



Open to the World: International Cooperation in Horizon 2020 and the Co-Funding Mechanisms

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1. Open to the World: why?

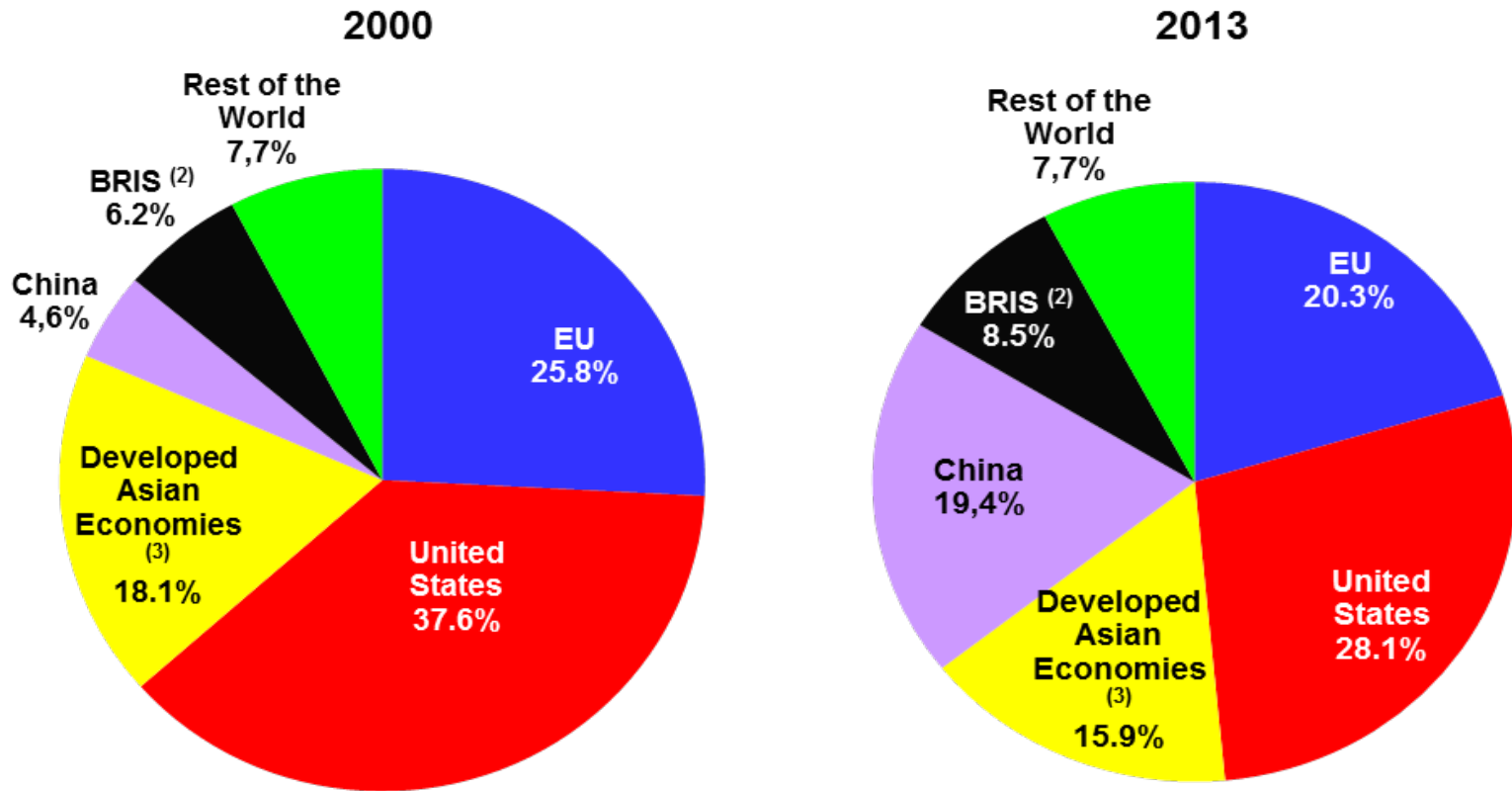
2. EU International R&I Cooperation Strategy
3. International cooperation in H2020
4. Co-funding mechanisms

Open to the World: why?

- Science is global and collaborative
 - Excellence breeds excellence
 - Access to infrastructures and data (Open Science)
- Value chains and innovation are international
- Global societal challenges require global cooperation

International knowledge flows increasingly important in multipolar global research and innovation landscape

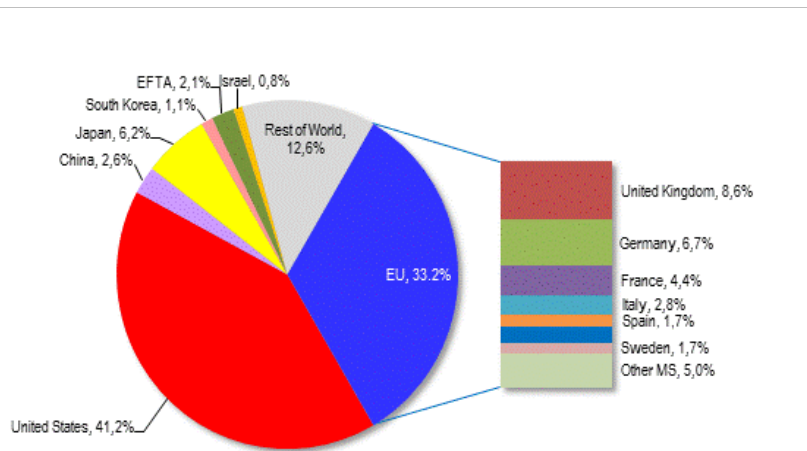
R&D Investment



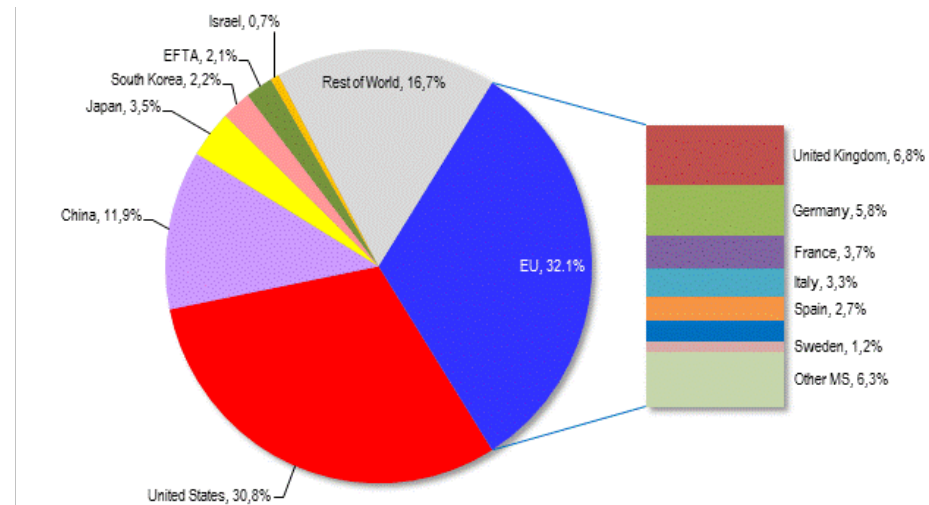
Rise of new scientific and technological powerhouses

World share of highly cited publications

2000

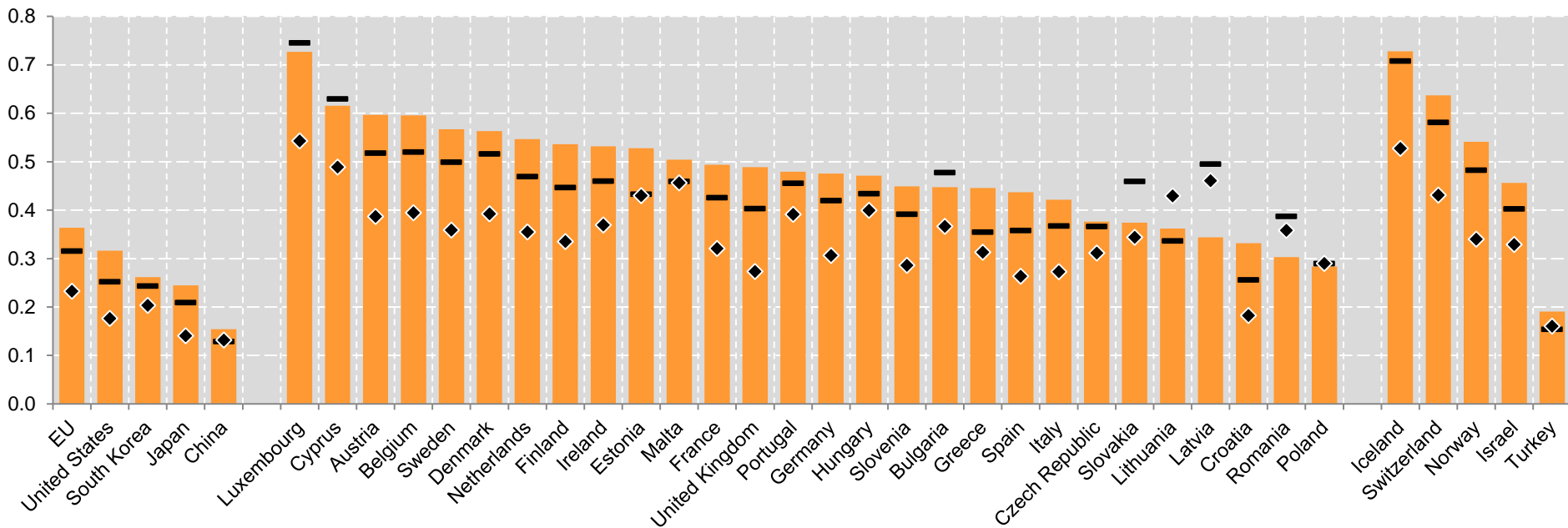


2013



Europe is also increasingly opening up to scientific collaboration with third countries

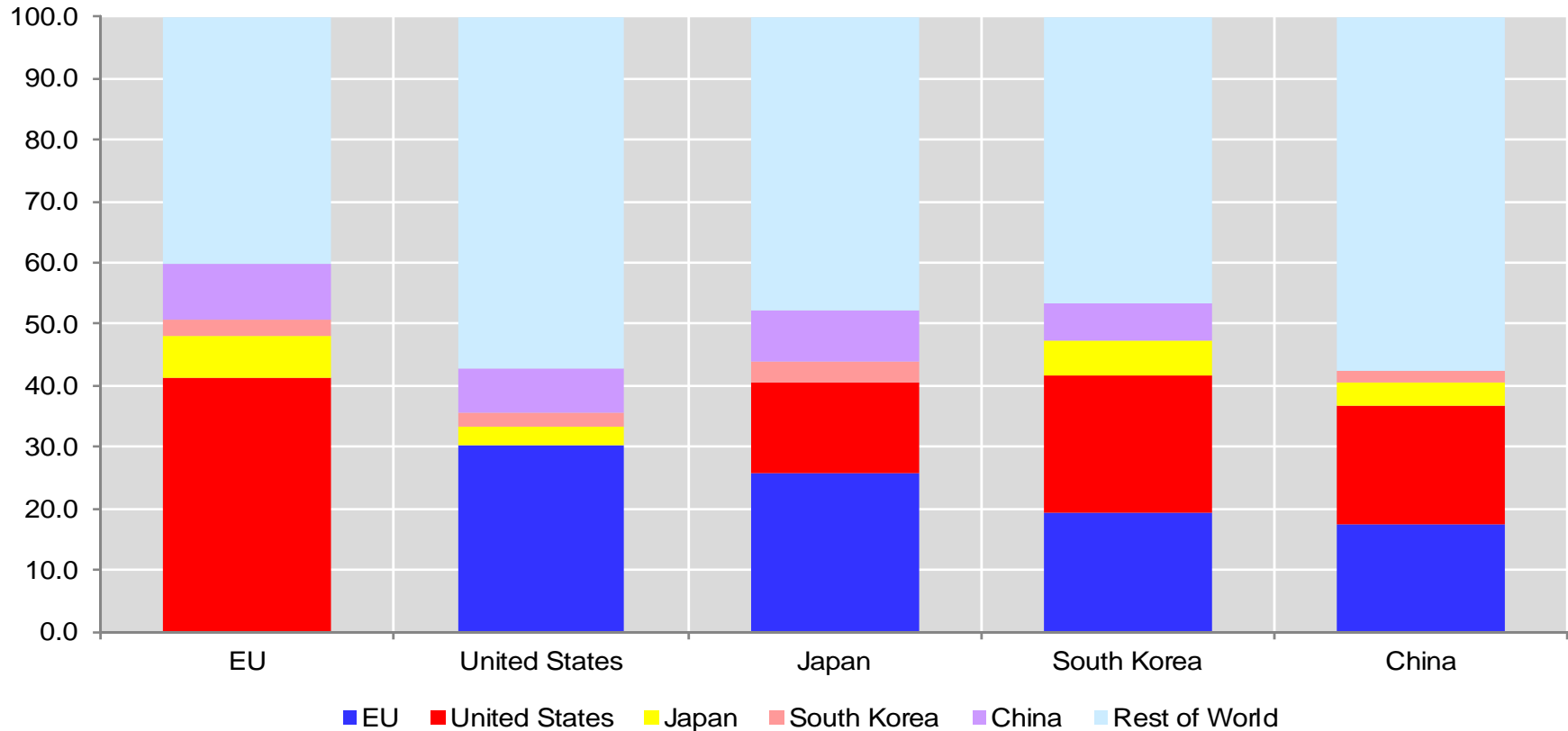
International co-publications per total number of publications, 2000, 2007 and 2013





The EU as a research partner

Scientific publication with foreign co-authors, 2010-2014



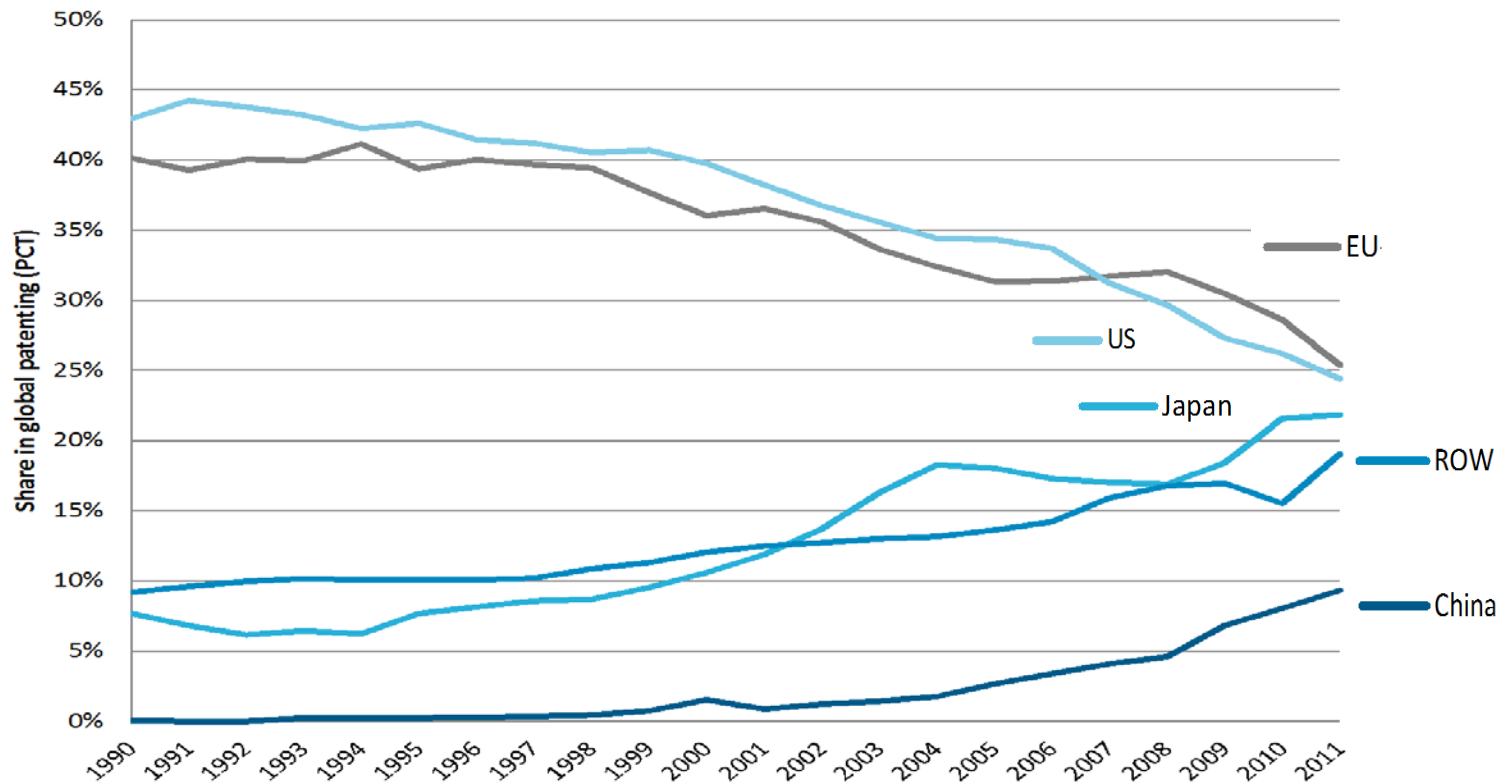
Source: DG Research and Innovation - Unit for the Analysis and Monitoring of National Research Policies

Data: SciVal (based on Scopus)

Note: Elements of estimation were involved in the compilation of the data.

Share in global PCT patenting

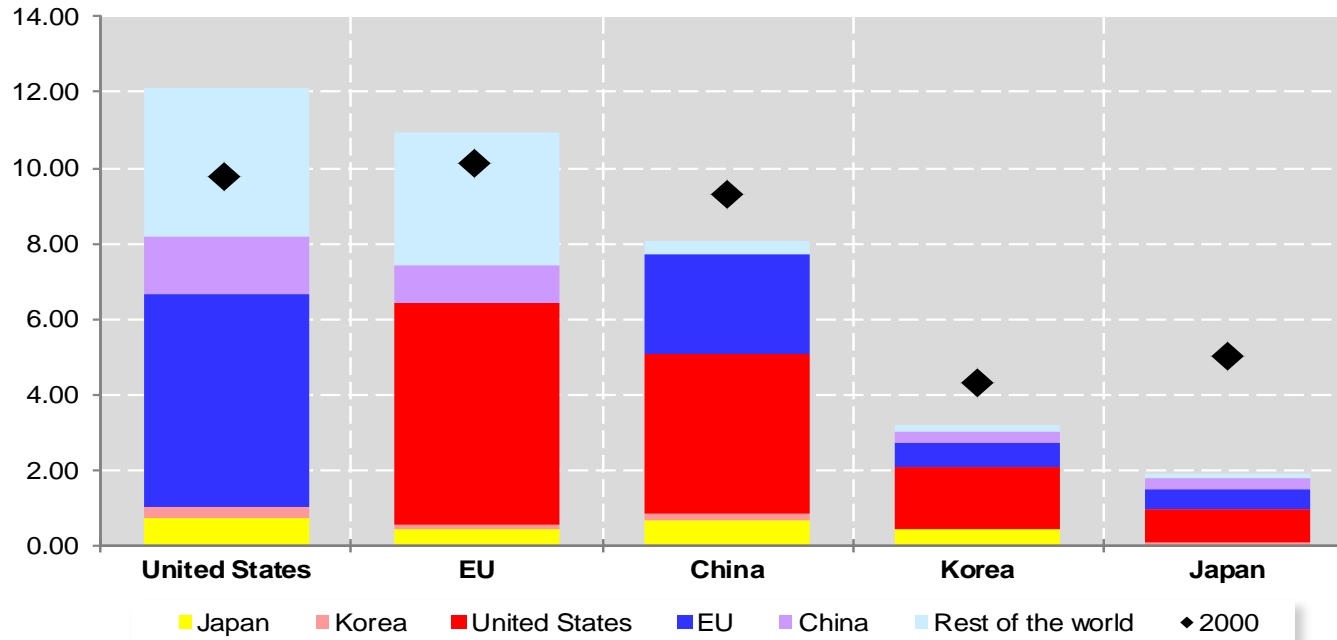
EU and US still in the lead but China catching up rapidly



Source: SPI Report on STI China 2015

International co-patents

Share of patents with foreign co-inventor(s) in total patent applications (WIPO PCT), 2000, 2012



Source: DG Research and Innovation - Unit for the Analysis and Monitoring of National Research Policies
Data: OECD

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Strategy for international cooperation in R&I

- *Three main **objectives**:*
 - Strengthen the Union's **excellence** and **attractiveness** in research and innovation as well as its industrial and economic **competitiveness**
 - Tackle global **societal challenges**
 - Support the Union's **external policies**
- ***Policy and funding instruments***
- *Strengthened partnership with **Member States***
- *Stronger contribution of research and innovation to **external policies of the Union***
- *Combining **openness** in FP with better **targeted actions***
 - Multi-annual roadmaps for cooperation with key partners
 - Report on implementation with a list of indicators

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Objective	Indicator
<p>Excellence</p>	<p>1.1 Share of <u>participations</u> of third country (TC) organisations in H2020*</p> <p>1.2 Share of H2020 <u>grant agreements</u> with at least one TC participant*</p> <p>1.3 Share of H2020 <u>budget</u> allocated to TC participants*</p> <p>1.4 Share of budget of <u>topics</u> in the WP mentioning at least one TC or region**</p> <p>1.5 Share of <u>co-publications</u> acknowledging H2020 support (with at least one TC author)</p> <p>1.6 <u>Ratio</u> between the average citations per <u>co-publication</u> (with at least one TC author) and average citations per <u>publication</u> (without any TC authors)</p>

* For Associated (incl./excl. CH) and Non-Associated (excl. CH, incl. Int'l Org) third countries for signed contracts in collaborative projects (all, except ERC, MSCA, SME Instrument, Access to risk finance, EIT, JRC)

** For topics implemented through collaborative projects

Objective	Indicator
Competitiveness	2.1 Share of <u>co-patent applications</u> emanating from H2020
Attractiveness	3.1 Share of (non-EU) world <u>Top 500</u> universities participating in H2020 3.2 Share of researchers from TC in H2020 <u>ERC</u> and <u>MSCA</u> grants 3.3 Total budget <u>invested by TC organisations</u> in H2020 projects
Societal challenges	4.1 Share of H2020 budget contributing to int'l <u>multilateral initiatives</u> 4.2 <u>Leverage</u> effect of <u>multilateral initiatives</u>

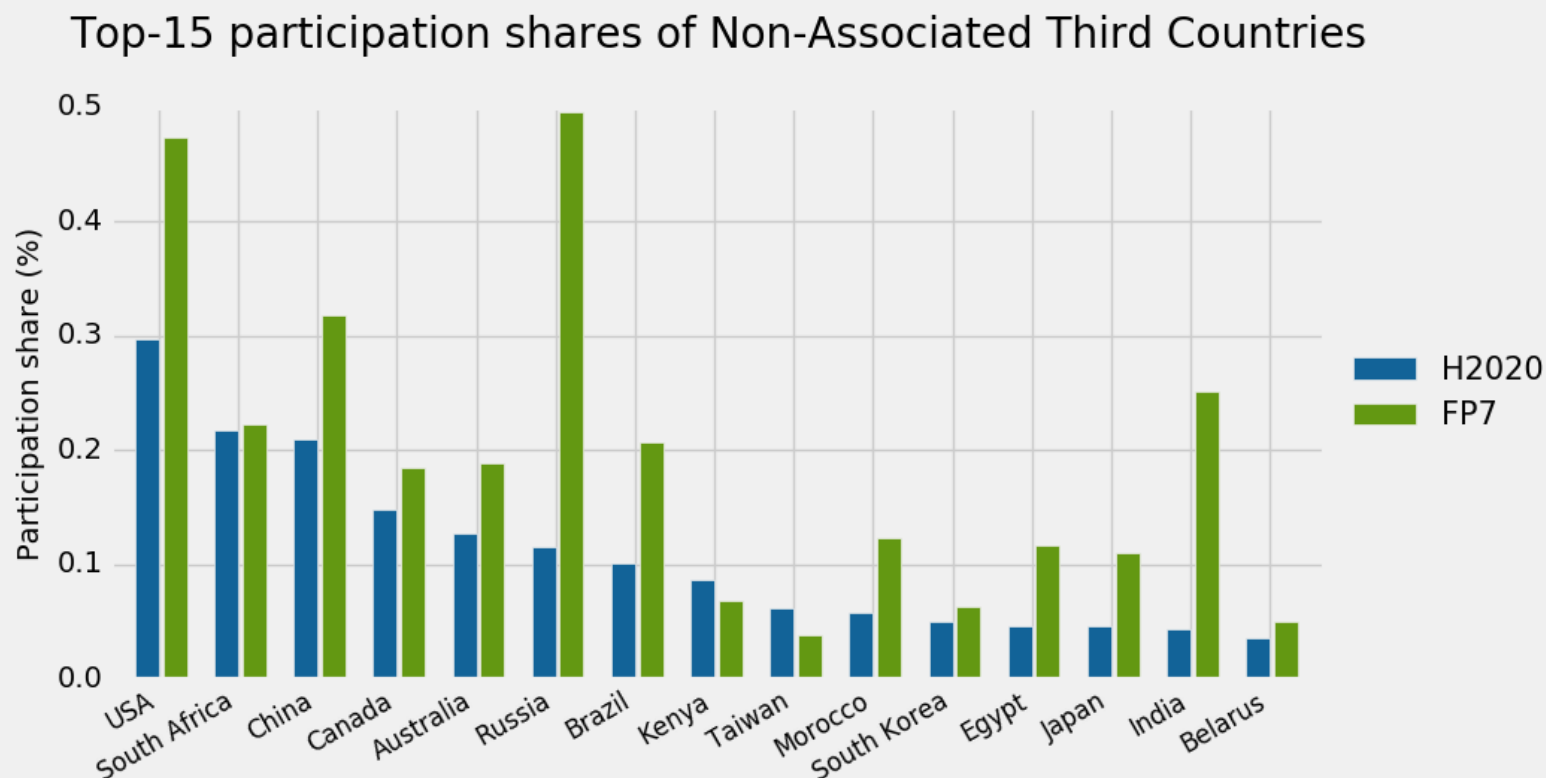
Summary of results

	Horizon 2020	2014	2015	FP7
1.1 Participations	2.40%	2.08%	2.85%	4.9%
1.2 Grant agreements	12.26%	11.58%	13.22%	20.5%
1.3 Budget	0.75%	0.51%	1.05%	2.01%
1.4 Topics	21.91%	21.91%	21.91%	12%
1.5 Co-publications [*]	no data	no data	no data	31.3%
1.6 Ratio co-publ. [*]	no data	no data	no data	1.7
3.1 Top 500	48.3%	-	-	-
3.3 Invest by TC org	€57.48 M	€24.56 M	€32.92 M	€60.1 M /year

[Values for Non-Associated (excl. CH, incl. Int'l Org) third countries]

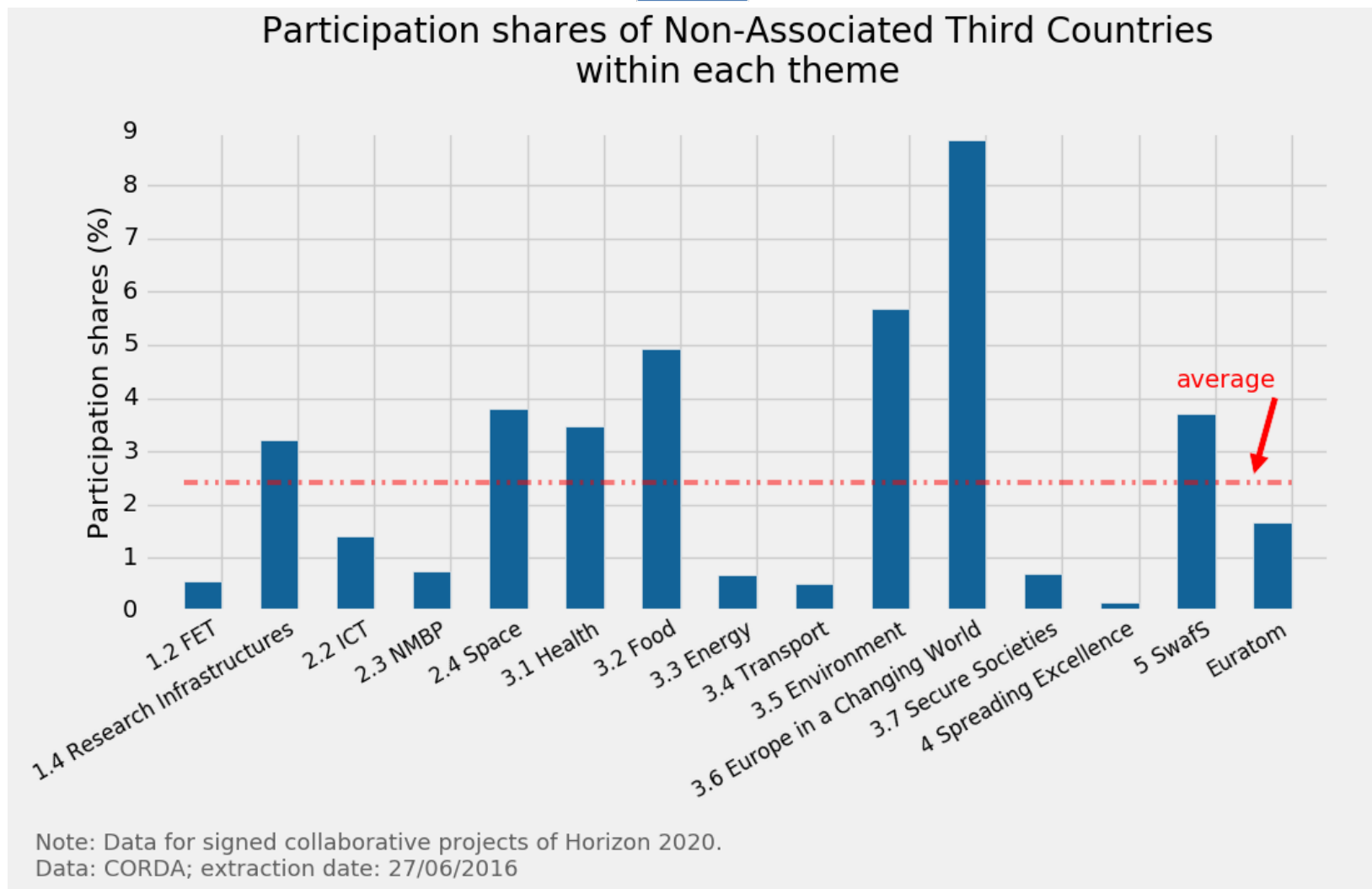
* Co-publications of EU28 with the rest of the world.

1.1 Participations – Non-Associated – Top-15

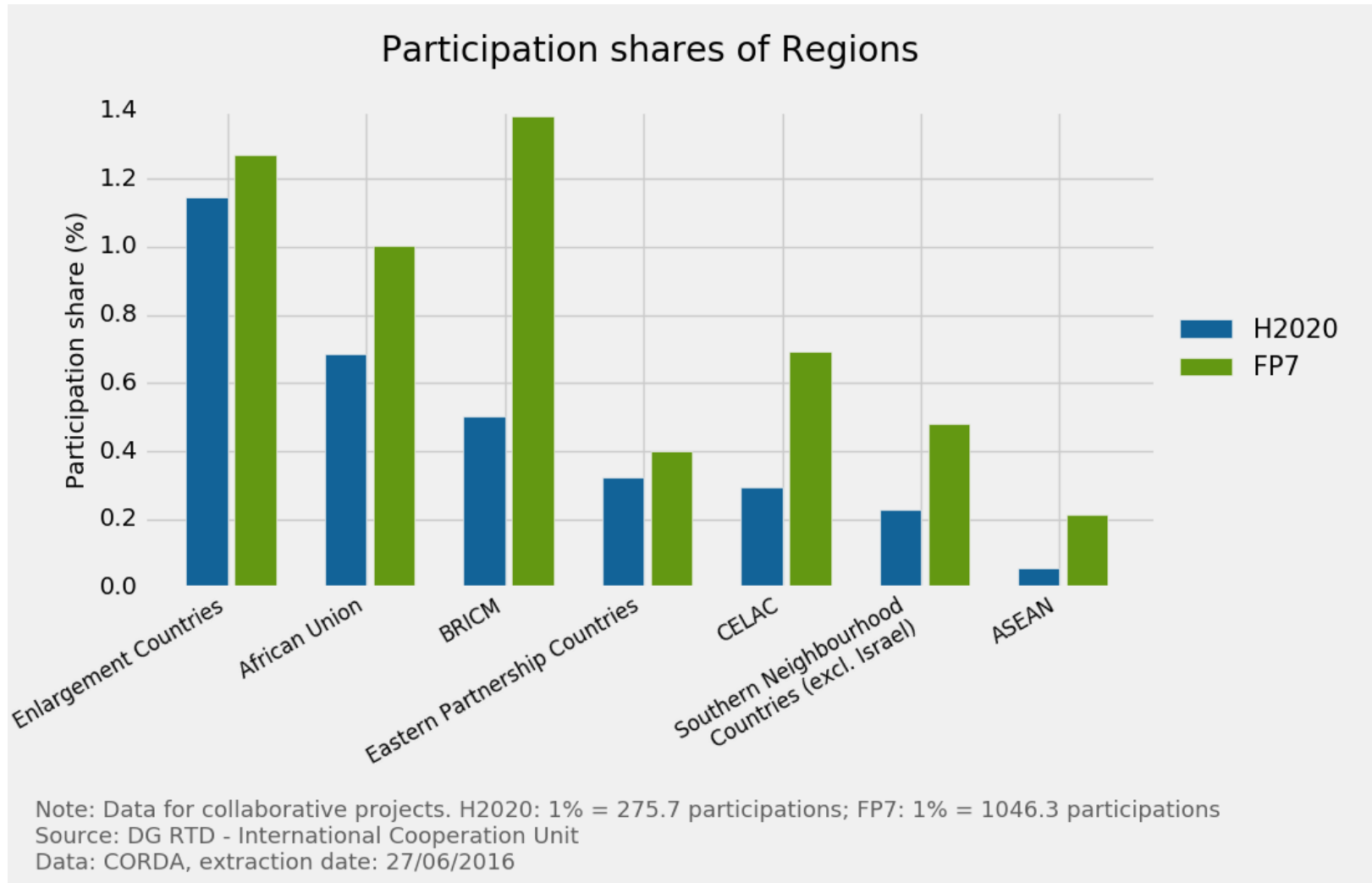


Note: Data for signed collaborative projects. H2020: 1% = 275.7 participations; FP7: 1% = 1046.3 participations.
Source: DG RTD - International Cooperation Unit
Data: CORDA, extraction date: 27/06/2016

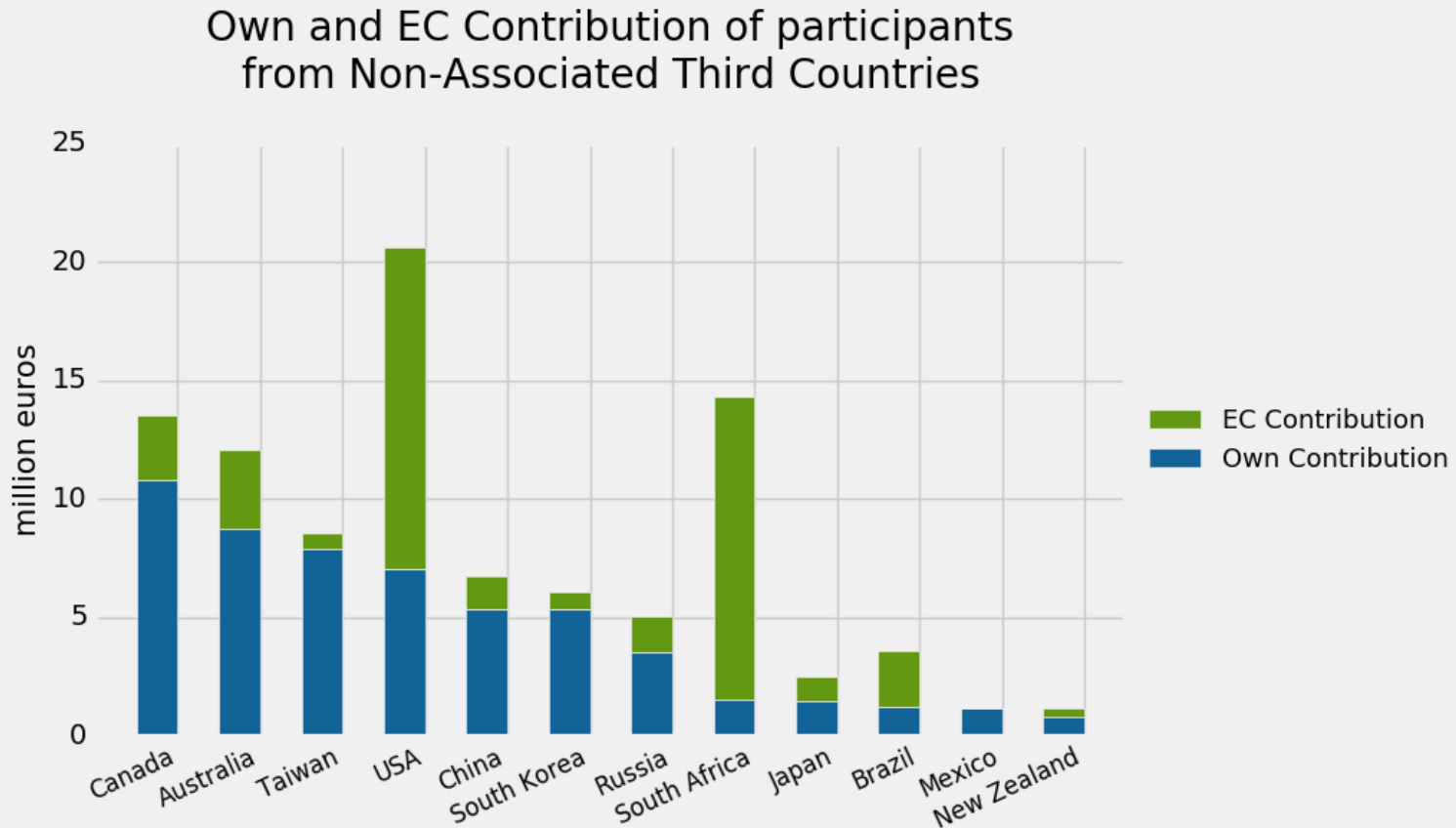
1.1 Participations – Non-Associated – Per Theme



1.1 Participations – Per Region



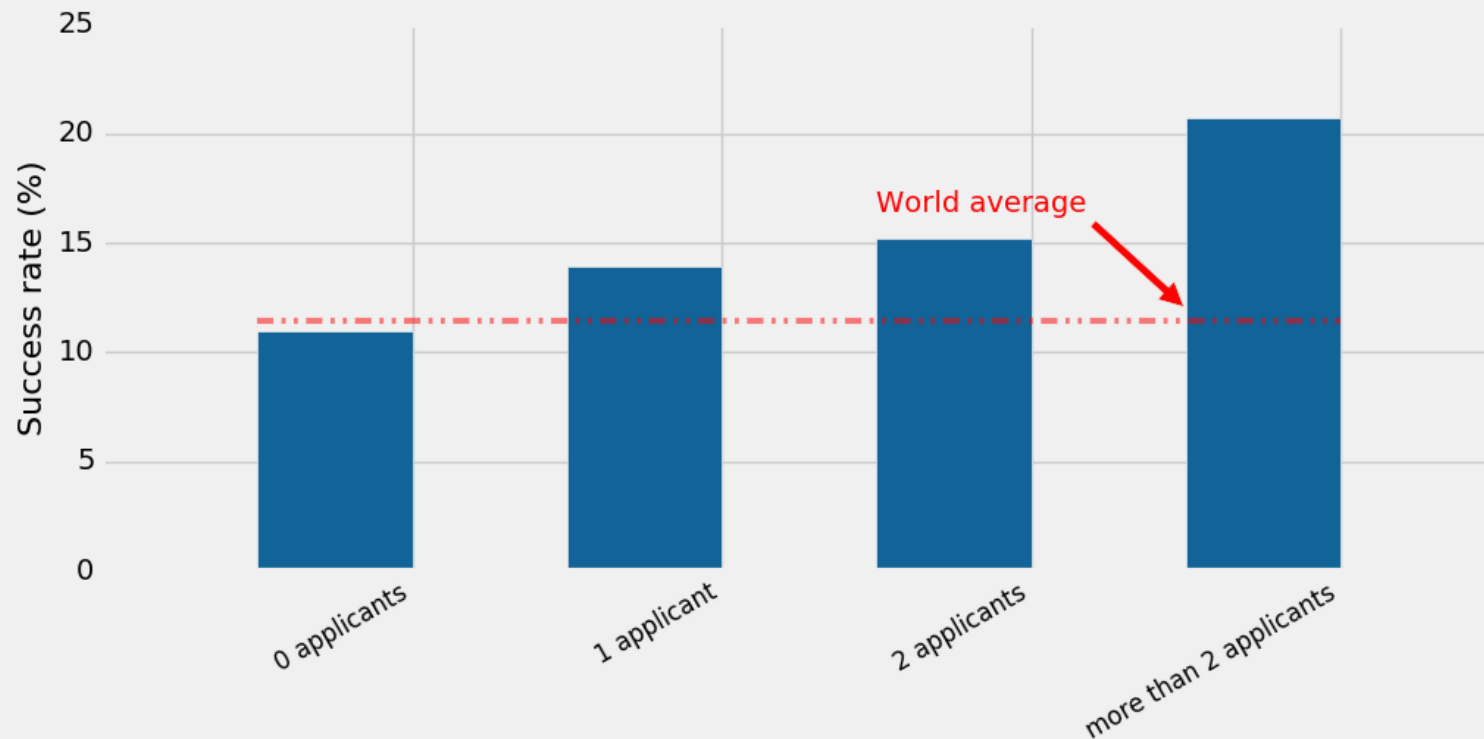
3.3 Invested by TC organisations



Note: Data for signed projects of Horizon 2020.
Source: DG Research and Innovation - International Cooperation Unit
Data: CORDA, extraction date: 27/06/2016

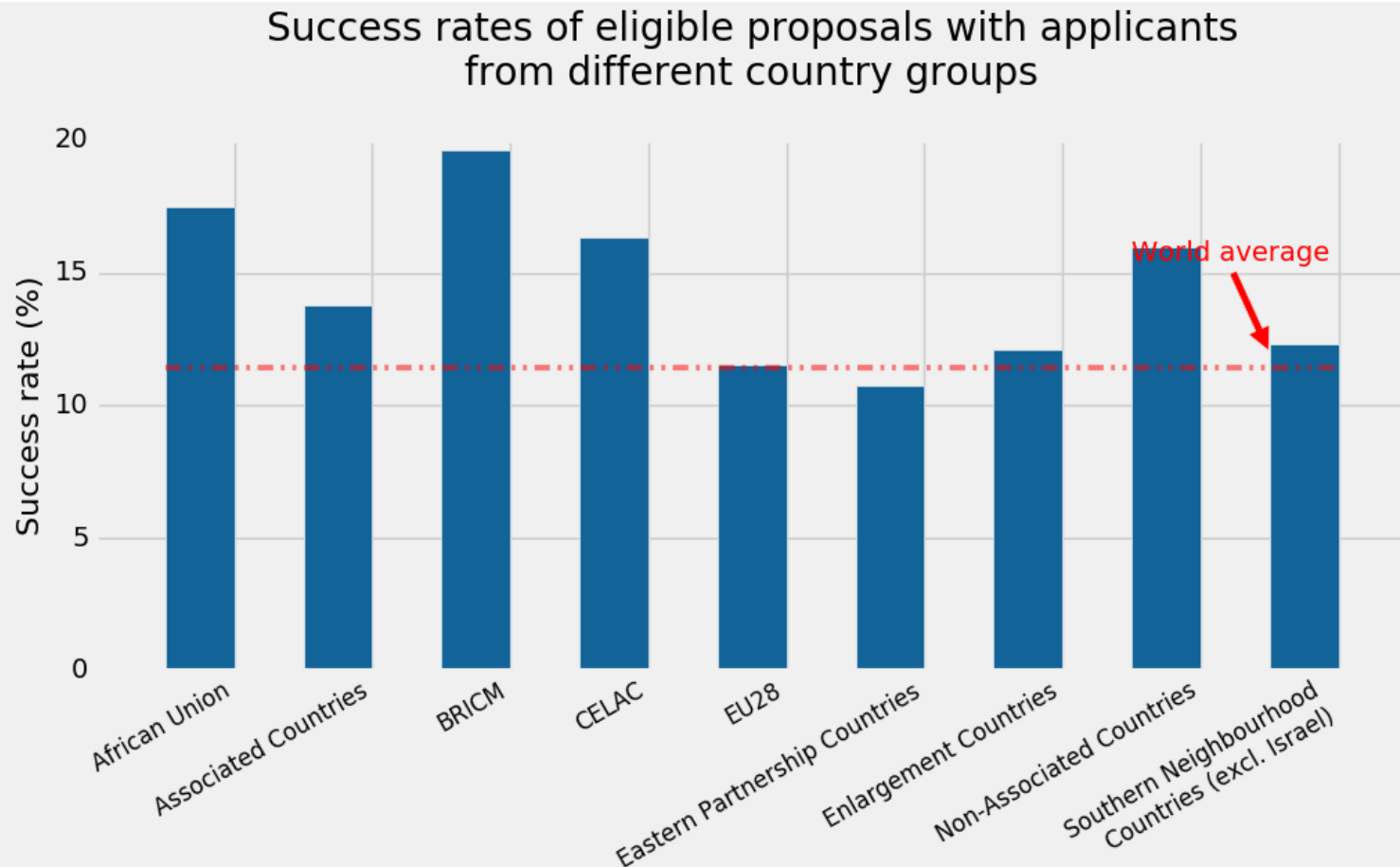
Success Rates – Overall

Success Rates for different numbers of Non-Associated Third Country applicants



Note: Data for collaborative projects of Horizon 2020. Success rate is the ratio of mainlisted over eligible proposals.
Source: DG RTD - International Cooperation Unit
Data: CORDA, extraction date: 27/06/2016

Success Rates – Per Region



Note: Data for collaborative projects of Horizon 2020. Success rate is the ratio of mainlisted over eligible proposals.
Source: DG RTD - International Cooperation Unit
Data: CORDA, extraction date: 27/06/2016

Observations for Non-Associated Third Countries

- Direct participation in grant agreements has *fallen significantly*
 - Despite that 80% more topics flagged as specifically relevant for international cooperation in Horizon 2020 vs. FP7
 - But: less topics specifically devoted to international cooperation and less topics where international cooperation is an eligibility criterion
 - Changes in funding conditions for BRICMs account for around 33% of the drop
 - Another 15% is due to Southern Neighbourhood countries, probably due to the turmoil in this area
 - 7% due to association of Ukraine to Horizon 2020
 - But also large drops for US and JP
- Room for improvement in attracting world's best universities
- International cooperation increases impact

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Matching funding by international partner countries

- Co-funding for most or all thematic areas
 - Republic of Korea, Mexico, China, Taiwan, Hong Kong, Macau, Russia
- Co-funding for selected thematic areas
 - Australia (SC1), Japan (power electronics + critical raw materials)
- Co-funding by a region
 - Canada (Quebec), Brazil (São Paulo, Santa Catarina, Goiás, Minas Gerais, Goiás, and Amparo à Pesquisa)

Situation evolves and the Participant Portal will be updated as necessary

Current co-funding mechanisms...

CHINA

- Funding agencies: Ministry of Science and Technology (MOST)
- Thematic focus: Covering all parts of Horizon 2020, 20 topics in WP 2016/17 targeting China
- Budget: Total annual budget of €28 million. Limit of ca. €650,000 per project
- Application procedure: Chinese participants in Horizon 2020 projects to apply in parallel to MOST
- Deadlines: 31 March 2016 and 31 July 2017
- Evaluation: MOST to carry out their own evaluation. Large majority of Chinese participants in selected Horizon 2020 projects expected to be funded

Current co-funding mechanisms...

South Korea

- Funding agencies: Ministry of Science, ICT and Future Planning (MSIP) & Ministry of Trade, Industry and Energy (MOTIE)
- Thematic focus: Covering all parts of Horizon 2020
- Budget: Limit of €240,000 entity/year in co-funding for projects with at least one industry participant (MOTIE), otherwise €120,000 (MSIP); limit of €40,000 entity/year for researchers' mobility
- Application procedure: ROK participants in Horizon 2020 projects to apply to MSIP or MOTIE
- Deadlines: Regular deadlines for submitting proposals (2-4 per year)
- Evaluation: Korean Ministries carry out their own evaluation ('light', based on 'hearings', results within 1 month, nearly 100% success rate)

Current co-funding mechanisms...

JAPAN

- Funding agencies: Japan Science and Technology Agency (JST)
- Thematic focus: 2 topics on Materials' research in H2020 WP 2016
- Budget: flexible, JST ready to fund Japanese participants in 2-3 projects per topic
- Application procedure: Japanese participants in Horizon 2020 projects to apply in parallel to JST
- Deadlines: Same as H2020 call topics (2nd stage)
- Evaluation: JST to carry out their own evaluation, large majority of Japanese participants in H2020 selected projects expected to be funded
- Pilot scheme, expected to be expanded to other areas

Current co-funding mechanisms...

RUSSIA

- Funding Agencies: Ministry of Education and Science + other ministries and agencies depending on the subject (aeronautics, nuclear research, SMEs, basic research, etc.)
- Thematic Focus: Covering all parts of Horizon 2020 with a (long) list of priorities published on the H2020 Russia Country Page
- Budget: Limit of ca. € 300,000 per project
- Application procedure: See Russia Country Page on the Horizon 2020 Participant Portal
- Deadlines: 2 per year
- Evaluation: Russian separate evaluation, 100% success rate for eligible proposals.

Current co-funding mechanisms...

INDIA

- Funding Agencies: Agreed in 2016 with the Department of Biotechnology (DBT)
- Thematic Focus: biotechnologies, covering 20 Horizon 2020 topics in WP 2016/17
- Budget: Up to 400,000€ per project/year
- Application procedure: Indian participants in Horizon 2020 proposals to apply in parallel to DBT
- Deadlines: Same as H2020 call topics (2nd stage)
- Evaluation: No automatic funding, DBT to take independent decision on co-funding, but large share of Indian participants in H2020 projects expected to be funded.

Current co-funding mechanisms...

More info

Available local support for H2020 participants from non-EU countries

http://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/international-cooperation_en.htm

See individual country pages on : [China](#), [Hong Kong & Macao](#), [Republic of Korea](#), [Mexico](#), [Russia](#), [Taiwan](#), [Australia](#), [India](#), [Japan](#), [Brazil](#), [Canada](#)

Open to the world!

