

## Entrepreneurship and digital transformation at the University of Turku, Finland



### *The case in summary*

*The University of Turku considers itself as an Entrepreneurial University that fosters entrepreneurship in many ways, based on a three-pillared concept: People (developing entrepreneurial competences), Collaboration (with businesses), and Outputs (creating new businesses). With regards to People, at the heart of the University's entrepreneurial education is the Turku School of Economics, which offers a large variety of programmes, mostly open to students from all departments, as well as executive courses. In the Collaboration pillar, UTU teams up with companies in interdisciplinary research projects or collaboration platforms. In terms of Outputs, the University supports start-ups and spin-offs, mainly through its unit for Innovation, Entrepreneurship and Transnational Education. Digitisation spans all entrepreneurial activities as an underlying concept.*

### **1. UTU's profile, entrepreneurial approach, and digitisation activities**

The University of Turku (UTU) is located in the City of Turku on the south-west coast of Finland, approximately 150 kilometres west of Helsinki. The institution was founded in 1920 and counts around 20,000 students and approximately 3,400 staff members in seven faculties: Education, Humanities, Social Sciences, Law, Medicine, Science and Engineering as well as the Turku School of Economics (TSE).<sup>1</sup> Founded in 1950 by an initiative of the local business community, the Turku School of Economics was an independent higher business school until the state acquired it in 1977. In 2010, it became the seventh faculty of UTU.<sup>2</sup> UTU will expand further in January 2021, when the new Faculty of Technology is established.<sup>3</sup> In its strategy 2016-2020,<sup>4</sup> UTU set the objective of becoming a catalyst for social well-being and the economy. To fulfil this objective, UTU is building a strong culture of foresight, promoting entrepreneurial thinking and acting, and seeking to educate professionals who have the desire and ability to develop society. Accordingly, UTU has denominated itself as an **Entrepreneurial University**.<sup>5</sup>

This case study focuses on how the University enhances entrepreneurial attitude, behaviour, and culture throughout the entire institution and beyond with the help of **digitisation**.

### **2. The three pillars of UTU Entrepreneurial University and their connection to digital change**

#### *Overview of UTU's entrepreneurial approach*

As a strategy underpinning UTU's entire system, the Entrepreneurial University concept is based on three pillars – see Exhibit 1: (I) People (entrepreneurial education and training), (II) Collaboration (partnering businesses), and (III) Outputs (utilising top know-how). In the People pillar, the University educates students to develop entrepreneurial competences, which they can later use as individual citizens as well as in enterprises, public bodies, and the third sector. Education is extended also to the

<sup>1</sup> See <https://www.utu.fi/en/university/facts-and-figures>.

<sup>2</sup> See [https://en.wikipedia.org/wiki/Turku\\_School\\_of\\_Economics](https://en.wikipedia.org/wiki/Turku_School_of_Economics), <https://www.utu.fi/en/university/history>.

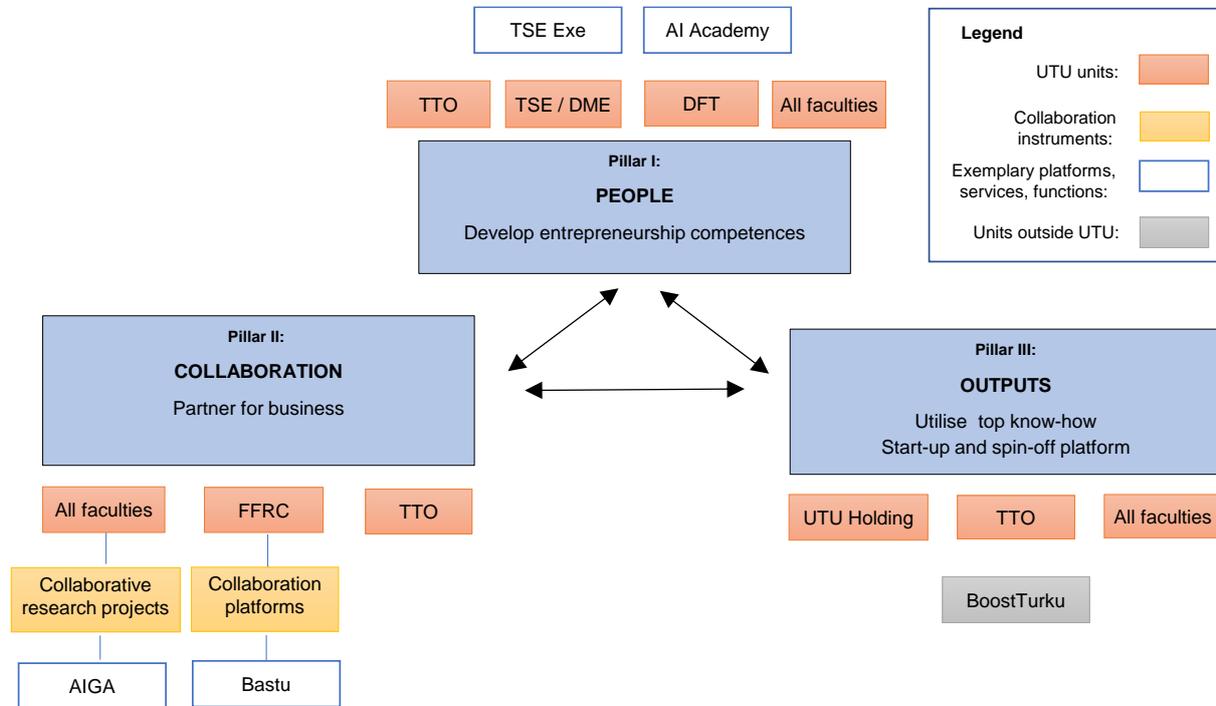
<sup>3</sup> See <https://www.utu.fi/en/news/news/faculty-of-engineering-established-to-university-of-turku>.

<sup>4</sup> See <https://apps.utu.fi/media/nakoislehdet/strategy2020/#/article/8/page/1-1>;  
<http://www.utu.fi/sites/default/files/public%3A//media/file/toimenpideohjelmien-en-2018.pdf>

<sup>5</sup> See <https://www.entrepreneurialuniversity.fi>

university faculty and staff. Second, UTU seeks to develop value through Collaboration with private and public sector organisations. Third, UTU seeks to produce and transfer research Output that has value in working life, business life, and wider society, including start-ups and spinoffs. In all three pillars, digitisation is vital.

Exhibit 1: UTU's Entrepreneurial University approach



Technology Transfer Office (TTO), Turku School of Economics, Department of management and entrepreneurship (TSE / DME), Faculty of Science and Engineering, Department of Future Technologies (DFT), TSE Finland Futures Research Centre (FFRC), Artificial Intelligence Governance and Auditing project (AIGA)

Source: UTU, own display

*First pillar PEOPLE: entrepreneurial education and training*

The first pillar consists of entrepreneurial education and training. UTU ensures that its education covers the required knowledge and skills in the fields of study it offers and develops professional competences, including entrepreneurship. All students have the possibility to partake in entrepreneurship and business studies programmes. The School of Economics (TSE) offers related **graduate and post-graduate studies** through its Department of Management and Entrepreneurship<sup>6</sup>. Ideally, UTU teachers of every discipline adapt entrepreneurship to their education provision, hence, materialising entrepreneurship in different contexts and forms. In technical studies, for example, the focus is on capstone projects and the close integration of innovation and practical development. In humanities, the focus is mostly on ensuring professional skills, developing and building the students' confidence. When analysing course contents, all seven faculties offer some study programmes that include courses with an entrepreneurship or business competence focus. There are, however, degree programmes where an entrepreneurship or a business focus are absent. Students in programmes that do not offer entrepreneurship courses are recommended to attend courses at the TSE. The Entrepreneurial University website has a separate section dedicated to the study recommendations on how students from different fields can acquire

<sup>6</sup> See <https://www.utu.fi/en/university/turku-school-of-economics/entrepreneurship>.

entrepreneurship knowledge at UTU – from “Introduction to Entrepreneurial Business” through “Entrepreneurship for research professionals” to a complete degree in entrepreneurship.<sup>7</sup>

Apart from entrepreneurship, management and organisation, a specialisation the TSE offers is **Information System Science**. This unit’s main goal is to teach how to leverage the digital transformation for entrepreneurship. It offers courses at Bachelor and Master level and educates professionals to identify business opportunities in rapidly changing technologies. Classes are often based on real-world cases and projects, collaborating with companies that both develop and deploy information and communication technology (ICT).<sup>8</sup> In addition, at the Faculty of Science and Engineering, the **Department of Future Technologies**<sup>9</sup> produces high quality, international and multidisciplinary education and research in the ICT field. Together with companies and other actors they create new know-how and knowledge for the needs of society and entrepreneurship, which are changing profoundly due to digitisation. Research in this department focuses on digitisation subjects such as health and welfare technology, autonomous and intelligent systems, and cyber security.<sup>10</sup>

Entrepreneurship and digitisation are present also in UTU’s **lifelong learning** provision. For example, the Department of Future Technologies manages the **AI Academy**<sup>11</sup> that offers multidisciplinary education in artificial intelligence for all UTU students, as well as for anyone interested in the topic through the **Open University**. This initiative offers UTU courses in Finnish and English to all interested individuals, whether or not they are affiliated with the university.<sup>12</sup> Courses include basic methods in machine learning, cyber security in AI applications, ethics of AI and the use of AI in medical diagnostics and drug development and imagery. The Open University also offers specific courses in entrepreneurship.

**TSE exe** is the unit for **executive education and development** at Turku School of Economics. It provides global business excellence development and acts as a strategic partner for business competence and leadership training for enterprises and public entities. TSE exe’s programmes include open enrolment courses – such as an executive MBA – and customised offerings, tailored to the practical needs of the partner organisation and it is based on the latest research. Entrepreneurship, innovation and new business creation are among the core cross-cutting themes, as well as business excellence, visionary leadership and corporate foresight.<sup>13</sup> The last is specifically incorporated in the **Certified Foresight Professional** track, which seeks to improve the ability to manage, anticipate and create change in a variety of domains and scales.<sup>14</sup> It is a transdisciplinary course directed above all at those who want to learn how to tackle current disruptions in their organisations and better develop their own response through creating a dynamic foresight plan.<sup>15</sup>

*Second pillar COLLABORATION: business collaborations*

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<sup>7</sup> See <https://www.yrittajyyssyliopisto.fi> (in Finnish).

<sup>8</sup> See <https://www.utu.fi/en/university/turku-school-of-economics/information-systems-science/studying>.

<sup>9</sup> Starting from 2021, the Department of Computing at the Faculty of Technology.

<sup>10</sup> See <https://www.utu.fi/en/university/faculty-of-science-and-engineering/department-of-future-technologies>

<sup>11</sup> See <https://sites.utu.fi/tekoalyakatemia/en/studies/>

<sup>12</sup> See <https://www.utu.fi/en/open-university-studies>

<sup>13</sup> See <https://sites.utu.fi/exe/en/executive-mba-good-leadership-gets-things-moving/>, <https://www.utu.fi/en/university/turku-school-of-economics/tse-exe>.

<sup>14</sup> See <https://sites.utu.fi/exe/en/tse-exe-programmes/>.

<sup>15</sup> See <https://sites.utu.fi/exe/ohjelmat/ennakoinnin-ammattilaiseksi/>.

On a regional level, UTU is a key partner in Turku's entrepreneurial ecosystem.<sup>16</sup> UTU acts as a partner for hundreds of companies and organisations each year. These co-operations involve all faculties.<sup>17</sup> UTU explicitly considers its interdisciplinary research as a basis to build a growth platform for start-ups and spin-offs.<sup>18</sup>

UTU encourages business collaborations throughout all faculties and several platforms. These activities are coordinated and supported by the Development Services unit and operated under the guidance of the Vice Rector for societal interaction and impact. The University proactively invites companies to participate in **collaborative research projects** that often involve international consortiums and third-party funding from national and European institutions. Businesses can enter collaborative projects or contact the university to implement their own tailored research projects. Digital transformation as a booster for entrepreneurship is addressed as one of the main topics among these projects. Main themes include the platform economy and the effects of digitisation on the Finnish industry.<sup>19</sup> One example is Artificial Intelligence Governance and Auditing (AIGA), which is a collaborative research project with national funding. The project has eight partners and the mission is to enable the responsible execution of AI through the laying out of best-in-class governance mechanisms and auditing principles for algorithmic decision-making and building a commercialisation roadmap for AI governance and auditing.<sup>20</sup>

Another important pillar of business cooperation is **collaboration platforms** that bring together different disciplines and representatives of companies under various topics. There are currently six operating platforms: Bastu network<sup>21</sup>, the Laboratory of Business Disruption Research<sup>22</sup>, Allied ICT Finland Turku, FoodTech Platform Finland, Centre for Education and Research on Social and Health Services as well as Health Campus Turku.<sup>23</sup> In addition, important collaboration activities take place at the Centre for Collaborative Research within the Turku School of Economics as well as in the area of drug development and diagnostics.

**Bastu** is of key relevance to entrepreneurship. It is a business-enabling platform for regional companies and entrepreneurs that focuses on new ideas for the sharing economy. It fosters innovative entrepreneurial thinking on the basis of resource scarcity as a key driver for innovative business models, encouraging participants to go beyond established practices. Partners are the Finland Futures Research Centre (a department at UTU), Sitra – The Finnish Innovation Fund, and the City of Turku. The programme follows the sixth wave concept, which aims to leverage digital technologies to manage an economy with increasingly scarce resources.<sup>24</sup> Bastu has supported the co-creation of several business models and platforms utilising digitisation. These include, for example, The Hospital Ship Re-imagined which is a concept for a modular hospital ship combining healthcare, shipbuilding, technology, and ICT competencies; Turku IT-network which is an IT ecosystem that aims to create scalable, global solutions; the food-related venture capital fund Nordic FoodTech Ventures; and the ecosystem facilitator FoodTech Platform Finland.

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<sup>16</sup> See [www.entrepreneurialuniversity.fi](http://www.entrepreneurialuniversity.fi).

<sup>17</sup> See <https://www.utu.fi/en/business-collaboration>.

<sup>18</sup> See <https://www.utu.fi/en/business-collaboration/innovations-and-entrepreneurship>.

<sup>19</sup> See <https://www.utu.fi/en/business-collaboration/research-projects>.

<sup>20</sup> See <https://des.utu.fi/projects/aiga/>

<sup>21</sup> See <https://bastuturku.utu.fi/>

<sup>22</sup> See <https://disrupt.utu.fi/>

<sup>23</sup> See <https://www.utu.fi/en/business-collaboration/collaboration-platforms>.

<sup>24</sup> See <https://tulevaisuuskirja.com/>.

Industrial partners can access selected research results from UTU through the University's **technology and intellectual property transfer** services. The technology transfer office is constantly looking for opportunities to commercialise research results, aiming to boost innovation in (local) businesses, but also to secure funding for further university research. The technology transfer office manages UTU's entire intellectual property portfolio, including rights to inventions, patent applications and trademarks.<sup>25</sup> The office has special activities and portfolios in biotechnology and R&D tools, therapeutics and diagnostics, drug targets as well as cleantech and environment.<sup>26</sup>

UTU has **digital solutions** for managing intellectual property rights and intellectual property such as invention disclosures, idea and innovation propositions as well as more formal innovation proposals aimed at Business Finland funding applications. UTU uses, for example, the Greip system by Greip IP Solutions to file and pursue patent and trademark applications throughout the entire process. All communication between inventors, patent attorneys and patent granting authorities including related document management is handled via the Greip system. In addition, UTU TTO uses multiple public IPR databases and solutions as well as commercial solutions such as Teqmine, Derwent Innovation, and IPRally to assess and evaluate research results and invention disclosures. The University also uses business and market intelligence solutions to evaluate the commercial potential of research results and inventions.

Educational programmes are also developed for the needs of private and public organisations, hence forming yet another form of collaboration. For example, **AI Business Academy** offers tailored courses for companies aiming to start their own pilot projects related to artificial intelligence. Another example of educational collaboration is the **Centre for Education and Research on Social and Health Services** that fosters collaboration between academic researchers and health and social care professionals.<sup>27</sup> The aim is to translate evidence-based information into practical solutions through workshops, courses, and inter-organisational projects.

#### *Third pillar OUTPUTS: platform for start-ups and spin-offs*

The second pillar of the ecosystem is the **platform for start-ups and spin-offs**. UTU supports establishing new enterprises through grants and expertise, mainly with the support of the public Business Finland Research-to-Business funding programme that fosters the development and commercialisation of innovations. Current projects relate to topics including material science and pharma development.<sup>28</sup> UTU has been very successful in acquiring projects from this programme since its inception. UTU operates commercialisation cases with UTU ownership through its solely owned **UTU Holding Ltd**. One example of a successfully incubated company is Precordior Ltd that provides medical devices, mobile app solutions, and cardiac monitoring.

Companies recently founded based on UTU research include ventures in semiconductors, virtual reality and food production.<sup>29</sup> One example is CTRL Reality, which provides virtual reality solutions for engineering, marketing and training.<sup>30</sup> Close cooperation with members of the start-up ecosystem is a very important part of UTU's spin-off support mechanism. For example, UTU alumni have established the development company Monttu Ventures Ltd., which accelerates academic start-ups from the Turku

<sup>25</sup> See <https://www.utu.fi/en/business-collaboration/innovations-and-entrepreneurship/utu-tto>

<sup>26</sup> See <https://www.utu.fi/en/business-collaboration/innovations-and-entrepreneurship/technology-and-IP-portfolios>

<sup>27</sup> See <https://sites.utu.fi/sote/en/centre-for-education-and-research-on-social-and-health-services/>

<sup>28</sup> See <https://www.utu.fi/en/business-collaboration/innovations-and-entrepreneurship/TUTLI-projects>.

<sup>29</sup> See <https://www.utu.fi/en/business-collaboration/innovations-and-entrepreneurship/startups-and-spinoffs>.

<sup>30</sup> See <https://ctrlreality.fi/>

area in two ways. Firstly, it acts as a first outside investor with up to €25,000 per company. Secondly, it offers knowledge and contacts from Monttu Ventures' own shareholders.<sup>31</sup>

UTU provides **support for emerging start-ups** and spin-offs mainly through its Development Services, especially through the **Innovations, Entrepreneurship and Transnational Education** unit. This unit oversees all commercialisation activities within UTU. It is staffed with over ten experts. In addition to the official staff, all faculties have volunteers taking part in a mutual peer support network called entrepreneurship champions and innovation scouts<sup>32</sup>. Regarding student entrepreneurship and start-ups, the local entrepreneurship association **BoostTurku** is an essential actor. It is operated by students and functions as an independent actor, while the local universities are the main funders – with UTU being the biggest one.

Specifically, UTU is part of a larger healthcare development ecosystem, **Health Campus Turku (HCT)**. The ecosystem offers unique opportunities for research, innovation, and corporate collaboration, including support for start-ups. Health Campus Turku **Digital platform TERTTU**, developed at UTU, brings together different testbeds and developers in the health care and life science sector in Southwest Finland. Initiatives related to research, development and testing are directed to this one-stop service to enable efficient collaboration with companies.

UTU is also a co-owner in the regional development organisation **Turku Science Park Ltd.**, which coordinates the business and innovation services in the region. One of the spearhead industries of this organisation is healthcare. These activities are organised under the HealthTurku brand.

### 3. How UTU fosters a digital culture as a means for entrepreneurship

#### *Commitment from UTU's leaders to digital transformation and entrepreneurship*

Digitisation is part of the UTU strategy 2016-2020, spanning through UTU's various activities. Topical digitisation projects are derived from the strategy with dedicated resources and responsibilities, and their progress is monitored in connection with the strategy's reporting mechanism. Measurable goals will be defined for the forthcoming strategy 2021-2030 that is currently under way and which aims to develop a separate, university-wide digitisation strategy.

UTU's digitisation is based on the adoption of digital technologies across different activities in order to enhance processes, structure interactions, and promote and enable collaboration within UTU as well as with stakeholders from the private and public sector. Digitisation is essential also in creating and maintaining a modern and user-oriented **digital working culture and environment** for UTU staff and students. Digital transformation is implemented through a series of digitisation projects. University-level projects include the digitisation of administration and central services; digitisation of research; and digitisation of education.

In addition, UTU's digitisation approach encompasses a variety of multidisciplinary educational and research programmes as well as technological development and innovation development activities that focus on digitisation as a central topic or subject. The following sections provide details about UTU's digitisation strategy.

#### *Digital teaching, learning and assessment practices at UTU*

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<sup>31</sup> See <https://www.monttuventures.fi/>.

<sup>32</sup> See <https://www.yrittajyysyliopisto.fi> (in Finnish)

**Digitisation of teaching and learning** is a **strategic goal** of UTU in the strategy 2016-2020 as well as in the forthcoming strategy 2021-2030. The objective is to strengthen the digital skills of teachers and students.<sup>33</sup> Accordingly, the curricula are developed so that the enhancement of digital skills is included. Digitisation of education is present across the whole UTU, including degree education as well as continuous education, such as via open-access learning<sup>34</sup>, and increasingly also in executive education<sup>35</sup> and Open University<sup>36</sup> that also offer online courses as well as delivering hybrid courses that combine personal presence and online methods.

Digitisation of higher education enables extending the **co-operation** in education between different sciences in UTU as well as between universities regionally, nationally, and internationally. Within UTU, examples of multidisciplinary co-operation platforms include those of the Centre for Education and Research on Social and Health Services<sup>37</sup> and AI Academy<sup>38</sup>. A regional example of co-operation is Health Campus Turku<sup>39</sup>. Nationally, UTU is an active partner in initiatives such as DigiVisio 2030<sup>40</sup> and DigiCampus. DigiCampus has, for example, developed its own Moodle that supports registration from outside organisations, which makes it suitable for MOOCs.<sup>41</sup>

UTU has several **centrally supported online tools** that enable communication, collaboration, and networking both inside and outside UTU. The most frequently used tools include Zoom (a dedicated instance provided by CSC – IT Center for Science Ltd), Microsoft Teams, Echo360 video services and Skype for Business. The main learning management system (LMS) in UTU is Moodle. Additionally, several units within UTU also use ViLLE, which is a collaborative learning platform developed by the Centre of Learning Analytics of UTU.<sup>42</sup> It offers students immediate feedback and both students and teachers detailed information. For digital exams, UTU uses the EXAM platform, developed by a national consortium and used in most of the Finnish higher education institutes.

**IT services** on UTU's campus are versatile and free to use to UTU members. For example, all students have access to UTU IT services and wireless networks with no additional cost, and the University Library offers library services for students and staff, such as extensive databases, e-resources, digital materials, and equipment free of charge. Additionally, UTU has a **support and trial centre for teaching and teaching experimentation**<sup>43</sup> as a physical facility and as human resources available to teachers. The support team provides technical and pedagogical training in the form of webinars, seminars, and other types of training for teachers. The team consists of experts from Educational Support Services and IT Services.

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<sup>33</sup> See <https://apps.utu.fi/media/nakoislehdet/strategy2020/#/article/6/page/1-1> and <http://www.utu.fi/sites/default/files/public%3A//media/file/toimenpideohjelmien-en-2018.pdf>.

<sup>34</sup> See <https://www.utu.fi/fi/opiskelijaksi/avoim-oppimateriaali>.

<sup>35</sup> See <https://sites.utu.fi/exe/en/>.

<sup>36</sup> See <https://www.utu.fi/en/open-university-studies>.

<sup>37</sup> See <https://sites.utu.fi/sote/en/centre-for-education-and-research-on-social-and-health-services/>, more information in the Finnish website <https://sites.utu.fi/sote/>.

<sup>38</sup> See <https://sites.utu.fi/tekoalyakatemia/en/>.

<sup>39</sup> See <https://www.healthcampusturku.fi/>.

<sup>40</sup> See [digivisio2030.fi](https://digivisio2030.fi).

<sup>41</sup> See <https://info.digicampus.fi/?lang=en>.

<sup>42</sup> See <https://oppimisanalytiikka.fi/en/>.

<sup>43</sup> Internal information in UTU intranet: <https://intranet.utu.fi/fi/sivustot/opettajan-tukisivusto/ota-yhteytta/Sivut/default.aspx> (in Finnish).

UTU student and staff feedback systems include various ways of **monitoring** the digitisation of teaching and learning. UTU also participates in national and international surveys (e.g. ECAR) that map digital skills and needs of both students and staff.

Moreover, the University fosters a **digital culture as a means of entrepreneurship** through the Information System Science Department, which explicitly educates intermediaries between business and IT.

#### *Digitisation in research*

Research on digitisation and new technologies is part of UTU strategic profiles. Research on digitisation is inherently multidisciplinary, and it thus spans multiple faculties. Central in this research area is UTU's new Faculty of Technology – UTU is investing heavily in expanding its engineering education and research. The Department of Computing in particular is home to countless multidisciplinary research projects that study, develop, and apply digital systems to today's challenges.

In business collaborations, UTU participates in several collaborative research projects related to digital culture.

UTU is part of the consortium of the Artificial Intelligence Governance and Auditing (AIGA) which explores how to execute responsible artificial intelligence (AI) in practice<sup>44</sup>. Furthermore, UTU led the consortium of the project Smart Work in Platform Economy (SWiPE) that studied the changes in work and entrepreneurship in the era of the platform economy.<sup>45</sup>

#### *UTU's activities in data protection and privacy*

UTU protects the **ICT-related privacy, confidentiality, safety** and well-being of staff and students through a dedicated data protection policy and related instructions. The staff and students are also bound to certain rules, for example IT rules in order to get access to UTU's IT systems<sup>46</sup>. UTU's data policy and data protection policy is committed to the national guidelines for responsible conduct of research and procedures for handling allegations of misconduct in Finland. UTU's data policy states that, for example, UTU considers the commercial utilisation of research data and results and the related protection of rights when implementing the principles of open science. UTU can limit the openness of data but only for justified reasons.

#### *Open science and innovation practices across UTU*

Openness is one of the core values of UTU.<sup>47</sup> In the strategy 2016-2020, UTU aims to develop an operational culture wherein the principles and practical applications of open science increase the impact and quality of research and education.<sup>48</sup> Indeed, UTU was ranked as the best Finnish university in the evaluation of open operational culture in higher education institutions conducted by the Finnish Ministry of Education and Culture in 2019. The openness of research includes open access to research data, scholarly publications, methods (e.g. algorithms and code), research infrastructures and other research

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<sup>44</sup> See <https://des.utu.fi/projects/aiga/>.

<sup>45</sup> See <https://www.smartworkresearch.fi/>.

<sup>46</sup> <https://intranet.utu.fi/index/IT-rules/Pages/default.aspx>.

<sup>47</sup> See <https://www.utu.fi/en/university/strategy-and-values>.

<sup>48</sup> See UTU strategy and policy programme for open science: <http://www.utu.fi/sites/default/files/public%3A//media/file/toimenpideohjelmien-en-2018.pdf>.

materials, as well as open co-development and co-operation.<sup>49</sup> Thus, open science plays a key role in leading researchers to the sources of innovation.

The **guidelines for open science** at UTU are available in various guides published on the University's website<sup>50</sup>, including separate sections for the public to search and access open resources and UTU researchers. The open practices are aligned in university-level principles and policies and supported via numerous practical measures described in the action plan. For researchers, support for open science and innovation is provided by a multi-professional UTU open science team consisting of representatives from, for example, UTU library, the research development unit, legal services, the communications unit and IT services. UTU has carried out open science workshops and training sessions to develop tools and platforms as well as researchers' competence in openness and new modes of operation. Citizen science, participatory research, and crowdsourcing in research call for participation of citizens, and they also offer comprehension of the differences in expertise. Additionally, UTU offers an extensive set of training programmes on open science tailored to the needs of UTU's different departments. A recent example is a course on Research Data Management for PhD students, in which the openness of data was one of the main contents alongside with legal and commercial aspects of research data.<sup>51</sup>

A strong focus on developing open science continues in the **new UTU strategy for 2021-2030** that has a strong emphasis on the creation of open, versatile, and internationally recognised research, done in collaboration with the stakeholders, including industry.<sup>52</sup> High-quality and open research infrastructure is a key prerequisite for achieving this goal.<sup>53</sup> The University's research infrastructure includes the research instruments, equipment, materials, data collections and services that enable R&D at different stages of innovation activities; it supports organised research work, doctoral training and teaching; and it develops research and innovation capacity. There are several high-quality research infrastructures in UTU. Automatically, these include partnerships in European infrastructure projects (the European Strategy Forum on Research Infrastructures) that are represented at UTU, international memberships, the research infrastructure on the Finnish research infrastructure roadmap (FIRI) and significant local research infrastructures. Excellent infrastructure provides not only open access to instruments, equipment, and data but also openness to expert services for researchers and company customers. UTU offers open access to some of the organisation's research instruments in an OpenIris database.<sup>54</sup> The cornerstones of the development of research infrastructure are open access, transparency, the efficient use of the infrastructure resources (research equipment, personnel) and the promotion of cooperation with the regional, national, and international collaborators. The main regional collaborators are Åbo Akademi University, Turku University of Applied Sciences, Turku University Hospital, and the Turku Business Region. The aim is to utilise the research infrastructure in increasing the impact of the research by creating efficient collaboration, in particular with the regional industry actors. UTU start-ups may rent space, instruments, and equipment under the same conditions as other companies.

#### *UTU's digital presences for supporting its entrepreneurial activities*

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<sup>49</sup> The evaluation assessed research organisations' activities in relation to promoting open science. <https://julkaisut.valtioneuvosto.fi/handle/10024/161990>.

<sup>50</sup> See [https://utuguides.fi/guidesinenglish?b=t&group\\_id=14313](https://utuguides.fi/guidesinenglish?b=t&group_id=14313).

<sup>51</sup> See <https://www.utu.fi/en/news/news/the-basics-of-research-data-management-brdm-course-for-young-researchers-and-postdocs>.

<sup>52</sup> The University Board of UTU approved the draft of the new strategy for 2021–2030 in its meeting on 13 December 2019. The strategy document has been distributed internally to UTU community. The general public has been at this stage informed and invited to take part in the process: <https://www.utu.fi/en/university/strategy-2021-2030-planning>.

<sup>53</sup> See <https://www.utu.fi/en/research/research-infrastructure>.

<sup>54</sup> See <https://utu.openiris.io/landing/?ReturnUrl=%2f>.

The digital presence of UTU covers a wide range of channels that promote the brand of UTU. These include UTU internet, blog and social media channels and different portals that each provide channel-specific content with different focuses, also associating UTU's entrepreneurial approach in different forms as a key topic at UTU.

**UTU's website** serves mainly potential employees and students, business partners and the media. For these target groups, the UTU front page<sup>55</sup> promotes business collaboration most notably and provides links to other platforms that support the university-business collaboration in different forms.<sup>56</sup> UTU's official **blog**<sup>57</sup> also has a separate thematic section for the Entrepreneurial University and for business collaboration. Other key areas, such as open science<sup>58</sup> and thematic research areas<sup>59</sup>, including digital futures, also have their dedicated sections in UTU's website. UTU's **YouTube, Twitter and Facebook** channels also feature these topics.<sup>60</sup> The main UTU website landing page content, quality and technical function is maintained and regularly checked to correspond with the website concept. Key performance metrics include visitors on pages, transitions to pages and other indicators, and they are measured for each communications campaign. Apart from awareness raising events, all campaigns are conducted digitally utilising digital media and social media channels.

In addition to the UTU website, the UTU entrepreneurial approach is reinforced by utilising **external channels** that allow communication of selected key messages for specific target groups. These channels are maintained, monitored, and developed by UTU units responsible for the respective service or product. Units are supported by the UTU communications in realising their communications plans. For example, Entrepreneurial University has its own website<sup>61</sup> and associated social media channels targeted at students, researchers, and the general public. They are maintained by the Innovations, Entrepreneurship and Transnational Education unit. On Twitter, Entrepreneurial University has more than 1,100 followers<sup>62</sup> and on Facebook more than 500 followers<sup>63</sup>. Also, on a monthly basis more than 600 people (including UTU members and representatives of stakeholder organisations and companies) receive its newsletter. To mention other examples: the entrepreneurship division at the Turku School of Economics has its own Instagram account (approximately 350 followers)<sup>64</sup> as well as a presence on Facebook<sup>65</sup>; and open science is present in blog for Openness, Digitality and Data in Science<sup>66</sup>.

In addition to public channels, the digital presence of UTU also covers an intranet that provides content relevant for the UTU community (students and staff). Furthermore, It is an important channel in communicating all UTU's internal services and guidelines related to entrepreneurship. The intranet is currently being renewed. Page data analytics, focus group interviews, and benchmarking are being used to develop it.

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<sup>55</sup> See <https://www.utu.fi/fi> and <https://www.utu.fi/en>.

<sup>56</sup> See <https://www.utu.fi/en/business-collaboration>.

<sup>57</sup> See <https://blogit.utu.fi/utu/>, where Entrepreneurial University is yrittäjyysliopisto, and Business Collaboration is yritysyhteistyö.

<sup>58</sup> See <https://www.utu.fi/en/research/open-science>.

<sup>59</sup> See <https://www.utu.fi/en/research>.

<sup>60</sup> See <https://www.youtube.com/user/turunyliopisto>, <https://twitter.com/UniTurku>, <https://fi-fi.facebook.com/turunyliopisto/>.

<sup>61</sup> See [www.yrittajyysliopisto.fi](http://www.yrittajyysliopisto.fi) and [www.entrepreneurialuniversity.fi](http://www.entrepreneurialuniversity.fi). Contents of these sites will be transferred in 2021 under the UTU main website.

<sup>62</sup> See [https://twitter.com/UTU\\_Entrepr](https://twitter.com/UTU_Entrepr).

<sup>63</sup> See <https://www.facebook.com/yrittajyysliopisto/>.

<sup>64</sup> See <https://www.instagram.com/tseentrepreneurship/?hl=de>.

<sup>65</sup> See <https://www.facebook.com/tseentrepreneurship/>.

<sup>66</sup> See <https://blogit.utu.fi/justoddit/>.

### **Source**

This case study was prepared by Carola Schulz and Dr Stefan Lilischkis from empirica Gesellschaft für Kommunikations- und Technologieforschung mbH, Bonn, Germany, through collection and analysis of broad documentation about the University of Turku.

### **Contact**

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### **Key links**

<https://www.utu.fi/en>