OPEN SCIENCE
Where do we go from here?

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OPEN SCIENCE – OPEN CULTURE

ORGANIZING OPEN SCIENCE

European Open Science Agenda

- Rewards and Incentives
- Research Indicators and Next-Generation Metrics
- Future of Scholarly Communication
- European Open Science Cloud
- FAIR Data
- Research Integrity
- Skills and Education
- Citizen Science

Taken from OSPP recommendations https://ec.europa.eu/research/openscience/pdf/integrated_advice_opspp_recommendations.pdf


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ORGANIZING OPEN SCIENCE

national coordinators and task forces for the implementation of Open Science.

2. Ensure the scholarly infrastructure in Europe is highly **interoperable** to enable the simple and open sharing of data and metadata between systems, disciplines and countries, and that credit for research contributions is given to all participants.

3. Ensure the HR Strategy for Researchers practices and FP9 evaluation reflect the principles required to effectively **embed a culture of Open Science at the institutional level**. These must involve research integrity (including the social, ethical and legal implications), researcher evaluation and the public availability of research outputs.

4. **Foster Open Science literacy** as essential to European competitiveness, together with other digital and information competencies. Member States need to secure support for the development of an accredited curriculum for Open Science skills training that fosters Open Science behaviours, from primary school through the whole educational system.

5. **Implement a Europe-wide campaign**, to raise awareness and communicate the benefits of Open Science among decision makers, research and education bodies, private sector, industrial and citizen organisations.

Working groups

WG Open Science strategy

The working group develops recommendations for an **Austrian Open Science strategy** with a focus on different target groups. The aim is a document of max. 5-6 pages, including an executive summary page based on the Vienna Principles, to be published in early 2019.

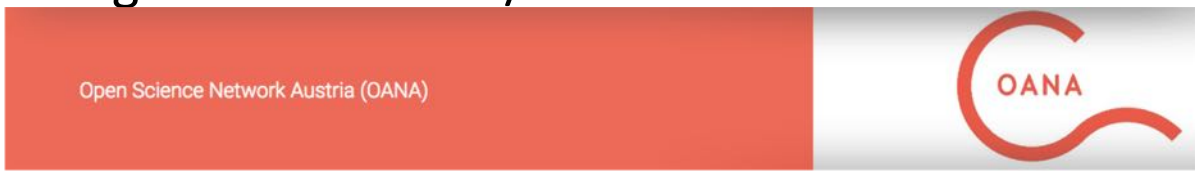
The document is expected to contain the following sections:
1) Preamble 2) What is Open Science? (Open Access, Open Research Data, Open Methodology including Open Source, Open Notebook, Open Evaluation, Citizen Science) 3) Frame conditions for the implementation of Open Science 4) Target groups (researchers, research institutions, funding bodies, politics)

Members: Georg Fessler, Anton Graschopf, Olivia Kaiser, Thomas König, Peter Kraker, Barbara Laner, Patrick Lehner, Michael Nentwich, Katharina Rieck, Peter Seitz, Daniel Spichtinger, Michalis Tzatzanis
Co-lead: Katja Mayer, Falk Reckling, Tony Ross-Hellauer

“National Coordination” for Open Science Transition

.... Different forms and objectives

- Coordinator appointed by ministry or stakeholder group
  - Brings together the relevant communities or manages community communication
  - Co-organizes task groups, discussions, leads negotiations and reports to government in terms of strategies and regulations
  - Puts forward recommendations to government and/or OS stakeholders
- ....
- Stakeholder network(s)
  - Self-organized and emerging from communities
  - Produce recommendations, guidelines, and trainings for the communities
  - Establish channels to policy and administration



“National Coordination” for Open Science Transition – Roles and functions

Transition means...

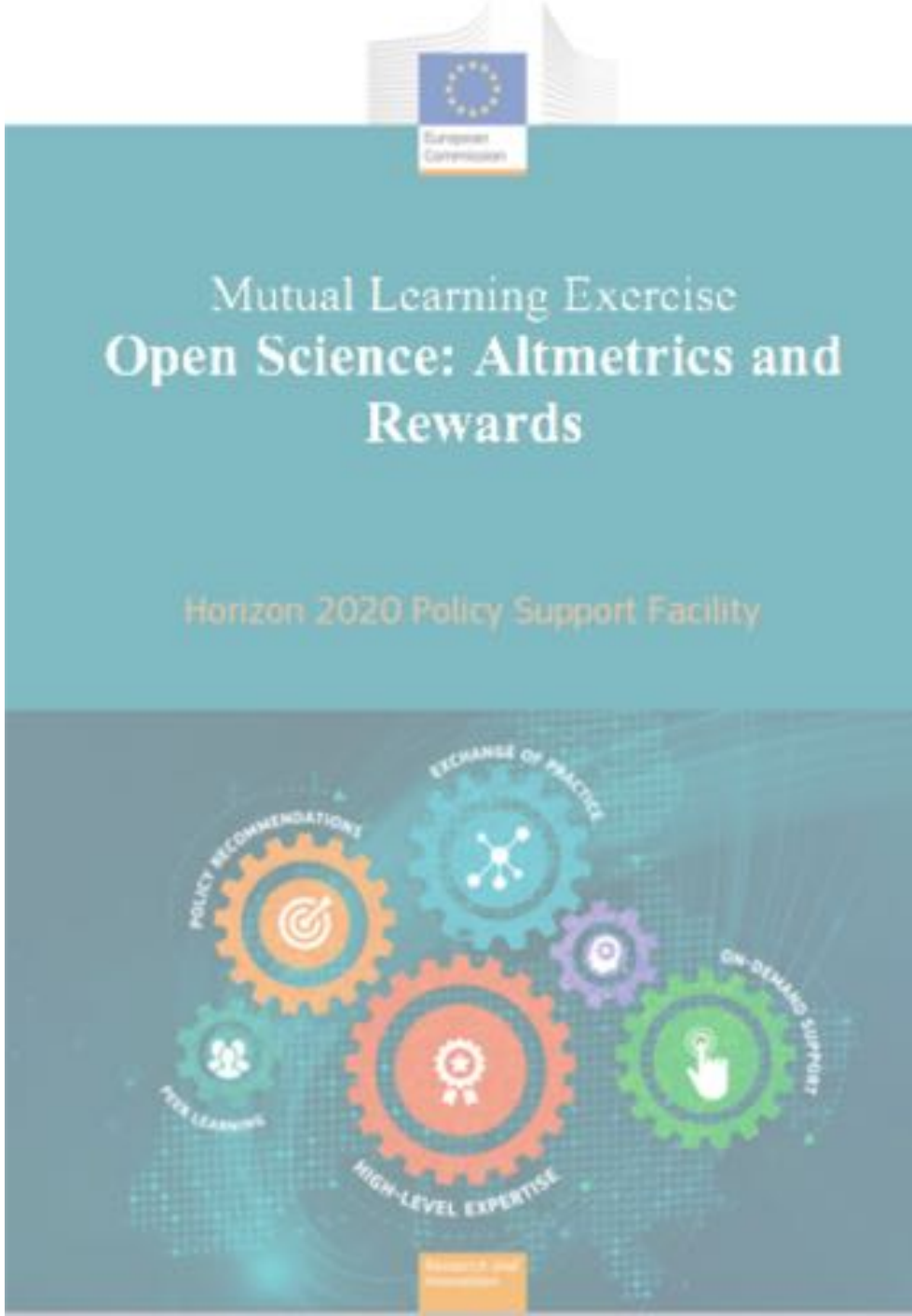
- Shifts in expertise and power
- Advocacy and community engagement (with long term goals) meet implementation (with short term missions)
- Implementation needs robust governance, procedures and monitoring

Coordinator/platform/network should care to

- Bring together the right mix of people (old/young, top/bottom, sci/fund/admin/tech/pol...)
- Make productive or balance long standing expertise and visions vs implementation and generate room for maneuver
- Develop different objectives for respective stakeholder groups
- Provide a strong voice for open scholarship and open infrastructure towards policy makers and RPO and HEI management
- Help to make best practices more visible and encourage role models

Goals of the Mutual Learning Exercise

1. Address challenges related to the implementation of Open Science
2. Identify good practices, lessons learned and success factors by analysis and discussion of member states' experiences
3. Promote policy learning from each other
4. Provide high level advice and assistance from external experts in fine-tuning or implementing change in the design of current policy system
5. Follow a modular approach with country visits, workshops, etc.



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RESEARCH & INNOVATION

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MLE on Open Science


Frank Miedema
Chair


Katja Mayer
Rapporteur and expert


Sabina Leonelli
Expert


Kim Holmberg
Expert

PSF Knowledge Centre: https://ec.europa.eu/h2020-policy-support-facility

Three topics:

1. The potential of altmetrics – alternative (i.e. non-traditional) metrics that go beyond citations of articles – to foster Open Science
2. Incentives and rewards for researchers to engage in Open Science activities
3. Guidelines for developing and implementing national policies for Open Science

https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-open-science-altmetrics-and-rewards

Thematic Reports of the MLE

Report 1: Overview of Altmetrics

- in use & in development
- by type
- by [participating] country
- benefits and challenges

Report 2: Altmetrics and Open Science

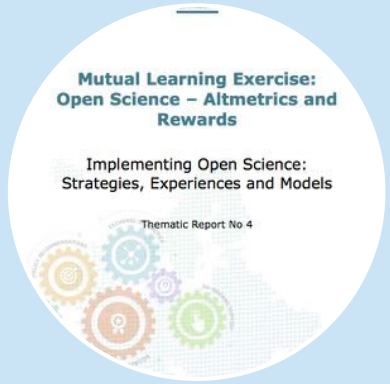
Altmetrics could:

- Broaden our understanding of impact
- Promote adoption of Open Science (OS)
- Contribute to the academic reward system

Report 3: Incentives and Rewards

Systematic overview of:

- advantages and challenges of supporting **OS** activities
- most effective incentives to encourage implementation of **OS** policies.
- (dis)advantages of each type of incentive



Report 4: National Roadmap for the Implementation of OS

- Outline priorities and principles underpinning **OS** at the national level
- Review of experiences in **OS** activities and related policies
- Summary of strategies, lessons learnt, and models proposed

https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-open-science-altmetrics-and-rewards

MLE Finding:
Model Roadmap for Open Science Implementation

Map	Plan	Incentivize	Promote	Support	Implement	Monitor
Identify key stakeholders and Open Science champions	Devise national strategy through consultation with stakeholders	Change reward system to incentivize all aspects of Open Science	Encourage critical and informed thinking	Participate in international initiatives	Implement strategy, starting from Open Access	Monitor and tackle emerging issues as they arise

https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-open-science-altmetrics-and-rewards

MLE findings: Altmetrics

WHAT MATTERS?

Altmetrics are not yet being used for research evaluation pu… …e based assessment.

…t is too early to use them …n making

…cience more visible and …ploited

…data sources – responsible next …have to build on open data sources

Methods are not yet open

More research is needed

Countries are encouraged to pool their experiences and study the benefits and challenges of altmetrics for research visibility, evaluation and opening science

https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-open-science-altmetrics-and-rewards

MLE findings: Incentives and Rewards

Enable a broad inclusive discussion on evaluation criteria and impact assessment – taking the opportunity to re-negotiate the role of publicly funded research and scholarship in society

Necessity to develop incentives for different stakeholders: researchers, research organisations, funders, national governments and policy makers

Broad institutional shift in support and evaluation structures necessary (including other types of outcomes, invisible work, outreach and OER)

Train reviewers and assessors

Radical transformation of hiring and promotion procedures (see OSCAM)

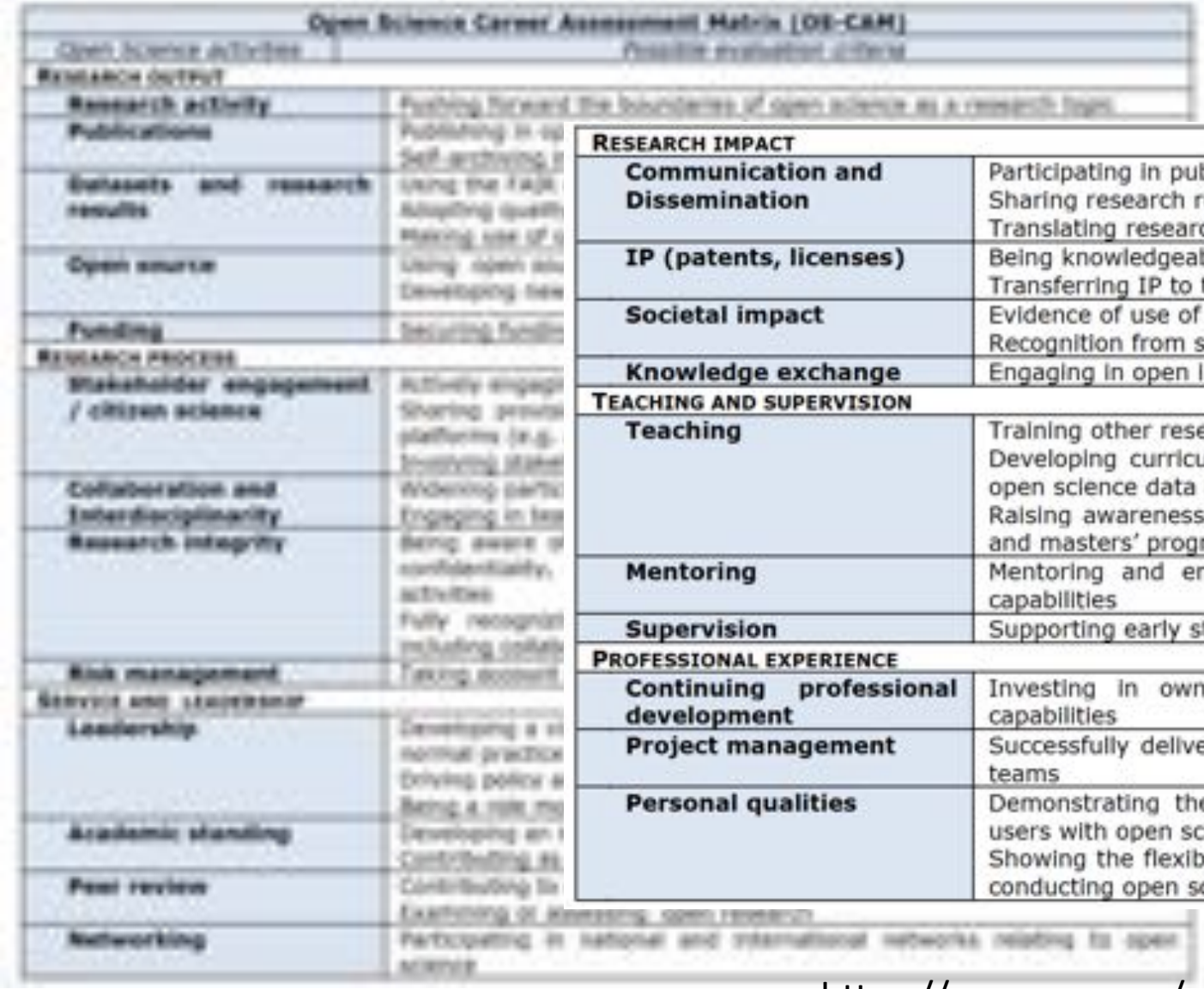
International cooperation and coordination crucial for successful transformation

Reviewing impact of incentives and adaptation

Support pilot programmes and new instruments for HR and science administration (CRIS)

https://rio.jrc.ec.europa.eu/en/policy-support-facility/mle-open-science-altmetrics-and-rewards

Incentives and Rewards for Open Scholarship

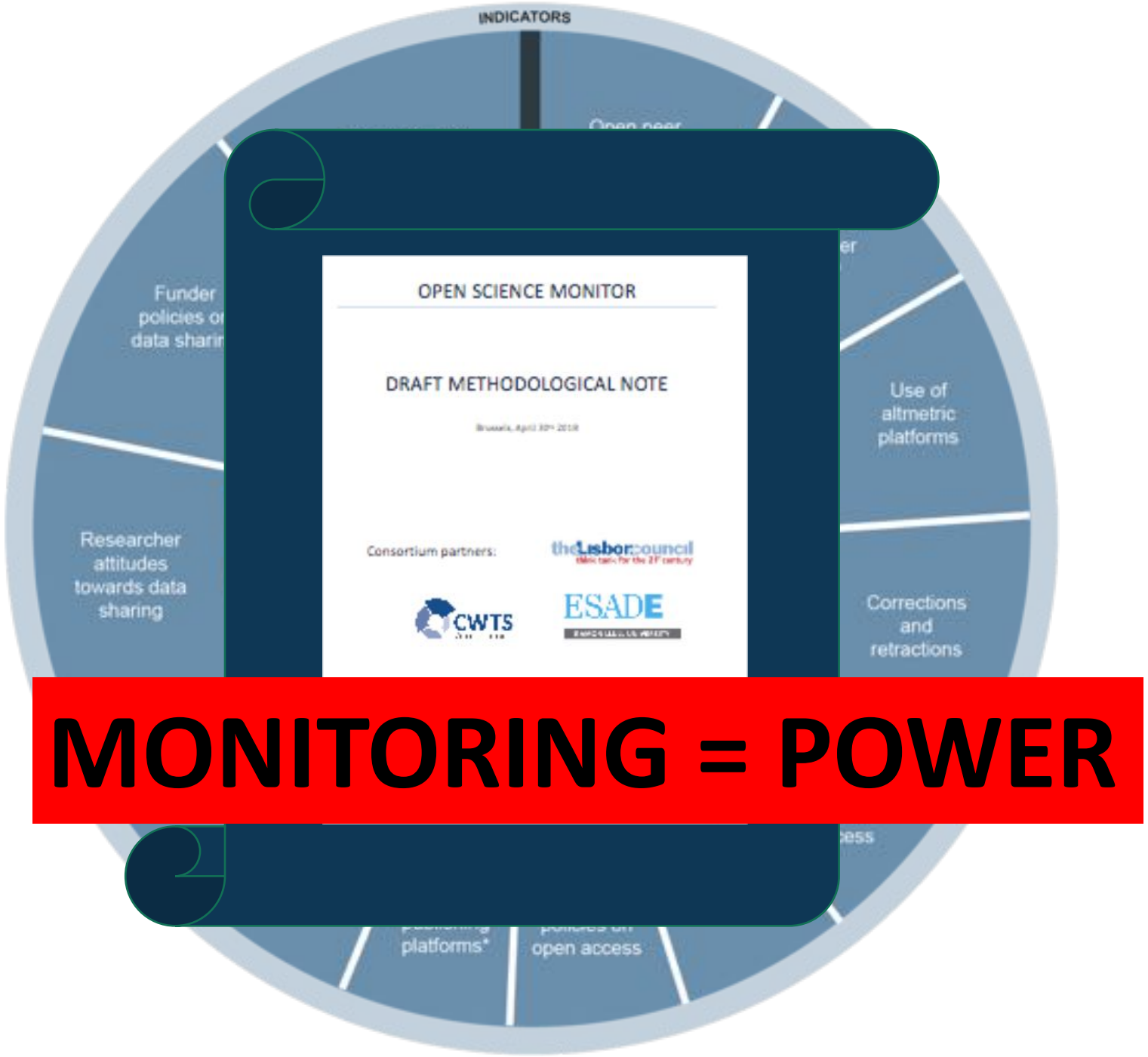


RESEARCH IMPACT	
Communication and Dissemination	Participating in public engagement activities Sharing research results through non-academic dissemination channels Translating research into a language suitable for public understanding
IP (patents, licenses)	Being knowledgeable on the legal and ethical issues relating to IPR Transferring IP to the wider economy
Societal impact	Evidence of use of research by societal groups Recognition from societal groups or for societal activities
Knowledge exchange	Engaging in open innovation with partners beyond academia
TEACHING AND SUPERVISION	
Teaching	Training other researchers in open science principles and methods Developing curricula and programs in open science methods, including open science data management Raising awareness and understanding in open science in undergraduate and masters' programs
Mentoring	Mentoring and encouraging others in developing their open science capabilities
Supervision	Supporting early stage researchers to adopt an open science approach
PROFESSIONAL EXPERIENCE	
Continuing professional development	Investing in own professional development to build open science capabilities
Project management	Successfully delivering open science projects involving diverse research teams
Personal qualities	Demonstrating the personal qualities to engage society and research users with open science Showing the flexibility and perseverance to respond to the challenges of conducting open science

https://ec.europa.eu/research/openscience/index.cfm?pg=rewards_wg

→ **At the core of every successful Open Science transition: monitoring and assessing openness, rewarding openness, making openness visible (people, tools, benefits and challenges) and valuing open practices not only as solution to socio-technical problems but also as opportunity to create more**

responsibility, trust, and quality.



MONITORING = POWER

https://ec.europa.eu/info/open-science/open-science-monitor_en

EU Open Science Monitor

"The contractors will (...) deliver a full-fledged monitoring system in order to determine open science scope, nature, impacts on science and scientific knowledge, and its socio-economic impacts. (...) It should be able to facilitate policy making."

https://etendering.ted.europa.eu/cft/cft-display.html?cftId=2356

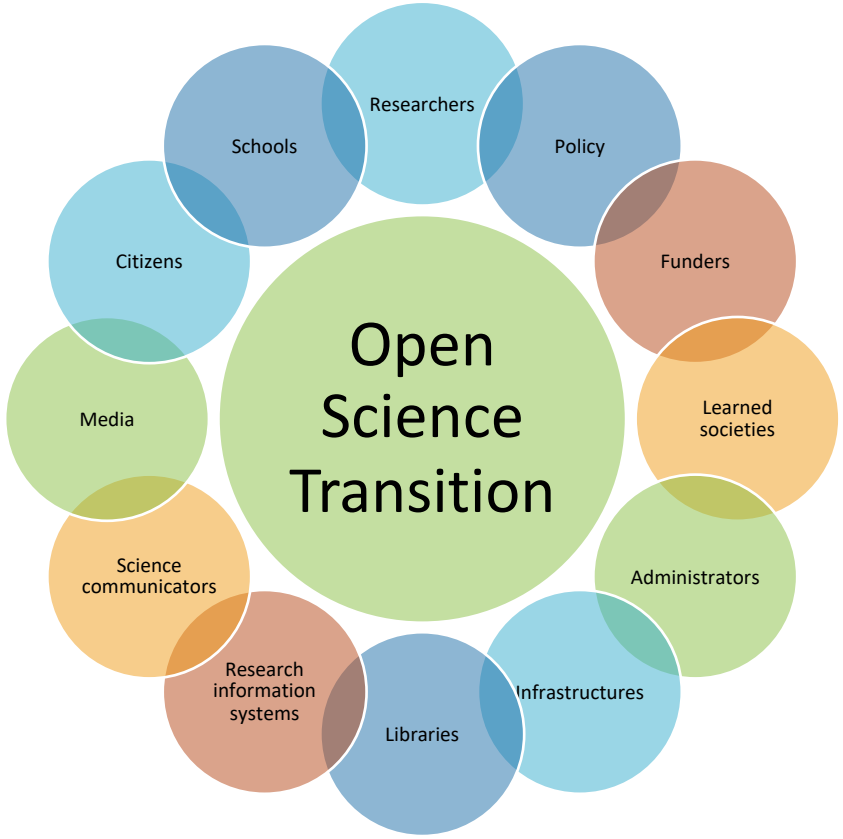
WHAT MATTERS?

- Open Science is not only FOR science, it is also ABOUT science.
  - → what do we want from science?
  - What different sorts of impact are possible (and already happening) beyond the scientific system?
  - How can we improve the entanglement of knowledge commons and innovation?

- Examples of evidence needed for open science advocacy and monitoring*
  - Openness becoming part of curricula
  - Open tools developed and used
  - Discovery and collaboration based on open infrastructures and new ways of sharing knowledge
  - Knowledge transfer in all directions, also to media
  - .....

* Beyond financial calculations and technical

Creating open science friendly evaluation systems inline with the right incentive and reward structures is essential for Open Science Leadership



Constantly bring to attention that

- Open science is not ”all or nothing”
- Mainstreaming and rewarding OPEN in TEACHING is key
- OS is an opportunity to discuss broadly WHAT MATTERS
- Now is the right moment to change systems of measurement and optimize and open documentation systems
- It is important to have role models and broadly visible best practices

QUESTIONS

- How we can ensure to measure what matters?
- Where are respective best practices and who could act as role models? *(and how do we get them to do this ;-)*

.... to foster a transition to Open Science that rests on close cooperation of all relevant actors in the STI ecosystem.

Thank you! @katja_mat kmayer@zsi.at