



# Finnish Open Science and Research Initiative

Eeva Kaunismaa

Department for Higher Education and Science Policy

Ministry of Education and Culture

Ministère de l'Éducation et de la Culture

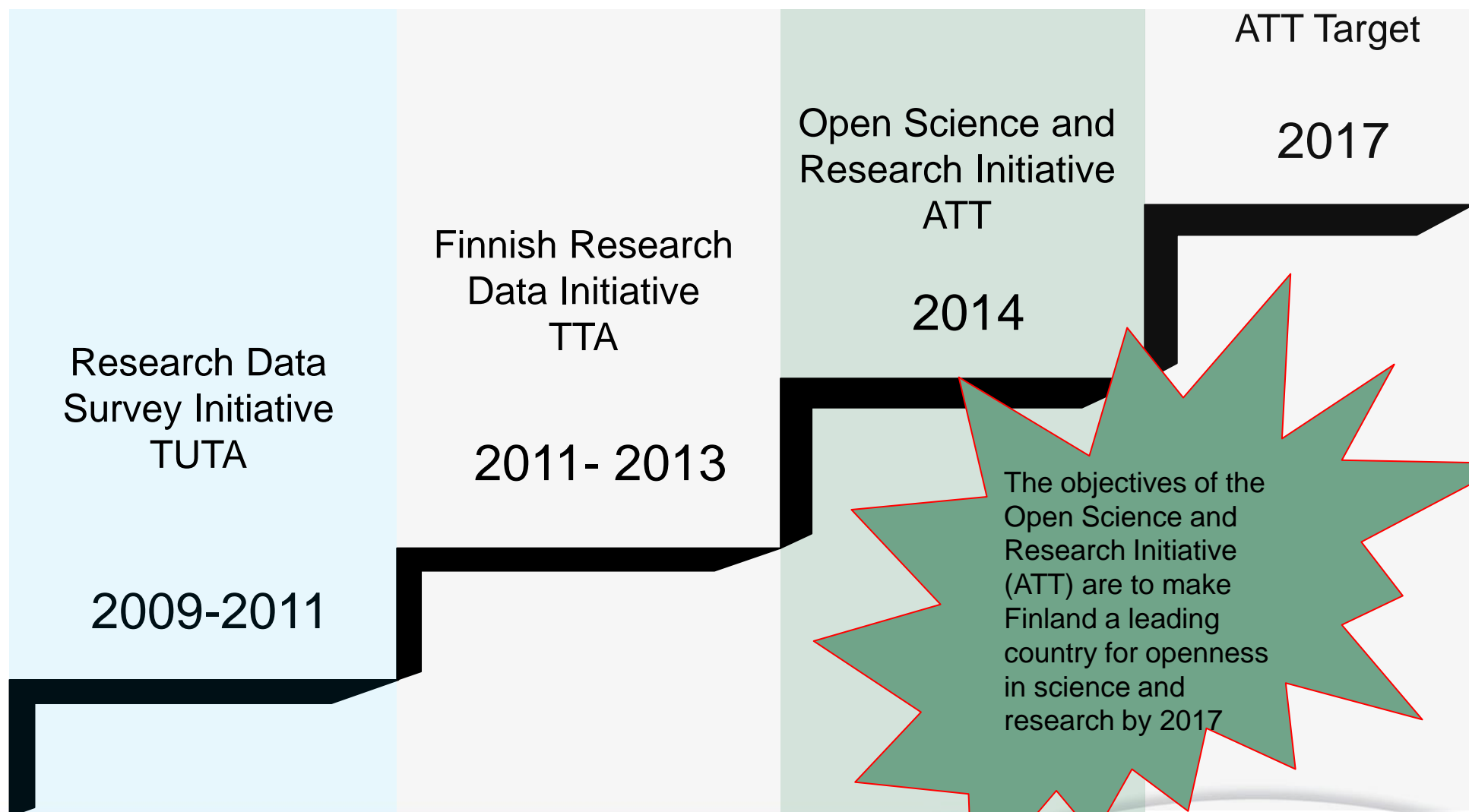
# Introduction

# Benefits of open science and research



- Faster progress
- Greater impact
- Science-based decision-making
- Citizen science

# Open Science and Research 2009-2017



# **Finnish Open Science and Research Roadmap 2014-2017**

# Vision

Vision 2017:  
Open research leads to surprising  
discoveries and creative insights

Reinforcing the  
intrinsic nature  
of science and  
research

Strengthening  
openness-  
related  
expertise

Ensuring a  
stable  
foundation for  
the research  
process

Increasing the  
social impact of  
research

# Objectives

Reinforcing the intrinsic nature of science and research

- Openness and reproducibility increase the reliability and quality of science and research

Strengthening openness-related expertise

- Opportunities afforded by openness boost Finland's competitive edge

Ensuring a stable foundation for the research process

- Good and clear basic structures and services

Increasing the social impact of research

- New opportunities for researchers, decision-makers, business, public bodies and citizens

# Objective 1: Reinforcing the intrinsic nature of science and research

2017

Reviewing progress  
Monitoring maturity level of organisations

2016

Reviewing progress  
Developing an evaluation model for citizen science

2015

Preparation of policies to support activities  
Incentives for openness in peer-reviews and merits  
Assessing the state of openness in research environments



## Objective 2: Strengthening the openness-related expertise

2017

Introducing the certificate of Open Science  
Provision of training and guidance

2016

Piloting the certificate for Open Science  
Provision of training and guidance  
Establishing professorships focused on openness

2015

Development of certificate for Open Science  
Updating the Open Science and Research Manual  
Analysing the competency level - training packages and training

# Objective 3: Ensuring a stable foundation for the research process

2017

Putting into practice digital preservation of research outputs

2016

Development of digital preservation  
Opening up new major national research data  
Creating permanent operating model for open publication

2015

Development of services for utilization of open data  
Piloting the open publication of Finnish scientific publications  
Development of common practices for storage, distribution and publication of outputs & promotion of service design and usability

## Objective 4: Increasing the social impact of research

2017

Reviewing progress

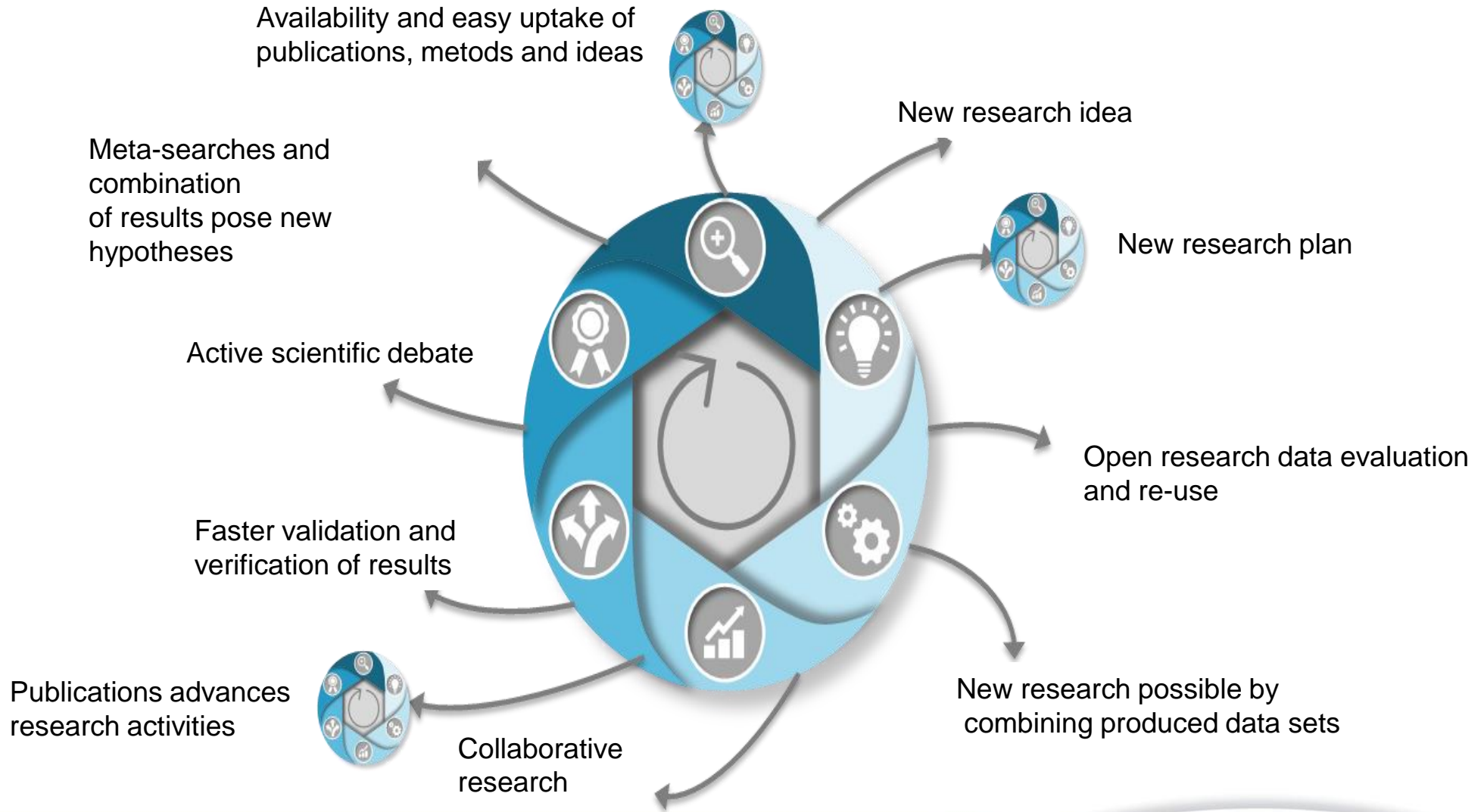
2016

Introducing openness criterion for research funding  
Promoting peer reviews of openness (national / international)

2015

Motivating research organizations – both public and private - to develop businesses  
Indicators to measure and incentives to promote openness

# Science accelerator



# Implementation

# Key performance indicators

## **The number of organisations at the highest level of openness**

### - openness as strategic strength

- 10 % of HEIs in 2017
- 25% of HEIs in 2018
- 50% of HEIs in 2020

## **Doctoral programs with open science training**

- 90% of programs in 2018
- 100% of programs in 2020

## **Open access of publications in the EU assessment**

- 65% in 2017
- 75% in 2018
- 90% in 2020

## **Of new datasets**

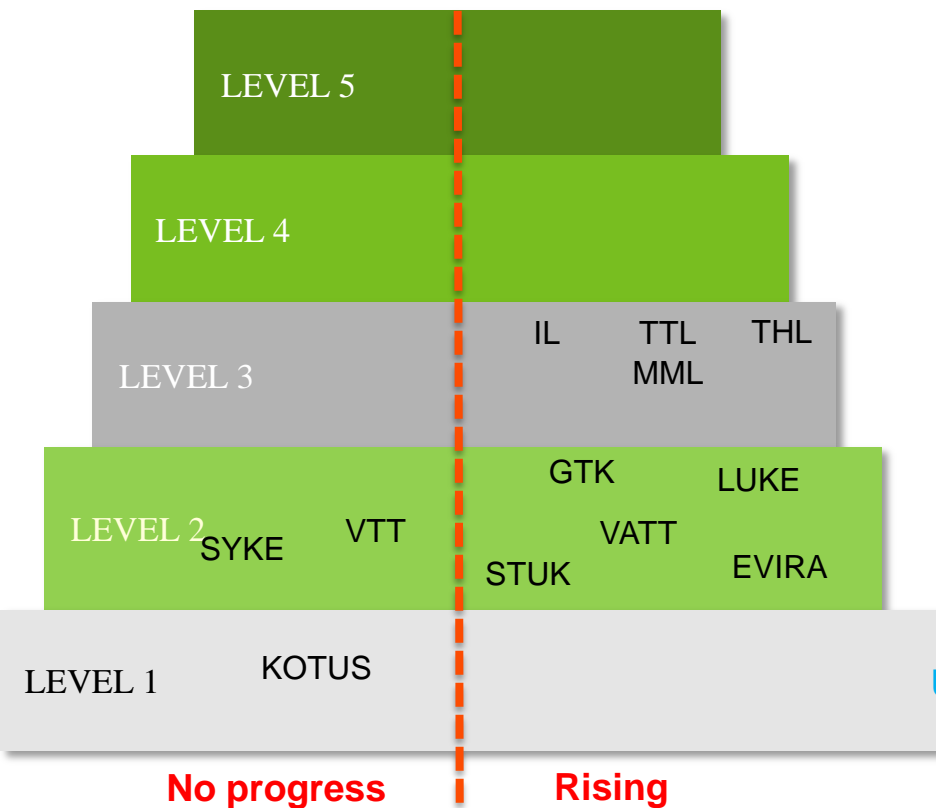
- 25% are licenced in 2017 and 30% in 2018
- In 2020 50% of new datasets are licenced and their metadata are found in national metadata catalogues

# Implementing open science in Finnish research organisations

- The culture of openness was studied in four sections
  - Strategic guidance
  - Policies and principles
  - Support for openness
  - Reinforcing expertise
- The maturity assessment
  - Basic information from openly available material to assess the open science culture
  - This information base was improved with supplementary information from a survey

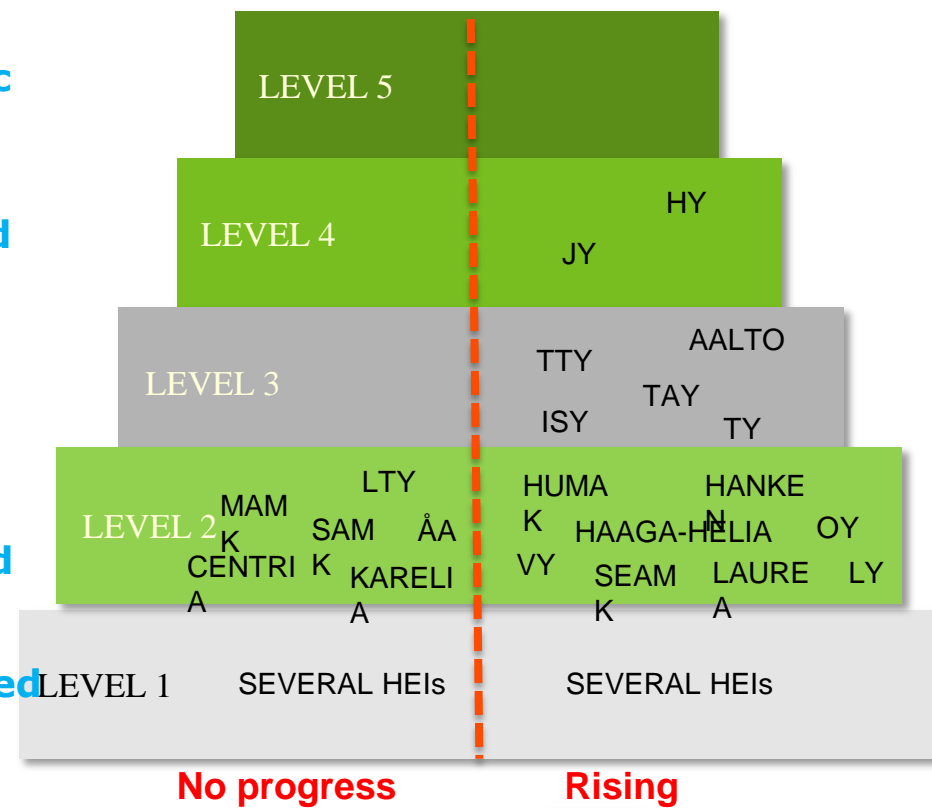
# The overall level of maturity in open science in 2015

## Research Institutes



## Higher Education Institutes

Strategic  
Managed  
Defined  
Partly managed  
Unmanaged





# Improving the Framework for Open Science and Research

- The Enterprise Architecture (EA) method is used for designing and planning complex IT infrastructure, services and related capabilities
- It creates a coherent understanding of the existing situation with the shortcomings and problems
- The lack of analytical planning leads to unneeded and costly overlaps and non-interoperable infrastructure and services
- EA creates a uniformal vocabulary and helps in identifying the roles and responsibilities of stakeholders and also common targets
- EA is a tool for governance, it aims at a global optimum solution instead of a partial one
- Despite the business connotation of the EA name, in Finland the method is also used in the public sector
- EA can be studied at many information levels: physical (with what), logical (how), conceptual (what) and principal (why)
- Produces assessment tools
- If done systematically EA helps in comparison of different frameworks

# More information



[Frontpage](#) [About the Initiative](#) [Services](#) [Training and Documentation](#) [Exploring Open Science](#)

## For Researchers



- [Find services that support research](#)
- [Read the Open Science Handbook](#)
- [Explore the Data Management Guide](#)

## Support for Research



- [Explore UNESCO's Open Access Curriculum](#)
- [Read selected articles on openness](#)

## For Organisations



- [Open Science policy in other countries](#)
- [Explore other Open Science Initiatives](#)