Towards Open Science

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CSC – Suomalainen tutkimuksen, koulutuksen, kulttuurin ja julkishallinnon ICT-osaamiskeskus

Open Science and Research Initiative

- **Ministry of Education and Culture** initiative for the promotion of information availability and open science

- On going 2014 - 2017

- Scope includes publications, research data, and methods

- Guidelines like using Creative Commons licensing

- See more at www.openscience.fi

OPEN SCIENCE AND RESEARCH

Open Science and Research vision

OPEN SCIENCE AND RESEARCH

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

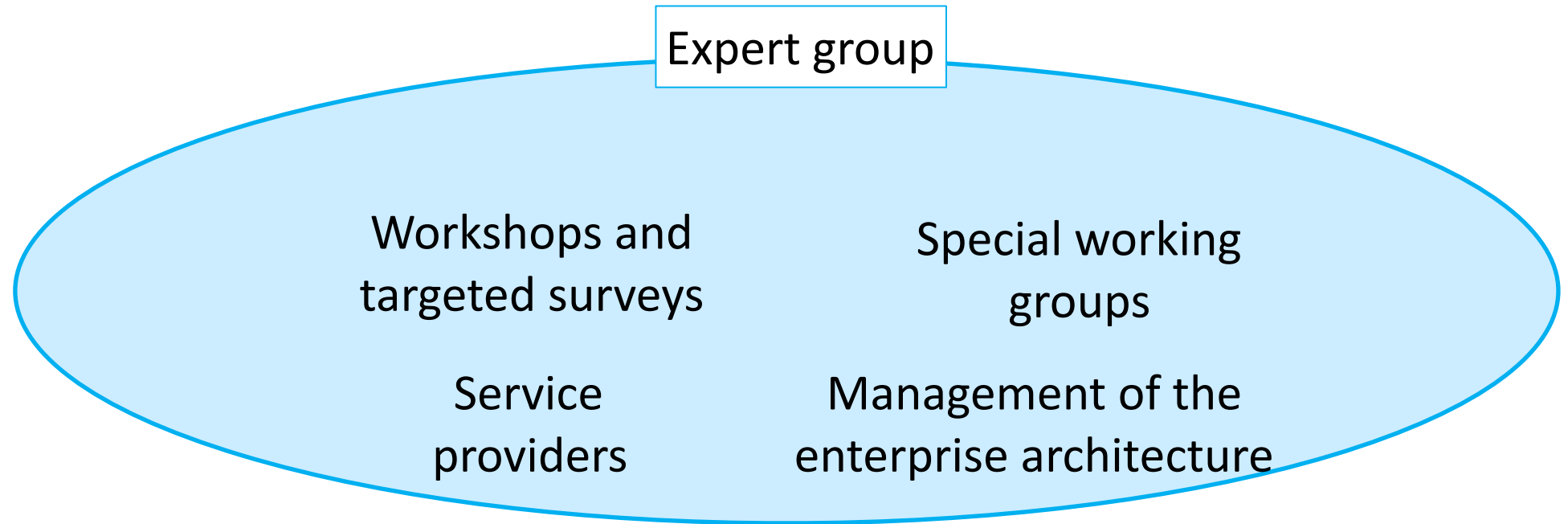| Reinforcing the intrinsic nature of science and research | Strenthening openness-related expertise | Ensuring a stable foundation for the research process | Increasing the social impact of research |

Initiative collaboration structure

Open science and research forum convenes annually in the autumn

Strategy group with members from universities, polytechnics, research institutes, ministries, funding bodies, etc.

Expert group

Workshops and targeted surveys

Special working groups

Service providers

Management of the enterprise architecture

Changing the mindset

- Education and awareness raising
  - Seminars
  - Lectures
  - MOOC
  - Handbook
  - Online journal
  - Videos, presentations, flyers

- More than 50 participating organizations

- Cooperation with funders

- Building services

Working Groups

- Infrastructures
- Rights Management
- Open Access Publishing
- Service Development
- Preservation
- Rights Metadata
- Data modeling

Reports

- Annual Evaluations
- Indicators
- OA International Survey
- Impact
- Business Architecture
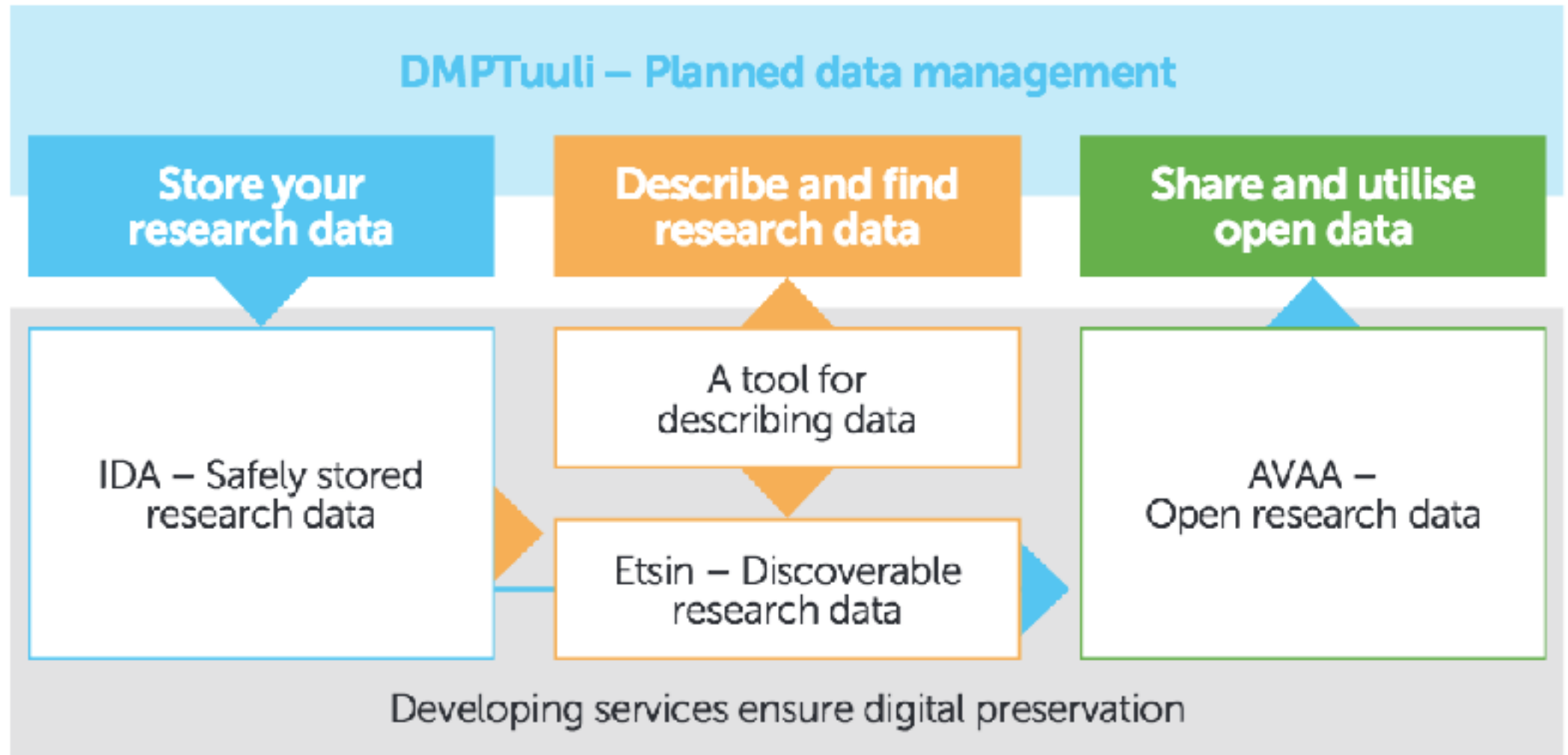- Model for Open Access
- Preservation International Survey

Some of the national guidelines

- Create user centred services to promote openness and good life cycle management for data

- Build modular, layered services that support reuse and and openness

- Promote Creative Commons licensing

- Promoting Open Access (not hybrid)
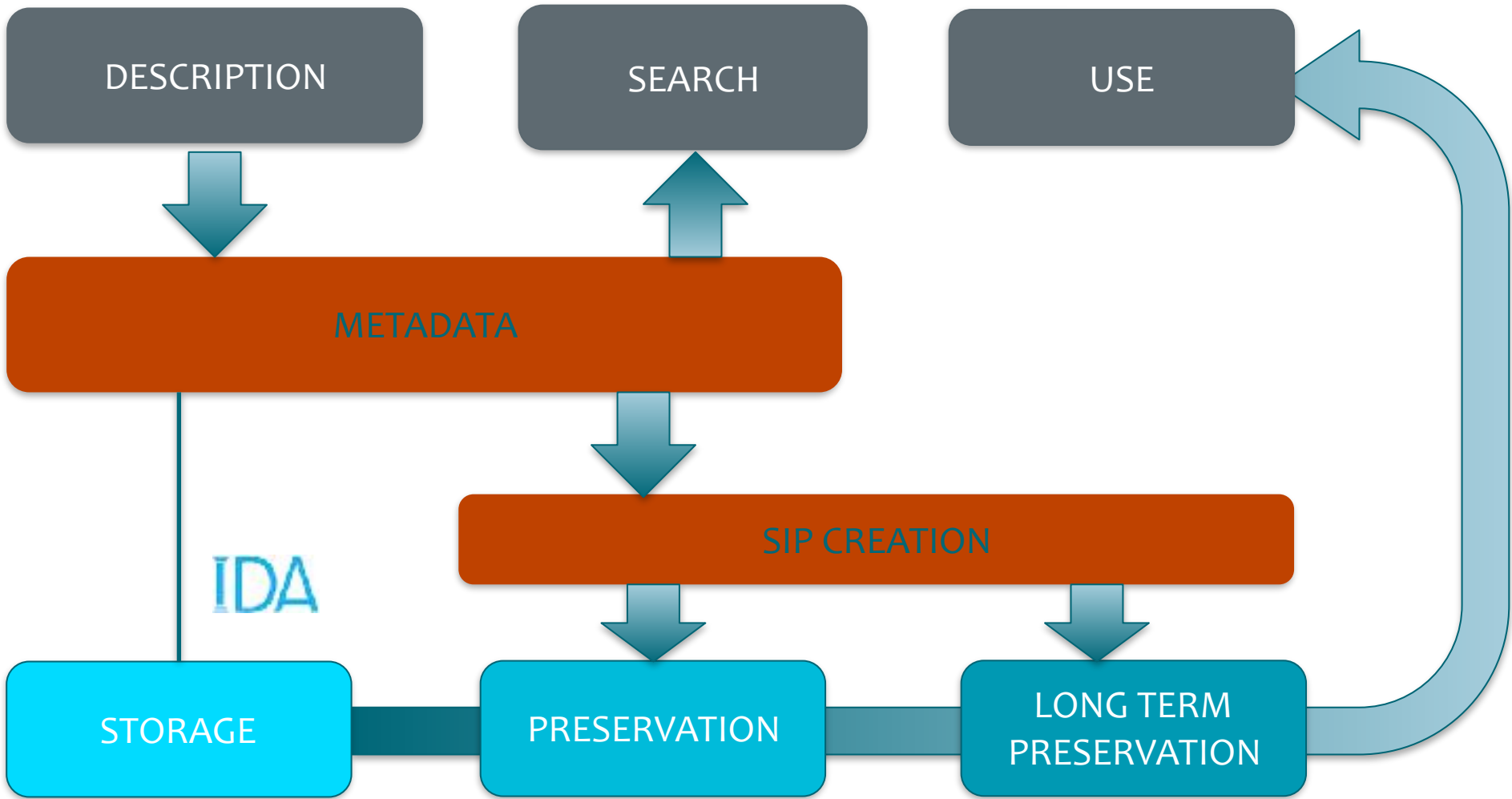
- Develop legal framework (IPR, GDPR)

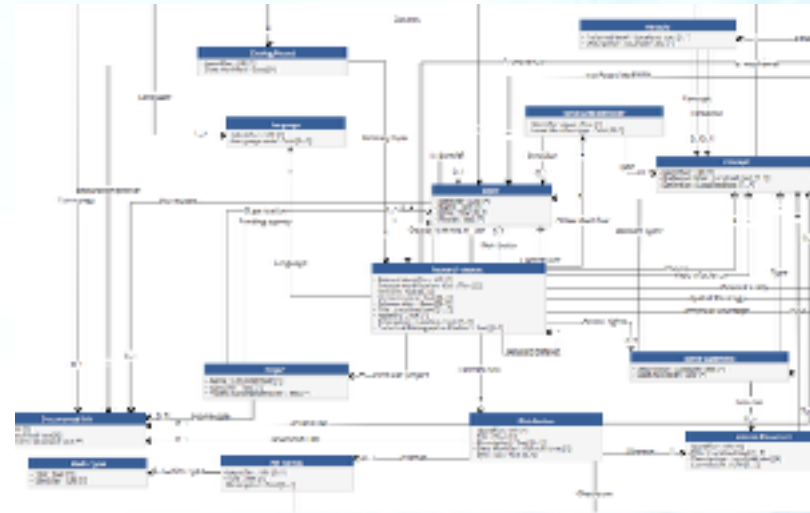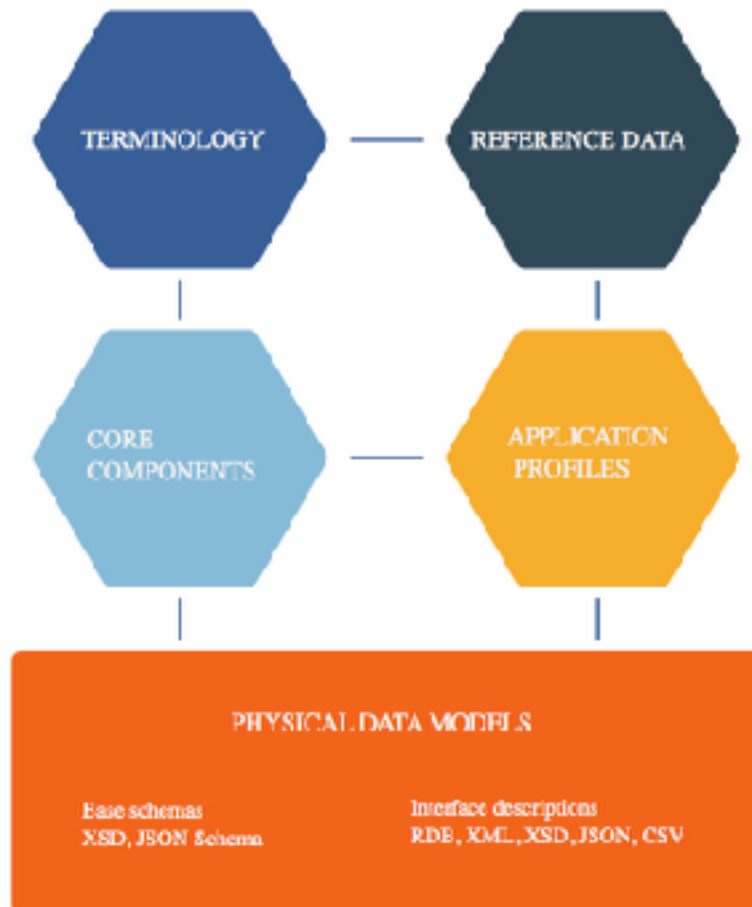30/03/17

Driving change through service development

CSC

DMPTuuli – Planned data management

Store your research data

Describe and find research data

Share and utilise open data

A tool for describing data

IDA – Safely stored research data

Etsin – Discoverable research data

AVAA – Open research data

Developing services ensure digital preservation

OPEN SCIENCE AND RESEARCH

Working to ensure preservation of research data

Interoperability Workbench

TERMINOLOGY

REFERENCE DATA

CORE COMPONENTS

APPLICATION PROFILES

PHYSICAL DATA MODELS

Ease schemas
XSD, JSON Schema

Interface descriptions
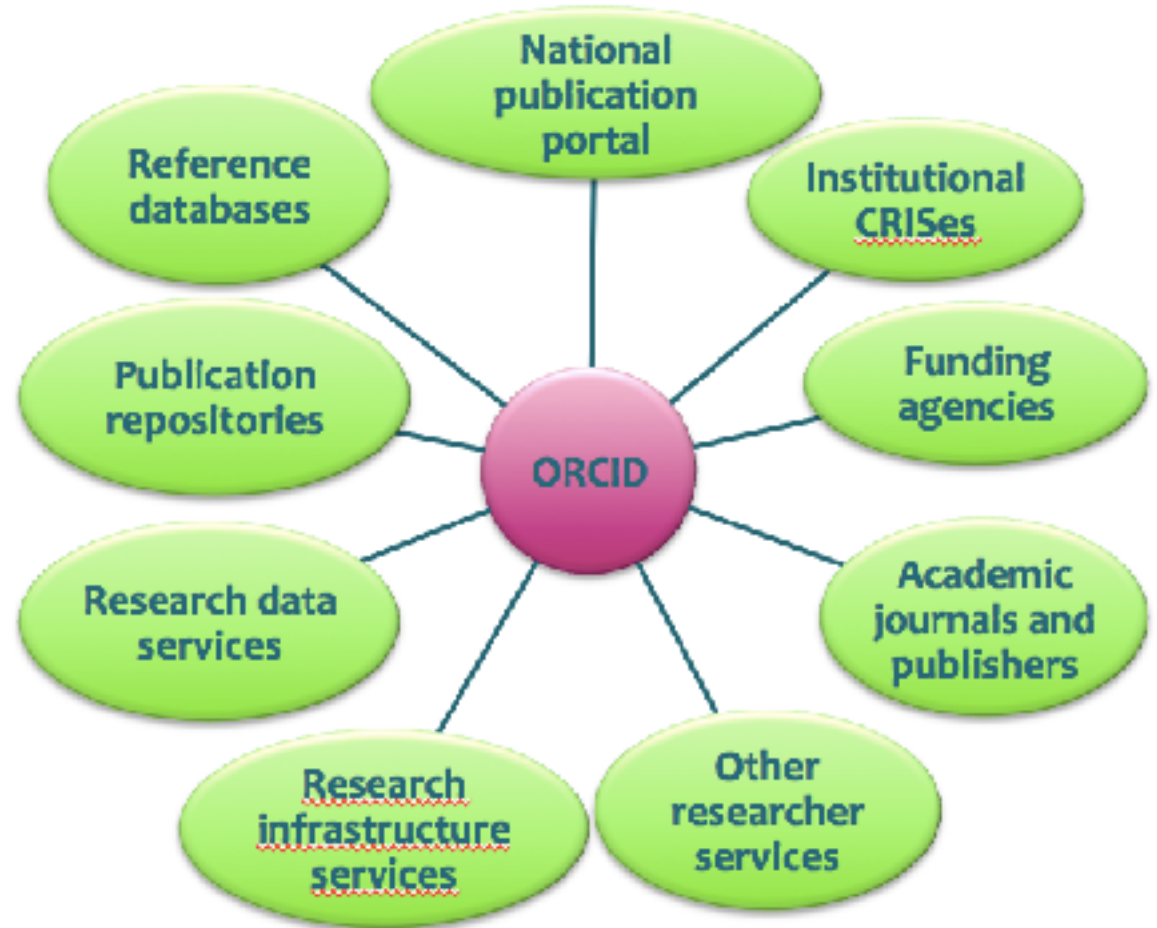RDB, XML, XSD, JSON, CSV

A set of tools designed to be used in developing, documenting and publishing interoperability descriptions such as re-usable information components and application profiles. It offers a one-stop service for openly published data descriptions and vocabularies. These semantically coherent data models help planning information management in information exchange operations (integration, interface, service bus) or database and software development.

http://iow.csc.fi/

ORCID

Ministry of Education and Culture supports ORCID implementation in Finland through central coordination in CSC, including

- **Communications and cooperation** with Finnish universities, funding organizations, publishers and other related bodies (*tutkijantunniste.fi*)

- **Support** for organizations in integrating ORCID in their systems and processes

- Coordination of a **consortium** membership of Finnish organizations

- Implementation a **national connect service** where a researcher can join his/her ORCID to Haka)
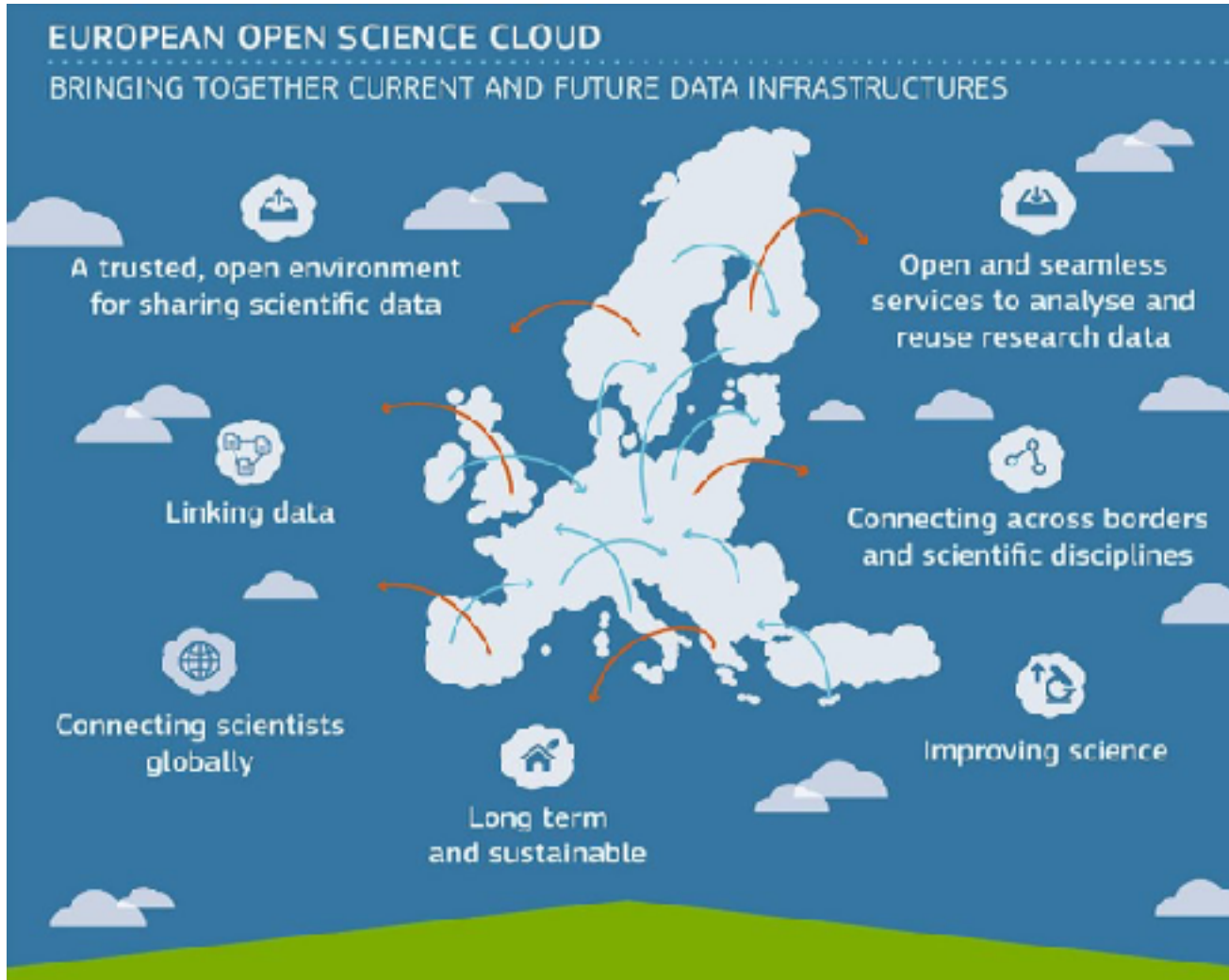
"Create - Adopt - Use"

✓Adopted code, policy, specifications, standards, or practices that enable data sharing

✓"Harvestable" efforts for which 12-18 months of work can eliminate a roadblock

✓Efforts that have substantive applicability to groups within the data community but may not apply to all

✓Efforts that can start today

17 flagship recommendations & outputs with over
75 cases of adoption in different domains, organisations and countries

EOSCpilot

EUROPEAN OPEN SCIENCE CLOUD
BRINGING TOGETHER CURRENT AND FUTURE DATA INFRASTRUCTURES

A trusted, open environment for sharing scientific data

Open and seamless services to analyse and reuse research data

Linking data

Connecting across borders and scientific disciplines

Connecting scientists globally

Improving science

Long term and sustainable

- establish the governance framework for the EOSC and contribute to the development of European open science policy and best practice;

- develop a number of pilots that integrate services and infrastructures to demonstrate interoperability in a number of scientific domains; and

- engage with a broad range of stakeholders, crossing borders and communities, to build the trust and skills required for adoption of an open approach to scientific research

Knowledge Exchange

German Research Foundation

Jisc (United Kingdom)

Denmark's Electronic Research Library

SURF (Netherlands)

CSC – IT Centre for Science (Finland)

Centre national de la recherche scientifique

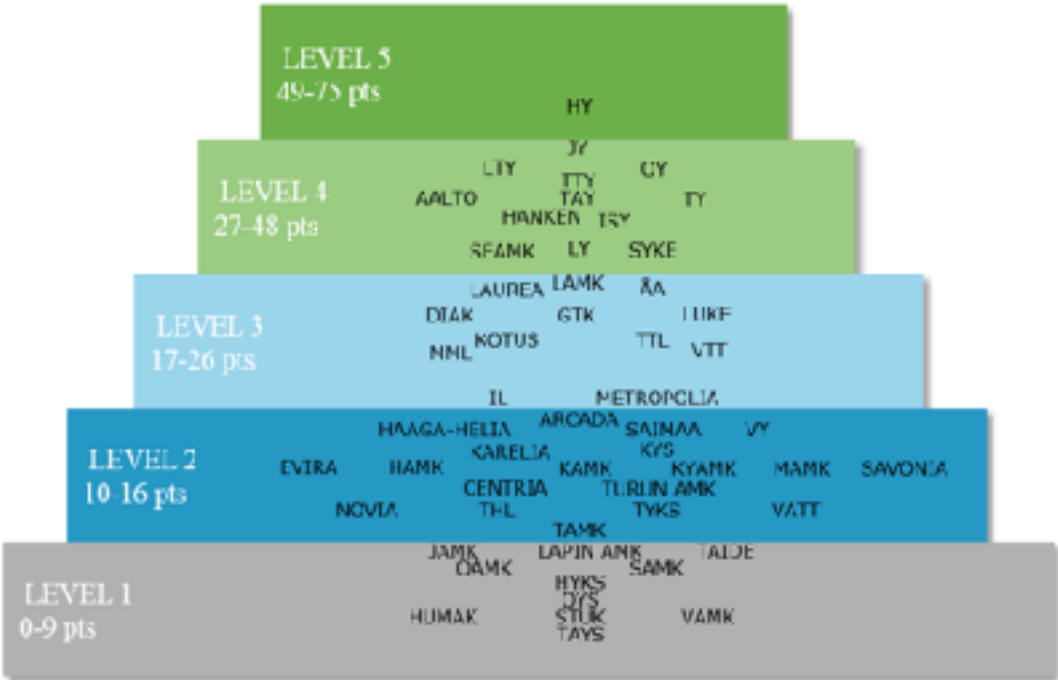*"Enable open scholarship by supporting an information infrastructure on an international level."*

SIx key national agencies and bodies within Europe responsible for the development of infrastructure and services to support the use ICT within education and research.
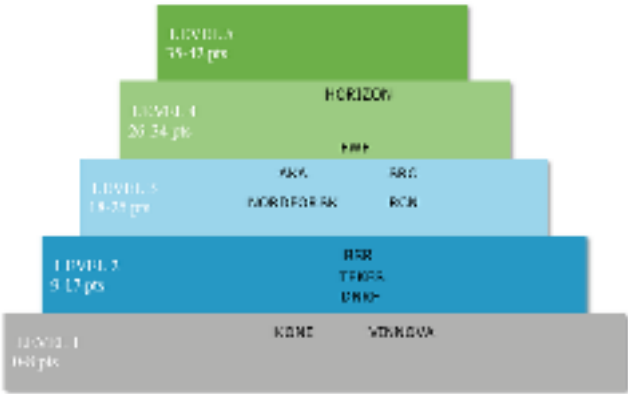
Results?

Evaluation of Operational Culture Maturity Rankings of Research Organisations

2015

2016

ROADMAP
Open science and research leads to surprising discoveries and creative insights: Open science and research roadmap 2014–2017
http://urn.fi/URN:ISBN:978-952-263-319-4