

Open Science and Research Process

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What is Open Science

Open science means openness of research data, methods, results and publications within the limits of research agreements. Open science encompasses the entire life cycle of research. The most important public research funders demand open access publishing of research results. There are also initiatives to open research data by public funders. Openness will be an increasing subject in commercial research in the cases of joint innovations and open developing.

Why Open Science

- Openness is basic principle in science
- Evaluating is essential in science
- Openness promotes innovations
- More visibility to researcher's work
- More citations to publications
- More networking
- More impact in society

Open Science in LUT

LUT commits to open science in the university strategy.

Many Open Science services available for LUT researchers

E-working within research group

- Eduuni (global), B2DROP (in Europe)
- Commercial: Dropbox

Research data storage services

- IDA
- Finnish Social Science Data Archive
- LUTPub LUT University Repository
- B2SHARE
- ZENODO
- Your own LUT disk drive

Parallel Publishing

- LUTPub LUT University Repository
- OpenAIRE, EU Publication Repository (publications harvested from LUTPub)

Finding data

- ETSIN research data finder
- AILA data service portal
- B2FIND

Other useful infrastructures

- ORCID Researcher Identification
 - a persistent digital identifier, automated linkages between your professional activities
- Creative Commons licenses
 - CC 4.0 BY recommended for publications and data sets
 - CC0 recommended for metadata

Research Lifecycle and Open Science

Exploiting research

Exploiting open data and results

- Innovations
- Citizen science

Curating outputs and data, long term preservation

From open data to Big Data
New research ideas

Making value to results

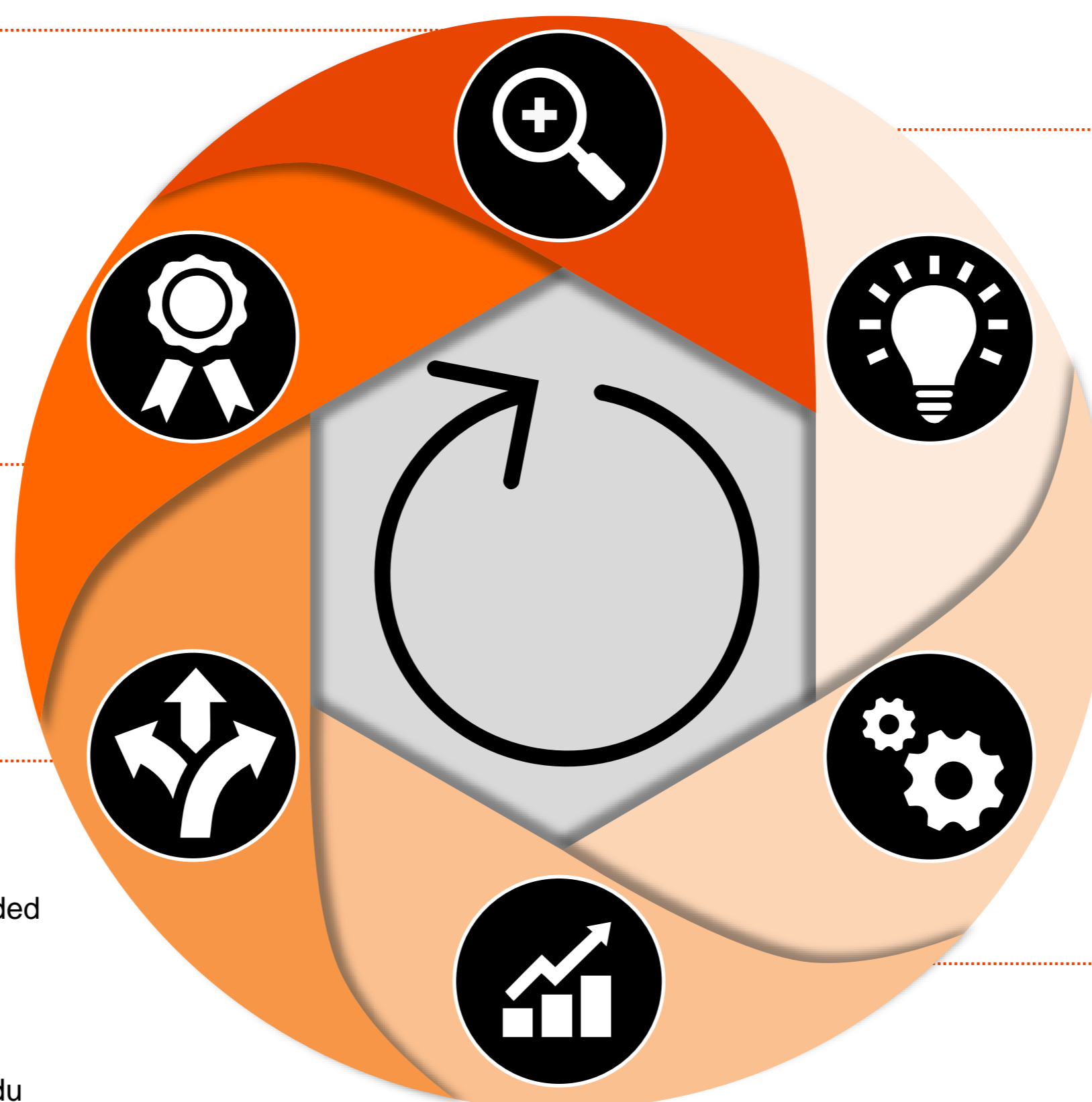
Planning long term preservation

Bibliometrics and altmetrics in analyzing results
Merits to researcher

Publishing and dissemination

Publishing research results

- parallel publishing, Green OA, publisher's permissions needed
- Gold OA journals, Article Processing Costs
- Opening data, rights to data, licensing, Creative Commons
- Opening research methods
- Dissemination in social media, ResearchGate, Academia.edu
- Publication information to CRIS, LUT Research Portal



Preparing research

Data Management Plan > Open Data
Publishing Plan > Open Access Publishing
Research agreements including open science aspects
Define rights to research outputs and data

Carrying out research

Using open data, using Big Data
Using open materials
Are there open methods?
Defining Data Management Plan
Working with colleagues in extranet or in open working environment

Generating research outputs and results

Describing research results, writing articles etc.
Is there something to be patented?
Building metadata
Depositing research data and research methods

References and links

Open Science and Research Initiative, <http://avointiede.fi>
CC, Creative Commons Licensing, <http://creativecommons.fi/>
CSC Research Data Services, IDA, AVAA, Etsin, Eduuni, <http://openscience.fi/>
EUDAT, The collaborative Pan-European infrastructure providing research data services, <http://eudat.eu/>
Finnish Social Science Data Archive, <http://www.fsd.uta.fi/en/>
OpenAIRE, EU Open Science Portal, <https://www.openaire.eu>
ORCID Researcher Identification, <http://orcid.org>
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