



# The Future of Open Science

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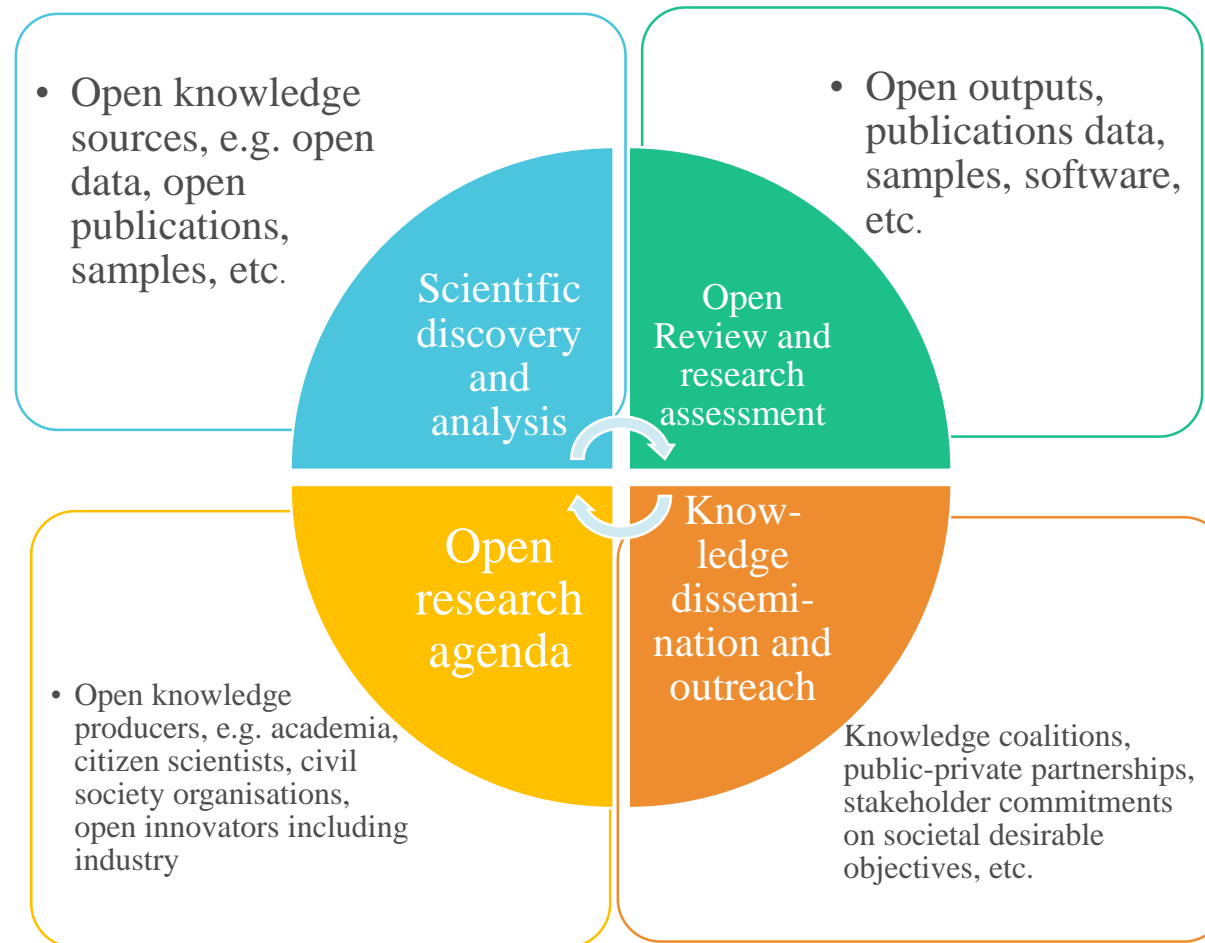
# The Rationale of Open Science

Open scholarship is defined as (Von Schomberg, 2019, In International Handbook on Responsible Innovation. A Global Resource):

“sharing knowledge and data as early as possible in the research process in open collaboration with all relevant knowledge actors”

Implications: openness to knowledge sources and knowledge actors

# Open Research and Scholarship: sharing knowledge/data as early as possible with all knowledge actors (Von Schomberg, 2019)



Open Science is making science more efficient, reliable and responsive to societal challenges : Why not apply to all SDG's

# Practising Open Science: the career dilemma

Imagine you have great research results, none in the scientific community is aware of it

Is it a good idea to share these results widely?

YES!

Are you going to do it?

NO!

# Changing the rewards and incentives system

## • Practising Closed Science

- Establishing individual Prestige
- Focus/motivation on scientific frontiers, new and sexy results
- Endurance and good luck: 7 percent of Nature submissions are published
- Citations: please wait
- Mobility: want to go to Princeton?

## Practising Open Science

Establishing a network, communicate and collaborate

Focus- Motivation on societal impact: contribute to societal challenges and socially desirable outputs (SDGs etc.)

Share and publish early in open access or Facebook for scientists (Zenodo, Researchgate etc.)

Swifter and higher citation rate

Mobility: want to engage in networks(open science at Princeton)

Open science can be a necessity: data-intensive science (see HGP)

# Towards a new *modus operandi* for Science:



Current System (dominant)		Open Research and Scholarship	
Rewarding individual competing scientists - gaining scientific prestige		Rewarding collaboration and sharing to achieve societal impact (e.g. Covid-19)	
Publish as much and as fast as possible: ( <i>publish or perish!</i> )		Share knowledge/data as early as possible in open collaboration : <i>collaborate or have no impact!</i>	
Excellence as a self-referential criterion		Relative contribution to research missions with a focus on a societal challenge: <i>collaborate with open research agenda's or have no social desirable impact!</i>	
Incentivises researchers to <i>produce specific outputs</i> (mainly publications)	Use of quantitative metrics to 'measure' quality and productivity	Incentivises researchers to <i>conduct particular research behaviour</i> : share knowledge/data, collaborate, transnational, transdisciplinary, with all knowledge actors	Relative contribution to a research mission-qualitative assessment of <i>research behaviour</i>



# Changing the Reward and Incentives System

Recommendations made by the Open Science Policy Platform (OSPP) in their final report May 2020, to the European Commission

*OSPP Consists of 25 stakeholders at the EU Level, among which, 5 University Organisations, Research Library organisations, Academic Societies, Open Science Platforms, Publishers, Citizen Science Organisations*



# OSPP recommendation on Rewards and Incentives System

‘An academic career structure that rewards a broad range of outputs, practices and behaviours to maximise contributions to a shared research knowledge system’

*SET UP Of an Open Registry with Pilots.*

*In discussion with the OSPP, the Research Data Alliance has committed to spearhead a new collaborative platform to share both the intention and outcomes of pilots and other initiatives taken by different actors that specifically address the academic reward system*



REC 1	REC2	REC 3	REC 4
<p><b>Evaluations of individual researchers or of research groups should not use journal brand or Impact Factor as a proxy for research quality. (...)</b></p>	<p><b>Quantitative and qualitative indicators need to be identified and developed for research assessment that captures the full range of contributions to the knowledge system. These should reflect the complexity and varied context of the research environment, the specific characteristics of the research being undertaken, as well as the new kinds of questions and results that might emerge in an open system.</b></p>	<p><b>All researchers need to be identified through an ORCID ID. (.....)</b></p> <p><b>The career narrative should be central to the evaluation of individual researchers as it provides the crucial context in which indicators can be interpreted.</b></p>	<p><b>The data, metadata and methods that are relevant to research evaluation, including but not limited to citations, downloads and other potential indicators of academic re-use, should be publicly available for independent scrutiny and analysis by researchers, institutions, funders and other stakeholders.</b></p>

# Evolution of our policies across the FPs

## **FP7 OA Pilot-2008**

Deposit and open access

## **H2020-2014**

OA Mandatory  
Deposit and open access

& ORD/DMP Pilot

## **H2020-2017**

OA Mandatory  
Deposit and open access

& ORD/DMP by default  
(exceptions)

## **Horizon Europe-2021**

OA Mandatory  
Deposit and open access

DMP in line with  
FAIR Mandatory

OD by default  
(exceptions)



# Open science in Horizon Europe – Approach and modalities\*

## FP Art. 10 - Open Science

- Open access to scientific publications resulting from HE funded research to be ensured  
Open access to research data including those underlying scientific publications to be ensured in line with principle 'as open as possible, as closed as necessary'
- Principle of reciprocity in open science to be promoted and encouraged in all association and cooperation agreements with third countries
- Responsible research data management to be ensured in line with FAIR principles; attention also to long-term data preservation
- Other open science practices to be promoted and encouraged, including for benefit of SMEs

## FP Art. 32 – Eligible costs

- Costs related to open access including data management plans shall be eligible for reimbursement as further stipulated in the grant agreement

## FP Art. 35 - Exploitation and Dissemination

- Beneficiaries to ensure that open access to scientific publications applies under grant agreement terms, including *retaining sufficient IPRs*  
Open access to research data as general rule, *with possible exceptions* following principle 'as open as possible, as closed as necessary' [including commercial exploitation, data protection rules, privacy, confidentiality, trade secrets, Union competitive interests, security rules, IPRs]  
WP *may incentivize/oblige* to adhere to open science practices
- Beneficiaries to manage all research data [generated in a HE action] in line with FAIR principles and in accordance with grant agreement terms and *shall establish a Data Management Plan*
- WP *may oblige* to use the European Open Science Cloud for storing and giving access to research data

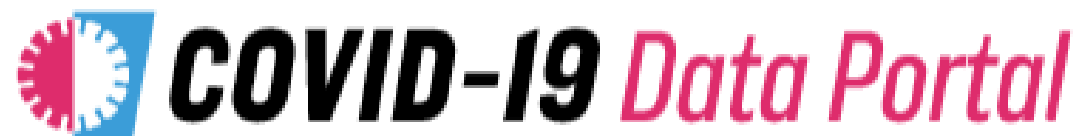
\* European Parliament and Council common understanding March 2019



# President U. von der Leyen

World Economic Forum, Davos, 20 April 2020

**"The platform is an important part in the building of the European Open Science Cloud."**



The Platform will enable the rapid collection and comprehensive data sharing of available research data from different sources for the European and global research communities. This joint effort is a priority pilot to realise the objectives of the European Open Science Cloud (EOSC).

Press release: [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_20\\_680](https://ec.europa.eu/commission/presscorner/detail/en/ip_20_680)

Video: <https://audiovisual.ec.europa.eu/en/topnews/M-004711>

European COVID-19 Research Data Platform: <https://www.covid19dataportal.org/>



# Communication on European Research Area:

## 14 Actions

### Action 9:

Launch a platform of peer-reviewed open access publishing and incentivise open science practices by improving the research assessment system

Action 12: Develop concrete plans with MS to promote gender equality, diversity and inclusiveness in science, research and innovation

Action 13: Organise citizen campaigns (..) to engage citizens(..)<sup>14</sup> in Science and innovation



Coming Soon to your Theatre:

Practise Open Science

*Or don't receive public funding of your research*

# Thank you!



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