

A large orange dandelion seed head is on the left, with several seeds floating away. A large blue question mark is on the right.

# *Does #OpenScience matter at proposal evaluation*

*Ivo GRIGOROV & FOSTER Partners*

*Based on: Winning Horizon 2020 with Open Science,  
<http://dx.doi.org/10.5281/zenodo.12247>*

*[www.fosteropenscience.eu](http://www.fosteropenscience.eu)*

# Try to meet Future Needs ?

## Winning Horizon2020 with Open Science?

Developed jointly between  
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Innovation Union & Europe 2020 Initiative

### WHY Open Science in Horizon 2020?

Open Science (OS) offers researchers tools and workflows for transparency, reproducibility, dissemination and transfer of new knowledge. Ultimately, this can also have an impact on in research evaluation exercises, e.g. Research Excellence Framework (REF), set to demand greater 'societal impact' in future, rather than just research output<sup>1</sup>. OS can also be an effective tool for research managers to transfer knowledge to society, and optimize the use and re-use by unforeseen collaborators. For funders, OS offers a better return on investment (ROI) for public funding, and underpins the EU Digital Agenda by measurably contributing to economic growth. This brief showcases why and how Open Science can optimize your Horizon 2020 proposal evaluation.

### Who is this "BRIEF" for?

This brief is developed through EC funding and specifically aimed at Horizon 2020 applicants and proposal writers seeking to comply with the Horizon 2020 Mandate (Grant Agreement article 29.1-6) and to optimize proposal evaluation and eventual societal impact of the resulting project.

### HOW to use the "BRIEF"?

The text is **NOT** intended to be used verbatim as copy and paste contribution to your proposal. Instead, the brief presents suggested ways of formulating an impact section that answers the overarching political agendas and initiatives, as well as tips for ensuring that research results are effectively delivered to any users and the market place, across the various Horizon 2020 Pillars. The main text is generic, but some discipline-specific examples are included as examples, rather than covering all research fields. The footnotes also point to additional resources that will facilitate implementation to optimize project visibility and impact.

<sup>1</sup> Weighting of research impact confirmed for 2014 Research Excellence Framework  
<http://www.hefce.ac.uk/news/newsarchive/2011/mesa2310.html>, 2011

### HOW to write "Section 2.2 IMPACT" A generic example

The Project consortium acknowledges that the research and new knowledge generated is of societal benefit, and could potentially contribute toward solutions of societal challenges. As such, the foreground knowledge needs to be disseminated in an optimum way for impact and re-use of results, according to Responsible Research & Innovation (RRI) principles<sup>14</sup>.

Currently only 50% of research is freely accessible to the public<sup>15</sup>, resulting in measurable loss to the knowledge-based SME sector and slowing down innovation<sup>16</sup>. The Project consortium will thus optimize on the dissemination and impact of foreground along the full knowledge production chain, and integrate Open Science principles in its Dissemination & Communication Strategy.

In support of the EC Digital Agenda<sup>17</sup> and the Economic Growth agenda of the Innovation Union (Green Action Plan<sup>18</sup>), the consortium will fully integrate Grant Agreement Article 29 into its workflow at task level. Foreground data (state diversity of data generated) will be permanently archived at generation in STATE REPOSITORY<sup>19</sup> and publicly released and/or published<sup>20</sup> (with the exception of Third Party data, national security data, medical/patient data) during the lifetime of the project<sup>21</sup>.

Software code, tools and interfaces developed as part of the concept will be open source code and full access provided via STATE REPOSITORY<sup>22</sup>. Resulting research publications (refer to tasks/WP most likely to publish) will also be made openly available via e-infrastructure OpenAIRE<sup>23</sup> (DG CONNECT; request letters of support), predominantly relying on the Green Open Access strategy (self-archiving) for maximum return on investment for project and funder, and actively linked to underlying data objects, in support of the EC Open Data Pilot<sup>24</sup>.

For longevity of knowledge transfer and best practice uptake beyond the project lifetime, The Project will cooperate with concurrent training initiatives within FP7 FOSTER<sup>25</sup> (DG Research) and OpenAIRE+, and incorporate Open Science training in any summers schools and research training workshops, to assure that the strategy is adopted by the next generation of young researchers (refer to WP7/Tasks dealing with this).

Focus will be placed on demonstrating that Open Science and RRI are not only for societal and community benefit, but also directly support the career needs for impact, visibility and multiplying collaborations for individual researchers. Aiming the societal and research impact of knowledge generation can in the long-term bridge the gap between science and society.

<sup>14</sup> EC Responsible Research & Innovation [http://ec.europa.eu/research/science-society/document\\_library/pdf\\_06/responsible\\_research\\_and\\_innovation\\_en.pdf](http://ec.europa.eu/research/science-society/document_library/pdf_06/responsible_research_and_innovation_en.pdf)

<sup>15</sup> Archambault, E. et al. 2013. Proposition of OA Peer-Reviewed Papers at the European & World Levels 2004-2011 at [http://www.science-metrics.com/pdf/SM\\_EC\\_OA\\_Availability\\_2004-2011.pdf](http://www.science-metrics.com/pdf/SM_EC_OA_Availability_2004-2011.pdf)

<sup>16</sup> Houghton, J., Swan, A., Brown, S., 2011. Access to research and technical information in Denmark [WWW Document]. URL: [http://www.delft.nl/uk/uk/media/Access\\_to\\_Research\\_and\\_Technical\\_Information\\_in\\_Denmark.pdf](http://www.delft.nl/uk/uk/media/Access_to_Research_and_Technical_Information_in_Denmark.pdf)

<sup>17</sup> EC Digital Agenda & Access to Knowledge <http://ec.europa.eu/digital-agenda/en/open-access-scientific-knowledge>

<sup>18</sup> EC Green Action Plan for SMEs <http://ec.europa.eu/DocsRoom/documents/4700/attachments/1/translations/en/translations/native>

<sup>19</sup> Choose a discipline-specific journal Data Repository from <http://www.n2i.nl/en>

<sup>20</sup> Choose likely Data Journals of relevance, e.g. Nature Scientific Data, or search <http://doi.org>

<sup>21</sup> NRI: embargoes can be placed to allow project to publish/exploit first, but consortium should aim for full release by end of contract, or itself if who access needs to be restricted (publications may not be viewed favourably at review)

<sup>22</sup> Choose a structured archive with minimum metadata requirements to allow maximum re-use, e.g. GitHub, SourceForge, etc.

<sup>23</sup> EC FP7 and Horizon2020 funded e-Infrastructure <https://www.openaire.eu> in support of EC Digital Agenda

<sup>24</sup> EC Open Data Pilot [http://ec.europa.eu/rapid/press-release\\_IP-13-1127\\_en.htm](http://ec.europa.eu/rapid/press-release_IP-13-1127_en.htm)

<sup>25</sup> FP7 FOSTER, Facilitating Open Science in European Research ([www.fosteropen-science.eu](http://www.fosteropen-science.eu))



[www.fosteropen-science.eu](http://www.fosteropen-science.eu)

[www.openaire.eu](http://www.openaire.eu)

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### ***Testing Brief impact on Evaluation Process:***

The brief was tested with applicants of  
Horizon 2020, Pillar 1 Excellence:

H2020-MSCA-ITN-2014 (3 consortia in Marine & Nanotech  
research)

Horizon 2020, Pillar 3 Societal Challenges, SC-2

- Call BG-1-2015 Improving the preservation and sustainable  
exploitation of Atlantic marine ecosystems,  
<https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/542-bg-01-2015.html> (1 consortium);

- Call BG-2-2015 Forecasting and anticipating effects of climate  
change on fisheries and aquaculture,  
<https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/543-bg-02-2015.html> (2 consortia);

- Call EINFRA-1-2014 Managing, preserving and computing with big  
research data (that lead to succesful funding of EGI-ENGAGE  
<https://www.egi.eu/about/egi-engage/>),  
<https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/335-einfra-1-2014.html> (1 consortium).

Winning Horizon  
with  
Open Science

*Source: quotes from EC Evaluators 2014-2017*

*Excellence*

*Impact*

*Implementation*

## *Source: quotes from EC Evaluators 2014-2017*

*“Open Science is applied to optimise reproducibility”*

# *Excellence*

# *Impact*

*“research software is freely available”*

*“Decision Support System (with open code) available to a wide, but targeted audience”*

*“not enough information on data management or IPR”*

*“data accessibility is unclear!”*

*“data storage & access not considered”*

# *Implementation*

# What did Graduate Schools request on Open Science Skills ?

*Source: Soft skills for Hard Impact: A roadmap for including Open Science in post-graduate training curricula, FOSTER Consortium 2017*



## Open Science: Engaging Finland's Doctoral Schools

20 October 2014

Ministry of Education and Culture, Ivo Grigorov (FOSTER)  
Biomedicum Helsinki Haartmaninkatu 8

**Engaging Finland's Doctoral Schools, 20 Oct 2014**



## FOSTER-UNESCO Open Science for Doctoral Schools

23-24 April 2015

Bhanu Neupane (UNESCO), Joy Davidson (DCC), Nancy Pontika (OU) Ivo Grigorov (FOSTER)

1 rue Miollis, 75015 Paris, France

**FOSTER-UNESCO Open Science for Doctoral Schools, 24-25 Apr 2015**



## Future of the Doctorate

28 May 2015

EC MSCA Office

and events of opportunity:  
**MSCA Event Future of the Doctorate, 28-29 May 2015,**

# *What did Graduate Schools request on Open Science Skills ?*

*Source: Soft skills for Hard Impact: A roadmap for including Open Science in post-graduate training curricula, FOSTER Consortium 2017*

- training must be linked to career path,
- compliment existing training,
- *Modular courses* (OA, OD, OSoftware) that can fit different curricula structures but also *allow self-learning*,
- Open Science Tools (i.e. Virtual Research Environments)