

The Puzzle of Research Evaluation: Opportunities and obstacles on the way to full Open Scholarship

Clifford Tatum, 17 February 2021

Open Science ^{Conference}

slides  <https://doi.org/10.5281/zenodo.4534112>

Outline

- **Open Science & Research Evaluation**
- **the Openness Profile**
- **Universities as Agents of Change**
- **Summit Meeting (options)**

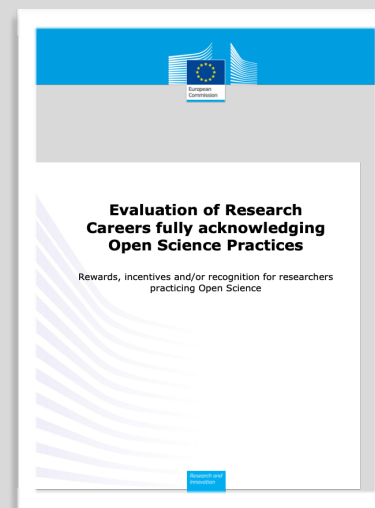
Open Scholarship & Research Evaluation

Policy:

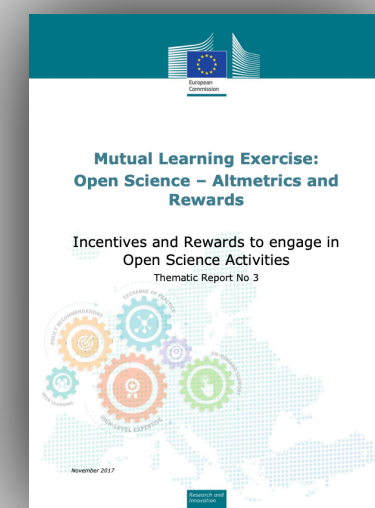
Implementation of top-down open science policy initiatives, relies on vast cultural change associated with established recognition and reward systems.



*The idea of open science entails **systemic change** across all stakeholders, **towards sharing and using all available knowledge at an earlier stage in the research process.** (EC 2016)*



*vast cultural change is needed in the transition to **a more comprehensive recognition and reward system incorporating Open Science** (EC July 2017)*



*It is **imperative to strike a balance between top-down efforts to incentivise open scholarship and bottom-up resources** [associated with] **needs, expectations and background knowledge of users on the ground.** (EC/Leonelli November 2017)*

Open Science Career Assessment Matrix (OS-CAM)

Open Science Career Assessment Matrix (OS-CAM)	
<i>Open Science activities</i>	<i>Possible evaluation criteria</i>
RESEARCH OUTPUT	
Research activity	Pushing forward the boundaries of open science as a research topic
Publications	Publishing in open access journals Self-archiving in open access repositories
Datasets and research results	Using the FAIR data principles Adopting quality standards in open data management and open datasets Making use of open data from other researchers
Open source	Using open source software and other open tools Developing new software and tools that are open to other users
Funding	Securing funding for open science activities
RESEARCH PROCESS	
Stakeholder engagement / citizen science	Actively engaging society and research users in the research process Sharing provisional research results with stakeholders through open platforms (e.g. Arxiv, Figshare) Involving stakeholders in peer review processes
Collaboration and Interdisciplinarity	Widening participation in research through open collaborative projects Engaging in team science through diverse cross-disciplinary teams
Research integrity	Being aware of the ethical and legal issues relating to data sharing, confidentiality, attribution and environmental impact of open science activities Fully recognizing the contribution of others in research projects, including collaborators, co-authors, citizens, open data providers
Risk management	Taking account of the risks involved in open science
SERVICE AND LEADERSHIP	
Leadership	Developing a vision and strategy on how to integrate OS practices in the normal practice of doing research Driving policy and practice in open science Being a role model in practicing open science
Academic standing	Developing an international or national profile for open science activities Contributing as editor or advisor for open science journals or bodies
Peer review	Contributing to open peer review processes Examining or assessing open research
Networking	Participating in national and international networks relating to open science

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

Evolving research evaluation landscape (sample of bottom-up initiatives)

Principles

<u>DORA</u> —	stop using Journal Impact Factor for evaluation of individuals
<u>Metric Tide</u> —	quantitative assessment should support, not replace, expert judgment
<u>Leiden Manifesto</u> —	Responsible metrics

Frameworks

<u>HuMetricsHSS</u> —	humanities scholars evaluated on the basis of agreed values, such as: Equity, Openness, Collegiality, Quality, Community
<u>INORM's SCOPE</u> —	START with what you value, CONTEXT considerations, OPTIONS for measuring, PROBE deeply, EVALUATE your evaluation
<u>Evaluative Inquiry</u> —	CWTS framework: 'prospective', portfolio approach for group level assessment; mixed methods and engaged

National context

<u>The Netherlands</u> —	“Room for Everyone’s Talent” and “Strategy Evaluation Protocol”
<u>Utrecht University</u> —	New Vision on Recognition and Reward
<u>Leiden University</u> —	Academia in Motion: Recognition & Rewards at Leiden University

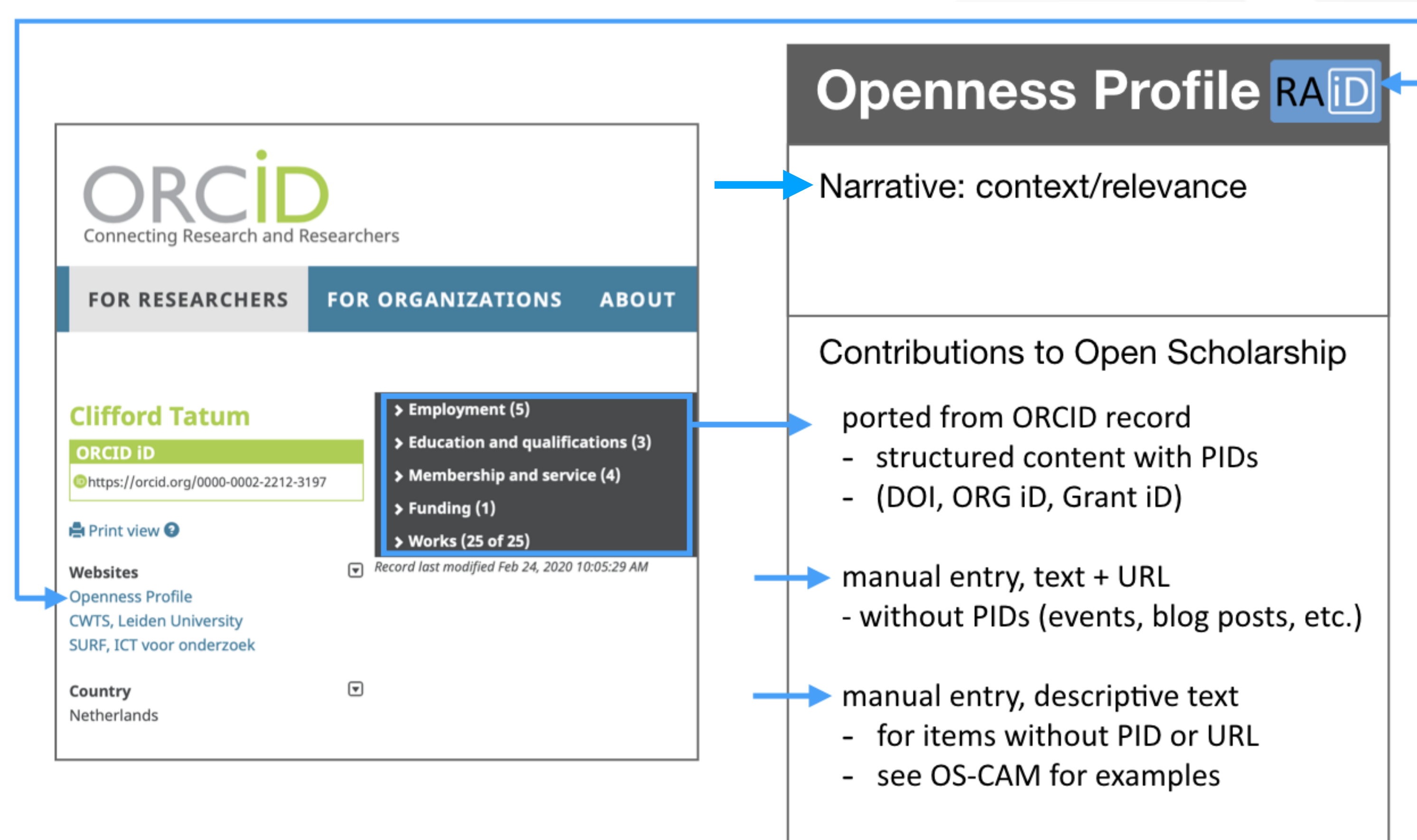
Openness Profile

Openness Profile (aims)

- disrupts notion of authorship in relation to evaluation
- links contributions to contemporary RI infrastructure
- format for documenting contributions to OS
- procedures for self-publishing contributions with DOI
- taxonomy of tools and contributions
- links to ORCID record (works):
 - > findable
 - > human readable
 - > machine readable
- resources for those already doing open scholarship
- while also being available for and adaptable to future changes enacted by top-down research policy initiatives

The screenshot shows the ORCID profile for Clifford Tatum. At the top, there are buttons for 'EDIT YOUR RECORD' and 'ABOUT ORCID'. The profile name 'Clifford Tatum' is displayed in green. Below it, the ORCID ID is shown as 'https://orcid.org/0000-0002-2212-3197'. There are links for 'Print view' and 'Websites' (Openness Profile, CWTS, Leiden University, SURF, ICT voor onderzoek). The 'Country' is listed as 'Netherlands'. On the right, there are expandable sections for 'Employment (5)', 'Education and qualifications (3)', and 'Works (21 of 21)'. The 'Openness Profile' section is expanded, showing two entries: 'Zenodo' (2019-01-25 | other, DOI: 10.5281/zenodo.2549270, Source: DataCite) and 'Evaluative Inquiry: Engaging resear and strategically.' (2018-11-29 | other, OTHER-ID: 6f8e31d4-11db-4fb0-b549-2ea6, Source: Leiden University). Arrows from the text on the left point to the 'Openness Profile' link in the 'Websites' section and the 'Openness Profile' header in the right-hand menu.

Openness Profile (concept)



Openness Profile (content categories)

Category	Content	Source
Narrative	The narrative enables the contributor to provide a more textured account of their contributions by for example developing an evidence-based argument about the relevance of the provided content	User
Sample items ported from one's ORCID record.	DOI – OA Publication DOI – OA presentation DOI – OA Dataset Org ID – service contribution Org ID – OS affiliation Grant ID – OS project Open Peer review	ORCID record: works ORCID record: service ORCID record: affiliation ORCID record: Grant awards ORCID record: peer review
Sample user-entered items with URLs that point to the contribution	URL – software URL – OS tools URL – event URL – course curriculum URL – art exhibit URL – (social) media mentions	e.g. Git Hub e.g. website, repository e.g. webpage, blog post, etc. Institution webpage Institution, persona webpage Various
Sample user-entered items that cannot be evidenced with public documentation	Descriptive text; provide references as appropriate	see OS-CAM matrix (page 15) for contribution types that may not have a URL

Openness Profile (PID collaborators)



Openness Profile (research)

Focus: Openness Profile context & utility

- 20 semi-structured interviews
- Stakeholders: focused on those already contributing to open scholarship
 - Researchers, early/mid/senior career stage
 - Librarians / publishers
 - Infrastructure / technology / data
 - Funders / evaluators / policy makers
- Interviews: openness practices, research evaluation, utility of the Openness Profile
- Qualitative analysis: coding in Atlas.ti
- Research followed up with plenary workshop and focus groups (report forthcoming)

Research report: [here](#)

Follow-up report: forthcoming

Research: high-level observations

- Substantial enthusiasm for open scholarship
- Frustration with current incentive structures and cultural inertia,
- desire for systemic change in how contributions to scholarship are valued
- emerging OP use cases: annual review, to inform decision making, create incentives

Focus groups: high-level observations

- stakeholders (especially funders) identified value in multiple workflows
- already engaging with OS and grappling with how to evaluate
- provided productive refinements to the OP concept
- but also identified obstacles, especially ‘changing’ research evaluation

Universities as Agents of Change

EUA Survey: Research Assessment in the Transition to Open Science

based on 260 valid responses from universities in 32 European countries

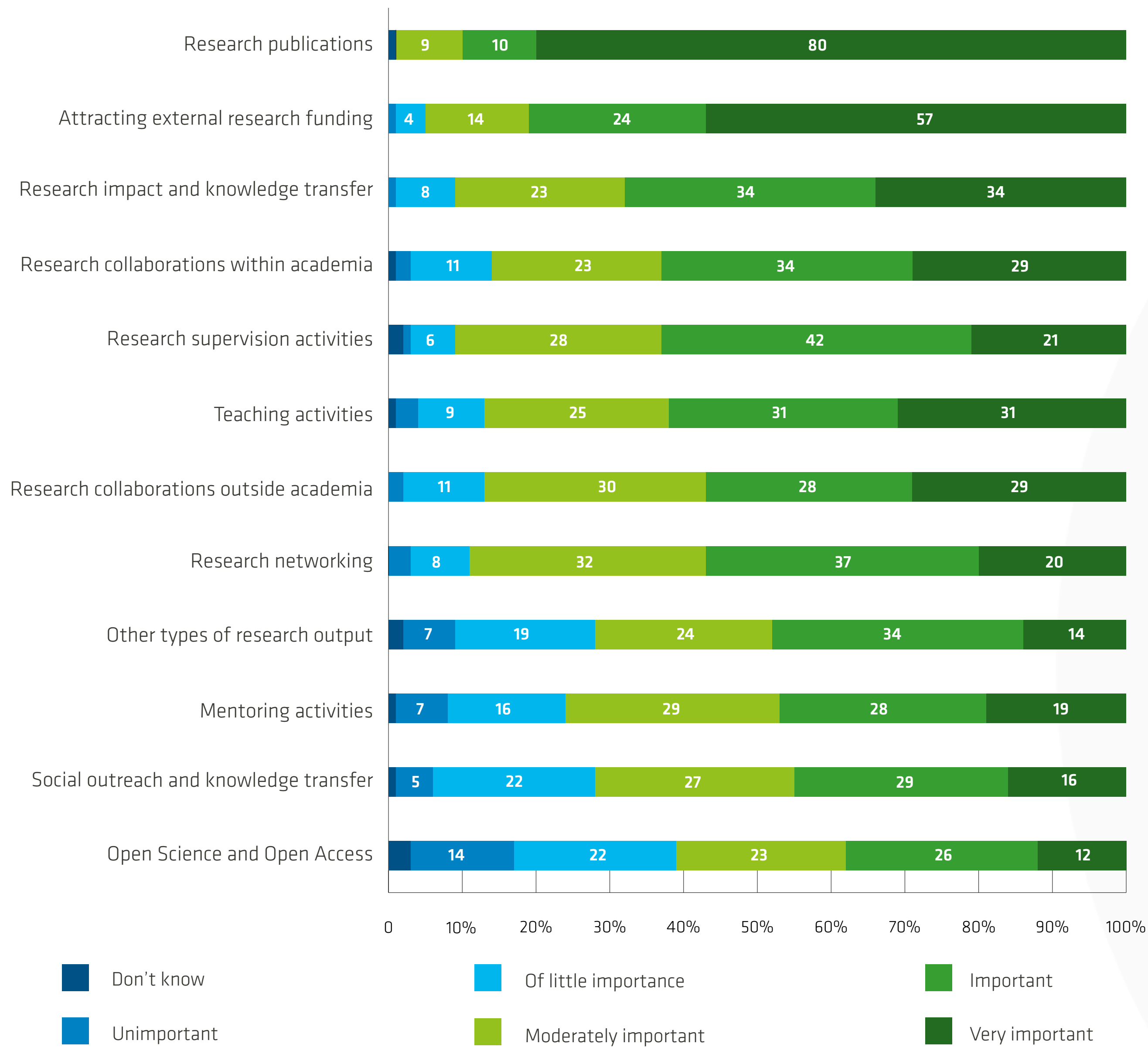
Table 3 – Autonomy to develop and implement research assessment approaches

Based on single-choice survey questions 4 (number of respondents: 197/197), 10 (183/183) and 13 (177/177)

	Research careers (in %)	Performance of research units (in %)	Internal research funding allocation (in %)
Highly autonomous	38	44	55
Mostly autonomous	41	39	35
Some autonomy	17	14	9
Low autonomy	4	3	1

In summary, universities do not develop and implement research assessment procedures in isolation. While responding institutions consider themselves as having significant autonomy to develop and implement procedures, they are also keenly aware of the influence of external actors and conditions, notably governments and research funding organisations. Universities also feel the pressure of the competitive research and innovation environment, which they recognise as affecting their research assessment approaches.

Figure 9 – Importance of academic activities for research careers
 Based on survey question 7, ranking question (cf. Annex 1). Number of respondents: 191-195/197

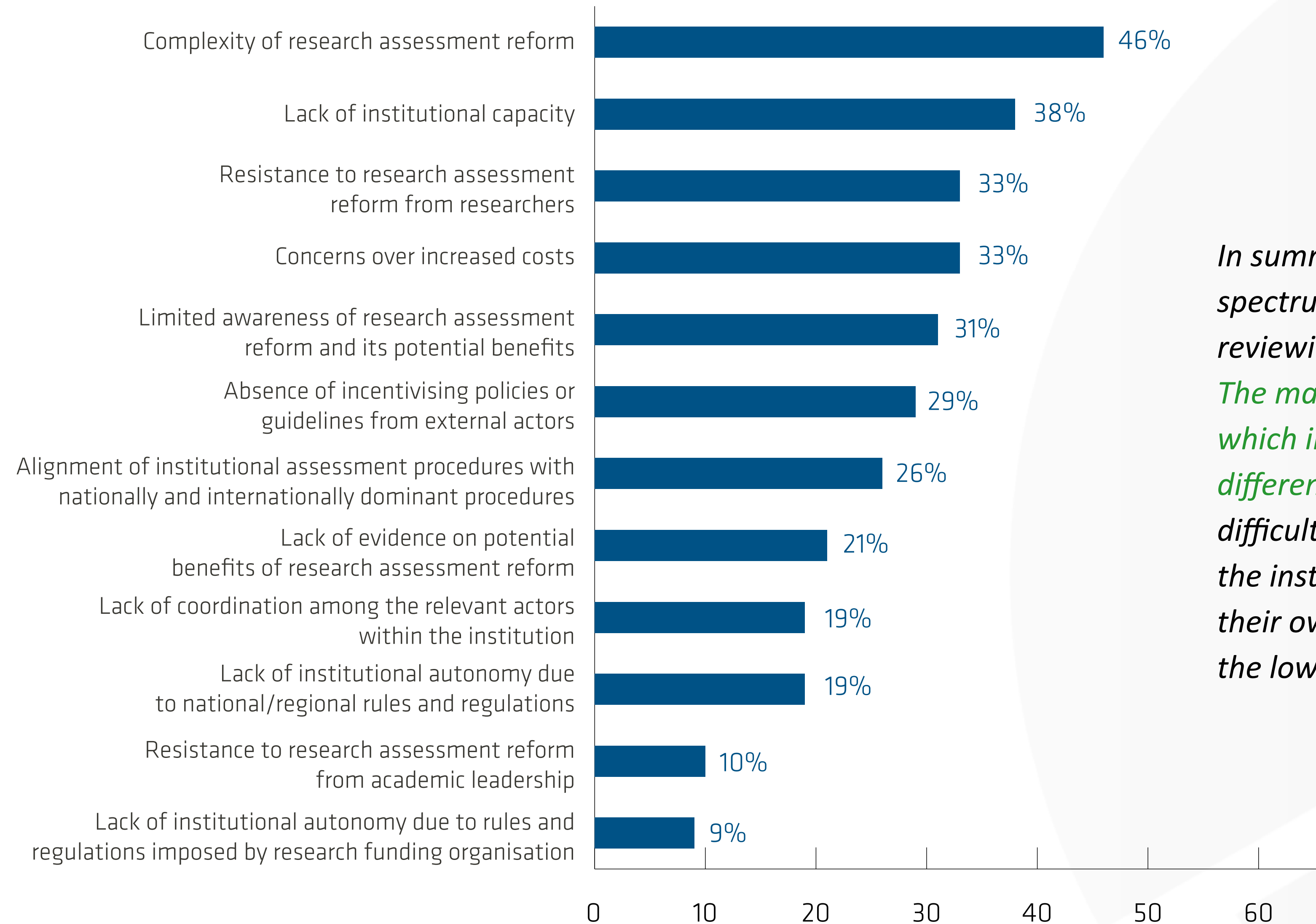


EUA Survey: Careers

In summary, the survey results show that publishing research outcomes and attracting external research funding are the most important academic activities when it comes to building a university research career. A range of other activities such as research impact and knowledge transfer are also commonly, albeit to a lesser extent, acknowledged by respondents. Open Science and Access activities are the lowest ranked category and are only '(very) important' at just over a third of universities, which is roughly on a par with the number of institutions who give little or even no importance to this category when evaluating researchers.

Figure 15 – Main barriers and difficulties for reviewing approaches to research assessment
 Based on survey question 19, multiple-choice (cf. Annex 1). Number of respondents: 233/254

EUA Survey: Barriers



In summary, responding institutions indicated a wide spectrum of barriers and challenges when it comes to reviewing university approaches to research assessment. The main challenge is the overall complexity of this issue, which involves important disciplinary and national differences. Furthermore, the main barriers and difficulties are almost all internal, while issues related to the institutions' autonomy to develop and implement their own research assessment approaches are found at the lower end of the spectrum.

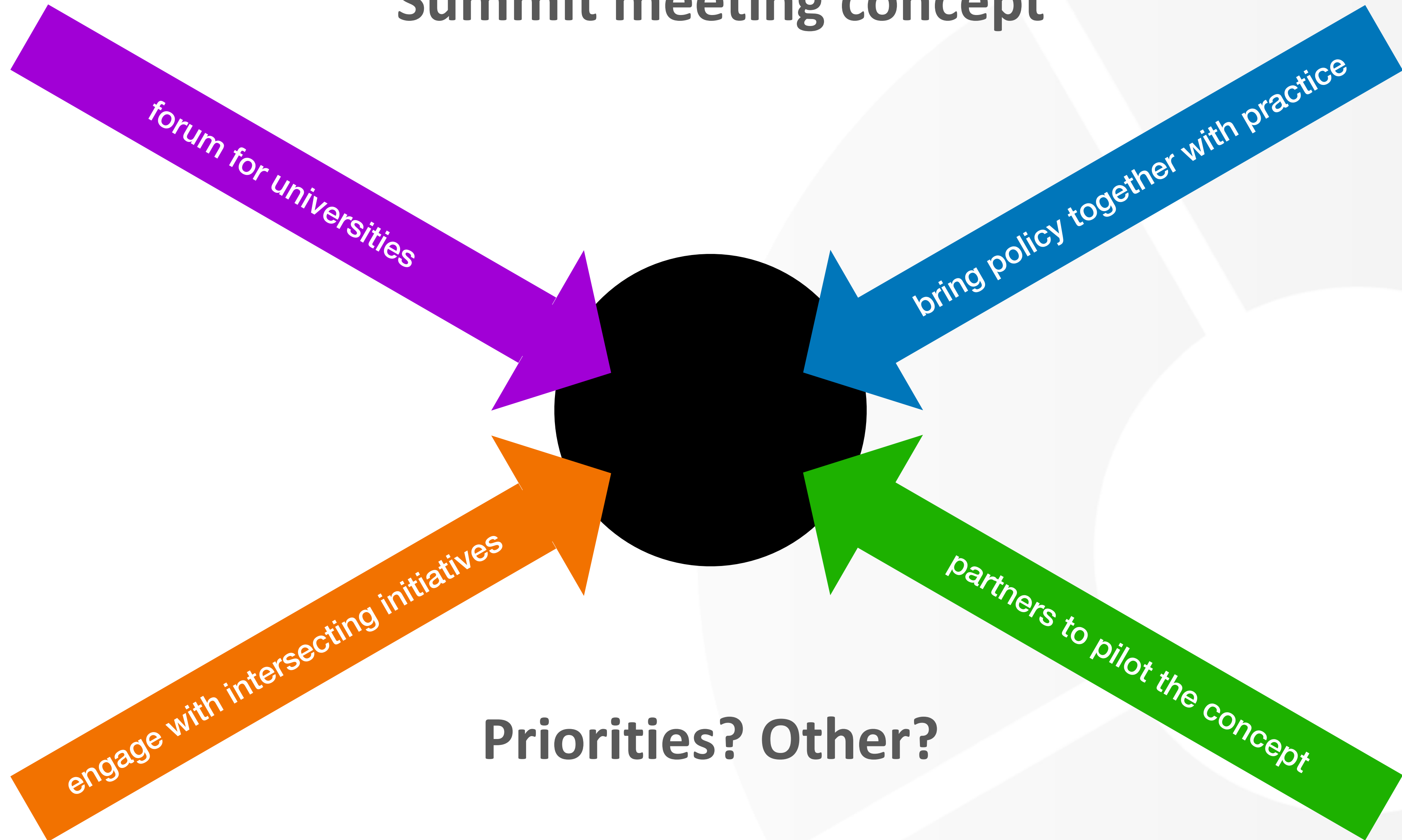
Summit meeting

Wikipedia: A summit meeting (or just summit) is an international meeting of heads of state or government, usually with considerable media exposure, tight security, and a prearranged agenda.

In summary

- top down policy; cultural change via bottom up initiatives
- intersecting initiatives — research evaluation in transition
- openness profile, a middle-out resource (opportunities & obstacles)
- universities as strategic actors

Summit meeting concept



Thank you!

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<https://www.knowledge-exchange.info/event/openness-profile>