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# ***Sustainable RDI in TAMK***

## ***Abstract***

*Sustainability is closely connected to TAMK's RDI activities. In this paper we reflect how sustainability aspects are considered in TAMK's research and development projects, and how TAMK on its' part is tackling some of the sustainable development goals published by United Nations. The theme is discussed concretely through pervious and on-going projects under three TAMK's key impact areas: development of education, sustainable environment, and health and wellbeing.*

## ***Introduction***

Tampere University of Applied Sciences (TAMK) implements around 200 research and development projects annually. All the projects are closely connected to the TAMK's strategy strengthening the position as an international higher education institution, as a desired working life partner and, as a reformer of education contents and structures.

Sustainability is seen as an important factor of TAMK's RDI actions and the goal is that the sustainability aspects would be built-in in every project. Already in the planning phase, project groups are asked to consider the connection between the project content and the sustainable development goals (SDGs, United Nations, Sustainable Development).

Themes related to sustainability are also visible in most of the funding programs covering 2021–2027, e.g.:

- Structural Funds promote, among others, Finland's objectivities related to carbon neutrality (Rakennerahasto, Uudistuva ja osaava Suomi).

- The Academy of Finland requires that the principles of sustainable development are considered in all the funded projects and is committed to the global sustainability goals (AKA, Sustainable development).
- Erasmus+ program has a strong focus on social inclusion and operates in line with European Green Deal objectives (European Commission, Erasmus+).
- Horizon Europe program is designed to tackle climate change and to help in achieving the UN's SDGs (European Commission: What is Horizon Europe?).

In following sections, we reflect how TAMK on its' part is tackling some of the UN's SDGs. The theme is discussed concretely with RDI reference project examples under three TAMK's key impact areas: development of education, sustainable environment and health and wellbeing.

### ***Developing higher education and vocational education***

A cross-cutting theme for all TAMK's RDI projects is the development of education at higher and vocational level. SDG number 4 addresses the quality of education. It targets to ensure inclusive and equitable quality education and to promote lifelong learning opportunities for all (Fig 1.). Whereas, SDG number 16 addresses peace, justice and strong institutions, i.e. targets to develop effective, accountable and transparent institutions at all levels and to ensure responsive, inclusive, participatory and representative decision-making at all levels (United Nations, Sustainable Development).

TAMK RDI projects tackle these SDGs by fostering digital competences, pedagogies and learning environments in projects such as *Genuine Digi – Together towards genuine digital teaching and learning*. The objective of this Erasmus+ funded project is to increase VET-teachers' (Vocational education and training) pedagogical online teaching skills and thereby increase the digital competences of both teachers and students. It is important that VET-teachers have the skills needed to deliver quality and inclusive education through virtual means (Genuine Digi).

In the projects TAMK strives for improving the inclusion of students with special needs. One of these projects is *VET and COVID-era challenges in inclusion of special needs students*. The Erasmus+ funded project seeks new tools and methods for hybrid-model education for vulnerable students and students with special needs. The outcomes of the project can be used as European level tools for adopting and further developing the new way of teaching and training the vulnerable students at VET level (VET and COVID-era challenges in inclusion of special needs students).

TAMK operates also in Erasmus+ Capacity Building in the Higher Education (CBHE) action that supports the relevance, quality, modernization and responsiveness of higher education in countries outside Europe. Together with the partners around the world TAMK builds the capacity of higher education for example in the fields of circular economy, digital health care, and entrepreneurship. The base of the CBHE projects are always the needs of the target countries and co-creation towards the project goals (European Commission, Erasmus+).



Figure 1. A cross-cutting theme for all TAMK's RDI projects is the development of education at higher and vocational level. (Picture: A. Talo)

## ***Creating sustainable environment***

Another key impact area TAMK concentrates on is creating sustainable environment. SDG number 12 is to ensure sustainable consumption and production patterns by achieving the sustainable management and efficient use of natural resources and reducing waste generation through prevention, reduction, recycling and reuse. Additionally, SDG number 11 targets to make cities inclusive, safe, resilient and sustainable (United Nations, Sustainable Development).

TAMK strives for these goals in its projects such as *PackAlliance* and *RUOKO* (Fig. 2). *PackAlliance*, Erasmus+ Funded project, is European alliance for innovation training and collaboration towards future packaging. The project contributes to modernize the higher education curricula by enhancing its alignment with plastic packaging labor market needs. The work is done together with academic and industry partners in Spain, Poland, Finland and Italy. *RUOKO* project is about developing sustainable, intelligently equipped, safe and functional material, packaging and transport solutions for transport of take-away meals. The goal of the project is also to help consumers sort and recycle empty take-away packaging correctly and increase the recycling of households. *RUOKO* project is funded by European Union Regional Development Fund (RUOKO).

Moreover, TAMK co-creates in Horizon2020 *FUSILLI* project. *FUSILLI* is about fostering the urban food system transformation in 12 European cities. The project focuses on supporting cities to facilitate their transition towards more sustainable food systems, in line with the FOOD2030 priorities. In the core of the *FUSILLI* there are the Living Labs of different European cities where the main objective is to develop urban food plans within their local contexts to achieve an integrated and safe holistic transition towards healthy, sustainable, secure, inclusive and cost-efficient food systems (*FUSILLI* – Urban food planning).



# Living Lab

- 11 SUSTAINABLE CITIES AND COMMUNITIES
- 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
- 13 CLIMATE ACTION



Figure 2. With the industry partners and in Living Labs TAMK develops innovations relating to sustainable packaging, urban food processing, and smart buildings. (Picture: A. Talo)

## **Promoting health and wellbeing**

SDG number 3 is to ensure good health and promote wellbeing for all at all ages. For one part, the development goal is targeting strengthening the capacity of all countries for early warning, risk reduction and management of national and global health risks. Developing countries, in particular, are in the core of the goal (United Nations, Sustainable Development).

To promote the goal, TAMK is involved in creating new capabilities and opportunities to innovate healthcare locally and globally (Fig. 3). TAMK is a specialist in digital health care services, sustainable brain health for occupational wellbeing, and genomic data. In Erasmus+ funded projects such as *DigiCare Asia* (Educating students for digitalized health care and coaching their patients) and *SmartNurse* (Developing teachers' and nursing students' competencies in digital nursing) focus is on modernizing the curriculum to include digitalization especially in the contexts of health promotion, disease prevention and management of chronic diseases in primary health care. The partner organizations in these projects are from Bangladesh, Vietnam, El Salvador and Mexico (*DigiCare Asia*, *SmartNurse*).



Other succeeded projects of TAMK, contributing sustainable development, are *Sustainable Brain Health* and *Profitu*. European Social Fund financed project *Sustainable Brain Health* aims at improving employee well-being by developing a brain health barometer for work communities. The project focuses on cognitive ergonomics, information ergonomics, affective ergonomics, self-direction and ethical workload (Sustainable brain health). *Profitu* strives to create a roadmap for responsible use of genome and other patient related data to develop research, expertise and education. The project is implemented in close collaboration with several domestic and international collaborators and co-funded by the Finnish Ministry of Education and Culture and TAMK (Profitu).

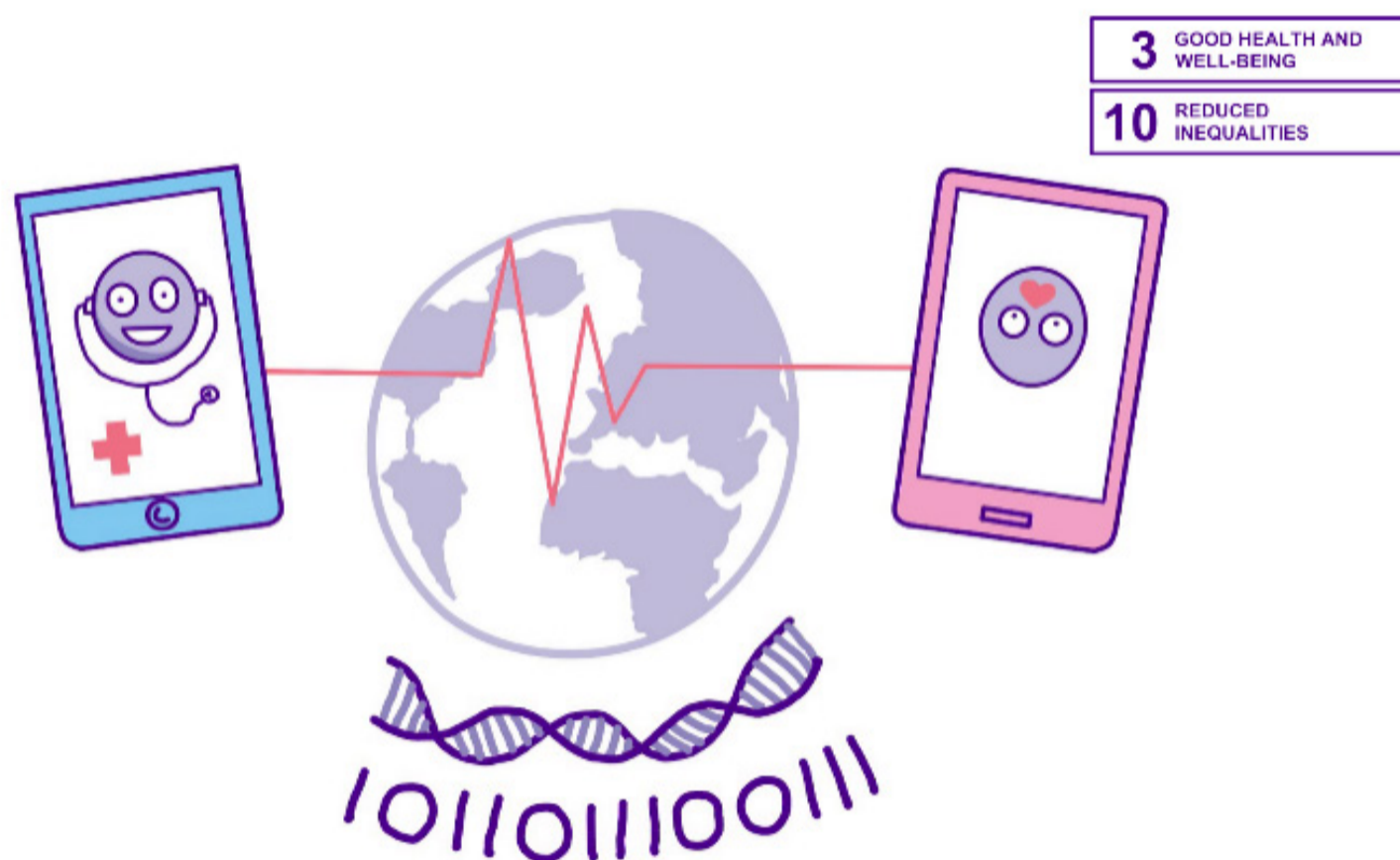


Figure 3. TAMK is promoting health and wellbeing in multiple ways. (Picture: A. Talo)

## Summary

Tampere University of Applied Sciences implements around 200 projects annually. Sustainability is seen as an important factor and the goal is that sustainability aspects would be closely linked to all the implemented projects. The connection between the project content and the sustainable

development goals are already considered in the planning phase of a project. This ensures that the projects implemented are following the principles of sustainability in many dimensions. In addition, the impacts of the project are always seen as a ground of sustainable development and for this the impacts are also precisely considered in the starting point.

## **References**

Academy of Finland, Sustainable development. Read on 17.1.2022. <https://www.aka.fi/en/research-funding/responsible-science/sustainable-development/>

DigiCare Asia – Educating students for digitalized health care and coaching their patients. Read on 19.1.2022. <https://projects.tuni.fi/digicareasia/>

European Commission, Directorate-General for Education, Youth, Sport and Culture, Erasmus+ 2021–2027: enriching lives, opening minds through the EU programme for education, training, youth and sport, Publications Office, 2021. Read on 17.1.2022 <https://data.europa.eu/doi/10.2766/536>

European Commission: What is Horizon Europe? Read on 17.1.2022. [https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe\\_en](https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en)

FUSILLI – Urban food planning. Read on 19.1.2022. <https://fusilli-project.eu/>

Genuine Digi – Together towards genuine digital teaching and learning. Read on 19.1.2022. <https://www.tuni.fi/en/research/genuine-digi-together-towards-genuine-digital-teaching-and-learning>

PackAlliance. Read on 19.1.2022. <https://www.packall.eu/>

Profitu – Geenikartta – tie terveyteen. Read on 19.1.2022. <https://projects.tuni.fi/profitu/in-english/>

Rakennerahasto, Uudistuva ja osaava Suomi 2021–2027. Available in (only in Finnish). Read on 17.1.2022 [https://www.rakennerahastot.fi/ohjelmakausi2021\\_2027](https://www.rakennerahastot.fi/ohjelmakausi2021_2027)

RUOKO. (Only in Finnish) Read on 19.1.2022. <https://projects.tuni.fi/ruoko/> VET and COVID-era challenges in inclusion of special needs students. Read on 19.1.2022. <https://www.tuni.fi/en/research/vet-and-covid-era-challenges-inclusion-special-needs-students>

SmartNurse – Developing teachers’ and nursing students’ competencies in digital nursing. Read on 19.1.2022. <https://projects.tuni.fi/smartnurse/>

Sustainable brain health. Read on 19.1.2022. <https://projects.tuni.fi/kestavaaivoterveys/in-english/>

United Nations, Sustainable Development. Read on 19.1.2022. <https://sdgs.un.org/goals>