BRICS cooperation on Science, Technology and Innovation















Comunidade dos Países





UNOOSA

























NACIONES UNIDAS







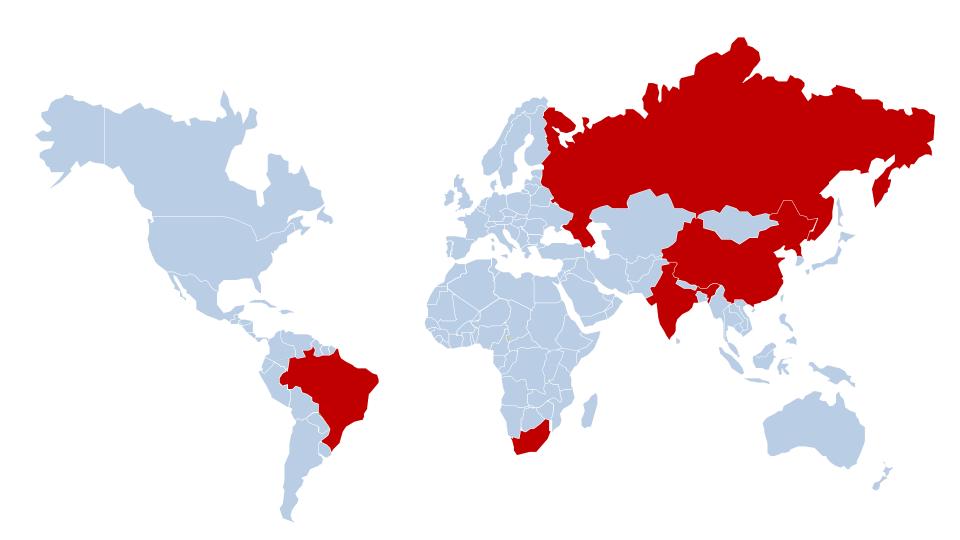












BRICS overview

- 29% of world land area
- 41% of world population
- 24% of world GDP (2019)
- 17% of the global expenditures in R&D
- 27% of the papers published in international journals

BRICS STI cooperation milestones

Sep. 2011 – 1st SOM (Dalian, China); Total: 13 editions

Feb. 2014 – 1st Ministerial Meeting (Cape Town, SA); Total: 11 editions

Mar. 2015 – MoU on STI Cooperation

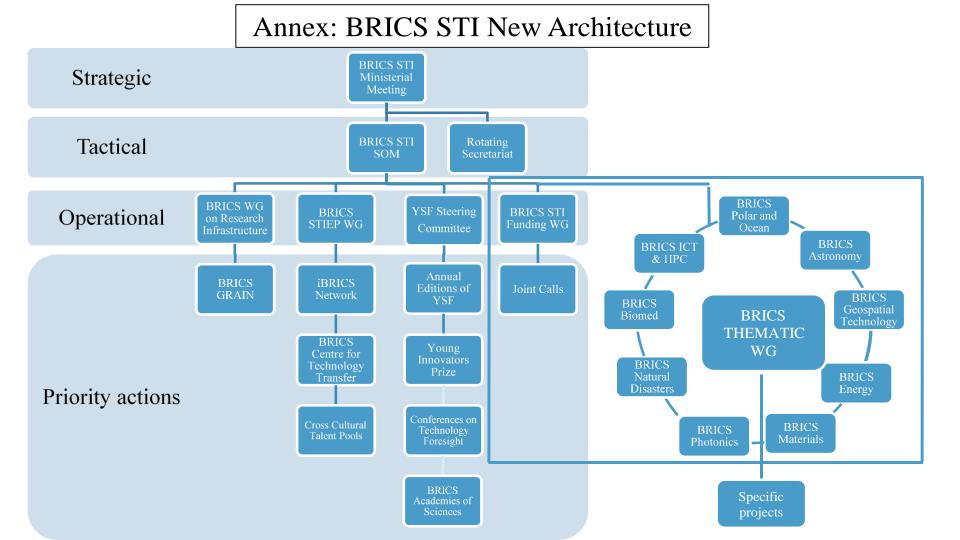
<u>Oct. 2015</u> – Work Plan on STI Cooperation (2015-2018) / Updated in <u>Sep.</u> 2019 (2019-2022)

<u>Jul. 2017</u> – BRICS Action Plan for Innovation Cooperation (2017-2020) / Updated in <u>Nov. 2021 (</u>2021-2024)

Sep. 2019 – BRICS STI New Architecture

4 pillars for BRICS STI cooperation

- A. Research collaboration: WG and Joint calls
- B. Research infrastructures
- C. Innovation
- D. Sustainability long term cooperation



Research colaboration: WG

- 13 thematic Working Groups annual meetings
- Government + Academy + Private Sector
- ✓ Natural disasters
- ✓ New and renewable energy, energy efficiency
- ✓ Material Sciences and Nanotechnology
- ✓ High performance computing
- ✓ Astronomy
- ✓ Biotechnology and Biomedicine
- ✓ Water resources and pollution treatment

- Ocean and polar science and technology
- ✓ Geospatial technologies and its applications
- ✓ Photonics
- ✓ STI Financing Agencies
- ✓ STIEP
- ✓ Research Infrastructures

Research colaboration: WG

Specific projects: a few examples

- WG on Astronomy: BRICS Intelligent Telescope and Data Network (BITDN)
- WG on Ocean and Polar S&T: since 2016 joint expeditions, sharing research vessels and exchanging positions for researchers in specific cruises
- WG on ICT and HPC: proposed two flagship projects called BRICS Innovation and Collaboration Cloud (BICC) and the Integrated Hub for BRICS Innovation Collaboration
- WG on Biotechnology and Biomedicine: support the BRICS joint call for Covid-19 and the BRICS R&D Center of Vaccines
- WGs on Material Sciences: established the BRICS Network Centre for Materials Science and Nanotechnology

Research collaboration: joint calls...

- STI Framework Program 10 national agencies
- 5 calls in 7 years (2016, 2017, 2019, 2020 and 2022)
- 3 to 2-years projects thematic priorities (WG)
- More than 1800 proposals submitted (at least 5400 researchers involved)
- 138 projects supported

...Next steps: flaghip projects.

STI FRAMEWORK PROGRAMME

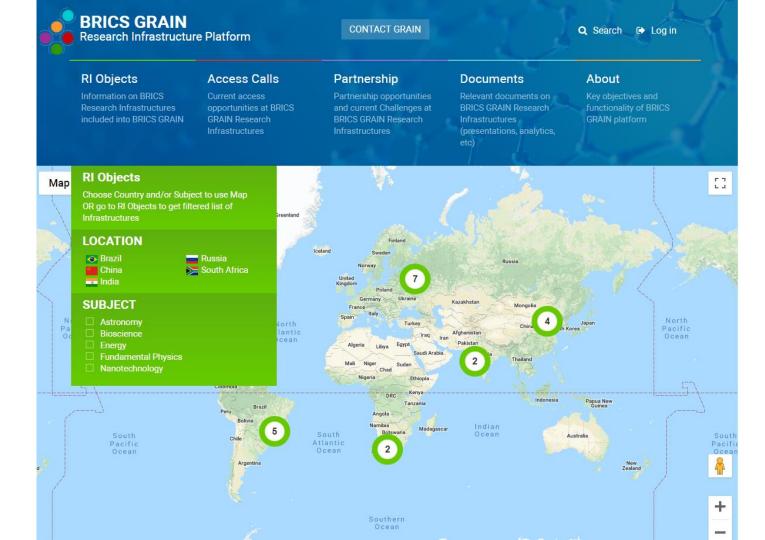


http://brics.skoltech.ru/

Programme the BRICS STI Funding Working Group held workshop "Discussion on BRICS STI Flagship Projects" aimed at discussion of BRICS STI Flagship Projects concept. The goal of the meeting was to exchange views on the concept of BRICS Flagship Projects, including discussion on global challenges of BRICS strategic importance that Flagship Projects could address, prospective areas of BRICS Flagship projects call for proposals, definition and

Research infrastructures

- **BRICS GRAIN Infrastructure Platform** provides the list of available research opportunities for scientists.
- BRICS WG on Research Infrastructure and Megascience Projects
- Strategic plan on BRICS STI cooperation in research infrastructures and megascience projects



Innovation

- Science, Technology driven Entrepreneurship (STIEP)
- BRICS Action Plan for Innovation Cooperation (2017-2020) (2021-2024)
- iBRICS Network: science parks, incubators and startups
- BRICS Centers of Technology Transfer

Sustainability – long term cooperation

- Young Scientists Forum (Bengaluru, 2016/ Hangzhou, 2017/ Durban, 2018 / Rio de Janeiro, 2019 / Virtual Russia, 2020 / Virtual India, 2021 / Virtual China, 2022 / Gqeberha, 2023).
- Guarantee BRICS STI collaboration in the next research/entrepreneurs generations
- Approximately 100 young scientists per event
- Thematic debates (biotech, energy, AI, science diplomacy, women in science, etc)
- Young Innovators prize

The way forward

 BRICS new members invited: Argentina, Egypt, Ethiopia, Iran, Saudi Arabia and the United Arab Emirates.