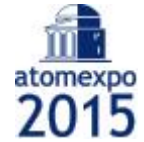




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Nuclear Industry in BRICS Countries

ATOMEXPO 2015

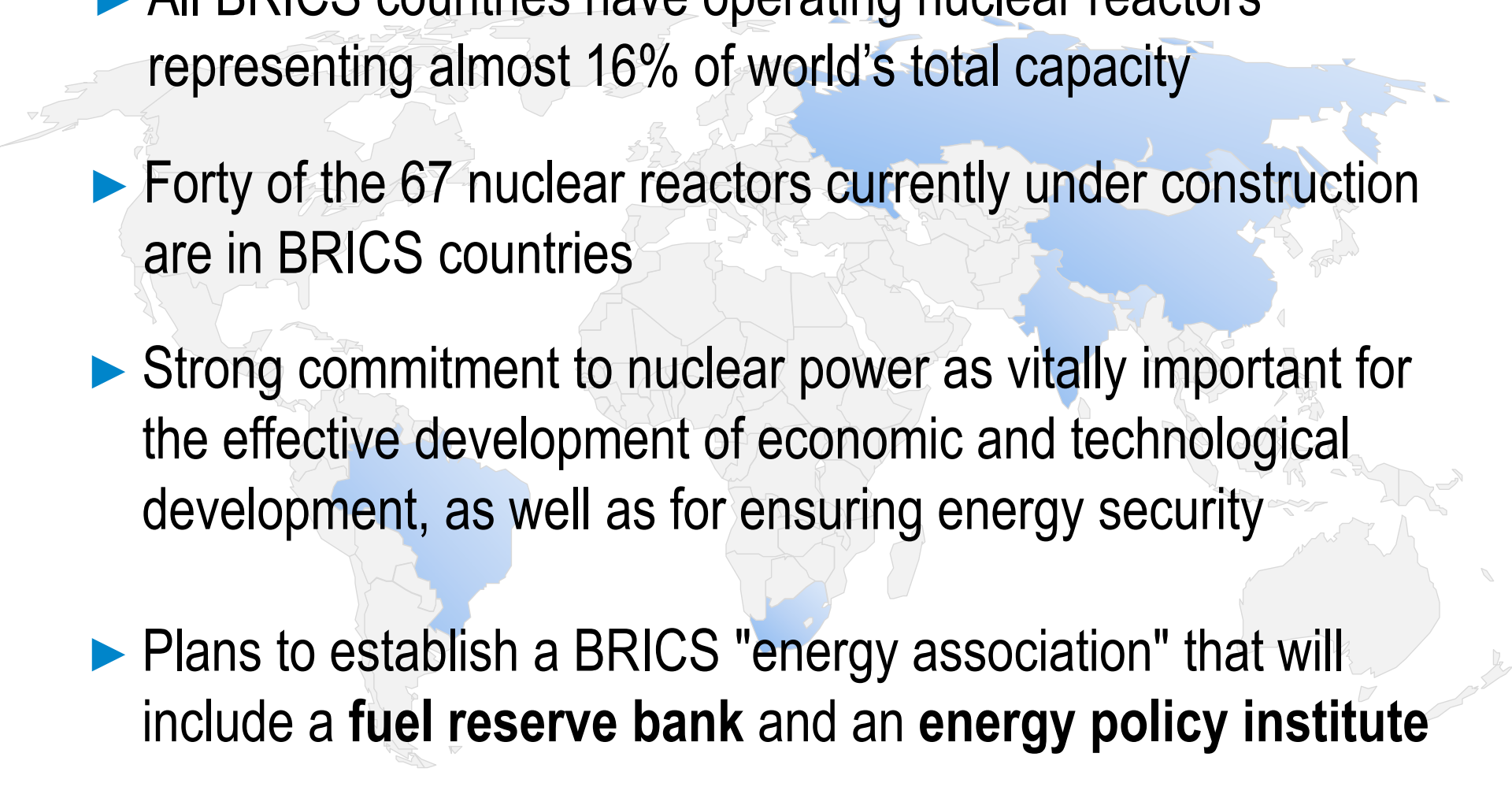
Djurica Tankosic – WorleyParsons President Global Nuclear

BRICS

- ▶ Represent almost 3 billion people, or approximately 42% of the world population
 - ▶ In 2014 their combined nominal GDP amounts to US\$16 trillion, equivalent to approximately 20% of the gross world product, and an estimated US\$4 trillion in combined foreign reserves
 - ▶ Total trade between the countries stands at around \$6.14 trillion, or nearly 17 % of the world's total
- 
- A world map with the BRICS countries (Brazil, Russia, India, China, and South Africa) highlighted in a light blue color. The rest of the world's landmasses are shown in a light gray color.

Nuclear Industry in BRICS

Overview

- ▶ All BRICS countries have operating nuclear reactors representing almost 16% of world's total capacity
 - ▶ Forty of the 67 nuclear reactors currently under construction are in BRICS countries
 - ▶ Strong commitment to nuclear power as vitally important for the effective development of economic and technological development, as well as for ensuring energy security
 - ▶ Plans to establish a BRICS "energy association" that will include a **fuel reserve bank** and an **energy policy institute**
- 

Nuclear Industry in BRICS

By country

Brazil

- 2.8 % of total electricity production
- Operational units – 2
- Under construction – 1
- Planned or proposed – 2

Russia

- 18.5 % of total electricity production
- Operational units – 34
- Under construction – 9
- Planned or proposed - 49

BRICS

- 16 % of global capacity
- Operational units – 86
- Under construction – 40
- Planned – 107
- Proposed - 145

South Africa

- 5 % of total electricity production
- Operational units – 2
- Under construction – 0
- Planned or proposed - 8

China

- 2.4 % of total electricity production
- Operational units – 26
- Under construction – 24
- Planned or proposed - 136
- Further expansion of 170 units by 2050

India

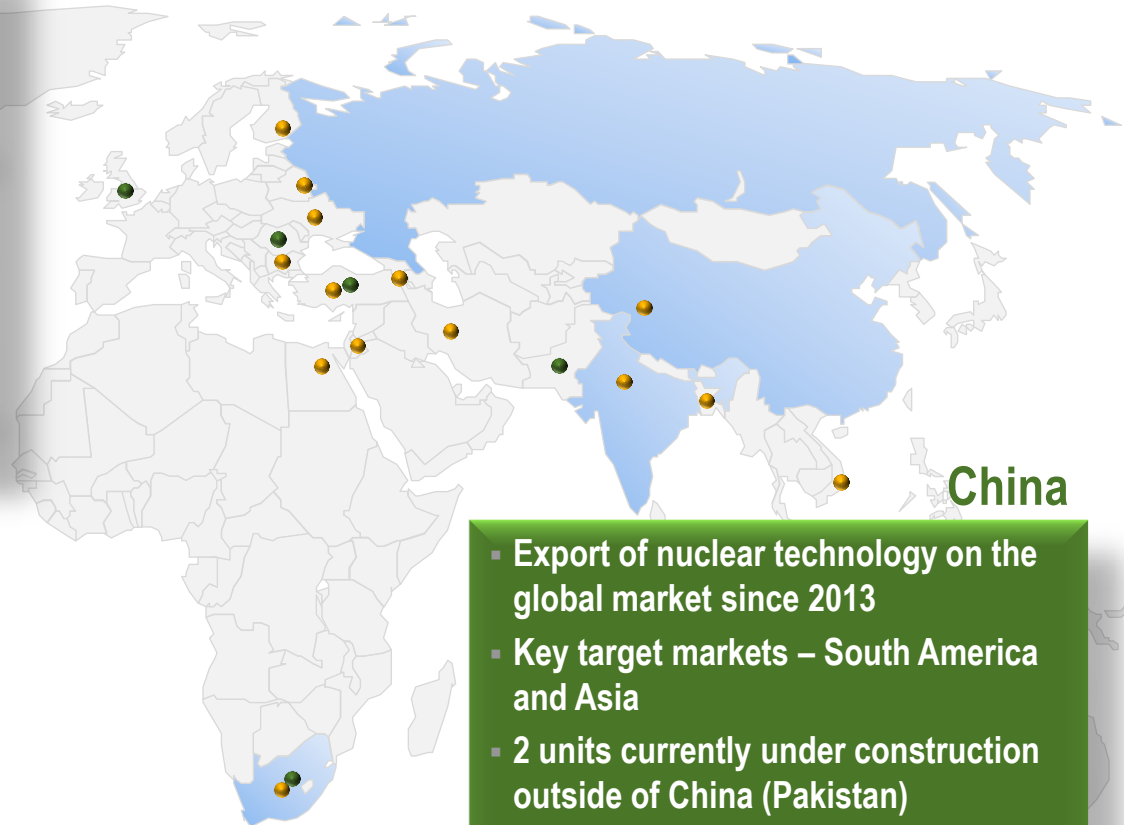
- 3.4 % of total electricity production
- Operational units – 21
- Under construction – 6
- Planned or proposed - 57

Nuclear Industry in BRICS

Export of Technology

Russia

- Leader in the export of Russian technology
- First to introduce the BOO model
- 29 units currently under construction outside of Russia
- Value of 2014 deals over USD\$100B
- Nuclear cooperation within BRICS:
 - China – 2 in operation, 2 under construction, 2 planned
 - India – 1 in operation, 3 under construction, 2 planned
 - South Africa – agreement for construction of up to 8 units
 - Brazil – broad agreement for cooperation in new build



- Export of nuclear technology on the global market since 2013
- Key target markets – South America and Asia
- 2 units currently under construction outside of China (Pakistan)
- Further 5 units contracted to be build with Chinese financing
- Nuclear cooperation within BRICS:
 - South Africa – broad agreement

Nuclear Industry in BRICS

Financing Institutions



New Development Bank (NDB)

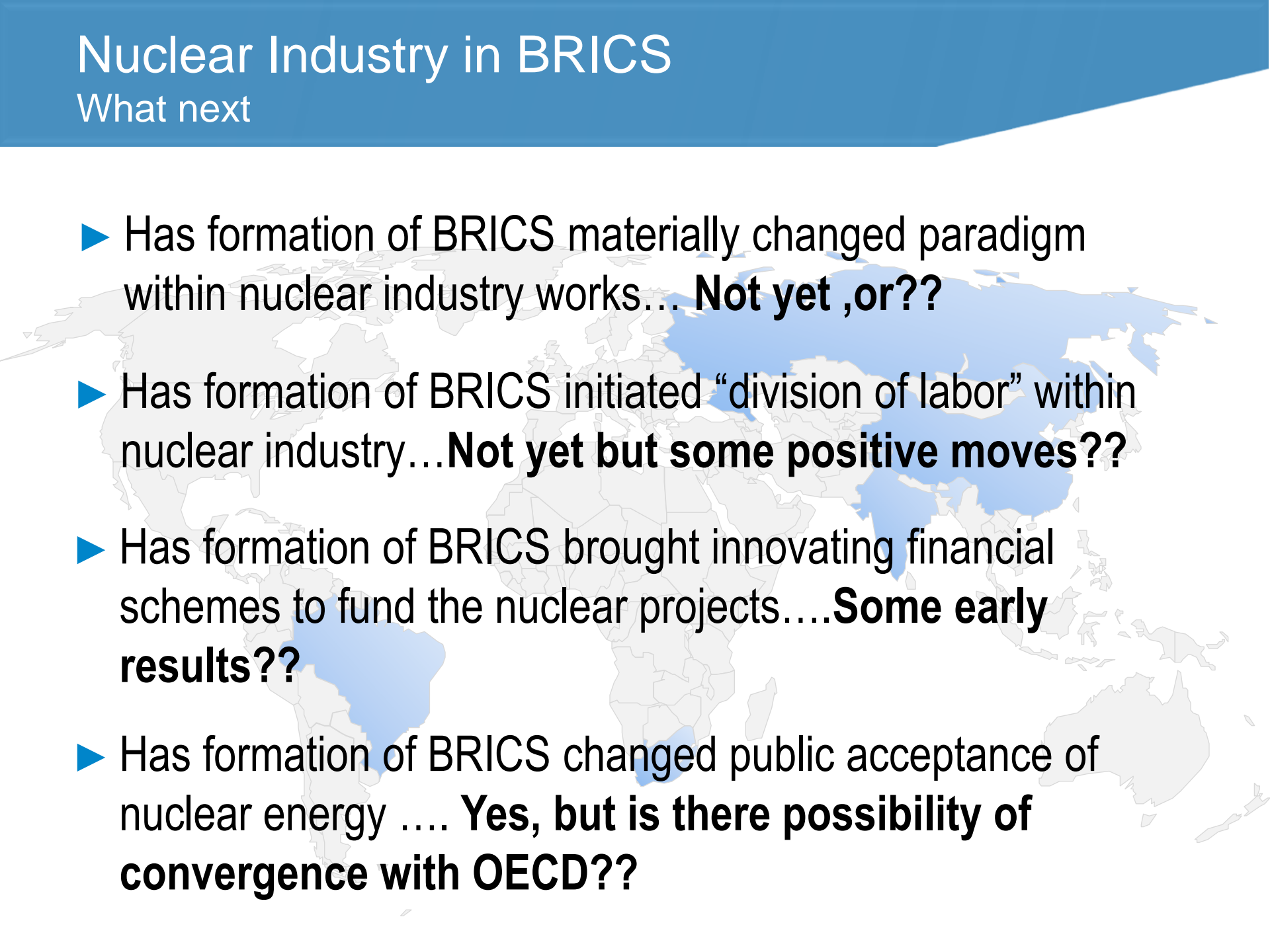
- **Launch** - July 2014 during the 6th BRICS Summit in Brazil
- **Members** – BRICS countries
- **Initial capital** - US\$ 100B
- **Purpose**
 - Financing of infrastructure projects in the BRICS countries
 - Financing of infrastructure projects across other developing countries

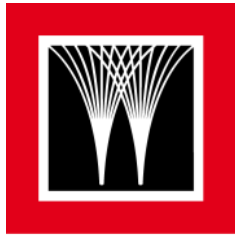
Asian Infrastructure Investment Bank (AIIB)

- **Launch** - October 2014 by China
- **Members**
 - 57 countries including 16 of world's 20 largest economies
 - US and Japan declined membership
- **Initial capital** – up to US\$ 100B
- **Purpose**
 - Financing of infrastructure and energy projects in Asia

Nuclear Industry in BRICS

What next

- 
- ▶ Has formation of BRICS materially changed paradigm within nuclear industry works... **Not yet ,or??**
 - ▶ Has formation of BRICS initiated “division of labor” within nuclear industry...**Not yet but some positive moves??**
 - ▶ Has formation of BRICS brought innovating financial schemes to fund the nuclear projects....**Some early results??**
 - ▶ Has formation of BRICS changed public acceptance of nuclear energy **Yes, but is there possibility of convergence with OECD??**



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