



**citizen
science lab**

Margaret Gold

m.gold@biology.leidenuniv.nl



‘Open Science is a global transition to more open and collaborative research practices, for greater scientific and societal impact.’

As a coordinating body, the NPOS2030 Programme aims to facilitate all Netherlands national stakeholders to collaborate in the Open Science transition, by:

- setting collective Open Science-ambitions;
- coordinate and facilitate national collaboration;
- monitor and evaluate the progress on the collective ambitions and goals;
- promote the interests of the Open Science stakeholders to the government and European partners.



NPOS

ion 20

2013 - 2021

2022 - 2030

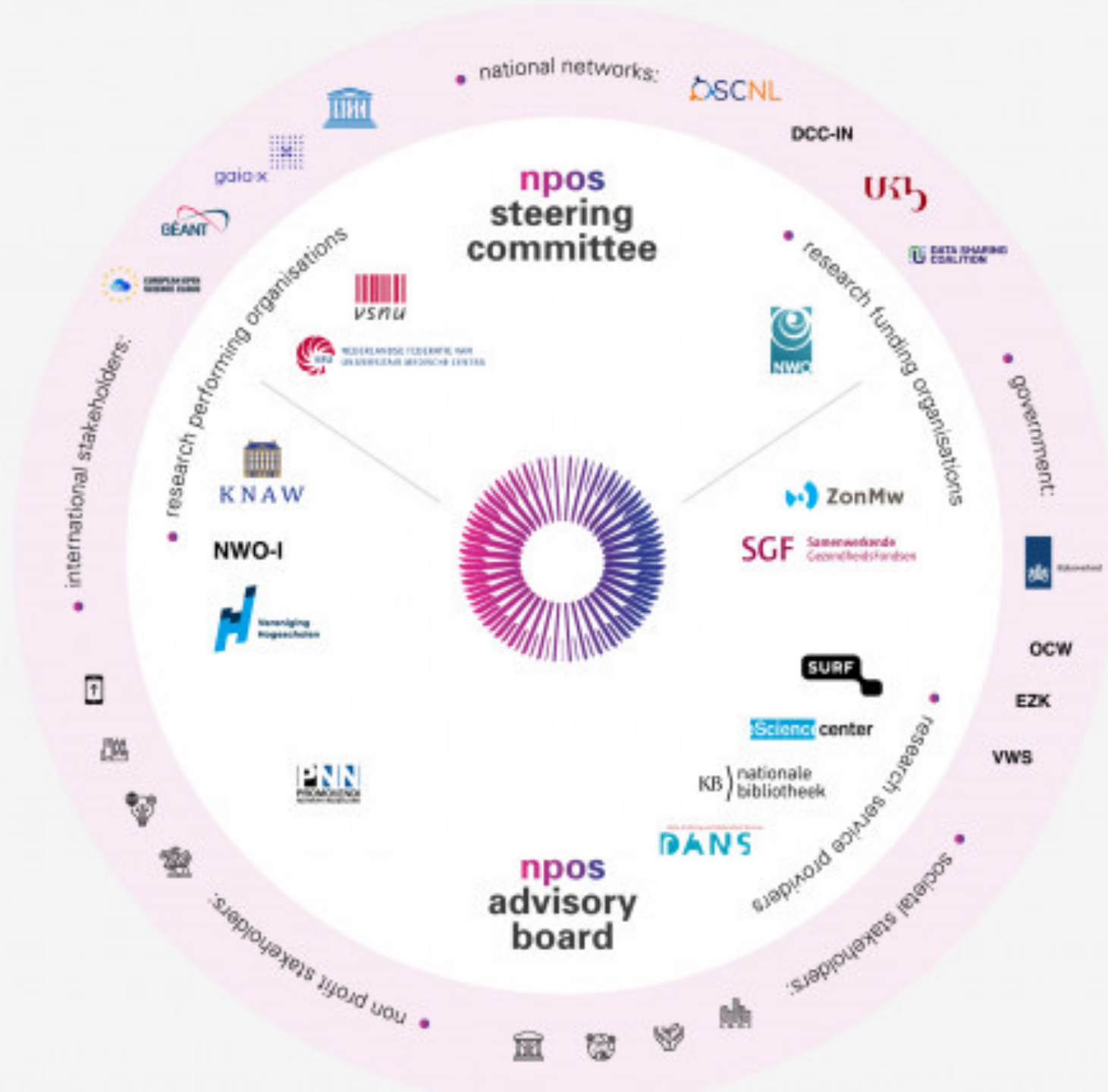
2013
Ambitie 100% Open Access
 The Dutch government takes the position that publicly funded research should be freely accessible.

2018
Launch EOSC
 The symbolic launch of the European Open Science Cloud, a trusted, virtual, federated environment for sharing research data.

2022
Launch NPOS 2030 Programme
 The NPOS2030 Programme marks a new phase in the transition to Open Science in the Netherlands.

2017
Nationaal Plan Open Science
 The presentation of the National Plan Open Science marks the launch of the NPOS.

2021
UNESCO recommendation on Open Science
 UNESCO published their global Recommendation on Open Science to be adopted by the 193 Member States.



The road towards our NPOS strategic goals for 2030 is characterised by reforms in many practices and activities throughout the scientific process.

Hence, enabling the transition to Open Science requires an integrated and systemic approach at institutional, national, and international level, working on a range of coherent topics and with all stakeholders.

The **NPOS Multi Annual Plan** contains the following elements:

Where do we want to go?

- The NPOS Ambition Document (spring '22)

What are we going to do to get there?

- The NPOS Rolling Agenda (summer '22)

How are we going to do this together?

- NPOS Governance and Organisation (autumn '22)

strategic goals



Close collaboration between knowledge institutions, government, industry, and citizens to strengthen science and optimise the processes of creating, sharing, and communicating knowledge for the benefit of society.



Inclusive, efficient, and transparent processes of scientific (co-)creation, evaluation, quality assurance and communication



Removal of barriers to reading and reusing all scientific output, so everyone can access sci-entific knowledge in a sustainable way and benefit from it



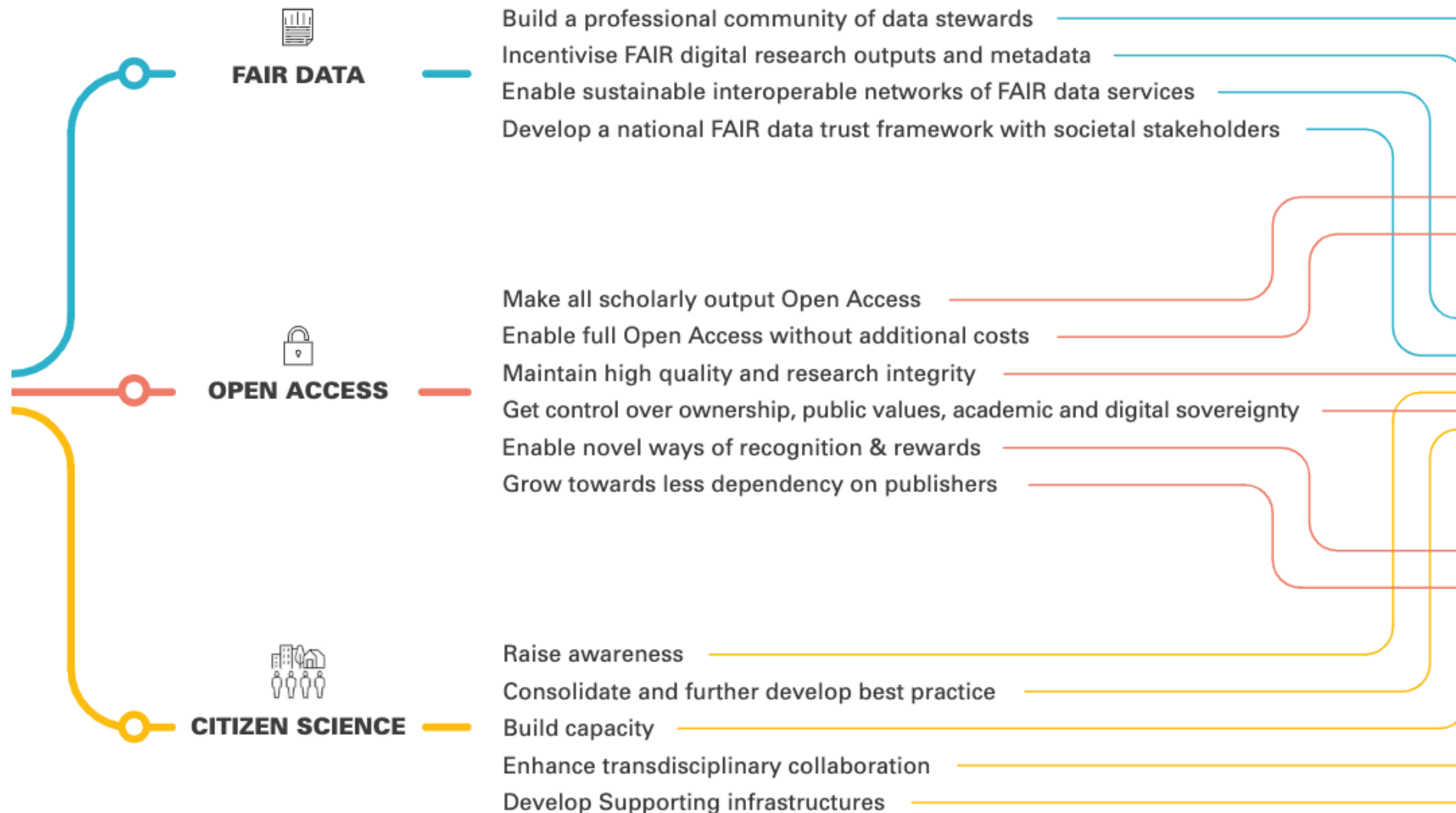
Products of and for knowledge creation, like data and software, being findable, accessible, interoperable, and reusable (FAIR), and open in as far regulations allow



The **NPOS Ambition Document** describes the:

- Guiding Principles that underlie this Programme;
- Vision and Strategic Goals **for** 2030;
- Requirements that are needed to realise these goals.

key lines of action



NPOS Ambition 2030

2013 - 2021

2022 - 2030

2030

key lines of action

strategic goals

2013
Ambitie 100% Open Access

The Dutch government takes the position that publicly funded research should be freely accessible.

2018
Launch EOSC

The symbolic launch of the European Open Science Cloud, a trusted, virtual, federated environment for sharing research data.

2022
Launch NPOS 2030 Programme

The NPOS2030 Programme marks a new phase in the transition to Open Science in the Netherlands.

2017
Nationaal Plan Open Science

The presentation of the National Plan Open Science marks the launch of the NPOS.

2021
UNESCO recommendation on Open Science

UNESCO published their global Recommendation on Open Science to be adopted by the 193 Member States.

Towards societal engagement and participation

Towards inclusive and transparent scientific processes

Towards open scholarly communication

Towards FAIR and open research outputs



Close collaboration between knowledge institutions, government, industry, and citizens to strengthen science and optimise the processes of creating, sharing, and communicating knowledge for the benefit of society.



Inclusive, efficient, and transparent processes of scientific (co-)creation, evaluation, quality assurance and communication



Removal of barriers to reading and reusing all scientific output, so everyone can access sci-entific knowledge in a sustainable way and benefit from it



Products of and for knowledge creation, like data and software, being findable, accessible, interoperable, and reusable (FAIR), and open in as far regulations allow

Open
Infrastructures

Support &
Training

Community
Engagement

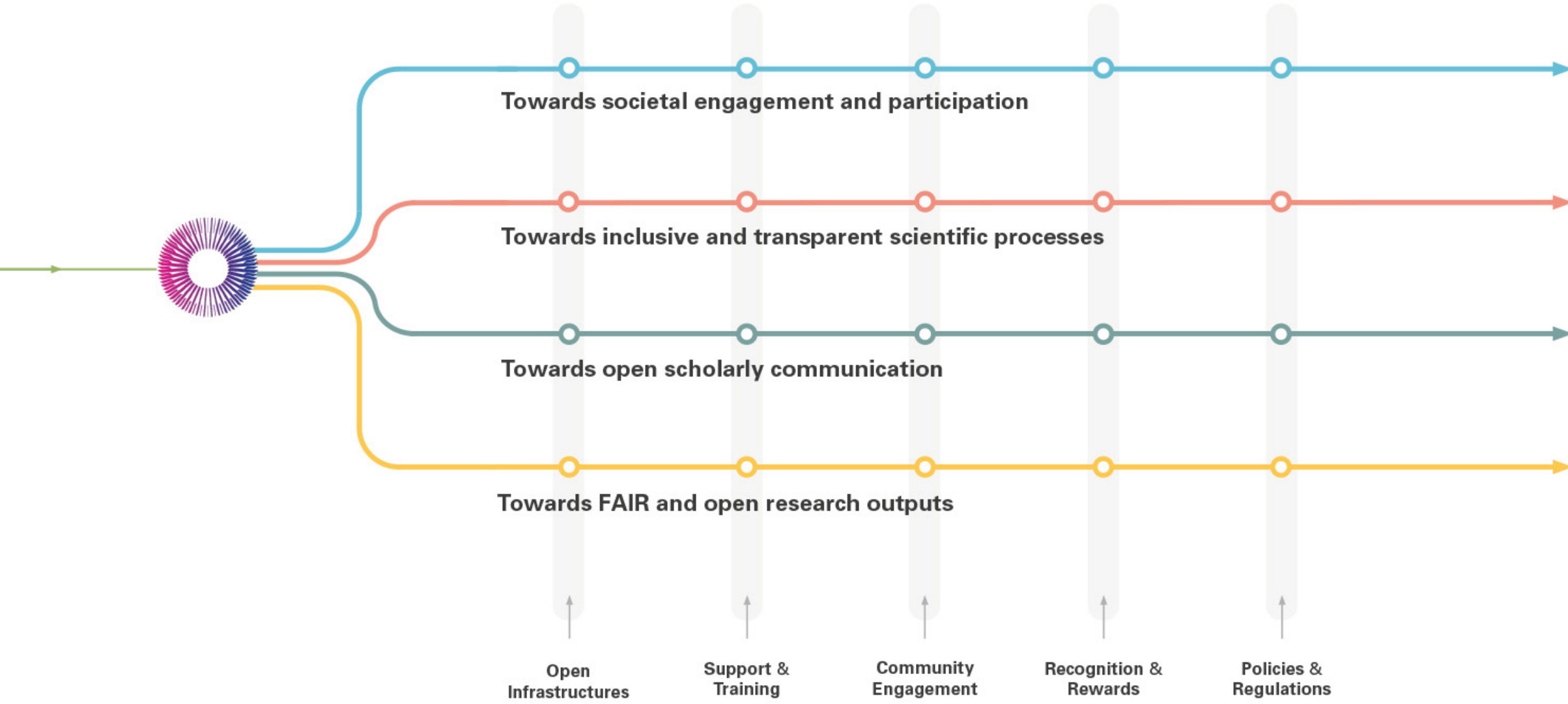
Recognition &
Rewards

Policies &
Regulations

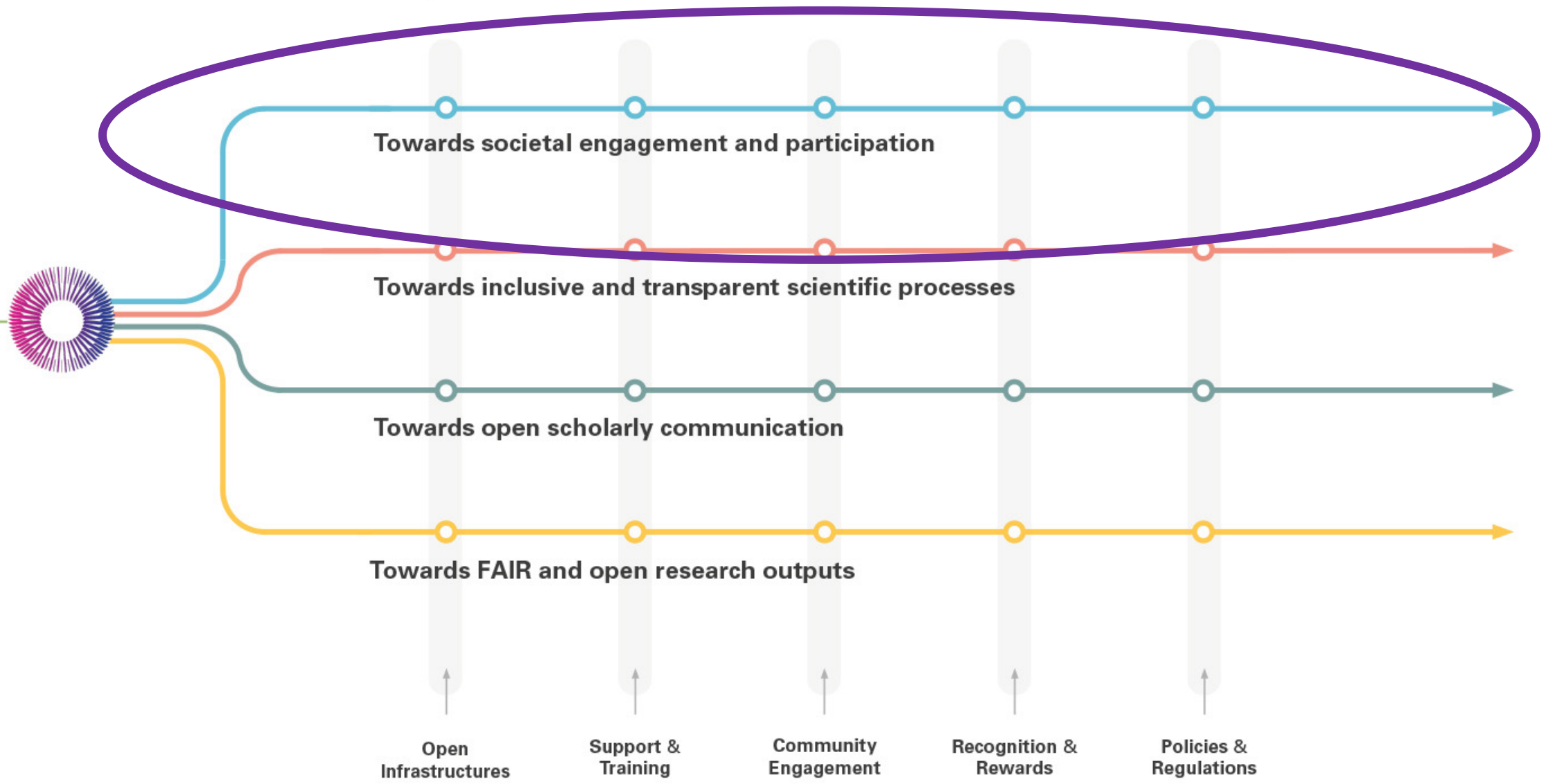
The **NPOS Rolling Agenda**, that a large group of stakeholders is working on, will describe:

- **A coherent set of actions** necessary **to achieve** the strategic goals of the Programme
- **which stakeholders** will be involved **and their role** in these actions.

key lines of action



key lines of action



2020



Kennis en krachten gebundeld – citizen science in Nederland

Wetenschap en samenleving in cocreatie

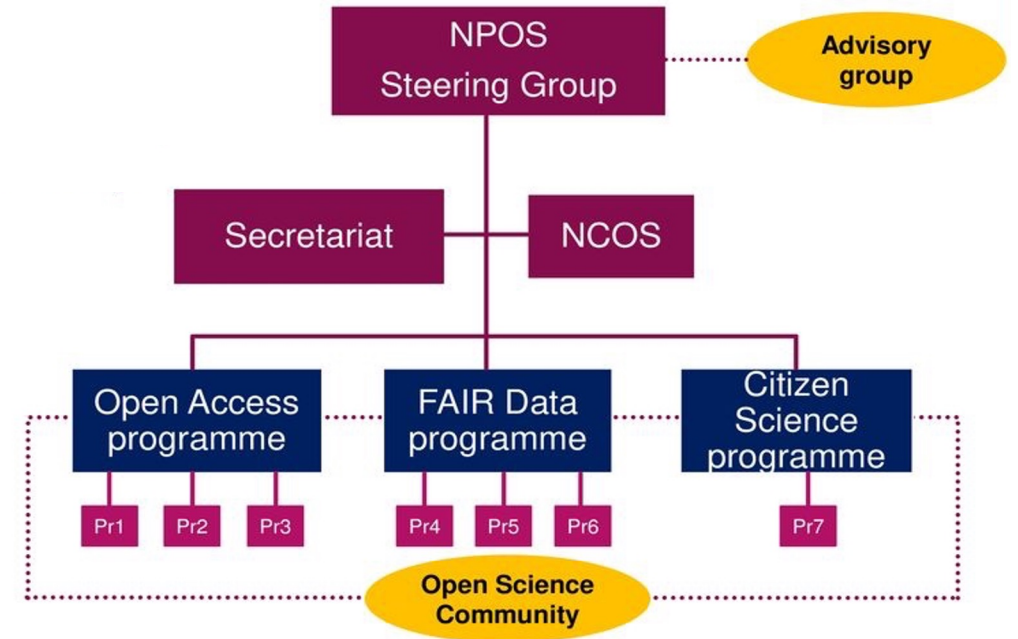
Eindverslag van de werkgroep Citizen Science

26 oktober 2020

NPOS (2020) Kennis en krachten gebundeld – citizen science in Nederland

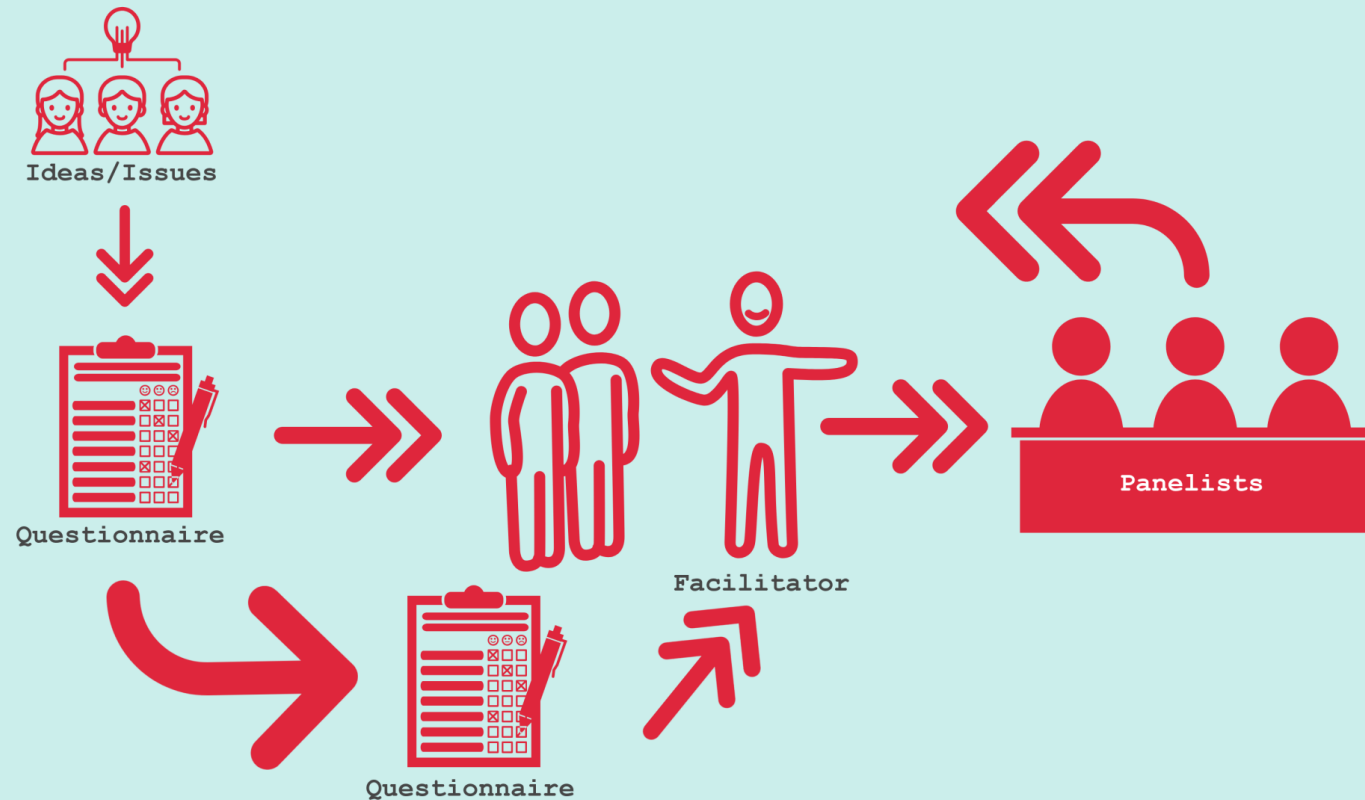
tinyurl.com/nposreport

30



The Delphi Method In A Nutshell

The Delphi method is a survey-based framework for estimating the likelihood and outcome of future events. The Delphi method is a survey-based framework for estimating the likelihood and outcome of future events. It was developed in response to military strategy formation during the Cold War. The Delphi method has been adapted considerably since the 1960s.



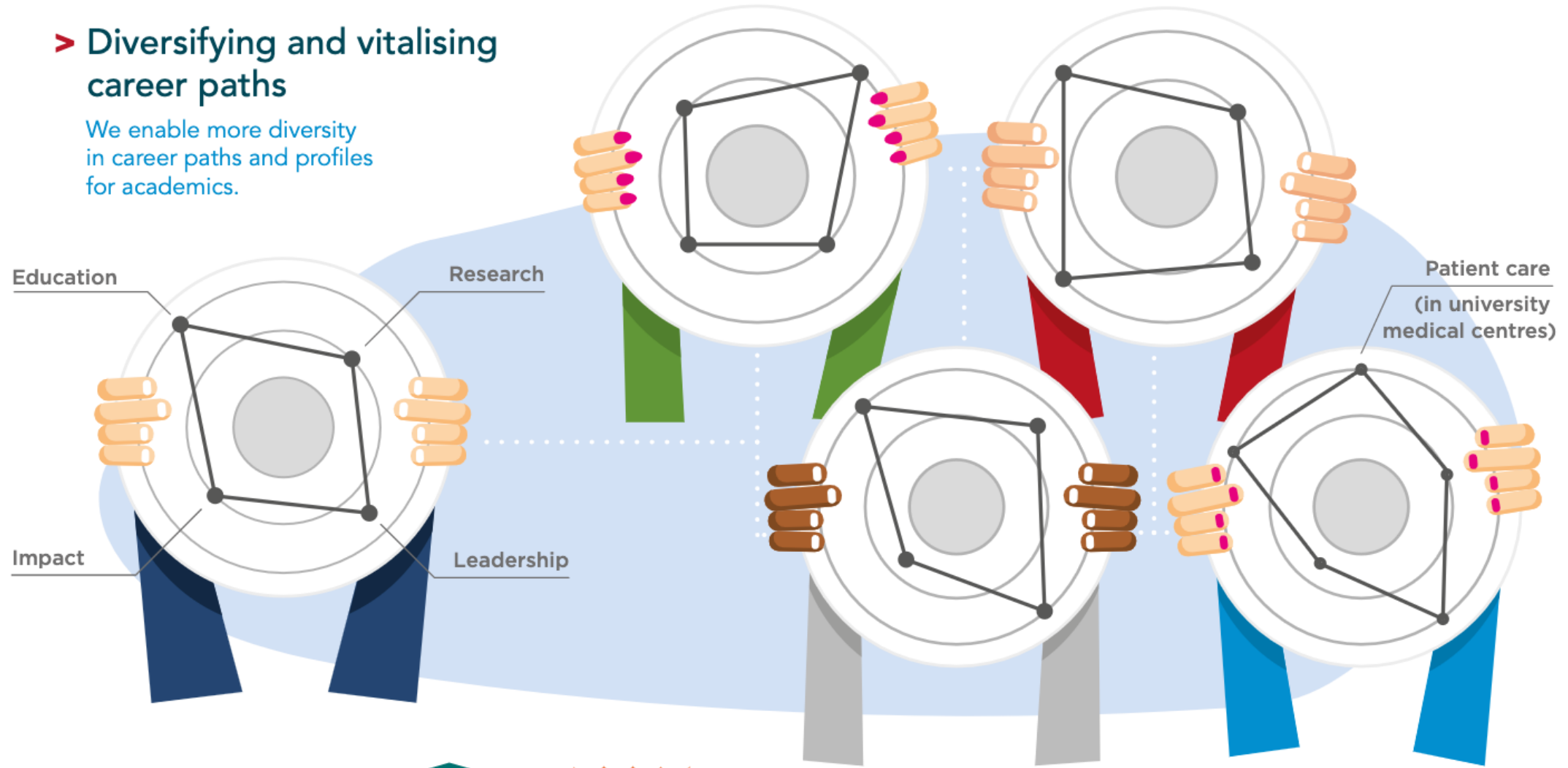


Room for everyone's talent

towards a new balance in the recognition and rewards of academics

> Diversifying and vitalising career paths

We enable more diversity in career paths and profiles for academics.





Mutual Learning Exercise on Citizen Science

Mutual learning exercises (MLE) focus on **specific R&I challenge** of interest to **MSs and ACs**



MLE on Citizen Science (CS) proposed from MSs to

- ✓ **strengthen their CS national policies and initiative** by exchanging lesson learnt and best practice
- ✓ exploit synergies and **upscale suitable (cross-) national CS initiatives** across the ERA

Exercise supported by EC Policy Support Facility and external experts

11 MSs/ACs: Germany, Slovenia, Austria, Belgium, France, Hungary, Portugal, Romania, Italy, Sweden and Norway

CS MLE Topics:

1. Introduction and overview on citizen science
2. Ensuring good practices and impacts
3. Maximising the relevance and excellence of citizen science
4. Enabling environments and sustaining citizen science
5. Scaling up citizen science



An increasing number of citizen science projects and initiatives are being implemented across Europe. This rapidly emerging mode of research and innovation shows substantial potential in terms of achieving greater societal impact and increasing trust in science, by leveraging collective societal capabilities, by enlarging the scope of the R&I, and by increasing relevance, responsiveness and transparency. The following topics of interest have been identified for the MLE:

- Topic 1: Introduction and overview on citizen science
- Topic 2: Ensuring good practices and impacts
- Topic 3: Maximising the relevance and excellence of citizen science
- Topic 4: Enabling environments and sustaining citizen science
- Topic 5: Scaling up citizen science

Visit the website for more information: <https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility>

Participating countries: Austria, Belgium, France, Germany, Hungary, Italy, Norway, Portugal, Romania, Slovenia and Sweden.

Scheduled meetings



Publications Office of the European Union | © European Union, 2022 | Reuse of this document is allowed, provided appropriate credit is given and any changes are indicated (Creative Commons Attribution 4.0 International license). For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders. | All images © European Union, unless otherwise stated. | Image sources: ©Shutterstock/ivector, ©Shutterstock/goodman111, ©Shutterstock/liustrator, ©Shutterstock/vasabil - all rights reserved.

Research and Innovation

Chair

Alan Irwin

Rapporteur

Margaret Gold (Rapporteur and Expert on Topic 4)

Independent Experts

Muki Haklay (Expert on Topic 1)

Rosa Arias (Expert on Topic 2)

Marzia Mazzonetto (Expert on Topic 3)

Antonella Radicchi (Expert on Topic 5)

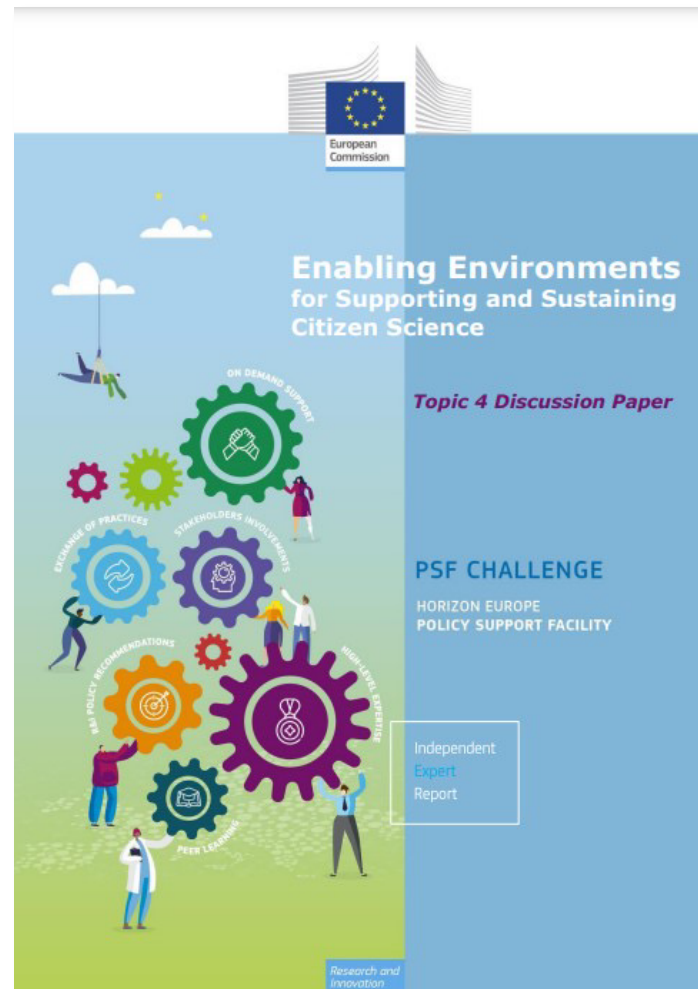
Ingeborg Meijer (Support Rapporteur and Support Expert on Topic 4)

DG RTD Policy Officer

Annamaria Zonno
(Annamaria.ZONNO@ec.europa.eu)



<https://ec.europa.eu/research-and-innovation/en/statistics/policy-support-facility/psf-challenge/mutual-learning-exercise-citizen-science-initiatives-policy-and-practice>



SUSTAINABILITY

ASSESS SUSTAINABILITY

SOLUTIONS

BUILD ON EXISTING TECH

EV PAYOUT ONLY ON PROOF OF OPEN DATA

CHALLENGES

MAINTAIN TECHNOLOGY

MAINTAIN THE KNOWLEDGE

SCREEN EXISTING COMMUNITIES
WHO CAN CONTRIBUTE?
TAP INTO REAL NEEDS
FEEDBACK
INVOLVE YOUTH
INVOLVE PUBLIC AUTHORITIES

ENSURE ADDED VALUE FOR ALL STAKEHOLDERS

ENVISION MORE INNOVATIVE FUNDING SOLUTIONS
THINK ABOUT THE "AFTER" WHAT TOOLS?
FUND... a TINY BIT LESS THAN NEEDED
MOBILIZE OTHER STREAMS

MAINTAIN FUNDING STREAMS



What is an Enabling Environment?

the factors that enable Citizen Science initiatives to be launched, sustained, grow and thrive – and ultimately achieve their aimed-for impacts and outcomes





Legal & Policy Frameworks

Societal Dialogue

Internal Policies & Culture

FUNDING

Supporting (Data) Infrastructure

Capacity Building & Networks



1. Supportive legal and policy frameworks

- Legislation aimed at sustaining or scaling-up current CS projects across various sectors,
- National research funding strategies to explicitly encourage and support citizen engagement in research and innovation,
- National directives to incorporate CS generated data in policy making and local governance, and
- Strengthened connections between national policy and European policy and directives.

2. Institutional policy frameworks, operational structures, and management cultures

- Institutional policies within research performing organisations (RPOs) and research funding organisations (RFOs) to promote and recognise CS research practices, for example within the context of Open Science or Responsible Research & Innovation (RRI),
- Support for CS practices embedded in operational structures,
- Career-path recognition for the value and importance of such practices, with matching rewards and incentives
- Local coalitions of RPOs, public authorities, businesses and Civil Society Organisations (CSOs) on topics being addressed by CS research or COs,
- Non-governmental Organisation (NGO) support of longer-term CS initiatives and COs,
- Internal communication structures and dedicated role descriptions for multi-stakeholder engagement within local authorities, national governance bodies, and non-governmental actors,
- Operational support of multi-stakeholder coordination across institutional boundaries, and
- Creation of an organisation function (e.g. “office of CS”) which provides support, promotion, and management capacity.

3. Capacity building activities

- Integration of skills training for CS as a practice within academic, professional, and life-long educational offerings,
- Dedicated roles within institutions for engaging with the public and CSOs, supporting CS research practices, and/or developing pathways for citizen-generated data, and
- National and regional-level CS platforms and associations for knowledge exchange, training, and development of best practice.

4. Supportive technological and data infrastructure

- Technological tools and platforms for data gathering and analysis, and data infrastructures for data aggregation and data sharing, that are findable, accessible, interoperable, and reusable (FAIR),
- Integration with official data systems and frameworks,
- Integration of CS infrastructure within national data systems, and
- Funding support for ongoing development of technological tools and platforms for CS and COs.

5. Societal dialogue and public fora promoting participation of public and private stakeholders

- National research agenda setting in collaboration with the public and CSOs,
- Impactful alliances between CSOs, NGOs and community-based organisations to promote dialogue and knowledge exchange, and
- Supportive infrastructure for public-private collaborations.



**citizen
science lab**

Margaret Gold

m.gold@biology.leidenuniv.nl

