



## **Obstacles to Open Science and how they can be overcome**

1. Does Open 'Science' exist?
2. Learning to walk...
3. ...Before you can run
4. Open Science - Open Risk?
5. Suffocating Knowledge
6. Open Culture, not Science

# Does Open '*Science*' exist?

- Different disciplines relate to Openness in different ways
- Need to challenge ourselves as we engage in interdisciplinarity
- Encourage different subjects to use openness in new ways – e.g. citizen science

# Learning to Walk...

Model of Sharing: how do you recognise Intellectual Property? How do you ensure rigorous application of research ethics?

- Open Science Policy Platform
  - Training (of researchers, of the public); Transferrable Skills Training of PhD programmes (...)
  - New ways of teaching students (and learning from them....)
- ✧ How do you bring together Research and Education, Employment and Skills?

## ...Before you can Run

- Some very good progress being made e.g. on Open Science Cloud, e-infrastructures, etc.
  - Part of European Research Area (ERA) or deflecting from it?
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- ✓ Need to retain focus: ERA, Open Science...Open Innovation
  - ✓ infrastructure is the easy part – the challenge is how we use it – and what kind of sharing the Cloud will allow

# Open Science – Open Risk

- Careers and Promotions (including early researchers)
- How are we evaluating excellence based on sharing?
- How does a peer review system in disciplines where Open Science is not the norm recognise quality in Open Science? ERC panels? H2020 peer review?

# Suffocating Knowledge

We must break Oligopoly of publishing houses, overcoming self-interest of :

- ✓ Scholarly Societies
- ✓ Academics
- ✓ Economics Ministries/Publishers
- ✓ University Presses

➤ Co-ordinated support from the Commission, supporting research and innovation



# Open Cultures...

- Cultures of engagement, cultures of practice
- Cultures of working, and of knowing
- Cultures of engaging ('closed' and 'open' science)
- Cultures of institutions
- Cultures of challenge (not all openness is good....)



Thank You!

