



# International Cooperation for Research Infrastructures in Horizon 2020 and beyond

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**FORUM on International Cooperation among  
environmental Research Infrastructures**

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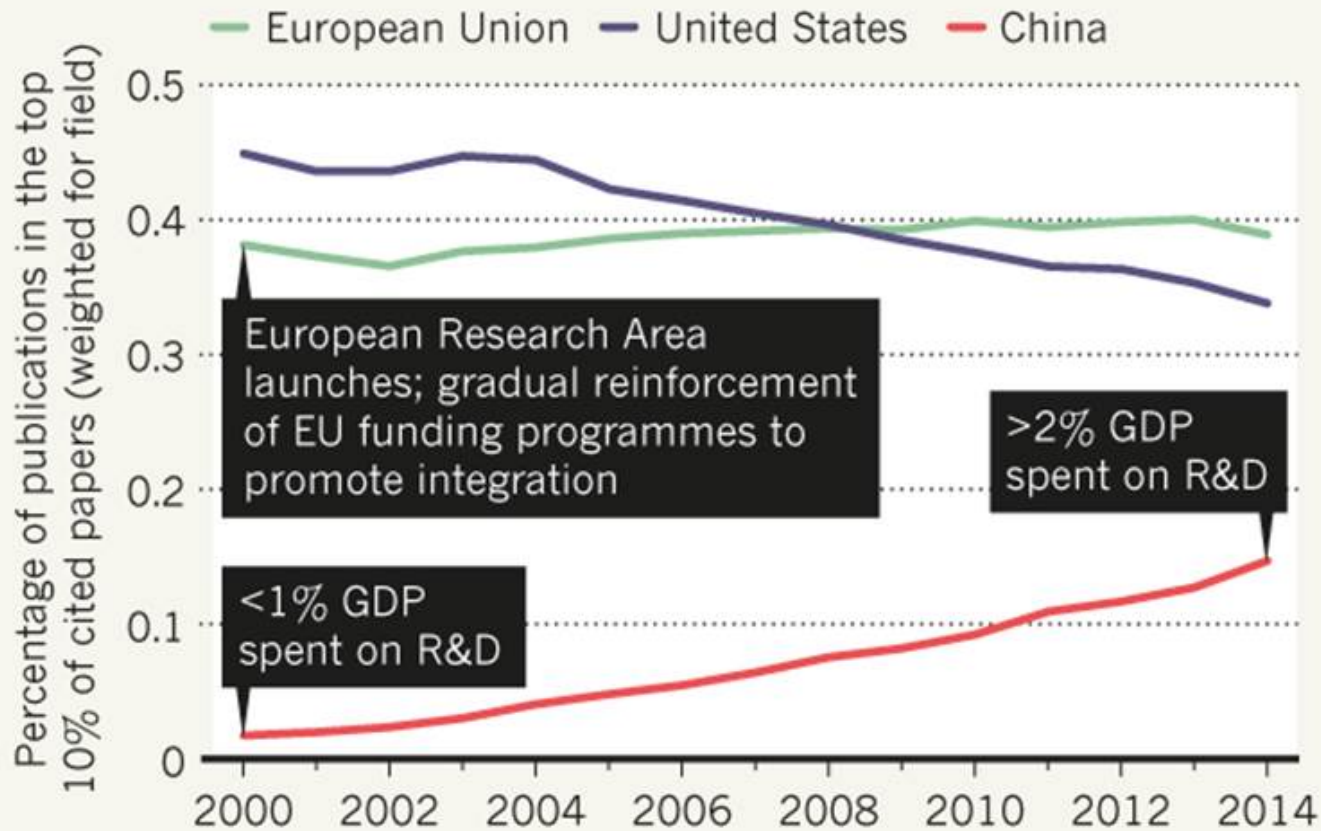
## More true today than ever, International Cooperation is an accelerator of scientific and technological development, and a multiplier of their impact

- You can only succeed on excellence when there is exchange and competition among the world's best brains
- Challenges such as infectious diseases and clean energy are global in nature and cannot be dealt solely with national interventions
- 90% of market growth over next decade is expected to be outside EU; today, 75% of IPRs and knowledge is produced outside EU
- Science and international research cooperation provide a common basis for engagement, developing trust and shared governance that can be blueprint for governance of broader issues

# Openness, cooperation and international mobility have contributed to EU's role as a global scientific leader

## OPEN IMPACT

The European Union, where governments have emphasized collaboration and mobility, has retained citation strength in the face of competition



# International Cooperation is essential for the present and future of Research Infrastructures

## **Pool resources, share expertise, enhance use**

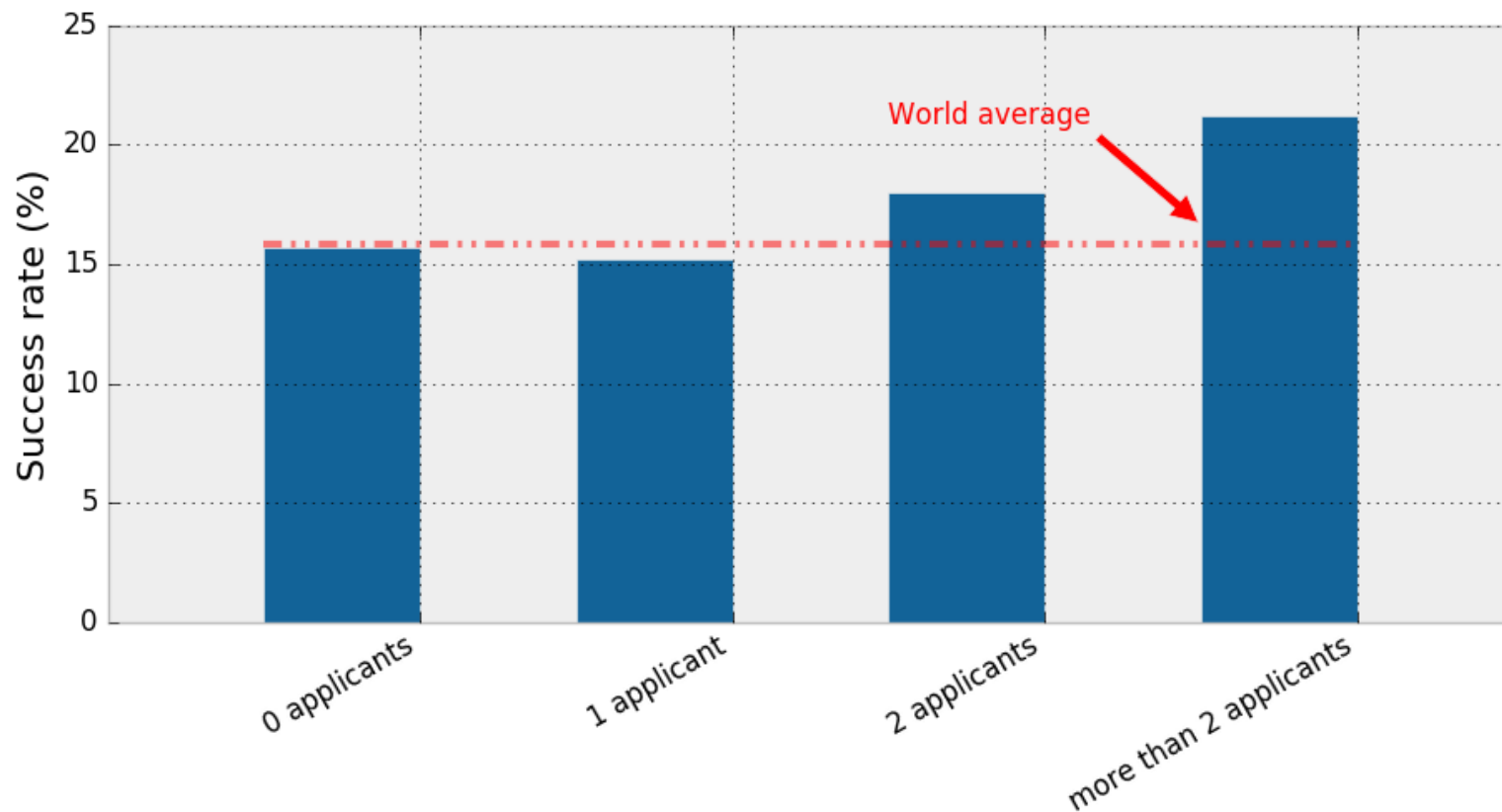
- The capacities required for certain scientific domains are often so sophisticated or costly that cannot be borne by a single country (e.g. CERN or SKA)
- Research on e.g. climate change or the environment often require activities be carried out in locations outside Europe
- Research requires access to and sharing of results and data, which require shared governance and common rules achieved through international coordination
- Trans-National Access to Research Infrastructures attracting the brightest minds

# International Cooperation in Horizon 2020 takes place at many levels and through various means

Cooperation level	Instrument	Input
Researchers	<ul style="list-style-type: none"><li>• MSCA</li><li>• ERC</li></ul>	<ul style="list-style-type: none"><li>• <b>18%</b> incoming MSCA fellows</li><li>• <b>2.3%</b> incoming ERC fellows</li><li>• <b>1 in 4</b> MSCA fellows is a non-EU/AC national</li></ul>
Organisations	<ul style="list-style-type: none"><li>• Collaborative projects</li><li>• Coordinated calls</li><li>• Twinning of projects</li></ul>	<ul style="list-style-type: none"><li>• <b>1 in 11</b> projects has 1+ third-country participant</li><li>• <b>2.4%</b> participations of third-country entities</li></ul>
Programmes	<ul style="list-style-type: none"><li>• Multilateral initiatives</li><li>• Art. 185</li></ul>	<ul style="list-style-type: none"><li>• <b>€630m</b> in multilaterals during 2014-17</li><li>• <b>3-4 times</b> leveraged investment</li><li>• <b>€683m</b> in H2020 to EDCTP, <b>€220m</b> to PRIMA</li></ul>
Countries	<ul style="list-style-type: none"><li>• Associations</li><li>• Co-fund mechanisms</li></ul>	<ul style="list-style-type: none"><li>• <b>16</b> associated countries</li><li>• <b>9</b> co-funding mechanisms</li></ul>

# Proposals with international applicants are more often funded

Success rates of proposals with different numbers of applicants from non-associated countries



Note: Data for collaborative projects of Horizon 2020. Success rate is the ratio of mainlisted over eligible proposals.  
Source: DG RTD - International Cooperation  
Data: CORDA (JRC, EIT & art.185 not included), extraction date: 07/11/2018

## Russia, USA, South Africa, Australia among the most active in Research Infrastructures projects of Horizon 2020

country	participations	EU contribution	total budget
Russia	19	1.73	2.42
South Africa	17	3.29	4.35
USA	13	1.56	2.11
Australia	13	2.75	5.33
Canada	7	0.76	0.89
Belarus	4	0.08	0.09
Kenya	4	0.38	0.38
Ghana	4	0.69	0.69
Uruguay	4	0.77	0.80
Jordan	3	0.77	0.77
other	38	1.31	3.56
<b>Total</b>	<b>126</b>	<b>14.08</b>	<b>21.39</b>

# Special focus: Horizon 2020 call on integrating and opening Research Infrastructures of European interest

- Open up access and ensure optimal use of research infrastructures
- Funding availability for third-country participants from selected countries under conditions
- Significant international dimension:  
More than 7000 researchers funded in Horizon 2020 so far,  
**1 out of 11** comes from a third-country host institution



# Russia, USA, South Africa, Australia among the most connected in Research Infrastructures projects of Horizon 2020

## 1.4 Research Infrastructures: Collaborative links of non-associated third countries, top 40



Note: Signed collaborative projects of Horizon 2020 with non-associated third-country participants  
Data: CORDA

# International cooperation initiatives for Research Infrastructures in H2020 Work Programme 2018-2020

- **Integrating Activities for Advanced Communities**
  - 2018-19, RIA, €226.5 million
  - Opening Research Infrastructures to researchers
  - Certain industrialised countries eligible for funding under conditions
- **Individual support to ESFRI and other world-class research infrastructures**
  - 2018-19, RIA, €45 million
  - Support to international cooperation aimed at ensuring sustainability of EU RI
- **Support to the EOSC Governance**
  - 2018, CSA, €20 million
  - Foster adoption of FAIR data practices through international cooperation
- **Flagship initiative with Russia**
  - 2019, RIA, €25 million
- **SESAME beam-line**
  - 2019, RIA, €6 million
- **Building on the output of the EU-CELAC RI Working Group**
  - 2019, CSA, €1.5 million

# Examples of Horizon 2020 Research Infrastructure projects in the area of environment

## ➤ **SeaDataCloud**

- marine and ocean data management // advancing SeaDataNet services
- €10 million budget
- 2016-2020
- 2 Russian participants

## ➤ **SEACRIFOG**

- EU-African Cooperation on Research Infrastructures for Food Security and Greenhouse Gas Observations
- 2017-2020
- €2 million budget
- 6 African participants

# Horizon Europe: evolution not revolution



## Pillar 1 Open Science

European Research Council

Marie Skłodowska-Curie Actions

Infrastructures



## Pillar 2 Global Challenges and Industrial Competitiveness

- Clusters**
- Health
  - Inclusive and Secure Society
  - Digital and Industry
  - Climate, Energy and Mobility
  - Food and natural resources

Joint Research Centre



## Pillar 3 Open Innovation

European Innovation Council

European innovation ecosystems

European Institute of Innovation  
and Technology

## Strengthening the European Research Area

Sharing excellence

Reforming and Enhancing the European R&I system

# Lessons Learned

## from Horizon 2020 Interim Evaluation



Support breakthrough innovation



Create more impact through mission-orientation and citizens' involvement



Strengthen international cooperation



Reinforce openness



Rationalise the funding landscape



# Key Novelties

## in Horizon Europe

European Innovation Council

R&I Missions

Extended association possibilities

Open science policy

New approach to Partnerships



# International Cooperation

## International Cooperation

Will ensure effective tackling of global societal challenges; access to the world's best talents, expertise and resources; enhanced supply and demand of innovative solutions

- Intensified targeted actions (flagship initiatives, joint calls etc.)
- General opening for international participation
- Based on common interest and mutual benefit
- Policy for association of third countries



# Open Science across the programme

- Encouraging uptake of **Open Science practices** through earmarked funding, including to enhance **researcher skills** in Open Science and support **reward systems** that promote it
- **FAIR (findable, accessible, interoperable, re-usable) and Open Data:** research data is open by default (with opt-out possibilities) and a data management plan is obligatory
- **Open Access** to publications: no reimbursement of article processing charge (APC) for publications in hybrid journals
- **Monitoring system** to ensure compliance with Horizon Europe provisions

# Thank you!

[www.ec.europa.eu/research](http://www.ec.europa.eu/research)

Participant Portal

<http://ec.europa.eu/research/participants/portal/>

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