

SECURITY INDEX №9 (24) | 2021

OCCASIONAL PAPER SERIES

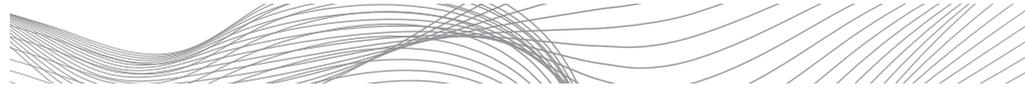
Global Edition

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THE SIXTH LETTER OF BRICS: INTERNATIONAL SECURITY AND RUSSIAN INTERESTS



MOSCOW, 2021



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The sixth letter of BRICS: International security and Russian interests / Ed. Vladimir Orlov, Sergey Semenov. M.: PIR Press, 2021. – 47 p. – (*Security Index Occasional Paper Series*).

This occasional paper analyzes the prospects for the enlargement of BRICS in terms of prospects for strengthening the position of the association in addressing global security issues. The potential of Argentina, Mexico, Turkey, Iran, Egypt, and Indonesia that may be considered for membership in BRICS is considered in detail in the field of international information security, the use of artificial intelligence, peaceful atom and cooperation in the development of outer space, as well as countering WMD-terrorism. The authors state that there is a dichotomy between the development of the potential of the association in its current composition and its quantitative expansion.

This occasional paper and other materials are available at:
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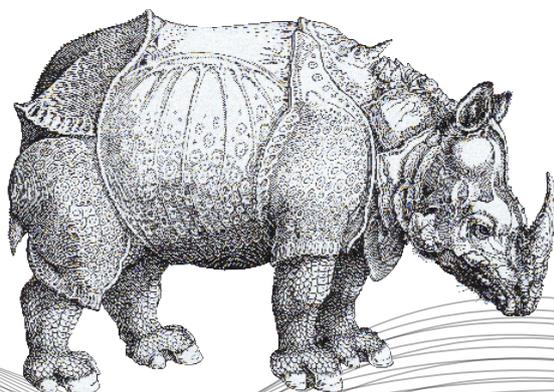
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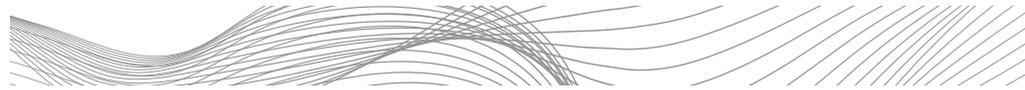
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Highlights

- Based on the security agenda of the candidate countries, Egypt and Indonesia will fit most into the existing architecture of cooperation between the BRICS countries, since they have serious potential in countering cross-border security threats and will not burden the union with additional geopolitical problems.
- Among the candidates, Iran, Indonesia and Turkey have the highest ratings in terms of the number of researchers and university professors in the field of AI, the number of scientific publications and the citation level.
- From the point of view of international information security, Indonesia is the most promising candidate for joining the BRICS, since, unlike other countries, promising areas of cooperation have already been developed between Indonesia and Russia, which could set the vector of development within BRICS.
- In the field of cooperation in space, Indonesia is of serious economic interest, primarily due to the geographical features of the country.
- An analysis of the nuclear potential of the candidate countries shows that none of these countries will be able to bring a qualitatively new dynamic to the cooperation of the BRICS countries on the peaceful use of nuclear energy.
- Argentina and Mexico are showing great activity in countering WMD terrorism.
- Taking into account all the factors considered in this report, it was determined that Indonesia is the most suitable candidate to join the BRICS.
- However, at the moment, the potential of the association in its current composition has not yet been exhausted. The advantages resulting from the expansion of the BRICS can also be achieved within the framework of other formats of interaction with partners.



THE SIXTH LETTER OF BRICS: International security and Russian interests

INTRODUCTION

Since its establishment, the BRICS format has become a systemic and integral factor of international relations. Its viability is no longer in any doubt. Brazil's rotating chairmanship in 2019 has also demonstrated that regardless of the political vicissitudes in its member states, BRICS remains highly relevant. Engagement in the BRICS format is not limited to annual summits, as some critics claim; by now, the member states have managed to build a dense and tightly intertwined network of cooperation on a steadily growing range of issues. The BRICS New Development Bank is up and running; in 2019 alone, the NDB Board approved 12 new investment projects in the BRICS states. The 42 investment projects approved since the bank began operations in 2015 are worth a total of over 11bn dollars. Work is under way to strengthen the BRICS Pool of Conventional Currency Reserves, a pool of reserve capital meant as a financial stability cushion for the BRICS states in the event of a crisis.

Nevertheless, despite some obvious success stories, the pace of the progress towards achieving the original BRICS objectives leaves much to be desired. These objectives include a restructuring of the global financial architecture; a strengthening of the BRICS members' positions in the UN system; and facilitating a transition towards a multicentric world order.

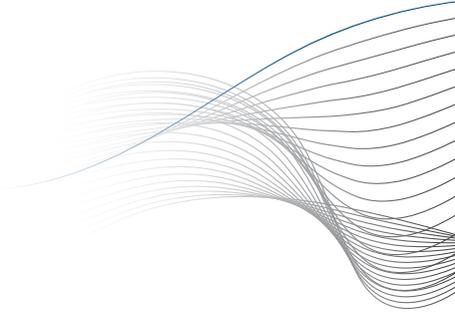
In this transitional period, it is especially important for BRICS to further strengthen dialogue with its external partners, primarily the BRICS-Plus states. The fact that the bloc does not currently include any Middle Eastern or Southeast Asian states limits the potential for the formation of the BRICS partnership network. On the whole, while the current BRICS membership is very impressive, it still does not include any Islamic states, which creates a certain imbalance – even though Muslims make up a sizeable minority in two of the five current BRICS members, India and Russia.

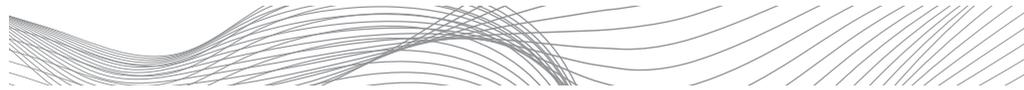
We agree with the view expressed by G.D. Toloraya, Director of the National Committee for BRICS Studies, that building up partnerships with large non-BRICS members who are showing interest in the bloc would be a significant step towards making BRICS more relevant as an organization that expresses the interests of the greater part of our planet's population. Allowing this process to drag on for too long raises the risk of the former BRICS "circle of friends" looking for alternative ways of becoming more involved in global governance. That is why in the medium term, it would be useful to think about serious changes in the format and contents of BRICS activities.

One of the potential solutions would be to invite new members – but it would be important to make sure that those new members are stronger economies that can make a tangible contribution to the bloc. Other factors that must be considered include

the membership candidates' relative political and economic independence from the existing centers of global power, their political orientation, the clout they wield at the international economic institutions, and their involvement in regional integration initiatives. Over the medium terms, potential candidates might include six states: Argentina, Mexico, Turkey, Iran, Egypt, and Indonesia.

The purpose of this report is to analyze whether and to what extent the admission of one or several of these states could strengthen (or perhaps weaken?) the BRICS role in the international security architecture. Since PIR Center research has long focused on such issues as WMD nonproliferation, peaceful nuclear energy, space exploration, international information security, and new technologies, the emphasis of this paper is on the potential role of BRICS in addressing these challenges.





SECURITY AGENDA OF THE CANDIDATES FOR MEMBERSHIP

Nikita Degtyaryov,
Yevgeny Kholodnov,
Leonid Tsukanov

Argentina

Argentina still has an unresolved territorial dispute with the UK over the Falklands (the Malvinas), as well as the South Georgia and South Sandwich Islands, which are currently under British control. The Argentine Constitution claims sovereignty of these islands and the waters around them. “The return of these territories and the restoration of national sovereignty of them... is an unwavering goal of the Argentine people,” the Constitution reads.¹² It is quite likely that once the country becomes a BRICS member, it will try to use the bloc to further its national policy on the disputed islands.

Additionally, Argentina wants to pursue a closer international cooperation on countering terrorism, drug trafficking, cybercrime, human trafficking, and WMD proliferation.³ The problems of drug trafficking and cybercrime would appear to be the most pressing for the country. It is ranked as one of the Latin American states that are the most vulnerable to cyberattacks.⁴ In fact, according to Symantec, Argentina ranks 8th internationally in terms of the number of cybercrimes originating in its territory.⁵

Buenos Aires also has an interest in international cooperation to counter drug trafficking because it is a major transit route for drugs flowing from the Andes region to Europe, Southeast Asia, Africa, and the United States. In recent years, due to effective measures taken by the Mexican and Colombian drug agencies in their countries, there has also been a rise in Argentina’s own drugs production.

One example of cooperation on international challenges and threats that is already ongoing between Argentina and a BRICS nation is the 2017 Russian-Argentine memorandum on cooperation. The agreement stipulates ongoing consultations and exchanges on strategic issues of mutual interest pertaining to regional and international security. The parties have also agreed to cooperate “on countering international terrorism, drug trafficking, arms smuggling, people smuggling, piracy, cybercrime, money laundering, economic crime, and other transnational crime.”⁶

Mexico

Organized crime is the country’s main social and political problem. Mexico has numerous organized crime syndicates involved in the production and trafficking of narcotics. They also wage wars between themselves for control of territories and trade. The Jalisco

¹ The Constitution of Argentina // World Constitutions. <https://worldconstitutions.ru/?p=358>.

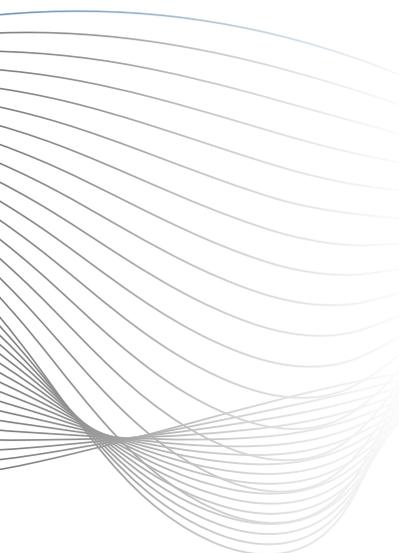
² The Question of the Malvinas Islands // Ministry of Foreign Affairs, International Trade and Worship, Argentina. URL: <https://cancilleria.gob.ar/en/foreign-policy/question-malvinas-islands>.

³ International security // Ministry of Foreign Affairs, International Trade and Worship, Argentina. URL: <https://cancilleria.gob.ar/en/foreign-policy/international-security>.

⁴ Carolina Zepeda. Cyber attacks in Latin America – the growing need for digital security // Contxto. 2019. URL: <https://www.contxto.com/en/informative/cyber-attacks-in-latin-america-the-growing-need-for-digital-security/>.

⁵ Christian Schreiber. Cybersecurity Challenges For Latin America // GESI. 2018. URL: <https://www.seguridadinternacional.es/?q=es/content/cybersecurity-challenges-latin-america>.

⁶ On a visit to Buenos Aires, Russian Security Council secretary holds consultations on international security and bilateral Russian-Argentine cooperation on national security issues // Russian Security Council. 2017. <http://www.scrf.gov.ru/news/allnews/2331/>.



co Cartel is ranked as “one of the top five most dangerous transnational crime organizations in the world”.⁷ In 2019, Mexico recorded at least 35,500 murders,⁸ most of them committed by various organized crime groups.⁹ The murder rate has grown steadily since 2014.¹⁰

Drug trafficking is a huge part of Mexico’s crime problem. The country is an important transit route for drugs flowing from South America¹¹, mostly cocaine. It is also a major producer of heroin, methamphetamine, and fentanyl.¹²

Mexico also faces a serious cybersecurity problem. The number of cybercrimes recorded in the country has grown sharply since 2014. The 2017 Mexican National Cybersecurity Strategy admits that cybercrime, including the development of malicious software, is outpacing the development of national cybersecurity policy and regulation. The digital revolution has also given rise to new national security challenges, including the need to protect critical infrastructure from cyberattacks.¹³

Turkey

Domestic and international terrorism is among the main security problems facing Turkey. The country is at war with several large terrorist organizations, including the Kurdistan Workers’ Party (PKK), Fethullah Gulen’s FETÖ terrorist organization, the Revolutionary People’s Liberation Party/Front, Al Qaeda, ISIS, the Al Nusra Front, and others. The Turkish security forces conduct regular operations against those outfits, which have many followers inside the country.¹⁴

Turkey’s struggle with the PKK and other Kurdish outfits deserves a special mention. The Turkish security forces conduct regular military operations against the Kurds in Syria and Iraq (often drawing the ire of the two countries’ governments), as well as in Turkey itself. The fight against the Kurds in foreign territory is made necessary by attacks against Turkish military bases situated in close proximity to the border with Iraq and Syria. There are also training camps used by the Kurds to prepare attacks against targets in Turkey.

Turkey is especially active in Syria, where Ankara is trying to suppress the Kurdish problem by creating a buffer zone along the Turkish-Syrian border and to address the problem of Syrian refugees heading for Turkey, where they have a major economic, social, and political impact.

Another problem is drug trafficking, which is a sizeable source of revenue for the terror groups. Turkey is a tran-

Argentina is one of the most vulnerable countries in the region to cyber attacks and ranks 8th in the world in terms of the number of cybercrimes committed from the country

⁷ Nicholas Wells. Four Mexican Cartels Battling for Control of Avocado Trade // <https://www.occrp.org/ru/daily/10798-four-mexican-cartels-battling-for-control-of-avocado-trade>.

⁸ More than 950 policemen killed in Mexico over the past two years // Rossiyskaya Gazeta. 2020. <https://rg.ru/2020/02/05/bolee-950-policejskih-byli-ubity-v-meksike-za-dva-goda.html>

⁹ Mexico records more than 33,000 murders in 2018 // Izvestiya. 2019. <https://iz.ru/836506/2019-01-21/v-meksike-za-2018-god-ubili-bolee-33-tys-chelovek>

¹⁰ Guadalupe Correa-Cabrera. Mexican Security Diagnosis and a Proposal to Eradicate Violence // The Wilson Center. 2018. URL: https://www.wilsoncenter.org/sites/default/files/media/documents/publication/mexican_security_diagnosis_and_a_proposal_to_eradicate_violence.pdf

¹¹ Richard H. Glenn. Assessing U.S. Security Assistance to Mexico // U.S. Department of State. 2020. URL: <https://www.state.gov/assessing-u-s-security-assistance-to-mexico/>

¹² Brianna Lee, Danielle Renwick, and Rocio Cara Labrador. Mexico’s Drug War // Council on Foreign Relations. 2019. URL: <https://www.cfr.org/backgrounder/mexicos-drug-war>

¹³ Luisa Parraguez Kobek. Quo vadis? Mexico’s National Cybersecurity Strategy // The Wilson Center. 2018. URL: https://www.wilsoncenter.org/sites/default/files/media/documents/publication/quo_vadis_mexicos_cybersecurity_strategy.pdf

¹⁴ Turkey’s Contributions to International Community’s Efforts to Fight Terrorism // Republic of Turkey Ministry of Foreign Affairs. URL: http://www.mfa.gov.tr/turkey_s-contributions-to-international-community_s-efforts-to-fight-terrorism.en.mfa



sit state for such drugs as heroin, amphetamines, and cocaine. It is also a major importer of cocaine and extasy. In addition to its efforts on the national level, Turkey advocates a greater regional and global cooperation to counter drug trafficking.¹⁵

Meanwhile, tensions have been rising lately between Ankara and Athens in the eastern Mediterranean over Ankara's exploratory drilling for gas in waters claimed by Greece following the signature in 2019 of a memorandum on military cooperation and maritime boundaries between the Turkish government and Libya's Transitional National Council. The Greek and Turkish armed forces have been put on high alert; in fact, Greece has said it is ready to take military action against Turkey. All of this could lead to a military conflict.

Turkey also pursues an active policy on Libya and Yemen, which could lead at some point in the future to a serious conflict with the Arab states – primarily Egypt, the UAE, and Saudi Arabia.¹⁶

Cyberattacks are another major part of the national security equation, and Turkey actively pursues programs of strengthening its cybersecurity.¹⁷

It would appear that Turkey could make a valuable contribution to the joint BRICS effort in such areas as countering terrorism and drug trafficking, strengthening international information security, and others.¹⁸ At the same time, there is some divergence between the BRICS and Turkish approaches. For example, Turkey regards the PKK as a terrorist organization, while Russia does not. Meanwhile, Russia has designated the Muslim Brotherhood as terrorists, whereas Turkey supports that group.

If Turkey were to join BRICS, it would cause a number of new problems stemming from Ankara's opportunistic policies and its fraught relations with several countries in the region. Another important consideration is that Turkey is a NATO member, and there is lot of divergence between the BRICS and NATO approaches to international security.

Islamic Republic of Iran

The Iranian security agenda has long focused on the problem of cross-border threats. According to UNODC reports, Iran is one of the key transit routes for the smuggling of drugs from Af-

¹⁵ Turkey's Contributions in the Fight Against Drug Trafficking // Republic of Turkey Ministry of Foreign Affairs. URL: http://www.mfa.gov.tr/turkey_s-contributions-in-the-fight-against--drug-trafficking.en.mfa

¹⁶ Leonid Tsukanov. Fatih begins and wins? // The Russian Council for International Affairs. 2020. <https://russiancouncil.ru/blogs/tsukanov/fatih-nachinaet-i-vyigryvaet/>

¹⁷ Ramin Abdullayev. Turkey should turn into a global cybersecurity brand // Anadolu. 2020. <https://www.aa.com.tr/ru/%D1%82%D1%83%D1%80%D1%86%D0%B8%D1%8F%D1%82%D1%83%D1%80%D1%86%D0%B8%D1%8F-%D0%B4%D0%BE%D0%BB%D0%B6%D0%BD%D0%B0-%D0%BF%D1%80%D0%B5%D0%B2%D1%80%D0%B0%D1%82%D0%B8%D1%82%D1%8C%D1%81%D1%8F-%D0%B2-%D0%BC%D0%B8%D1%80%D0%BE%D0%B2%D0%BE%D0%B9-%D0%B1%D1%80%D0%B5%D0%BD%D0%B4-%D0%BA%D0%B8%D0%B1%D0%B5%D1%80%D0%B1%D0%B5%D0%B7%D0%BE%D0%BF%D0%B0%D1%81%D0%BD%D0%BE%D1%81%D1%82%D0%B8/1729533>

¹⁸ Turkey on Trafficking in Human Beings // Republic of Turkey Ministry of Foreign Affairs. URL: <http://www.mfa.gov.tr/turkey-on-trafficking-in-human-beings.en.mfa>

ghanistan to Europe. At the same time, Iran is making a notable contribution to the international effort against drug trafficking: every year, the country confiscates over 90% of the global circulation of opium, 26% of heroin, and 48% of morphine.¹⁹

Iran also wages a bitter struggle against terror groups such as ISIS²⁰, radical ethnic groups (Jundullah), and radical political movements (Mujahedin-e-Khalq, Tondar, and others). Importantly, this struggle is not limited to Iran's own territory. The Iranian armed forces and secret services are fighting terrorists in Syria, Iraq, and Afghanistan. Another closely related problem is the Kurds. Even though the Iranian Kurds are far less prone to separatism than the Kurds in Syria, the Iranian leadership prefers a proactive approach that combines pressure with economic subsidies.

Another major priority for Iran is cybersecurity. The Iranian cybersecurity arrangements are essentially a quasi-system composed of numerous independent cyber groups that have a lot of autonomy from the state. The central component of that system is the Electronic Army of Iran – a collective of hacker groups that profess ideological loyalty to the Iranian regime. The government institutions that are in charge of cybersecurity issues (such as the Ministry of Information, the FATA Cyber Police, and others) mostly just designate targets, coordinate the hackers' activities, and develop cyber warfare strategies.²¹ Tehran views cybersecurity as an offensive instrument and invests a lot of resources into a reorganization of its national cyber forces.

It is important to stress that following the collapse of the Joint Comprehensive Plan of Action (JCPOA) regime, the list of national security threats facing Iran continues to grow. Very soon, that list might include the security of oil transit via the Strait of Hormuz, industrial espionage, and overcoming the negative impact of the country's deteriorating relations with the West.

If Iran were to join BRICS, it would most likely focus on promoting initiatives to counter drug trafficking and international terrorism, as well as (to some extent) to settle conflicts in the Middle East. On the whole, Tehran shares the BRICS nations' approaches to collective security. It also has an interest in building a reliable counterbalance to the pan-Arab security bloc in the region – namely, the MESA alliance currently being promoted by the United States. On the other hand, there are likely complications for dialogue with Iran in the BRICS format, including Tehran's attempts to export Shia ideology²² to neighboring states using proxies and offensive operations in cyberspace.

The excessive activity of Iranian proxies and hacker groups can not only destabilize the situation in the region but also pose a national security threat to the BRICS nations. Also, Iran's overly aggressive policies will complicate relations between BRICS and the United States, a country that is perceived by Iran as one of the key national security threats, and add a strong whiff of anti-Americanism to the entire BRICS club. There may also be complications with interpreting the term "terror threat" since not all the groups designated as terrorist by Iran are seen in the same light by the BRICS nations. Further divisions over the status of such organizations as Mujahedin-e-Khalq would not be conducive to consolidation of the BRICS

Tehran, in general, shares the approaches of the BRICS countries to ensuring collective security, and is also interested in creating a stable counterweight to the pan-Arab security bloc in the region

¹⁹ UNODC in Islamic Republic of Iran // UNODC. URL: <https://www.unodc.org/islamicrepublicofiran/en/index.html>

²⁰ The organization is prohibited on the territory of the Russian Federation

²¹ Siboni G. Iran's Cyber Warfare // The Institute for National Security Studies. 15.10.2013. URL: <https://www.inss.org.il/publication/irans-cyber-warfare>

²² The rise of Iran as a regional power: Shia empowerment and its limits // NATO. 2016. URL: <https://www.nato.int/docu/review/2016/Also-in-2016/iran-tehran-islamic/EN/index.htm>



nations; it might also add fuel to old differences between the existing BRICS members (such as the Indian–Chinese differences over Greater Balochistan).

Arab Republic of Egypt

For Egypt, one of the key national security priorities is countering the terror threat. The list of specific terror threats faced by the country includes international outfits such as ISIS and Al-Qaeda; smaller local groups such as Ansar Bait al-Maqdis, Ansar al-Sharia, and others; and political movements designated as terrorist (The Muslim Brotherhood). The fight with international terrorism often overlaps with other national security challenges facing Egypt. For example, the Egyptian national security community often includes drug trafficking and smuggling from unstable countries in its definition of counterterrorism. Such a comprehensive approach is also one of the key reasons why Egypt seeks to strengthen its military presence abroad (such as in Libya).²³ There is also a lot of focus on piracy. Egypt has long been a major supporter of international initiatives to suppress piracy in the Red Sea region, and it welcomes international institutional efforts in that area.

Another major national security threat facing Egypt is the scarcity of fresh water resources. The Egyptian economy is almost totally dependent on the Nile, which draws 95 per cent of its water from upstream tributaries in Sudan and Ethiopia. The ongoing dispute over the Grand Ethiopian Renaissance Dam (also known as the Hidase Dam) therefore makes Cairo politically and economically vulnerable to unfriendly steps by its neighbors.²⁴

Cybersecurity is another major challenge facing Egypt. The country is investing significant resources into developing the national cyber force. It also pursues active institutional efforts in the framework of the International Telecommunications Union (ITU). Egypt's approach to cybersecurity is quite different from the approaches adopted by other Arab states, and has a lot in common with Iran²⁵ (especially in terms of reliance on pro-government groups as an instrument of cyber warfare).

If Egypt were to join BRICS, it would make a strong contribution to the collective effort against terrorism (in the broader definition of that term) and conflict settlement in the Middle East. But on the other hand, Egypt would be a fairly difficult partner in terms of international peacekeeping. One major cause of division would be Cairo's systemic violations of the arms embargo on Libya, which

²³ L. Tsukanov. The "Egyptian face" of an anti-Turkish club // The Russian Council for International Affairs. 22 June 2020. <https://russiancouncil.ru/blogs/ltsukanov/egipetskoe-litso-antiturskogo-kluba/>

²⁴ I. Ibragimov. The Domestic Political Situation in Egypt // The Russian Council for International Affairs. 28 March 2019. https://russiancouncil.ru/analytics-and-comments/analytics/vnutripoliticheskaya/?sphrase_id=44988747

²⁵ Siboni G. Iran's Cyber Warfare // The Institute for National Security Studies. 15.10.2013. URL: <https://www.inss.org.il/publication/irans-cyber-warfare>

essentially runs counter to the BRICS strategy of seeking to reduce regional tensions. There is an outright conflict between Egypt and Turkey, and a military-political rivalry between Egypt and Algeria; both could exacerbate the existing tensions. There might also be difficulties on the matter of cybersecurity. Even though the Egyptian government actively promotes the idea of consolidating efforts and building confidence in cyberspace, not all of its pro-government proxies are equally loyal. A case in point is the Egyptian Cyber Army hacker group, which is often used by Cairo to combat terrorist presence in cyberspace. There have been precedents of that group conducting “information sabotage” operations against other nations, including those formally allied with Egypt.²⁶ Such a “double game” could severely undermine mutual confidence among the BRICS nations.

Indonesia

Development of the Indo-Pacific Region concept could become one of the main issues on Indonesia’s agenda. The Indonesian Foreign Ministry uses the definition of the Indo-Pacific Region as “a strategically important triangle in the Indian and Pacific Oceans between Japan in the north, Australia in the southeast, India in the southwest, and with Indonesia at its center”. Jakarta aims to find common ground between the leading regional actors – the United States, Australia, India, and China – in order to build a predictable regional security system.²⁷ Indonesia also seeks to become “a global maritime pillar” for countries in the region. On that issue, it may also count on strong support from India. The *Look East* concept announced by New Delhi has much in common with Indonesia’s own strategic vision of the region’s future foreign-policy architecture.²⁸

One of Indonesia’s priorities as a BRICS member would be to rally support for the UN Convention on the Law of the Sea in Southeast Asia, especially in the South China Sea. On that issue, it may run into trouble with China. As of September 2015, China was Indonesia’s largest foreign trade partner; the two countries bilateral trade was worth 27.2bn dollars.²⁹ Nevertheless, ever since 1993, Indonesia has rejected the Nine-Dash Line used by China to define its territorial claims in the South China Sea.³⁰ Jakarta insists that that the Nine-Dash Line runs counter to the UN Convention on the Law of the Sea, and that China’s further southward expansion could eventually lead to tensions, including a territorial dispute between China and Indonesia. Another important issue for Indonesia is piracy because Southeast Asia has the world’s second-highest level of piracy in the world.³¹

Yet another important issue for Indonesia on the BRICS secu-

²⁶ Egypt government linked to major hacking operation against activists, opposition figures // Al-Arabia. 03.10.2019. URL: <https://english.alaraby.co.uk/english/news/2019/10/3/egypt-hacked-activists-and-opposition-figures-phones-report-says>

²⁷ Indo-Pacific Concepts (memo). Diplomatic Academy of the Russian Foreign Ministry. <http://diplacademy.ru/about/ЛИЖ-записка-сайт-ДА.pdf> (Retrieved on 5 Aug 2020)

²⁸ V. Gulevich. Indo-Pacific region and Australian-Indonesian cooperation. *Mezhdunarodnaya Zhizn*. <https://interaffairs.ru/news/show/22331> (Retrieved on 5 Aug 2020)

²⁹ Supriyanto, R.A. Out of Comfort Zone: Indonesia and South China Sea. *Asia Policy*, No 21 (January 2016), pp. 21-28. URL: https://proxy.library.spbu.ru:2163/stable/pdf/24905085.pdf?ab_segments=0%252Fbasic_SYC-5187%252Fcontrol (Retrieved on 5 Aug 2020).

³⁰ Supriyanto, R.A. Out of Comfort Zone: Indonesia and South China Sea. *Asia Policy*, No 21 (January 2016), pp. 21-28. URL: https://proxy.library.spbu.ru:2163/stable/pdf/24905085.pdf?ab_segments=0%252Fbasic_SYC-5187%252Fcontrol (Retrieved on 5 Aug 2020).

³¹ IMB Piracy & Armed Robbery Map 2020. Commercial Crime Service. URL: <https://www.icc-ccs.org/piracy-reporting-centre/live-piracy-map> (Retrieved on 5 Aug 2020).



rity agenda is international terrorism. Indonesia is a Muslim-majority state, which makes it vulnerable to international radical extremism and terrorism. ISIS has been active in the country since 2016. Al-Qaeda's presence goes back even longer; the group receives active support from the radical extremist organization Jemaah Islamiyah.³²

Clearly, most of the potential candidates for BRICS membership considered in this section have an interest in stronger international cooperation to counter new challenges and threats, including international terrorism, cyber threats, and transnational organized crime. At the same time, there should be no illusions: shared challenges do not necessarily translate into shared views. Each new BRICS member would bring with it new complexities in hammering out a common stance.

We believe that Egypt and Indonesia would be the easiest and most natural fit for the already existing architecture of cooperation between the BRICS nations. Apart from their impressive potential in terms of countering transnational security threats, the two countries have another very important advantage: they would not burden the bloc with any additional geopolitical problems. Yet another important factor is their regional/civilizational affiliation: Egypt and Indonesia have formidable positions in their respective regions and in the Islamic world as a whole. As such, they would be a valuable addition to BRICS in terms of international security partnerships.

³² Arianti, V., Taufiqurrohman M. Southeast Asia. Indonesia. Counter Terrorist Trends and Analyses, Vol. 9, No. 1 (January 2017), pp. 13-17. URL: https://proxy.library.spbu.ru:2163/stable/pdf/26351476.pdf?ab_segments=0%252Fbasic_SYC-5187%252Fcontrol (Retrieved on 5 Aug 2020).

ARTIFICIAL INTELLIGENCE IN BRICS: ANY POTENTIAL FOR SYNERGY?

Global competition for dominance in the area of advanced digital technologies is now at the center of many international processes. In this “battle of giants”, the two main actors – the United States and China – account for 90% of market capitalization of the world’s 70 largest digital platforms. Europe’s share is 4 per cent, while Africa and Latin America account for only 1 per cent between them.³³

A simple comparison of the BRICS nations’ digital assets demonstrates that China is far ahead of the rest of the bloc put together by this particular measure. Beijing’s strategy, called Next-Generation AI Development Plan³⁴, aims to restore to China its lost position as the global technological leader – a position which, according to the Chinese leadership, the country has held firmly for most of its history. Beijing views the global digital space as a battlefield where the main technologically advanced countries “try to dominate in the new round of international technological competition”, and where China faces the task of “firmly grasping the strategic initiative in the new stage of international competition in AI development”. The United States regularly reinforce that Chinese vision by adding a clear anti-Chinese aspect to all AI-related alliances, from the OECD to the Global Partnership on Artificial Intelligence (GPAI)³⁵. It is worth noting that India, the second most powerful digital nation in the BRICS bloc, is a GPAI member. Washington is skillfully trying to recruit New Delhi as a member of an alliance targeted against China. These efforts have been made easier by the recent border conflict between the two countries, which led to a vociferous information war and an Indian ban on the leading Chinese Internet applications.

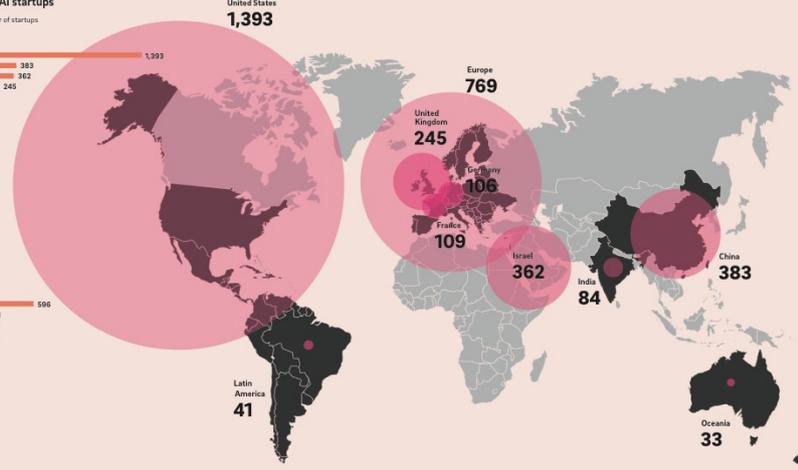
In this situation of obvious “digital disparity”, BRICS is trying to find a balance of interests. In November 2016, the BRICS nations adopted a “Joint IT Development Program and Action Plan” consisting of six key components: establishing national IT development programs; cooperation between the IT companies at every level; IT research & development and innovation; broadening and strengthening the potential of the digital economy; electronic governance, including mobile platforms; and international cooperation and coordination of joint programs.³⁶

Vadim Kozyulin

A. The race for leadership

Global distribution of AI startups

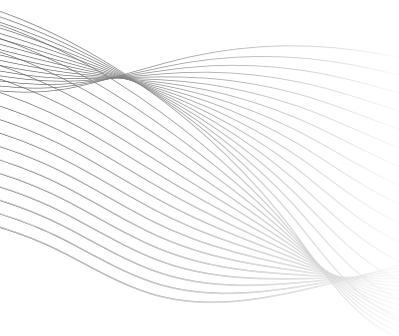
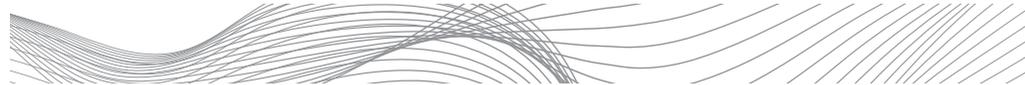
Top countries and cities by number of startups



Global Artificial Intelligence Landscape.

Source: <https://asgard.vc/global-ai/>

³³ 2019 Digital Economy Report. Value Creation and Capture: Implications for Developing Countries. https://unctad.org/en/PublicationsLibrary/der2019_overview_ru.pdf
³⁴ http://www.gov.cn/zhengce/content/2017-07/20/content_5211996.htm
³⁵ <https://russiancouncil.ru/analytics-and-comments/analytics/iskusstvennyy-intellekt-i-ego-partnyery>
³⁶ The BRICS have a joint IT action plan, 15 Nov 2016. https://www.rbth.com/world/2016/11/15/the-brics-have-a-joint-it-action-plan_647897



In September 2017, the BRICS leaders signed the Xiamen Declaration calling for the establishment of “an institute for research into BRICS future networks”. They also spoke in support of “joint BRICS studies, development and innovation in the area of IT” and “the establishment of internationally applicable rules for IT infrastructure, data protection, and Internet security”.³⁷ In 2019, there were reports that “the BRICS nations have expressed an interest in forming an alliance for AI development” that could be used to promote shared standards and foster “centers of excellence”.³⁸ Russia hopes that the Russian Direct Investment Fund will become once such center.

Nevertheless, it appears that BRICS still lacks the will and the energy required to pursue concrete joint projects.

Can BRICS enlargement add momentum to closer AI cooperation?

The accession of new members would turn BRICS into a club of “middleweight” states that cannot position themselves as global centers of AI innovation – but can generate a small number of “unicorns” – that is, companies rapidly advancing to dominant positions in their respective sectors. The problem of the “middleweight” states is that their national markets are just about large enough for the local companies to take off, but they do not generate sufficient amounts of data for such companies to achieve the scale of a global corporation. The local “unicorns” tend to be social networks, e-commerce companies or electronic services outfits that soon bump against the national ceilings of scale and, as a rule, become the target of acquisition by mega-giants such as Microsoft or Amazon.

Turkey, Iran, and Indonesia all rank fairly high in terms of the number of AI researchers and university professors, the number of published research papers, or the citation index. Each of these candidate states dreams of becoming a global magnet for entrepreneurial talent and venture capital – but none of them can break “the curse of the middleweight” on their own.

There are ways of increasing “digital capitalization”. The national AI strategies of some nations aim for a broad diffusion of the various datasets compiled by government agencies, the industry, the business community, and the academia. For example, India has the India Stack national open-source platform, Britain the Catapult, Taiwan the ITRI, South Korea the ETRI, and the Netherlands the TNO. But these efforts are nowhere near enough to catch up with the digital leaders, the United States and China. The formation of an integrated BRICS digital market would be a major step towards joining the leadership race.

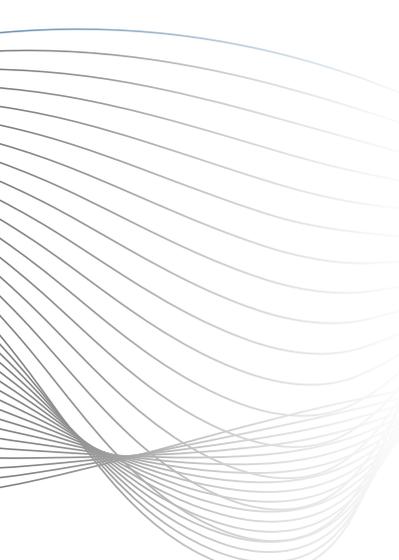
Three of the potential BRICS candidates – Turkey, Mexico, and Indonesia – already have some experience of such solutions. In 2013, five “middleweight” nations – Mexico, Indonesia, South Korea, Turkey, and Australia – formed the MIKTA group. Its participants hoped to strengthen their positions in the international arena by means of joint intergovernmental initiatives. But MIKTA has yet to show any tangible results, which may suggest the need for further enlargement.

Some of the old and new BRICS mem-

³⁷ BRICS Leaders Xiamen Declaration Xiamen, China, 4 September 2017, <http://static.kremlin.ru/media/events/files/en/mEsqRkedzqYLDwxo6AbZnCkmAo9Xta3d.pdf>

³⁸ Russian Direct Investment Fund: BRICS nations ready to create an AI development alliance. 14 Nov 2019. <https://digital.ac.gov.ru/news/1588/>

The expansion of the BRICS could be a serious step towards increasing the importance of the organization



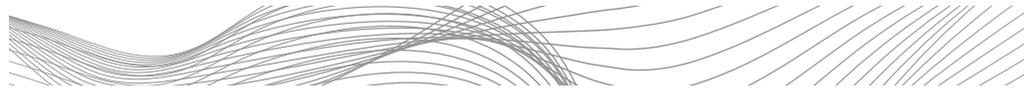
bers may be attracted by the idea of creating the BRICS Pay supranational open payments system.

Does Beijing need a membership card of the “Middleweights Club”? China may be interested in joining an integration project in order to form a new information infrastructure among the BRICS nations, gain access to the common data bank, exert influence on the adoption of new standards, and prevent the formation of anti-Chinese AI alliances.

Clearly, there are many differences between the BRICS members. And even though digitization cuts distances, the distance is not always measured by miles. In addition to the information war between India and China, different states have different approaches to the limits of information openness, to the issue of acceptable levels of intrusion into their citizens’ private lives by technological monitoring systems, and even to the military uses of AI. For example, Egypt, Mexico, Argentina, and Brazil advocate a full pre-emptive ban on the development and application of lethal autonomous systems (LAS). The Indian leadership is also concerned by LAS. Russia, however, believes that autonomous weapons may be useful in some circumstances. South Africa wants limits on such systems’ autonomy and a set of guiding principles for their use. China proposes that LAS manufacture and exports should be allowed, but their combat use banned.³⁹

Even though the current AI environment is highly competitive, the main national priorities of different states in the area of AI development largely coincide. Everyone agrees that all AI development should ultimately benefit humankind; that the development and application of AI products should be guided by a certain set of ethical norms; that it is preferable to develop new standards and rules as part of cooperative programs involving the entire international community; and that everyone’s progress would best be served by information and technology sharing, open databases, a broad community of international experts, and a global labor market. BRICS must try to use that positivity inherent in the international community of AI developers to build a fair and equitable system of international relations of the future.

³⁹CCW GGE on LAWS, 25 -29 March 2019 Session



INTERNATIONAL INFORMATION SECURITY ASPECTS OF BRICS ENLARGEMENT

Sergey Sebekin

Information security has long been one of the central topics on the BRICS agenda. The first brief mention of the need to ensure international information security and of the fight against cybercrime was made in a declaration made at the 3rd BRICS summit held on April 14, 2011 in Sanya, China.⁴⁰ The BRICS approach to information security and cybercrime was then fleshed out more fully in the Fortaleza Declaration adopted at the 6th BRICS summit held on June 2014 in Brazil. The reason for the greater focus on the subject included Edward Snowden’s disclosures, which prompted the BRICS nations to take the issue of information security more seriously and to condemn “acts of mass electronic surveillance”.⁴¹

Commitment to the principles of national sovereignty, noninterference, and unacceptability of mass electronic surveillance were reiterated in the Declaration of Ufa adopted at the 7th BRICS summit held on July 9, 2015 in Ufa, Russia. That declaration contained the first specific list of areas of cooperation on international information security among the BRICS nations, which included: sharing information and best practices on IT security; coordination of measures against cybercrime; cooperation between the BRICS nations using the existing outfits charged with responding to computer security incidents (the CSIRT groups); capacity-building programs; development of international norms, principles, and standards; and

other areas.⁴² The need for cooperation on information security and rules of responsible conduct in cyberspace was further reflected in the Declaration of Brasilia adopted at the 11th BRICS summit on November 14, 2019. That declaration also highlighted “the importance of UN-recognized norms, rules, and principles of responsible conduct of states in the area of information and computer technologies”.⁴³

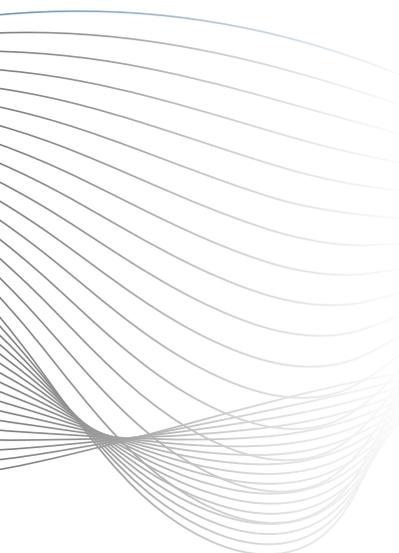
In 2015, BRICS also established an Expert Working Group on IT security. In 2017, the BRICS nations adopted the “Roadmap of practical BRICS cooperation on IT security”, which specifies areas of cooperation at the international level. At present, efforts are under way to build a legislative framework for cooperation between the BRICS states on information security, as well as to develop a BRICS intergovernmental agreement on information security cooperation.

On November 17, 2020, the XII BRICS Summit, held under the motto “BRICS Partnership for Global Stability, Common Security and Innovative Growth”, ended. In the aftermath of this summit the Moscow Declaration was adopted, which further reflected the provisions on the need for further cooperation on ensuring the security of ICT both under the auspices of the UN, and within the framework of BRICS and the Working Group of Experts established within the orga-



BRICS Summit in Ufa, July 9, 2015

Source: www.kremlin.ru



⁴⁰ BRICS Summit Declaration (Sanya, China. 14 April 2011). 14 Apr 2011. <http://kremlin.ru/supplement/907>.

⁴¹ The Fortaleza Declaration adopted at the 6th BRICS summit. 15 July 2014. P. 27 <http://www.nkibrics.ru/pages/summit-docs>.

⁴² The Ufa Declaration (Ufa, Russia, 9 July 2015). 9 July 2015. P. 23. <http://static.kremlin.ru/media/events/files/ru/YukPLgicg4mqAQIy7JRB1HgePZrMP2w5.pdf>

⁴³ The Declaration of Brasilia adopted at the 11th BRICS summit. 14 Nov 2019. <http://kremlin.ru/supplement/5458>.

nization.⁴⁴ The Declaration also recognizes the need for intergovernmental cooperation in bilateral and multilateral formats for the implementation of the Roadmap for Practical Cooperation of the BRICS countries in ensuring security in the use of ICT. Following the results of the summit, the EWG was instructed to develop a Roadmap for the development of cooperation in this area, which should be adopted already in 2021 and should include specific measures to strengthen collective security, develop joint actions of the BRICS member countries in the field of information security, as well as issues of legal regulation of the problem of children's information security on the Internet.⁴⁵

In addition, on September 17, 2020, the X annual Meeting of High Representatives of the BRICS countries was held, which made a significant contribution to the deepening of cooperation within the organization on information security issues.⁴⁶

The 13th BRICS summit is expected to further deepen and broaden the ongoing dialogue on information security between the member states.

Clearly, the accession of new members would be an opportunity for Russia to increase the number of countries that share its approaches to international information security, even if only one or two new members are admitted to the BRICS club.

For the potential BRICS membership candidates, accession would mean not only accepting the club's "rules of the game", but also making use of new opportunities, such as:

- 1) Mutual assistance in strengthening the cyber potential and eliminating the technological gap⁴⁷
- 2) Rendering assistance (upon request) to the BRICS states that have become victims of cyberattacks in the detection and investigation of such attacks, identification of the perpetrators, studying the malware used in these attacks, eliminating their consequences, etc. We already have some experience of such cooperation with Indonesia: Group-IB, an international Russian-based company that specializes in the prevention and investigation of cybercrimes, provided assistance to the Indonesian cyber police in catching cybercriminals who infected hundreds of e-commerce outfits around the world with malware.⁴⁸
- 3) Effective coordination of measures against cybercrime and cyber terrorism⁴⁹
- 4) Sharing information and best practices on information security, including the identification of information threats⁵⁰
- 5) Cooperation in identifying opportunities for joint action to

⁴⁴ Moscow Declaration of the XII BRICS Summit // Official Network Resource of the President of the Russian Federation, November 17, 2020 [Electronic resource] - URL: <http://www.kremlin.ru/supplement/5581>

⁴⁵ BRICS Summit // Official network resource of the President of the Russian Federation, November 17, 2020 [Electronic resource] - URL: <http://www.kremlin.ru/events/president/news/64430>

⁴⁶ Moscow Declaration of the XII BRICS Summit // Official Network Resource of the President of the Russian Federation, November 17, 2020 [Electronic resource] - URL: <http://www.kremlin.ru/supplement/5581>

⁴⁷ The Ufa Declaration (Ufa, Russia, 9 July 2015). P. 22-23

⁴⁸ Group-IB helps Indonesia apprehend cyber criminals who had infected hundreds of e-stores all over the world // CNews. 27 Jan 2020. https://www.cnews.ru/news/line/2020-01-27_v_indonezii_pri_uchastii_groupib?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fyandex.kz%2Fnews

⁴⁹ BRICS Summit Declaration (Sanya, China. 14 April 2011); The Fortaleza Declaration adopted at the 6th BRICS summit. 15 July 2014. P. 28; The Ufa Declaration (Ufa, Russia, 9 July 2015). P. 21-23. The Johannesburg Declaration adopted at the 10th BRICS summit. 26 July 2018. <http://kremlin.ru/supplement/5323>; The Declaration of Brasilia adopted at the 11th BRICS summit.

⁵⁰ The Ufa Declaration (Ufa, Russia, 9 July 2015). P. 23



- address shared information security challenges⁵¹
- 6) R&D cooperation in the area of information security⁵²

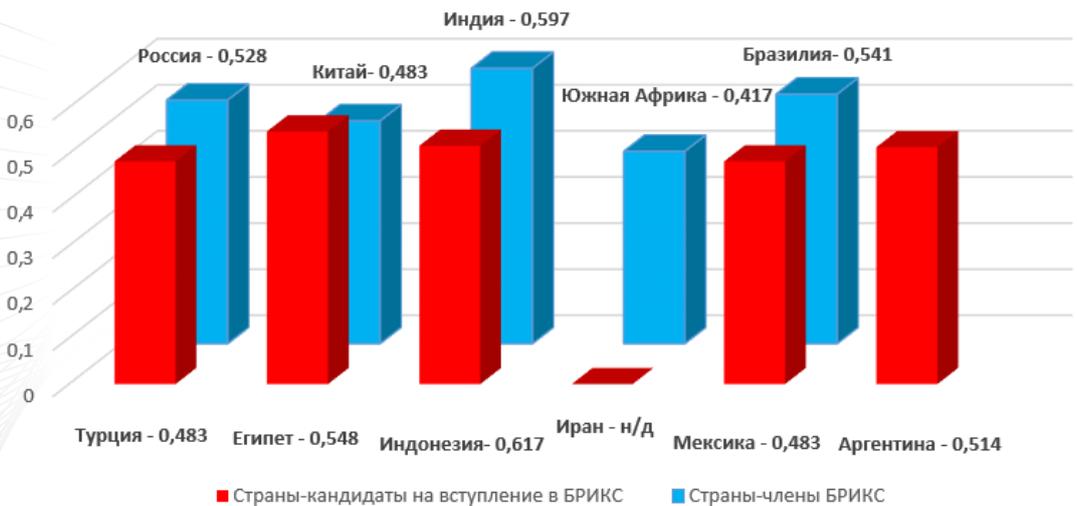
Our information security analysis of the BRICS membership candidates is based on two factors.

The first is the existing information security potential of each candidate.⁵³⁵⁴

Диаграмма № 1. Уровень обеспечения кибербезопасности в странах-членах БРИКС и в странах-кандидатах на вступление в БРИКС (данные Global Sybersecurty Index 2018)



Диаграмма № 2. Уровень подверженности киберугрозам стран-членов БРИКС и в стран-кандидатов на вступление в БРИКС (Данные CIE - Cybersecurity Exposure Index)



⁵¹ The Fortaleza Declaration adopted at the 6th BRICS summit. P. 28
⁵² The Fortaleza Declaration adopted at the 6th BRICS summit. P. 27; The Ufa Declaration (Ufa, Russia, 9 July 2015). P. 23
⁵³ Global Cybersecurity Index (GCI) 2018. P. 14. URL: https://www.itu.int/dms_pub/itu-d/opb/str/D-STR-GCI.01-2018-PDF-E.pdf.
⁵⁴ All BRICS nations are in the high-ranking category on cybersecurity, with the exception of Brazil, which is a middle-ranking country.

Table 1. Support of the Russian or US draft resolution on international information security by BRICS membership candidates and their participation in UN OWG and GGE

	Russian draft (A/RES/73/27)	US draft (A/RES/73/266)	UN OWG	UN GGE
Argentina	✓	✓	✓	✗
Mexico	✓	✓	✓	✓
Turkey	✗	✓	✓	✗
Iran	✓	✗	✓	✗
Egypt	✓	✗	✓	✗
Indonesia	✓	✓	✓	✓

Argentina

Argentina's cyber potential has much room for improvement. It ranks 94th with a score of 0.407 in the 2018 Global Cybersecurity Index. This is the lowest ranking among all the BRICS membership candidates considered in this report, or indeed among the existing BRICS members.⁵⁵ The country adopted its first national security strategy that addressed the challenge of cyber threats only in 2019.⁵⁶ At the same time, Argentina ranks 43rd in the world in terms of exposure to cyber threats with a CEI index of 0.514 – it belongs to the “middle group” for CEI 2020.⁵⁷

At the UN General Assembly, Argentina backed both the US and the Russian draft resolutions.⁵⁸ Russia and Argentina have also undertaken attempts at cooperation on information security in the past. In 2018, they worked on a draft bilateral agreement on that issue⁵⁹ – but the current state of that draft is unclear. Argentina is not represented on the UN GGE, but it has been involved in the work of the OWG and submitted comments on the preliminary report of that group.⁶⁰ In an encouraging sign, those comments included a proposal on the recognition of “the efforts and initiatives developed by regional organizations”⁶¹

Nevertheless, in view of Argentina's lowest information security rating among all the BRICS membership candidates, we believe the country would not make any tangible contribution to the development of cooperation on information security issues in the BRICS

⁵⁵ Global Cybersecurity Index (GCI) 2018. P. 14, 56, 65.

⁵⁶ UNIDIR Cyber Policy Portal. Argentina. URL: <https://cyberpolicyportal.org/en/states/argentina>

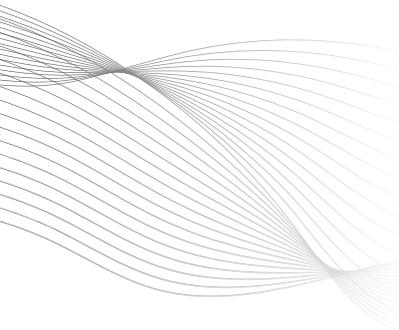
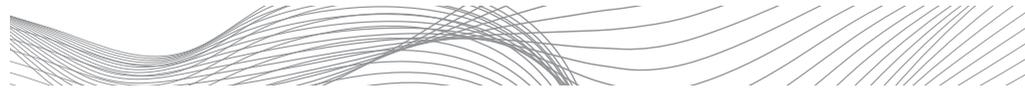
⁵⁷ Global Cybersecurity Exposure Index (CEI) 2020 / URL: <https://10guards.com/ru/articles/global-cybersecurity-exposure-index-2020/>

⁵⁸ Developments in the field of information and telecommunications in the context of international security. Report of the First Committee. UN General Assembly. 73rd Session. Paragraph 96 of the Agenda. 19 Nov 2019. P. 2, 4. <https://undocs.org/A/73/505>

⁵⁹ Russia and Argentina working on a cybersecurity agreement // RIA Novosti. 12 Sep 2018. <https://ria.ru/20180912/1528439108.html>

⁶⁰ Initial “Pre-draft” of the report of the OWG on developments in the field of information and telecommunications in the context of international security. URL: <https://front.un-arm.org/wp-content/uploads/2020/04/oewg-ict-comments-argentina-3.pdf>

⁶¹ Initial “Pre-draft” of the report of the OWG... P. 3.



framework, so from that particular point of view, its admission to BRICS would not be productive.

Mexico

In the 2018 Global Cybersecurity Index, Mexico ranks 63rd with a score of 0.629.⁶² As such, it is classed as a “middle-ranking” country.⁶³ As for the CEI indicator, the country ranks 41st in the world with a score of 0.48 and is included in the group of countries with an average level of exposure to cyber threats. In this regard, the country, along with Turkey, is the least vulnerable to such threats among potential candidates for joining the BRICS.⁶⁴

Like Argentina, Mexico voted for both the Russian and the US drafts at the UN General Assembly.⁶⁵ But unlike Argentina, Mexico participates in the OWG and the GGE. At the OWG, the country has submitted comments and proposals on the work of that outfit.⁶⁶

We believe that Mexico’s accession to BRICS would not be justified in terms of the joint provision of information security. There are two main reasons for that.

First, Mexico does not have a sufficient cybersecurity potential. Obvious gaps in that area include the inadequacy of its legislative and regulatory framework in that area; poor financing; insufficient co-operation on the matter between the various government agencies;

and a general lack of respect for the rule of law. Mexico is unable to mount an effective response to the challenge of cybercrime; as a result, the country has become a safe haven for stolen personal data.⁶⁷

Second, Mexico maintains close economic and political ties with the United States, which accounts for 36% of all investment in the Mexican economy.⁶⁸ Owing to the country’s strong economic dependence on its big northern neighbor, it would hardly be able to pursue an independent course on

issues of cybersecurity. It is quite obvious that as far as information security is concerned, Mexico will follow the US lead.



The 2016 North American Leaders Summit in Canada.

Source: www.unav.edu

⁶² Global Cybersecurity Index (GCI) 2018. P. 56, 64.

⁶³ Global Cybersecurity Index (GCI) 2018. P. 14.

⁶⁴ Global Cybersecurity Exposure Index (CEI) 2020 / URL: <https://10guards.com/ru/articles/global-cybersecurity-exposure-index-2020/>

⁶⁵ Developments in the field of information and telecommunications in the context of international security. Report of the First Committee. P. 3, 4

⁶⁶ Open-ended Working Group. United Nations: Office of Disarmament Affairs. URL: <https://www.un.org/disarmament/open-ended-working-group/>

⁶⁷ Economic Impact of Cybercrime — No Slowing Down: Report // McAfee. February 2018. P. 22. URL: <https://www.mcafee.com/enterprise/en-us/assets/reports/restricted/rp-economic-impact-cyber-crime.pdf>

⁶⁸ Direct inward investment into Mexican economy grows 4.2% in 2019 // Prime. Economic information agency. 18 Feb 2020. <https://1prime.ru/News/20200218/830959332.html>

Turkey

In the 2018 GCI Index, Turkey ranks 20th with a score of 0.853, making it a “high-ranking” state in terms of cybersecurity.⁶⁹ In fact, Turkey is the highest-ranking nation on cybersecurity among all the BRICS membership candidates considered in this report. As for the indicator of exposure to cyber threats, according to the CEI 2020, the country shares 41 places with Mexico with an index of 0.483 and is also included in the “middle” group. In this regard, the country, along with Mexico, is the least vulnerable to such threats among potential candidates for joining the BRICS.⁷⁰ It also shares Russian approaches to national control of cyberspace within the national borders.

But Turkey is also a NATO member, which significantly complicates any dialogue on joint security arrangements of any kind, including information security. What is more, Turkey abstained during the vote on the Russian draft at the UN General Assembly, and chose to back the US draft instead (in fact, it was one of the co-authors of that draft).⁷¹

We therefore believe that any attempts to offer BRICS membership to Turkey would be a dangerous experiment. Such a step would bring a strong element of discord in the bloc’s coordinated policy on the security of information and computer technologies. At this point in time, Turkey does not share many of the approaches pursued by Russia and China, the two most influential BRICS members, on international information security.

Iran

One consideration strongly in Iran’s favor is that at the 73rd UN General Assembly, the country backed the Russian draft resolution and opposed the US draft.⁷² It is also represented on the OWG, though not on the GGE.⁷³ Iran shares the Russian and Chinese position on national sovereignty in cyberspace. Officially, Iran also advocates the establishment of international and regional institutions to spearhead international efforts against cyber terrorism and cyber fraud (including in the SCO and UN frameworks).

In the 2018 Global Cybersecurity Index, Iran ranks 60th with a score of 0.641, making it a “middle-ranking” state.⁷⁴ Nevertheless, the country has a formidable cyber potential.⁷⁵ Amid its ongoing confrontation with the United States and Israel, Iran invests a lot of resources in strengthening its cyber capacity, which offers it an asymmetric advantage.⁷⁶ Cybersecurity became an especially relevant concern for Iran after the country’s uranium enrichment facility in Natanz was attacked with the US-Israeli Stuxnet malware in 2010. That attack triggered the launch of a national cybersecurity program led by the Islamic Revolutionary Guards Corps (IRGC). In 2012, Iran also set up the Supreme Council on Cyberspace.⁷⁷

⁶⁹ Global Cybersecurity Index (GCI) 2018. P. 14, 60, 62

⁷⁰ Global Cybersecurity Exposure Index (CEI) 2020 / URL: <https://10guards.com/ru/articles/global-cybersecurity-exposure-index-2020/>

⁷¹ Developments in the field of information and telecommunications in the context of international security. Report of the First Committee. P. 3, 4

⁷² Developments in the field of information and telecommunications in the context of international security. Report of the First Committee. P. 3, 4

⁷³ Open-ended Working Group.

⁷⁴ Global Cybersecurity Index (GCI) 2018. P. 14, 58, 64

⁷⁵ A. Khetagurov. Iran’s Cyber Power // The Russian Council for International Affairs. <https://russian-council.ru/cyberiran>

⁷⁶ Khetagurov. Iran’s Cyber Power

⁷⁷ UNIDIR Cyber Policy Portal. Iran (Islamic Republic of). URL: <https://cyberpolicyportal.org/en/>



One of the obvious drawbacks of Iran as a BRICS membership candidate is that the country is strongly hostile to the United States and some of the Middle Eastern states. That hostility also spreads to cyberspace. Tehran is actively involved in cyber espionage and destructive cyberattacks against the government agencies and businesses of the United States, Israel, the Gulf monarchies, and several European states. Iran's admission to BRICS would not only compromise the bloc's image on the international arena but also jeopardize its prospects for cooperation with the other Middle Eastern states. That is why offering Iran membership would hold back the joint BRICS effort on information security and many other areas.

Egypt

Egypt is one of the African continent's leaders in terms of cybersecurity, ranking second to Mauritius and fourth among the Arab nations. In the 2018 Global Cybersecurity Index, it ranks a global 23rd with a score of 0.842 points⁷⁸, the highest score among all the BRICS membership candidates except Turkey, and is categorized as a "high-ranking" country.⁷⁹ According to the CEI indicator for 2020, Egypt is also classified as a country with a middle level of exposure to cyber threats, ranking 48th with an index of 0.548.⁸⁰ In 2014 the country set up the Supreme Council for Cybersecurity.⁸¹ Cairo has also hosted one of the Arab world's largest cybersecurity conferences, headlined "Cybersecurity in an Era of Digital Transformation", on an annual basis since 2017.

As for international cooperation, Egypt voted against the US draft and supported the Russian draft resolution on international information security at the 73rd Session of the UN General Assembly⁸², which means that the country shares Russian and Chinese approaches to global information security. Also, after the dissolution of the UN GGE on IT advances in the context of international security in 2017 and its later reconstitution in accordance with a US resolution, Egypt did not resume its participation in that body – but it has been actively involved in the work of the OWG.⁸³

In March 2019, a delegation of Russian IT companies led by Konstantin Noskov, Russian minister for digital development and communications, paid an official visit to Cairo, where it generated much local interest in Russian cybersecurity products.⁸⁴

In our opinion, Egypt's accession to BRICS would significantly strengthen the combined potential of the bloc in the area of information security. Egypt is clearly ready for cooperation on information security in the BRICS framework.

states/iran

⁷⁸ Global Cybersecurity Index (GCI) 2018. P. 14, 55, 56, 62

⁷⁹ Global Cybersecurity Index (GCI) 2018. P. 14

⁸⁰ Global Cybersecurity Exposure Index (CEI) 2020 / URL: <https://10guards.com/ru/articles/global-cybersecurity-exposure-index-2020/>

⁸¹ UNIDIR Cyber Policy Portal. Egypt. URL: <https://cyberpolicyportal.org/en/states/egypt>

⁸² Developments in the field of information and telecommunications in the context of international security. Report of the First Committee. P. 3, 4

⁸³ Open-ended Working Group

⁸⁴ For more details, see: Russian IT solutions winning the African market // Russian Ministry for Digital Development and Communications. 20 March 2019. <https://digital.gov.ru/ru/events/38846/>; InfoWatch group of companies strengthens information security cooperation with Egypt // Infowatch. 20 March 2019. <https://www.infowatch.ru/company/presscenter/news/15419>.

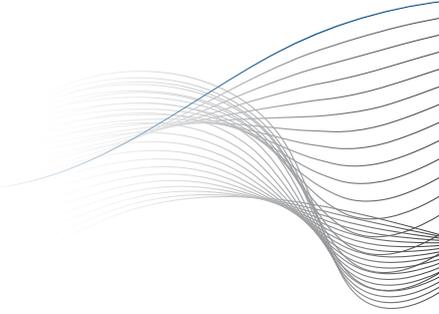
Indonesia

At the 73rd UN General Assembly, Indonesia backed both the Russian and the US draft resolutions on international information security.⁸⁵ In 2017, Russia and Indonesia conducted a bilateral cyber dialogue.⁸⁶ Also in 2017, Indonesia signed a memorandum of mutual understanding on cybersecurity with India.⁸⁷ In 2020, Russia and Indonesia plan to sign an agreement on cybersecurity cooperation.⁸⁸ An agreement to that effect was reached during Russian-Indonesian consultations during which the parties discussed specific areas of cooperation, including the implementation of joint responses to cyber threats, efforts to foster an information security culture, cooperation on information sharing, etc. They also discussed regulations governing the work of the UN Open Working Group and the UN Group of Governmental Experts. It is important to note at this point that of all the BRICS membership candidates discussed in this paper, Indonesia and Mexico are the only countries that participate in both the OWG and the GGE.⁸⁹ It is therefore safe to conclude that Indonesia is fully ready to back Russian initiatives on information security at the UN, and is already actively contributing to international efforts on information security.

In the 2018 GCI rating, Indonesia ranks 41st with a score of 0.776, making it a “high-ranking” country.⁹⁰ Nevertheless, the Indonesian cybersecurity system is still in the process of formation. The country set up its National Agency on Cybersecurity and Cryptography as recently as 2017.⁹¹ In 2018, it adopted the National Cybersecurity Strategy.⁹² It has yet to put in place a proper legislative and regulatory cybersecurity framework, which could be an obstacle to its accession to BRICS.⁹³ Due to the above-mentioned reasons, the country belongs to the group with a high risk of exposure to cyber threats according to CEI 2020, ranking 59th with an index of 0.617. According to this indicator, Indonesia is too far behind other candidate countries to join the BRICS.⁹⁴

Conclusion

In our view, the most promising candidate for BRICS membership is Indonesia. Unlike the rest of the candidates, the potential areas of cooperation between Indonesia and Russia, which is one of the key BRICS members, have already been identified. These areas could be replicated in the BRICS format. Another candidate that can



Indonesia is ready to support Russian initiatives in the UN in the field of information security and is an active participant in international efforts to ensure information security

⁸⁵ Developments in the field of information and telecommunications in the context of international security. Report of the First Committee. P. 3, 4

⁸⁶ On the results of bilateral inter-agency consultations on international information security between Russia and Indonesia: Report for the Media // Russian Foreign Ministry. 23 March 2017. https://www.mid.ru/home/-/asset_publisher/WNgME5eEYa3x/content/id/2703353; Kemenko Polhukam Bahas Masalah Keamanan Siber Bersama Delegasi Rusia // Kementerian Koordinator Bidang Politik, Hukum, Dan Keaman. 14 March 2017. <https://polkam.go.id/kemenko-polhukam-bahas-masalah-keamanan-siber-bersama-delegasi-rusia/>.

⁸⁷ India, Indonesia to enhance ties in cyber security, intelligence // The Indian Express. 2017. March 14. URL: <https://indianexpress.com/article/india/indianhome-ministry-indonesian-ministry-of-security-and-coordination/>.

⁸⁸ Russia, Indonesia planning to sign a cybersecurity agreement in 2020 // TASS. 8 Nov 2019. <https://tass.ru/obschestvo/7092342>.

⁸⁹ All BRICS members except for India participate in the work of both groups.

⁹⁰ Global Cybersecurity Index (GCI) 2018. P. 58, 63.

⁹¹ UNIDIR Cyber Policy Portal. Indonesia. URL: <https://cyberpolicyportal.org/en/states/indonesia>.

⁹² UNIDIR Cyber Policy Portal. Indonesia

⁹³ UNIDIR Cyber Policy Portal. Indonesia

⁹⁴ Global Cybersecurity Impact Index (CEI) 2020. URL: <https://10guards.com/ru/articles/global-cybersecurity-exposure-index-2020/>



make a major positive contribution to the bloc's efforts is Egypt.

Egypt's and/or Indonesia's accession to BRICS could be an indicator of the bloc's ability to integrate new members and engage them in multilateral cooperation on information security.

As demonstrated in this paper, Egypt would bolster the overall BRICS potential on information security, whereas Indonesia would help to promote a shared BRICS approach to information security on the international arena. That would be fully in line with the Declaration of Ufa, which states that the BRICS members recognize "the potential of the developing states in the area of information and computer technologies, as well as the important role of those states in addressing the issues related to information and computer technologies in the framework of the Development Agenda from 2015 onwards".⁹⁵

BRICS SPACE COOPERATION: ROOM FOR ANOTHER MEMBER?

In the run-up to the rotating Russian presidency of BRICS, Russian Deputy Foreign Minister Sergey Ryabkov said that Moscow intended to deepen cooperation on space issues in the BRICS framework. “We will undoubtedly flesh out the nascent five-party cooperation in space,” the diplomat said, adding that efforts in that direction “may require a more specific and systemic approach”.⁹⁶

Current priorities

Bilateral projects account for most of the ongoing BRICS cooperation on space issues. For example, Russia helps to train Brazilian space specialists at the Academician Korolev National Research University in Samara. Russia has also deployed five non-query measurement stations (NQMS) of its Glonass satellite navigation system in Brazil; the sixth station is to follow before the end of 2020.⁹⁷ In 2016, the first Glonass NQMS was also deployed on the African continent (in South Africa).⁹⁸ There are plans for mutual hosting of satellite navigation stations with India and China, which means that land-based Glonass stations may soon appear in all five of the current BRICS members.⁹⁹ The Russian stations also serve another crucial role of tracking the space debris that poses a hazard for all spacecraft.

Within the bilateral Russian-Chinese space dialogue under the auspices of the BRICS, Russia and China signed an agreement in May 2019 on the joint implementation of the project of a Rocket Space Complex (RSC) “Aerospace” on the basis of the Center named after academician V. P. Makeyev (Chelyabinsk region, Miass city). The project is worth more than \$ 1.5 billion. It provides for the concept of “air launch” of light and ultralight launch vehicles from advanced IL-76 aircraft.¹⁰⁰ Based on the published data, it should be assumed that such a concept is a dual-use project designed, among other things, to launch small satellites into established polar orbits.

Russian Ambassador to India Nikolay Kudashev has spoken about Russia’s readiness to provide India with technological support in the development of life-support, navigation, and docking systems for a manned spacecraft. Negotiations are already under way on supplying Russian engines for heavy and superheavy space launchers required for the Indian national manned spaceflight program. India plans to launch its first manned space mission using the Gaganyaan carrier by 2022. The initial cosmonaut training will take place in India, but Russia and India have already signed an agreement on space training.¹⁰¹ According to Ambassador Kudashev, Moscow and New Delhi could

Sergey Semenov,
Maria Bondareva

⁹⁶ Ryabkov: Russia will facilitate closer cooperation on outer space during its rotating BRICS presidency. TASS. <https://tass.ru/politika/7113179>

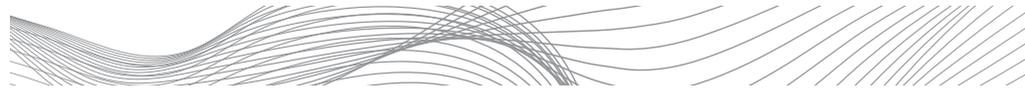
⁹⁷ A Roskosmos division to deploy the sixth Glonass ground station in Brazil. TASS. https://tass.ru/kosmos/8904881?utm_source=yxnews&utm_medium=desktop

⁹⁸ New Glonass non-query ground station built in South Africa. https://www.ecoruspace.me/in-ews_5086.html

⁹⁹ Roskosmos planning to build a Glonass station in the south of India. <https://ria.ru/20190111/1549211754.html>

¹⁰⁰ China joins air cosmodrome building in Russia / BRICS TV, 14.05.2019 // <https://tvbrics.com/news/k-sozdaniyu-v-rossii-vozdushnogo-kosmodroma-prisoedinitnya-kitay/>

¹⁰¹ India, Russia discuss cooperation on rocket engines and navigation systems. <https://tass.ru/kosmos/679871>



also cooperate on Venus, Mars, and Sun exploration programs.¹⁰²

The most significant milestone in the BRICS space cooperation was the decision to set up a joint virtual fleet of remote sensing satellites.¹⁰³ As a result of that decision, BRICS members will gain access to remote sensing data collecting by each other's satellites, whereas South Africa, which has no such satellites of its own, will be

given access to data from Brazilian, Russian, Indian, and Chinese satellites.¹⁰⁴ There have also been discussions on the possibility of launching a new space station in partnership with the BRICS nations.¹⁰⁵

Another thing in common between all five BRICS members is their opposition to the deployment of weapons in outer space. The final declaration of the 11th BRICS summit held in Brazil in 2019 expresses concern over the nascent arms race in the outer space and the lack of any legal framework to keep it in check because the draft Treaty on the Prevention of the Placement of Weapons in Outer Space has yet to be approved.¹⁰⁶

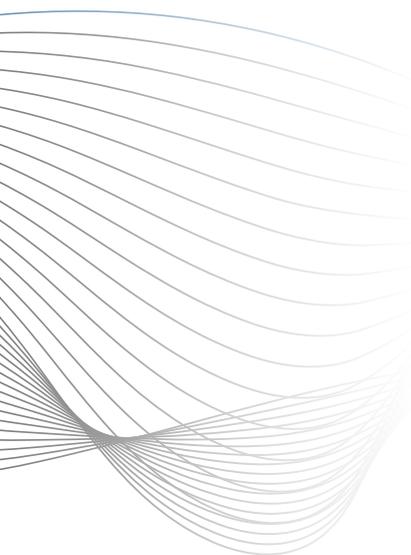
The Final Declaration of the 12th BRICS summit also confirms the common positions of the member countries on this issue, and declares the existence of “an urgent need to agree on a legally binding multilateral instrument” that would prevent the militarization of outer space.¹⁰⁷ In addition, the Declaration contains provisions on the desire for comprehensive cooperation on the non-deployment of weapons in outer space both within the BRICS and with the UN institutions. “We emphasize that practical transparency and confidence-building measures in outer space (TCBMs), including the “No First Placement of Weapons in Outer Space Initiative”, can also contribute to achieving this goal. We reaffirm that the TCBMs should complement, and not replace, an effective legally binding regime of outer space,” the Declaration emphasizes.¹⁰⁸

According to Dmitry Rogozin, director of the Russian space corporation Roskosmos, “BRICS should ramp up cooperation on improving legal regulation of space activities, protecting them from various challenges and threats at the national and international level, and strengthening the security of space operations”. Rogozin added that “it is necessary to keep the outer space free of weapons of any kind, so that it remains suitable for long-term and sustainable use by the current and future generations.”¹⁰⁹



Russian satellite “Glonass-M”

Source: www.tass.ru



¹⁰² Russian ambassador to India: our countries can cooperate on the exploration of Mars and Venus. NKI BRICS. <http://www.nkibrics.ru/posts/show/5c6564d56272697acabc0000>

¹⁰³ BRICS countries complement each other on space exploration like Yin and yang. <http://nkibrics.ru/posts/show/591965566272694882120000>

¹⁰⁴ <https://www.civildaily.com/news/pib-brics-remote-sensing-satellite-constellation/>

¹⁰⁵ BRICS countries to be offered a role in a space project. NKI BRICS. <http://www.nkibrics.ru/posts/show/552d19a46272695300030000>

¹⁰⁶ http://brics2019.itamaraty.gov.br/images/documentos/Braslia_Declaration_-_hiperlinks_como_est_no_site_28-11.pdf

¹⁰⁷ Moscow Declaration of the XII BRICS Summit, p. 19 // Official Network Resource of the President of the Russian Federation, November 17, 2020 [Electronic resource] - URL: <http://www.kremlin.ru/supplement/5581>

¹⁰⁸ Moscow Declaration of the XII BRICS Summit, p. 19 // Official Network Resource of the President of the Russian Federation, November 17, 2020 [Electronic resource] - URL: <http://www.kremlin.ru/supplement/5581>

¹⁰⁹ Dmitry Rogozin takes part in videoconference of directors of BRICS space agencies. Roskosmos. <https://www.roscosmos.ru/28827/>

The sixth letter of BRICS

All the potential BRICS membership candidates agree that militarization of the outer space is unacceptable. Argentina, Mexico, Iran, Egypt, and Indonesia always vote in support of the UN General Assembly resolutions “Prevention of the Arms Race in the Outer Space” and “No First Placement of Weapons in Outer Space”. The only outlier is Turkey, which is bound by NATO discipline and always abstains on that resolution. Also, it is worth noting that Argentina has undertaken a unilateral political commitment on no first placement of weapons in the outer space.¹¹⁰

The existing BRICS members and the membership candidates have few, if any differences on political issues related to the outer space – but analysis of the technological potential of Argentina, Mexico, Turkey, Iran, Egypt, and Indonesia yields a less consistent picture.

Argentina

The main priorities of the Argentine space program include the development of SAOCOM and NUSAT remote sensing satellites and gaining independent access to the outer space provided by the Tronador-II light space launcher. The budget of Argentina’s national space agency CONAE was slashed from 190m US dollars to 50m in 2019. As a result, the country was forced to postpone its space launcher plans indefinitely.¹¹¹

CONAE pursues close cooperation with NASA, and most of the Argentine satellites were put into orbit by US carriers launched from US launchpads.¹¹² Argentina’s SAOCOM 1A satellite was launched in 2018 in cooperation with NASA and SpaceX. In August 2020, SpaceX launched the SAOCOM 1B using a Falcon 9 launcher.¹¹³ Another two SAOCOM satellites (2A and 2B) are scheduled for launch in 2021.

Argentina has signed an agreement with Italy on the SIASGE joint fleet of remote sensing satellites that can be used to collect data about natural disasters. The fleet includes 4 Italian satellites and Argentina’s own SAOCOM 1A satellite, which will shortly be joined by the SAOCOM 1B.¹¹⁴

Of the existing BRICS members, Argentina already pursues space cooperation with China and Russia. China was involved in a 50m-dollar project to build a satellite tracking station in Argentina. According to statements made by China and Argentina, the station is used only for peaceful and research purposes. Nevertheless, it has caused some concern in Washington, which suspects that the facility situated in the Patagonia desert can be used for intelligence-gathering and military purposes.¹¹⁵

At the same time, cooperation is also carried out within the

¹¹⁰ Prevention of the placement of weapons in the outer space. Russian Foreign Ministry. https://www.mid.ru/mnogostoronnij-razruzenceskij-mehanizm-oon/-/asset_publisher/8pTEicZSMOut/content/id/1127371

¹¹¹ CONAE, presente y futuro incierto. URL: <http://argentinaenelespacio.blogspot.com/2019/11/conae-presente-y-futuro-incierto.html>

¹¹² U.S. Relations With Argentina <https://www.state.gov/u-s-relations-with-argentina/>

¹¹³ SPACEX FALCON 9 — SAOCOM 1B KEY LAUNCH INFORMATION <https://www.launch360.space/saocom1b>

¹¹⁴ Cooperación Italia - Argentina: Proyecto SIASGE - Partida del Satélite SAOCOM 1B https://amb-buenosaires.esteri.it/ambasciata_buenosaires/es/ambasciata/news/dall_ambasciata/cooperazione-spaziale-italia-argentina.html

¹¹⁵ <https://www.nytimes.com/2018/07/28/world/americas/china-latin-america.html>



framework of the Argentine–Indian dialogue. Back to September 2018, the two countries signed a Framework Agreement on cooperation, and during the 5th round of consultations between the foreign Ministries of the two states, held on September 10, 2020, the Indian Space Research Organization invited the Argentine National Space Commission to cooperate on the launches of the Argentine SAOCOM satellites.¹¹⁶

In 2019, Argentina and Russia signed an updated bilateral protocol on cooperation on outer space exploration and peaceful use. According to Mikhail Khaylov, deputy chief of Roskosmos, the agreement covers all possible areas of cooperation, including remote earth sensing, the development of various spacecraft, and manned space programs.¹¹⁷ As part of that agreement, Moscow could supply Argentina with rocket engines and fuel, as well as share some space technology solutions.¹¹⁸

With its existing land infrastructure and technological potential, Argentina could make a notable contribution to BRICS space cooperation. Owing to its ongoing difficulties with financing, the Argentine space agency needs to further expand its network of partnerships, and especially to attract more funding for space projects, which tend to be very expensive.

Mexico

Mexico launched its first space satellite back in 1985. Since then, it has put into orbit an additional 15 spacecraft, most of them communication satellites. Mexico does not have a space launch capability of its own, so it uses other countries' launchpads. Several of its satellites were launched from the Baikonur. In 2019, the Roskosmos subsidiary Glavkosmos and Mexico's Iniciativa Espacial Mexicana MXSpace signed a memorandum that will help to promote Russian space industry products and services in the Mexican market.¹¹⁹

In 2019, Mexico joined the Asia Pacific Organization for Space Cooperation, a Chinese-led outfit.¹²⁰

In addition, the country is currently pursuing the goal of creating a Caribbean–Latin American Space Agency, which in the future, as planned, can become an analogue of the European Space Agency, whose goal is to deepen cooperation between the European countries both on scientific space exploration and (especially important for some countries, such as El Salvador, where only 27% of the population has Internet access) the development of near–Earth space with the aim of expanding the network of telecommunications satellites.¹²¹

¹¹⁶ India and Argentina to deepen its cooperation in the space field / Financial Express, 19.10.2020 / <https://www.financialexpress.com/lifestyle/science/india-and-argentina-to-deepen-its-cooperation-in-the-space-field/2109110/>

¹¹⁷ Russia, Argentina sign protocol on space cooperation. TASS. <https://tass.ru/kosmos/6976237>

¹¹⁸ Putin offers Argentina rocket engines. RBC. <https://www.rbc.ru/politics/23/01/2018/5a674bfe-9a79472508ffe2f0>

¹¹⁹ Glavkosmos to promote Russian space industry products in Mexico. <https://tass.ru/ekonomika/6563754>

¹²⁰ AEM joins Asia-Pacific space cooperation <https://mexico-now.com/aem-joins-asia-pacific-space-cooperation/>

¹²¹ Mexican Space program wants to be the Hub of America Space Industry / <https://wearemitu.com/things-that-matter/rdogan-space-program-wants-to-be-the-hub-of-latin-americas-space-industry-and->

In 2014, Mexico and India signed a memorandum of understanding on space cooperation as part of their progress towards a strategic partnership. The memorandum discusses cooperation projects in remote earth sensing satellites and peaceful uses of the outer space. As present, the Mexican and Indian space agencies are in talks to expand the scope of the memorandum by including cooperation in the area of innovation and technologies. In 2018, India organized a demonstration for Mexico in the use of remote earth sensing satellites for monitoring wildfires.¹²² In other words, Mexico already pursues space cooperation with several BRICS nations in a bilateral framework, and it could seamlessly integrate into multilateral BRICS-wide space cooperation initiatives.

Turkey

Turkey made a great push with its space program in the late 1990s and early 2000s. The first Turkish communication satellite, TURKSAT-1B, was put into orbit in 1994. The country has now launched 13 satellites, including five communication satellites, one remote earth sensing spacecraft, six research, and two military satellites. By the end of 2020, they will be followed by another communication satellite, the Turksat 5A. The country's first two indigenously made satellites, Turksat 5B and Turksat 6A, are scheduled for launch in 2021-2022.¹²³ This will make Turkey one of only about a dozen countries capable of building their own satellites.¹²⁴

In February 2021, an extremely ambitious Roadmap for the Turkish space program for a 10-year perspective was published.¹²⁵ According to the statement of Turkish President T. R. Erdogan, "this national space program will lead our country to the top league of the world space race", and "the main and most important goal of this program is to launch a Turkish spacecraft to the moon in the year of the 100th anniversary of our republic [2023]".¹²⁶ This program provides for the achievement of a number of goals to increase the economic efficiency of the Turkish space program and to make the country one of the leaders in the exploration of near-Earth space by the early 2030s.

At the same time, on April 11, 2021, the Minister of Industry and Technology of Turkey, Mustafa Varank, announced the first successful tests of a hybrid engine for the Turkish "lunar" program.¹²⁷

Russia and Turkey are currently in talks on signing a bilateral agreement on cooperation in the exploration and peaceful use of the outer space.¹²⁸ According to Roskosmos director Dmitry Rogozin, Russia could train the first Turkish cosmonaut by 2023, as well as

[this-is-their-incredible-plan/](#)

¹²² India-Mexico are working towards a Strategic Partnership, says Manpreet Vohra, India's envoy to Mexico <https://www.financialexpress.com/defence/india-mexico-are-working-towards-a-strategic-partnership-says-manpreet-vohra-indias-envoy-to-mexico/2045539/>

¹²³ Turkey's new generation satellite to orbit by end of 2020 <https://www.dailysabah.com/business/tech/turkeys-new-generation-satellite-to-orbit-by-end-of-2020>

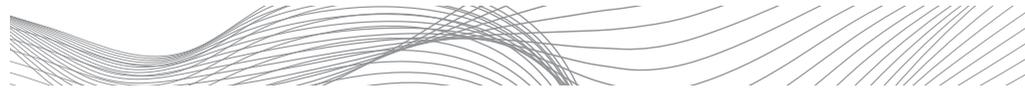
¹²⁴ Two Turkish communication satellites to be put into orbit over the next two years. RIA Novosti. <https://ria.ru/20200116/1563493924.html>

¹²⁵ Turkey unveils national space program / Anadolu Agency. 09.02.2021 // <https://www.aa.com.tr/en/science-technology/turkey-unveils-national-space-program/2139378>

¹²⁶ Turkey's National Space Programme Launched / New Defense Order Strategy, 10.02.2021 // <https://dfnc.ru/en/world-news/turkey-s-national-space-programme-launched/>

¹²⁷ Turkey Tests Hybrid Engine for Moon Mission Rocket / DefenceWorld.Net, 11.04.2021 // https://www.defenseworld.net/news/29316/Turkey_Tests_Hybrid_Engine_for_Moon_Mission_Rocket#.Yhng_XomxPY

¹²⁸ Russia And Turkey Negotiate Space Cooperation Agreement – To Include Turkish Astronaut Training. Space Watch. URL: <https://spacewatch.global/2019/11/russia-and-turkey-negotiate-space-cooperation-agreement-to-include-turkish-astronaut-training/>



SpaceX founder Elon Musk and Turkish President Tayyip Erdogan during a meeting in Ankara, November 8, 2017.

Source: www.dailysabah.com

share its rocket engine and spacecraft technologies.¹²⁹ According to the head of the Turkish Space Agency, Serdar H. Yuildirim, Turkey hopes to conclude an agreement with Russia on further areas of cooperation in this area within “several months”.¹³⁰ At the same time, Ankara plans to launch its own cosmonaut training program after 2023, for which more than \$ 6 billion will be allocated.¹³¹

On March 14, 2021, the head of Roscosmos, Dmitry Rogozin, announced the existence of important bilateral long-term interests in the field of space exploration, and also confirmed the preparation of a draft document on the cooperation between Russia and Turkey in this area. He also stressed that it should become the legal basis for Russian-Turkish cooperation on peaceful space exploration.¹³²

At the same time, Turkey continues to cooperate in the field of space exploration with Western aerospace companies. Thus, in January 2021, President R. T. Erdogan held a telephone conversation with the head of SpaceX, Elon Musk, during which they discussed the directions and details of further cooperation between the American corporation and Turkish aerospace companies.¹³³

Iran

Iran currently has two active satellites in orbit. A total of six satellites have been launched since the Iranian space program began.¹³⁴ The country also has several launchpads suitable for satellite launches. According to the latest report published by the intelligence directorate of the Iranian Ministry of Defense, Iran also has two space carriers (the Safir and the Simorgh) capable of delivering microsatellites to the low Earth orbit.¹³⁵ The Safir has already put into orbit several communication and remote earth sensing satellites, whereas all the Simorgh launches have ended in failure. Nevertheless, on February 1, 2021, Iran announced the first successful launch of a new Zuljanah rocket capable of launching a payload of up to 240 kg into space.¹³⁶

The opportunities for Iran’s international cooperation on space exploration and peaceful use are severely limited by US sanctions. Restrictions imposed by the United States apply to the Iranian Space Agency, the Center for Space Research

¹²⁹ Dmitry Rogozin’s interview with the Anadolu news agency. Roskosmos. <https://www.roscosmos.ru/26870/>

¹³⁰ Turkish Space Agency chief says interested in cooperation with Russia / RNA TASS, 09.02.2021 / <https://tass.com/science/1254523>.

¹³¹ Ibid

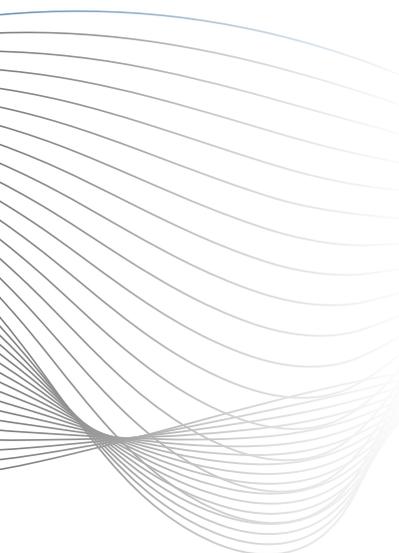
¹³² Moscow ready to join Turkey’s space initiatives: Roscosmos head / Daily Sabah, 17.03.2021 / <https://www.dailysabah.com/business/tech/moscow-ready-to-join-turkeys-space-initiatives-roscosmos-head>

¹³³ Erdoğan, Elon Musk discuss cooperation, joint ventures in phone call / Daily Sabah, 27.01.2021 / <https://www.dailysabah.com/business/tech/rdogan-elon-musk-discuss-cooperation-joint-ventures-in-phone-call>

¹³⁴ Online Index of Objects Launched into Outer Space. United Nations Office for Outer Space Affairs. URL: [https://www.unoosa.org/oosa/osoindex/search-ng.jsp?lf_id=#?c=%7B%22filters%22:%5B%7B%22fieldName%22:%22en%23object.launch.stateOrganization_s%22,%22value%22:%22Iran%20\(Islamic%20Republic%20of\)%22%7D%5D,%22sortings%22:%5B%7B%22fieldName%22:%22object.launch.dateOfLaunch_s1%22,%22dir%22:%22asc%22%7D%5D%7D](https://www.unoosa.org/oosa/osoindex/search-ng.jsp?lf_id=#?c=%7B%22filters%22:%5B%7B%22fieldName%22:%22en%23object.launch.stateOrganization_s%22,%22value%22:%22Iran%20(Islamic%20Republic%20of)%22%7D%5D,%22sortings%22:%5B%7B%22fieldName%22:%22object.launch.dateOfLaunch_s1%22,%22dir%22:%22asc%22%7D%5D%7D)

¹³⁵ <https://www.c4isrnet.com/battlefield-tech/space/2019/11/20/what-do-we-know-about-irans-space-capabilities/>

¹³⁶ Iran’s New Space Rocket Could Double As A Nuclear Missile / Forbes, 01.02.2021 / <https://www.forbes.com/sites/davidaxe/2021/02/01/irans-new-space-rocket-could-double-as-a-weapon/?sh=1de909992d40>



and the Center for Astronautical Research.¹³⁷ That is why it is unlikely that the space agencies of the other BRICS members would be willing to pursue any major space cooperation programs with Iran, especially since the Iranian space program is not very far advanced in terms of its available resources and technologies.

In 2019, following Vladimir Putin's promise to provide assistance to the space exploration programs of Turkey, Bahrein, and Saudi Arabia – and after Russia helped to arrange the flight of the first UAE cosmonaut to the International Space Station – Iran urged Russia to begin negotiations on arranging for a similar flight to the ISS by an Iranian cosmonaut and on training that cosmonaut in Russia.¹³⁸

Egypt

According to UN data, Egypt has launched a total of 9 spacecraft since the start of its space program, including three remote earth sensing satellites. At present, the Egyptian space fleet includes only one active remote earth sensing satellite, which is expected to remain operational until 2024. Nevertheless, Egypt is one of the region's leaders in space exploration. In 2019 alone, the country placed 4 satellites into orbit. And even though some of them failed well before the end of their design lifespan, launching four satellites in a space of a single year is a record for the African continent. Egypt's leading role in space exploration is also emphasized by the fact that Cairo hosts the headquarters of the African Space Agency.¹³⁹

In 2020, Egypt adopted a 10-year space program covering the period to 2030.¹⁴⁰ The country's plans for the next three years include placing another two satellites into orbit. Egypt also hopes to send its first cosmonaut into space by 2025. The Egyptian space program prioritizes communication satellites and spacecraft that can track climate change. It also has a major military component. It has been reported that Egypt has used a remote earth sensing satellite to keep track of the construction of the Hidase hydroelectric power plant's dam (the Grand Ethiopian Renaissance Dam) in Ethiopia.

Additionally, Egypt has two ground stations in Cairo and Aswan, which are also used by the African Space Agency.¹⁴¹

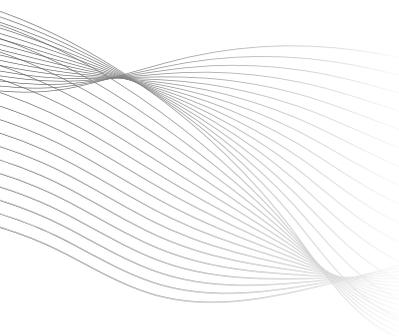
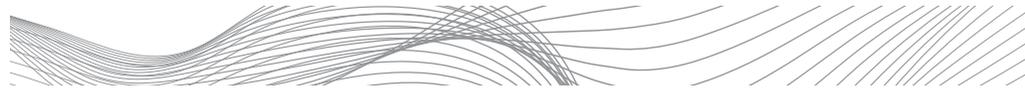
¹³⁷ New Sanctions Designations on Iran's Space Program. U.S. Department of State. URL: <https://www.state.gov/new-sanctions-designations-on-irans-space-program/>

¹³⁸ Iran Looks To Get In On Middle East Human Spaceflight Boom With Russia <https://spacewatch.global/2019/10/iran-looks-to-get-in-on-middle-east-human-spaceflight-boom-with-russia/>

¹³⁹ A new space agency signals Africa's focus on harnessing geospatial data <https://qz.com/africa/1550551/egypt-to-host-african-space-agency/>

¹⁴⁰ Peek Into Egypt's Growing Capacity In Space And The Approved 10-year National Space Program <https://africanews.space/peek-into-egypts-growing-capacity-in-space-proposed-10-year-national-space-program/>

¹⁴¹ Egypt advances space program with 10-year plan. African Times. URL: <https://africatimes.com/>



Egypt pursues very productive cooperation with France; the Egyptian satellite Tiba 1 was launched by the French Ariane 5 carrier with the assistance of Arianespace company.¹⁴² Japan has also been involved in placing Egyptian satellites into orbit.

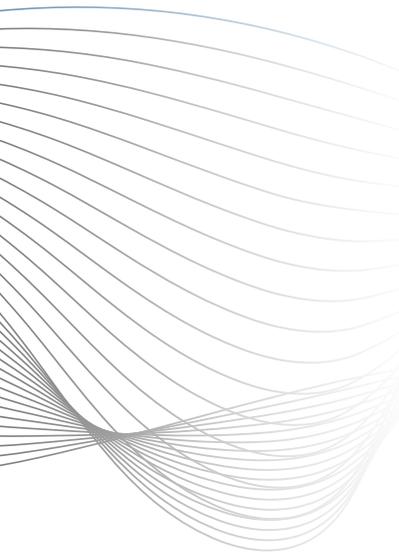
Nevertheless, the main source of financial assistance to the Egyptian space program is China. In January 2019, Beijing and Cairo signed their third agreement on financing an Egyptian space project (to build and launch the MisrSat II satellite) worth 72 million dollars. After the completion of this Sino-Egyptian project, Egypt will become the first African state that has its own satellite assembly and testing technologies.¹⁴³

At the same moment, Egypt is also holding a dialogue on space with Russia. On March 5, 2021, it emerged that there are plans to sign a cooperation agreement between the Egyptian Space Agency and “Roscosmos”.¹⁴⁴ In addition, in January 2020 Egypt began a 6-year program to select and train the first national astronauts.¹⁴⁵

Indonesia

Indonesia plans to build its own space launcher capable of placing spacecraft into 200-300km orbits by 2025.¹⁴⁶ Specialists with the Nikkei Asian Review believe 2040 is the more realistic time frame for Indonesia to acquire the capability to launch satellites from its own territory.¹⁴⁷ At present, Indonesia uses launchpads in India for its satellite launches. But Indonesia’s equatorial position offers a valuable advantage since launching a rocket into space from the equator requires less energy.¹⁴⁸ In 2006, Russia and Indonesia considered the possibility of using Biak Island for launching rockets into space using the “air launch” technology.¹⁴⁹ Currently, the spaceport is being considered for launching multi-stage rockets without a person on board, and the first launches are planned to begin by 2024.¹⁵⁰ At the same time, the creation of both the cosmodrome and its own independent space industry is planned to be completed by 2045.

In addition, the launch of the largest Indonesian telecommunications satellite, ASTRA, is planned for 2023, the total cost of the project is approaching 550 million dollars.¹⁵¹ Currently, Indonesia is going to deactivate 5 national and 4 foreign satellites with



com/2020/03/12/egypt-advances-space-program-with-10-year-plan/

¹⁴² Egyptian Space Agency To Launch Competition To Select First Astronaut In January 2020 <https://africanews.space/egypt-space-agency-to-launch-competition-to-select-first-astronaut-in-january-2020/>

¹⁴³ Egypt Commences Implementation Phase Of China-funded MisrSat II Satellite And AIT Centre <https://africanews.space/egypt-commences-implementation-phase-of-china-funded-misrsat-ii-satellite-and-ait-centre/>

¹⁴⁴ Russia and Egypt are preparing an agreement on cooperation in the field of peaceful space / Finmarket News Agency, 05.03.2021/http://www.finmarket.ru/news/5424455?utm_source=yxnews&utm_medium=desktop&utm_referrer=https%3A%2F%2Fyandex.ru%2Fnews%2Fsearch%3Ftext%3D

¹⁴⁵ Progress and security: why the Middle East aspires to space / RIA FAN, February 12, 2021 / <https://social.riafan.ru/1386291-progress-i-bezopasnost-pochemu-blizhnii-vostok-stremitsya-v-kosmos>

¹⁴⁶ Indonesia space agency takes small step towards ‘dream’. Rappler.com. URL: <https://rappler.com/science/earth-space/indonesia-space-agency-takes-small-step-towards-dream>

¹⁴⁷ Philippines, Malaysia and Indonesia bet on space as growth engine/ Nikkei Asian Review. URL: <https://asia.nikkei.com/Business/Aerospace-Defense/Philippines-Malaysia-and-Indonesia-bet-on-space-as-growth-engine>

¹⁴⁸ Indonesia planning to launch own satellites in 2040. IA Regnum. <https://regnum.ru/news-polit/2621263.html>

¹⁴⁹ Indonesia to build the nation’s first spaceport in Papua. The Jakarta Post <https://www.thejakartapost.com/news/2019/11/12/indonesia-to-build-the-nations-first-spaceport-in-papua.html>

¹⁵⁰ Spaceport will bring more benefits than risks, says Indonesian space agency as Papuans divided over project / CAN, 18.03.2021 / <https://www.channelnewsasia.com/news/asia/indonesia-biak-papua-spaceport-spacex-elon-musk-launchpad-rocket-14419558>

¹⁵¹ Delayed Indonesian broadband satellite SATRIA fully funded / The Space News, 03.03.2021 / <https://spacenews.com/delayed-indonesian-broadband-satellite-satria-fully-funded/>

a total capacity of 50 Gbit/sec, while the projected required capacity of the Indonesian satellite constellation by 2030 should be more than 900 Gbit/sec,¹⁵² which indicates significant plans of Indonesia to develop its space program in the next decade.

Indonesia consists of over 17,000 islands, which is why the country's leadership has a strong interest in developing satellite technologies for monitoring the national border and providing remote islands with satellite communications.¹⁵³

Conclusion

Over the short term, building and expanding remote earth sensing satellite fleets will become a key priority of international space cooperation. Every BRICS membership candidate discussed in this paper has some indigenous technological capability in that area, but Argentina appears the most advanced in that sense. There are, however, certain doubts about the resilience of the Argentine economy since the country is already struggling to maintain its existing space fleet, and the satellites already in orbit are not always able to secure enough business to make them commercially viable.

Over the longer term, cooperation with Indonesia opens up the most promising opportunities because of the country's advantageous geographic situation. Launching satellites from one of the Indonesian islands near the equator would significantly reduce the per-kilogram cost of putting payloads into orbit. But in order to make such cooperation a realistic possibility, Indonesia will have to do some serious homework, which should include the development of the national space infrastructure. BRICS could provide some assistance to such an endeavor, including financial support via its New Development Bank.

¹⁵² Indonesia's \$550m SATRIA satellite in focus / SpaceTech Asia, 30.09.2020 / <https://www.spacetechnasia.com/indonesias-550m-satria-satellite-in-focus/>

¹⁵³ Ibid



National space programs of the potential BRICS membership candidates

Country	Year launched	Active satellites in orbit	Active comms satellites	Active remote sensing satellites	Active research satellites	Active military satellites	Space carriers
Argentina	1940-50s	14	2 ¹⁵⁴	9 ¹⁵⁵	3 ¹⁵⁶	0	In development
Egypt	1990s	5	2 ¹⁵⁷	1 ¹⁵⁸	2 ¹⁵⁹	1 ¹⁶⁰	No
Indonesia	1963	9	9 ¹⁶¹	2 ¹⁶²	0	0	No
Iran	1997	1	0	0	0	1 ¹⁶³	Yes
Mexico	1960s	9	6 ¹⁶⁴	1 ¹⁶⁵	3 ¹⁶⁶	1 ¹⁶⁷	-
Turkey	1990s	11	3 ¹⁶⁸	1 ¹⁶⁹	6 ¹⁷⁰	2 ¹⁷¹	-

¹⁵⁴ ARSAT 2, ARSAT 1

¹⁵⁵ NUSAT 8, NUSAT 7, SAOCOM 1A, NUSAT 5, NUSAT 4, NUSAT 3, NUSAT 2, NUSAT 1, BUGSAT 1

¹⁵⁶ CUBEBUG 2, CUBEBUG 1, PEHUENSAT 1

¹⁵⁷ TIBA 1, NILESAT 201

¹⁵⁸ EGYPTSAT A

¹⁵⁹ NARSSCUBE 1, NARSSCUBE 2

¹⁶⁰ TIBA 1

¹⁶¹ PSN 6 (Nusantara 1), TELKOM 4, TELKOM 3S, TELKOM 2, BRISAT, LAPAN A2 (IQ-86), LAPAN A3, PALAPA D, SES 7 (INDOSTAR 2)

¹⁶² LAPAN A2, LAPAN A3

¹⁶³ Noor 1 (Nour 01)

¹⁶⁴ MEXSAT 2 (MORELOS 3), SKY-MEXICO 1, SATMEX 8, MEXSAT 3, QUETZSAT 1, SATMEX 6

¹⁶⁵ PAINANI 1

¹⁶⁶ AztechSat 1, PAINANI 1, UNAMSAT

¹⁶⁷ PAINANI 1

¹⁶⁸ TÜRKSAT 4B, TÜRKSAT 4A, TÜRKSAT 3A

¹⁶⁹ RASAT

¹⁷⁰ RASAT, BeEagleSat, HAVELSat, ITU-pSat, Türksat-3USat, UBAKUSAT

¹⁷¹ Göktürk 1A, Göktürk 2a

PEACEFUL NUCLEAR ENERGY POTENTIAL OF BRICS MEMBERSHIP CANDIDATES

Nuclear power is not high on the BRICS agenda. The last time peaceful nuclear energy was mentioned was in the declaration of the Xiamen summit in 2017.¹⁷² Neither does nuclear energy feature among the priorities designated in the BRICS Energy Research Platform approved in 2019.¹⁷³ Nevertheless, nuclear energy is one of the areas where Russia has the most to offer to its international partners, and the topic should be prioritized in the framework of the Energy Research Platform.

At present, BRICS lacks a clear framework for peaceful nuclear energy cooperation, and its member states mainly pursue such cooperation on a bilateral basis. At some point in the future, the BRICS bloc could establish a proper multilateral framework in that area, which could potentially include some non-members in the “Outreach” and “BRICS-Plus” format. In such an event, BRICS could become a useful platform for the promotion of Russian initiatives that aim for a greater international utilization of the advantages offered by peaceful nuclear energy. We are not talking merely about propaganda; successful cooperation in the BRICS framework could also help Russia’s Rosatom state nuclear energy corporation win new markets. That is why it would be in Russia’s best interests to make sure that BRICS membership is offered to those candidates that have a clear potential for nuclear energy development and are ready for cooperation with Moscow in that area.

Argentina already has an advanced nuclear energy program. There are three nuclear power plants and five research reactors in operation in that country, as well as an advanced R&D program to develop an indigenous nuclear reactor technology.¹⁷⁴ Another nuclear power plant is currently under construction. Nuclear power accounts for 4.7 per cent of Argentine electricity generation¹⁷⁵, and according to OECD estimates, that figure could rise to 11.8 per cent by 2030.¹⁷⁶

Argentina actively pursues international nuclear energy cooperation. In fact, Buenos Aires aims to become the nuclear energy leader in Latin America. In 2019, the country hosted the 4th Nuclear Industry Summit Latin America.¹⁷⁷ It has also signed nuclear energy cooperation agreements with such major international partners as Russia, China, India, and several other states.

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¹⁷² 9th BRICS summit: The Xiamen Declaration (Xiamen, China, 4 Sep 2017). NKI BRICS. [http://www.nkibrics.ru/system/asset_docs/data/5a4f/6bcb/6272/695d/471c/0000/original/I%20%D0%A5_%20%D1%81%D0%B0%D0%BC%D0%BC%D0%B8%D1%82_%20%D0%91%D0%A0%D0%98%D0%9A%D0%A1_-_20%D0%A1%D1%8F%D0%BC%D1%8D%D0%BD%D1%8C%D1%81%D0%BA%D0%B0%D1%8F_%20%D0%B4%D0%B5%D0%BA%D0%BB%D0%B0%D1%80%D0%B0%D1%86%D0%B8%D1%8F_\(%20%D0%B3.%20%D0%A1%D1%8F%D0%BC%D1%8D%D0%BD%D1%8C_%20%D0%9A%D0%B8%D1%82%D0%B0%D0%B9_4_%20%D1%81%D0%B5%D0%BD%D1%82%D1%8F%D0%B1%D1%80%D1%8F_2017_%20%D0%B3%D0%BE%D0%B4%D0%B0\).doc?1515154379](http://www.nkibrics.ru/system/asset_docs/data/5a4f/6bcb/6272/695d/471c/0000/original/I%20%D0%A5_%20%D1%81%D0%B0%D0%BC%D0%BC%D0%B8%D1%82_%20%D0%91%D0%A0%D0%98%D0%9A%D0%A1_-_20%D0%A1%D1%8F%D0%BC%D1%8D%D0%BD%D1%8C%D1%81%D0%BA%D0%B0%D1%8F_%20%D0%B4%D0%B5%D0%BA%D0%BB%D0%B0%D1%80%D0%B0%D1%86%D0%B8%D1%8F_(%20%D0%B3.%20%D0%A1%D1%8F%D0%BC%D1%8D%D0%BD%D1%8C_%20%D0%9A%D0%B8%D1%82%D0%B0%D0%B9_4_%20%D1%81%D0%B5%D0%BD%D1%82%D1%8F%D0%B1%D1%80%D1%8F_2017_%20%D0%B3%D0%BE%D0%B4%D0%B0).doc?1515154379)

¹⁷³ BRICS Platform for Energy Studies. Russian Ministry of Energy. <https://minenergo.gov.ru/node/18366>

¹⁷⁴ Nuclear Power in Argentina. World Nuclear Association. URL: <https://www.world-nuclear.org/information-library/country-profiles/countries-a-f/argentina.aspx> (Retrieved on 02 Dec 2019)

¹⁷⁵ ENERGY, ELECTRICITY AND NUCLEAR POWER ESTIMATES FOR THE PERIOD UP TO 2050. IAEA. URL: https://www-pub.iaea.org/MTCD/Publications/PDF/19-00521_web.pdf

¹⁷⁶ Nuclear Energy Data 2019/ Nuclear Energy Agency. URL: <http://www.oecd-nea.org/ndd/pubs/2019/7474-ned-2019.pdf>

¹⁷⁷ Buenos Aires to host the 9th Latin American nuclear summit. Nuclear Energy. <http://www.atom-ic-energy.ru/news/2019/01/29/92142> (Retrieved on 2 Dec 2019)



There is no clear structure of interaction on peaceful nuclear issues within the BRICS framework

One of the key areas of Russian-Argentine cooperation is to explore the possibility of building various high- and low-output nuclear power plants in Argentina. The bilateral strategic document on peaceful nuclear energy cooperation signed in 2018 has also established a framework for a joint implementation of projects in third countries, including projects to build nuclear research centers and train nuclear energy specialists.¹⁷⁸

Despite the importance of the bilateral document signed with Argentina in 2018, there aren't any quick winnings on the horizon. In fact, owing to economic difficulties, the Argentine government has put on hold its previous plans to build a nuclear power plant using Russian reactor technology.¹⁷⁹ We believe that these economic troubles – which the Argentine social and economic model seems to throw up with some regularity – make it impossible to expect the development of a sustainable Russian-Argentine peaceful nuclear energy partnership in the foreseeable future. Even though it would be in Russia's best interests to pursue such cooperation, its potential scale is not sufficient, in and of itself, to justify the offer of a BRICS membership to Argentina.

Mexico relies heavily on hydrocarbons for its energy generation, and nuclear power accounts for only 4 per cent of the country's production of electricity. The country's only operational nuclear power plant, the Laguna Verde NPP, consists of 2 nuclear power reactors. It was built in the late 1980s – early 1990s, and its original design lifespan was extended in 2020 until 2050.¹⁸⁰ In 2019, the Mexican government began to consider the possibility of building another four nuclear power reactors.¹⁸¹¹⁸²

Up until recently, the main focus of Mexico's international nuclear energy cooperation was on bilateral projects with the United States. Both of Mexico's NPPs were built using US reactor technology, and the United States provided all the enriched uranium for their operation. But in 2011, Mexico reached an agreement with Russia that its NPPs would switch to fuel made of Russian enriched uranium by 2016.¹⁸³ The country has also established a legal framework for nuclear energy cooperation with France, South Korea, Russia, Canada, Argentina, and Australia.¹⁸⁴

Turkey has ambitious nuclear energy plans. Rosatom is currently building the country's first nuclear power plant in Akkuyu¹⁸⁵, and there are plans to build another NPP in Sinop. According to the latest reports, Turkey has rejected the terms for the Sinop NPP construction project proposed by Mitsubishi Heavy Industries, which means that Russia has a chance to win the Turkish contract for another four nuclear power reactors.

¹⁷⁸ Rosatom state nuclear corporation. 2018 Annual Report. <https://www.rosatom.ru/upload/iblock/fa7/fa759a96c90510116b0b0632519522cb.pdf>

¹⁷⁹ Argentina to delay joint NPP project with Russia. RIA Novosti. https://ria.ru/20200810/1575572554.html?utm_source=yxnews&utm_medium=desktop

¹⁸⁰ No 1 reactor of Mexico's only NPP at Lago Verde receives a life extension. Nuclear Energy. <https://www.atomic-energy.ru/news/2020/07/21/105623>

¹⁸¹ 4 nuclear reactors under consideration by electricity commission. Mexico News Daily. URL: <https://mexiconewsdaily.com/news/4-nuclear-reactors-under-consideration/>

¹⁸² Nuclear Power in Mexico. World Nuclear Association. URL: <https://www.world-nuclear.org/information-library/country-profiles/countries-g-n/mexico.aspx> (Retrieved on 2 Dec 2019)

¹⁸³ Mexico considers building more NPPs. Rosatom may become involved in the project. Neftegaz.ru URL: <https://neftegaz.ru/news/nuclear/212072-meksika-dumaet-o-rasshirenii-svoikh-atomnyekh-moshchnostey-k-proektu-mozhet-byt-privlechen-rosatom/>

¹⁸⁴ Mexico. Country Nuclear Power Profiles. IAEA. URL: <https://cnpp.iaea.org/countryprofiles/Mexico/Mexico.htm>

¹⁸⁵ Rosatom state nuclear corporation. 2018 Annual Report. <https://www.rosatom.ru/upload/iblock/fa7/fa759a96c90510116b0b0632519522cb.pdf>

The launch of the four reactors of the Akkuyu NPP will enable Turkey to overcome its dependence on energy imports.¹⁸⁶

Turkey is actively involved in international peaceful nuclear energy cooperation. It is a member of CERN and has signed cooperation agreements with Argentina, Russia, China, Japan, and Germany. If peaceful nuclear energy cooperation ever becomes a major area of joint effort in the BRICS format, Turkey, with its ambitious NPP program, could become a showcase for such cooperation.

Iran has one nuclear power reactor already in operation at the Bushehr NPP. Another reactor is currently being built at Bushehr, and Iran is planning to build at least one other NPP at another site. In theory, the country has the capability to build a complete nuclear fuel cycle, but its international commitments under the Joint Comprehensive Plan of Action (NPP) effectively rule out that option.¹⁸⁷

Russian-Iranian strategic partnership on peaceful nuclear energy dates back to 1992, when the two countries signed an agreement to build a nuclear power plant in Iran.¹⁸⁸ In 2014, following the completion of the No 1 reactor at Bushehr, Moscow and Tehran signed a protocol to that agreement¹⁸⁹ and a memorandum on further cooperation.¹⁹⁰ A ceremony to kick off the construction of the No 2 and 3 reactors at the Bushehr NPP was held in 2017.¹⁹¹

At present, the possibilities for international cooperation with Iran are limited. After pulling out of the JCPoA, Washington reimposed its unilateral restrictions on the Iranian nuclear program and the organizations involved in it. That is why, despite Iran's formidable capability in the area of peaceful nuclear energy, the sanctions risk can outweigh all the potential benefits of cooperation with that country for the BRICS member states.

Egypt is actively involved in international peaceful nuclear energy cooperation and works closely with the IAEA on a number of projects. It has two operational research reactors, two particle accelerators, and a radioactive isotopes production facility. It is also building four nuclear reactors at the El Dabaa NPP using Russian technology and Russian government-backed credit financing.^{192,193} The completion of the project is expected in 2028-2029.¹⁹⁴

Indonesia is showing serious interest in nuclear energy, but it has yet to build its first NPP. In 2014, the country adopted a new edition of its energy strategy that includes nuclear energy goals.¹⁹⁵

¹⁸⁶ Turkey. Country Nuclear Power Profiles. IAEA. URL: <https://cnpp.iaea.org/countryprofiles/Turkey/Turkey.htm> (Retrieved on 2 Dec 2019)

¹⁸⁷ Nuclear Power in Iran. World Nuclear Association. URL: <https://www.world-nuclear.org/information-library/country-profiles/countries-g-n/iran.aspx> (Retrieved on 2 Dec 2019)

¹⁸⁸ Russian-Iranian intergovernmental agreement on cooperation in building a nuclear power plant in Iran. <http://docs.cntd.ru/document/499034014>

¹⁸⁹ Protocol to the Russian-Iranian intergovernmental agreement on cooperation in building a nuclear power plant in Iran of August 25, 1992. <https://rosatom.ru/upload/iblock/100/100d7d7f-9183cb5d7d5dc91083e91b14.pdf>

¹⁹⁰ Memorandum on closer cooperation in the area of peaceful nuclear energy between the Rosatom corporation and the Atomic Energy Organization of Iran. <https://rosatom.ru/upload/iblock/389/3898c858fb5fc6a8b15caa48b1e23160.pdf>

¹⁹¹ Rosatom state corporation, 2017 Annual Report. <https://rosatom.ru/upload/iblock/e5d/e5d0fefb-d69c8d8a779ef817be2a63d0.pdf>

¹⁹² Egypt. Country Nuclear Power Profiles. IAEA. <https://cnpp.iaea.org/countryprofiles/Egypt/Egypt.htm> (Retrieved on 2 Dec 2019)

¹⁹³ Rosatom state nuclear corporation. 2018 Annual Report. <https://www.rosatom.ru/upload/iblock/fa7/fa759a96c90510116b0b0632519522cb.pdf>

¹⁹⁴ Completion of the El Dabaa NPP in Egypt expected by 2028-2029. Nuclear Energy. 2.0. <https://www.atomic-energy.ru/news/2020/06/19/104683>

¹⁹⁵ Nuclear Power in Indonesia. World Nuclear Association. URL <https://www.world-nuclear.org/information-library/country-profiles/countries-g-n/indonesia.aspx> (Retrieved on 2 Dec 2019)



It also has plans to build a research reactor using Russian reactor technology, and the Indonesian government has also shown interest in the Russian floating NPP technology. We believe that Russian-Indonesian cooperation on nuclear energy has a lot of potential, even though there have been numerous delays with launching any practical efforts in that area.

At the same time, it should be clearly understood that despite Indonesia's determination to build a nuclear energy industry, that goal can take years and even decades to achieve. According to the methodology used by the IAEA, a country that has embarked upon the path towards nuclear energy must undertake certain international commitments, build the required national infrastructure, and put in place the capabilities needed for a safe, secure, and economically sustainable NPP operation and regulation. That is why before starting to build its first NPP, Indonesia might take 10-15 years just to implement the necessary preparations.

That being said, consolidated action by members of the BRICS alliance, including a meticulously planned (and diligently implemented) roadmap for each individual country's nuclear energy development, could bolster the BRICS international standing and reputation.

Detailed analysis of the nuclear energy potential of Argentina, Mexico, Turkey, Iran, Egypt, and Indonesia as candidates for BRICS membership suggests that none of these countries is capable of taking peaceful nuclear energy cooperation in the BRICS format to a whole new level. What is more, BRICS itself currently lacks a clear understanding of how to pursue multilateral cooperation in that area in its current membership format.

We believe that it would be in Russia's best interests to facilitate the formulation of a strategy for such cooperation because it would help to promote Russia's commercial and other interests in a multilateral framework. In particular, it would be useful to draw up a roadmap of BRICS cooperation on peaceful nuclear energy for the next 5-7 years, including a detailed plan of action, preferably with a clear set of performance indicators. Russia, which took over the rotating BRICS presidency in 2020, is in a good position to initiate the development of such a strategy.

The "nuclear" winnings from offering BRICS membership to the aforementioned candidates would be negligibly small. The participation or non-participation or any or all of those states in BRICS does not prevent Russia (or any other BRICS member, for that matter) from pursuing cooperation with them on a bilateral basis. Nevertheless, engagement in the Outreach or BRICS-Plus format could offer certain benefits. If and when the BRICS club is ready to propose its own peaceful nuclear energy initiatives, coordination with non-members that have a tangible nuclear energy potential would strengthen the positions of the five BRICS members at the IAEA, the UN, and other relevant international institutions.

EVEN SIX IS NOT ENOUGH: BRICS ENLARGEMENT AND WMD TERRORISM

A discussion of the problem of WMD terrorism in the context of BRICS enlargement may not seem obviously relevant. Cooperation to counter this type of the terror threat is not among the bloc's current priorities. The last time the issue was mentioned at all was in the final declaration of the BRICS summit in 2016, when the five nations welcomed India's initiative to hold a conference on terrorism and weapons of mass destruction in 2018.

Nevertheless, terrorism remains a pressing problem for all BRICS members. The BRICS Counterterrorism Strategy prioritizes international cooperation in countering the terror threat. The practical side of such cooperation – such as information sharing between the secret services of the countries involved – usually happens in secret. Also, the strategy may involve harmonization of national approaches to the problem of terrorism.

Naturally, cooperation in combating terrorism cannot be limited by the current five BRICS members as it requires a joint effort with as many partners as possible. Such an effort cannot and should not be made conditional on BRICS enlargement or any other political considerations. That is why countering terrorism (and especially WMD terrorism) will be part of the *acquis communautaire* in the process of BRICS enlargement – but it will not be at the top of the enlargement agenda.

Unlike the other sections of this report, the current section does not focus on the potential contribution of each membership candidate to the problem at hand (countering terrorism, in this instance). It makes more sense to consider Argentina, Mexico, Turkey, Iran, Egypt, and Indonesia as a representative sample that highlights the needs of the entire international community in terms of combating WMD terrorism. Such an analysis can then be used to outline the shape of future BRICS cooperation on the problem of terrorism with a much broader range of international partners.

Of course, focusing only on WMD terrorism rather than the broader terror threat artificially limits the scope of this report. We regard such a focus as a useful way to stimulate a discussion on engaging other nations in counterterrorism cooperation in the BRICS framework, and we deliberately use the issue of WMD (which has always been part of the PIR Center portfolio) as a pilot for such a discussion. Further debate on this subject would require the involvement of the broader expert community in Russia and the other BRICS member states.

GICNT and others

Most of the international effort to combat WMD terrorism is taking place in the framework of the Global Initiative to Combat Nuclear Terrorism (GICNT), UN Security Council Resolution 1540, the IAEA, and other multilateral instruments. The International Convention Against Acts of Chemical and Biological Terrorism proposed by Russia at the Conference on Disarmament in 2016 could become another useful addition to that list.

Of the potential BRICS membership candidates discussed in this paper, only Argentina, Mexico, and Turkey already par-

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participate in the GICNT, whereas Iran, Egypt, and Indonesia have yet to join. Three working groups have been established in the GICNT framework: on nuclear forensics, on nuclear detection, and on emergency response and relief. All three groups develop recommendations and conduct practical events such as workshops, tabletop and field exercises, training sessions, etc.¹⁹⁶

Argentina and Mexico stand out for their active involvement in field training exercises on the prevention of nuclear terrorism. In 2019, Argentina conducted the Pampa Knife nuclear security demonstration training event, which showcased effective coordination between the emergency response services and technical specialists in dealing with a simulated terror attacks involving the use of nuclear or radioactive materials during a mass public gathering event. In 2017, Argentina and Chile conducted the Paihuen II tabletop exercise to improve bilateral protocols of response to the threat of nuclear terrorism, the first such event since the Paihuen I in 2014.¹⁹⁷

Mexico held the Jaguar Negro national field training exercise in 2018. It also hosted a meeting of a GICNT working group in Ocoyoacac and Mexico City. The goal of those exercises was to strengthen regional cooperation during emergencies, including joint efforts in the area of radiological forensics; improve liaison protocols; and develop an effective cooperation process for investigating terror attacks involving the use of nuclear or other radioactive materials.¹⁹⁸

Mexico is also actively involved in nuclear security-related efforts in the IAEA framework. The country follows IAEA recommendations on the physical protection of nuclear material and nuclear facilities. It participates in IAEA technical meetings on developing recommendations for imports and exports of nuclear and radiological materials. It also hosted a visit by experts of the IAEA International Physical Protection Advisory Service (IPPAS) to review the measures being taken against the threat of nuclear terrorism and improve a broad range of actions on nuclear security. The recommendations issued by IPPAS are used to prepare the Integrated Nuclear Security Support Plan.¹⁹⁹

Turkey also makes a notable contribution to the IAEA-led effort on nuclear security. It participates in technical meetings on nuclear security, such as “Preventive and Protective Measures Against Insider Threats at Nuclear Facilities”, “Nuclear Security Management for Research Reactors and the Related Infrastructure”, and “Computer Security”.²⁰⁰

Egypt signed an Integrated Nuclear Security Support Plan with the IAEA on November 27, 2014. The plan aims to strengthen multilateral cooperation on nuclear security. Egypt and the IAEA also cooperate on improving physical protection systems of the country’s two research reactors.²⁰¹

All the potential BRICS membership candidates reviewed in this paper comply with the requirements of UN Security Council Resolution 1540. All six countries have criminalized unauthorized access to and the use of WMD.

Useful information about the BRICS membership candidates’ requirements in terms of combating the threat of nuclear terrorism is also contained in the Nuclear Security Index published by the Nuclear Threat Initiative. According to that index, the most vulnerable

¹⁹⁶ https://www.mid.ru/aderno-nerasprostranenie/-/asset_publisher/JrcRGi5UdnBO/content/id/80442

¹⁹⁷ <http://www.gicnt.org/documents/2019%20GICNT%20Plenary%20Co-Chairs%20Statement.pdf>

¹⁹⁸ <http://www.gicnt.org/documents/2019%20GICNT%20Plenary%20Co-Chairs%20Statement.pdf>

¹⁹⁹ <http://www.nss2016.org/document-center-docs/2016/3/31/national-progress-report-mexico>

²⁰⁰ <http://www.nss2016.org/document-center-docs/2016/3/31/national-progress-report-turkey>

²⁰¹ <http://www.nss2016.org/document-center-docs/2016/3/31/national-progress-report-egypt>

states in terms of the preparedness of their security and emergency response services are Iran and Egypt (which score 5 and 26 points, respectively, on a 100-point scale). But other membership candidates also have a lot of room for improvement as far as their emergency response systems are concerned. According to the Nuclear Threat Initiative, the greatest contribution to strengthening nuclear security can be made by improving background checks during the hiring of personnel at sensitive facilities, strengthening regulatory capacity, improving resilience to cyberattacks, and strengthening the security culture. Even though the scoring methodology used in the NTI Index is not perfect, we believe that cooperation between these states and the existing BRICS members would be very useful in terms of combating the threat of nuclear terrorism.

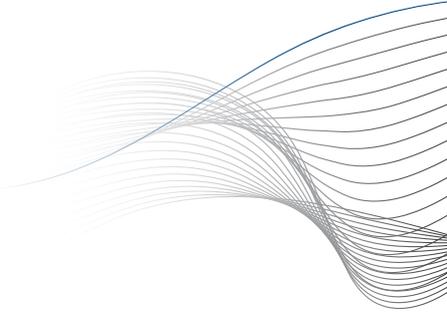
BRICS as an integrator of global counterterrorism efforts

The BRICS nations have long called for the signing of a comprehensive convention on combating international terrorism. In their opinion, such an instrument would put an end to the dispersal of the counterterrorism agenda across multiple different platforms, which inevitably hinders the focusing of the international community's effort to defeat this evil facing every country on the planet. BRICS could well serve as an integrator of the efforts of different countries and alliances in this area, helping to universalize the existing instruments and find common ground. At the same time, there should be no illusions: the existing differences between various countries run so deep that a comprehensive convention on combating terrorism is not something that can be achieved any time soon. But that only makes all the more relevant the potential unifying role of BRICS – a role that bloc can play thanks to its truly unique membership.

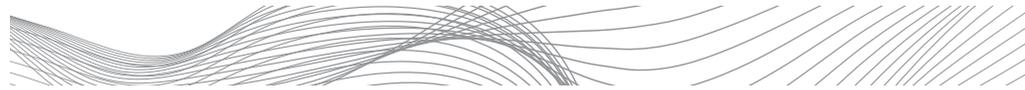
BRICS counterterrorism efforts would augment the activities undertaken in the existing frameworks such as the Regional Counterterrorism Structure of the Shanghai Cooperation Organization, of which three of the five BRICS nations are also members. We believe that the five BRICS nations are capable of taking the experience and mechanisms of cooperation between Eurasian states to the global level.

The need for such an integrator is clearly demonstrated by the problem of WMD terrorism. Many nations remain outside the GICNT and are not involved in the sharing of best practices in countering this type of the terror threat. Let us also recall that the United States has tried to become an integrator of the international community's efforts in combating nuclear terrorism. As part of those attempts, the Obama administration held a series of nuclear security summits that were attended by all the BRICS membership candidates discussed in this paper, except for Iran. The United States is also working to strengthen cooperation in this area in the bilateral framework.

It cannot be ruled out that under the new Democratic administration, Washington will try to resurrect the nuclear security summit series. But BRICS has one clear advantage over the United States: cooperation in the BRICS framework is devoid of the element of US mentorship. It is pursued as a joint effort of equal partners, without any attempts by the “leader” to foist any behavioral models on its “followers”. That side of the reputation BRICS has earned for itself on the international arena could be very attractive for the developing states. As a case in point, it would be very hard to imagine Iran agreeing to take part in such cooperation with the United States – but coopera-



Under the Russian chairmanship, an anti-terrorist strategy has been agreed, which gives a significant place to international cooperation in countering the terrorist threat



tion between Iran and BRICS would be entirely realistic.

CONCLUSION

Should we view the possibility of BRICS enlargement as an opportunity, or as a burden?

On the one hand, the prevailing idea that the BRICS club should first be allowed to settle down with its current membership is entirely rational. But on the other, without such enlargement, BRICS will inevitably lose its forward momentum and global attraction. The additions of new members cannot and should not be a frequent occurrence; that would be counterproductive. But it has already been quite a long time since the accession of South Africa back in 2011, which turned the BRIC bloc into BRICS. It has already been long enough to consider another round of enlargement – provided that there is a strong financial, economic, and geopolitical case for it, and that none of the existing BRICS members are opposed to the idea.

We are aware that the expansion of the BRICS in the near future could be a too radical step to insist on. Therefore, in this report, we generally avoid the recommendation for 2021 and try to speak in the context of the mid-term perspective.

Another important issue to consider is regional representation. We believe that offering membership to Southeast Asian, Middle Eastern, or North African states (or state) would make it possible to strengthen relations with those regions and secure their greater support at the UN and other international venues.

A review of the security priorities of the potential membership candidates suggests that BRICS as a bloc would especially benefit from securing new partnerships on countering such emerging international challenges as terrorism, organized crime, cyberthreats, and drug trafficking. Fostering closer cooperation with states that are leaders in their respective regions would significantly expand the international “support group” for the approaches to dealing with these problems advocated by BRICS.

The benefits of BRICS enlargement are not quite as obvious in such areas as peaceful nuclear energy and space programs. That situation will certainly change at some point in the future – but for now, it would make more sense to pursue closer cooperation in these areas between the five current members. At present, BRICS cooperation on space programs is in the very early phases, and on peaceful nuclear energy, the bloc has only just recently recognized the need for such cooperation. An overhasty enlargement would only make it more difficult to forge closer ties in these areas for the existing members. As for the future, once the BRICS nations have fleshed out their cooperation plans and moved on to concrete projects, it would make better sense not to focus too much on any single membership candidate, and to pursue engagement in the BRICS-Plus and Outreach format with multiple partners instead.

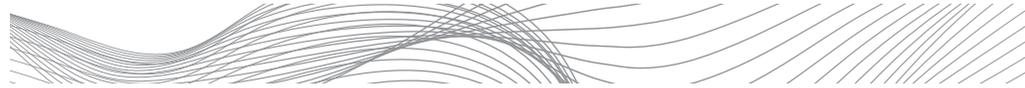
For all the reasons outlined above, we believe that Indonesia appears to be the most promising candidate for BRICS membership in the medium term. The country pursues a balanced and thoughtful policy on key international security issues. It also commands a lot of respect in the Islamic world and the Nonaligned Movement. If Jakarta and BRICS were to coordinate their positions, it would help BRICS to promote its approaches more effectively in

the international arena. And even though Indonesia is not at the top of the global rankings on many indicators, we believe that the country's accession to BRICS would be the least controversial.

Thanks to Indonesia's impressive economic growth rates, its accession to BRICS would also help the bloc to reinforce its positions as the leading engine of global economic growth, as well as its standing at the international financial institutions. If Indonesia were to become a member, BRICS would control over 15 per cent of the votes on the IMF Board – enough to block decisions that run counter to the club's interests.

There are also several political factors that favor Indonesia's accession. Nevertheless, it should be remembered that the addition of new members would inevitably make it more difficult for the bloc to reach a consensus on various issues. Even with its current membership of five, BRICS does not always stand united on some international issues. Neither is it clear how a potential enlargement would affect cooperation with external partners in the Outreach and BRICS-Plus format. There are risks of stoking up the existing tensions between the current members, especially India and China. For example, New Delhi views Beijing's enthusiasm for the BRICS-Plus format as an attempt to dilute India's clout and use BRICS as an engine for the Belt and Road Initiative.

We believe that the opportunities offered by the current five-nation membership of the BRICS bloc have yet to be exhausted. As for the benefits offered by BRICS enlargement, many if not most of them can be gained by pursuing cooperation in other formats that stop short of a full membership. ■



Security Index Occasional Paper Series
Global Edition

№9 (24), 2021

The sixth letter of BRICS:
International security and Russian interests

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The cover of this report uses elements of
Albrech Dürer's Rhinoceros woodcut

The *Security Index* journal logo:
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Editorial work on this issue was completed on
June 29, 2021

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SECURITY INDEX

Security Index Occasional Paper Series Global Edition - reports, analytical articles, comments and interviews that reflect the positions of Russian and foreign experts on the current challenges to global security and Russia's policy in this area. The aim of the series is to provide a clear analysis of international security problems and to offer specific and realistic solutions for them. The series replaced the *Security Index* journal published by PIR Center in 1994-2016. The authors and editors of the series welcome comments, questions and suggestions, which readers can email inform@pircenter.org

BRICS POTENTIAL FOR GLOBAL PEACE AND SECURITY

This study paper was made within the framework of the project «BRICS Potential for Global Peace and Security», which is part of the PIR Center Program «Global & Regional Security: New Ideas for Russia». The PIR Center analyzes Russia's participation in the BRICS format and its cooperation with partners in the field of high technologies (nuclear energy, information technology, and the use of outer space). The PIR Center actively participates in the development of Russia's BRICS strategy. The PIR Center Director Vladimir Orlov participates in the work of the National Committee for BRICS Research and the academic events for the preparation of the BRIC(S) summits since 2008.