**SIXTH MEETING OF MINISTERS AND HIGH AUTHORITIES** OEA/Ser.K/XVIII.6

**OF SCIENCE AND TECHNOLOGY** CIDI/REMCYT-VI/doc. 5/21

December 7 – 8, 20213 December 2021

Washington, D.C., United States of America Original: English

VIRTUAL

REPORT ON ACTIVITIES IN SCIENCE AND TECHNOLOGY

(Prepared by the Competitiveness, Innovation and Technology Section

of the Department of Economic Development)

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INTRODUCTION

 This report of the General Secretariat relates to the activities undertaken since the V Meeting of Ministers and High Authorities of Science and Technology held in Medellín, Colombia on November 2-3, 2017 pursuant to the 2018-2020 Work Plan of the Inter-American Committee on Science and Technology (COMCYT) for the implementation of the ministerial mandates agreed by the authorities of the COMCYT during its Planning Meeting held on May 21-22, 2018 and presented to the Inter-American Council of Integral Development (CIDI), through its Committee on Partnership for Development Policies, on November 8, 2018, in order to receive feedback from all member states as well as to foster coordination among the different ministerial processes. The report also includes a section on the COMCYT dialogues undertaken to assist member states in their response to the COVID-19 pandemic through the use of science, technology and innovation.

BACKGROUND

At the V Meeting of Ministers and High Authorities of Science and Technology, authorities adopted the [Declaration of Medellin](http://scm.oas.org/IDMS/Redirectpage.aspx?class=XVIII.5%20CIDI/REMCYT-V/dec%20&classNum=1&lang=e) **“Science, Technology and Innovation as Pillars of Transformation in the Americas,”**which reaffirmed the structure, composition and methodology of the four (4) Working Groups of the COMCYT (Working Group 1 on Innovation; Working Group 2 on Education in Engineering; Working Group 3 on National Quality Infrastructure and Working Group 4 on Technological Development). The Declaration also expanded the scope of their actions by including the following cross-cutting themes:

1. Transformative technologies: incorporate the exchange of good practices on the value and impact of transformative technologies among member states to respond to the region’s main challenges and imperatives;
2. The inclusion of women and girls, and other populations in vulnerable situations, in the areas of science, technology and innovation: enhance their learning opportunities; increase their engagement in civic and political life; encourage their insertion in the labor market and foster their participation in social transformation processes brought about by scientific and technological advancements;
3. Multisectoral collaboration among governments, the private sector, higher education institutions, civil society and other social actors to develop efficient, high-impact regional cooperation policies and programs.

Another important result of the Ministerial was the election of COMCYT Authorities and Coordinators of the four (4) Working Groups:

COMCYT AUTHORITIES:

Chair: COLOMBIA, Ministry of Science, Technology and Innovation (MINCIENCIAS)

First Vice Chair: JAMAICA, Ministry of Science, Energy and Technology (MSET)

Second Vice Chair: PERU, National Council of Science, Technology and Technological Innovation (CONCYTEC)

Working Group 1 on Innovation:

Chair: MEXICO, National Council of Science and Technology (CONACYT)

Vice Chair: COSTA RICA, Ministry of Science, Technology and Telecommunications (MICITT)

Working Group 2 on Human Resources Training and Education in Engineering:

Chair: ARGENTINA, Ministry of Science, Technology and Productive Innovation (MINCYT)

Vice Chair: NICARAGUA, Nicaraguan Council of Science and Technology (CONICYT)

Working Group 3 on National Quality Infrastructure:

Chair: CANADA, National Research Council (NRC)

First Vice Chair: UNITED STATES, National Institute of Standards and Technology (NIST)

Second Vice Chair: PARAGUAY, National Council of Science and Technology (CONACYT)

Working Group 4 on Technological Development:

Chair: GUATEMALA, National Secretariat of Science and Technology (SENACYT)

Vice Chair: CHILE, Production Development Corporation (CORFO)

 Following the Ministerial Meeting, a Planning Meeting of the COMCYT Authorities was held at the OAS Secretariat headquarters in Washington, D.C. on May 21-22, 2018, during which Authorities agreed on a [COMCYT Work Plan 2018-2020](http://scm.oas.org/IDMS/Redirectpage.aspx?class=XIII.3/CIDI/COMCYT/RPA.doc%20&classNum=4&lang=e), with a roadmap for the next three years, including specific activities, dates, venues, sources of funding and indicators to measure progress and results, in order to comply with the mandates established by the **Declaration of Medellin**. The Work Plan of COMCYT was presented to CIDI, through its Committee on Partnerships for Development Policies, on November 8, 2018, in order to receive feedback from all Member States as well as to foster coordination among the different ministerial processes.

In terms of meetings of high-level authorities, the Work Plan included the holding of a regular meeting of COMCYT in the second semester of 2019; a Preparatory Meeting for the ministerial meeting and the Sixth Meeting of Ministers and High Authorities of Science and Technology to be held originally in 2020 in Jamaica and postponed for 2021 due the COVID-19 pandemic.

In terms of Working Groups, the Work Plan provided the following:

1. That Working Group 1 continue to support exchange of experiences on the topic of transformative technologies and Industry 4.0 in the Americas;
2. That Working Group 2 continues to promote comprehensive education and training in engineering for undergraduate and graduate students and mutual recognition between engineering education institutions to facilitate exchanges, fellowships and apprenticeships;
3. That Working Group 3 continues raising awareness on the topic of NQI with new and diverse actors, including the opportunity of future activities with the RIAC;
4. That Working Group 4 continues with the implementation of the “HUB on Technology Transfer and Commercialization for the Americas” to help professionals, entrepreneurs and academics transfer their solutions, products and services “from idea to market.”

 The Plan also incorporated two cross-cutting activities of great interest to the COMCYT, such as:

1. The creation of a Virtual Group of Experts on Technology Foresight in order to share existing capacities and good practices on transformative technologies among governments, the private sector and academia, interested in collaborating in this field.
2. The exchange of good practices on gender equity and equality in STEM; in order to identify mechanisms to help foster the participation of women in scientific research, as well as in promoting their insertion in the labor market and access to leadership and decision-making positions in scientific and technological fields.

IMPLEMENTATION OF THE MINISTERIAL DECLARATION

Below is a description of the main meetings, programs and activities developed and/or under implementation as part of the Declaration of Medellin and the COMCYT 2018-2021Work Plan.

1. **Meetings of High-Level Authorities**
2. Ninth Meeting of the COMCYT

The Ninth Regular Meeting of the COMYT was held at the OAS Secretariat’s Headquarters in Washington D.C., on December 11-12, 2019. The Meeting was chaired by Mr. Errol Morrison, Director General, National Commission on Science and Technology (NCST), of Jamaica, as First Vice Chair of the COMCYT. Sixty-nine (69) participants attended the Meeting, including authorities from Capital and representatives from the Permanent Missions from 21 OAS member states, as well as strategic partners of the COMCYT from the private and academic sectors.

The Meeting allowed to: a) Assess the progress made in the implementation of the Ministerial Agreements; b) Share good practices and regional trends on science and technology; and, c) Agree on the main theme and sub-themes for the Sixth Meeting of Ministers and High Authorities of Science and Technology.

1. Second Planning Meeting of the COMCYT Authorities

In light of the postponement of the Sixth Meeting of Ministers and High Authorities of Science and Technology due to the COVID-19 pandemic, a Second Planning Meeting of COMCYT Authorities was held (virtually) on July 15, 2020 to consider the extension of the COMCYT Work Plan until the end of 2021. This meeting was also essential to explore the ongoing work and role of the COMCYT in mitigating the effects of the COVID-19 pandemic in the region. Authorities proposed additional activities to the Work Plan within the scope of COMCYT, specifically as it relates to the application of science, technology and innovation in the response to the COVID-19 pandemic.

1. Preparatory Meeting of the Sixth Meeting of Ministers and High Authorities of Science and Technology

The Preparatory Meeting of the Sixth Meeting of Ministers and High Authorities of Science and Technology was held (virtually) on November 22, 2021. Member states negotiated and agreed upon the draft Declaration of Jamaica **“Harnessing the Power of Transformative Science and Technologies to Drive our Communities Forward,”** to be adopted at the Sixth Ministerial Meeting. The Preparatory Meeting was Chaired by Ms. Wahkeen Murray, Chief Technical Director, of Ministry of Science, Energy and Technology of Jamaica and counted on the participation of 19 delegations.

1. Sixth Meeting of Ministers and High Authorities of Science and Technology

 On April 27, 2021, the Inter-American Council for Integral Development (CIDI) approved the resolution convening the Sixth Meeting of Ministers and High Authorities of Science and Technology (VI REMCYT), to be held on December 7, 2021. The Government of Jamaica, through its Permanent Mission to the OAS, presented to CIDI on October 26, 2021, a draft resolution to change the date of the Sixth Meeting of Ministers and High Authorities of Science and Technology, to be held in a virtual format on December 7-8, 2021 under the theme **“Harnessing the Power of Transformative Science and Technologies to Drive our Communities Forward.”**

 The objective of the VI REMCYT is for ministers and high authorities to advance a hemispheric cooperation agenda on science and technology within the framework of the draft Declaration of Jamaica and to engage in discussion on concrete, high-impact regional projects to support the recovery of the COVID-19 pandemic in member states through the use of transformative technologies.

1. **Ministerial Dialogues "Science, Technology and Innovation to Mitigate the Effects of COVID-19: Good Practices from COMCYT Members and Partners"**

 In an effort to support OAS member states during the challenging time brought about by the COVID-19 pandemic, the COMCYT Technical Secretariat organized two high-level virtual dialogues under the theme**: “Science, Technology and Innovation to mitigate the effects of COVID-19: Good Practices from COMCYT Members and Partners”**during which Ministers and High Authorities of Science, Technology and Innovation from Brazil, Chile, Colombia, Costa Rica, Jamaica, Mexico and Peru shared over 15 good practices and national science, technology and innovation (STI) strategies to address the social and economic impacts of COVID-19. These dialogues were held on April 29, 2020 and May 22, 2020 respectively and reached over 750 participants from 26 countries, including senior authorities and officials, COMCYT strategic partners and Permanent Missions to the OAS.

1. **Thematic Sessions of the COMCYT**

Based on the success of the 2020 dialogues, the COMCYT held six additional thematic sessions (virtual) between April and June 2021 on themes of interest to the member states.

In total, over 50 good practices and experiences were shared with more than 500 participants connected from 24 countries. The topics for discussions included:

a) Innovation and Entrepreneurship in the Americas (April 22, 2021)

b) Policies of Artificial intelligence in the Americas (April 29, 2021)

c) Inclusive Innovation and Women in STEM (May 6, 2021)

d) Impact Engineering (May 20, 2021)

e) National Quality Infrastructure as a Pillar for Sustainable Development (May 27, 2021)

f) Bioeconomy: Sharing of Good Practices and Priorities (June 3, 2021)

1. **COMCYT Working Groups**

 Since 2018 over 45 videoconferences, webinars, roundtables and training sessions of the four (4) Working Groups have been held, contributing to the exchange of experiences between COMCYT members and strategic partners as well as professionals in the region.

1. Working Group 1 on Innovation

 Under working Group 1, COMCYT members and strategic partners exchanged good practices on innovation and R&D in a variety of sectors including transportation, energy, agriculture, and health. Some of the prime topics for discussion included the use and applications of advanced manufacturing, 3D printing, robotics, big data, A.I, machine learning and blockchain, among other. Special sessions on **financing innovation** were also held in the framework of Peru’s Innovation Week on June 21, 2021 as well as in the framework of the Inter-American Council for Integral Development (CIDI) on November 30, 2021.

1. Working Group 2 on Education in Engineering

 Within the framework of the activities of Working Group 2 in Engineering Education, the COMCYT Technical Secretariat actively participated and presented in four regional forums for dialogue on engineering education, namely: a) The Annual Conference of the Latin American and Caribbean Consortium of Engineering Institutions (LACCEI) and the Summit of “Engineering for the Americas” (Lima, Peru, in June 2018; Montego Bay, Jamaica, in July 2019; Buenos Aires, Argentina (virtual) in July 2020 and July 2021); b) the General Assembly of the Pan American Federation of Engineering Societies (UPADI) held in Cartagena, Colombia in October 2018 and Santa Cruz, Bolivia in 2019); c) the World Engineering Education Forum (WEEF) held in Albuquerque, New Mexico in November 2018 and in virtual formats in 2020 and 2021); and d) the ACOFI International Engineering Education Meeting held in Cartagena, Colombia in September 2019 and September 2021. These annual meetings allowed for the exchange of good practices, networking opportunities and training in the field of engineering education for more than 9000 professionals and engineering students of the Americas.

1. Working Group 3 on National Quality Infrastructure

 Under Working Group 3, the COMCYT Technical Secretariat participated in the General Assembly of the Inter-American Metrology System (SIM) held on September 28, 2018 at the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland, as well as virtually on November 20, 2020 and November 12, 2021. The Technical Secretariat presented a progress report on the activities carried out in the area of National Quality Infrastructure, including the participation of CENAMEP Panamá in representation of the SIM in the 9th Edition of the Americas Competitiveness Exchange (ACE) of the Inter-American Competitiveness Network (RIAC); as well as the exchange of good practices on NQI as part of the COMCYT dialogues, which highlighted the work from our partners in Uruguay, Jamaica and Saint Lucia.

 Also under Working Group 3, an extension of the Agreement between the OAS and the German Government through its National Metrology Institute (PTB) was signed, to provide 2+ million euros in technical assistance to the National Metrology Offices of OAS member states for multilateral projects related to Biodiversity and Circular Economy.

1. Working Group 4 on Technological Development

 Under Working Group 4 of the COMCYT, four editions of the program “HUB on Technology Transfer and Commercialization for the Americas” were held:

1. Santiago, Chile from August 27 to September 7, 2018
2. Panama City, Panama from May 6 to 11, 2019
3. Barranquilla, Colombia, from November 12 to 22, 2019
4. Dominica from October 5 to 9, 2020

 Between 2018 and 2020, the Technical Secretariat received and reviewed over 480 applications from 21 countries for the program (all editions combined) to receive training, mentoring and accelerate their technologies, solutions, products or services “from idea to market.” Today the HUB counts on a network of more than 380+ graduates from 21 countries of the Americas who regularly maintain contact, and have expressed interest in continuing to learn, collaborate and obtain mentoring opportunities and additional technology acceleration tips.

One of the highlights of the HUB program has been its transitioning to a virtual format in the context of the COVID-19 pandemic to support 35 entrepreneurs in Dominica and help them expand their outreach during the pandemic.

1. **HUB on Technology Transfer and Commercialization for the Americas and “COMUNITT” Mentoring Platform**

 During the pandemic, the Technical Secretariat focused its effort on the development of two (2) virtual mentoring platforms to complement the HUB program – one called “COMUNITT”, in collaboration with the University of California at Riverside and the other called “COMCYT Central” with mentors from all over the region. Together, these platforms offer forums; reference articles and other tools; training opportunities; and access to mentors for specific consultations in order to accelerate promising technologies while also contributing to the diversification of the economies of the region.

 Both platforms were launched on June 21, 2021 in the framework of Peru’s National Innovation Week organized by the National Council of Science, Technology and Innovation of Peru (CONCYTEC). The launch counted on 45 institutions from Peru and other countries.

1. **Exchange of Experiences on Technology Foresight: Prospecta Americas and the Network of Centers of Excellence on Transformative Technologies for the Americas**
2. International Seminars

 On October 24-25, 2019 the city of Lima, Peru, was host of Prospecta Americas - the First International Seminar on Technology Foresight for the Americas. The program brought together 1,200 registered participants who attended the event in person, and more than 25,000 people connected via Live Webcast. The event sought to improve the social appropriation of knowledge of 10 transformative technologies, namely Big Data; Robotics; Blockchain, virtual reality; artificial intelligence; quantum computing; gene editing; biomedical engineering; 3D and 4D additive manufacturing and new nanostructured materials – and assess their social and economic opportunities in the Americas.

 As a result of the Seminar, the State of Hidalgo, Mexico, with the support of the Permanent Mission of Mexico to the OAS, offered to host the Second Edition of the program in Pachuca (initially scheduled for September 23-24, 2020). However, due to the COVID-19 pandemic, the Government of Hidalgo, the Secretariat of Foreign Affairs of Mexico, the CONACYT and the Permanent Mission of Mexico, supported by the Technical Secretariat, carried out a Virtual Edition of Prospecta Americas in November of 2020 under the theme **“Technology Foresight in the Americas: Challenges of a New Reality”** as well as two Strategic Sessions on Blockchain and A.I. on October 27-28, 2021. Both events gathered more than 5.000 views from all across the region.

Additionally, under the Prospecta Americas initiative, two (2) regional technology foresight studies were launched, in collaboration with Minciencias Colombia – one on “The Future of Work in Latin America,” directed by the Center for Strategic Thinking and Foresight of the Universidad Externado de Colombia – and another one “Foresight in the Agri Food Sector in Latin America and the Caribbean,” directed by the Open Network on Foresight and Innovation of the Ibero-American Program on Science and Technology for Development (CYTED).

It is also worth mentioning that under Prospecta Americas two (2) Webinars on Neuroscience and technology were organized in collaboration with the CONCYTEC and the Scientific University of the South (Peru) in October 2020, to discuss rapid advances, future developments, and the impact of neuroscience in the Americas.

1. Centers of Excellence

 Furthermore, under Prospecta Americas, a proposal to launch “Centers of Excellence of Prospecta Americas” (one Center for each of the 10 transformative technologies) was formulated. The Centers shall be based on existing R&D infrastructure in OAS member states (for example: universities) and according to the national priorities of the countries that request to host them. The purpose of this “Network of Centers of Excellence” will be to strengthen capacities; provide technical assistance and to lead research projects and prospective studies on the effects that these technologies will have in the region, including the job market. The first two Centers of Excellence are scheduled to be launched on December 7, 2021 in the framework of the Ministerial Meeting – a Center on Blockchain in Hidalgo, Mexico; and a Center on Robotics and A.I. in Barranquilla, Colombia.

1. **Cross-cutting Theme: Inclusion of Women and Girls, and Other Vulnerable Populations in the Fields of Science, Technology and Innovation**

 One of the cross-cutting collaboration themes within the framework of COMCYT has been inclusion and equality of opportunities in science, technology and innovation. As such, a large number of activities have been caried out to support this endevor, including but not limited to:

* In May 2018, COLCIENCIAS Colombia (now MINCIENCIAS), held the Workshop **“Towards the promotion of the participation of women in scientific research in Latin America,”** in Bogota, in collaboration with the Colombian Observatory of Science and Technology (OCYT) and the International Development Research Center of Canada (IDRC) in order to generate a space to share knowledge and experiences, for discussion and learning, on the participation of women in research scientific in Latin America.
* On September 19, 2019, the Technical Secretariat of the COMCYT also organized a videoconference on the issue of gender equity and equality in STEM for the members and strategic partners of the COMCYT during which 21 speakers from 12 countries shared experiences and good practices of inclusion and equality.
* During the IX COMCYT Meeting held in Washington, D.C., a panel on **“Inclusive Innovation: Regional Experiences and Collaborative Projects with a Social Impact in Science and Technology”** was held, during which Anima – a technological baccalaureate initiative from Uruguay - and the “MITACS Indigenous Communities Engagement Initiative” (Canada) participated. Furthermore, a panel discussion on “Transformative Technologies and the role of Women in Industry 4.0” was also held, in which representatives from Georgetown University (United States) and the Global Engineering Deans Council (GEDC) presented.
* Another recent gender in STEM initiative is the launch of the **“Matilda Regional Chair on Women in Engineering in the Americas”** which aims to recognize and showcase the social, scientific and intellectual contributions of women to STEM fields. The Chair currently counts on 102 members from 46 institutions in 8 countries of the region. In 2020, the COMCYT Technical Secretariat contributed to the publication “Matilda and Women in Engineering in Latin America” (Second Edition) which showcases the stories of 44 women from 10 Latin American countries who decided to pursue STEM careers. The publication was launched virtually on June 6, 2020 and counted on more than 5,300 connected participants.
1. **Outreach**

 Finally, the Technical Secretariat is pleased to report the inclusion of new strategic partners to the COMCYT Working Groups:

- Federal Council of Engineering Deans of the Republic of Argentina (CONFEDI) in Working Group 2;

- Universidad de Desarrollo (Santiago, Chile) in Working Group 4

- Cientech Corporation - Knowledge Transfer and Innovation Center (Barranquilla, Colombia) in Working Groups 1 and 4;

- Reddi (Cali, Colombia) - Technology Developement Agency in Working Group 4

- University of Turabo’s School of Engineering, Puerto Rico, in Working Group 2

- TECSUP Polytechnic University of Peru in Working Group 2

- Illinois Institute of Technology in Working Group 1, 2 and 4

- CEDIA Ecuador in Working Group 4.

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