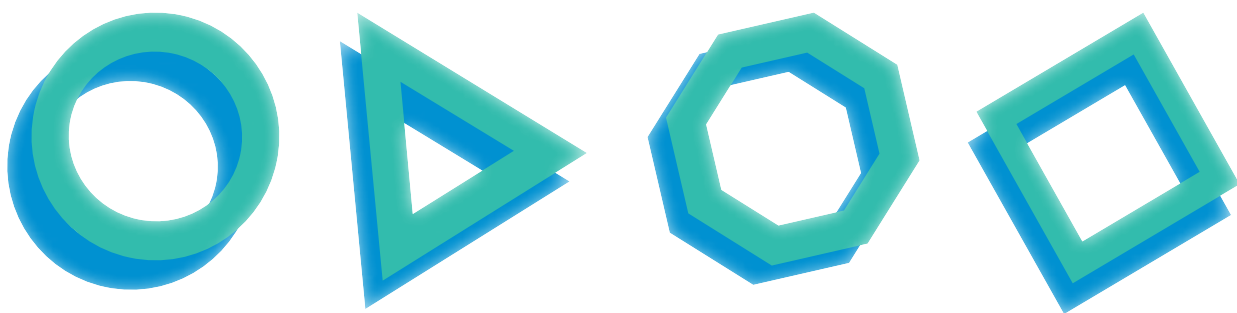
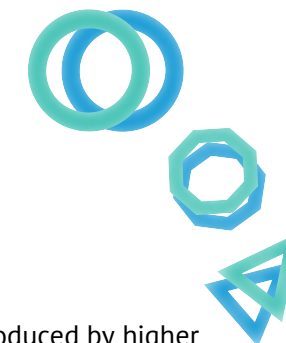


# The Future is Open



**Principles of Open RDI at Turku  
University of Applied Sciences**



# Contents

<b>1. Introduction.....</b>	<b>3</b>
<b>2. Principles of an open RDI culture.....</b>	<b>5</b>
<b>3. Principles of open RDI operational models.....</b>	<b>6</b>
<b>4. Principles of open access.....</b>	<b>8</b>

## 1. Introduction

The requirements for the effective use of information produced by higher education institutions continue to increase. The impact of universities of applied sciences is measured, above all, based on the degree to which the competences and knowledge they produce jointly with business and industry is put to practical use outside the academic world. The appropriate application of research, development and innovation (RDI) results and the commercialization of innovations have a great impact on employment and sustainable growth.

For Turku University of Applied Sciences (TUAS), open RDI means adopting an open operating culture and following open operational models in research, development and innovation activities. In addition to boosting societal impact, open operational models enable TUAS staff to improve their competences and gain merit as well as participate in RDI work on a large scale.

Open science has been one of the European Commission's strategic themes for decades. The European Union has understood that great challenges to society can only be solved by making effective use of research results in business, industry and the rest of society. This means releasing the information produced in a usable format to all interested parties within the limits of research ethics and legal requirements. The funding mechanisms set up to achieve this goal also guide the strategic and everyday operations of Turku University of Applied Sciences.



**The value basis of open science and research from the perspective of the European Union.** (Source: <http://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform-faqs>)

Open RDI activities emphasize the visibility and transparency of organizations. Open activities increase the positive visibility of Turku University of Applied Sciences and thus its impact. Openness makes our internal processes transparent, leading to more cost-effective cooperation between the different organizational units and ensuring their equal operating conditions.



**The core elements of open RDI at Turku University of Applied Sciences.**

The RDI activities of Turku University of Applied Sciences must be as open as possible and as closed as necessary. Engaging in open activities does not prevent us from protecting and commercializing information. Openness is a controlled, strategic choice that benefits our research groups and supports our strategy.

The principles of openness play a prominent role throughout our community. The TUAS management monitors the development of our open RDI culture and makes any changes required to the principles of open RDI. The principles are put into practice through various policies and guidelines.

## 2. Principles of an open RDI culture

Turku University of Applied Sciences is committed to promoting open science and research in its internal operations as well as in regional, national and international collaboration. Open methods nurture cooperation both within and outside the organization. Open activities expand personal networks, which then benefit our own organization and those of our partners. Not only does an open RDI culture mean sharing the data, materials, processes, methods and results that produced, but also effectively employing information stemming from outside TUAS.

Future work will be carried out in networks, and their added value arises from their openness and our ability to join them. Relating to TUAS, adhering to the principles of open science and research teaches us to deal with failure and advances a culture of trial and error, both of which makes us truly capable of operating in future innovation ecosystems. High-quality, open RDI activities give rise to new forms of business collaboration while also influencing public decision-making.

Information produced in accordance with the principles of open science can be accessed and used across organizational boundaries. To ensure the usability of information, national and international open science developments are taken into account in our own organizational architecture. Our processes and infrastructure work as a whole so that information can be made accessible in a controlled manner, adhering to the principles of research ethics and primarily through automated processes. The data,



methods and results obtained from the RDI activities of Turku University of Applied Sciences are made openly accessible and published, unless other agreements have been made in individual cases for instance due to aspects related to data protection or data commercialization.

In practice, an open RDI culture stems from individual choices supported by various policies, tools and services. Our staff are encouraged to make versatile use of different methods that promote openness, including public engagement platforms, citizen science, co-creation, living labs and crowdsourcing. The competence requirements for open RDI activities are included in our staff development plan.

A culture of openness enables cost-effective and impactful RDI activities, with common operational models that permeate our entire community. The utilized RDI processes advance both internal and external transparency in a controlled manner. The principles of openness taken into account when developing new RDI operational models.

### 3. Principles of open RDI operational models

Open RDI operational models ensure that the information and competences produced by Turku University of Applied Sciences can be made accessible in a controlled manner to the interested organizations and individuals. On the other hand, it is also important to ensure that all the members of our community can make systematic and effective use of open information available from other sources.

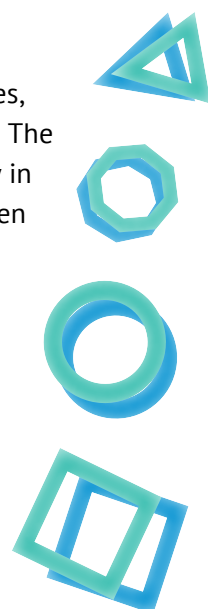
The open RDI operational models of Turku University of Applied Sciences comprise a framework based on good data management practices, principles of research ethics and legislation as well as funding conditions and contracts

regarding RDI activities. The operational models contain provisions to protect confidential and sensitive information as well as to ensure data protection and data security. Open activities support commercialization processes by simplifying and standardizing the methods and roles related to the generation of innovations. The research ethics committee of Turku University of Applied Sciences supports the development of open RDI operational models and assists the community in related problems.

Open operational models facilitate opening up RDI processes, methods, data, and results as well as make use of existing information originating from outside our own organization. The tools related to the open operational models of the RDI infrastructure should be easy to use. The needs of different user groups within the community of experts are taken into account in the operational models for enabling staff and students to use open information and adhere to the community's principles of openness.

When making information available for other parties, care is taken to make it both accessible and usable. This is ensured by utilizing appropriate documentation and metadata as well as an online platform that is easy to find. Within TUAS, data curation processes are developed centrally, but any data is made available externally and put into long-term storage in national or international data repositories, whenever possible. Such data repositories are also used for storing protected information, which can then be accessed by our cooperation partners when needed. At TUAS, the infrastructure of openness is developed in cooperation with national and international operators and by utilizing the services offered by our cooperation partners.

Data management is an integral part of good scientific practice. Project and research plans include a data management plan. The main principles and guidelines of the data management plan should be determined during the project's preparatory phase. During project preparations, consideration should be given to the funders' requirements as well as to Turku University of Applied Sciences' own operational models to ensure that any shared material is made available as effectively as possible both during and after



the project. The data and its related documentation as well as its metadata are stored in a way that makes them accessible throughout their life cycle. Standardized, machine-readable Creative Commons licences, which can be used to specify the degree of publicity and access rights for individual data sets, are recommended.

The data management plan specifies the ownership of the material, its access rights and confidentiality. The person in charge of the project ensures that all the required contracts regarding ownership, use and secrecy are drawn up well in advance. The operating principles relating to ownership and access rights are described in greater detail in the Turku University of Applied Sciences intellectual property policy.

As a rule, information produced by Turku University of Applied Sciences is open and available for shared use, unless there is a specific need for other treatment. Special attention is required when the underlying datasets of published results are made accessible. The open publication of results along with their underlying datasets protects the results from being abused and ensures that the authors receive the merit they deserve.

## 4. Principles of open access

Publishing activities are part of research, development and innovation. The goal is to communicate the results of RDI carried out at Turku University of Applied Sciences as well as the competences and expertise of TUAS' staff and students. Open access publishing means openly distributing publications or their parallel copies through self-archiving.

Turku University of Applied Sciences aims to produce publications of scientific interest as well as to gain visibility for RDI results and competences in professional media. The publications should also bring forward TUAS'

professional competences in view of the region's daily needs. High-quality publication activities support the brand and impact of Turku University of Applied Sciences.

We encourage open access and self-archiving in publication activities. Compliance with open access principles means making publications permanently and freely accessible via the Internet. Turku University of Applied Sciences emphasizes open access in its publication series and other TUAS channels. Self-archiving is applied relating to the scientific and professional publications that our community publishes in other channels by storing them in an open-access repository. The self-archived version must comply with the terms and conditions of the publisher or the publication contract. Instructions on parallel storage are available for authors of publications.

Authors choose the publication channel that best match their needs in terms of quality and impact. The degree of openness (Gold or Green Open Access) is a significant criterion when choosing a publication channel. The underlying datasets of scientific articles should be made accessible in connection with the articles themselves. Where possible, the content of articles should be popularized for the general audience.

It is recommended that the staff at Turku University of Applied Sciences utilize academic identification to ensure they earn merit for their work. The further use of publications should not be restricted unnecessarily, and the terms of their use should be clearly expressed if allowed by the publication channel. Standardized, machine-readable Creative Commons licences are recommended for use with publications.

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