



OPEN SCIENCE
AND RESEARCH

Open Science and Research Initiative in Finland

Pirjo-Leena Forsström

PhD, Secretary General, Development Director

Open Science and Research vision in Finland



Higher quality, more impact, more effective and more international science community



- OECD
- UNESCO
- ERAC
- LERU
- LIBER
- EUA
- ...

Changing the way science is done

1. Legal framework supporting open science
2. Funding instruments with same goal
3. Incentives supporting collaboration and openness
4. Clear guidelines and interoperable services
5. Collaboration on many levels
6. Education and increasing expertise



1. Legal framework supporting open science



ATT legal experts compiled a report on main juridical problems, needed for changes and suggestions for solutions:

<https://avointiede.fi/documents/10864/12232/Suurimmat+juridiset+esteet+avoimelle+tieteelle+ja+tutkimukselle+Suomessa/45e6ded5-192b-4c16-8ac6-f0828e146a19>

- **Data mining and copyright law**
- **Data protection and personal data (GDPR)**
- **Parallel copies**

=> EU Commission suggests TDM possible for research purposes

=> Data protection: in process: national implementation to enforce research

=> Suggestion for changes to allow parallel copies

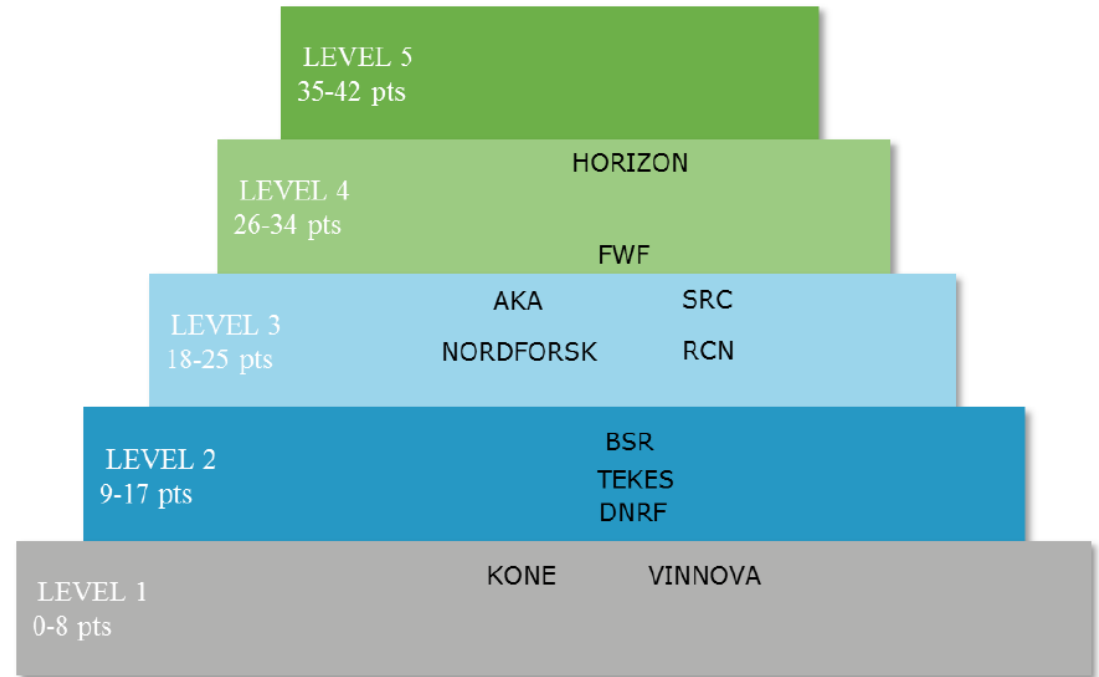
2. Funding instruments with same goal

Strategic Steering and Principles for Openness

- a) Strategic steering of openness
- b) Promoting the openness and re-use of research outputs
- c) National and international cooperation
- d) Interoperability of research infrastructures
- e) Strengthening openness-related competence

- Danish National Research Foundation
- FWF (Austrian Science Fund)
- Horizon 2020
- Interreg Baltic Sea Region
- NordForsk
- The Research Council of Norway
- The Swedish Research Council
- Vinnova (Sweden)

Evaluation of Operational Culture Maturity Rankings of Research Funding Organisations



Level 5 Strategic

An open operational culture is publicly encouraged throughout the organisational level and openness has been defined as a core value in the organisation's strategy and policies. Activities are open and developed in accordance with the principles of openness and in cooperation with other actors. Openness has also been linked to the long-term planning and management of activities. The organisation is always able to ensure that it is moving towards its goals, and is learning and adapting. Key benchmarks are in comprehensive use and are continually reviewed. Personnel are aware of their targets and the organisation's progress towards openness.

Level 4 Managed

The organisation is actively working towards an open operational culture, and principles of openness have been publicly set as one of its objectives. Activities are largely open and adhere to the principles of openness. Openness is managed and regularly measured. Measurements are analysed and corrective measures are proactively taken. The organisation is mature in terms of its utilisation of open information, which is also taking on increased significance.

Level 3 Defined

At this level, decisions are increasingly made with the aid of data based on openness measurements. Management supports the planning and implementation of an already more effective openness strategy. The organisation has done a great deal of work towards breaking down information silos, in order to establish an extensive organisation-wide technology management and architecture. Although progress has been made towards an open operational culture, this has yet to be completely achieved due to deficiencies in policies and principles. Openness is not to be found as a core steering value in the organisation's strategy. Activities are in many respects open and based on documented descriptions.

Level 2 Partly managed

The organisational culture will begin to change at the next level. Understanding the benefits of openness and its impact on activities is key. However, support for openness is limited and the organisation still has unlinked data warehouses. The first steps have been taken towards an open operational culture, but this is not publicly encouraged. Openness does not appear as a core value in the organisation's strategy. Activities are open to some extent. The organisation has begun efforts to develop competencies and create a systematic approach to openness. Performance measurement is largely the measurement of financial performance.

Level 1 Unmanaged

No steps have yet been publicly taken towards an open operational culture and the organisation lacks guiding principles and policies. Processes have not been clearly defined. Openness is not included in the organisation's strategy. Openness-related activities are not encouraged at organisational level. Indicates a situation in which openness is not consciously managed. At worst, the organisation may be an information silo. The term 'information silo' denotes informal point solutions. Although systems are in use, data for reports and benchmarks is often manually collated from a variety of information systems and other sources.

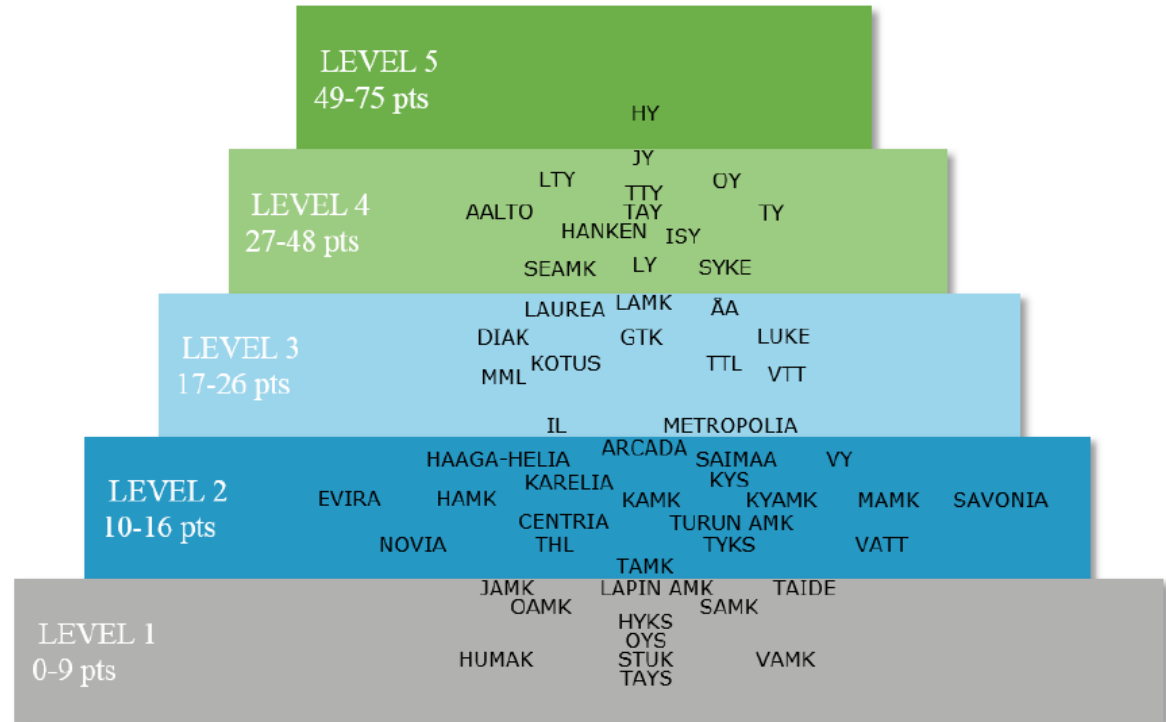


■ Maturity levels

3. Incentives supporting collaboration and openness

- Research Organizations

Evaluation of Operational Culture Maturity Rankings of Research Organisations



Implementing open science operating culture in HEI's in 2015



- The operating culture was studied in four sections:
 - Strategic guidance
 - Policies and principles
 - Supporting openness
 - Reinforcing expertise
- The maturity assessment:
 - Basic information from openly available material on the web was collected to assess the open science operating culture in December 2014
 - This information base was improved with supplementary information from a survey to the HEIs, response rate 88%
 - The HEI's commitment and perceived challenges to the Open Science and Research roadmap was assessed

3. Incentives supporting collaboration and openness

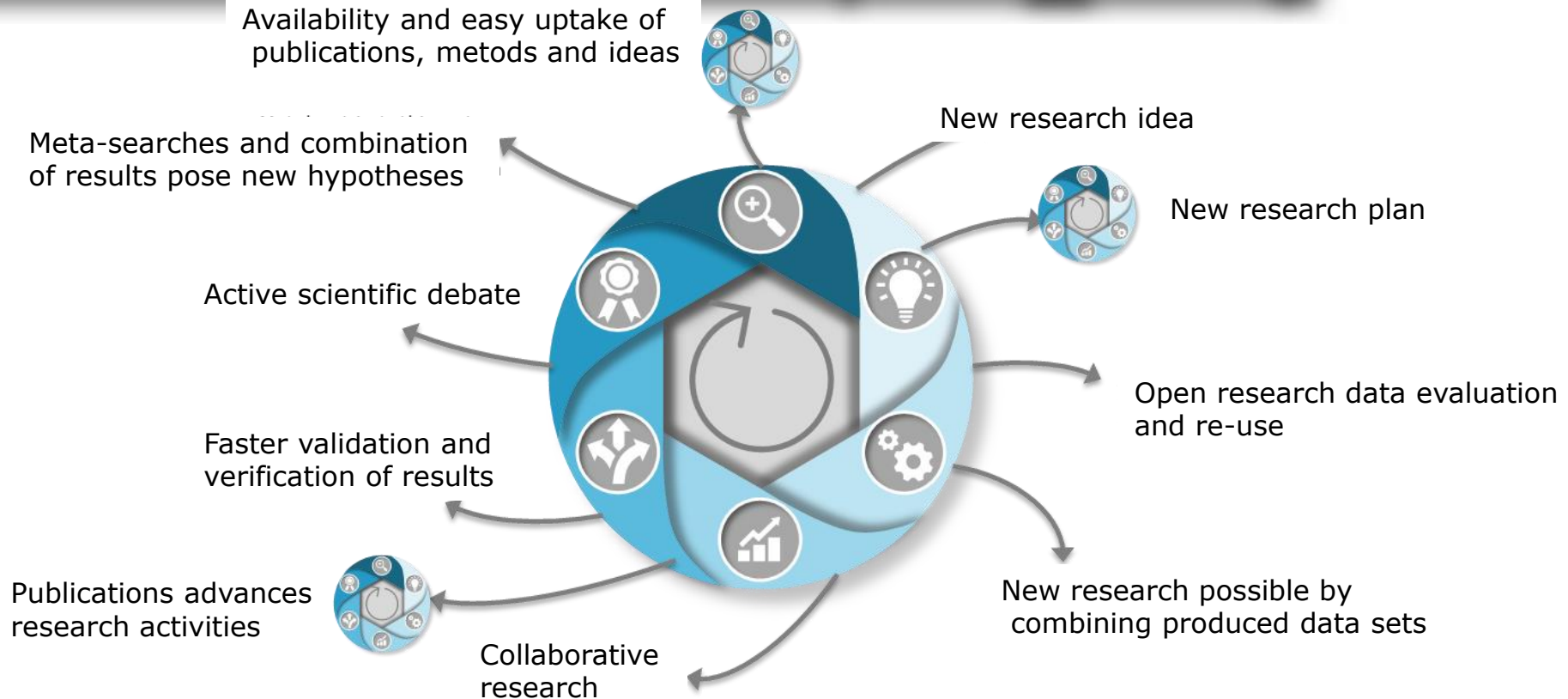


Researchers:

Evaluation of Research Careers fully acknowledging Open Science Practices , Recommendations:

1. 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 (R1-R4).
2. Where needed, there should be a review of **ERA policies, ERA roadmaps and National Action Plans through the lens of Open Science**. If necessary, policies must be updated in order to ensure compatibility with Open Science.
3. At European level all means to **encourage and incentivise researcher participation in Open Science** through support and funding mechanisms should be pursued. This should include,
 - The **Human Resources Excellence in Research Award (HRS4R)**⁴ integrating Open Science assessment criteria for researcher recruitment, career progression and grant evaluation;
 - Open Science activity by researchers should become **a cross cutting theme in all of the Work Programmes of Horizon 2020 and, most importantly, in the future Framework Programme, FP9**.
 - At **national, regional and institutional** level, best efforts should be made to integrate the recognition and rewards for researchers engaging in Open Science into existing and future funding mechanisms.
4. The assessment of researchers during recruitment, career progression and grant evaluation should be structured to encompass the full range of their achievements including Open Science. This **multi-dimensional approach could be implemented using the instrument OS-Career Assessment Matrix (CAM)** that takes into consideration the full range of achievements to reflect diverse career paths. There should also be a validation process on the content and feasibility of the OS-Career Assessment Matrix (CAM) in researcher assessment at European, national, regional and organisational level as well as taking into account the wide spectrum of disciplines, research funding and research performing organisations.


4. The framework of open science: targeting at interoperable services




5. Collaboration on many levels

Target	Action
Creating ownership	Engaging key actors at different organizations and levels https://openscience.fi/operational-groups
International collaboration	Use of researchers' networks, active role in key initiatives, uptake of work done
Agreement on semantic interoperability	ATT information model (wide collaboration)
Supporting development towards Open Science	Specific funding for stakeholders' activities as seed money (Tieto käyttöön) https://avointiede.fi/attn-hankkeita
Supportive actions	For example: Publisher costs https://openscience.fi/publisher_costs

6. Education and increasing expertise

- 
- Open Science and Research Manual produced via open dialogue
 - Open Science education: <https://openscience.fi/training>
 - Online course for Open Science
 - Reports on educational needs and level of knowledge
 - Identification of various target groups and tools
 - Master course in Open Science
 - Starting 2018: Open science in doctoral studies



Main target for Finnish Open Science and Research Initiative:
MAKE STAKEHOLDERS STRONG IN OPEN SCIENCE, SO THAT
INITIATIVE IS NO LONGER NEEDED.

