



## **A New BRICS STI Architecture**

### **1. Background**

Since 2014, the BRICS Science, Technology and Innovation cooperation has increased in scope and complexity. Currently, in addition to the Ministerial and Senior Officials meetings, activities comprise meetings of 12 working groups (WG), joint calls for research projects, a Young Scientist Forum, Water Forum, BRICS Science Academies Meeting, Conference on Technology Foresight and STI Policy, a platform for research infrastructure collaboration and an action plan for innovation, with several initiatives.

Among others, the following outcomes exemplify the increasingly dense cooperation in this field:

- The joint calls selected 91 research projects, mobilizing more than 3400 researchers in proposals submissions.
- The WG meetings have been successful in allowing scientists, researchers and government specialists to establish lines of action, develop joint projects and exchange knowledge and experience in their areas of study.
- The first version of the Research Infrastructure Platform was launched in 2018, demanding a permanent exercise of updated content.
- The Young Scientists Forum, now in its 3<sup>rd</sup> edition, gathers 100 participants per event, promoting new networks and competitions for young innovators.

At the 6<sup>th</sup> BRICS STI Ministerial Meeting, held in Durban, in 2018, the five delegations unanimously recognized the difficulties arising from these growing number of actions. In this regard, the South African presidency, along with Russia, has proposed the establishment of a permanent mechanism to manage and coordinate all BRICS STI activities. A Task Force to investigate the feasibility of such proposal was created and its first meeting took place in Moscow, last October.

At the Task Force meeting, there was no consensus around modalities and/or format for a coordination and management mechanism. Participants recognized that a permanent mechanism would require time and efforts, especially regarding financial support and institutional organization.

The maintenance and expansion of existing activities and the implementation of new ones are challenging tasks, sometimes overburdening an efficient coordination and management. Concerning this, at the Task Team meeting, it was agreed that each country could present its own model of permanent mechanism and discussions would be continued until the next meeting. A permanent mechanism to manage and coordinate BRICS STI activities should be reached in consensus by all countries.

In this regard, it is proposed the establishment of a New BRICS STI Architecture.

## **2. Goals**

The main goals of the New BRICS STI Architecture are:

A. To improve the coordination and management of BRICS STI activities through the simplification and rationalization of the cooperation governance structure;

B. To organize the different actions of cooperation according to their level of priority, in order to concentrate Government efforts in the strategic ones, giving researchers and specialists the responsibility for running scientific initiatives.

C. To ensure that the human and financial resources allocated by the five countries will be assigned to priority actions, giving them higher efficiency and effectiveness;

D. To measure, monitor and evaluate STI activities and initiatives, in order to minimise their development risks, make them result-oriented and optimise their real impact to society; and

E. To ensure wide and effective dissemination of information about BRICS STI activities amongst different stakeholders including policy makers, scientists, research organizations and a wider audience, including the development of the website of the BRICS STI Cooperation.

## **3. Implementation**

BRICS have been operating and deciding based on the Memorandum of Understanding on STI Cooperation, signed in Brasilia, in March 2015, and in the Work Plan on STI Cooperation 2015-2018, adopted in Moscow, in October 2015. In both documents, Ministerial Meeting and Senior Officials Meeting have a strategic and tactical role, respectively. It is expected that mandates of these main bodies will be preserved.

### **BRICS STI Steering Committee**

At the present moment we already have a virtual platform for communication between BRICS Focal points and STI Coordinators, acting as a virtual «Steering committee», but with regard to the increasing number of BRICS STI issues, meetings, documents, plans and proposals, etc., this form of managing needs to be improved for achieving impact and efficiency.

To support these main bodies, we propose the creation of the BRICS STI Steering Committee, which will be responsible to support the coordination, monitoring, evaluation and information about BRICS STI activities.

The BRICS STI Steering Committee will comprise of ten members appointed by the STI Ministry in each BRICS country (2 members from each country). The period of nomination will last from 3 to 5 years. Members could be replaced at any time according to the decision of the respective country.

The representatives of the country that holds the BRICS rotating presidency will act as Chairperson of the BRICS STI Steering Committee. The representatives of the country that held the BRICS presidency before will act as Deputy Chairperson. This would ensure continuity in coordination and facilitate the work of Chairperson.

The responsibilities of the Steering Committee include: circulation of the BRICS STI activities calendar, monitoring of the implementation of all activities and initiatives in BRICS STI Work Plan 2019-2022 and Action Plans, working closely with the host country of some STI meetings planned in other BRICS countries, provision of support for coordination of joint calls of the BRICS STI Framework Program, provision of information, analytical, organizational and technical support for the STI activities, , provision of a vision for future activities etc.

The meetings of the Steering Committee will take place on regular bases, under previous defined calendar proposed by the rotating presidency.

BRICS STI Steering Committee will report to the BRICS STI Senior Officials Meeting (SOM) on its work once a year.

### ***Thematic Working Groups and Crosscutting working groups***

The current 12 BRICS STI working groups shall be classified in two categories: thematic working groups and crosscutting working groups. The first category will be comprised of nine thematic working groups<sup>1</sup>, where researchers, scientists and government specialists, appointed by the Ministries, shall develop their activities in close cooperation with the STI Rotating Secretariat.

The crosscutting working groups shall be the focus of STI Ministries' actions. It is proposed that this category include the following three working groups: Science, Technology, Innovation and Entrepreneurship Partnership (STIEP) WG, Research Infrastructures WG and STI Funding WG. Since these groups deal with instruments and mechanisms for the development of a wide range of STI fields, allocating Governments' efforts to these three areas will generate better results and engage human and financial resources in a more adequate and efficient manner.

### ***Four Pillars of Cooperation***

The New BRICS STI Architecture should be based on four pillars of cooperation: Research Collaboration, Research Infrastructures, Innovation Collaboration and Sustainability (long-term cooperation).

(i) **Research Collaboration:** The BRICS STI research collaboration is comprised of two main initiatives: the STI thematic working groups and the joint calls for research projects. In the thematic working groups, officials and researchers define lines of action; develop joint projects; exchange knowledge and experience in their areas of study; and decide the scope of the joint calls. The STI Framework Program and the BRICS WG on STI Funding, which gather nine national funding agencies, are responsible for launching the joint

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<sup>1</sup> In the thematic working groups, participants usually define lines of action, develop joint projects and exchange knowledge and experience in their areas of study. The nine working groups in this category are: (i) Prevention and Monitoring of Natural disasters; (ii) New and renewable energy, and energy efficiency (with a sub-group on Solid State Lightning – SSL); (iii) Material Sciences and Nanotechnology; (iv) Information and Communication Technologies and High Performance Computing; (v) Astronomy; (vi) Biotechnology and Biomedicine, including human health and neuroscience; (vii) Ocean and polar science and technology; (viii) Geospatial technologies and its applications; (ix) Photonics.

calls for research projects.

**(iii) Research Infrastructure:** The BRICS WG on Research Infrastructure (RI) is responsible for the BRICS Global Research Advanced Infrastructure Network (GRAIN). The first step towards its development was the creation of the BRICS RI Platform, successfully launched in 2018. The five countries already announced their large research infrastructures that are available for collaboration.

**(iv) Innovation Collaboration:** Given the achievements so far in the research area, the next task should be the implementation of the BRICS Action Plan on Innovation Cooperation 2017-2020, adopted in Xiamen, in September 2017. Partners should intensify the participation of their respective productive sector into the BRICS STI cooperation, linking knowledge to manufacturing, services and digital economy.

**(iv) Sustainability (long-term cooperation):** The creation of the BRICS Young Scientist Forum (YSF) is directly related to the need to preserve BRICS STI cooperation in the next generations of researchers and entrepreneurs. In the first years of training, scientists should consider a BRICS counterpart as a natural choice for collaboration. The network of BRICS Academies of Science aims to support identified priorities on STI cooperation by providing BRICS STI Ministerial Meetings and other executive structures evidence-based science advice on global challenges and BRICS Member States, in particular. Technology Foresight and STI policy conferences serves to examine trends of STI development in BRICS states and to promote new international partnerships.

### ***Working Plan on STI Cooperation 2019-2022***

The New BRICS STI Architecture must be strongly linked to the BRICS STI Work Plan 2019-2022, since the efforts of improving coordination and management of STI activities is direct related to the implementation process.

### ***Next steps***

To nominate representatives for BRICS STI Steering Committee, to the current presidency (Brazil) in 30 days;

- To develop Terms of Reference of the BRICS STI Steering Committee (Brazil);
- To host the first meeting of the Steering Committee prior to next STI SOM (Russia);
- To create a website of the BRICS STI Cooperation (Russia);
- To start work, using the Russian presidency as a pilot phase.

# Annex: BRICS STI New Architecture

