

AUDIT OF THE UNIVERSITY OF TURKU

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2.2 Research, development and innovation activities as well as artistic activities with impact

- Korkeakoulun itsearviointi

The Research Council of UTU monitors the implementation of the research development presented in the Strategy and contributes in the quality management work related to research. The Research Council has members from each faculty, and it is led by the Vice Rector for research.

The quality of research is based on peer-review processes, e.g. in publications, external funding and recruiting. A comprehensive peer-review process of research, i.e. the research assessment exercise (RAE), was executed in UTU during 2021–2022. The results of RAE are now implemented in the faculties and departments.

Members of UTU personnel are active in the national and international development actions in Open Science (OS). The research council monitors and steers the OS proceedings at UTU. UTU is committed to the [Finnish national Open Science policies](#) and is currently updating its [Open Science policies](#) regarding publications, research data, and research process. In 2022, UTU was placed on the highest level in the OS evaluation by the Federation of Finnish Learned Societies. UTU's support services for OS are multi-professional including expertise from research development, library, communications, IT, legal, and innovation services. The services and development actions are self-evaluated and also assessed by a panel of researchers. Based on the steering and evaluations, OS activities are enhanced both traditionally and through novel

initiatives such as the [Open Science Accelerator](#).

Responsible research involves producing, publishing, and assessing research results as well as the transparency, presence, and utilisation of science in society. Research ethics is at the core of responsible research. [UTU promotes ethically conducted research](#) that complies with the principles accepted by the scientific community. The national guidelines for research ethics and handling the suspected misconduct are listed in the [Responsible conduct of research and procedures for handling allegations of misconduct in Finland](#) issued by the Finnish Advisory Board on Research Integrity (TENK). UTU provides ethical review statements for research in human sciences and for medical research in order to help the researchers to conduct their research process ethically. UTU collaborates with the Ethics Committee of the Hospital District of Southwest Finland, as some of the medical research designs need to be review according to the Medical Research Act. Also, UTU has appointed research integrity advisors who offer confidential and impartial guidance for the University staff on different kinds of problematic situations related to research integrity.

UTU is a signatory in [the international Agreement on Reforming Research Assessment](#) and is also committed to the [Recommendation for Responsible Evaluation of Researcher in Finland](#). UTU has drafted its own policy on responsible research and researcher evaluation and is in the process of implementing it by following the SCOPE model (Figure 10).

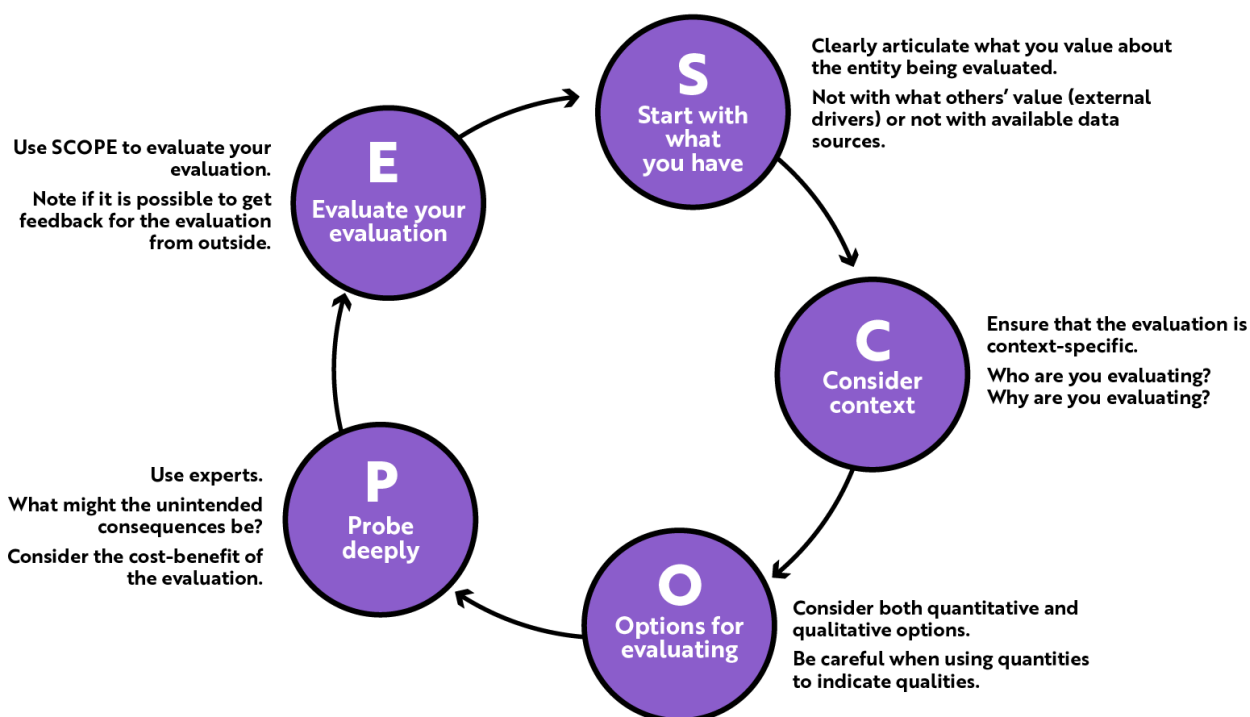


Figure 10. Scope model in responsible research assessment at UTU

There are support services for promoting the societal impact of research at UTU. The Research

Affairs unit and the Library mapped the services and tools that help researchers to promote the impact of their research throughout the research process (Figure 11). By mapping the existing services, the gaps were identified and the services can now be developed further.

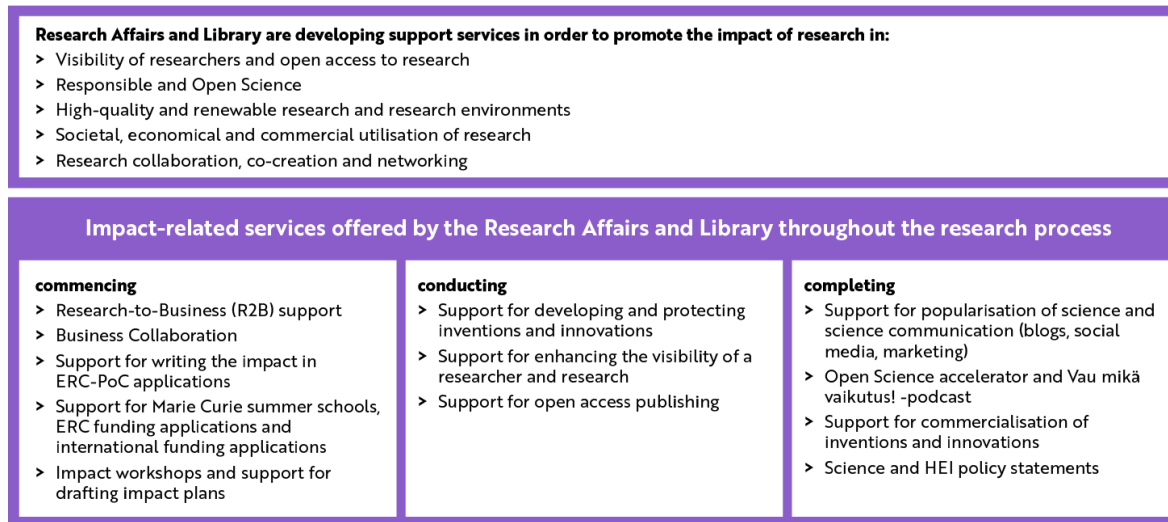


Figure 11. Services and tools to promote the impact of research

UTU has *innovation scouts* in the faculties who enhance the flow of ideas, experiences and information between the research community and Innovation Services (UTU Technology Transfer Office TTO). TTO screens and pre-evaluates research results that have commercial potential. It also supports the invention disclosure and patenting process and manages UTU's patent and IPR portfolio. TTO gives guidance on protecting, developing and financing inventions and research-based businesses as well as on the protection and commercialisation of the research results. UTU also actively collaborates with the regional ecosystem providing support for the entrepreneurial activities in the research community. UTU has multiple ways of transferring technology and IP to existing companies or established start-ups or spin offs. UTU manages all its ownerships, shares and company equity through its holding company UTU Holding Oy established in 2014. Furthermore, TTO helps the faculties in global educational services.

The impact of research often arises after a long period of time and it can be difficult to identify which research/project was the origin of the impact. Still, there are many ways to monitor the indications of the impact. Some key indicators such as the idea/innovation propositions, invention disclosures, new priority patent applications, new granted patents, number of patent families, sale and licensing agreements, and start-up/spin-off companies, are followed and reported annually, for example, in the reports delivered to the Ministry of Culture and Education. As UTU is committed to the responsible evaluation, the University is also developing new ways of reporting impact and impact pathways of research. UTU has two research flagships funded by the Academy of Finland: [INVEST](#) and [InFLAMES](#). The flagships develop new ways to enhance, monitor and report the impact of research and these methods will be adapted to other activities in the University as well.

UTU collects information on publications, other research activities, and researcher profiles to the [CRIS-system](#). The researcher profiles and publication lists are displayed on the University's website. The information is also transferred to the [national research information portal](#). In addition, UTU has active and systematic newsfeeds and social media accounts highlighting the research achievements. UTU participates in various partnering events to promote knowledge/technology transfer from academia to industry/society. The website has a brief description of the technologies available for sale or licensing. UTU is currently acquiring and introducing digital tools to improve the accessibility of technologies and IP. UTU has the [OpenIris](#) database for booking times and services for using different research equipment. Furthermore, UTU's researchers are active in citizen science projects, such as [Punkkilive](#) and there are places where the public and scientist can meet, e.g. the Botanic Garden or Natural History Museum.

Strengths	Enhancement areas
Responsible research is strengthened with research ethics processes and by renewing the assessment processes of research and researchers	Committing resources to reforming research and researcher assessment, and implementing the renewed processes of responsible assessment of research and researchers that enable the recognition of the broad diversity in contributions to and careers in research
Open Science structures and support services have reinforced the open science culture in the research processes at UTU	Further developing the support services that accelerate, stimulate and facilitate researchers to put open science into practice. Focusing also on developing FAIR data services in order to increase the amount of open and reusable datasets and creating processes to support opening educational materials
Innovation Services /Tech Transfer office supports the protection and commercialisation of research results in all of the disciplines	Development of impact related services that accelerate researchers to better establish and represent the impact pathways and also the short-, mid- and long-term impacts of their research. Also, systematisation of the impact indicators and their follow-up
The research results and researchers of UTU are presented in contemporary ways. UTU's researchers are actively participating in current discussions, for example, in parliamentary hearings and tv-debates	Developing the support services and processes of collecting researchers' merits and research outputs

2.2 Research, development, and innovation activities and artistic activities with impact

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UTU has defined targets for research impact and has a clear structure for monitoring research implementation

The University of Turku's contribution to reforming society is guided by its strategic mission. UTU has defined targets for research impact. The University has a clear structure for monitoring research development through the UTU Research Council. The assessment of research quality is monitored by peer-review processes and through periodic Research Assessment Exercises (RAE).

The RAE 2021–2022 highlighted the need to define multidisciplinary more clearly and the societal impact of research across all units and faculties. Strategic groups have been set up across faculties working on themes such as AI, digital humanities, socially responsible scientists, and European challenges. Also, the Faculty of Technology is a crucial player in connecting disciplines. Otherwise, multidisciplinary research is carried out, for example, humanities to the medical school and digitalisation, technology to law and biodiversity to leadership. New master programmes are being launched along these lines. Based on the audit visit, faculties vary in conducting multidisciplinary research. Some faculties would consider their internal range of disciplines as a sufficiently broad basis for multidisciplinary work. In other faculties, a broader multidisciplinary approach is still being sought.

The disciplinary structure is still visible in the organisation of most doctoral studies, despite the RAE 2021–2022 recommendation to focus more on UTU's priority areas. Such an initiative was taken ten years ago but was eventually left to the faculties. Since then, various faculty crossing programmes have been established.

According to the audit interviews, it is felt that doctoral researchers need a home in a faculty or department. According to the audit visit, doctoral researchers could meet a broad range of disciplines within one faculty. The University of Turku's Graduate School organises joint courses for all doctoral researchers, such as research ethics, societal impact and various annual events.

Multidisciplinary is seen as the important long-term goal for UTU. However, discussions are ongoing about the amount of steering and the proportion of internal budgets that go directly to faculties compared to multidisciplinary initiatives and structures (e.g. joint institutes). One view is that multidisciplinary is still implemented too differently across faculties and is too dependent on external funding.

The audit team recommends that UTU should build stronger ties between faculties to achieve multidisciplinary. It would be imperative to increase horizontal collaboration between all bodies representing different research areas, including provisions for doctoral training. Cross-faculty steering could be further promoted by internal funding for multidisciplinary work and doctoral education.

UTU collects information on the societal impact of research

UTU collects information on the societal impact of research and uses the info for further development. A new vision and mission regarding regional and societal impact is emerging. It is seen as a process that has been going on for a long time, which makes the University more relevant to society. Achievements are in infrastructure built for faculty to engage, creating co-creation platforms. Examples of these are the Faculty of Social Science's cooperation with the Nordic Youth Panel and INVEST flagship programme for societal impact, externally funded professorships in the Faculty of Technology, and training master and doctoral researchers in areas of societal impact. During the audit visit, various podcasts, social media and trainings for different decision-making bodies were mentioned as other ways to promote research impact.

A key point for the University of Turku is to make the new vision and mission on regional and societal impact acceptable to the academic community. Clearly, things are changing, but the research impact agenda requires an internal change in the faculties and increases workload with reporting. In the faculties, there is also criticism towards promoting research impact. The audit team recommends UTU to continue the debate on the impact of research.

UTU has systematic procedures for ensuring the responsible conduct of research

The UTU lists the following values: creativity, openness, ethical principles, critical thinking and strong community. The audit team sees it will be essential to make these sufficiently explicit to ensure that these are shared and lived values. According to UTU's mission, the University promotes education and free science and provides research-based higher education. However, academic freedom is not listed as one of its values.

The University of Turku has committed to the [Finnish Code of Conduct for Research Integrity and Procedures for Handling Alleged Violations of Research Integrity in Finland 2023](#) guidelines by the Finnish Advisory Board on Research Integrity, TENK. UTU also has a research ethics committee. The University provides ethical review statements for research in human sciences and medical research. UTU also has research integrity advisors. Good scientific practice and research ethics are considered by teaching research ethics at all degree levels.

An important role of UTU's management is to ensure that the integrity and ethics of research remain strong despite broad cooperation with external stakeholders. Cooperation with partners should not limit the research done in joint projects too much. Stakeholder views may even matter for impact criteria and per project by the funder.

As much as UTU's engagement with the region and broader society is appreciated, the audit team suggests that UTU should continue to pay attention to research integrity. Sufficient

oversight should account for research integrity, protection of researcher and knowledge products (IPR), avoiding conflicts of interest, transparency and accountability. The University of Turku's central Legal Affairs office helps to ensure proper handling of knowledge transfers, IPR, data protocols, and GDPR. Research is done in faculties, and principal investigators, department heads and deans have clear mandates for signing contracts up to a defined amount. Ensuring that endowed professorships benefit from the same provisions and protections is crucial.

UTU is firmly committed to open science

UTU is committed to open science as a signatory of national (Policies of open science and research in Finland) and international standards (the International Agreement on Reforming Research Assessment, COARA). Based on the audit visit, UTU is COARA compliant. The University of Turku feels it is being helped in this process by its national and European research funders and is involved in various working and steering groups.

A policy for responsible research and researcher assessment was published recently, and a new research assessment concept (SCOPE) was developed. The related support structure and services seem to primarily focus on the commercialisation of research, such as research affairs and innovation services, innovation scouts and patent registration. Research support structures and services in support of societal impact, citizen science, FAIR data principles and open data are less pronounced. The audit team recommends paying attention to these as well.

According to the policy, UTU moved away from counting only first authors in registering co-authored and collaborative publications. The library has provision for open access, and open access costs are compensated by the University. According to the audit visit, the staff think having support services for open science and societal impact activities, such as adequate use of social media, is good. Open science is still primarily understood as open access by many at UTU. Open science has a significant role also in INVEST and InFLAMES flagships.

The University realises that it will have to take further action to engage the entire academic community in its renewed mission for regional and societal impact and to make COARA acceptable for all. Despite UTU's ambitions for research impact and open science, there are some significant challenges ahead in this area. The new model will affect careers from junior to senior positions. The challenge is to engage all faculty members to commit themselves to the open science goals and to build adequate incentives, support, training, and a transparent and consistent recognition and reward structure at all levels. The initiative is fresh and should lead to objective, inclusive and transparent assessment methods for the responsible assessment of research and researchers, starting at the level of doctoral training and within the realm of internationalisation. The researcher interviews also brought up the desire for more help to be available for open research data and instructions that consider the differences between faculties.

UTU expands the SCOPE model for assessing performance guided by its own values and in line

with COARA: leadership, societal impact and innovation. The University is currently working on the list of performance indicators. It wants to move away from only bibliometric and quantitative metrics and include more dimensions, qualitative elements and narratives. UTU is doing development work in collaboration with national partners. It will be the toolbox in a national context. The academic community has been involved in developing the guidelines. Unfortunately, none of the University of Turku interviewees could give concrete examples during the audit visit.