



BRICS
Business Council



Celebrating
10
YEARS

ANNUAL REPORT
2022/23



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Executive Summary

The BRICS Business Council (BBC) is pleased to present the 2023 Annual Report, in a year which not only celebrates the 10th year anniversary of the BBC, but also highlights the remarkable achievements and prospects of this dynamic multilateral grouping. The BRICS group now accounts for over 31% of global Growth Domestic Product (GDP), surpassing that of the Group of Seven (G7) countries. The report highlights the steps we jointly have agreed to focus on, in promoting inclusivity and balancing of trade patterns, through the joint statement, and an approach design to plan our programme of work for the next decade.

The upward trajectory of BRICS is validated by the fervent knock of the various nations of emerging economies indicating interest to join. The BRICS nations have become a beacon of inspiration for other countries around the world, countries which recognize the benefits of aligning themselves with this multilateral platform, drawn by the opportunities it presents for trade, investment, sustainable development and underpinned by principles of mutual respect and understanding, equality, solidarity, openness, inclusiveness, and consensus. This expanding interest serves as a testament to the influential role played by BRICS in contributing to the global economic order.

Over the past decade, the BBC has played a pivotal role in driving economic cooperation and forging closer ties among its member countries. This milestone anniversary provides a unique opportunity to reflect on the progress made in developing processes and sharing knowledge, which have laid a strong foundation for further collaboration. Over the past decade, the programme of work of the BBC, has enabled trade facilitation, investment promotion, and knowledge exchange, thus promoting sustainable economic growth

and enhanced competitiveness amongst the BRICS nations. In our reflection of the successes of the past 10 years of BBC, it would be remiss not to acknowledge and applaud the efforts of our working groups, who are the engine which keeps the BBC running.

As we stand at the precipice of a transformed world, characterized by rapid technological advancements, evolving trade dynamics, and shifting geopolitical landscapes, the importance of BRICS trade and investment cannot be overstated. BRICS, with its expanding influence and growing interest from other countries, has an opportunity to contribute to the future of global trade, investment, and sustainable development. This can be achieved through capitalizing on our respective strengths, fostering innovation, promoting inclusivity, and supporting initiatives such as the Africa Continental Free Trade Area (AfCFTA), thus the BRICS countries can create a prosperous, equitable, and interconnected world. The AfCFTA is a landmark agreement, aimed at creating the world's largest free trade area, holds immense potential for unlocking economic growth, enhancing regional integration, and fostering prosperity across the African continent. The BRIC nations should collaborate with African nations to facilitate the successful implementation of the AfCFTA and recognise its potential to bolster Africa's global economic participation whilst also offering a significant value proposition to other markets.

Furthermore, it is imperative to devise a proposition for the next decade, that embodies pragmatism in trade and investment. This approach entails taking concrete actions, adopting effective strategies, leveraging the collective strengths and areas of complementarity of the BRICS countries to address the evolving challenges and capitalize on emerging opportunities. By assuming a pragmatic approach, the BBC can continue to deliver tangible results, bolster economic resilience, and create an environment conducive to sustainable growth.

By promoting intra-BRICS trade, enhancing market access, and facilitating the exchange of goods, services, and technologies, the BRICS countries are creating a more balanced and diversified trade environment that benefits all participants. Such endeavours not only strengthen regional economic integration but also contribute to global trade stability.

Finally, on the 10th year anniversary of the BBC, we express our sincere appreciation to all stakeholders who have contributed to its success. Their dedication, expertise, and collaboration have been instrumental in shaping the economic landscape of the BRICS nations.

We invite readers to explore the pages of this report, gain a deeper understanding of the achievements and prospects within BRICS trade and investment, and join us in defining a pragmatic and prosperous path for the next decade.

Together, let us seize the opportunities that lie ahead, promote inclusivity and balanced trade patterns, and assume a pragmatic approach to trade and investment within the BRICS grouping. By doing so, we will continue to enhance economic cooperation, drive sustainable growth, and create a sustainable future.



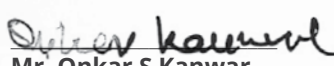
Ms. Busi Mabuza
(Republic of South Africa)



Mr. José Serrador Neto
(Federative Republic of Brazil)



Mr. Sergey Katyrin
(Russian Federation)



Mr. Onkar S Kanwar
(Republic of India)



Mr. Chen Siqing
(People's Republic of China)



1. *About* **BRICS Business Council**



About BRICS Business Council



The BBC was established in 2013 at the 5th BRICS Summit in Durban, South Africa, bringing together the respective business communities from Brazil, Russia, India, China, and South Africa. This year the BBC is celebrating its 10th year anniversary, this economic workstream has emerged as a pivotal parallel structure of the BRICS formation focusing on business-to-business engagements in the interests of creating tangible inter- trade and investment opportunities between the partner countries. Furthermore, the BBC ensures regular dialogue between business communities and governments, identifies trade and investment related bottlenecks, thus addressing the most important business demands, proposals and initiatives that contribute positively to trade and investment.

The BBC comprises of five chapters from the respective BRICS nations, each headed by five council members who oversee their respective chapters nine working groups, namely, Agribusiness, Aviation, Digital Economy, Deregulation, Energy and Green Economy, Financial Services, Infrastructure, Manufacturing, as well as Skills Development, through which the Council implements its mandate. Each of the working groups are chaired by industry leaders who are supported by various subject matter experts.

The global council and working groups meet face to face twice a year at the Midterm Meeting and at the Annual Meeting, ahead of the BRICS Business Forum and BRICS Summit.

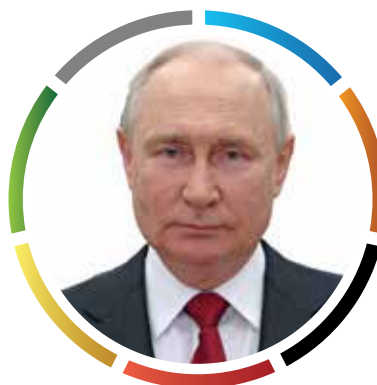
The Chairpersons of the BBC have the honour to submit the “BRICS Business Council Annual Report” to the Leaders of the BRICS countries. The document proposes key recommendations from the nine working groups, this reflects the results the BBC wish the governments (in collaboration with businesses) to pursue, both in the medium and in the long term.



BRICS
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Luiz Inácio Lula da Silva
President of Brazil



Vladimir Putin
President of Russia



Narendra Modi
Prime Minister of India



Xi Jinping
President of the
People's Republic of China



Cyril Ramaphosa
President of the
Republic of South Africa

BRICS *Heads of State*



2. BRICS Business Council *Members*



BRICS BUSINESS COUNCIL: SOUTH AFRICA CHAPTER				
Ms Bani Mahboub Chairperson Board Chairman: mAbulhasan Development Corporation	Dr Ayanda Witsakube Executive Director: Shomvula Limited	Dr Stavros Nicolaidis Group Senior Executive Director: Aspen Pharmaceuticals	Ms Phuthi Mahanyele Chairperson: mAbulhasan Development Corporation	Mr Elias Mngweni Executive Chairman: Amulhas Holdings

BRICS Business Council Members



South Africa



Ms. Busi Mabuza

Chairperson of
South Africa Chapter
Chairperson of
Industrial Development
Corporation



Dr. Ayanda Ntsaluba

Group Executive Director
of Discovery Holdings



Mr. Elias Monage

Executive Chairperson
at Arabela Holdings



**Ms. Phuthi Mahanyele-
Dabengwa**

South Africa CEO of
Naspers Ltd



Dr. Stavros Nicolaou

Group Senior Executive
of Aspen Pharmacare
Holdings Limited



Brazil



Mr. José Serrador Neto

Chairperson of
Brazil Chapter
Global Vice-President
of Institutional
Relations, EMBRAER



**Mr. João Francisco
Fruet Junior**

Director of Corporate and
Investment Bank, Banco
do Brasil



Mr. Miguel Gularte

CEO of BRF



**Mr. Eduardo
Bartolomeo**

President of Vale SA



**Mr. Harry
Schmelzer Jr.**

President & CEO of WEG



Russia



Mr. Sergey Katyrin

Chairperson of
Russia Chapter
President of the
Chamber of Commerce
Industry of the Russian
Federation



Mr. Oleg Belozerov

CEO - Chairman of the
Executive Board,
JSC Russian Railways



Mr. Kirill Dmitriev

CEO of Russian Direct
Investment Fund (RDIF)



Mr. Sergey Chemezov

Director General
of Rostec State
Corporation



Mr. Igor Shuvalov

Chairman of the
State Development
Corporation VEB.RF



India



Mr. Onkar S Kanwar

Chairperson of
India Chapter
Chairman & Managing
Director of Apollo
Tyres Ltd



Mr. Jai Shroff

Global CEO of UPL Ltd.



Mr. Sanjiv Puri

Chairman and Managing
Director of ITC Ltd.



Mr. Pankaj Patel

Chairman of Zydus
Lifesciences Ltd.



**Mr. Dinesh Kumar
Khara**

Chairman of
State Bank of India



China



Mr. Chen Siqing

Chairperson of China
Chapter
Chairman of Industrial
and Commercial Bank
of China



Mr. Wan Min

Chairman of China
COSCO Shipping
Corporation Ltd.



Mr. Lyu Jun

Chairman of COFCO
Corporation



Mr. Lu Yimin

President of China
General Technology
(Group) Holding Co. Ltd.



Mr. Dai Houliang

Chairman of China
National Petroleum
Corporation



BRICS
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3. 10th Year Anniversary





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3.1 Highlights

The first ten years of the BBC have primarily focused on knowledge sharing and development of processes, terms of reference to ready the nine Working Groups for effective functioning within the BRICS nations. Thus, the highlights and successes have emerged from work done under the three tenets which are fundamental to our mandate, namely, government – business partnerships; trade and investment promotion; learning, knowledge sharing and advocacy.

Government-Business Partnerships:

- Development and Implementation of a Portfolio of Flagship Projects which require significant Government support and participation.
- Participation in Government driven initiatives to ensure alignment with business needs.
- Public participation through working groups have developed common channel of communication and understanding of various BRICS country investment priorities.

- Formation of the New Development Bank and local regional centres i.e., in South Africa, Brazil, and India.
- Heightened visibility of infrastructure projects pipeline.

Trade and Investment Promotion:

- Increased and targeted trade missions
- Greater visibility of investment pipeline and project promotion
- Built intra-BRICS sector networks.
- Created an access point to Government to unlock challenges.

Learning, Knowledge Sharing and Advocacy

- Understanding how other BRICS countries approached shared development challenges confronting business and development of recommendations.

3.2. BBC Successes (2013-2023)

A platform representing the interests of the business community in five emerging economies, BRICS Business Council has greatly contributed to strengthening economic cooperation and enhancing investment opportunities among its member countries. The council's achievements over the last 10 years, specifically:



Figure 1: Council achievements over 10 years

Furthermore, the main achievements were marked by the signing of joint documents and the results of work with the New Development Bank (NDB):

- On March 5, 2018, the Roadmap for development of cooperation was signed between JSC Russian Railways and Transnet and concentrates on implementation of infrastructure projects in South Africa, consulting services, joint projects in third countries, development of cooperation with the New Development Bank, personnel training, innovations, R&D, exchange in expertise. As part of the roadmap, specialists from Russian Railways and Transnet mutually visited railway transport facilities, including dispatch centres, test sites and research centres. Attention was also paid to organization of passenger services and heavy haul traffic.

- On July 26, 2018, during the 10th BRICS Summit in Johannesburg, JSC Russian Railways and Transnet signed a Joint Statement on development of cooperation in the field of railway transport.
- On October 5, 2018, Memorandum of Cooperation in the field of implementing projects for upgrading lines for speed passenger traffic, dispatching, signalling, freight traffic, multimodal terminals, and personnel training was signed between JSC Russian Railways and the Ministry of Railways of the Republic of India.
- On September 6, 2017, in Vladivostok, JSC Russian Railways and the New Development Bank signed a Memorandum of Understanding in the main areas on general cooperation including development of infrastructure projects, exploring of public-private partnerships, consultations, and exchange of knowledge and expertise.
- In 2016 and- 2022, The Prime Minister of the Republic of India Mr. Narendra Modi proposed creation of virtual BRICS railway research network, which indicates the recognition of importance of railways in meeting the economic and social development goals of BRICS countries.



3.3. Proposition 2024-2034

In line with the XIV BRICS Summit Beijing Declaration, the important role of BRICS countries working together to deal with risks and challenges to the world economy in achieving global recovery and sustainable development is critical for the next decade, and this can be achieved working in collaboration with the Ministries of Trade, Industry and Economy.

There has been sustained efforts to ensure trade and investment play a key role in promoting sustainable development, national and regional industrialization, and the transition towards sustainable consumption and production patterns. This has been demonstrated through:



Figure 2: Sustained efforts to ensure trade

The cooperation amongst BRICS countries is critical to enhance the interconnectivity of supply chains and promote trade and investment flows. The refocused working group on deregulation will strengthen exchanges and cooperation in trade in services and engagement of BRICS national focal points, as established in the BRICS Framework for Cooperation on Trade in Services.

Despite these efforts, there are still challenges facing trade and investment development in the digital era and understand that BRICS members are at different levels of digital development, and we recognize the need to address respective challenges including the digital divide. The next decade must strongly focus on strengthening and promoting economic, trade, business, and investment ties among the business communities of the five BRICS countries through the:

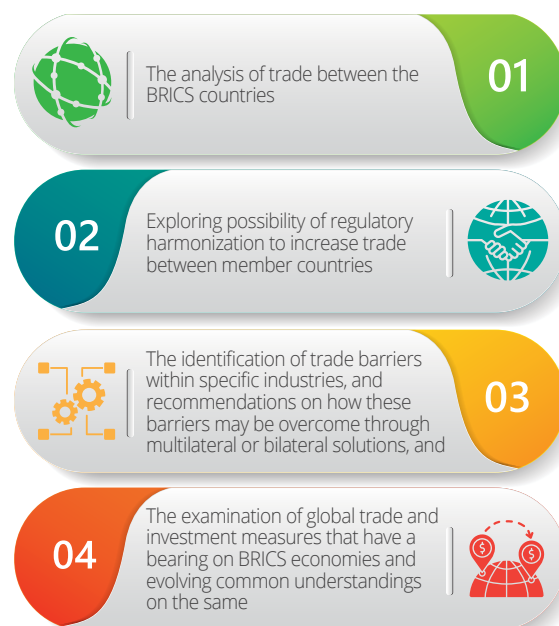


Figure 3: Focus on strengthening and promoting economic, trade, business, and investment ties





4. Trade & Investment Posture



Trade and Investment *Posture*

As the BBC celebrates its 10th year anniversary, we are compelled to reflect on the past decade, which largely focused on knowledge sharing and development of processes, with considerable level of success achieved. The next decade must inject a level of pragmatism into the work programme of the BBC, with tangible trade and investment gains for all partner nations.

Therefore, in 2023, the five BRICS Business Council chapters, jointly adopts Trade and Investment Promotion statement of this Chairship as a key driver around which the BBC programme of work and discourse for 2023 and the next ten years, will pivot.

The composition of trade patterns across all BRICS markets is a key focus of this, we need to work on balancing of trade through bilateral agreements within BRICS nations and exploring the value chain opportunities of BRIC-Africa in line with African Continent Free Trade Agreement private business strategy. This posture is anchored on three fundamental principles in line with BBC mandate.

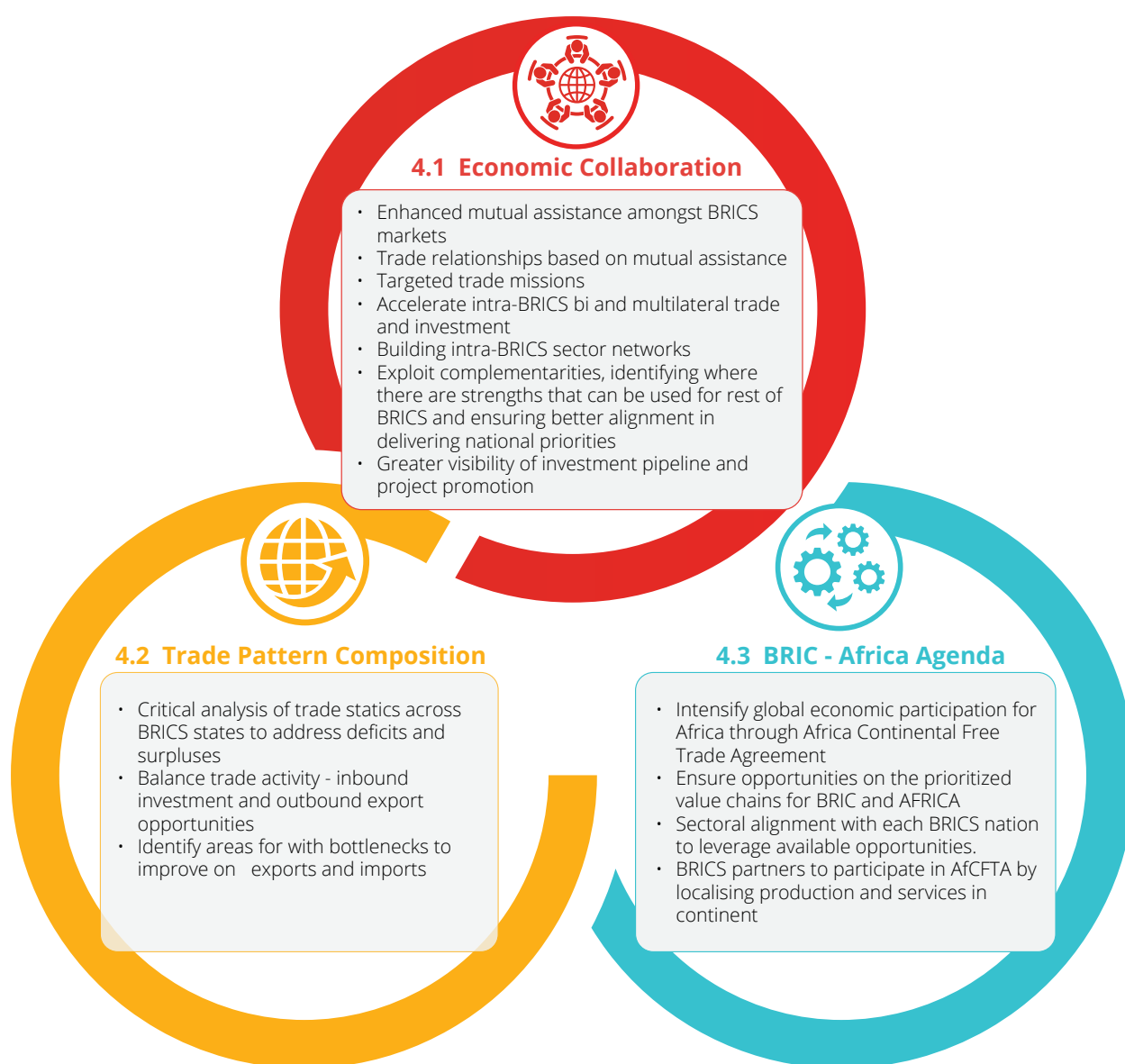


Figure 4: Trade and investment posture



5. *Joint* Statement on Trade & Investment



Joint Statement on Trade and Investment

“BRICS&AFRICA; Partnerships for mutually accelerated growth, sustainable development and inclusive multilateralism:”

Joint Statement of the BRICS Business Council on working together to drive Trade and Investment Promotion.

The year 2023 marks the 10th Anniversary of the BBC, this has provided an ideal opportunity for us to jointly reflect on what we have done well, and what interventions must be made for us to pivot towards the next decade delivering tangible outcomes through strengthening, and promoting economic, trade, business, and investment ties between the business communities of the BRIC nations and the African continent. BRICS now forms one of the world's most important economic groupings, representing close to one quarter of global GDP (31.5%), and 42 percent of the world's population. Significantly, the BRICS have seen their economic influence increase over the past decades, as drivers of global growth, trade, and investment.



RECOGNIZING: That Foreign Direct Investment (FDI) has played an important role in the growth of BRICS economies since 2001, the annual FDI inflows to the group has increased more than four times from 2001 to 2021 and contributing significantly to gross fixed capital

formation. In a forward-looking approach, we strive to strengthen and promote economic, trade, business, and investment ties between the BRICS nations and the African continent. By further capacitating Investment Promotion Agencies (IPAs), implementing sector-specific strategies, and fostering public-private partnerships, we aim to attract substantial Foreign Direct Investment (FDI).

Through enhanced trade facilitation, improved data sharing, and South-South cooperation, we can create a conducive environment for sustainable economic growth, job creation, and technological advancement. By focusing on capacity building, financial support, and people-to-people exchanges, we will be paving the way for sustainable development between BRICS nations and Africa.

However, we understand there is still much more to be done to improve the trade deficit amongst the BRICS nations. To address the trade deficit among the BRICS nations, key measures include diversifying export markets, promoting export-oriented industries, improving trade facilitation, encouraging intra-BRICS investments, and strengthening business connectivity. These actions aim to foster sustainable economic growth, enhance competitiveness, and establish mutually beneficial trade relationships within the BRICS grouping.



WE NOTE: that the global economic outlook is uncertain because of the inadequate and unbalanced recovery from the pandemic, rising inflationary pressures, geopolitical tensions and disrupted global value chains. Recognizing these challenges, emphasis is placed on the importance of close cooperation to navigate economic uncertainties. To reduce the trade deficit and improve the trade balance, BRICS countries should enhance their solidarity and strengthen bilateral and multilateral trade and investment.



ACKNOWLEDGEMENT: intra-BRICS trade deficits, tariff barriers, a challenging economic environment, and in response to the need to leverage investment for sustainable development, all contributed to the BRICS economies continuing to move towards inclusive multilateralism and a supportive investment policy environment.



AGREE: Looking ahead, the opportunity for intra-BRICS and BRIC-Africa investment remains promising. However, more effort is required to make investment a key driver of economic cooperation among the BRICS and BRIC-Africa, and to bring more benefits for sustainable and inclusive economic development in the grouping and the African Continent.





PLEDGE: We collectively pledge to drive trade and investment promotion, across all sectors, to contribute towards the fair-trade balance, in the BRICS spirit featuring mutual respect and understanding, equality, solidarity, openness, inclusiveness, and consensus, through:

Enhanced Trade and Investment Promotion:

- Identify areas where trade performance has not met expectations, seeking to understand the cause.
- Develop a BRICS calendar of Trade and Investment promotion events to allow for joint participation.

- Build intra-BRICS sector networks and infrastructure.
- Share information amongst BRICS countries on exchanges and capacity-building programmes on trade and investment promotion.

Monitoring the Trade balance

- Track trade statistics amongst the BRICS nations.
- Enhance complementarities and opportunities.
- Promote and enhance mutual trade and investment, creating a business-friendly environment for investors and entrepreneurs in BRIC and African countries.





6. Annual Report



6.1. Recommendations to the BRICS Governments

6.1.1 Agribusiness

- Advancement of agricultural trade amongst the BRICS countries
- Improve fertilizer availability and use amongst BRICS countries and the broader African continent
- BRICS country's view on the arbitrary pesticide MRLs followed by the European Union
- Share the best practices of sustainable agricultural development amongst the BRICS countries



6.1.2 Aviation

- A call for Establishment of MASA Framework for BRICS
- Development of Airlift Strategy for BRICS



6.1.3 Refocused Deregulation (Trade and Investment)

- Explore possibility of regulatory harmonization to increase trade between member countries,
- The identification of trade barriers within specific industries, and recommendations on how these barriers may be overcome through multilateral or bilateral solutions, and
- The examination of global trade and investment measures that have a bearing on BRICS economies and evolving common positions on the same.



6.1.4 Digital Economy

- Connectivity and infrastructure
- Emerging technologies
- Skills and Capacity Building
- Innovation and Platforms



6.1.5 Energy and Green Economy

- Development of a BRICS Energy Skills Roadmap
- Support for the BRICS Centre of Excellence in Africa focused on the Just energy transition.
- Continuation of the Energy Cooperation Forum and the Forum's declaration
- BRICS Clean Energy Fund (BCEF)



6.1.6 Financial Services

- Establishing an SME Fund that supports business with early-stage funding in various industries.
- Mobilising and engaging the financial sector to promote ESG and green financing.



6.1.7 Infrastructure

- Investment promotion and pipeline development
- Skills Development and Transformation



6.1.8 Manufacturing

- Develop a platform that facilitates information sharing for collaboration and cooperation partnerships in both manufacturing technology development and import and export opportunities
- Boosting the competitiveness of BRICS manufacturing industries by leveraging the BRICS PartNIR (Partnership on the New Industrial Revolution) Advisory Group to enable sharing of technology



6.1.9 Skills Development

- Development of Standards for assessment and competition
- Development of Curricula
- Establishment of Academies
- Knowledge Sharing Programs



6.2 BRICS BUSINESS COUNCIL WORKING GROUPS

6.2.1 Agribusiness Working Group

The BRICS countries have advanced agricultural sectors, which are generally export-oriented. Still, there are vast opportunities for collaborative work to enhance the progress of the member states agricultural sectors and improve food security. Thus, for the 2023 calendar year, the BRICS Business Council Agribusiness Working Group focused on three important areas for advancing the member countries' agriculture and broader food, fibre, and beverages value chain. These areas of work were followed by key recommendations that the political principals could consider for adoption in the annual meeting.

6.2.1.1 Focus Areas

- **Trade advancement is key:** Although the BRICS countries are primarily agricultural powerhouses, there is still room to improve member trade. The productive diversification amongst the members allows space for increased trade. Through this workstream, there could be business facilitation and sharing of information about export opportunities in each country. This workstream could also assist in connecting businesses with government officials when trade-related challenges, require urgent attention.
- **Improve fertilizer availability and use amongst BRICS countries and the broader African continent:** This theme explored ways of boosting fertilizer production and trade among BRICS countries. This theme also aligns with the African Union strategy of Agriculture, where fertilizer has increased agricultural productivity and reduced poverty. All BRICS countries will share their expertise on soil health, fertilizer usage and trade information.
- **Best Practices on Agriculture Sustainable Development among BRICS countries:** All the BRICS countries are major agricultural countries, and agricultural production faces major challenges in tackling climate change. Moreover, BRICS countries will prioritize knowledge sharing on Agri-technology. With the growing adoption of various technologies to improve farming efficiencies and productivity, there is a need for BRICS countries to continuously share information about the available technologies in their countries that could benefit other countries. This will also be a business opportunity for exporting services.

that importers will search for competitively priced products and not necessarily from countries where they enjoy close cooperation.

As BRICS matures from the political front, deepening trade is the basis for expanding the mutual benefit situation of the group's economy. It is preferable for BRICS countries to unite in trade and jointly explore regional trade arrangement to promote more competitive, dynamic, and balanced trade among BRICS countries.



Moreover Brazil, South Africa, and Russia typically have, in surplus, a large volume of products that India and China import from the world market. Making intra-BRICS trade more competitive and reducing various barriers would help deepen trade among these countries. A reciprocal trade arrangement means that China and India would also receive equivalent access to various products they produce, which South Africa, Brazil, and Russia import in large volumes.

A united BRICS on trade has the potential to increase trade volumes from beyond just five member states. This would potentially bring trade flows into BRICS from other countries in Asia, South America, Eastern Europe, and Africa. For example, almost all BRICS members have diplomatic relations most African countries which is a sign of the need to expand such engagements further. Trade could be another way of expanding BRICS relations with the continent of Africa. Africa faces similar challenges in other markets, which the BRICS trade arrangement would overcome.

The BRICS Business Council members of all countries support advancing trade to broaden and deepen the relationship beyond diplomatic and political relations and translate these to tangible economic benefits for member countries. Importantly, with the rising population in exceptionally large BRICS markets like India and China, the demand for food, fibre and beverages is high and will continue to rise. Thus, it would be useful for other BRICS members with the potential

6.2.1.2 Recommendations

6.2.1.2.1 A call for the advancement of agricultural trade amongst the BRICS countries

While BRICS is fundamentally a multilateral cooperation mechanism, the changing geopolitical and economic landscape has increased the need for countries with close cooperation to improve trade. Agriculture is one of the thriving sectors of the BRICS countries. Still, this grouping also imports US\$320 billion of agricultural products from the world market in 2022 (data from Trade Map). About 74% of the group's agricultural imports from China, 12% from India, 8% from Russia, 4% from Brazil and 3% from South Africa.

The key agricultural products the BRICS grouping imports are soybeans, palm oil, beef, maize, berries, wheat, cotton, poultry, pork, poultry, apricots and peaches, sorghum, rice, and sugar. These are products that are produced at scale by some BRICS countries. Yet the imports to other BRICS members typically originate from suppliers outside the grouping. This is understandable given

to boost agriculture to support a potential increase in demand. Equally it is important to keep in mind the need for food security at a time when climate catastrophes can seriously threaten both supply and access to large sections of the populations of member countries. Hence an equitable trade regime in agriculture and in processed foods needs the twin objectives of increased market access and food security.

Recommendation

Against this backdrop, we recommend formulating an intergovernmental working group that explores the scope for making intra-BRICS trade more competitive and efficient. A more balanced regional trade arrangement is in order, which considers industries that are still in infancy and requiring protection, as well as calibrated opening of agricultural markets keeping each country's national interests in mind. BRICS could offer a viable alternative market that could divert trade away from key traditional markets like the EU, who are transitioning into stringent regulatory requirements under the Farm-to-Fork strategy. It is also relevant to move forward the recognition of regionalization in the cases of animal diseases to avoid interrupting the trade between the countries when few cases were detected.

The important role of trade in a globalized world demands deeper economic cooperation among like-minded countries. It is for this reason that the BBC support the progression of relations beyond the current cooperation into a larger economic engagement including in trade, particularly in agriculture and the entire food, fibre and beverages sectors in balanced manner that serves the interests of all members.

6.2.1.2.2 Fertilizer remains crucial for agricultural advancement but should consider the environmental impact

Better use of fertilizers is needed for food security and environmental sustainability in the BRICS countries. Inadequate fertilization produces areas with nutrient deficits that limit food production and negatively affect crop quality, and overfertilization produces areas with consequent problems for the environment. A more efficient use of fertilizers for food security while preserving the environment is thus needed. Nutrient imbalances affect terrestrial and aquatic ecosystems, altering their species composition and functionality and threatening biodiversity, and it is another issue to resolve.

Among three macronutrients, nitrogen is readily available due to the relatively low-cost Haber-Bosch process of ammonium synthesis from atmospheric N₂, and nitrogen is increasingly used in agriculture, producing an imbalance in nutrient ratios with the application of phosphorus and potassium fertilizers in some areas. The

management of nitrogen, phosphorus, and potassium fertilizers is thus the centre of the main dichotomy between food security and environmentally driven problems, such as climate change or eutrophication/pollution. In some areas, sulfur and micronutrient deficiencies have been recognized as a limiting factor for crop production. Silicon application has been extensively studied over the last two decades, and the role of silicon in alleviating biotic and abiotic stress has been well documented. Silicon helps to mitigate some of the negative impacts of climate change on crop production.

Innovative approaches and advanced methods are required to produce next-generation fertilizers for enhanced crop nutrient use efficiency. The following research areas seem very promising: enhanced efficiency fertilizers, atmospheric nitrogen fixation, increased phosphorus and potassium availability to plants, biodegradable coating of fertilizer granules for controlled release of nutrients, and systems of bioactive fertilizers promoting crop tolerance to biotic/abiotic stresses. Innovative decisions improve farm profitability and minimize the environmental impacts of fertilization. Environmental benefits of next-generation fertilizers should include:

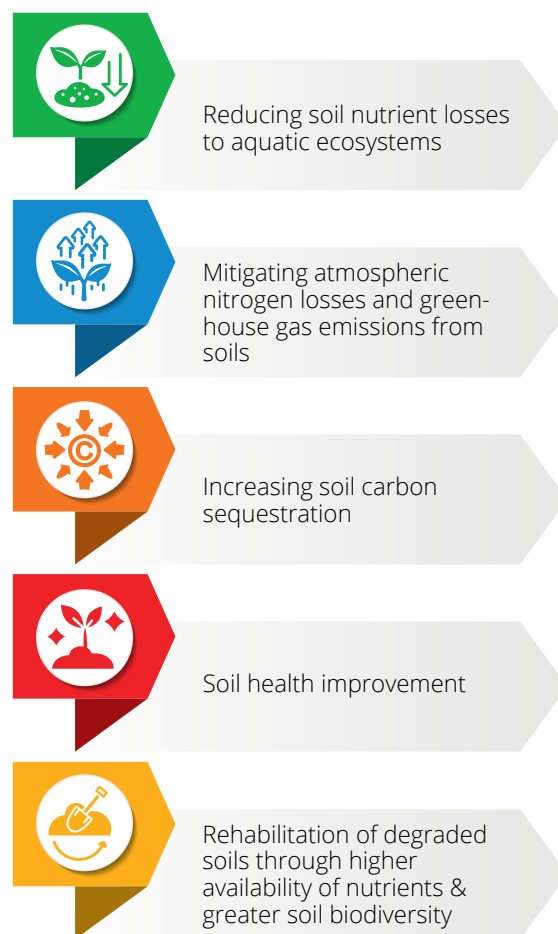


Figure 5 Environmental benefits of next-generation fertilizers

The application of phosphorus fertilizers produced from rock phosphate that contains high levels of hazardous trace elements, including cadmium, arsenic, chromium, uranium, and other non-essential elements, can be a significant input of such contaminants into the soil. Hazard elements from polluted soils through crop and animal production finally enter the food chain, negatively affecting human health. Mineral fertilizers that contain safe levels of non-essential elements are considered eco-efficient fertilizers.

Smart fertilizers

Smart fertilizers based on slow- and controlled-release systems have been shown to improve crop yields and soil productivity. Controlled-release fertilizers coated with a tiny layer of polymer allow the release of nutrients in a very timely and targeted way to various crops. However, Agricultural microplastics pollution resulting from the widespread and extensive use of polymer-coated fertilizer is of great concern, even though such polymers do not negatively affect crop growth and rhizosphere metabolic processes.

It is thus important to develop fertilizers coated with other substances with improved environmental performance that do not lead to the release of microplastics. Research proved a significant increase in the uptake of nitrogen and other essential macronutrients from fertilizers coated with new substances, higher crop yields, improved crop quality, and better physical properties of fertilizers.

Biological and biomineral fertilizers

Biofertilizers are a substance that contains microbes, which helps in promoting the growth of plants by increasing the supply of nutrients to the plants. Biocomponent is represented by the substance containing bacterial spores and metabolic products, including antibiotics, enzymes, phytohormones, vitamins, etc. Living microorganisms, when applied to soil, colonize the rhizosphere. Rhizosphere is the microbe 'storehouse' representing the soil zone surrounding the plant roots. Beneficial microbes interact with plants and improve growth and yield.

Plant growth-promoting bacteria enhance plant growth and protect plants from disease and abiotic stresses through a wide variety of mechanisms. These bacteria have been shown to have a wide spectrum of antagonistic activities against different phytopathogenic fungi and bacteria. Beneficial bacteria produce lytic enzymes, cyanide, and other antifungal metabolites; stimulate plant growth by producing phytohormones-auxin derivatives.

Beneficial bacteria entering the soil enhance nutrient use efficiency in plants. Helpful bacteria affect soil microbial communities in a crop system setting and represent a mutually helpful plant-microbe interaction, which promotes nitrogen use efficiency. Associative nitrogen fixation, the process by which N₂ is converted to ammonia by bacteria in casual association with plant roots, is an important mechanism to sustainably deliver biologically fixed nitrogen to plants. Phosphorus- and potassium-solubilizing strains act as plant probiotics that promote plant development by converting insoluble soil phosphorus and potassium into soluble plant-available forms.

The method of obtaining biomineral fertilizers includes combinations of dry or liquid mineral fertilizers with microbial biomass. Research showed that recommended nutrient rates combined with biocomponent help to increase crop production compared to mineral fertilizer application only. It is, therefore, possible to increase crop yields by applying the same nutrient rates. With limited soil resources and human population growth, biotechnology is one of the most effective solutions to ensure global food security by boosting crop yields without damaging ecosystems.

Eco-efficient fertilizers and certification standards

Several non-essential elements are found in phosphate rocks throughout the world. These controlled elements include cadmium, fluorine, strontium, lead, arsenic, cobalt, chromium, mercury, nickel, vanadium, radioactive thorium, uranium, and yttrium. The concentration of non-essential elements in phosphate-based



fertilizers depends on the mineralogical composition of natural phosphate ores and the impurities in them. In the world, about 87% of mineral phosphate fertilizers are produced from sedimentary rock phosphate. Sedimentary rock phosphate generally contains more heavy metals than appetites of igneous origin. Non-essential elements that become a part of fertilizers have combined environmental effects. Although toxicity and the resulting threat to human health of any contaminant are a function of concentration, chronic exposure to heavy metals and metalloids at relatively low levels can cause adverse effects.

Recommendation

Over and under-fertilization in BRICS countries threaten food security and the environment. Moreover, the imbalances in nutrient use, especially nitrogen, phosphorus, and potassium, can disrupt ecosystems and biodiversity due to their cost and availability. We recommend an increased focus on this issue. We also recommend increased attention to the innovation of safe and environmentally friendly fertilizer alternatives. These could be the developments in smart fertilizers, biofertilizers and biomineral fertilizers, along with the application of certification standards for eco-efficient fertilizers, which are leading the way to improved nutrient utilization, increased crop yield, and reduced environmental impact.

6.2.1.2.3 BRICS country's view on the arbitrary pesticide MRLs followed by the European Union

Members of the BRICS account for 50% of global agricultural output. But their share in the global agricultural export is only 15%. Non-tariff barriers, mainly in the form of arbitrary pesticide maximum residue levels (MRLs) act as significant barriers to market access.

Basic rules in the SPS Agreement and pesticide MRLs

A MRL is the highest level of pesticide residue that is legally tolerated in or on food or feed when traded. The WTO-SPS Agreement stipulates that while determining the pesticide MRL, the WTO members should minimize negative trade effects. The preamble to the SPS Agreement requires WTO Members to ensure that SPS measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between Members where the same conditions prevail or a disguised restriction on international trade. This means the pesticide MRLs shall not be applied in a manner which constitutes arbitrary or unjustifiable discrimination between WTO Members or as a disguised restriction on international trade.

The SPS Agreement encourages the WTO Members to use international standards (such as the one set by Codex Alimentarius Commission) and to recognize other countries' compliance procedures as equivalent to their own if the same level of protection is achieved.

WTO Members are permitted under Article 3.3 to maintain pesticide MRLs higher than the international norms. Still, such measures must be based upon risk assessment described in Article 5 of the SPS Agreement.

The questionable pesticide MRLs of the EU

The pesticides are reviewed every 10-15 years in the EU, applying hazard-based cut-off criteria. Failure to regain the authorization for a pesticide will result in its removal from the EU market and loss of all previous MRLs as they get lowered to the level of detection (LOD) of ≤ 0.01 ppm. This effectively means zero tolerance for these pesticide residues in the food commodities imported into the EU.

Can a risk assessment following Article 5.1 be premised on the concept of zero presence of residues (≤ 0.01 ppm) in food commodities? We



doubt so. Determining the pesticide MRLs is governed by the legal framework established by the WTO SPS Agreement. Determining the pesticide MRL is not an unfettered right in the hands of the individual Member governments of the WTO.

Risk assessment valid under SPS Agreement:

In respect of food-borne risks, the definition of risk assessment requires the evaluation of the potential for adverse effects on human or animal health arising from the presence of additives, contaminants, toxins or disease-causing organisms in food, beverages, or feedstuffs. The pesticide residues come under the category "contaminants" in the SPS Agreement.

In EC - Hormones case, the Panels stated that "a risk assessment carried out following the SPS Agreement should (i) identify the adverse effects on human health (if any) arising from the presence of the hormones at issue when used as growth promoters in meat or meat products, and (ii) if any such adverse effects exist, evaluate the potential or probability of occurrence of these effects." Therefore, the risk to be assessed is the one arising from the presence of the hormone in the meat and not from the hormone-independent of the meat. Similarly, in the case of pesticides, the risk to be assessed is not the one arising from the pesticide's active ingredient but the one arising from the trace levels of pesticides (contaminants) that may be present in the agricultural commodities.

Theoretical uncertainty is not the kind of risk to be assessed under Article 5.1 of the SPS Agreement. "It is essential to bear in mind that the risk that is to be evaluated in a risk assessment under Article 5.1 is not only risk ascertainable in a science laboratory operating under strictly controlled conditions, but also risk in human societies as they actually exist," observed the Appellate Body in the EC-Hormone case.

As such, rejecting exported consignments applying the hazard based MRL of ≤ 0.01 ppm produces serious consequences on agricultural production, price and farmers outside the EU countries. It is important to recognize that the WTO-SPS Agreement does not recognize the principle of "as low as reasonably achievable" (ALARA) followed by the EU, leading invariably to the imposition of a blanket import tolerance MRL of ≤ 0.01 ppm. The Agreement only recognizes the principal ALOP (Appropriate Level of Protection) in the application of sanitary and phytosanitary measures.

Moreover, any SPS measure under the ALOP must be based on a risk assessment (Article 5.1), minimize the negative trade effects (Article 5.4), must not be (Article 5.1), arbitrary (Article 5.5) and must not be more trade retractive than necessary (Article 5.5) and must not be more trade

retractive than necessary (Article 5.6).

In the document G/SPS/GEN/1847 placed before the WTO-SPS Committee, the EU Committee, the EU admitted, "given the concerns identified by EFSA, it is not possible to determine MRLs based on a risk assessment and therefore all MRLs must be lowered to the limit determination". This is an admission to the effect the EU has been following WTO inconsistently. The developing countries can't afford to continue to suffer huge economic costs arising from the application of WTO inconsistent pesticide e MRL of ≤ 0.01 ppm by the EU.

Recommendation

The BRICS Business Council members request that the European Commission review its SPS Measures concerning pesticide as well as antibiotics MRLs and bring them to comply with the provisions of the WTO-SPS Agreement. The BRICS government agencies should consider conducting an in-depth exchange with the EU to promote more scientific and practical measures formulated by the EU. In addition, we can also provide the EU with research results that BRICS members consider scientific after evaluation for the EU's reference.

6.2.1.2.4 Continue to share the best practices of sustainable agricultural development amongst the BRICS countries

The Agribusiness WG of the BRICS Business Council has always attached great importance to food security and sustainable agricultural development. During 2022, the WG jointly discussed and put forward an Initiative on Green and Low-carbon Development in Agriculture among BRICS Countries and edited the Best Practices on Agriculture Sustainable Development among BRICS Countries. Focusing on sustainable development areas such as food security, green low-carbon, biodiversity, innovative technology, digital agriculture, supply chain of agricultural products, rural poverty reduction and international cooperation, it aims to jointly promote agricultural transformation and sustainable development in BRICS countries and accelerate the realization of the United Nations Sustainable Development Goals by 2030.



Recommendation

BRICS countries are an important driving force for achieving the 2030 Sustainable Development Goals. It is suggested that BRICS countries continue to enrich their agricultural best practices broadly and strengthen information sharing among members, as well as with other countries on the African continent and around the world, especially on climate-smart agricultural practices.

Broadly and strengthen information sharing among members, as well as with other countries on the African continent and around the world agricultural practices. Agriculture and the broader food, fibre and beverages value chain remain essential in boosting economic growth, inclusion, and job creation within BRICS countries. The abovementioned recommendations to the political principals aim to accelerate this sector's fortunes and thus boost the rural economy of each of the BRICS member countries.

6.2.2 Aviation Working Group

The COVID-19 pandemic has had an unparalleled impact on the global economy and aviation industry. Global air passenger traffic declined by 66% (IATA) in 2020 due to the pandemic. As a result, airlines moved to reduce capacity, which resulted in the disruption of supply chains. Ultimately, this led to a deterioration of economic profits for multiple industries within the aviation value-chain.

There has been a protracted recovery in the global aviation sector due to incoherent policies and legislation adopted by various countries. Globally, there has been a continued effort to ease travel restrictions, which continues to support the recovery of the aviation sector.

Central banks have adopted tighter monetary policy to combat persistently high inflation, resulting in higher interest rates. Higher consumer prices and higher interest rates directly impact household disposable income, and which continue to erode consumer confidence. Despite these challenges, the global GDP growth rate for 2022 is estimated at 3.4%, and a forecasted rate of 2.8% for 2023 (IMF) suggests a continued recovery, although at a more moderate pace.

Thus, for the 2023 calendar year, the Aviation Working Group (AWG) focused on two important areas for advancing a comprehensive cooperation and a closer economic partnership between BRICS member states, to facilitate market inter-linkages, and the group's integration for Mutually Accelerated Growth, Sustainable Development, and Inclusive Multilateralism. These areas of work are followed by key recommendations that the political principals could consider for adoption in the annual meeting.

6.2.2.1 Focus Areas**6.2.2.1.1 Establishment of Multilateral Air Service Agreement (MASA) Framework for BRICS**

Although the BRICS was formed in 2010, connectivity between member states remains inadequate to ensure the implementation of the Strategy for BRICS Economic Partnership (BRICS Strategy). A significant part of the Bilateral Air Service Agreements (BASA) is still restrictive and have become barriers in the development of Airlift amongst the BRICS member states. The recommendation is to create a task force including Ministry of Transport, Ministry of Civil Aviation, Airports Authority, Airport Operators (or Association of Airport Operators) and Airlines from all the BRICS member states. This taskforce will aid in drafting of a MASA Framework, recommend platforms for member states to negotiate BASA in line with the MASA framework, to monitor implementation, and report on progress.

6.2.2.2 Recommendations**6.2.2.2.1 A call for the Establishment of Multilateral Air Service Agreement (MASA) Framework for BRICS**

In 1944, before the end of World War II, representatives of 54 States attended the International Convention on Civil Aviation, a conference on the future of international air transport that took place in Chicago. This conference – and the international treaty that was signed as a result – became known as the “Chicago Convention.” The treaty marks a critical milestone in the history of aviation, as it laid the foundation for today's global air transportation system. The Convention made several fundamental contributions to the conduct of domestic and, especially, international civil aviation and underpinned the industry's enormous growth over time.

Rather than establishing a universal set of rules, the Convention create a framework within which such rules could be established for regulating air transport services on a bilateral basis, i.e., between pairs of countries. As a result, bilateral air service agreements (ASAs) between States emerged as the instrument for initiating or modifying international transportation services and for regulating these services. Bilateral ASAs continue to be

prevalent today, but multilateral ASAs have also become increasingly common and important in recent years (YD/SAATM/ECAA/ASEAN MASA). Additionally, The Convention recognized the critical need for international commonality in airport and air traffic control facilities, equipment, and procedures to ensure the safety and operability of aircraft across national boundaries. These established MASA.

The recommendation is to create a task force led by the Ministry of Transport, Ministry of Civil Aviation, Airports Authority, Airport Operators/ Association of Airport Operators and Airlines from all the BRICS member states. The taskforce will conduct a market analysis, and evaluate the all the BRICS BASAs, with a specific focus on the four elements below:

- **Market Access:** traditional agreements, which are always bilateral, permitted access to only a limited number of specified city-pair markets (**route schedule**). Moreover, the number of airlines that may operate in these markets are specified in the ASA. Generally, there is no Fifth Freedom rights provision in the traditional agreement.
- **Airline Designation:** each country may typically designate only one or more of its airlines for the right to operate flights between any specific pair of cities.
- **Capacity Provision:** under traditional agreements, strict control is exercised on the frequency of flights and the number of seats offered in each one of the served markets. Typically, in the least “liberalized” agreements, the capacity provided is allocated on a 50–50 basis to each.
- **Airfares/Tariffs:** under traditional agreements, all airfares are subject to approval by both governments involved (“double approval”).

The taskforce will then be responsible for drafting a Multilateral Air Service Agreement Framework to guide the creation of an enabling environment for the implementation of the BRICS Airlift Strategy and to guide the negotiations of BASAs.

6.2.2.2.2 Development of Airlift Strategy for BRICS

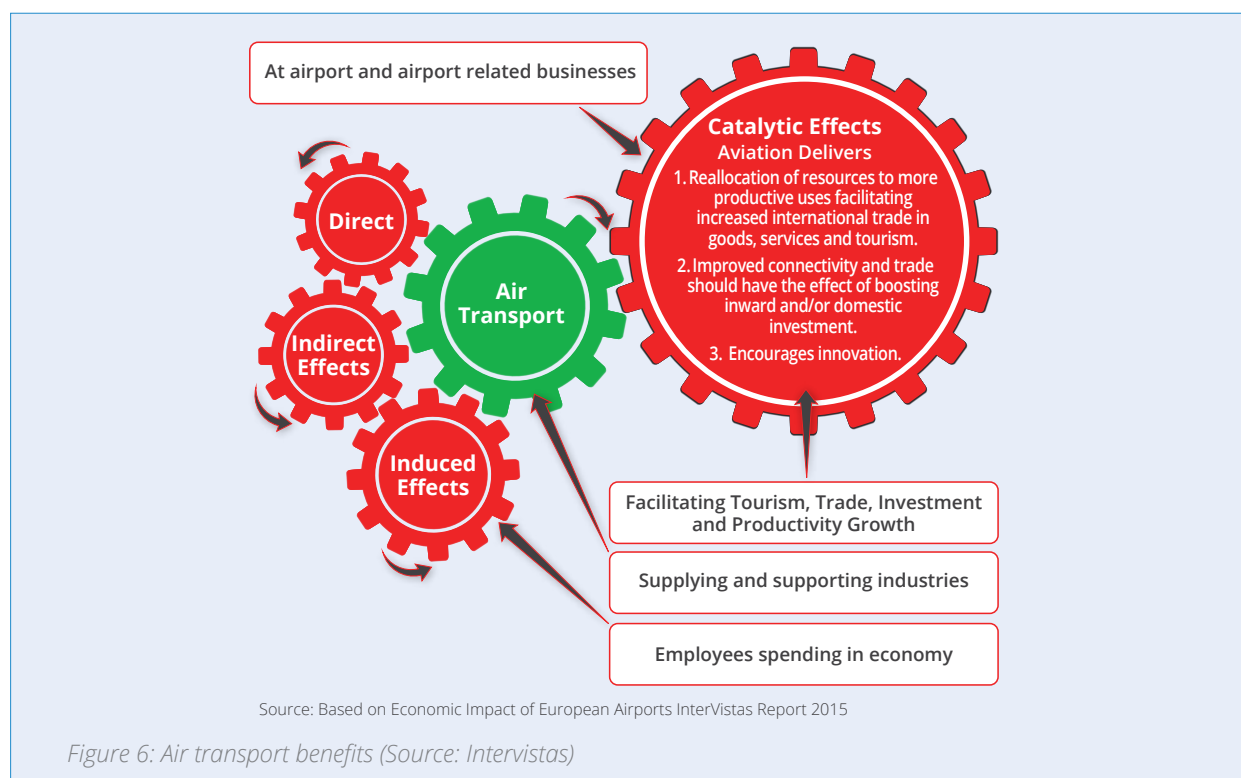
Connectivity is an essential prerequisite for comprehensive cooperation and a closer economic partnership between BRICS countries, to facilitate market inter-linkages, and the group's integration for Mutually Accelerated Growth, Sustainable Development, and Inclusive Multilateralism. Air transport is vital for modern economies. It provides the city-pair connections that serve as virtual bridges supporting the flows of key economic activities between markets. As the only rapid global transportation network, it facilitates links between businesses, governments, and people – enabling world trade, investment, tourism, and travel among other key economic activities. The Airlift strategy for BRICS is aimed at enhancing connectivity, to ultimately growth Tourism, Trade, and Investment, and to promote the interlinkage of markets within the group, in line with the Strategy for BRICS Economic Partnership. This objective will be achieved by developing direct air route connections between members states.

Recommendation

Air transport is an important enabler to achieving economic growth and development. Air transport facilitates integration into the global economy and provides vital connectivity on a national, regional, and international scale. It helps generate trade, promote tourism, and create employment opportunities (World Bank). Economic benefits associated with air transport through air connectivity it provides can be summarized under three principal headings (*Fingal County Council*):

- **Direct, indirect, and induced** jobs associated with an airport's operation.
- **Wider catalytic benefits** (Enhanced trade and tourism with directly connected destinations; the ability to attract and retain inward investment; and the creation of employment clusters and the attraction and retention of mobile talent).
- **Gross Value Added** generated as a function of the enhanced productivity facilitated by travel time savings.





The global aviation is characterized by airports and airlines, and its value chain is made up of a diverse set of industries that differ in size and structure. A study conducted by McKinsey and IATA, that assessed the value creation across the aviation value chain to understand what drives performance, demonstrated the symbiotic relationship of the aviation value chain.

The following recommendations are made:

- Develop a route pipeline by identifying the largest unserved city pairs/routes amongst BRICS member states.
- The creation of a taskforce, led by the subject experts from the Airline and Airports Authority, to bring together other relevant stakeholders such as the Ministry of Transport/ Ministry of Civil Aviation (for legislative and policy elements that are barriers to the development of air services), Tourism Authorities (for elements related to stimulating demand for tourism, to support the development of new routes), Ministry of Home/ Civil/Internal Affairs (for regulatory barriers related to Visa regime amongst BRICS member states), Eligible local airline (the qualifying criteria will be airline that have the requisite fleet and experience to operate long-haul flights), Tourism Business Councils (to represent the product owners, and possible establishment of BRICS rates, to improve destination competitiveness), and other relevant stakeholders.
- The core focus will be the alignment of strategic objectives, the development of a work plan with clear targets, and monitoring and reporting on progress. Air connectivity will facilitate a seamless flow of trade (through new robust supply chain, enabling trade), tourism (through growth in tourism arrivals for member states), and investment (through improved economic productivity by encouraging investment and innovation, improving business operations and efficiency, and allowing companies to attract high-quality employees and share knowledge) within the BRICS Cooperation. The improved air connectivity will result in inclusive economic growth for member states, whilst fostering integration and inter-linkages of BRICS markets.

Currently, there is no direct Air Connectivity between Russia and Brazil, Russia and South Africa, South Africa and India, China and Brazil, India, and China (there is however connectivity between India and Hong Kong, where Hong Kong provides connectivity between India and mainland China). Identifying key markets in areas where there is no direct connectivity by the collective BRICS Business Council Aviation working group will ensure alignment of strategic priorities between the various chapters and its constituents.

Creating platforms for relevant parties to engage on a B2B basis will be critical to ensure the successful implementation of the Airlift Strategy. Improved Air Connectivity will facilitate a seamless flow of trade (through improved market access, increased capacity, and the development of new robust supply chain, which are key enablers of trade), tourism (through growth in tourism arrivals for member states), and investment (through improved economic productivity, improving business operations and efficiency, and allowing companies to attract high-quality employees and share knowledge) within the BRICS bloc. The improved air connectivity will result in inclusive economic growth for member states, whilst fostering integration and inter-linkages of BRICS markets.

6.2.2.1 Issues under discussion

Some of the issues that remain a consideration in the BBC AWG are:

- Building civil aerospace manufacturing capacity amongst the BRICS member states to support aircraft manufacturing programs from other BRICS countries. Off shoring parts of the aerospace manufacturing to BRICS countries come with benefits such as access and speed to new markets, reduction in operating costs, and more favourable government and regulatory policies. Collaboration between all aviation stakeholders should be considered in areas where there is convergence of priorities and activities.
- Sustainability should be one of the AWG's primary focuses, through exploring initiatives such as sustainable aviation fuel to reduce the carbon footprint of air transport.
- The development of BRICS travel card should be evaluated.

6.2.3 Refocused Deregulation Working Group

The mandate of the Working Group is to Strengthen and promote economic, trade, business, and investment ties among the business communities of the 5 BRICS countries. In addition, the BRICS Business Council (BBC) is tasked with identifying problems and bottlenecks and recommending solutions. The name of this working group will be "Trade and Investment Working Group" (TIWG), in line with the mandate of BBC and the aspiration of excelling industries among the respective members economies.

6.2.3.1 BRICS trade and investment posture

In line with the previous BRICS Summit Declarations, the important role of BRICS countries working together to deal with risks and challenges to the world economy in achieving global recovery and sustainable development is critical for the Working Group (WG) in collaboration with the respective government departments of trade and industry. The Declarations are aligned to the efforts of this WG and are used as the context within which the WG will seek to achieve on their objectives.

The BRICS nations continue to enhance macro-economic policy coordination, deepen economic practical cooperation, and work to realize strong, sustainable, balanced, and inclusive post-COVID economic recovery. This is done through the continued implementation of the Strategy for BRICS Economic Partnership 2025 in all relevant ministerial tracks and working groups. There has been sustained efforts to ensure trade, and investment play a key role in promoting sustainable development, national and regional industrialization, and the transition towards sustainable consumption and production patterns. This has been demonstrated through:

- The "Buy BRICS" online promotion event in 2022.
- Two editions of the BRICS Trade Fair in 2016 (physical) and 2021 (virtual)
- Endorsing the BRICS Digital Economy Partnership Framework,
- BRICS Initiative on Trade and Investment for Sustainable Development and BRICS Initiative on Enhancing Cooperation on Supply Chains.

Furthermore, the cooperation amongst BRICS countries is critical to enhance the interconnectivity of supply chains and promote trade and investment flows. This WG will strengthen exchanges and cooperation in trade in services and engagement of BRICS national focal points, as established in the BRICS Framework for Cooperation on Trade in Services.

Despite these efforts, there are still challenges facing trade and investment development in the digital era. Further, given that BRICS members are at different levels of digital development, there is an imperative need to address respective challenges including the digital divide.

6.2.3.2 Purpose of the Working Group

The purpose of the Working Group is to implement a more targeted approach towards:

- The analysis of trade between the BRICS countries
- Explore regulatory harmonization to increase trade between member countries,
- The identification of trade barriers within specific industries, and Recommendations on how these barriers may be overcome through multilateral or bilateral solutions, and
- The examination of global trade and investment measures that have a bearing on BRICS economies.

The key objectives of the Working Group will be to:

- Track trade statistics amongst the BRICS nations
- Identify areas where trade performance has not met expectations, seeking to understand the cause of the underperformance,
- Enhance the complementarities and opportunities.
- And enhance mutual trade and investment and deepen engagement amongst investors and entrepreneurs in all BRIC and African countries.
- Develop a BRICS calendar of Trade and Investment promotion events to allow for joint participation.
- Share information amongst BRICS countries on exchanges and capacity-building programmes on trade and investment promotion.

- Identify key industries for focused in-depth research, and best-practice sharing.

Furthermore, the Working Group will seek to promote:

- Acceleration programs that allow BRICS entrepreneurs to engage in trade within BRICS countries,
- Optimization of logistics routes and reduced logistics costs,
- Simplification of the certification procedures for BRICS countries products,
- The use of BRICS national currencies.

6.2.3.3 Key Outputs

- Develop joint statements on trade, investments, and sustainable growth in coordination with the other working groups of BBC, and
- Promote extensive consultation and joint contribution to deliver mutual benefits, and enhance global economic governance, on global economic issues, and
- Given the broad range of areas proposed to be covered, the leadership of the Trade and Investment Working Group in each country preferably be with a national Industry Association/ Chamber of Commerce and Industry. The Chairing organisation may invite the relevant stakeholders and experts from their respective countries to contribute to the agenda and objectives of the working group.

6.2.4 Digital Economy Working Group

Digital infrastructure provides the foundation for connectivity, opening the way for participation in the digital economy and the fourth industrial revolution (4IR). Digital infrastructure is the key to enabling the benefits of the digital economy and society. Digital infrastructure is the physical hardware and associated software that enables end-to-end information and communications system to operate.

In the post-COVID era, the digital economy is one of the main drivers of global economic development. It boosts the productivity of existing industries, develops new markets, and creates new industrial growth points. The digital economy has become a vital factor in promoting the sustainable transition of economies and societies. Its continued development and growth are tightly related to digital infrastructure availability and quality.

6.2.4.1 Focus Areas

6.2.4.1.1 Connectivity and infrastructure

Digital infrastructure, such as broadband networks and telecommunications systems, provides the foundation for connectivity. It enables the seamless transfer of data and information

between individuals, businesses, and devices. In the digital economy, connectivity is essential for the digital transformation, online transactions, real-time communication, and accessing digital services.

The BRICS countries are at different stages of development in terms of digital infrastructure, digitalised knowledge dissemination and degree of digitalisation, and they are witnessing the great potential of the digital economy.

However, connectivity infrastructure is a foundational requirement for participation in the digital economy and the unfolding 4IR. The 4IR presents the opportunity for accelerated growth but also poses the risk of being left behind. For this reason, the priority is to close the gap in infrastructure in the underdeveloped regions of BRICS and simultaneously ensure digital infrastructure is intelligent.

The digital industrial revolution (or 3IR) introduced computers and automated production, while the 4IR refers to the intelligent networking of machines and processes for industry with the help of information and communication technology, enabling cyber-physical systems. Data becomes the main driver of new production systems, allowing for the digital transformation of businesses.

Brazil's digital landscape was marked by advances in infrastructure, with 5G standalone gaining momentum and accelerating 4G delivery to remote areas, and further developments in the digital government agenda, with 90% of the services already digitalized. This, paired with Brazilian Instant Payment System (PIX) represented a shift towards a more dynamic and inclusive environment. Inclusion is a key issue also regarding the formation of new talents prepared for the new technological waves lead now by AI and later by quantum computing.

Russia has been a progressive advocate for child safety on the Internet to address the commonly recognized concerns. Whilst the benefits of the internet are numerous, the adverse side of better connectivity and internet access are equally numerous, whether it be in the form of online threats such as destructive content, cyber bullying, and abuse. Governments, private sector, and civil society organizations in the BRICS countries are cognisant of taking steps to mitigate online risks for children through fostering cooperation on child protection in the online environment, the sharing of best practices around self-regulation and enhancing public private initiatives.

Similarly, India has made remarkable progress in developing a set of commonly used Digital Public Infrastructure (DPIs) which has been instrumental in unlocking innovation and solving the accessibility challenge to citizens in underserved areas. The trinity of:

- Unique digital identity (Aadhaar),

- Alternate digital payments systems (Unified Payments Interface), and
- Data exchanges (Digi Locker and Account Aggregator) have been the cornerstones of the Digital India campaign.

These initiatives have been instrumental in improving transparency, ease of doing business, boosting digital payments as well as attracting foreign investments in India. Further, it has empowered marginalized sections of the Indian society by enhancing financial inclusion and providing improved access to Government services.

China has collaborated with private sector players, worked with large conglomerates, and attracted talent from other countries, and become a more and more significant market for AI start-ups and publishes the many research papers in this field. The business growth mainly relies on the AI chip market driven by the construction of intelligent computing centres and the demand for large model training applications, as well as the intelligent robot and dialogue AI market driven by the demand for contactless services. Against the backdrop of AI becoming the core productivity in the digital economy era, the data, computing power, algorithms, tools, and application layers of the industrial chain have gradually entered a virtuous cycle, and the AI industrial chain is gradually maturing.

South Africa has made progress towards the adoption of standard regulations for the deployment of communications infrastructure which will promote inclusivity and reduce the cost of deployment. This complements the current SA Connect programme in the provision of universal access to broadband services for all South Africans, prioritising rural and underserved areas. Due to the magnitude of the SA Connect project, the programme was divided into two phases:

- Phase one aimed at connecting circa 1000 government facilities, which includes schools, health facilities, post offices, police stations and government offices across eight rural district municipalities.
- Phase 2 envisages an additional R3 billion spend in the 2023/24 and 2024/25 financial years to enhance the rollout coverage.

As technology is revolutionizing the world and playing a pivotal role in the support of the 4IR, continually improving high speed connectivity is required to aid low latency and high capacity for transformative advancements across various sectors. This has the potential to drive economic growth, enhance the overall quality of life and reshape industries across various sectors including healthcare, transportation, manufacturing, steel, mining, industry application and entertainment. The enhanced efficiency, productivity, and innovation will usher in a new era of interconnectedness and automation.

Recommendation

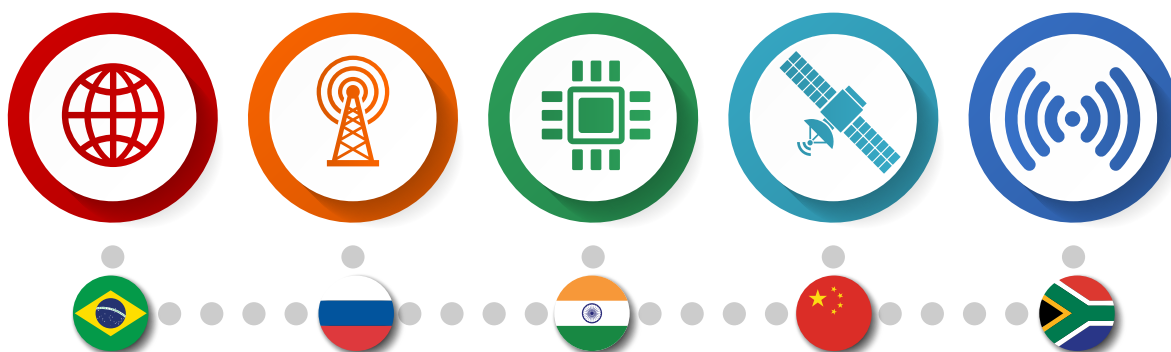
Whilst each of the BRICS countries has made progress in developing digital infrastructure, cooperation and knowledge sharing are needed to successfully address infrastructure challenges, expand coverage, and enhance connectivity, and maximise the benefits and opportunities. In terms of new technologies such as the Internet of Things, as well as network coverage in remote areas, there is a broad basis for cooperation and room for knowledge exchange among the BRICS countries. This must strengthen mutual assistance in education, digital infrastructure, reducing the digital divide and promoting the progress of BRICS countries.

Benefits

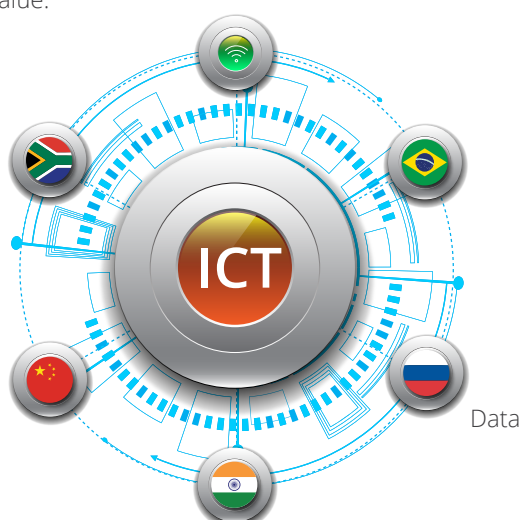
The proposed actions will help strengthen digital infrastructure construction in BRICS. It will ensure the more rapid development of the digital economy by enabling lagging countries to leapfrog into the 4IR.

6.2.4.1.2 Emerging technologies: 4IR towards 5IR

Artificial Intelligence (AI) is regarded as the leading technology of the 4IR, alongside with Cloud Computing, Internet of Things and Big Data. It drives the 4IR, together with robotics, cybersecurity, the Internet of Things, blockchain, edge computing and other emerging technologies. AI is essentially a technology that makes machines intelligent. While computers traditionally relied on people to tell them what to do, AI gives machines the ability to learn and make their own decisions. Masses of converged data from multiple sources such as mobile, email, social channels, workloads,



sensor technology and other sources have value but not without deep learning, machine learning and other forms of AI, because it is humanly impossible to unpack and digest the data into value.



is the new differentiator. The value derived from data insights depends on how humans apply such insights, whether it be to predict demand for services like policing and emergency services, optimise the use of resources, improve weather forecasts, or improve education through tools like automatic marking. In recent years, AI innovation has led to the development of a technology ecosystem represented by computing chips, data platform technology and open-source algorithms, and has given rise to an application ecosystem represented by intelligent security, intelligent manufacturing, intelligent medical treatment, and intelligent retail.

The BRICS countries continue to attach great importance to the research, development, and application of AI. They are in different phases of development in this field and adopt different development modes, which present opportunities for cooperation and knowledge sharing.

Blockchain

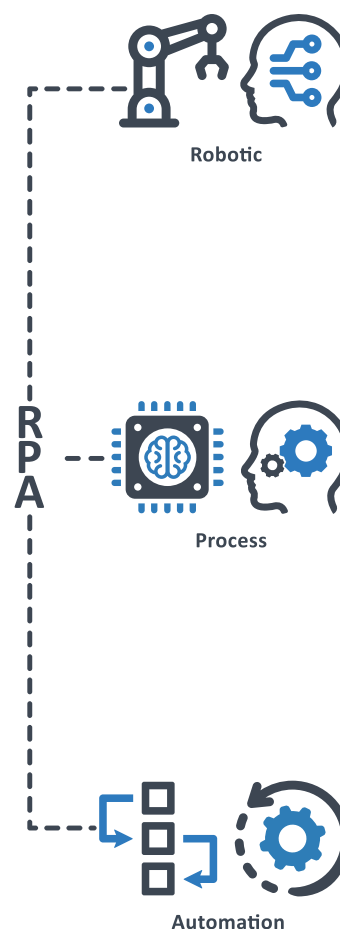
Blockchain is particularly important for BRICS countries in fighting corruption and maintaining a transparent, trustworthy, secure, traceable, and permanent record of information. One simply adds to the chain and cannot amend the previous data chain links. Blockchain is dependent on all transacting parties opting in to be part of the chain and therefore all participants are equal collaborators.

Importantly, there is no need for a third party to facilitate or manage transactions. Its value is commonly known in the field of cryptocurrencies, but it is also relevant in banking and financial transactions, supply chain management and logistics, and healthcare data management. It is fundamentally changing business models and the rules of engagement and provides an innovative way of managing digital assets including identities, certifications, and intellectual property.

Robotics Process Automation

Robotics Process Automation (RPA) is another interesting technology for BRICS economies. Put simply, this software streamlines time-intensive business and public sector processes by automating them. Examples include managing data, communicating with users on matters ranging from pricing to HR queries, processing transactions, and analysing and interpreting applications.

RPA brings organisations the benefits of accelerated predictable outcomes and effective IT performance. By migrating from manual process administration, they realise the obvious benefits of cost savings and efficiency, but also mitigate risk and improve customer experience. Organisations across BRICS are employing RPA to make their businesses and economies more competitive.



Edge Computing

This technology has emerged to solve latency issues that have resulted from the increased volume of data on the cloud. It is designed to optimise the transfer of data to the data centres where it is processed. It exists "on the edge", that is, closer to where the computing needs to take place and when the data needs to be processed. Only the most important data is transmitted to minimise latency. It is particularly effective when you need to process time-sensitive data to improve response times, especially in remote locations where connectivity is a challenge. The application of edge computing will grow exponentially as Internet of Things devices become more widely used.

Cyber security

With all the new technologies and innovations, there is a need to protect the holistic IT landscape (systems, data, network etc.). As technology evolves, so do the associated threats. The volume and complexity of cyberattacks will continue to increase because there are now many more entry points. Therefore, a security strategy is essential, and the technology tools should be adapted with the use of AI. By way of example, while quantum computing solves complex problems, lattice cryptography provides the security solution as it encodes messages in such a way that they can only be decoded by someone who possesses the correct key.

BRICS members must continue employing these emerging technologies to enable their businesses to make their industries more competitive. Adopting these technologies enables organisations to fully participate in the global digital economy and offer their products and services to other BRICS countries.

Recommendation

BRICS must strengthen cooperation in open-source AI and cyber security practices. BRICS countries still have different strengths in computing power, algorithms and data, and cooperation will maximise their complementary advantages in the field of AI. AI development must be progressed with ethical integrity to prevent bias. BRICS members must also invest in attracting talent in the AI space and learn lessons from successful AI strategy of member countries.

Benefits

With the help of AI and other emerging technologies and their spill over effects, BRICS countries can improve production efficiency and increase their competitiveness in the global digital economy. Successful adoption of the technologies of the 4IR will lead BRICS members into the Fifth Industrial Revolution.

6.2.4.1.3 Skills and Capacity Building

The technologies of the 4IR provide an opportunity to transform vocations and increase productivity. This is particularly important for driving economic growth and creating employment in BRICS countries. BRICS members are actively addressing the need for skills and capacity building to meet the demands of the digital economy and the 4IR. They recognise that a well-trained workforce is essential for leveraging the potential of digital technologies. Efforts are being made to enhance digital skills through initiatives such as training programmes, educational reforms, and collaboration with industry partners. The focus is on equipping individuals with the necessary technical expertise and digital literacy to thrive in the rapidly evolving digital landscape. BRICS countries are investing in vocational training and technical education

to bridge the skills gap. By promoting hands-on learning and providing access to cutting-edge technologies, BRICS nations are preparing their workforce for the demands of emerging fields like artificial intelligence, data science, cyber security, and digital marketing.

In recent years, modern digital tools have made it possible to create more employment opportunities for women. However, despite the positive trend, the number of women actively using digital technologies is 250 million less than men. Moreover, women make up only 20% of the total number of graduates in professional fields related to information and communication technologies. In the BRICS countries, the number of women in the digital economy is rapidly growing. The participation of women in:



Figure 9 Employment opportunities for women using digital technologies

McKinsey Global Institute states that nearly one-quarter of all women employed today may need to change jobs in the age of automation. It is highly important to promote digital skills development in advance. Building skills for the digital economy is crucial to ensuring sustainable growth and productivity of women and girls within BRICS in the future.

South Africa has taken a fundamental step forward in solutioning its' need for digital skills through the Collective X. South Africa is confronting the gap between the oversupply of digital jobs, and the undersupply of people with the skills to fill them. The plan and current mobilisation thereof are centred around growing an ecosystem, to unleash the exponential growth of digital jobs and to enhance the potential of the country. Besides the natural economic and societal benefits amounting to a projected R300bn, this initiative will train South Africa's country's youth and expand digital skills whilst also reshoring opportunities of circa R10bn a year.

Recommendation

Collaboration and knowledge sharing are key components of skills and capacity building in the BRICS countries. BRICS must actively cooperate, exchange best practices, and leverage expertise from global partners. By learning from each other's experiences and building networks for knowledge sharing, the BRICS nations can collectively develop a skilled workforce that can drive innovation, entrepreneurship, and economic growth in the digital era.

BRICS members must provide access for women and girls to the Digital Economy in: IT, artificial intelligence, big data, blockchain and other cutting-edge technologies. Members must address this opportunity by developing courses on digital literacy specifically for women and girls in BRICS countries. It is important to leverage the relevant expertise and experience currently available in this regard. For example, Russia has an educational IT project called "Girls Solve", which has been implemented in several Russian regions and Russia proposes same to all member Chapters to develop a multilateral initiative aimed at the inclusion of women and girls in the Digital Economy. This digital skills program comprises both soft and hard skills, including improving technical and basic programming skills, creating personal projects and websites, as well as building communication skills and providing professional self-realization. To compliment the learning there are trained tutors and mentors to conduct the courses.

Benefits

Collaboratively building skills and capacity for the 4IR within BRICS countries offers several benefits:

- **Enhanced knowledge exchange:** Collaborative efforts facilitate the sharing of knowledge, best practices, and experiences among BRICS nations. Each country brings unique perspectives and expertise to the table, allowing for a more comprehensive understanding of skill requirements and capacity-building strategies. By exchanging insights and lessons learned, BRICS countries can collectively develop effective approaches to address the challenges and opportunities presented by the 4IR.
- **Synergy and resource optimisation:** Collaborative skill-building initiatives allow BRICS countries to pool their resources, both financial and intellectual. By leveraging collective strengths and expertise, they can achieve economies of scale and optimise the allocation of resources. Collaborative efforts can lead to the development of joint programmes, training platforms, and research initiatives that benefit all participating nations, ultimately maximising the impact of their investments in skill development.
- **Stronger regional cooperation:** Collaborative skill-building efforts contribute to strengthening regional cooperation and partnerships among BRICS countries. By working together on shared goals, trust and mutual understanding are fostered, paving the way for future collaboration in various domains. This regional cohesion can extend beyond skills and capacity building, leading to increased cooperation in trade, investment and other areas that drive regional development.
- **Increasing the level of digital literacy among girls and women in the BRICS countries** will contribute to development of labour potential and create additional incentives for female employment. Digital skilling programs will boost the popularity of STEM and information and communication technologies among women and girls. According to statistics, if 600 million more women and girls have access to online services around the world, it would increase GDP by \$18 billion. Conducting online digital literacy courses will enable girls and women in segregated and rural areas to gain the knowledge and skills needed for future employment in the digital sectors. The Russian digital skilling program advances the levels of digital skills and increases women and girls' ability to benefit from the opportunities offered by the digital transformation. Through such initiatives, BRICS members will narrow the gender gap in digital economy and contribute to global economic growth.

6.2.4.1.4 Innovation and platforms

Innovation is the driving force behind the digital economy, fuelling ground-breaking advancements

and transforming industries. It involves developing and implementing novel ideas, technologies, and business models to create value and drive economic growth. Platforms play a crucial role in the digital economy, providing the infrastructure for interactions between businesses, individuals, and technologies. These digital platforms facilitate transactions, collaboration, and the exchange of goods, services, and information. They connect producers and consumers, enable seamless communication, and unlock new business opportunities.

Innovation and platforms are closely intertwined in the digital economy. Platforms often serve as catalysts for innovation, enabling entrepreneurs and developers to create and deploy innovative solutions. At the same time, innovation drives the evolution of platforms, leading to continuous improvements and new functionalities that better meet user needs and preferences. The combination of innovation and platforms in the digital economies of BRICS countries creates dynamic ecosystems that foster entrepreneurship, disrupt traditional industries, and promote economic growth. It is empowering individuals and businesses to leverage digital technologies, access global markets and unlock new revenue streams.

Recommendation

Embracing innovation and harnessing the potential of digital platforms is essential for organisations to thrive in today's rapidly changing digital landscape. BRICS countries must prioritise collaboration and knowledge exchange to foster innovation and platform development. They can take the approach of joint research and development projects, sharing best practices and facilitating partnerships.

Benefits

By leveraging the expertise and experience of BRICS members, the organisation can accelerate innovation, address shared challenges and create a supportive environment for digital entrepreneurship. The BBC Digital Economy Working Group has also taken note of the Terms of Reference and the Work Plan of the Digital Economy Working Group on the BRICS Trade track, which includes focus on trade facilitation, investment co-operation, MSMEs co-operation, digital capacity building programmes and sharing of best practices. Digital Economy working group of the BRICS Business Council is encouraged by the Trade track of BRICS countries and will provide Industry support to implementation of key focus areas.

6.2.5 Energy and Green Economy Working Group

Based on the outcomes of the 10-year review performed by the South African BRICS Business

Council, the Energy and Green Economy working Group adopted a rolling 5-year work programme, recognising energy's critical role in socio-economic growth and investment within the BRICS countries. The key areas include the availability of information to policy makers and investors, the need for innovation in key areas in the energy transition, the need for funding to drive the energy transition and collaboration and partnerships to leverage BRICS strengths.

The importance of driving for concrete outcomes in the 5 year plans we agreed, such as preparing the skills for the energy transition and institutionalising centres of excellence and investment funds was key. Given the cross-cutting nature of energy a concerted effort was made to strengthen linkages to other working groups to prevent duplication and leverage synergies.

6.2.5.1 Focus Areas

The following focus areas were agreed to within the working group which build on previous work but set a stable platform for the rolling 5-year work programme.

6.2.5.1.1 Energy Skills Roadmap

Objective - The objective was to develop a BRICS Energy Skills Roadmap that builds on the work done in South Africa and Documents shared by India related to development of Energy Skills Roadmap in India with 2030 and 2047 perspectives, to ultimately deliver a BRICS Energy Skills Atlas.

The value for BRICS countries would be to share best practice, curricula and build the resilience of skills supply in new and emerging areas in the energy sector to help deliver a just energy transition.

5-year Workplan deliverables:

- BRICS Energy Skills Benchmarking Report
- Identification of current jobs data and statistics
- A BBC cooperative skill planning approach for the Just Energy Transition, AND
- Identification of high impact areas where we need to undertake skills ecosystem mapping.

Outcomes

- The Energy Skills Roadmap work was able to identify work done amongst BRICS countries, consolidate the required skills and identify skills gaps. A database of current initiatives and information repositories (including current jobs and statistics) was compiled. It was acknowledged that India has also done long term skills roadmaps.
- The expert group convened identified that more information/work is needed on new jobs in high impact areas such as green hydrogen, storage solutions, green construction and the

circular economy. The potential criteria for the identification of high impact areas include the following:

- » Of common interest across all BRICS countries
- » Potential for large scale roll out
- » Contributes towards the reduction of greenhouse gas emissions
- » Contributes to large scale job creation and economic growth
- » Contributes to energy affordability
- It was identified that there is a high need for jobs and skills in cross cutting areas such as energy efficiency as well as to the “greening” existing jobs such as new materials, waste management and waste to energy. These are high impact areas relevant in all BRICS countries and that can be immediately addressed. Another short-term need is the skills required for low carbon development of coal and gas including Carbon Capture Utilisation and Storage.
- The development of a set of standardised jobs, training approaches and “energy transition qualifications” be developed for BRICS countries in areas of common interest. This will allow the cross-country movement in job roles.
- An initial step for BRICS countries is the development of a BRICS Energy Jobs Atlas. The Energy Jobs Atlas should further categorise jobs into short, medium and long term.
- South Africa should provide a set of guidelines to aid other BRICS countries in developing longer term Energy Skills Roadmaps. These guidelines were provided by South Africa to other BRICS countries.

5-year programme deliverables

The following were agreed to be continued as part of the rolling 5-year programme:

- Further population of the skills database,
- Development of an Energy Jobs Atlas for high impact energy jobs, and
- Utilisation of the South African guidelines on skills roadmaps to develop longer term outlooks for the skills needs in the BRICS countries.

6.2.5.1.2 Just Energy Transition Centre of Excellence and Energy Agency

Objective

To establish a BRICS Centre of excellence in Africa with the mandate to link with all other BRICS and African relevant centres of excellence. Overtime BRICS countries may develop a network of centres of excellence among the BRICS countries and evaluate the alternatives to consolidate its coordination through a BRICS Energy Agency.

The value of this work to the BRICS Energy community would be to increase collaboration, share best practices, share insights, research and build skills. In the long term the agency would develop as an authority on energy trends, act as a central point for collaboration with international multilateral organizations, conducts studies for BRICS Countries on the energy transition and be the central repository of BRICS energy sector data and statistics.

Deliverables

- Explore the possibility to establish an BRICS African centre of excellence in South Africa with links to African and BRICS centres of excellence.
- Identified the key research topics such technology, socio-economic, environmental, financial, policy for the energy transition.

Outcomes

- A Community of Practice (COP) has been established between the National Research Foundation and the Energy and Water SETA in South Africa. The COP focusses on the JET and provides funding for a five-year period to serve as an enabling platform for a network of existing African and BRICS centres of excellence. COEs in BRICS countries with the same objectives have been identified and will be linked up with the COP in South Africa to leverage international expertise.
- The establishment of a BRICS Centre of Excellence in Africa with the aim of evolving it into a BRICS Energy Agency can lead to several positive outcomes and benefits for the BRICS energy community and beyond. The following outcomes from this initiative are proposed:
- Increased Collaboration: The centre of excellence would facilitate increased collaboration among BRICS countries and African nations. It would serve as a platform for sharing knowledge, experiences, and best practices in the field of energy transition and security.
- Enhanced Research and Innovation: The centre of excellence would conduct research on key energy transition topics, such as technology advancements, socio-economic impacts, environmental considerations, financial strategies, and policy frameworks. This would lead to enhanced innovation and knowledge exchange among BRICS and African countries.
- Skill Development and Capacity Building: By linking with various centres of excellence, the initiative would facilitate skill development and capacity building in the energy sector. This would lead to a more skilled and competent workforce, enabling BRICS and African countries to tackle energy challenges effectively. This would support the socio-economic development of BRICS and African countries.

- Be the authority on Energy Trends: Over time, the community of practice through their proved track record on collaboration, will present a compelling business case for policy makers to endorse and support the formation of the BRICS Energy Agency. This could become a recognized authority on global energy trends and developments.
- Collaboration with International Organizations: The community of practice's role as a central point of collaboration with international multilateral organizations would enable BRICS and African countries to participate more actively in global energy initiatives and discussions.
- Data and Statistics Repository: The community of practice would serve as a central repository for energy sector data and statistics related to BRICS and African countries. This would improve data transparency and accessibility, aiding evidence-based policymaking.
- Policy Formulation: The research and studies conducted by the community of practice would contribute to evidence-based policy formulation for the energy transition in BRICS and African nations. This would lead to more effective and sustainable energy policies.

5-year programme

Creating a comprehensive 5-year plan for establishing and operating the BRICS African Centre of Excellence in Africa. Below is a general outline of the proposed plan to be agreed with the COP:

- Year 1: Foundation and Establishment: Develop legal framework and agreements with relevant entities in South Africa and BRICS countries.
- Year 2: Research Focus and Collaboration: Define key research topics covering technology,

socio-economic impacts, environmental considerations, financial strategies, and policy frameworks. Establish a pipeline of R&D projects to foster collaboration among the network of R&D centres of excellence in the BRICS countries.

- Year 3: Policy Impact and Global Recognition: Conduct in-depth policy studies on energy transition in BRICS and African countries. Structure specific funding mechanisms for the cooperated pipeline of R&D projects
- Year 4: Capacity Expansion and Long-term Vision: Expand the scope and scale of research, training, and policy analysis activities.
- Year 5: Becoming a BRICS Energy Agency: Conduct a comprehensive evaluation of achievements and challenges from the past five years. Perform a feasibility study for transitioning into centralized and formally established coordination entity as a fully-fledged BRICS Energy Agency.

6.2.5.1.3 BRICS Clean Energy Fund (BCEF)

Objective

- To establish a captive fund for the development and implementation of clean energy projects across the BRICS nations and Africa and other regions of common interest of the BRICS members.
- BCEF will distinguish itself through an investment philosophy of high development impact and concessional funding for projects, through strategic partnerships with the private sector.
- Such a BCEF differentiated mandate must address current energy infrastructure funding gaps in the BRICS nations which includes early-



stage development capital, grants and equity contributions, lower affordable borrowing rates, long tenures, multi-currency offering and fragmented and inefficient networks.

- The BCEF should yield efficiencies and lower cost of funding as well as leverage lessons learnt in the establishment of the NDB.
- The BCEF should support the funding arrangements required to execute the R&D projects' portfolio developed by the Centre of Excellence collaboration network.

Outcomes

- Investments in energy generation, renewable energy – solar, wind, hydro - electrical, waste-to-energy, biofuels, geothermal, gas (including green hydrogen), decentralised distributed energy, energy storage incl. critical minerals and rare earths (downstream/beneficiation)
- Investments in grid infrastructure for transmission and mini grids
- Increased focus on efficiency
- Funding instruments:
 - » Grants
 - » Development Loans
 - » Project Loans
 - » Trade Finance including Export Credit Agency (ECA) Lending
 - » Credit Guarantees
- Hard and Local currency via Local DFI funding
- Development of specific funding mechanisms related with initiatives and/or projects to decarbonize BRICS nations' economies.

5-year programme

The following are proposed to be continued as part of the rolling 5-year programme:

- Fund formation - Following various engagements between the BRICS Energy & Green Energy Working group (Working Group) and the New Development Bank (NDB) held during 2019 and 2021, the parties agreed on the need for a joint funding mechanism to fund energy and green projects and aimed to enter into a cooperation agreement for the establishment of a focused fund. The Working Group is engaging the NDB to formally endorse this initiative
- Pipeline development – client coverage and deal origination
- Funds catalysation – mobilise funding from investors with similar investment philosophies
- Financial sustainability and risk-adjusted returns

6.2.5.1.4 Energy Cooperation Forum

Objective

- To continue and institutionalise an Energy Cooperation Forum for ongoing cooperation between BRICS nations in the energy sector, including project and investment activities to increase trade and investment in the energy sector
- The value of this focus area would include information exchange, mutual trade and investment, thought leadership, benchmarking, best practice identification, an opportunity to showcase for BRICS co-funded projects.

Deliverables

- Business/Energy Minister's engagements
- Energy Cooperation Forum

Outcomes

A full day programme for the Energy Cooperation Forum at the time of the BRICS Summit has been defined as detailed below:

- BRICS Energy Ministers engagements
- Energy Cooperation Forum with policy makers and business leaders from all BRICS Countries
- Masterclasses a partnership with academic entities to deliver Masterclasses that are cutting edge information and critical aspects of the overall Forum theme. BRICS countries will provide case studies to share experiences on the different themes
- An African Theatre platform to showcase projects and investment

5-year programme

The workgroup agreed to continue Energy Cooperation Forum each year Energy Project Cooperation guidelines.

6.2.5.2 Recommendations

Based on the work conducted under the 4 focus areas, the following recommendations are made to the BRICS Governments:

- Development of a BRICS Energy Skills Atlas
- Support for the BRICS Centre of Excellence in Africa focused on the Just energy transition.
- Establishment of a Clean Energy Fund
- Continuation of the Energy Cooperation Forum and the Forum's declaration

6.2.6 Financial Services Working

The financial services industry is a key component of economic development and growth. In the BRICS countries, export trade in financial services has been growing gradually over the years, with several banks within these countries expanding

to foreign markets through subsidiaries, representative offices, and branches. However, the BRICS nations have a relatively small share of financial services export and imports within the respective countries. Better cooperation between the BRICS economies in this industry would be beneficial for all member countries. Thus, for the 2023 calendar year, the BRICS Business Council Financial Services Working Group focused on various initiatives to advance cooperation between the various BRICS member countries.

6.2.6.1 Focus Areas

- **Small, Medium Enterprise (SME) Financing:** SMEs are important to job creation and have a high potential contribution to economic development and growth. However, access to finance hinders the growth of SMEs in most countries. The International Finance Corporation (IFC) estimates that 40% of formal SMEs in developing countries have an unmet need of \$5.2 trillion per year (World Bank, 2022). This workstream will focus on establishing alternative and innovative options for SMEs to access finance within the various BRICS countries, including the SME Intellectual Property Pledge Financing (IPPF) initiative.
- **Innovative financial solutions for cross-border transactions:** Considering the prevailing global economic circumstances, it is imperative to consider innovative financial solutions that can foster stability and facilitate seamless cross-border transactions. Alongside, we are currently contemplating the introduction of a multi-currency clearing process. This proposed initiative is designed to enhance mutual operations, enabling efficient and secure transactions across different currencies. It is our belief that such an initiative could significantly streamline BRICS trade and finance, fostering economic interconnectivity and cooperation among nations.

- **ESG and Green Financing:** This workstream focuses on mobilizing and engaging the financial sector to promote ESG/Climate change and green financing and collective portfolio investments through harmonizing the environmental, social, and governance relevant standards/methodologies among BRICS countries.
- **Insurance and Reinsurance:** Insurers on the African continent are currently struggling to fill their reinsurance slips through the traditional Western reinsurers. This workstream focuses on bridging the gap between African insurers and BRICS reinsurers and continuing the work of already begun by the India chapter to establish a BRICS reinsurance pool.
- **Alliance of Credit Rating Agencies:** This workstream had several engagements, in one of those engagements the Russian chapter presented the sovereign rating model. The chapters are still to provide their inputs on the use of the model and the benefits thereof.

6.2.6.2 Recommendations

6.2.6.2.1 Establishing an SME Fund that supports business with early-stage funding in various industries.

The development of SMEs is conducive to boosting economic globalisation towards an open, comprehensive, inclusive, and balanced future. Over the years, BRICS Business Council (BBC) members have been actively implementing the Strategy for BRICS Economic Partnership 2025, which is aimed at strengthening cooperation in trade, investment, digital economy among other areas of economic activity, to build closer economic partnerships among BRICS countries. The BRICS nations can only realise the full potential of the partnership if SMEs have a meaningful economic participation in various areas of investment and



trade amongst the members. It is recommended that a BRICS SME Fund could be explored with support from the New Development Bank, complementing the existing funding instruments available to SMEs. The aim of the fund would be to meet the following objectives:

- Facilitating access to capital for SMEs to meet the financing demand not sufficiently met by traditional banks due to lack of collateral and the business life cycle of small businesses, that do not meet the collateral requirements of the credit-based funding model, which will crowd-in private sector funding into the SME sector.
- Provide financial support for innovation by promoting SME Intellectual Property Pledge Financing (IPPF) whereby SMEs can use Intellectual Property as security for funding, thus further strengthening access to finance for new ideas. SMEs IP pledge financing has been developing in the BRICS countries. However, the IP assessment is an issue for banks and keeps them away from large-scale implementation of IPPF. Due to absence of IP secondary market, it is difficult to accurately estimate the real IP value. IP assessment is normally made by an expert, who may add an informal component to the evaluation process. Keeping the given barriers in mind, the Financial Services Working Group proposed IP assessment general methodology based on Russian practical experience. The IPPF Group examined the mode of financing, including the IP assessment methods used in different countries, and offered recommendations to create a reliable methodology for SMEs' IP assessment within BRICS.
- Leveraging on industry expertise and pooling various resources, jointly organise activities of all kinds and levels to promote economy and trade, with the view to support SMEs in exploring nationwide and global markets.
- Enhance SME service offering, improve service capabilities and improve service levels, to renew and deepen the determination and resilience of SMEs in sustainable development.

Recommendation

The SME Financing workstream, therefore recommends establishing a BRICS SME Fund. It would also promote crowding in private sector and other international multilateral funding institutions to stretch the funds with the aim of supporting SME programmes. Furthermore, it would aid in reducing SME borrowing cost and facilitate the efficient allocation of government support instruments within the BRICS countries.

Active development of the SME IPPF initiative in the BRICS countries will expand sources of finance for BRICS SMEs involved in IP creation and facilitate access to finance. It will encourage SMEs to actively invest in R&D projects to promote innovation within BRICS, help SMEs grow and develop further and thereby increase employment in the BRICS countries.

It is also recommended that the BRICS governments should consider the IP assessment methodology for pledge/collateral financing. The SME Financing workstream also propose that the New Development Bank and the BRICS state development institutions considers this recommendation of IP assessment general methodology, and all the national chapters of the SME Financing workstream, thus evaluate and explore possibility of them being part of a list of pilot projects for the New Development Bank to review for funding on the grounds of the given methodology.

6.2.6.3 Issues under discussion

6.2.6.3.1 Innovative financial solutions for cross-border transactions

A common BRICS payment service for BRICS countries will significantly contribute to the economic security of the participating countries, while reducing their dependency on external payment systems. BRICS countries need to encourage the development and application of innovative payment solutions, to promote retail payments, cross-border e-commerce and inclusive development. In the long run, this initiative will contribute to the economic resilience and prosperity of our nations, reinforcing our collective commitment to financial stability and growth.

6.2.6.2.3 Strengthening Reinsurance Capacity

Reinsurers are coming out of a period of losses and are looking to make up by charging more and avoiding risks that they perceive as too risky. This has resulted in a reduction in the reinsurance capacity on the African continent because most reinsurers that operate on the continent are headquartered outside the continent – mainly in Europe and North America. Against this backdrop,



the BRICS Insurance and Reinsurance workstream has been discussing the formation of a BRICS Reinsurance Capacity Pool to create reinsurance capacity among BRICS nations. By the Russian chapter opinion the BRICS countries should create the reinsurance corporate structure rather than a pool, using the model of the New Development Bank as a landmark example.

The second point is that the reinsurers from BRICS nations hardly reinsure risks on the African continent. To increase reinsurance capacity on the African continent and for South Africa to successfully participate in the BRICS Reinsurance Capacity pool reinsurance, there is a need to form a South African reinsurance entity that can pool the risks and be the vehicle through which the elusive reinsurance capacity can be created on the continent. Such a vehicle would also act as a reinsurance gateway for BRICS into Africa. This would facilitate an increase in reinsurance business by BRICS nations on the African continent and increase reinsurance capacity. This would take the following form and provide the following benefits:

- **Platform**

- » A BRICS Reinsurance Company according to the model of the New Development Bank plus an entity established in SA to facilitate engagement between the African market and this to be newly established BRICS multinational reinsurance company, and BRICS reinsurers, leveraging the skills and continent knowledge from the African member of BRICS; and
- » Providing research services on the BRICS' and other regions (including but limited to the African continent) reinsurance market opportunities.
- » Cooperation based on voluntary participation.

- **Gateway**

- » To the economic and financial opportunities available on BRICS countries and other regions (including but limited to the African continent) through the BRICS initiative for BRICS businesses, resulting in the manifestation of increased insurance and reinsurance trade among BRICS nations; and
- » To resolve hurdles to collaboration between insurers and reinsurers on different regions (including but limited to the African continent) with insurers and reinsurers from BRICS countries when it comes to insurance and reinsurance.

- **Increase**

- » Reinsurance capacity available to BRICS' and other regions (including but limited to the African continent) insurers and reinsurers.

- » The attractiveness of the BRICS and other regions (including but limited to the African continent and encourage sustained investment in their economic and human capital; and
- » Understanding of economic, social, environmental, and political risk natures on BRICS nations and different regions (including but limited to the African continent) and measure such risks in a fair way from a position of understanding and respect.

A Reinsurance Conference was held during the BRICS Summit in August 2023 to discuss this proposal in greater detail among key stakeholders from BRICS and other (including but not limited to African) nations within the insurance, reinsurance, business, government, and finance institutions. Given the importance of this subject, there is a need for further deliberations amongst the relevant stakeholders for evaluating this Concept.

6.2.6.3.3 Alliance of Credit Rating Agency

The Credit rating workstream is discussing creation of an Alliance of BRICS Credit Rating Agencies (Alliance) based on the common methodological platform. The Alliance could benefit BRICS member states as it would enable the creation of an alternative rating approach that recognizes the specific nuances within the BRICS economies. The Alliance could facilitate an ease in cross-border funding and reduce susceptibility of the BRICS economies to external factors. The rating alliance built on common methodology but spanning multiple countries and regulatory jurisdictions may face execution and conformation challenges. Acceptability of offerings by investors, and alignment with domestic policies and regulations will require persuasive efforts.

6.2.6.3.4 Mobilizing and engaging the financial sector to promote ESG and green financing

ESG is of systemic importance to continued socio-economic development across BRICS member states. This includes the flow and access to global financial resources required for economy development goals. This workstream is developing the idea of "establishment of an ESG assessment methodology combining the commonality and specificities of the BRICS countries may become a good example for promoting sustainable development globally."

This methodology must build on existing principles that are widely accepted but ensure consistent application across emerging markets. This lens is missing from several frameworks that are being used across the global financial markets and we feel this approach is more credible and is valuable in the context of socio-economic development within member states. Members are discussing development of BRICS ESG/Climate change collective investments to engage BRICS investors in ESG/Climate change investment funds in form of ETFs using BRICS ESG/Climate change indexes.

6.2.7 Infrastructure Working Group

Infrastructure is the backbone of the economy and the driving force of economic and social growth. Partnerships between Business and Government provide an efficient and effective mechanism to conceptualise and deliver high-impact infrastructure projects, while at the same time lessening the financial burden on Governments.

In recent decades, under the broad framework of the “triple bottom line” business has become increasingly engaged and involved in poverty alleviation, social development, and sustainable development issues. This process has been slowly evolving away from a primarily philanthropic approach (business donating funds to communities and NGOs) to one based on long-term business interests and core resources of companies, working in partnership with government and other stakeholders to meaningfully address challenges in the broader business eco-system.

Multi-Stakeholder Platforms provide a proven mechanism to achieve this objective. Such platforms have become increasingly common in recent years and are widely regarded as an essential part of the “institutional infrastructure” that is necessary to scale up public-private collaboration.

Creating effective sustainable platforms requires a wide range of skills, support, and processes to meaningfully engage stakeholders from various sectors and ensure they receive sufficient value to remain engaged, to host well directed dialogues to spark collaboration ideas, to provide technical support to facilitate nascent partnerships; and measure the value that partnerships are delivering.

Multi-stakeholder Platforms for network infrastructure, including rail, ports, roads, water, and energy should be established to explore innovative ways of accelerating the design and rollout of infrastructure in the BRICS countries. Investment in transport infrastructure is required to strengthen and optimise trade routes and enable new production networks. Africa requires deepened investment cooperation in transport infrastructure projects to optimize trade routes and promote broader connectivity in the region. There is a need to build complete and smooth international logistics and supply chains, simplify customs clearance procedures and improve the efficiency of cross-border trade.

Reducing the carbon footprint of supply chains is an important driver of investment and production decisions and steps to transform to a lower carbon freight system are critical. In this respect, a greater focus should be placed on interventions to increase the market share and connectivity of rail and short-sea-shipping in national and regional freight systems.

6.2.7.1 Focus Areas

The Infrastructure Working Group remains focused on identifying opportunities for business to partner with Governments to:

- Promote the green and low-carbon development of infrastructure.
- Enhance the all-round connectivity among the BRICS countries.
- Promote the development of smart cities through digital infrastructure
- Provide financial support for the development of sustainable infrastructure projects.
- Strengthen investment and cooperation in infrastructure development and supply chain stabilization in the post-pandemic era

6.2.7.2 Recommendation

Investment promotion and pipeline development

- Enhance visibility of priority infrastructure projects and plans: Earlier and better visibility of planned strategic infrastructure projects will allow for more collaboration and more innovation in how infrastructure projects are designed and implemented.
- Strengthen cooperation with the New Development Bank (NDB) and other Development Finance Institutions (DFIs): Enhance collaboration with the FSWG of the BRICS Business Council to enhance facilitative partnership with the NDB including the financing of EGT research and development in BRICS countries.
- Consider further mechanisms of funding infrastructure projects on the territory of the BRICS countries, including cooperation with dedicated financial organizations, institutions for sustainable development and export centres.
- Establish cooperation mechanism with FSWG in enhancing experience sharing of the best ESG practices, developing a common ESG/Climate Change index or a unified plan of action, encouraging the uptake of ESG/Climate Change and Green Financing to attract more private and institutional investments into infrastructure sectors across the BRICS nations.
- Explore Innovative ways to fund early-stage project preparation: Early-stage project preparation, which is mainly concerned with the overall design and commercial model of an infrastructure project is often under-funded. This funding gap decreases the quality of project concept documents and slows the rate at which infrastructure projects shift from concept stage to feasibility stage. Providing more funding and technical support for early-stage infrastructure project design will have a significant impact on both the quality and

quantity of projects entering the infrastructure pipeline.

Skills Development and Transformation

- Enhancing the participation of Youth and Women in Infrastructure: Promote HR-development programs and more extensive academic exchanges and cooperation in the field of infrastructure to boost the BRICS countries' economies, organize youth training activities, and provide more opportunities for young talents to share experience and exchange knowledge, create more internship and career opportunities through joint training programs and college-enterprise cooperation programs.

6.2.7.3 Issues under Discussion

Strengthen Trade Linkages

- Encourage investments in sustainable infrastructure projects in Africa
- Promote Short-Sea-Shipping: Exporters are coming under increasing pressure to decarbonize their supply chains and reducing the carbon footprint of the supply chain will become a major competitive factor in sourcing decisions. Short Sea Shipping (SSS) can address several current transport system challenges and do so in a more environmentally friendly way. SSS is a well-developed market in many developed economies and in some of the BRICS countries. Experience suggests that a deliberate and coordinated programme of action can promote the development of SSS services as an effective way of increasing trade connectivity. A focused programme on increasing maritime connectivity through short sea shipping should be developed.
- Increasing Rail Connectivity and Rail Competitiveness: Rail is becoming increasingly attractive as a mechanism for reducing the carbon footprints of supply chains, and increasing urban population mobility and connectivity. The establishment of a Coordination mechanism for development of Railways (as an Innovation and Research Network in a virtual format) will contribute to accelerated growth of rail in the BRICS countries.

6.2.8 Manufacturing Working Group

Manufacturing is an engine of economic growth, a source of resilience to economic shocks and an important contributor to GDP. It has high economic multipliers due to its forward and backward linkages to both downstream and upstream production sectors of the economy. Additionally, it contributes to exports and employment, and the jobs tend to be better paying, stable and less vulnerable to shocks compared to other sectors.¹ These attributes have historically made, and

continue to make, manufacturing a focus sector for development efforts by many countries,² including BRICS nation. The Manufacturing Working Group continues to meet regularly and to identify opportunities to enhance the mandate of the BRICS Business Council. The working group has reached consensus on the revised Terms of Reference, and begun implementing several initiatives in broad categories as detailed below.

6.2.8.1 Focus Areas

6.2.8.1.1 Complementarity Context of the BRICS Alliance in Manufacturing

The BRICS cooperation seeks to promote economic development. In the context of the manufacturing industry, the BRICS group plays an important role in promoting collaboration and cooperation among its member countries. Some of the key initiatives in this regard include:

- Joint Manufacturing Projects: The BRICS countries have explored the possibility of joint manufacturing projects in various industries, such as electric vehicle lithium batteries, automotive, aerospace, and electronics, with the aim of improving competitiveness and reducing costs.
- Mutual Trade and Investment: The BRICS countries seek to increase trade and de-risk investment among one another, with a focus on boosting the competitiveness of their respective manufacturing industries – i.e., High Tech Manufactured Goods Index and Exchange Traded Funds
- Cross Functional Skills Development: The right skills are essential to growth of Manufacturing and the BRICS countries have focused on employability based on multidisciplinary up-skilling and workforce training relationships, in collaboration with the Skills Development Working Group, with the aim of improving the human capital quality, employability and productivity ramp-up, in their manufacturing sectors – i.e., Capacity and Capability matrix incl. Informal markets.
- Technological Collaboration: BRICS intends to deepen collaboration on R&D (technology demonstration/transfer and scientific knowhow joint IPR) to enhance their combined industrial competitiveness.
- Building A Network Society: BRICS can facilitate the development of partnerships and knowledge management systems that network between manufacturers, suppliers, and other stakeholders, with shared interest (i.e., commercial, and scientific).
- Overall, the BRICS cooperation plays an important role in promoting collaboration and cooperation among its member countries in the manufacturing industry. The Alliance provides an opportunity for the BRICS countries to pool

¹Cantore N., Clara, M., Lavop, A., Soare, S. 2017. Manufacturing as engine of growth: which is the best fuel? Structural Change and Economic Dynamics, Vol. 42:56-66. See also OECD Observer No 292, 2012. ²[https://www.resbank.co.za/content/dam/sarb/publications/occasional-bulletin-of-economic-notes/2020/10410/OBEN%202002%20\(South%20African%20Manufacturing%20A%20Situational%20analysis\)%20-%20November%202020.pdf](https://www.resbank.co.za/content/dam/sarb/publications/occasional-bulletin-of-economic-notes/2020/10410/OBEN%202002%20(South%20African%20Manufacturing%20A%20Situational%20analysis)%20-%20November%202020.pdf)

their resources, expertise, and markets to drive growth and competitiveness in this important sector.

6.2.8.1.2 Opportunities to increase Trade and Investment within BRICS

Showcasing BRICS Manufacturing Capacity via various initiatives, including representation of BRICS Manufacturing at the BRICS Expo to be held at Gallagher Estate during August 2023.

Identification of opportunities for complementarity which include:

- Cooperation such as licensing of technologies across BRICS partners
- Innovation and development of technologies that can be used to enhance manufacturing.
- Promoting increased trading within BRICS countries
- Leveraging regional capacities for manufacturing of vaccines, medical devices and pharmaceuticals, to ensure BRICS is both protected and self-sufficient in the event of any future pandemics.
- Leveraging regional capacities of Lithium and scarce mineral mining and resources to facilitate production of Lithium batteries across BRICS to ensure self-sufficiency and independent product and technology frameworks.

6.2.8.1.3 Business Participation – BRICS Projects

During the August Summit all partners engaged in the BRICS Manufacturing Forum which included an opening by Minister Patel of the Department of Trade Industry and Competition. The panels included:

- Panel 1: Building resilient industrial value chains and regional manufacturing hubs - lessons from BRICS.
- Panel 2: Green industrialisation and the circular economy
- Panel 3: Funding mechanisms to support industrial value chains, enabling greener manufacturing.

Discussions from these panels will be used to propose future working group projects. The working group will continue its activities for 2023 with the Project Showcase in September. The Project Showcase is an annual event where owners of manufacturing projects are given the opportunity to present their projects to possible funders in collaboration with the Financial Services Working Group. Eight projects will be presented for consideration during September 2023, these include opportunities for BRICS collaboration in Electric Vehicle battery production and manufacturing and licensing of medical technologies developed in BRICS. The Working group has included an annual awards programme for Manufacturing Excellence, the first event will

be held in November 2023 highlighting Excellence in Steel Manufacturing.

6.2.9 Skills Development Working Group

BRICS Business Council has a mandate of increasing trade and investment between BRICS. Skills are critical to BRICS ability to take its rightful place in global trade. The SDWG has a focus on future skills, i.e., skills that will allow individuals to contribute to the new world of work and delivering against the second outcome of South African BRICS Business Council 2023 Chairship, which is Transforming education and skills for the future.

6.2.9.1 Focus Areas

6.2.9.1.1 Development of BRICS Standards for Assessment and Competition

This project is managed by the Chinese SDWG and aims to develop standards for over 50 skills. These standards will be used in Regional Future Skills Challenges, and 12 standards were completed for in the BRICS Future Skills challenge/ competition, and in assessment of competency in BRICS training programmes. The continued implementation of BRICS Skills camps in future skills that lead to upliftment of training programmes in all partner countries.

6.2.9.1.2 Development of Curricula

The development of a Curricula in 7 skills, with Machine Learning and Big Data completed in 2023, is aimed at ensuring individual countries present these to their relevant ministries and stakeholders for accreditation:

- Machine learning and big data,
- Industrial design technology,
- Industrial internet of things,
- Robot systems integration,
- Additive manufacturing,
- Building information modelling, and
- Block-chain based solutions.

6.2.9.1.3 Host the BRICS Future Skills Challenge/ Competition

Since 2017, BRICS Future Skills Challenge has been held continuously as an important deliverable to the BRICS Business Council. With development within six years, the competition forms a cooperative mechanism organized by BBC SDWG. In the format of remote distributed competition, each BRICS country can set the competition venue, on which the online training camp and competition in a hybrid format will be held together. The long-term mechanism of BRICS Future Skills Challenge is a significant milestone reflecting the importance of future skills development, innovative technology exchanges, skilled talents training and educational reform for the development of BRICS countries.

The Skills competitions participants are given a business challenge to solve within specific times, e.g., in Internet of Things competitors could be asked to develop solutions that would track shipping containers, measuring information such as location, temperature, movement etc. Skills Competitions are important in the Skills landscape as they facilitate numerous benefits:

- Upskilling of experts in all participating countries,
- Upskilling of competitors in all participating countries,
- Benchmarking standards in participating countries, and
- Facilitating feedback into the education ecosystem.

South Africa hosted a hybrid event for twelve (12) Future Skills Challenge in September 2023 with China and Russia hosting additional skills to ensure all future skills were covered during 2023.

6.2.9.1.4 Establishment of “Academies”/ Skill Workshops for BRICS cooperation

The “Academies” also referred to as training bases or Skills Workshop, aims to be an international platform for technical skills training, certification talents exchange, to promote local economy construction, as well as the talent cultivation, technological progress, industrial upgrading, and economic development among BRICS countries.

Future Skills Training Base will be the platform for talents cultivation and people-to-people

exchanges among BRICS countries. Since 2020, China Section of BBC SDWG has established 84 Future Skills Training Bases in country. Partnerships are being negotiated among the five countries to establish at least one centre in each country.

6.2.9.1.5 Knowledge sharing programmes

Knowledge sharing programmes, also referred to as BRICS Remote Auditorium have been used as a communication platform for experts, scholars and technical personnel and strengthen ties among BRICS countries. Adopting a hybrid format combining online and offline, it can better adapt to the current conditions and future demands, facilitate exchanging views and sharing best practices among BRICS countries as most of them have developed hybrid platform for training and knowledge dissemination. The BBC SDWG has jointly organized and invited experts, scholars, school teachers, and business representatives from BRICS countries to promote collaboration, knowledge transfer and knowledge-sharing on the topic of Skills Development.

BBC SDWG has run events that facilitate learning, e.g., healthcare technologies and the impact on developing economies, including the impact on skills programmes such as Intelligent Welding, Additive Manufacturing Technology and Cooperation held in May 2023. In the first half of 2023, SDWG facilitated five programmes in the topic of Skills Development and Innovation.



MEMORANDUM OF UNDERSTANDING (MOU)

An MOU was agreed between the BRICS country members of the
Energy and Green Economy Working Group as follows:

MOU BRICS BUSINESS COUNCIL ENERGY AND GREEN ECONOMY WORKING GROUP

AUGUST 2023 - Ver 1 - Preamble

The Chairs of the BRICS Business Council's Chairs for the Energy and Green Economy Working Group from Brazil, Russia, India, China and South Africa (hereinafter jointly referred to as the Parties) agree to over the next 5 years, drive extreme collaboration to help promote the successful and innovative implementation of the just energy transition.

Reaffirming the common objective to transition our economies in a manner that leaves no one behind but that decarbonises the energy and other sectors over time.

Noting the existing initiatives in all BRICS countries that are addressing national level issues regarding the just energy transition.

Leveraging synergies and other forms of collaboration amongst the BRICS countries to further strengthen cooperation.

Recognizing that there are opportunities to collaborate in new areas of growth in the energy and green economy areas and that collaboration will be voluntary.

The Parties **hereby agree** as follows:

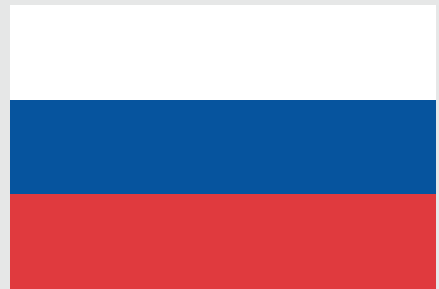
There is a need to intensify cooperation in the development of skills and competencies in areas of high impact in the just energy transition and green economy. The Parties will therefore:

1. Adopt a rolling 5-year work programme recognising key issues related to energy's critical role in economic growth and investment by:
 - a. Making information available
 - b. Innovating in key areas,
 - c. Sourcing funding to drive the energy transition
 - d. Collaborating and partner to leverage African and BRICS strengths
 - e. Developing concrete outcomes focused on annual events and institutionalising efforts through centres of excellence, investment funds
 - f. Balancing policy and project interventions
2. Develop a BRICS Energy Skills Roadmap that builds on the work done in South Africa and Documents shared by India related to development of Energy Skills Roadmap in India with 2030 and 2047 perspectives, to ultimately produce a BRICS Energy Skills Atlas, by:
 - a. Sharing best practice in skills development in the BRICS countries
 - b. Participating in long term skills identification and planning
 - c. Assisting with developing a BRICS Energy Skills Atlas
 - d. Sharing existing curricula and training programmes to build agility into skills provisioning processes
3. Establish the BRICS African JET Centre of Excellence based in Africa, by leveraging a network with academic and other related institutions in Africa and the BRICS countries and in the longer term, evaluate alternatives to consolidate and centrally provide energy sector analysis, data and statistics, policy recommendations to promote clean sustainable energy technologies and societal climate change initiatives by:
 - a. Continuing to identify and encouraging centres of excellence across the BRICS countries to join the network of energy and related centres of excellence through the platform of the BRICS African Community of Practice
 - b. Developing and sharing data, research and innovative practices in the just energy transition and green economy areas
 - c. Identifying areas of high impact where common research can be done with a focus on public Private Partnerships for implementation
 - d. Assisting with sourcing/leveraging funding for new research work
 - e. Making linkages back to the Community of Practice from interactions held with international bodies such as the International Energy Agency

BRICS



BRAZIL



RUSSIA



INDIA




CHINA



SOUTH AFRICA

**5 COUNTRIES
5 FLAGS**



Annual Report 2022/23



BRICS
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