impact on businesses, jobs and wealth creation for directly involved participants. • Bi-national efficiency in the use of remittances • Impact on the development of sensitive sectors in both countries' population. • It is a bi-national cooperation program taking advantage of existing methods in both countries to encourage entrepreneurship, with a direct impact on the competitiveness in each country and the region. • Encouragement of public and private investment.
Participants	• Mexican U.S. legal residents and their familias in Mexico interested in establishing a new Business or an affiliate of an existing U.S. buiness in Mexico. • Existing U.S. institutions (SBA, AEM, etc.) and in Mexico (INADEM, CONACYT, NAFIN, Endeavor, etc.).

Goals
2014-18 Target number
	• Program development:
	  • Define the operating rules of the Program
	  • Make calls for proposals
	  • Develop funding plans for calls for proposals
	  • Conduct at least one call for proposals a year at least
	  • Total number of PROMEXFAM's projects: at least 10 per year

Schedule	• Annual Program 2013
	• 3Q 2013
	  • 1. Approval of the general proposal
	  • 2. Bilateral approval of the general proposal
	  • 3. Development of a detailed schedule
	  • 4. Bilateral approval of the detailed schedule
	• 4Q 2013
	  • 5. Resource management for the first call
	  • 6. Publication of call for proposals Annual Program, 2014 to 2018 (5 year-program)*
	• 1Q
	  • 7. Project submission and evaluation
	  • 8. Resource allocation
	  • 9. Program monitoring and evaluation kick-off and its approved projects, including the appropriate adjustments (periodic process after kick-off)
	• 4Q
	  • 10. Resource management for the annual call
	  • 11. Publication of call for proposals
	* Should the program be successful, two calls for proposals may be held every year

Challenges	• The main challenges for the implementation of PROMEXFAM's program are:
	  • Achieve coordination and collaboration to design, establish and promote the program by existing institutions in both countries.
	  • Achieve a broad and large promotion of the program and of each call for proposals amongst the Mexican-U.S. residents in order to reach the required participants and resources
	  • Achieve a proper and timely guidance and training, as required, by Mexican participants.
	  • Create a design by using the skill complementarity of participating institutions from both countries.
	  • Reach quick agreements during the creation of the program
	  • Have efficient management schemes following transparency and accountability best practices

Table A1.5 Proposals by the Internships Group

Project	Young entrepreneurs
Objective	• Allow training of recent graduates or senior students in both countries, from different majors in businesses while taking courses in higher education institutions in both countries.
Actions / Scope	• Establish partnerships and cooperation agreements between both countries for 6-month stays
Impact	• Learning experience in actual work environments; • Develop bi-national networks between the private sector of both countries.
Participants	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • U.S. Embassy in México • U.S. and Mexican higher education institutions • Prívate sector (AMC, CANACINTRA, CONCAMIN, COPARMEX) • SES (SEP) • SRE Mexico • Universia • Televisa Foundation
Goals 2014-18 Target number	• 2014: 2,000 • 2014-2018: 37,000
Challenges	• Foreign language proficiency. • Tuition payments. • Characteristics of the student mobility visa. • Agreements with businesses.

Table A1.6 Proposals by the Languges Group

Project 1	English language strengthening
Objective A	• Increase proficiency of the English language of current students.
Actions / Scope 1	• Emulate or increase the number of scholarships granted by the U.S. Department of State through the U.S. Embassy in Mexico, English Access Microscholarship Program.
Impact	• This program will help high school students to strengthen their English language proficiency before they go to college.
Participants	• U.S. Embassy in Mexico • SEP • COMEXUS
Goals 2014-18 Target number	• 100 additional scholarships to the existing 500 that are being granted across 11 States in Mexico.
Challenges	
Project 1	**English language strengthening**
Objective A	• Increase proficiency of the English language of current students.

Actions / Scope 2	• Develop an intensive and on-field course in the U.S., with a duration of 6 to 8 weeks for under and graduate students and faculty.
Impact	• Reduce language barriers and achieve a better understanding of the U.S. culture.
Participants	• Take advantage of existing English as a Second Language courses in language departments in U.S. universities. • Suggest this type of courses to Mexican universities with campuses in the U.S.
Goals 2014-18 Target number	
Challenges	• Finding additional financing sources. • Reach agreements with U.S. universities.
Project 1	**English language strengthening**
Objective A	• Increase proficiency of the English language of current students.
Actions / Scope 3	• Encourage the use of online tools.
Impact	• Broaden the access to programs that teach English as a Second Language.
Participants	• To take advantage of Universia online platform This platform is being used by UNAM.
Goals 2014-18 Target number	• To facilitate the massive teaching of language by distributing access licenses. Outstanding students may be trained with additional tools.
Challenges	
Project 1	**English language strengthening**
Objective B	• Strengthen the capabilities and professionalization of English language teaching in Mexico.
Actions / Scope 1	• Intensive summer stays for English as a Second Language teachers.
Impact	• Improve teacher's English Language proficiency and consolidate their capabilities, i.e., their teaching methods of English as a Second Language.
Participants	• U.S. universities. • SEP.
Goals 2014-18 Target number	• Implement the program, with a length from 4 to 6 weeks, and remote monitoring for a semester or a academic year.
Challenges	• Ensure that SEP pays teacher wages for that period.
Project 1	**English language strengthening**
Objective B	• Strengthen the capabilities and professionalization of English language teaching in Mexico.
Actions / Scope 2	• Take advantage of available online tools for English Language teacher.

Impact	• Increase the number of teachers that are currently enrolled in this type of programs. • 10-week program in U.S. universities, divided into groups of 24 to 30 participants. • The online language course platform developed by Universia may also be used, in order to facilitate a first approach to the language at a very low cost.
Participants	• The Department of State runs a program referred to as E-Teacher Scholarship Program.
Goals 2014-18 Target number	• Have tutors monitoring courses and overseeing exercises in the classroom off-site.
Challenges	
Project 1	**English language strengthening**
Objective B	• Strengthen the capabilities and professionalization of English language teaching in Mexico.
Actions / Scope 3	• English teaching assistants (ETAs) attending classroom courses.
Impact	• Considering the different levels of English Languge Proficiency in the classrooms in Mexico, teacher will benefit from ETAs assisting them with those students who reuire more attention or by creating subgroups within one same group.
Participants	• The Fulbright-Garcia Robles Scholarship Program and SEP are currently running the program.
Goals 2014-18 Target number	• The scope of this program must be broadened. México received from 20 to 30 assistants per year, while Germany and Brazil around 200.

Table A1.7 Proposals by the Promotion Group

Project 1	**Mexico-U.S. mobility website**
Objective	• Promote on the Internet different mobility opportunities available in the U.S. for Mexicans.
Actions / Scope	• Develop a website containing key information on scholarships for mobility and research opportunities in the U.S. for Mexicans. • Create a Social Media profile that becomes the main reference on Mexico-U.S. mobility programs.
Impact	• Increase the number of Mexicans going to the U.S. to study or do research. • Concentrate information regarding these programs in one single website, in an orderly and friendly fashion, for all interested parties. • Online and Social Media presence. • Low-cost promotion and communication.
Participants	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • COMEXUS • CONACYT • U.S. Embassy in Mexico • FUMEC • U.S. higher education institutions. • SES (SEP) • SRE Mexico • Universia

Goals 2014-18 Target number	• 2014: 4,000 visits per day. • Use the website as the main promotion tool to encourage academic and research mobility programs. • 2014-1028: 30,000 visits per day.
Challenges	• Information collection. • Constant website update and maintenance. • Make the website the main source of information regarding mobility programs between Mexico and the U.S.
Project 2	**U.S.-Mexico mobility website**
Objective	• Promote on the Internet different mobility opportunities in Mexico for U.S. citizens.
Actions / Scope	• Develop a website containing key information on scholarships for mobility and research opportunities in Mexico for U.S. citizens. • Create a Social Media profile that becomes the main reference on U.S.-Mexico mobility programs.
Impact	• Increase the number of U.S. citizens going to Mexico to study or do research. • Concentrate information regarding these programs in one single website, in an orderly and friendly fashion, for all interested parties. • Online and Social Media presence. • Low-cost promotion and communication
Participants	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • Consulates of Mexico in the U.S. • Department of State • Embassy of Mexico in the U.S. • FUMEC • Higher Education Institutions in the U.S. • SRE Mexico
Goals 2014-18 Target number	• 2014: 1,000 visits per day. • Use the website as the main promotion tool to encourage academic and research mobility programs. • 2014-2018: 5,000 visits per day.
Challenges	• Information collection. • Make the website the main source of information about mobility programs between Mexico and the U.S.
Project 3	**Mexico-U.S. inter-institutional ties**
Objective	• Strengthen inter-institutional ties between Mexico and the U.S. to promote student mobility, research and innovation.
Actions / Scope	• Create a database of persons that could participate in the meetings. / Domestic • Organize visits to the U.S. for Presidents and Officials of Mexican higher education institutions. / Bilateral
Impact	• Develop a collaboration network between U.S. and Mexican higher education institutions. • Sign cooperation agreements that promote mobility

Participants	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • Consulates • U.S. Embassy in Mexico. • Officials of U.S. and Mexican higher education institutions. • Presidents of U.S. higher education institutions • SRE Mexico • Universia
Goals 2014-18 Target number	• 2014: 4 annual visits to the U.S. per year, with the participation of representatives from 15 U.S. universities and 15 from Mexican universities. • 2014-2018: 4 annual visits per year with the participation of 30 U.S. higher education institutions and 30 Mexican higher education institutions.
Challenges	• Establish contact with U.S. Consulates. • Coordinate schedules. • Organize delegation meetings. • Follow up on the commitments made at the meetings.
Project 4	**U.S.-Mexico-inter-institutional ties**
Objective	• Strengthen inter-institutional ties between Mexico and the U.S. by attracting greater interest about Mexican higher education institutions, through the promotion of their study plans, cultural activities and mobility opportunities.
Actions / Scope 1	• Create a database of persons that could participate in the meetings. / Domestic • Organize visits to Mexico for Presidents and Official of U.S. higher education institutions. / Bilateral
Impact	• Develop a collaboration network between Mexican and U.S. higher education institutions. • Mexico's Tourism and Cultural promotion. • Sign cooperation agreements with U.S. universities.
Participants	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • Consulates • U.S. Embassy in Mexico. • Officials from U.S. and Mexican higher education institutions. • Presidents higher education institutions • SRE Mexico • SES (SEP) • SECTUR • Universia
Goals 2014-18 Target number	• 2014: 4 annual visits to Mexico per year, with the participation of representatives from 15 U.S. universities and 15 from Mexican universities. • 2014-2018: 4 annual visits per year with the participation of 30 U.S. higher education institutions and 30 Mexican higher education institutions
Challenges	• Coordinate schedules. • Organize delegation meetings. • Follow up on the commitments made at the meetings.
Project 5	**Participate in mobility fairs**
Objective	• Promote the benefits of student mobility in Mexico.

Actions / Scope	• Coordinate the participation of all Mexican higher education institutions in mobility fairs and participate as a national delegation. / Domestic • Create own mobility fairs in several cities in the U.S. to promote the mobility of U.S. students, professors and researchers in Mexican higher education institutions. / Domestic
Impact	• Position Mexico as an attractive destination for academic and research mobility. • Calendar of mobility fairs organized by Mexico in several U.S. cities.
Participants	• AMEXCID • ANUIES • Bureau of Educational and Cultural Affairs, U.S. • COMEXUS • CONACYT • U.S. Embassy in Mexico. • FUMEC. • Local governments in the U.S. and Mexico. • Higher Education Institutions in the U.S. • Santander • SRE Mexico • Universia
Goals 2014-18 Target number	• Annual Fair in five U.S. cities.. • Participation in the top U.S. mobility fairs. • Annual Fair in 15 U.S. cities.
Challenges	• Identify the fairs that offer the best promotion opportunities. • Coordinate the creation of own mobility fairs. • Find additional financing sources. • Coordinate the organization of fairs.
Project 6	**Promotion Group "I studied in Mexico"**
Objective	• Promote successful mobility experiences in Mexico among U.S. citizens.
Actions / Scope	• Create a database of U.S. students and researchers that participated or are participating in stays in Mexico and are interested in sharing their experiences. / Domestic • Offer presentations in several U.S. States to promote mobility programs in Mexico. / Binational • Establish an interactive communication using blogs on the website. / Domestic • Regulate as social service the promotion of these experiences by students, professors and researchers that participated in stays in Mexico. / Bilateral
Impact	• Share first-hand positive experiences of students, professors and researchers that participated in stays in Mexico. • Contact U.S. students that studied in Mexico to promote their successful experiences. • Establish a promotional program in U.S. higher education institutions that have a high level of participation in mobility programs to Mexico.
Participants	• ANUIES • COMEXUS • CONACYT • Department of State • U.S. Embassy in Mexico. • SRE Mexico • SES (SEP)

Goals 2014-18 Target number	• 2014: Contact 500 former students. • 2 conferences per year in 15 higher education institutions in the U.S. • 2014-2018: Contact 3,000 former students. • 2 conferences per year in 50 higher education institutions in the U.S.
Challenges	• Gather contact information for the database. • Include these conferences as part of the activities of U.S. universities and make it a commitment for former students that participated in stays in Mexico.
Project 7	**Promotion Group "My experience studying in the U.S."**
Objective	• Promote successful U.S. mobility experiences in México.
Actions / Scope	• Create a database of Mexican students and researchers that participated or are participating in stays in the U.S. and are interested in sharing their experiences. / Domestic. • Offer presentations in all the states of Mexico. / Bilateral. • Establish an interactive communication using blogs on the website. / Bilateral • Regulate as social service the promotion of these experiences by students, professors and researchers that participated in stays in the U.S. / Domestic
Impact	• Share first-hand positive experiences of students, professors and researchers that participated in stays the U.S. • Establish an interactive communication using blogs on the website. • Contact Mexican students that studied in the U.S. in order to encourage mobility.
Participants	• CONACYT • SRE Mexico • U.S. Embassy in Mexico. • Network of Talented Mexicans living Abroad
Goals 2014-18 Target number	• 2014: Contact 5,000 former students. • Conferences in 50 Mexican higher education institutions per year. • 2014-2018: Contact 20,000 former students. • Conferences in 100 Mexican higher education institutions per year.
Challenges	• Gather contact information for the database. • Include the these Conferences as part of the activities of Mexican universities and make it a commitment for former students that participated in stays in in the U.S.
Project 8	**Webinars**
Objective	• Promote interaction between students and researchers using new information technologies.
Actions / Scope 2	• Organize webinar between students and researchers from U.S. and Mexican higher education institutions, as well as other educational and research organizations.
Impact	• Strengthen the relationship between students and researchers, and higher education institutions. • Simultaneous promotion in varios States at a low cost.
Participants	• ANUIES • Bureau of Educational and Cultural Affairs, U.S. • U.S. and Mexican researchers • CONACYT • Mexican higher education institutions • U.S. and Mexican students

Goals 2014-18 Target number	• 2014: 6 per year with 80 contacts enrolled in each webinar. • 2014-2018: 8 per year with at least 1,200 contacts.
Challenges	• Successfully promote the webinars to attract interest in participating. • Sustain the interest on the webinars to maintain the number of contacts.

APPENDIX 2

Examples of mobility programs between various countries and the U.S. and cooperation agreements between some Mexican and U.S. universities

APPENDIX 2. EXAMPLES OF MOBILITY PROGRAMS BETWEEN SOME COUNTRIES AND THE U.S. AND COOPERATION AGREEMENTS OF SOME MEXICAN AND U.S. UNIVERSITIES

Table A2.1 Mobility Programs Mexico – U.S.

1	Mexico-U.S.
Type of collaboration	• Mobility • Graduate studies • Research
Program	• Mexico U.S. Commission for Educational and Cultural Exchange (COMEXUS)
Description	• Management of Fulbright-Garcia Robles Scholarships
Objectives	• Promote the understanding between Mexico and the US through academic exchange
Area of knowledge	• Most areas
Participating institutions	• Universities in Mexico and the U.S.

A list of Agreements reached by Mexican Higher Education Institutions and between U.S. universities is available at http://www.eua-mex.sre.gob.mx

2	Mexico-U.S.
Type of collaboration	• Graduate studies • Research
Program	• Agreements between CONACYT and U.S. universities
Description	• Collaboration Agreements
Objectives	• Train human resources to move from a middle-income to a high-income country.
Area of knowledge	• As per each specific agreement
Participating institutions	• CONACYT and 14 U.S. universities

3	Mexico-U.S.
Type of collaboration	• Research
Program	• Call for Young Researchers from AmCham-FUMEC
Description	• Summer Stays in the U.S.
Objectives	• Academic visits to laboratories and research centers in the U.S.

Area of knowledge	• Astronomy • Biology • Computing • Physics • Engineering • Academic Research (science teaching) • Mathematics • Medicine • Chemistry
Participating institutions	• AmCham, FUMEC, U.S. universities and research centers

4	**Mexico-U.S.**
Type of collaboration	• Research • Innovation • English
Program	• PEACE CORPS
Description	• Technology transfer program to improve CPI-CONACYT performance
Objectives	• Strengthen technological capabilities and links with between industry and CPI organizations
Area of knowledge	• Environment • Water • Biodiversity • Agriculture • C & IT • Engineering • Organizations • English
Participating institutions	• CONACYT • SEMARNAT
4	**Mexico-U.S.**
Type of collaboration	• Research
Program	• Summer stays for Mexican young researchers • Visits from distinguished U.S. professors to Mexico
Description	• The program for young researchers intends to grant scholarships (4,500 USD) to young researchers to develop a research project during the summer in U.S. laboratories • The program for distinguished professors intends to bring internationally renowned researchers to Mexico to give seminars, brief training and workshops across many areas of knowledge
Objectives	• Contribute to the bi-national cooperation on scientific and technological research

Area of knowledge	• Astronomy • Biology • Physics • Mathematics • Chemistry • Medicine • Environmental/Health Sciences • Computing • MEMS • Engineering.
Participating institutions	• FUMEC • Mexican Academy of Science - AMC (as per its Spanish acronym) - AMCHAM
4	**Mexico-U.S.**
Type of collaboration	• Research
Program	• CONACYT-I/U-CRC cooperation to create consortia in specific sectors.
Description	• Generate international cooperation networks between U.S. and Mexican experts under the Industry & University Cooperative Research Program (I/U CRC) for specific cooperation projects on IT and Material Technology.
Objectives	• Support Mexican researchers, scientists and entrepreneurs to generate international cooperation networks between U.S. and Mexican experts to collaborate and develop high-impact projects at international level, by including programs, methodologies and successful experiences, that allows to strengthen linkages with the private sector both in Mexico and the U.S.
Area of knowledge	• Information technologies • Logistics • Advanced materials for the aeronautic and automotive sectors
Participating institutions	• NSF • CELDI • CANFSA • CONACYT • UABC • LANIA • CETYS • HONEYWELL • FUMEC

5	**Mexico-U.S.**
Type of collaboration	• Innovation
Program	• CONACYT-FUMEC Cooperation Program to learn and adapt the Small Business Innovation Research (SBIR) Model
Description	• CONACYT-FUMEC agreement to improve evaluation models and CONACYT's evaluation management programs oriented to support businesses' innovation capacities.

Objectives	• To encourage the participation of teachers enrolled in the CONACYT Registry of Certified Professors (RCEA, as per its Spanish acronym) in evaluation processes, such as SBIR, to contribute to modeling and evaluation procedure improvement, within the framework of CONACYT programs and funds.
Area of knowledge	• Engineering • ICT • Advanced manufacture • Mathematics.
Participating institutions	• CONACYT • NSF

6	Mexico-U.S.
Type of collaboration	• Technology-based businesses and clusters in strategic sectors and niches

Program	• TECHBA:
	  • Arizona
	  • Austin
	  • Michigan
	  • Seattle
	  • Silicon Valley

Description	• Business accelerators
Objectives	• Enable Mexican technology businesses to access the most dynamic global business systems, through a series of services aimed at accelerating their growth.
Area of knowledge	• Health technologies: biotechnology and medical devices • Clean and renewable-energy technologies • Information and communication technologies • Automotive industry • Advanced manufacturing • Videogames • Aerospace • Food
Participating institutions	• FUMEC, Ministry of Economy and US strategic partners

7	Mexico-U.S.
Type of collaboration	• Entrepreneurship
Program	• Boot Camp for entrepreneurs
Description	• The program's methodology is focused on scientists that are entrepreneurs and innovators, which allows them to experience real life commercialization processes in an international context.
Objectives	• Strengthen the linkages between Mexican researchers, innovators and entrepreneurs to reinforce the Mexican innovation system. TechBA is widely experienced in organizing kick off Boot Camps in Mexico and across its five venues in the U.S.

Area of knowledge	• Technology entrepreneurs
Participating institutions	• Department of State / U.S. Embassy in Mexico • CONACYT

8	Mexico-U.S.
Type of collaboration	• Education (STEM)
Program	• INNOVEC • Basics on Engineering - PLTW
Description	• Experiential Education Systems and Investigative Science (SEVIC)
Objectives	• To encourage research, innovation and support strategy development to improve science teaching in basic education for children and young people.
Area of knowledge	• Physics • Chemistry • Biology • Science

Participating institutions	• For INNOVEC:
	  • SEP
	  • State governments
	  • CONACYT
	  • Universities, research centers
	  • Businesses
	  • NGOs

9	Mexico-U.S.
Type of collaboration	• Mobility • Research
Program	• MAES (Latinos in Science and Engineering)
Description	• Professionals Chapter • Students Chapter
Objectives	• Promote, harvest and reward excellency in education and leadership between Latin engineers and scientists. • Increase the number of Mexican- American and other Hispanics in technical and scientific fields.
Area of knowledge	• Science • Technology • Engineering • Mathematics
Participating institutions	• Near 40 universities across 4 regions

1	Mexico-U.S.-Canada
Type of collaboration	• Mobility • Research
Program	• Program for North U.S. Mobility in Higher Education (PROMESAN)
Description	• Partnerships between institutions which submit stay projects
Objectives	• Encourage short-term stays among students from the three countries
Area of knowledge	• As per each specific agreement
Participating institutions	• SEP • FIPSE (U.S.) • HRSDC (Canada)

2	Mexico-U.S.-Canada
Type of collaboration	• Mobility
Program	• Consortium for North American Higher Education Collaboration
Description	• College network for collaboration and academic exchange
Objectives	• Focused on under and graduate students
Area of knowledge	• As per each specific agreement
Participating institutions	• ANUIES MEX • ACE U.S. • AACC U.S. • AUCC Canada • ACCC Canada

1	U.S.-Latin America
Type of collaboration	• Innovation
Program	• USAID Innovation Fund for the Americas
Description	• Identify, evaluate and escalate projects that may improve the development of Latin America and Caribbean countries
Objectives	• Fund projects that provide innovative solutions to development challenges

Area of knowledge	• In Mexico:
	  • Clean technologies
	  • Technological innovations aimed at improving SME development

Participating institutions	• USAID

1	U.S.-Mexico universities
Type of collaboration	• Research • Graduate studies
Program	• UCMexUS
Description	• Fund projects for research groups of the University of California and Mexican researchers, as well as Postdoctoral scholarships
Objectives	• Contribute significantly to improve bi-national scientific understanding. • Improve citizen's life quality in both countries.
Area of knowledge	• Most areas
Participating institutions	• 10 UC campuses • CONACYT Public Research Centers-and Higher Education Institutions in Mexico

2	U.S.-Mexico universities
Type of collaboration	• Research • Graduate studies
Program	• Graduate programs
Description	• Dual Degree programs
Objectives	• PhD in Nanotechnology • PhD in Engineering. • Master's in Leadership to Preserve through Learning. • Master's in Business Administration and Direction (Egade Mty).
Area of knowledge	• As per each specific program
Participating institutions	• International Center for Nanotechnology and Advanced Materials/University of Texas, Autonomous University of Chihuahua/New Mexico State University, El Colegio de la Frontera Sur/Colorado State University, Monterrey Technological Institute and Higher Education/UT Austin; University of San Diego, Stuart School of Business (IIT)

3	U.S.-Mexico universities
Type of collaboration	• Research • Innovation
Program	• University of Arizona - CONACYT Agreement
Description	• Cooperation Agreement including several types of collaboration
Objectives	• Promote human resources training at graduate level • Encourage innovation and capacity building • Facilitate technology transfer

Area of knowledge	• Environment • Weather • Natural resources • Sustainability
Participating institutions	• University of Arizona • CONACYT Public Research Centers, UNAM, Higher Education Institutions in Mexico

4	U.S.-Mexico universities
Type of collaboration	• Innovation
Program	• Advanced Technology Transfer Program (ATTP)
Description	• 10-day stays in Mexican Public Research Centers with potential of becoming profitable
Objectives	• Support Public Research Centers to promote technology management to allow technology transfer and trading.
Area of knowledge	• Any advanced technology
Participating institutions	• CONACYT-University of Arizona

5	U.S.-Mexico universities
Type of collaboration	• Research
Program	• Distinguished Visiting Professor Program
Description	• 10 distinguished professors for short stays in Mexico
Objectives	• Seminars, courses, counseling, and networking to start collaborating in short research stays
Area of knowledge	• As determined by the AMCHAM
Participating institutions	• AMCHAM-FUMEC • U.S. universities

1	Border region
Type of collaboration	• Innovation
Program	• Innovation without borders. San Diego Dialog
Description	• Collaboration in R&D, supplier and manufacture skill development
Objectives	• Identify economic synergies in the border region and create strategies including economic development

Area of knowledge	• Biomedical devices • Aerospace • Health • Automotive industry • Environment
Participating institutions	• University of California, CENTRIS - U.S. CISESE - MEX

1	Government of Mexico
Type of collaboration	• Mobility • Research
Program	• AMEXCID
Description	
Objectives	• Guide, coordinate and implement an international political cooperation exercise. • Promotion of sustainable human development.
Area of knowledge	• Poverty • Unemployment • Education • Environment • Public security
Participating institutions	• AMEXCID (SRE Decentralized body)

2	Government of Mexico
Type of collaboration	• Mobility • Innovation
Program	• Network of talented Mexicans living abroad
Description	• Network of highly-qualified Mexicans living abroad
Objectives	• Encourage qualified Mexican migrants to contribute to strengthen technological development and innovation in Mexico
Area of knowledge	• C & IT • Nanotechnology • Energy • Environment • Agribusiness
Participating institutions	• CONACYT • FUMEC • SRE • Consulates of Mexico in the U.S.

1	U.S. Government
Type of collaboration	• Mobility • Graduate studies
Program	• 100,000 Strong in the Americas
Description	• Program of the Department of State to cooperate with nations from the Western Hemisphere to face common challenges
Objectives	• Promote cooperation and prosperity in the Americas by broadening international exchange programs in Latin America
Area of knowledge	• Citizen security • Economic opportunities • Social inclusion • Environment
Participating institutions	• Department of State • NAFSA • Partners of the Americas

Table A 2.2 Mobility Programs Brazil – U.S.

1	Brazil – U.S.
Type of collaboration	• Mobility • Research
Program	• Scholarship Program Ruth Cardoso
Description	• Scholarship program for professors and researchers
Objectives	• Grant support and allow the participation of Brazilian research- professors in the University of Columbia. • Promote dialogue and culture exchange in both countries.
Area of knowledge	• Environment • Human and Social Sciences
Participating institutions	• Brazilian research centers and universities and Columbia University

2	Brazil – U.S.
Type of collaboration	• Mobility • Research • Teaching professors • Postgraduate studies
Program	• Fulbright-Brazil scholarships

Description	• Scholarship program for research and teaching activities. • Beneficiaries: 100,001 to 2015 (2,000 so far)
Objectives	• Encourage cooperation between researchers, professors and professionals from both countries • Promote knowledge and interests from universities from both countries.
Area of knowledge	• Arts • Science • Technology • Innovation
Participating institutions	• Universities and institutions from Brazil and the U.S.

3	**Brazil – U.S.**
Type of collaboration	• Mobility • Research • Teaching
Program	• *Social Sciences and Humanities Award*
Description	• Program granting ten scholarships for teaching and research activities or both
Objectives	• Encourage cooperation between researchers, professors and professionals from both countries
Area of knowledge	• Social science • Art
Participating institutions	• Universities in Brazil (universities based outside Rio de Janeiro and Sao Paulo will be favored) and in the U.S.

3	**Brazil – U.S.**
Type of collaboration	• Mobility • Research • Teaching
Program	• *Postdoctoral Research Award in Humanities, Social Sciences, Letters, Linguistics and Arts*
Description	• Program granting five scholarships for research and teaching activities
Objectives	• Improving teaching and research in cross-cutting studies
Area of knowledge	• All areas of knowledge
Participating institutions	• Universities, government institutions, think tanks, research centers, and NGOs from both countries

4	**Brazil – U.S.**
Type of collaboration	• Mobility • Students

Program	• CAPES/HBCU-*Brazil Alliance Partnership*
Description	• Program funding Brazilian student mobility in the U.S.
Objectives	• Promote and broaden academic exchange programs between universities and schools that were originally and historically intended for black people and Brazilian universities
Area of knowledge	• Science and technology • Mathematics • Engineering
Participating institutions	• Over 20 universities originally intended for black people and Brazilian universities

5	**Brazil – U.S.**
Type of collaboration	• Graduate student mobility
Program	• Capes/NIH Program
Description	• Program promoting excellence in scientific research
Objectives	• To develop long-lasting collaboration between Brazilian universities and U.S. National Institutes of Health, ensuring student return
Area of knowledge	• Medical and biotechnology
Participating institutions	• Brazilian universities and National Institutes of Health (NIH)

6	**Brazil – U.S.**
Type of collaboration	• Mobility • Professors
Program	• CAPES/Harvard Professorship Programs
Description	• Program funding researchers and professors
Objectives	• Promote technological and scientific development in both countries • Disseminate Harvard's contribution to the subject
Area of knowledge	• All areas of knowledge
Participating institutions	• Harvard University and Brazilian universities and research centers
6	**Brazil – U.S.**
Type of collaboration	• Mobility • Graduate studies
Program	• *100,000 Strong in the Americas*

Description	• Program of the U.S. Department of State to cooperate with nations from the Western Hemisphere to face common challenges.
Objectives	• To promote cooperation and prosperity in the Americas by broadening international exchange programs in Latin America
Area of knowledge	• Citizen security • Funding opportunities • Social inclusion • Environment
Participating institutions	• Department of State • NAFSA • Partners of the Americas

Table A2.3 Mobility Programs Colombia – U.S.

1	Colombia – U.S.
Type of collaboration	• Mobility
Program	• Scholarships to study abroad granted by the Colombian Institute for Education Credit and Technical Studies Abroad (ICETEX, as per its Spanish acronym).
Description	• Colombian Government Agency in charge of managing and granting school mobility scholarships.
Objectives	• It channels cooperation scholarships granted to Colombia by other governments and International Organizations.
Area of knowledge	• Engineering and similar • Law • Educational science
Participating institutions	• ICETEX • Ministry of Education of Colombia.

2	Colombia – U.S.
Type of collaboration	• Academic stays
Program	• Sowing a seed, harvesting the future
Description	• Donation program to fund students going to the U.S. to study.
Objectives	• Collecting donations. • Selecting student host families. • Finding sponsorships.
Area of knowledge	• All areas of knowledge.
Participating institutions	• Cultural and Education Foundation Colombia-U.S. • Colombian International Chamber of Commerce

3	Colombia – U.S.
Type of collaboration	• Training programs
Program	• Aid To Artisans Inc.
Description	• Training programs with experts in production, business training and trading.
Objectives	• Implement training programs for artisans, based on product design, business training, marketing and sponsorship.
Area of knowledge	• Productive sectors
Participating institutions	• Businesses • Government • Creative Learning (NGO)

4	Colombia – U.S.
Type of collaboration	• Academic mobility and cultural exchange
Program	• *American Field Service/ International Programs*
Description	• Provide cross-cultural learning opportunities to help people develop their knowledge, skills and education.
Objectives	• Technical cooperation: Training programs with experts from U.S. higher education institutions
Area of knowledge	• Production • Business background • Marketing
Participating institutions	• American Field Internacional

5	Colombia – U.S.
Type of collaboration	• Mobility • Research • Teaching professors • Graduate studies
Program	• Fulbright-Colombia scholarships
Description	• Scholarship program for research and teaching activities. • Beneficiaries: 3,600 to 2019 • (500 so far)
Objectives	• Encourage cooperation between researchers, professors and professionals from both countries • Promote knowledge and interests from universities from both countries

Area of knowledge	• Arts • Science and Technologyy • Innovation
Participating institutions	• Universities and institutions from Colombia and the U.S.

6	Colombia – U.S.
Type of collaboration	• Mobility • Graduate studies
Program	• *100,000 Strong in the Americas*
Description	• Program of the U.S. Department of State to cooperate with nations from the Western Hemisphere to face common challenges
Objectives	• Promote cooperation and prosperity in the Americas by broadening international exchange programs in Latin America.
Area of knowledge	• Citizen security • Economic opportunities • Social inclusion • Environment
Participating institutions	• Department of State • NAFSA • Partners of the Americas

Table A2.4 Mobility Programs Peru – U.S.

1	Peru – U.S.
Type of collaboration	• Academic mobility
Program	• SUSI (Winter Institute for Young College Students)
Description	• 5-week program in the University of Arizona focused on the U.S. government system
Objectives	• Provide students with an overview of U.S. democracy.
Area of knowledge	• Social science
Participating institutions	• University of Arizona • Embassy of Peru

2	Peru – U.S.
Type of collaboration	• Mobility

Program	• IVLP International Visitors
Description	• Program for current leaders across different areas, including education (teachers and students), where they visit several communities in the U.S. and meet their counterparts
Objectives	• Obtain feedback from renowned figures across different areas through exchange programs with public and private organizations as well as through cultural and academic activities
Area of knowledge	• All areas of knowledge
Participating institutions	• Public and private bodies from the U.S. and Peru

3	**Peru – U.S.**
Type of collaboration	• Scholarship program
Program	• Fulbright Peru
Description	• To grant scholarships to Peruvian and U.S. citizens
Objectives	• Encourage cooperation between researchers, professors and professionals from both countries • Promote knowledge and interests from universities from both countries
Area of knowledge	• All areas of knowledge
Participating institutions	• Fulbright Peru Commission • Peruvian and U.S. universities

4	**Peru – U.S.**
Type of collaboration	• Mobility • Graduate studies
Program	• *100,000 Strong in the Americas*
Description	• Program of the U.S. Department of State to cooperate with nations from the Western Hemisphere to face common challenges
Objectives	• Promote cooperation and prosperity in the Americas by broadening international exchange programs in Latin America
Area of knowledge	• Citizen security • Funding opportunities • Social inclusion • Environment
Participating institutions	• Department of State • NAFSA • Partners of the Americas

APPENDIX 3
Member directory of the Mexican Consultation Group of the FOBESII

Member directory of the Mexican Consultation Group of the FOBESII

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