Open Science Angle Throughout the Research Process

From Open Science Policies to Actions at the University of Turku, Finland.

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AGENDA

- Open Science: making and braking the structures of research
- Open Science: global megatrend in the research arena
- OpenUTU: creating the open science policies and support at the University of Turku, Finland
- Results: Researchers' reactions and actions

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OPEN SCIENCE MAKING AND BRAKING THE STRUCTURES OF RESEARH

WHAT IS OPEN SCIENCE

Umbrella concept for opening research outputs

- **publications / data / research methods and technologies / whole research process transparent … open innovation / citizen science**

Digitalization of research

- **Digital technologies** constitute the technical foundation for the contemporary form of open science, allowing scientists to share knowledge and to collaborate in ways that were not possible before (Meyer and Schroeder, 2013)

The aim is to make knowledge resources **accessible, searchable, and re-usable** and increase the chances of discovering previously unseen connections

- **impact** to the society / scientific **novelties** / inventions and revolutions / enable fast **innovation** processes

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JOURNAL SYSTEM AND TECHNOLOGY MOUNTING THE OPENNESS OF RESEARCH

- At large the concept of open science is actually nothing new.
  - Creation of scientific **journal system** has aimed at opening science since seventeenth century
  - **Internet** has enabled opening science since 1990's onwards
  - **Recent technological developments** have added a new dimension to open science

Leo Lahti @antagomir · 7 h
"-- no one ought to publish --, without lodging a -- well bound manuscript copy of all -- data, in some place whereit should be accessible, under reasonable restrictions, to those who desire to verify his work." Francis Galton (1901), Biometrika 1(1)7-10. tinyurl.com/y2zf7j6e

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NARROW WAY OF MEASURING (OPENNESS OF) RESEARCH AND RESEARCHERS

- We have created structures (and indicators) to measure, indicate and evaluate the science
  - Most valued research merit to researcher, department, faculty, university comes from the **scientific publications**
  - Number and quality standards of publications, citations to journals or individual articles and people
- This has created a situation where researchers want to and perhaps need to protect their research results as well as research methods and data **until they are published** in a peer reviewed article
  - Limits opening of the other outputs of science?
- **Has the journal system turned against the original aim?**

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RETHINKING

- Open Science in it's broader understanding is a way to **value** and perhaps measure **the science throughout the research process** and beyond
  - datasets, open notebook, open methods, open peer review, open collaboration, open innovation, citizen science etc.
  - What is a merit in research and how is it valued and measured?

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OPEN SCIENCE MEGATREND IN RESEARCH ARENA
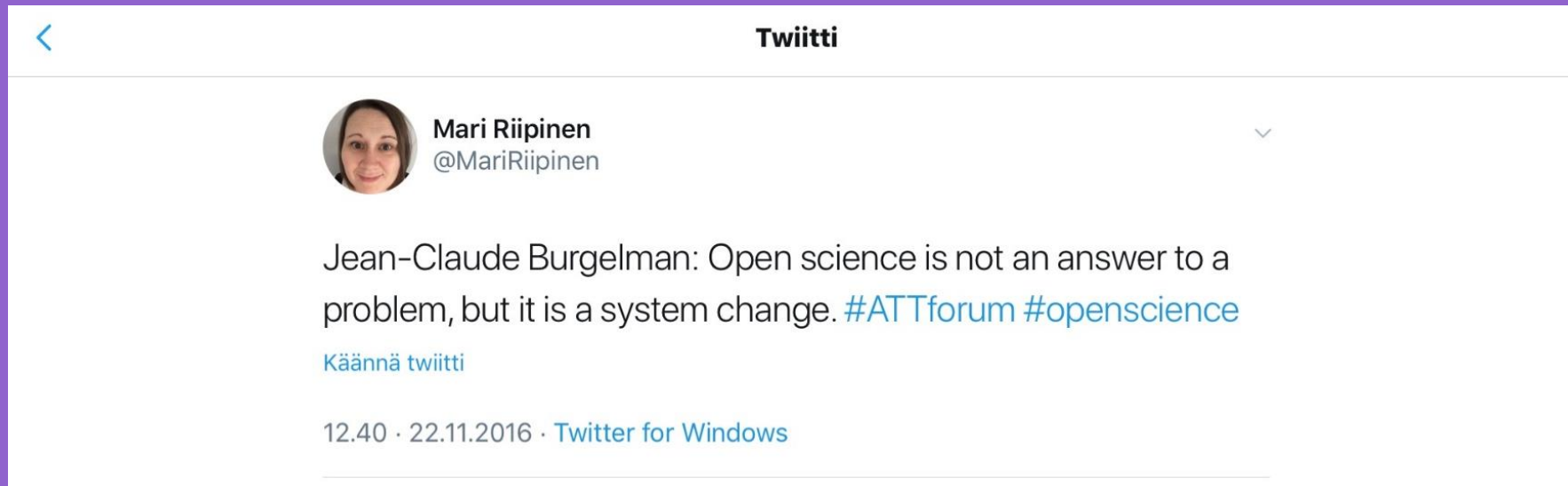
Plan S / cOAlition S

Robert-Jan Smits, the European Commission's special envoy for open access, was a "catalyst" behind the new plan. LUIGI MISTRULLI/SIPA/AP IMAGES

European science funders ban grantees from publishing in paywalled journals

By **Martin Enserink** | Sep. 4, 2018 , 3:15 AM

04 Sep 2018 | News

EU and national funders launch plan for free and immediate open access to journals

The architect of 'Plan-S', Robert-Jan Smits, hopes to force a major change in the business model of academic publishers. The effect will be similar to the abolition of mobile phone roaming charges in Europe, he says
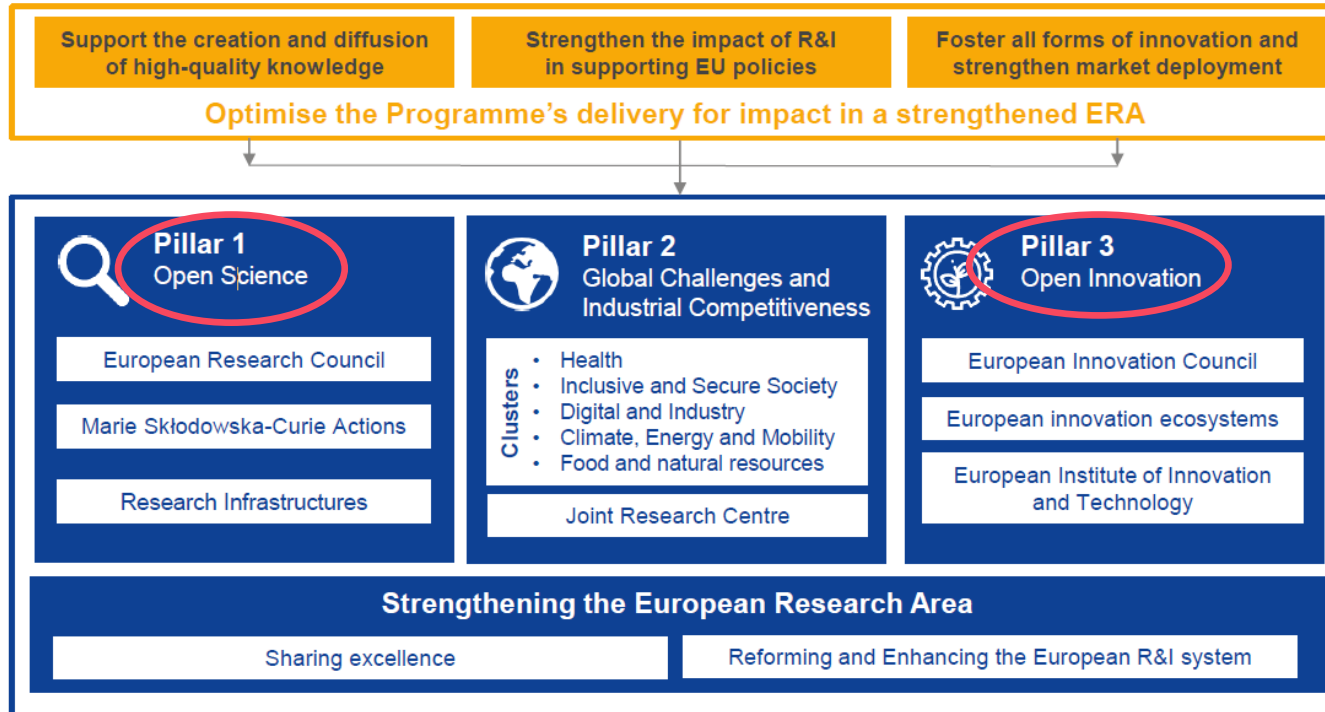
By Éanna Kelly

The architect of 'Plan-S', Robert-Jan Smits

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Horizon Europe for 2021–2027

Support the creation and diffusion of high-quality knowledge	Strengthen the impact of R&I in supporting EU policies	Foster all forms of innovation and strengthen market deployment

Optimise the Programme's delivery for impact in a strengthened ERA

Pillar 1
Open Science

- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

Pillar 2
Global Challenges and Industrial Competitiveness

Clusters
- Health
- Inclusive and Secure Society
- Digital and Industry
- Climate, Energy and Mobility
- Food and natural resources

- Joint Research Centre

Pillar 3
Open Innovation

- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

Strengthening the European Research Area

Sharing excellence	Reforming and Enhancing the European R&I system

Open Science across the programme

Open Science → Better dissemination and exploitation of R&I results and support to active engagement of society

- **Mandatory Open Access to publications:** beneficiaries must ensure the existence of sufficient rights to comply with open access requirements

- **Mandatory Data Management Plan for FAIR (Findable, Accessible, Interoperable, Re-usable) and Open Research Data :** for all research data with possibilities to opt-out from open access requirements

- Support to researcher skills in and reward systems for open science
- Use of European Open Science Cloud

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European Commission

DORA

San Francisco Declaration on Research Assessment

… to improve the ways in which the output of scientific research is evaluated

There is a pressing need to improve the ways in which the output of scientific research is evaluated by funding agencies, academic institutions, and other parties. To address this issue, a group of editors and publishers of scholarly journals met during the Annual Meeting of The American Society for Cell Biology (ASCB) in San Francisco, CA, on December 16, 2012. The group developed a set of recommendations, referred to as the San Francisco Declaration on Research Assessment. We invite interested parties across all scientific disciplines to indicate their support by adding their names to this Declaration.

The outputs from scientific research are many and varied, including: research articles reporting new knowledge, data, reagents, and software; intellectual property; and highly trained young scientists. Funding agencies, institutions that employ scientists, and scientists themselves, all have a desire, and need, to assess the quality and impact of scientific outputs. It is thus imperative that scientific output is measured accurately and evaluated wisely.

العربية
中文
Deutsch
English
Español
Français
हिन्दी
Italiano
Lietuvių kalba
Nederlands
Português Brasileiro

IN FINLAND:
- 14.3.2019 Academy of Finland joined the DORA and signed San Francisco Declaration
- Tampere University signed the declaration in March 2019

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STEERING AND GOVERNANCE TO OPEN SCIENCE IN FINLAND

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Finland: Open Science and Research

- In Finland, the Ministry of Education and Culture promotes research information availability and open science through the Open Science and Research Initiative, which was set out for the years 2014-2017.
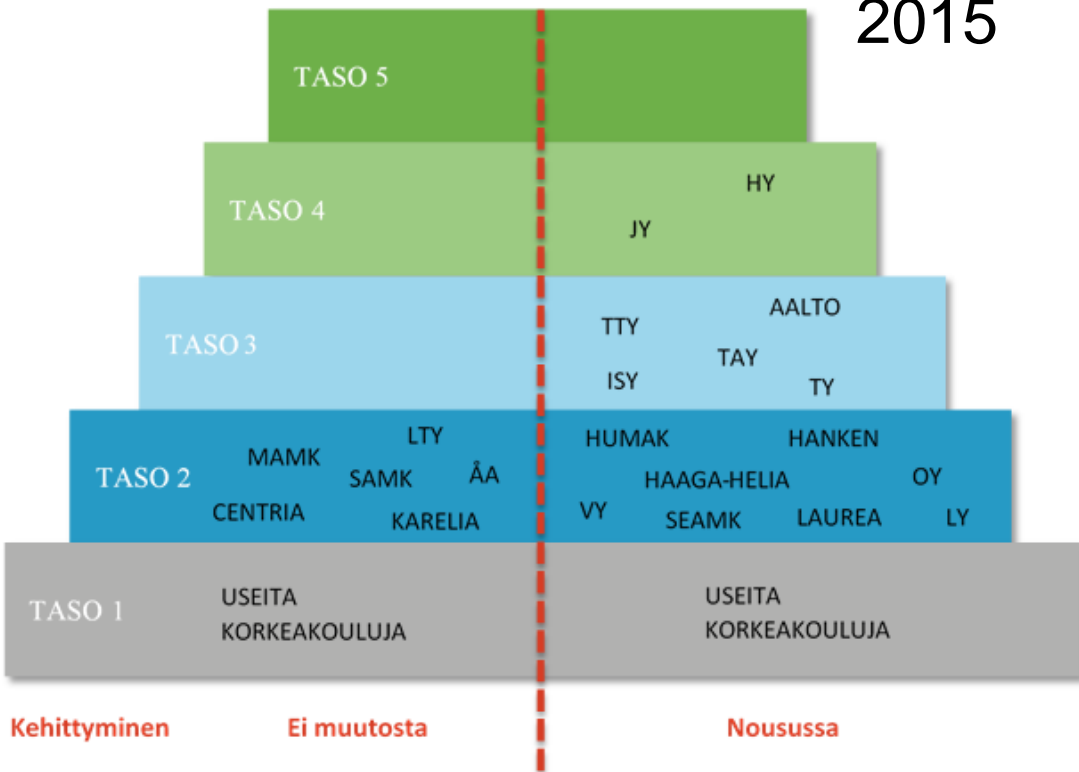

OPEN SCIENCE AND RESEARCH
INITIATIVE TARGET 2017
- Open access
- Open data
- Open methods

OPEN SCIENCE AND RESEARCH
INITIATIVE ROADMAP 2014
- National and international collaboration
- Change of culture
- Open science handbook
- Services for preservation
- Services for metadata
- Services for access
- Tools e.g. for identification

FINNISH RESEARCH
DATA INITIATIVE
2011–2014
- Services
- Metadata
- International collaboration
- Awareness

RESEARCH DATA SURVEY
INITIATIVE 2009–2011
- Roadmap

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Measuring the maturity level of the openness within research organizations
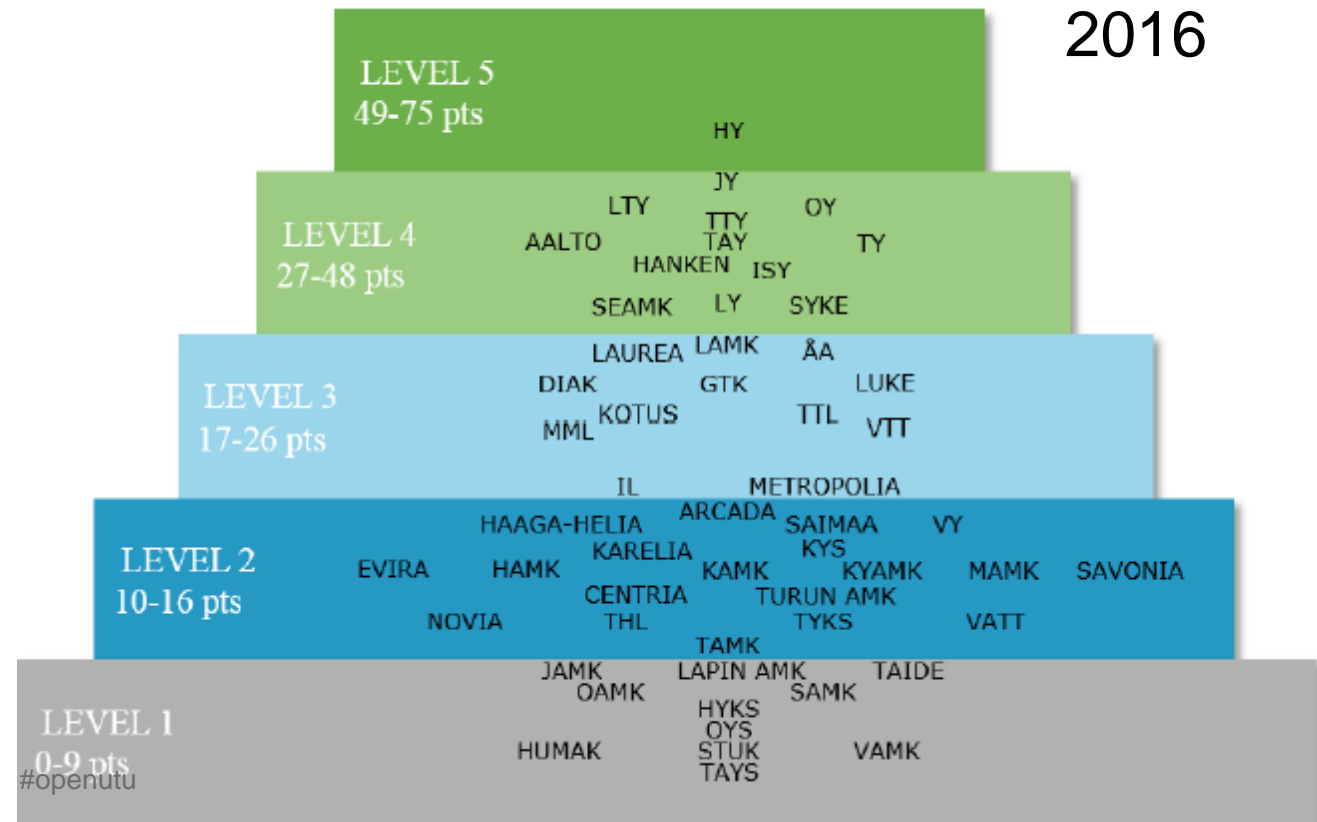
Funding model for Finnish universities 2021 onwards

Education 42%
- 30% Master's and bachelor degrees
- 5% Lifelong learning
- 4% Employment quantity and quality
- 3% Student feedback

Research 34%
- 8% PhD degrees
- 14% Scientific publications
  - Additional rate (1,2) to peer-reviewed open access publications
- 12% Competed Research Funding

Education and Science policy considerations 24%
- 15% Strategic development
- 9% National duties

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COORDINATION OF THE OPEN SCIENCE CONVERSATIONS AND ACTIONS IN FINLAND

- Ministry wanted to move the coordination of the open science actions to the scientific community itself and therefore the coordination is at the **The Federation of Finnish Learned Societies**

- There is a strategic group and working groups that operate at voluntary bases and they consist of researchers and administrative personnel from the HEI's in Finland

- Fist aim was to accomplish National *Open Publication Policy* in 2019

Bookstore Tiedekirja

Exchange Centre for Scientific Literature

House of Sciences and Letters

TIETEESSÄ TAPAHTUU

Journal Tieteessä tapahtuu

Peer-review label

The Science Forum

OpenUTU

3.

3. OPEN SCIENCE

ACTION	Schedule	Responsible party
The operational culture of open science is monitored with versatile indicators.	2018–2020	Vice Rector responsible for research, Director of Development
Realising actions from the University's road map for open science which covers the openness of research data, publications and methods, related training and support as well as the enterprise architecture of research.	2018–2020	Vice Rector responsible for research and Director of Development

#opendata

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OpenUTU -PROJECT

Steering Group

- Vice rector Kalle-Antti Suominen
- Head of Development Riitta Mustonen, Development Services
- Library Director Ulla Nygren, Library
- Communications director Anne Paasi, University Communications
- Director ICT Yrjö Saarikko, ICT services
- Professor Hannu Salmi, Faculty of Humanities
- Professor Risto Rinne, Faculty of Education
- Professor Päivi Oinas, Turku School of Economics
- Professor Veli-Matti Kähäri, Faculty of Medicine
- Professor Tapio Salakoski, Faculty of mathematics and natural sciences
- Professor Veli-Pekka Viljanen, Faculty of Law
- Professor Hannu Ruonavaara, Faculty of Social sciences
- Head of Unit Mari Riipinen, Research Development

- Data policy
  - Head of Development Riitta Mustonen,
  - Research Liaison Officer Mari Riipinen
  - Head on Library Services Jukka Rantasaari,
  - IT architect Olli-Pekka, Kaurahalme
  - Legal Council Toni Ahvas
  - Managing Editor Tuomas Koivula

- Publication policy
  - Head of Development Riitta Mustonen,
  - Research Liaison Officer Mari Riipinen
  - Professor Olli Lassila, Faculty of Medicine
  - Professor Tuomas Mylly, Faculty of Law
  - Professor Marjut Johansson, Faculty of Humanities
  - Head of Library Services Jukka Rantasaari
  - Information Specialist Päivi Kanerva

- Open Research Policy
  - Development Advisor Erika Lilja
  - Head of Unit Mari Riipinen
  - Academy Researcher Leo Lahti
  - Assistant professor Filip Ginter
  - Assistant professor Eriika Savontaus
  - University researcher Eriikka Paavilainen-Mäntymäki
  - Academy Researcher Jukka Hytönen
  - Chief Development Officer Riitta Mustonen

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OPEN SCIENCE

DATA

Open Data Policy
Data Management Plan
Data Repository
Opening Data

Research data guide
http://libguides.utu.fi/researchdata

PUBLICATION

Open Access Policy
Green and Gold Open Access
APC costs

Open Access guide
http://libguides.utu.fi/openaccess

RESEARCH CYCLE

Open Research Cycle Policy
Open Research Plan
Open Research Methods
Open Code

Platform for the policy
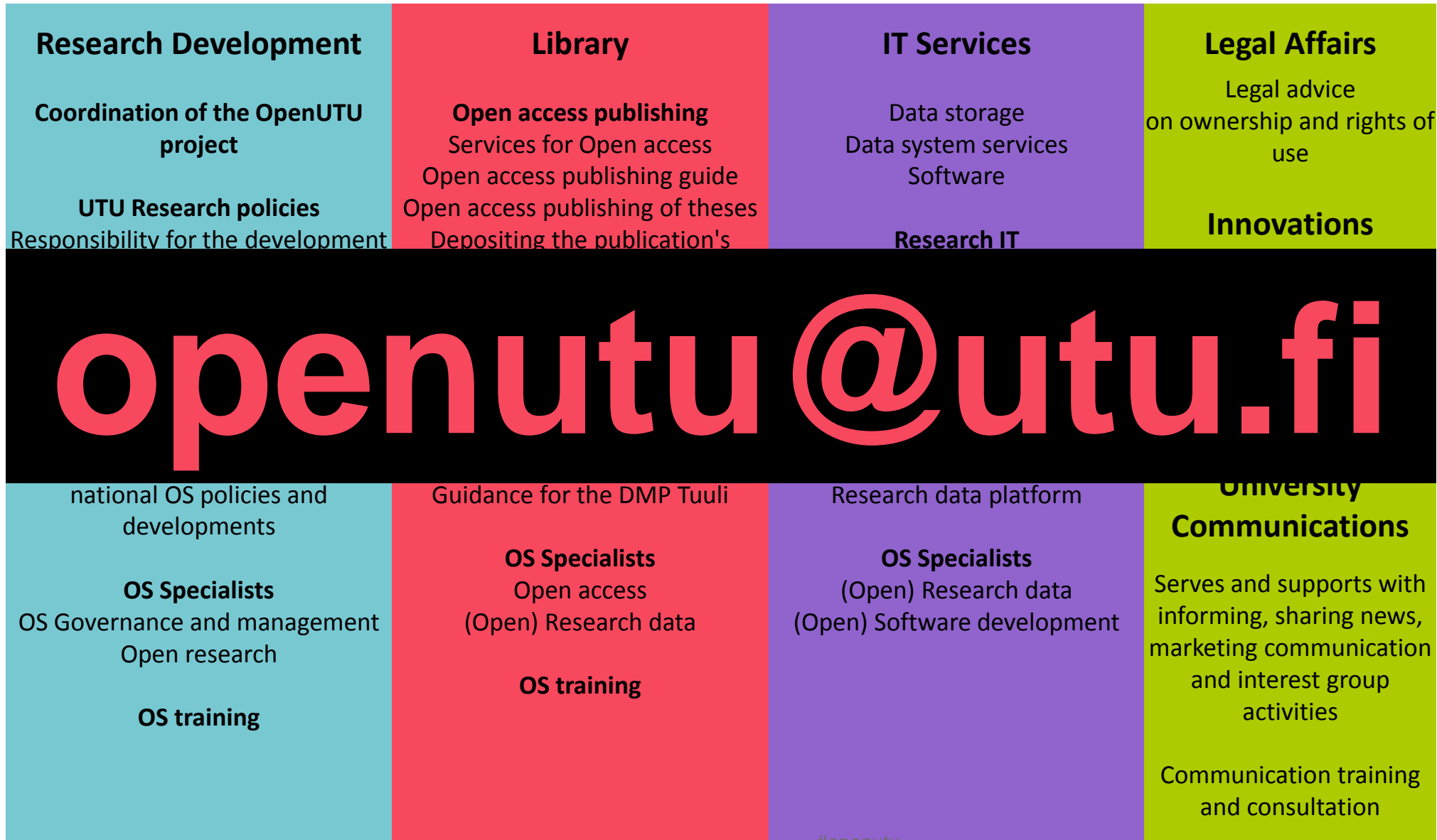E-duuni

ENTERPRICE ARCHITECTURE

Researcher's process   Actors
Service process   IT systems

RESEARCH INFRASTRUCTURE

Infrastructure policy
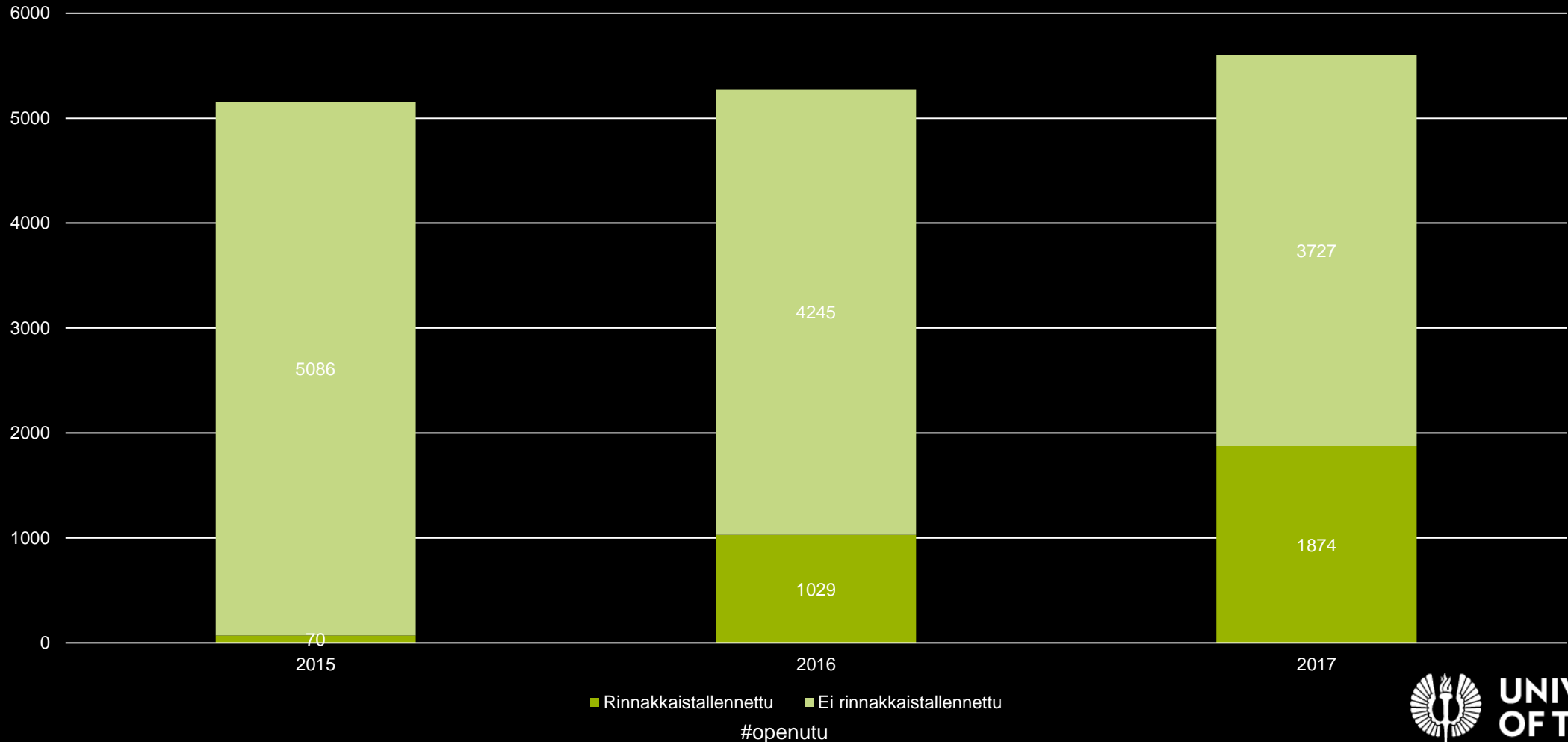Equipment inventory
Funding

TRAINING AND SUPPORT

# UTU Open Science Services for Researchers

Research Development

Coordination of the OpenUTU project

UTU Research policies
Responsibility for the development

national OS policies and developments

OS Specialists
OS Governance and management
Open research

OS training

Library

Open access publishing
Services for Open access
Open access publishing guide
Open access publishing of theses
Depositing the publication's

Guidance for the DMP Tuuli

OS Specialists
Open access
(Open) Research data

OS training

IT Services

Data storage
Data system services
Software

Research IT

Research data platform

OS Specialists
(Open) Research data
(Open) Software development

Legal Affairs

Legal advice
on ownership and rights of use

Innovations

University Communications

Serves and supports with informing, sharing news, marketing communication and interest group activities

Communication training and consultation

openutu@utu.fi

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ACTIONS AND REACTIONS

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Development of the green open access publications at UTU in 2015-2017

Number of publications and the open access status of them at UTU 2015-2017
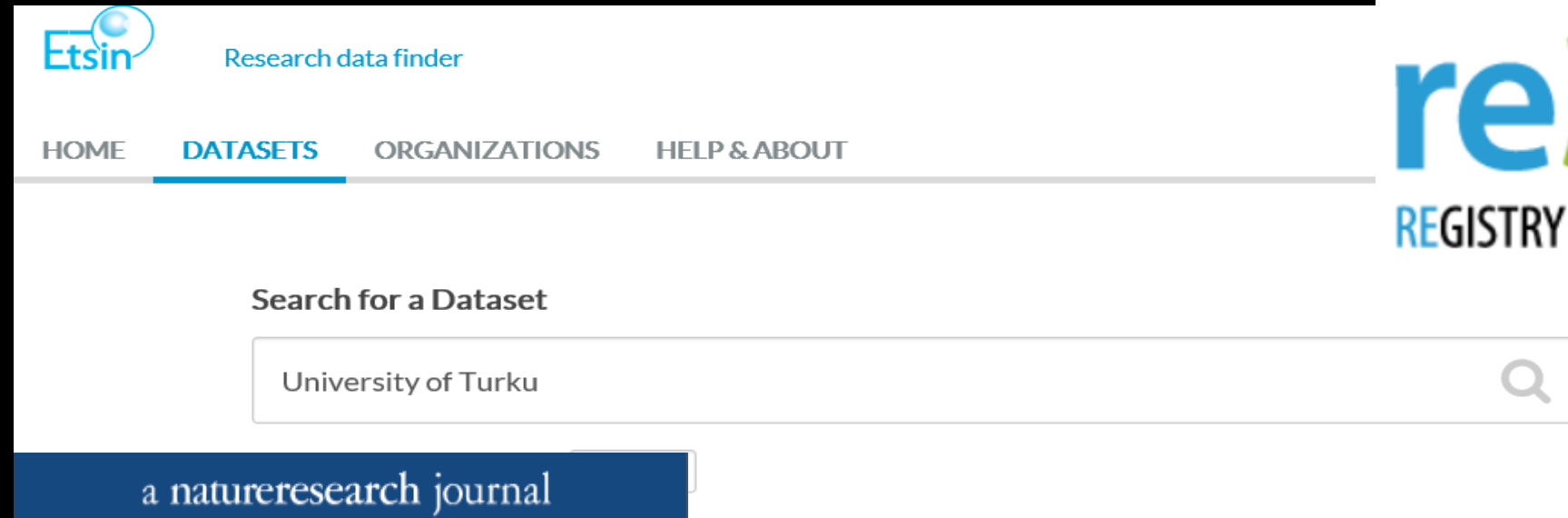
■ No Open Access   ■ Hybrid publication channel   ■ Open Access publication channel   ■ Green Open Access

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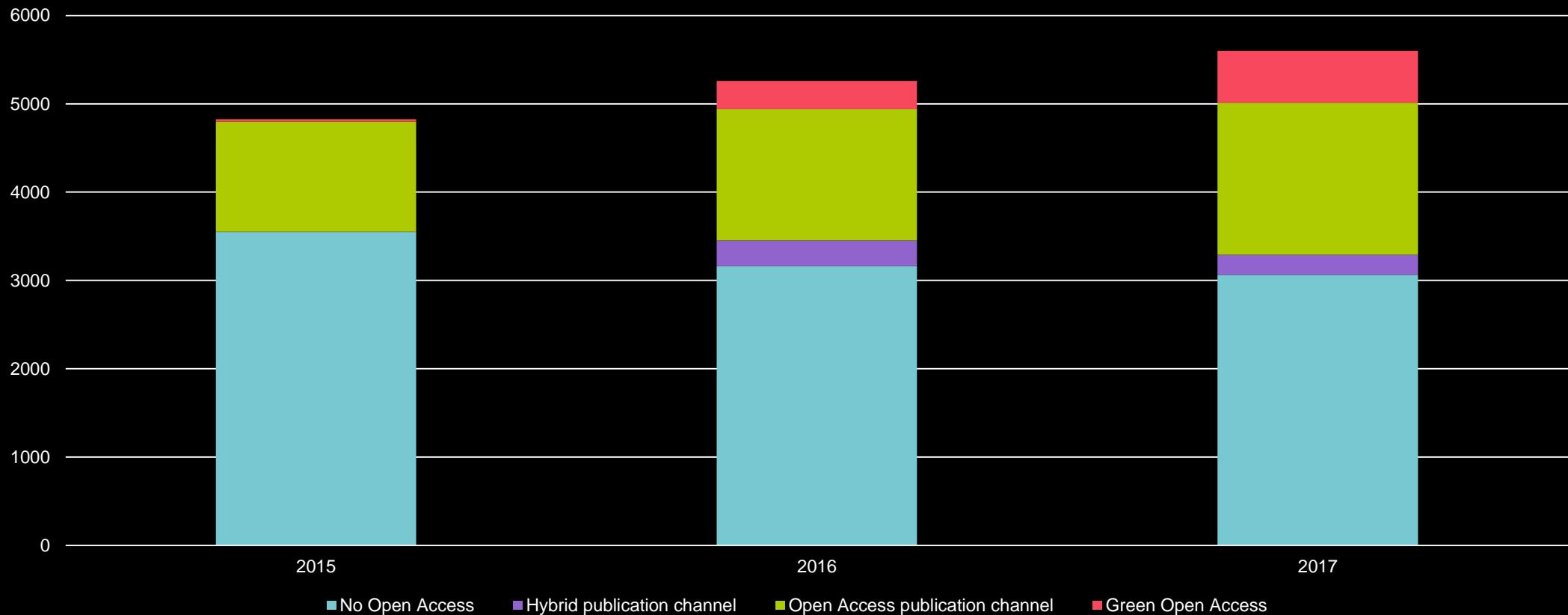
The percentage of the open access publications at UTU 2015-2017

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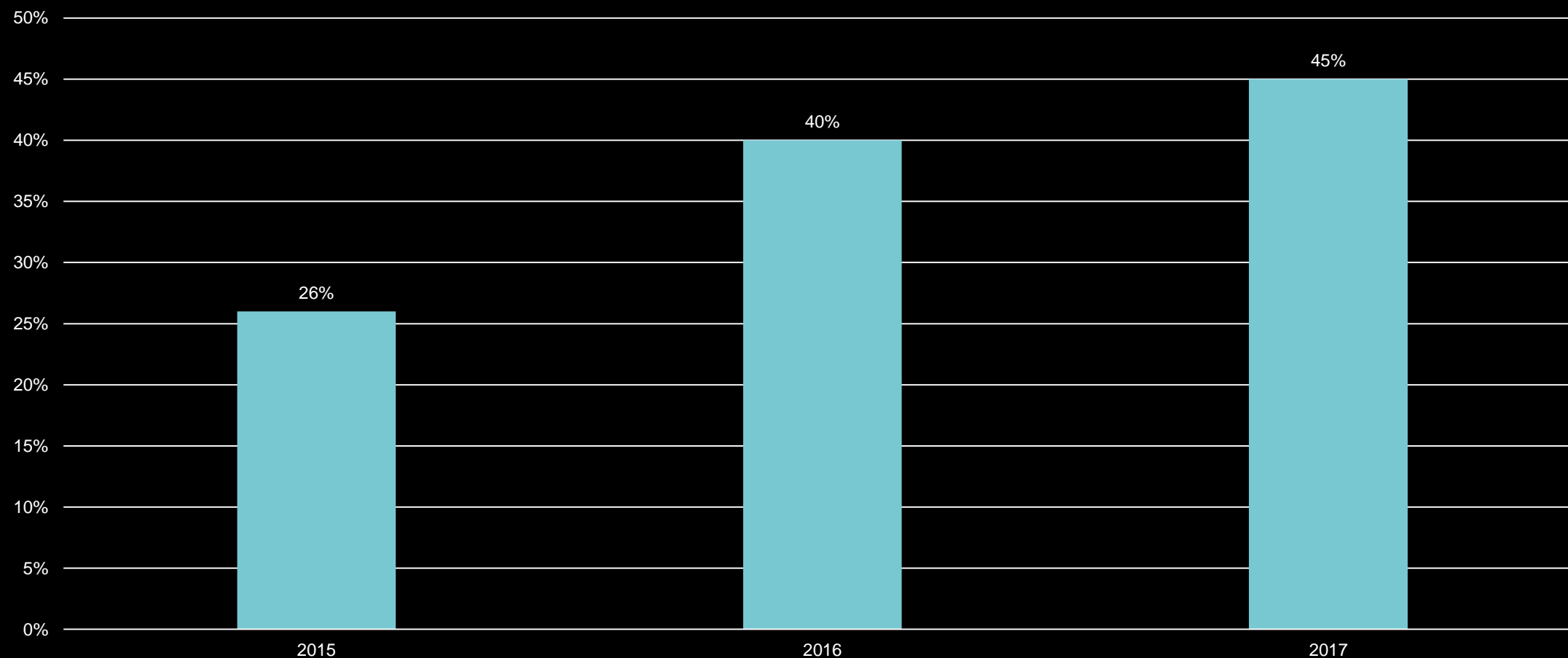
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The amount of the open data sets or data with open metadata

100's of disciplinary open data repositories

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LEO LAHTI'S VIEWS ON PLAN S

OpenUTU: Academy Research Fellow Leo Lahti on Plan S

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WE HAVE NOW ACCEPTED, REALIZED
AND EVEN COMMITTED THAT THERE
NEEDS TO BE VARIOUS WAYS OF
MEASURING RESEARCH AND IMPACT
TROUGHOUT THE RESEARCH PROCESS.

THERE IS YET TO BE SOLVED HOW TO
GET THERE IN REALITY.
→ SUGGETIONS?

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