



# **Transition towards an Open Science system: from vision to action**

**Patrick Brenier**

**European Commission, DG RTD unit A6**

**Open Science in the ERA, Ljubljana, 17 November 2016**

# European Open Science agenda

- 1. Why do we need it?***
- 2. What is the substance?***
- 3. How to implement it?***
- 4. Where are we?***

# Why?

*Open Science has the potential to increase the quality, impact and benefits of science (...) by making it more reliable, more efficient and accurate, better understandable by society and responsive to societal challenges (COMPET, 27.5.2016)*

## **... 2014 public consultation & stakeholders views**

- ✓ Growing but uneven awareness of transition at stake
- ✓ Strong expected impacts
- ✓ Clear expectations on EU role

## **... 2015 report & draft Open Science agenda**

## **... 2016 Council conclusions on Open Science**

# What? - an ambitious set-up...

## ... evidence-supported and concrete

- ✓ 5 broad policy action lines
- ✓ 8 top-level ambitions to be realised by 2020
- ✓ New governance mechanism ensuring strong stakeholder involvement in preparation, implementation and take-up

## What? - 5 broad policy action lines...

**... originating in public consultation, validated by stakeholders incl. MS and endorsed in DSM**

- ✓ Fostering and creating incentives for open science
- ✓ Removing barriers for open science
- ✓ Mainstreaming and further promoting open access policies
- ✓ Developing an open science cloud
- ✓ Embedding open science in society to make science more responsive to societal and economic expectations

# What? - 8 top level ambitions

## ... 4 with regard to the use & management of research results and data

- ✓ **Open Data:** FAIR data sharing is the default for funding scientific research
- ✓ **Science cloud:** All EU researchers are able to deposit, access and analyse European scientific data through the open science cloud, without leaving their desk
- ✓ **Altmetrics:** The role of alternative metrics in replacing/complementing conventional indicators for research quality and impact (e.g. Journal Impact Factors and citations)
- ✓ **Changing business models for scientific publishing:** All peer reviewed scientific publications are freely accessible

# What?

## ... 4 with regard to relations with research actors (researchers, institutions and funders)

- ✓ **Rewards:** The European research career evaluation system fully acknowledges Open Science activities
- ✓ **Research Integrity:** All publically funded research in the EU adheres to commonly agreed Open Science Standards of Research Integrity
- ✓ **Education and skills:** All young scientists in Europe have the necessary skills and support to apply Open Science research routines and practices
- ✓ **Citizen Science:** Citizen scientists significantly contribute and are recognised as valid knowledge producers of European science

# What? actions in policy agenda

## Foster Open Science

- ✓ *Explore how to change the ways of doing science, including through training & awareness raising*
- ✓ *Support to open science policy platform*
- **Set up of Open Science Policy Platform**
- **Raise awareness**
- **Launch a European Open Science Monitor (current pilot)**
- **Promote & spread best practices (e.g. incentives & rewards)**
- **Develop a European code of conduct for research integrity**



# What? actions in policy agenda

## Remove barriers

- ✓ *Remove unnecessary legal, organisational and financial barriers to access results of publically funded research*
- ✓ *Broaden scientific quality assessment to societal impact*
- ✓ *Allow public interest research organisations to carry out TDM*
- **Develop 'alternative' metrics**
- **Address low open data-skills amongst researchers**
- **European Copyright and Data Protection revisions: foresee appropriate exceptions (e.g. allowing TDM by public interest research organisations)**
- **Citizen Science: allow citizen to take part**

# What? actions in policy agenda

## Mainstream OA to publications and data

- ✓ *Engage with third countries to accelerate transition and ensure mutual benefits*
  - ✓ *Improve quality assurance in review and evaluation systems*
  - ✓ *Researchers to retain copyright on their work based on licencing models eg CC*
  - ✓ *Transition by 2020 to immediate OA as the default, with as short as possible embargoes, and based on common principles*
  - ✓ *Optimal reuse of research data, data stewardship and DMPs on the basis of FAIR principles*
- **Extend H2020 Data pilot on ORD as of 2017, to make Open Data and DMPs the 'default option (still with opt-outs)**
  - **Encourage MS to do the same**
  - **Review 2012 Recommendation on access/preservation of scientific results and develop guidelines on pending issues (e.g. embargoes, transparency, IPR issues, skills, funding of data management)**

# What? actions in policy agenda

## Develop research infrastructures for Open Science

- ✓ *Collaborate on an internationally accepted system for data citation*
- ✓ *Acknowledge the benefits of a European Open Science Cloud, based on appropriate governance and funding frameworks*
- **European Open Science Cloud for data, protocols and methodologies**  
*(Communication of the EC, April 2016)*
- **Governance** to coordinate funding, maintenance and ensure interoperability
- **Funding:** Business models for long term-sustainability
- **Interoperability:** Develop/promote common interfaces and data standards  
(operationalise FAIR principles)

# What? actions in policy agenda

## Embed open science in society, e.g.

- **Address Societal Challenges by considering launching Joint Open Science Initiatives with Member States**
- **Citizen Science: allow citizen to co-steer/shape**

# How? the Open Science Policy Platform

Stakeholder-driven mechanism to bring up and address issues  
Commission advisory body, providing policy recommendations

**Aim:** to help further develop and implement open science policy

- ❑ support policy formulation: help identify the issues to be addressed and provide recommendations on policy actions required
- ❑ support policy implementation: review best practices, draw policy guidelines and foster uptake by stakeholders

**Based on** European Open Science Agenda & Amsterdam Call for Action:  
*publishing models, FAIR open data, science cloud, evaluation systems (altmetrics), rewards and career systems, skills, CS, research integrity*

**Who?** High-level representatives of European branch stakeholders  
*with a balance between different stakeholders*



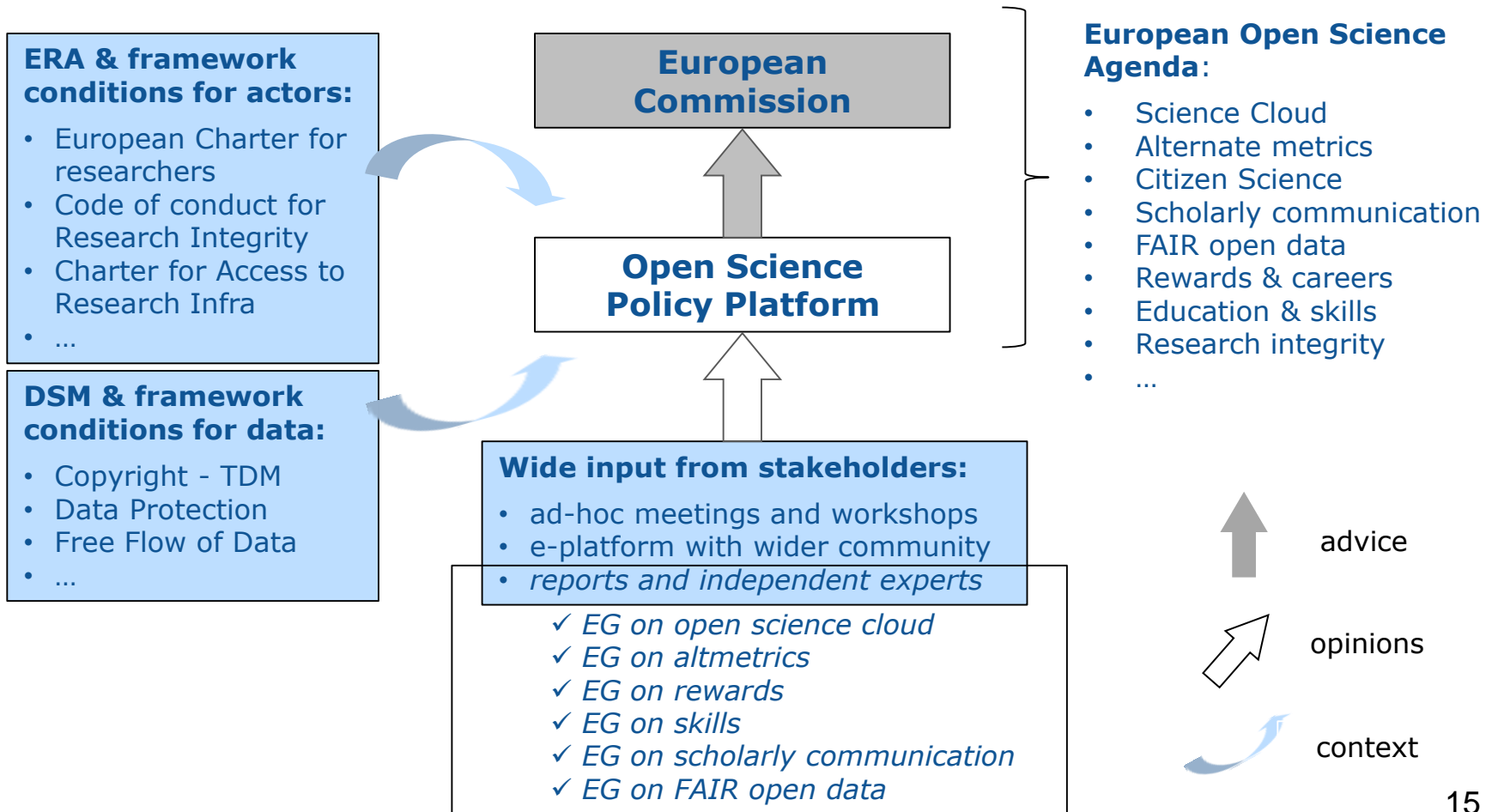
# Open Science Policy Platform: Members

## 25 Members from 8 Stakeholder Groups

- Universities: (EUA, LERU, CEASAR, ACEU, YERUN)
- Research Organisations: (EARTO, EMBO, EU-LIFE, ENoLL)
- Academies/Learned Societies: (EPS, EUCHEMS, YEAR, GYA)
- Funding Organisations: Science Europe
- Citizen Science Organisations: ECSA
- Publishers: STM, OASPA
- Open Science intermediaries: RDA, F1000, OpenAIRE, EGI,
- DARIAH, GEANT, Business Europe
- Libraries: LIBER

Details: <https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform>

# How? co-shaping with stakeholders



# How? the Open Science Policy Platform

## ✓ Working method:

- Advice & adopt **opinions** to EC on reports/cross-cutting issues
- Identify & recommend **best practice** for uptake by stakeholders

## ✓ Work plan:

- 1<sup>st</sup> meeting (19 Sept 2016): kick-off
- 2<sup>nd</sup> meeting (9 Dec 2016) : science cloud, citizen science
- 3<sup>rd</sup> meeting (20 March 2017): altmetrics
- 4<sup>th</sup> meeting (? October 2017): ...



## Where? – main milestones

- ✓ Open Science monitor (2016 pilot → 2017 operational)
- ✓ Gradual set-up of independent advisory structure:
  - European Open Science Cloud (2016)
  - Altmetrics(2016)
  - Rewards(2016)
  - Skills(2016)
  - *FAIR open data (2017)*
  - *Scholarly communication (2017)*
- ✓ Amsterdam Call for Action (April 2016)
- ✓ 'European Cloud Initiative' Communication (April 2016)
- ✓ Council conclusions on Open Science (27 May 2016)
- ✓ OSPP: 27 May → 19 Sept → 9 Dec → 20 March '17

**Thank you!**

**More information at**

**<http://ec.europa.eu/research/openscience>**