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.
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

<table>
<thead>
<tr>
<th>Cooperation level</th>
<th>Instrument</th>
<th>Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researchers</td>
<td>• MSCA</td>
<td>• <strong>18%</strong> incoming MSCA fellows</td>
</tr>
<tr>
<td></td>
<td>• ERC</td>
<td>• <strong>2.3%</strong> incoming ERC fellows</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>1 in 4</strong> MSCA fellows is a non-EU/AC national</td>
</tr>
<tr>
<td>Organisations</td>
<td>• Collaborative projects</td>
<td>• <strong>1 in 11</strong> projects has 1+ third-country participant</td>
</tr>
<tr>
<td></td>
<td>• Coordinated calls</td>
<td>• <strong>2.4%</strong> participations of third-country entities</td>
</tr>
<tr>
<td></td>
<td>• Twinning of projects</td>
<td></td>
</tr>
<tr>
<td>Programmes</td>
<td>• Multilateral initiatives</td>
<td>• <strong>€630m</strong> in multilaterals during 2014-17</td>
</tr>
<tr>
<td></td>
<td>• Art. 185</td>
<td>• <strong>3-4 times</strong> leveraged investment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>€683m</strong> in H2020 to EDCTP, <strong>€220m</strong> to PRIMA</td>
</tr>
<tr>
<td>Countries</td>
<td>• Associations</td>
<td>• <strong>16</strong> associated countries</td>
</tr>
<tr>
<td></td>
<td>• Co-fund mechanisms</td>
<td>• <strong>9</strong> co-funding mechanisms</td>
</tr>
</tbody>
</table>

Data as of November 2018
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

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

Data as of November 2018
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
- 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

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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

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
Participant Portal
http://ec.europa.eu/research/participants/portal/