



# ***New Skills in Doctoral Education and Research Training***

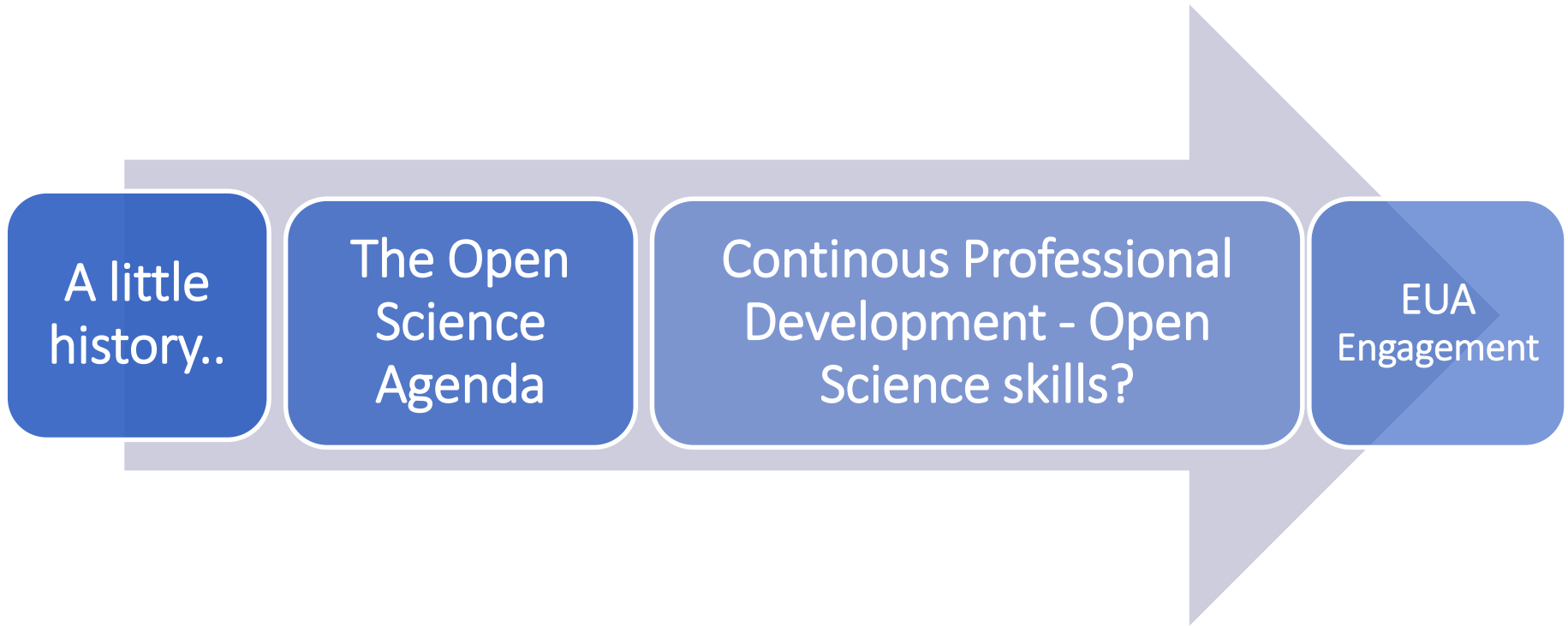
**'Future challenges concerning rewarding qualifications and researchers' careers'**

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**Research & Innovation**

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# A little history.....European Research Area

(Article 179 of the Treaty)

- *"in which, researchers, scientific knowledge and technology will circulate freely"*
- *ERA priority 3 - An open labour market for researchers" - improve international, inter-sectoral and inter-disciplinary mobility between public and private sector research bodies in both directions and at all career stages*

# What has been put in place so far?

- ✓ *Charter & Code, HR Strategy 4 Researchers (HRS4R)*
- ✓ *Innovative Doctoral Training Principles (IDTP)*
- ✓ *Open, transparent, merit-based recruitment (OTM-R)*
- ✓ *Pensions (RESAVER)*
- ✓ *EURAXESS portal for researchers to get in motion*
  
- ✓ *New Skills Agenda 2016*
- ✓ *Bratislava Declaration on Young Scientists 2016*
- ✓ *Modernised Higher Education Agenda 2017*

<https://euraxess.ec.europa.eu/>

# Continuing Professional Development - European Charter for Researchers

*"Researchers at all career stages should seek to continually improve themselves by regularly updating and expanding their skills and competencies.*

*This may be achieved by a variety of means including, but not restricted to, formal training, workshops, conferences and e-learning".*

## Links with other EU policy initiatives

- **'A New Skills Agenda for Europe' (June 2016) :**
  - *Improving the quality and relevance of skills formation*
  - *Making skills and qualifications more visible and comparable*
  - *Improving skills intelligence and information for better career choices*
- **'The renewed agenda for higher education' (May 2017) :**
  - *Tackling future skills mismatches and promoting excellence in skills development*
  - *Building inclusive and connected higher education systems*
  - *Ensuring higher education institutions contribute to innovation*
  - *Supporting effective and efficient higher education systems*

## The three O's:

- *Open Innovation* – "Helping Europe to capitalise on the results of R&I and create shared economic and social value by bringing more actors into the innovation process, boosting investment, maximising the impact of innovation and creating the right innovation ecosystem"
- *Open Science* - "Supporting new ways of doing research and diffusing knowledge by using digital technologies and new collaborative tools, to ensure excellent science and open access to data and results and help Europe benefit from digitisation to drive innovation"
- *Open to the World* - "Fostering international cooperation to access and attract global excellence and to make the EU's strengths in R&I help tackle global societal challenges effectively, to create business opportunities in new and emerging markets, and enhance external policy through science diplomacy"

# A new approach from the researcher's perspective

- *A systemic change to the way science is organised and research is carried out*
- *Based on cooperative work and new ways of diffusing and sharing knowledge, using digital technologies and new collaborative tools*
- *It affects virtually all components of doing science and research, from conceptual work to publishing, from empirical research to data-analysis.*
- *Shifting focus from "publishing as fast as possible" to "sharing knowledge as early as possible"*



# A major transition of the science system and the way...

1. *Research is performed (Digital Agenda, Open Science Agenda)*
2. *Knowledge, data is shared/preserved (FAIR, Open data, EOSC)*
3. *Research is evaluated (Interim evaluation H2020, open review)*
4. *Research is funded (H2020 pilots, future FP9)*
5. *Researchers are rewarded (WG Altmatrix, Incentives & Rewards)*
6. *Researchers are educated (Open Education, the Modernisation agenda R1 – R2)*
7. *Professional development of researchers is organised (WG Education & Skills R1 – R4)*

# Open Science Agenda: key areas

1. Reward systems
2. Measuring quality and impact: altmetrics
3. Changing business models for publishing
4. FAIR open data
5. Open Science Cloud
6. Research integrity
7. Citizen Science
8. Open education and skills

# Open Science Education & Skills Working Group driving force is ...

The general shortage of appropriate skills for Open Science in the researcher community. These skills cover a broad span from data management to legal aspects, and include also more technical skills, such as data stewardship, data protection, scholarly communication and dissemination (including creating metadata).

It is critical to ensure that researchers at all levels are equipped with the right skills to fully engage with Open Science.

Middle and senior career researchers (you) need to take leadership and act as catalysts to change the culture, mind-sets of doing research.

# EU ambitions by 2020...for data

- ✓ **Open Data:** FAIR (*Findable, Accessible, Interoperable, and Re-usable*) 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:** Alternative metrics replaces/complements conventional indicators for research quality and impact (*e.g. High Impact Factor Journals and citations*)
- ✓ **Future of scholarly communication:** All peer reviewed scientific publications are freely accessible

# EU ambitions by 2020...for actors

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

# Some preliminary results of the WG Skills survey (N=1277 EURODOC mostly)

- Many researchers store their data in more than one place: most often on their work computer (65%); on an external hard drive or USB drive (61%) or on their private computer (55%).
- 35% of the responders have not used a Data Management Plan (DMP) but would like to; on the other hand 27% do not know what a DMP is.
- Almost 63% of researchers grant access to their data to research project/group members and 92% find it important for maximising the visibility of research; 86% for providing free access to a wide audience and 86% for promoting the work of researchers.

# Some preliminary conclusions of the WG Skills

*Recommandations will be provided on how to synchronise and explore ways to build on European, national, regional, institutional and individual Open Science strategies and Open Science implementation tools improving...*

*...skills awareness, skills training, skills support, skills guidelines and skills sharing & evaluation, with the aim to improve the professional careers of researchers*

*WG Skills Report due online in July 2017*

# What are the EC next Steps?

## **2017**

- ✓ *European Open Science Cloud Implementation roadmap*
- ✓ *EOSC, rewards and skills training calls in WP H2020*
- ✓ *FAIR Action Plan*
- ✓ *S&T G7, G20 ministers Open Science statements*
- ✓ *OSPP meeting 13 October in Tallinn*

## **2018**

- ✓ *EC Open Science Communication*



# Open Science EUA engagement

- EUA represented in the OSPP, WG Rewards and Skills
- EUA CDE full engagement in Open Science activities
- EUA members engagement in Open Science pilots under H2020
- For further engagement check also

<https://euraxess.ec.europa.eu/> and  
<https://ec.europa.eu/research/openscience/index.cfm>



# Thank you

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