

# The (mis)alignment of Open Science and research evaluation: *addressing complexity with existing resources and context-sensitive evaluation*

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# outline

- EU/NL Open Science policy context
- Openness Profile *concept* (Knowledge Exchange WG)
- Evaluative Inquiry (SES/CWTS)

# EU/NL Open Science, policy context

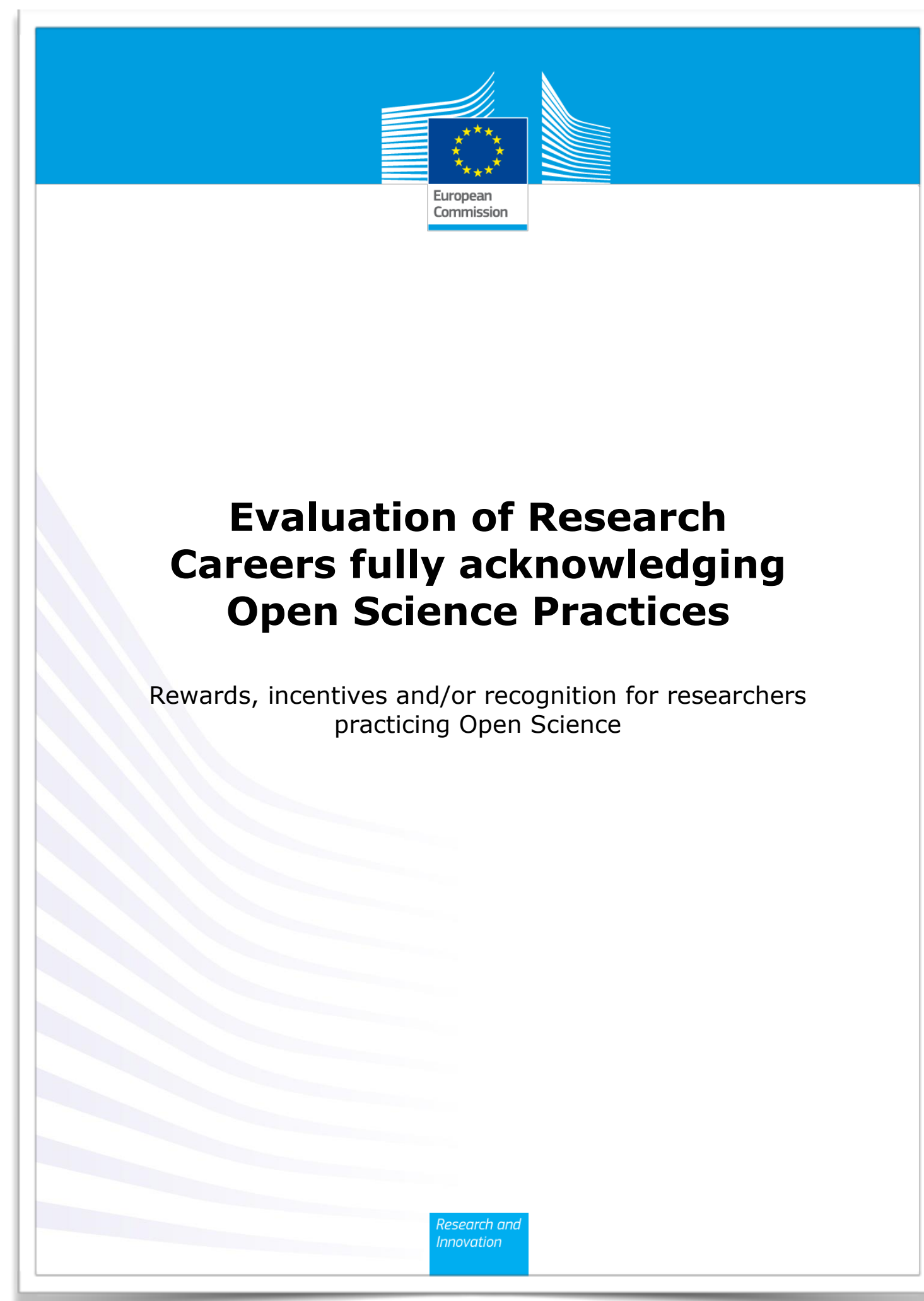
# European Commission, open science



*a new approach to the scientific process based on cooperative work and new ways of diffusing knowledge by using digital technologies and new collaborative tools. The idea captures a **systemic change to the way science and research have been carried out for the last fifty years**: shifting from the standard practices of publishing research results in scientific publications **towards sharing and using all available knowledge at an earlier stage in the research process.***



# European Commission, open science evaluation



For the practice of Open Science to become mainstream, it must be embedded in the evaluation of researchers at all stages of their career (R1-R4). **This will require universities to change their approach in career assessment for recruitment and promotion. It will require funding agencies to reform the methods they use for awarding grants to researchers. It will require senior researchers to reform how they assess researchers when employing on funded research projects.** This is about changing the way research is done, who is involved in the process and how it is valued; evolving from a closed competitive system to one that is more open and collaborative

Recommendation:

*To change the culture and further engage the entire researcher community in the practice of Open Science **a more comprehensive recognition and reward system incorporating Open Science must become part of the recruitment criteria, career progression and grant assessment procedures for researchers at all levels.***

Proposal:

***Open Science Career Assessment Matrix (OS-CAM)** illustrating the range of evaluation criteria for assessing Open Science activities*

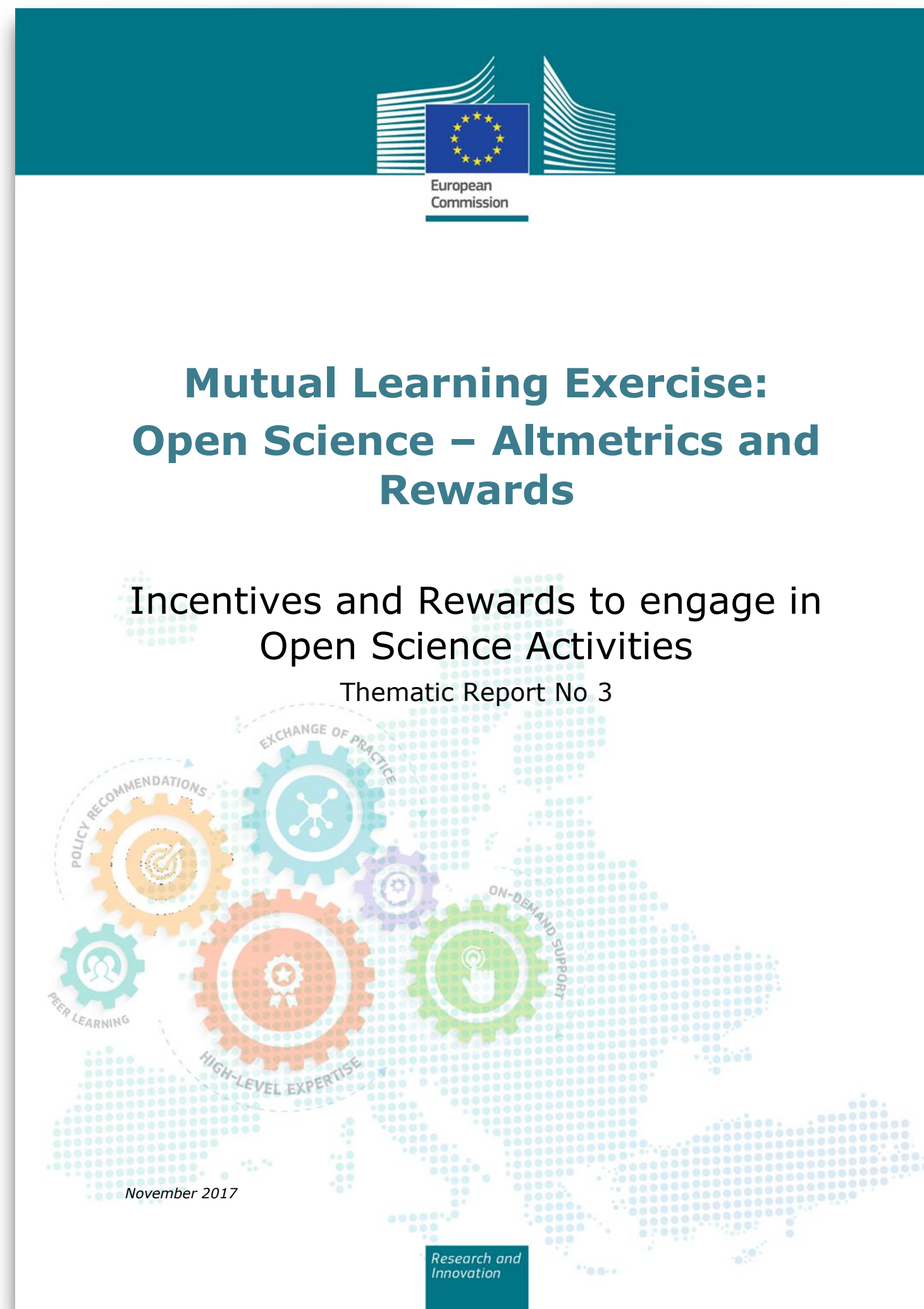
# Open Science Career Assessment Matrix (OS-CAM)

Open Science Career Assessment Matrix (OS-CAM)	
<i>Open Science activities</i>	<i>Possible evaluation criteria</i>
<b>RESEARCH OUTPUT</b>	
<b>Research activity</b>	Pushing forward the boundaries of open science as a research topic
<b>Publications</b>	Publishing in open access journals Self-archiving in open access repositories
<b>Datasets and research results</b>	Using the FAIR data principles Adopting quality standards in open data management and open datasets Making use of open data from other researchers
<b>Open source</b>	Using open source software and other open tools Developing new software and tools that are open to other users
<b>Funding</b>	Securing funding for open science activities
<b>RESEARCH PROCESS</b>	
<b>Stakeholder engagement / citizen science</b>	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
<b>Collaboration and Interdisciplinarity</b>	Widening participation in research through open collaborative projects Engaging in team science through diverse cross-disciplinary teams
<b>Research integrity</b>	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
<b>Risk management</b>	Taking account of the risks involved in open science
<b>SERVICE AND LEADERSHIP</b>	
<b>Leadership</b>	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
<b>Academic standing</b>	Developing an international or national profile for open science activities Contributing as editor or advisor for open science journals or bodies
<b>Peer review</b>	Contributing to open peer review processes Examining or assessing open research
<b>Networking</b>	Participating in national and international networks relating to open science

<b>RESEARCH IMPACT</b>	
<b>Communication and Dissemination</b>	Participating in public engagement activities Sharing research results through non-academic dissemination channels Translating research into a language suitable for public understanding
<b>IP (patents, licenses)</b>	Being knowledgeable on the legal and ethical issues relating to IPR Transferring IP to the wider economy
<b>Societal impact</b>	Evidence of use of research by societal groups Recognition from societal groups or for societal activities
<b>Knowledge exchange</b>	Engaging in open innovation with partners beyond academia
<b>TEACHING AND SUPERVISION</b>	
<b>Teaching</b>	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
<b>Mentoring</b>	Mentoring and encouraging others in developing their open science capabilities
<b>Supervision</b>	Supporting early stage researchers to adopt an open science approach
<b>PROFESSIONAL EXPERIENCE</b>	
<b>Continuing professional development</b>	Investing in own professional development to build open science capabilities
<b>Project management</b>	Successfully delivering open science projects involving diverse research teams
<b>Personal qualities</b>	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



# European Commission, open science evaluation



*It is the main contention of this report that the primary explanation for the current lack of uptake lies in the **lack of incentives and rewards for Open Science practices.***

*While it is widely acknowledged that **Open Science initiatives and practices must emerge ‘bottom-up’**, thus aligning with researchers’ experiences and needs, **top-down legislation serves a crucial role as a framework** within which incentives can be positioned and motivated.*

*It is imperative that a balance is struck between **top-down efforts to incentivise** activities at the international, national and regional levels, and **bottom-up tools devised by specific groups to take account of the needs, expectations and background knowledge of users on the ground.***

# The case of the Netherlands



Open Science represents a new approach to the scientific process based on cooperative work and new ways of *diffusing knowledge by using digital technologies and new collaborative tools*. The idea captures a systemic change to the way science and research have been carried out for the last fifty years: *shifting from the standard practices of publishing research results in scientific publications towards sharing and using all available knowledge at an earlier stage in the research process*.

(European Commission, n.d.)



# The case of the Netherlands



The Dutch National Plan Open Science outlines three key objectives for research in the Netherlands:

1. Full open access to scientific publications (open access)
2. Make data optimally sharable and reusable
3. Adapt evaluation and award systems to bring them into line with the objectives of open science (reward systems)

This last item is recognition that the NL open access and open data objectives are dependent on researchers' participation, and that the present incentive system is inadequate for supporting this dependency.

# Openness Profile

# Openness Profile

KE Working Group-

***Open Scholarship and Research Evaluation***

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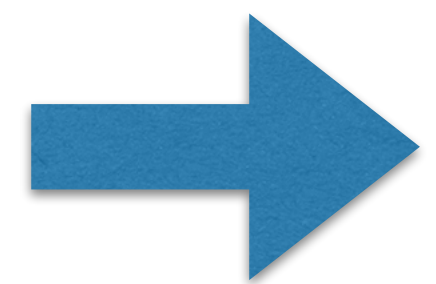


# Open Scholarship & research evaluation

- top down policy initiatives (e.g. OS-CAM) offer content and guidance
- alignment dependent upon vast cultural change across all aspects
- in spite of misalignment, many already contribute to open science today

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## KE Proposal: Openness Profile

- bottom up resources that compliment policy
- links contributions to contemporary RI infrastructure
- disrupts notion of authorship (the 'C' in ORCID = contributor)

# Openness Profile

## **Conceived as resources for those already practicing open science:**

- format for documenting contributions to open scholarship,
- procedures for self-publishing these contributions as a digital object with a persistent identifier (DOI)
- strategic use of contemporary research information infrastructure to establish prominent placement of the published contributions (linked to ORCID record)

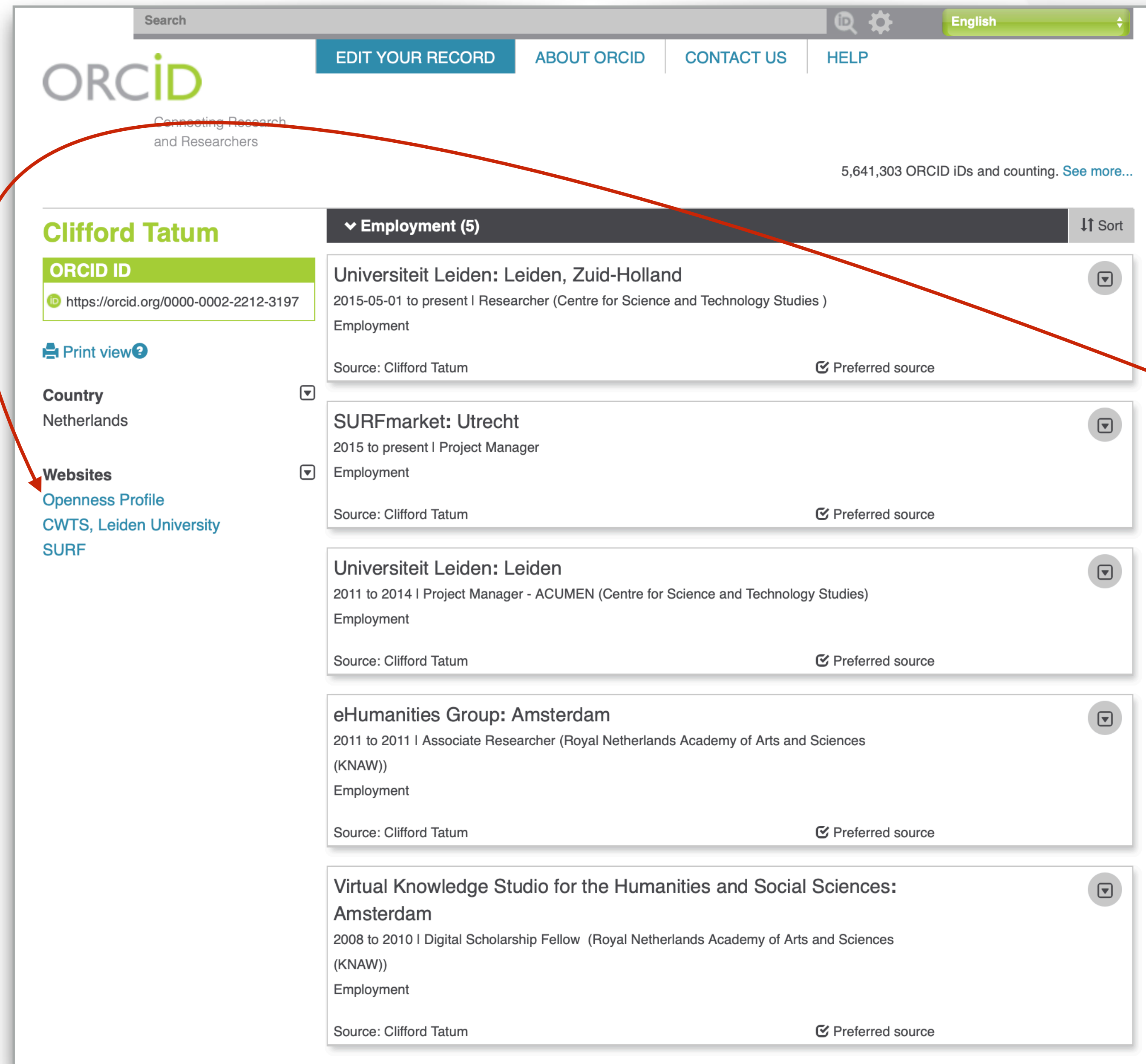
## **Two models envisioned:**

- Flexible: A minimally structured text file for more descriptive contributions. This would enable a wide variety of contributions and would include space for explanation
- Semi-structured: A curated set of DOIs for domains where research objects are more likely to have persistent identifiers (e.g. an ID for the collection of DOIs)

Pilot plan: KE, ORICD, and RAiD (2019)



# Openness Profile (mock-up)



Search

ORCID

Connecting Research and Researchers

5,641,303 ORCID iDs and counting. [See more...](#)

**Clifford Tatum**

**ORCID ID**  
<https://orcid.org/0000-0002-2212-3197>

[Print view?](#)

**Country**  
Netherlands

**Websites**  
[Openness Profile](#)  
[CWTS, Leiden University](#)  
[SURF](#)

**Employment (5)** [Sort](#)

<b>Universiteit Leiden: Leiden, Zuid-Holland</b> 2015-05-01 to present   Researcher (Centre for Science and Technology Studies ) Employment Source: Clifford Tatum <a href="#">Preferred source</a>
<b>SURFmarket: Utrecht</b> 2015 to present   Project Manager Employment Source: Clifford Tatum <a href="#">Preferred source</a>
<b>Universiteit Leiden: Leiden</b> 2011 to 2014   Project Manager - ACUMEN (Centre for Science and Technology Studies) Employment Source: Clifford Tatum <a href="#">Preferred source</a>
<b>eHumanities Group: Amsterdam</b> 2011 to 2011   Associate Researcher (Royal Netherlands Academy of Arts and Sciences (KNAW)) Employment Source: Clifford Tatum <a href="#">Preferred source</a>
<b>Virtual Knowledge Studio for the Humanities and Social Sciences: Amsterdam</b> 2008 to 2010   Digital Scholarship Fellow (Royal Netherlands Academy of Arts and Sciences (KNAW)) Employment Source: Clifford Tatum <a href="#">Preferred source</a>

Human readable

Machine readable

- repository/DOI
- ORCID record (works)
- ORCID ingested in CRIS
- RAiD data documentation

# Openness Profile

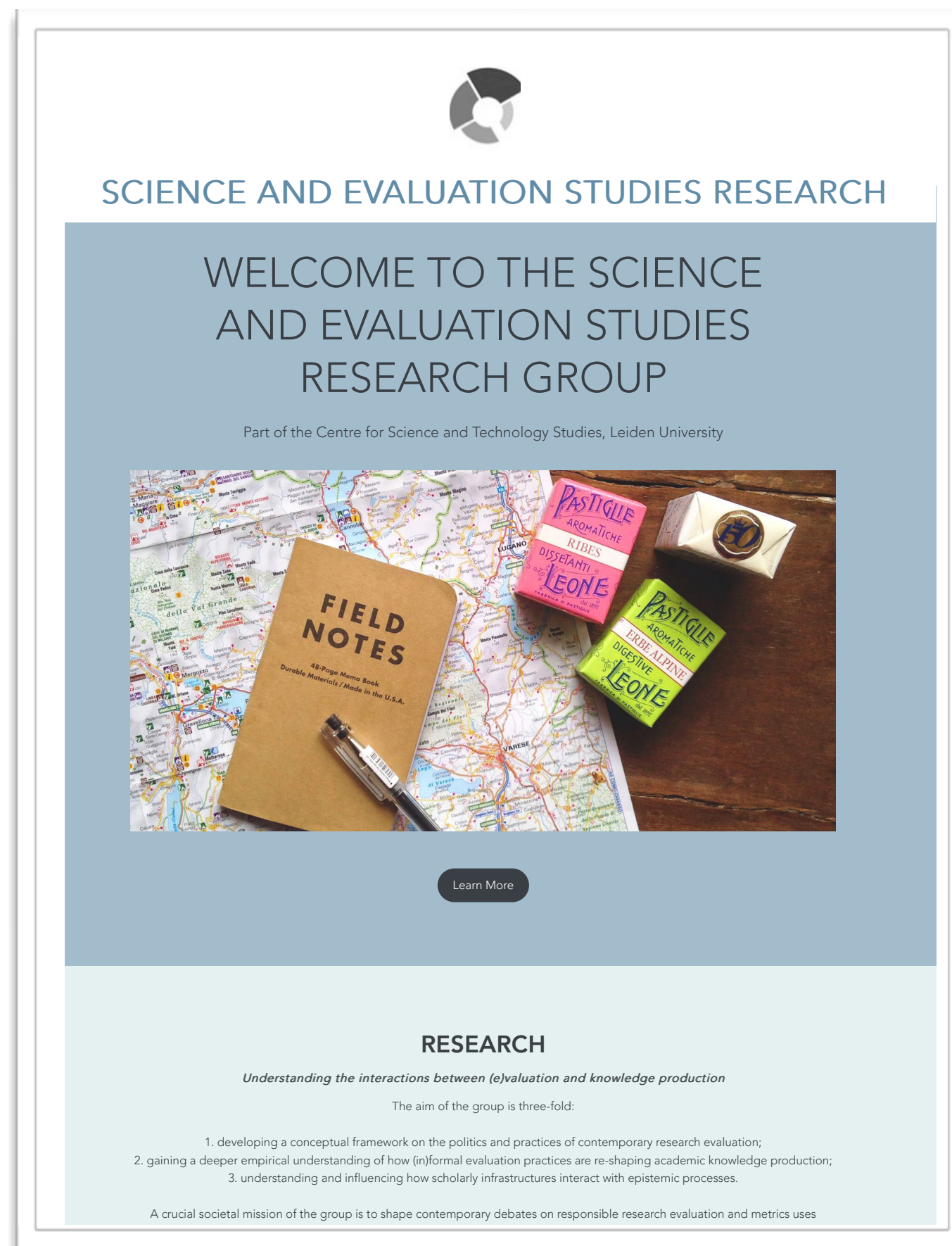
By intervening at the level of infrastructure, the openness profile is situated to **provide resources that are useful to those presently contributing to open scholarship while also being available for, and adaptable to, future changes enacted by top-down research policy initiatives.**

Next steps — intervening in evaluation practices

# Evaluative Inquiry



# Evaluative Inquiry



[www.ses-leidenuniv.com](http://www.ses-leidenuniv.com)

## *Evaluative Inquiry: conceptualizing evaluation as knowledge production*

Submission to SSH-Impact Conference, 28-29 November 2018 Vienna, Austria.

Pillar 3: Assessing Impact. Theme 9: Tracing, assessing and measuring the use and impact of SSH research activities and results.

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## Short Abstract

The notion of *impact* suggests an interaction of which the source, target and content are clearly identifiable. Traditional frameworks for evaluation tend to focus on whether and to what extent such impact is achieved. The concept of "evaluative inquiry", as proposed here, revises this linear notion of impact as the central precept of research evaluation. Instead, evaluative inquiry reveals the epistemic commitments and community values of local practices. Evaluative inquiry thus essentially approaches evaluation as a knowledge production process. From this starting point, we outline a reflexive approach to evaluation that sees the relevance of scientific work as an unfolding process, in which a variety of academic and non-academic actors are involved. This approach emphasizes process and engagement rather than accounting and ranking. Crucially, evaluative inquiry identifies values, networks of people, and resources as collectives. It thus helps articulate how 'worlds' are created and negotiated in relation to these values.

## Keywords

Performativity, reflexivity, friction, narrativity, engagement, heterogeneity



# NL Standard Evaluation Protocol (SEP)

Category	Meaning	Research quality	Relevance to society	Viability
1	World leading/ excellent	The research unit has been shown to be one of the few most influential research groups in the world in its particular field.	The research unit makes an outstanding contribution to society.	The research unit is excellently equipped for the future.
2	Very good	The research unit conducts very good, internationally recognised research.	The research unit makes a very good contribution to society.	The research unit is very well equipped for the future.
3	Good	The research unit conducts good research.	The research unit makes a good contribution to society.	The research unit makes responsible strategic decisions and is therefore well equipped for the future.
4	Unsatisfactory	The research unit does not achieve satisfactory results in its field.	The research unit does not make a satisfactory contribution to society.	The research unit is not adequately equipped for the future.

# Evaluative Inquiry (Fochler & de Rijcke 2017)

- Evaluation events as instances of knowledge production in close interaction with those who are being evaluated
- Co-production orientation shifts evaluation from strictly top-down event to a more dialogic process
- Also shifts evaluation from strictly rewarding past output to also enabling future-oriented planning
- Multiple analytical methods selected on the basis of local context
- Reconfigures role of evaluator (situated intervention)



# Evaluative Inquiry, key elements

- Context sensitive evaluations
- Facing complexities and engagement head-on
- Process, not carved in stone
- Negotiation
- Pro-active rather than reactive
- Inclusive (actors and content)
- Contents rather than form
- Learning rather than accountability

# Evaluative Inquiry, Open Science

- Evaluation organized on the basis of local epistemic priorities and community values
- Dialogue between researchers and evaluators regarding contributions to openness
- Configurations of openness form the basis of assessment and reflection
- Evaluation outcomes aimed at present and future role of openness in research
- Evaluator and evaluated engage in reflection and co-creation of new trajectories

# Thank you!


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