Transition to Open Science Rethinking Recognition and Rewards

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https://www.uu.nl/en/research/open-science;

'Open Science: The Very Idea' Springer 2022. OA.

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Open Science (1)

The overall aim of Open Science is to increase the quality, progress and scientific & societal impact of research and scholarship.
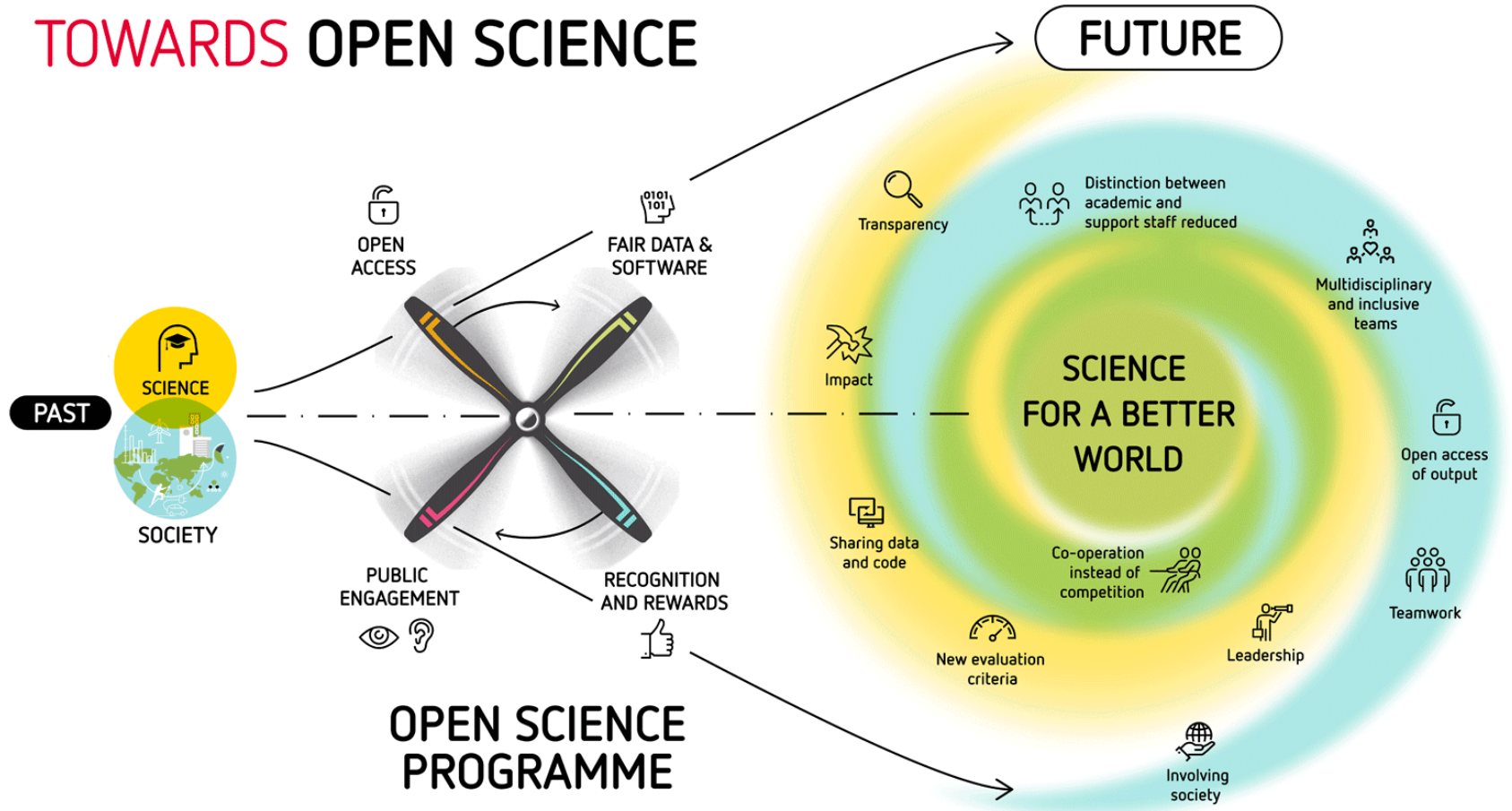
European Open Science Agenda 2016

- Rewards and Incentives
- Research Indicators and Next-Generation Metric
- OA and the Future of Scholarly Communication
- European Open Science Cloud
- FAIR Data
- Research Integrity
- Skills and Education
- Citizen Science/Public Engagement

https://www.openscience.eu/open-science-policy-platform-final-report/

www.uu.nl/openscience

Open access

The goal of the open access project is to make substantial progress in order to make open access a natural part of the academic workflow.

FAIR data and software

Making relevant data fully FAIR (Findable, Accessible, Interoperable and Reusable) and also open wherever viable has many advantages.

Public engagement

Increasing public engagement helps to make science and scholarship relate more closely to societal issues and any questions that people might have.

Recognition and rewards

The available system of recognition and rewards is seen as the most important in effecting the change towards open science.
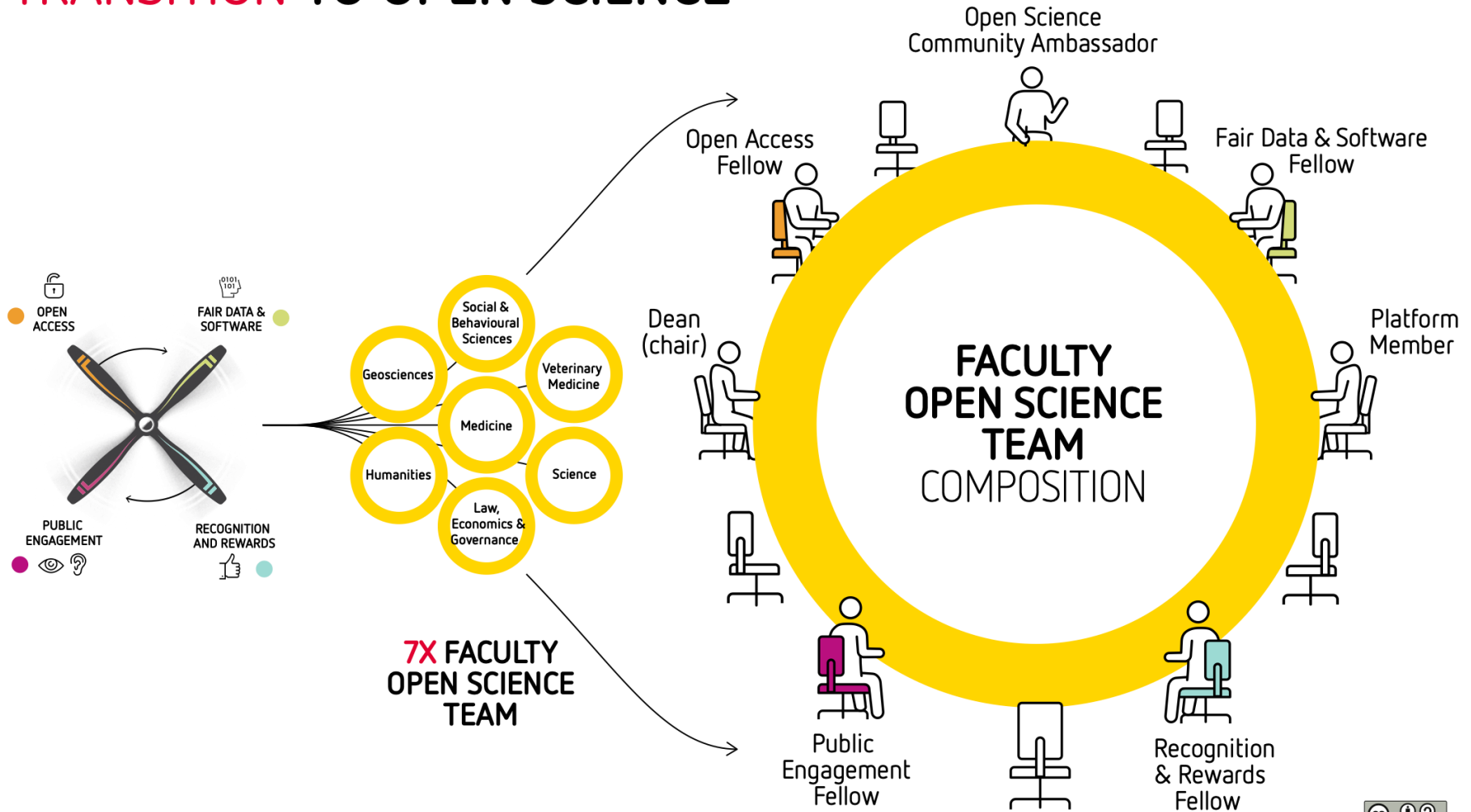
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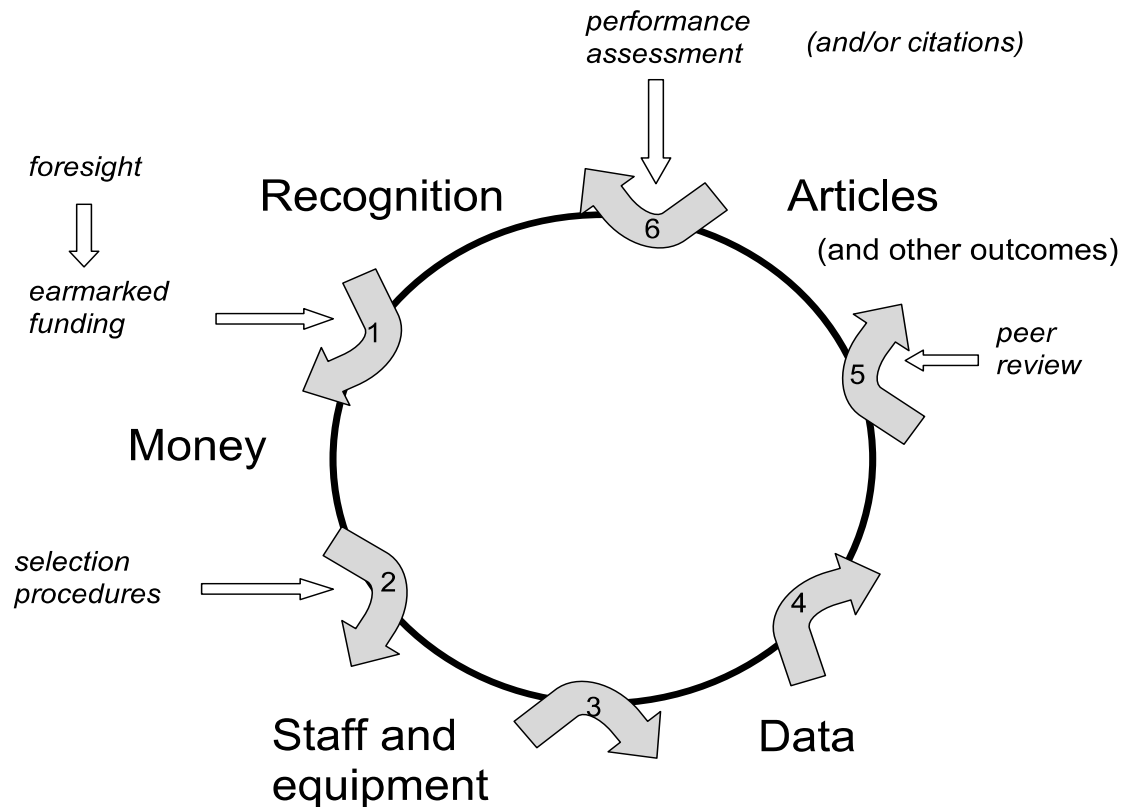# The Scientific Field: Professional Interests, Elites, Stratification, Power Struggle, and Economics

Figure 3. The credibility cycle, adapted from Latour and Woolgar (1986). Points at which organizational devices connect to the cycle are shown

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Pierre Bourdieu, 1975 & 2004, Latour and Woolgar 1979

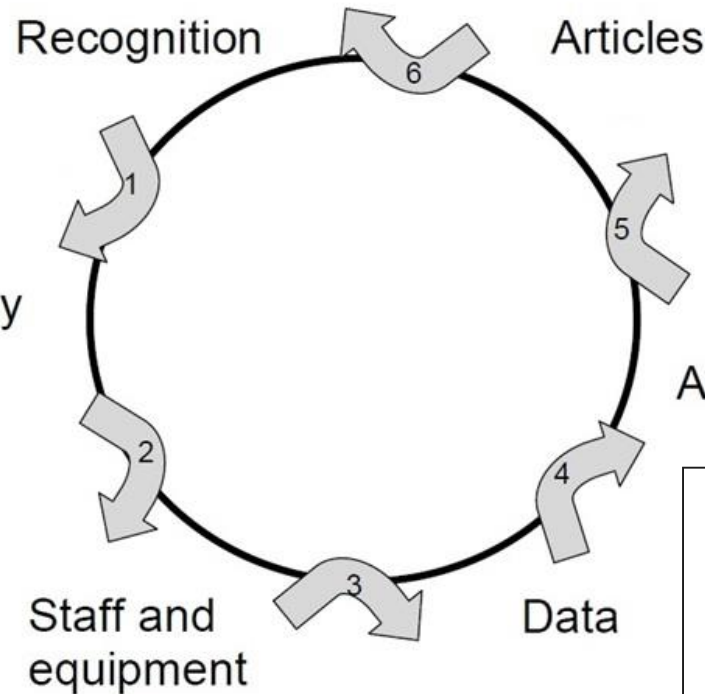# Problems of the Current Reward System in Science

Society is largely absent from the *credibility cycle*

Quality in Quantitative terms:
- number of articles, journal impact factor, citations, H-index
- amount of funding obtained

Hypercompetition for limited funds

Too little room for Team-Science, Multidisciplinarity & Diversity

- **Most papers still behind paywalls**
- **Data not shared**

Rethinking Research Evaluation:
Metrics shapes Science

- *Novelty and quantity* are dominant over quality, replication, relevance and impact
- Short-termism and risk aversion because of 4-year funding cycles
- Fields with high societal impact, but low impact in the metrics system suffer (applied vs basic; SSH vs STEM)
- The national and institutional research agenda is thus not properly reflecting societal (clinical) needs (disease burden)

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@UMCUTRECHT: Inclusive set of generic indicators for research quality and impact (in use since 2016)

Structure	**Leadership & culture**
	Collaborations with stakeholders
	Continuity and infrastructure
Process	**Setting research priorities**
	Posing the right questions
	Incorporation of next steps
	Design, conduct, analysis
	Regulation and management (OA, FAIR data sharing)
Outcomes	**Research products for peers**
	Research products for societal groups
	Use of research products by peers
	Use of research products by societal groups
	Marks of recognition from peers
	Marks of recognition from societal groups

https://www.umcutrecht.nl/en/science-in-transition

Open Science Evaluation: Incentives and Rewards

Pluriformity of quality indicators:

- **No JIF, no H-index, no numbers of publications (DORA)**

- **Engage Non-academic Stakeholders**

- **Diversity and inclusiveness**

- **Peer review, narratives (supported by data)**

- **Open Science practices and efforts rewarded**

Utrecht University - TRIPLE model

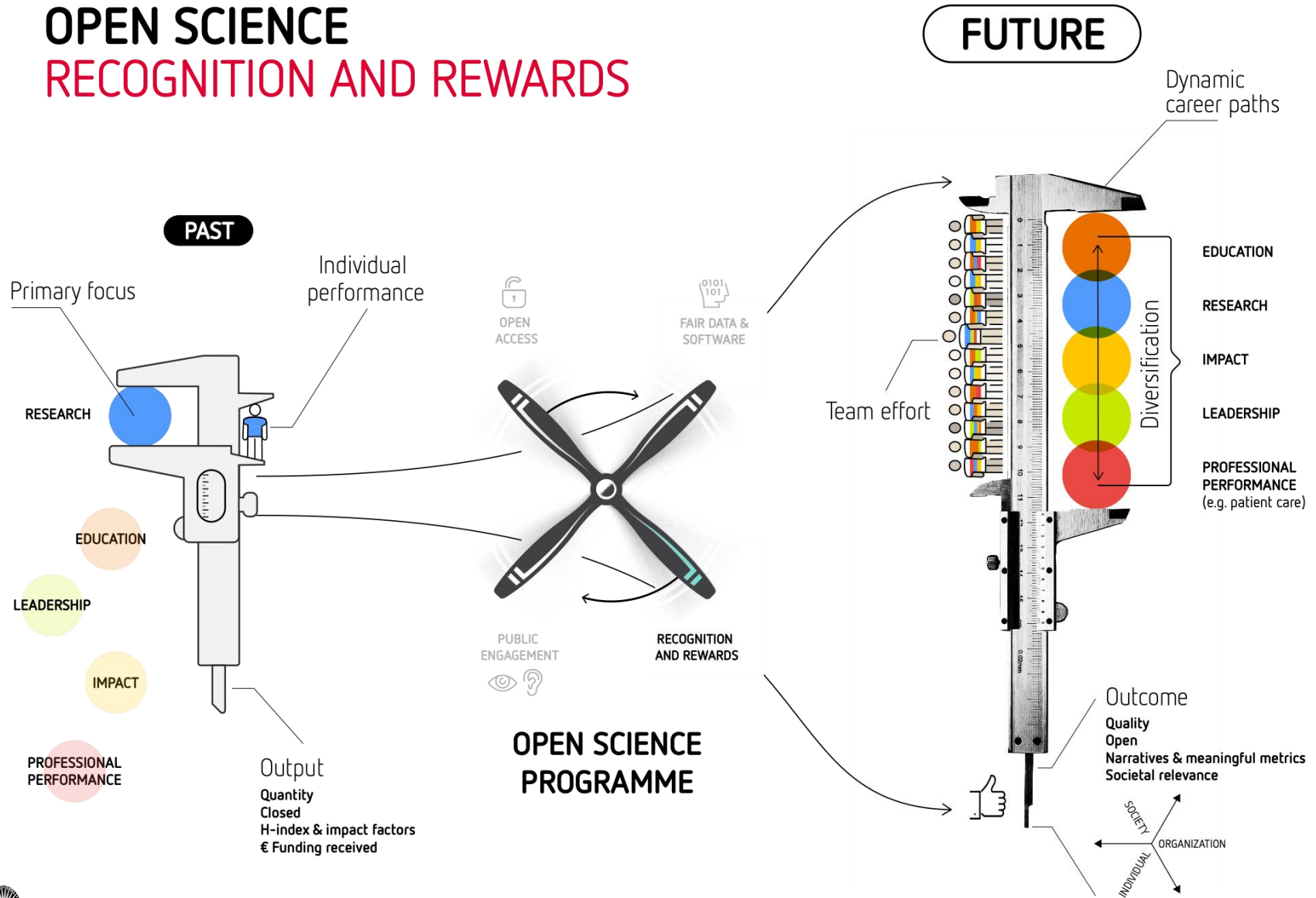TRIPLE: Team Spirit as the default approach to working in academia

TRIPLE MODEL

- 🟢 TEAM
- 🔵 RESEARCH
- 🟡 IMPACT
- 🔴 PROFESSIONAL PERFORMANCE
- 🟢 LEADERSHIP
- 🟠 EDUCATION

OPEN SCIENCE
RECOGNITION AND REWARDS

Utrecht University

SKETCH AUTUMN 2020

FUTURE

Dynamic career paths

PAST

Primary focus

Individual performance

OPEN ACCESS

FAIR DATA & SOFTWARE

RESEARCH

EDUCATION

LEADERSHIP

IMPACT

PROFESSIONAL PERFORMANCE

Team effort

EDUCATION

RESEARCH

IMPACT

LEADERSHIP

PROFESSIONAL PERFORMANCE
(e.g. patient care)

Diversification

PUBLIC ENGAGEMENT

RECOGNITION AND REWARDS

OPEN SCIENCE PROGRAMME

Output
Quantity
Closed
H-index & impact factors
€ Funding received

Outcome
Quality
Open
Narratives & meaningful metrics
Societal relevance

SOCIETY
ORGANIZATION
INDIVIDUAL

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Systemic Interventions to improve quality, impact and integrity at all levels

Engagement of societal stakeholders in problem choice, research and evaluation

Inclusive indicators

Quality (DORA)
Societal Impact &PE
Academic Leadership and Culture
EDI

Recognition
Articles
Money
Arguments
Staff and equipment
Data
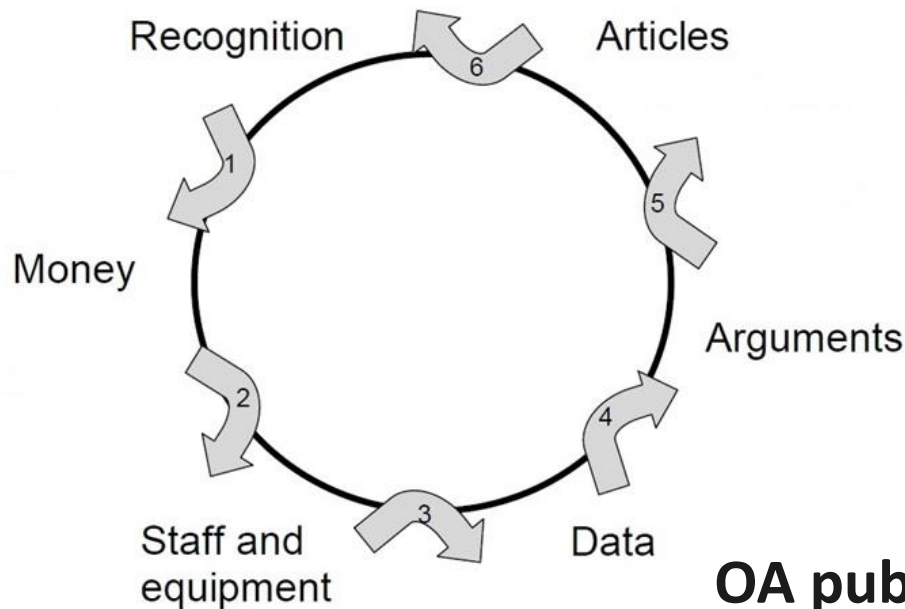
OPEN PEER REVIEW
POST PUB PEER REVIEW

OA publishing
FAIR data sharing

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National funders (NWO, ZonMW)

- Narrative CV:
  - Academic profile
  - Key outputs (not limited to publications)

- Indicate the importance of each output, how it is related to the project, and/or how it shows the applicant's abilities

- No aggregate indicators; provide context for indicators used: why is it a good measure? What does it imply?

National Strategic Evaluation Protocol
The Netherlands 2021-2027
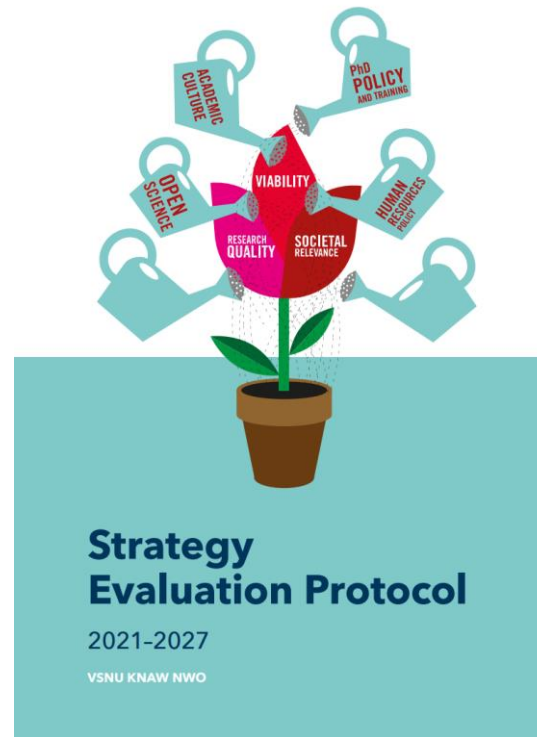
National Strategic Evaluation Protocol
The Netherlands 2021-2027

The research unit:

- **Vision, strategy and aims of the research are outlined**
- **Narratives (supported by data)***
- **Free choice of indicators**

*Compatible with DORA
https://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/SEP_2021-2027.pdf

National Strategic Evaluation Protocol The Netherlands 2021-2027

Evaluation is in relation to the unit's strategy

Three criteria:
Research Quality, Societal Impact and Viability

Four Aspects:
- **Open Science practices and efforts**
- **PhD policy and Training**
- **Academic Culture (Openess, Safety, Inclusiveness, Research Integrity)**
- **Human Resources Policy (Diversity, Talent Management)**

https://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/SEP_2021-2027.pdf

The many Initiatives and Actions

- **https://sfdora.org The San Francisco Declaration on Research Assessment**
- **2016 EU adopts Open Science as the standard for Horizon Europe 2021**
- http://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform Including Open Science Career Advancement Matrix
- **Coalition S and Plan S**
- **UNESCO** https://en.unesco.org/science-sustainable-future/open-science
- **http://www.leidenmanifesto.org**
- http//responsiblemetrics.org
- VSNU, NWO, NFU: www.vsnu.nl/Room for Everyone's Talent;
- https://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/SEP_2021-2027.pdf