



*Adopted on 28 October, 2015*

*and revised on 18 July, 2017*

## **BRICS SCIENCE, TECHNOLOGY AND INNOVATION**

### **WORK PLAN 2015-2018**

1. The Ministers and their representatives for Science, Technology and Innovation of the Federative Republic of Brazil, the Russian Federation, the Republic of India, the People's Republic of China and the Republic of South Africa, met in Moscow, on 28 October, 2015, to endorse the BRICS Science, Technology and Innovation Work Plan 2015-2018 based on the Memorandum of Understanding on Cooperation in Science, Technology and Innovation between the Governments of the Federative Republic of Brazil, the Russian Federation, the Republic of India, the People's Republic of China and the Republic of South Africa (hereinafter - MoU) and the Strategy for BRICS Economic Partnership (hereinafter - Strategy).

2. This Work Plan focuses on the main areas of cooperation with reference to Article 3 of the MoU. Ensuring further collaboration on the basis of mutual benefit of the BRICS countries the Work Plan also provides new research and innovation initiatives.

3. The BRICS countries responsible for implementation of the activities focused on the five thematic leadership areas as previously stated in the Brasilia Declaration decided to appoint contact institutions for collaboration within the BRICS Research and Innovation Networking Platform developing direct communication channel between stakeholders:

§ Prevention and Mitigation of Natural Disasters (Monitoring & Early Warning): Brazil (leads through the National Center for Monitoring and Early Warning of Natural Disasters – Cemaden);

§ Water resources and pollution treatment: Russia (leads through the Technology Platform for Sustainable Ecological Development);

§ Geospatial technology and its Application for development: India (leads through the National Spatial Data Infrastructure, DST); development of ICT and geospatial technology based Decision Support Systems (DSSs) for multi-hazard and climate risk management and appropriate resilient development planning for sustainable habitat;

§ New and renewable energy, and energy efficiency (Solid-state lightning as a sub-area(SSL)): China (leads through the Ministry of Science and Technology - MOST);

§ Astronomy: South Africa (leads through the National Research Foundation).

3.1 In addition to the five thematic areas the new potential initiatives include:

§ Creation of BRICS Young Scientists Forum (India as coordinating country);

§ Cooperation on Biotechnology and Biomedicine including Human Health and Neuroscience (Russia and Brazil as coordinating country);

§ Cooperation on Information Technologies and High Performance Computing (China and South Africa as coordinating countries);

§ Cooperation on Ocean and Polar Science and Technology (Brazil and Russia as coordinating countries);

§ Cooperation on Material science including Nanotechnology (India and Russia as coordinating countries);

§ Cooperation on Photonics (India and Russia as coordinating countries);

4. Following the principles of the MoU and the Strategy the coordination of the activities within the main areas of cooperation will be implemented by BRICS Research and Innovation Networking Platform (BRICS RINP) aimed at facilitation of research collaboration. Establishment of the BRICS RINP will contribute to the increasing participation of business, academia and other relevant stakeholders for BRICS STI development focused on the five thematic leadership areas.

5. Establishment of the Working Groups (WG): WG on the BRICS STI funding, WG on the BRICS research infrastructures, including mega-science projects. Each WG shall have a designated national focal point from each of the BRICS countries. The lead country is responsible for maintaining regular coordinating meetings of the national focal points to monitor, coordinate and implement activities. WGs shall meet at least once a year under the current BRICS Chair country in order to coordinate activities.

6. In order to foster STI cooperation the BRICS Research and Innovation Initiative (hereinafter - BRICS R&I Initiative) will be implemented providing the following mechanisms and levels of cooperation:

6.1. Promotion of the coordination within large-scale research infrastructure to support initiatives leading to efficient use and development of mega-science projects. Relevant Working Group should elaborate appropriate mechanisms, such as BRICS Global Research Advanced Infrastructure Network (BRICS GRAIN).

6.2. Coordination of existing large-scale national programmes of the BRICS countries.

6.3. Promotion research in the main areas of cooperation through implementation of a BRICS Framework Programme for funding multilateral joint projects for research, technology commercialization and innovation, considering following actions:

Establishment of the WG on the BRICS STI funding (includes at least one representative from each participating funding party);

§ Development of the BRICS Framework Programme for funding multilateral joint projects for research, technology commercialization and innovation and the Road Map for its implementation;

§ Launch of multilateral joint STI calls in the main areas of cooperation stated in Article 3 of the MoU with corresponding funding from each partner, including a special focus on cooperation with enterprises/ and industry, generating new knowledge and innovative products, services and processes in the BRICS countries;

. Exploring the potential of attracting resources of the New Development Bank as an additional funding mechanism of multilateral joint projects within the BRICS Framework Programme;

. Development of special funding tools for researchers mobility to support human capital in STI and promote involvement of youth.

6.4. Establishment of the BRICS RINP to facilitate research collaboration, BRICS technology transfer; to support MSMEs in technology and innovation activities; to develop innovation and technology clusters, high-tech zones / science parks and incubators; to create the BRICS research and innovation centers.

7. The realization of the present Work Plan is to be defined in the BRICS Action Plan 2015-2016.

The Action Plan accumulates the activities in the defined areas, mechanisms and levels of cooperation. The Action Plan is to be followed up, reviewed and revised by the BRICS Chair country to monitor and coordinate the activities, and prepare reports to the BRICS STI Ministers' and Senior Official's Meetings.

8. The BRICS national research institutions are encouraged to consider collaboration under BRICS thematic leadership in Biomedicine and life sciences such as:

§ integrated telemedicine systems in the regions of BRICS;

§ international consortium and center of transfer of technology in the field of Biomedicine (BRICS Biomed);

§ Systems of pharmacological consortiums with the aim to resolve the problem of "medicinal safety", anti microbial resistance and response to epidemic and emerging diseases.

9. Funding for any initiative established under this Work Plan shall be pursued by the BRICS countries in accordance with Article 6 of the MoU.

We take note of the results of the activities proposed within Action Plan 2016-2017 and welcome the Action Plan 2017-2018.

#### BRICS ACTION PLAN 2017-2018

- 2<sup>nd</sup> Meeting of BRICS Working Group on Research infrastructures and Mega-Science projects - Brazil, March, 2018
- 4<sup>th</sup> Meeting of the BRICS STI Funding Parties for final selection of projects to be funded as the outcome of the Second BRICS Coordinated Call for Proposals - Brazil, April, 2018
- 2<sup>nd</sup> Meeting of BRICS Working Group on Ocean and Polar Science and Technology - Brazil, June, 2018
- BRICS Conference on Technology Foresight and STI Policy - Russia, November, 2017
- 1<sup>st</sup> Meeting on BRICS Working Group on Biotechnology and Biomedicine, including Human Health and Neuroscience - Russia, November, 2017
- 1<sup>st</sup> Meeting of BRICS Working Group on Materials Science and Nanotechnology - Russia, October, 2017
- 1<sup>st</sup> Meeting of BRICS Working Group on Photonics - Russia, 2018
- 3<sup>rd</sup> Meeting of BRICS Working Group on Astronomy - India, September 2017
- 2<sup>nd</sup> Meeting of Working Group on ICT and High Performance Computing - India & South Africa , 2018
- 2<sup>nd</sup> Meeting on BRICS Science and Technology driven Entrepreneurship and Innovation Partnership - China, 2018
- 1<sup>st</sup> Meeting of Working Group and Forum on New and Renewable Energy - China, 2017
- 3<sup>rd</sup> Meeting of BRICS Working Group on Geospatial and its Application- South Africa, 2018
- 3<sup>rd</sup> BRICS Young Scientist Forum - South Africa, 2018
- 3<sup>rd</sup> Meeting of BRICS Water Forum - 2018, South Africa

- 3<sup>rd</sup> Meeting of BRICS Working Group on Prevention and Monitoring of Natural Disaster (back to back with the 3<sup>rd</sup> Meeting of BRICS Working Group on Geospatial and its Application - South Africa, 2018) - South Africa, 2018
- 5<sup>th</sup> Meeting of BRICS Solid State Lighting (SSL) Sub Working Group - venue to be decided, 2018
- Second BRICS Coordinated Call for Proposals, Call Secretariat, 2017-2018