Horizon 2020 Work Programme for Research & Innovation 2018-2020

Horizon 2020 Canada - International Cooperation Flagships Work Programme 2018-20

Wolfgang WITTKÉ
European Commission - DG RTD
30 years of EU funded R&I

~average Annual budget (in b€)

EU-Canada S&T Agreement in 1996
What is Horizon 2020?

• **Horizon 2020** is the EU Framework Programme for **Research & Innovation** and the **biggest multinational** programme of its kind with a budget of almost € 80 billion

• **Horizon 2020** is focused on 3 pillars: **Excellent Science**, **Industrial Leadership** and **Societal Challenges**

Horizon 2020 is Open to the World!

• **Researchers & institutions**, public or private, from all over the world, regardless of nationality or residence, **can take part in Horizon 2020**

• **Horizon 2020** is extremely **popular across the globe**: so far, 7750 applications from **152 countries**
Horizon 2020 – Participation % of all 3rd countries
Horizon 2020 - Outlook 2018-2020
After nearly 4 years of implementation

Interim Assessment
✓ An attractive, simplified and well-performing €77 billion programme, but underfunded (12% success rate)
✓ On track to deliver value for money and to meet its knowledge-creating objectives
✓ Strong EU Added Value through unique opportunities, competition & access to new knowledge.

Participation (Oct. 2017)
✓ 15,000 grant agreements
✓ with €27 billion EU contribution
✓ 65,000 participations
Canada Participation (2007-2017) last 10 years of collaboration

Key figures for FP7 and H2020

- Participations - From CA - Canada: 211 (FP7), 129 (H2020)
- Total Number of Signed Grant Agreements involving CA: 173 (FP7), 113 (H2020)
- EU total financial contribution to CA Participation (mil€): 12.58 (FP7), 11.06 (H2020)

7 years of FP7 – 3 years of Horizon 2020
10 years European Research Council (ERC) and Canada

ERC evaluated proposals by researchers of Canadian nationality, by call and domain

<table>
<thead>
<tr>
<th></th>
<th>Life Sciences</th>
<th>Physical Sciences &amp; Engineering</th>
<th>Social Sciences and Humanities</th>
<th>TOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>StG</td>
<td>93</td>
<td>99</td>
<td>69</td>
<td>261</td>
</tr>
<tr>
<td>CoG</td>
<td>23</td>
<td>25</td>
<td>24</td>
<td>72</td>
</tr>
<tr>
<td>AdG</td>
<td>20</td>
<td>33</td>
<td>31</td>
<td>84</td>
</tr>
<tr>
<td>TOT</td>
<td>136</td>
<td>157</td>
<td>124</td>
<td>417</td>
</tr>
</tbody>
</table>

EC-Canada Implementing Arrangement (Signed on 27 October 2016 with Canadian Tri-agency Institutional Program Secretariat -TIPS)

Results:
353 ERC PIs expressed interest in hosting researchers from Canada.
N. of scientists of Canadian nationality planning to visit ERC projects = not known yet.

ERC grants to Canadian nationals, by call and country of host institution

<table>
<thead>
<tr>
<th>Call</th>
<th>LS</th>
<th>PE</th>
<th>SH</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>StG</td>
<td>14</td>
<td>16</td>
<td>8</td>
<td>38</td>
</tr>
<tr>
<td>CoG</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>18</td>
</tr>
<tr>
<td>AdG</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>27</td>
<td>16</td>
<td>66</td>
</tr>
</tbody>
</table>

ERC 2007-2016 calls + 2017 StG call, as of August 2017
Canada Participation (H2020) MSCA – (individual researchers)

H2020 Key facts and figures (2014-2020)

Number of CA researchers funded by MSCA: 127
EU budget awarded to CA organisations (EUR million): N/A
Number of CA organisations in MSCA: 46

In detail, the number of the organisation participations and the budget awarded to them, as well as the number of researcher mobilities involving these organisations:

<table>
<thead>
<tr>
<th>Action</th>
<th>Number of Participations of CA organisations*</th>
<th>EU contribution (in EUR million) to CA organisations</th>
<th>Number Of Projects</th>
<th>CA researchers involved</th>
<th>Researchers going to CA organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>COFUND</td>
<td>9 (9)</td>
<td>N/A</td>
<td>6</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>IF</td>
<td>35 (35)</td>
<td>N/A</td>
<td>35</td>
<td>64</td>
<td>35</td>
</tr>
<tr>
<td>ITN</td>
<td>23 (23)</td>
<td>N/A</td>
<td>21</td>
<td>38</td>
<td>0</td>
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<td>RISE</td>
<td>33 (33)</td>
<td>N/A</td>
<td>26</td>
<td>15</td>
<td>75</td>
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<tr>
<td>Total:</td>
<td>100 (100)**</td>
<td>N/A</td>
<td>88</td>
<td>127</td>
<td>110</td>
</tr>
</tbody>
</table>

* Number of Participations is the number of participations by organisations i.e. the total number of times that organisations in this country have participated in each action.
** In brackets - partner organisations (included in the total number).
Implementation in the work programme 2018-20

International cooperation is a cross-cutting priority

- **General opening of all topics for any 3rd country**
- **Targeted opening (Flagships)**
  - International partners mandatory
  - International partners encouraged
  - Joint or coordinated call
  - Project twinning
  - ...
Collaborative projects

CANADA Not automatically eligible for EU funding

Except if:

- Provision in the work programme *(NO)*
- Provision under a bilateral S&T agreement *(NO)*
- Commission deems participation essential for carrying out the action for example because it provides:
  - outstanding competence/expertise or access to research infrastructure
  - access to particular geographical environments
  - access to data
  - Other....
Examples of areas inviting Canada cooperation (Flagships) Work Programme 2018-2020

**Marine Arctic**
- Atlantic Alliance / G7 Future of Seas
- Cryosphere and risks

**Health**
- Human data – Flagship
- Digit. transformation heath & care

**Transport**
- Aviation – green and safe

**Migration**
- Refugee protection

**Nano Safety**
- Regulations
- Safe Design
• All Atlantic Ocean Research Alliance Flagship (BG-08-2018-19)
  64 M€ in 2018-19
  ➢ Co-ordinating Atlantic R&I CSA - 4 M€
  ➢ Ecosystems assessment RIA - 9 M€ (x 3-4)
  ➢ Aquaculture value chains RIA - 8 M€ (x 3-4)

• The Future of Seas and Oceans (BG-07-2019-20)
  18 M€ in 2019
  ➢ Blue Cloud IA, 6 M€
  ➢ Observations and forecasting IA, 12 M€
  ➢ Technologies (tbc 2020)
Opportunities for EU-Canada cooperation on Polar/Arctic research in H2020 SC5

Areas:
- Climate Action and polar research
- Earth Observation

Topics proposed for the SC5 WP 2018-2020:
- **2018: Knowledge Gaps**
  Climate processes, Tipping points, Ice-core drilling in East Antarctica
- **2019: Cryosphere**
  Sea-level changes, Arctic biodiversity, Sustainable opportunities in the changing Arctic, Arctic standards
SC1-BHC-05-2018: International flagship collaboration with Canada for human data storage, integration and sharing to enable personalised medicine approaches (40 € million)

Scope:

- Build a collaboration of stakeholders in Europe and Canada in the domain of repositories storing and sharing human "omics" data.
- Enhance and standardise data deposition, curation and exchange procedures to ensure better data reuse.
- Build on the data quality metrics, standards and access policies, and existing research infrastructures such as -omics repositories, biobanks and registries developed by major international initiatives (e.g., IHEC, ICGC, IHMC, MME).

# The proposals shall include at least one participant from Canada
# RIA, EU contribution EUR 4-6 million
# Deadline 18 April 2018
Aviation international co-operation

MULTILATERAL FLAGSHIP (more scale, more impact)
"Safer and Greener Aviation in a smaller world"

- Co-participation by several international partners
- Co-funding = each-side-pays-its-participants
- Co-evaluation in Brussels, peer review from all sides

Canada is explicitly encouraged in two major topics of the flagship:

- **Topic MG-2-5-2018**: SAFER (16 M€): Icing and certification
- **Topic LC-MG-1-7-2019**: GREENER (15 M€): Hybrid-Electric aircraft

Participation also possible in the other topic even if not explicit yet e.g.

- **Topic (tbd) MG-3-05-2020**: FASTER (tbc M€): High-speed aviation demo

All work-programme topics open, some encouraged internationally at large e.g.:

- **Topic MG-2-1-2018**: Human factors in Transport Safety (e.g. piloting).
MIGRATION-07-2019: International protection of refugees in a comparative perspective

• Emerging international protection system
• EU arrangements with refugees' origin and transit countries
• Comparative assessment of existing legal responses to protection needs
• Protection of vulnerable groups from abuse and exploitation, violence and discrimination
• International cooperation in particular with Canada, Brazil, South Africa and Jordan
• Inclusion of relevant international organisations

RIA
(3 x 3 mio EUR)

Impact:
• Evaluation of process, discourses and outcomes of the planned compact on refugees
• Strategies for implementing global refugee compact identified
• Process of EU common asylum system strengthened
"Global" Nano-Safety:

Call in 2018 28 million € funding

EU-Canada Collaboration is strongly encouraged and all projects are expected to collaborate also with similar projects under the Communities of Research of the US National Nanotechnology Initiative
Success story EU-US cooperation project - Atlantic

An integrated observing system for the Atlantic Ocean

Buoys, floats, moorings and research vessels, to name just a few examples - data about the state of the Atlantic is collected by a number of means. And by a profusion of actors, who could jointly produce even better results if they applied a common strategy. EU-funded researchers are driving the development of an integrated system.

Project details

Project acronym: AtlantOS

Participants: Germany (Coordinator), UK, Ireland, Denmark, France, Poland, Norway, Spain, Portugal, Netherlands, Faroe Islands, Belgium, Italy, Croatia, Canada, Brazil, United States, South Africa

Total costs: € 20 652 921

EU contribution: € 20 652 921

Duration: April 2015 to June 2019
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Interested to know more?

Useful links:

http://ec.europa.eu/research/index.cfm


Thank you!

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