

AUDIT OF HäME UNIVERSITY OF APPLIED SCIENCES

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

- Korkeakoulun itsearviointi

HAMK is profiled as a higher education institution whose activities are based on strong RDI work. In HAMK, the targets are defined in the strategy, and RDI activities implemented in research units, and in degree programmes as student projects and theses included in study modules. The world of work participates in all forms of RDI activities.

Education and research units produce results and impact

Module projects, development activities and theses are carried out in cooperation with business life. These activities strengthen the competence of students and staff, and the development challenges of the world of work will be solved. Around 140 RDI projects are carried out at HAMK each year, and around one fifth of these are international in scope.

HAMK uses the **Entrepreneurial University** operating model where students encounter assignments from the business life and solve them using RDI methods. **HAMK Design Factory** offers students, teachers, and business partners a platform for multi-disciplinary experimental innovation activities.

The project-oriented RDI activities of the beginning have been transferred to strategic, profiled operations. HAMK's Sheet Metal Centre (the foundation of the current HAMK Tech) was

established in 1996. The current **research units** were established in 2015 (HAMK Bio, HAMK Edu, HAMK Smart, and HAMK Tech). A significant proportion of the Schools' staff work for the research units. Research units and educational units cooperate.

The **Research Development Group** leads and sets the objectives of research. The **principal research scientists** are responsible for the **research groups**. The **Tenure Track** offers doctoral degree researchers a career path towards a position as a principal research scientist. Cooperation with universities is implemented through the doctoral dissertations carried out in projects, supporting the goal of **professional doctoral degrees**.

Research programmes outline profiles, research contents, and targets. They guide the competence management, funding applications, and project portfolios. Currently, the funding base consists mainly of EU's regional development funding. The aim is to increase the direct and competitive funding. An operating model to the productisation and commercialisation of RDI results is being developed further. The research units' joint, multidisciplinary development work and stakeholder cooperation have recently been strengthened.

Key indicators are monitored and customer feedback is collected. There is a need to further increase the benefits of research to the customer and the society. A utility indicator is currently being developed to measure this capability.

RDI communication is part of open RDI activities and societal impact. Professional, scientific, and general articles on the RDI results are published.

Centralised support services to ensure the quality of RDI activities

The **Project Services** team and Financial Administration guide the administrative quality of projects' application processes, implementation, and documentation, and financial monitoring and reporting of projects. Project administration processes and transparent IT systems have been developed, and HAMK's ability to participate more in international funding applications has improved.

The **RDI Support** team's services cover open science and research, IPR issues, publications, research data life cycle and material management planning, research ethics, and project communications support.

Education is being reformed through research

DPs are renewed through **interaction between education and RDI**. RDI personnel participate in teaching, providing the latest research data. Teachers participate in RDI activities, developing their competence. Participation in curriculum work and teaching has been defined in the work description of the principal research scientists.

Students can participate in RDI activities in research units. They can carry out module projects, work placements, and theses in research unit projects. Research units also employ students in assistant positions and graduates. Master's degrees are developed into a research-based direction by utilising the research results produced by RDI activities. Master's degree students in their workplaces also bring their background communities as a part of HAMK's networks.

The pedagogical research and expertise of HAMK Edu are utilised in the development of education. Research units play an important role in promoting HAMK Global activities. The results of RDI activities will be made available to business customers through the continuous learning channel (e.g. Chief Expert in Engineering project). Cooperation between HAMK Up and research units is being developed

HAMK promotes research ethics and open science

HAMK's open science work is based on the [national declaration](#). Operations are guided by [the principles of openness](#). HAMK has focused on promoting open publication, opening up research data, and providing services that support an open operating culture.

The [guidelines](#) of the Finnish Advisory Board on Research Integrity have been implemented into RDI projects and the thesis process. HAMK has instructions and support persons for allegations of misconduct. Staff are offered training (incl. open badge) in the area.

Strengths

Organising research activities with outsider funding into research units will bring long-term sustainability and stability to RDI activities.

Specialising in accordance with the research units' profiles and focusing on limited areas of research strengthens effectiveness.

The needs of the labour market have a strong impact on the research activities of research units.

There is strong support and expertise for the administrative work related to the projects.

Research integrity and responsible conduct of research is well-considered.

Enhancement areas

Further improve co-operation between HAMK Up, educational units, and research units in the field of continuous learning.

Extending alumni activities to research units.

Improve the overall support of innovations including commercialisation as part of innovation activities.

2.2 Research, development, and innovation activities

and artistic activities with impact

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HAMK's research units play a significant role in setting institutional targets

HAMK has set the targets for the impact of RDI-work in its strategy. The aim of RDI is to serve as a significant push factor for social innovation through profiled research units such as HAMK Bio, HAMK Edu, HAMK Smart and HAMK Tech. Research units are responsible for the effectiveness of research.

In recent years, special attention has been paid to the needs of working life and companies in developing research activities, which are reflected in HAMK's targets and indicators for strengthening its role in working life and in international RDI ecosystems; among these are, for example, the number of open research programmes drafted together with working life partners, business funding for RDI and the number of peer-reviewed publications. The tenure track possibility for staff members is an important asset in attracting international experts to the region as well. Being part of a network of regional universities also contributes to reform society, as well as providing a route to HAMK, its staff, students, and stakeholders to learn and to strengthen HAMK's profile, develop competences and thus improve its societal impact.

The strategy of top excellence identifies the directions of RDI activities and brings together the goals, strengths and development areas. Progress and achievement are monitored by annual milestones. In this process, stakeholder feedback is systematically considered. In the interviews, the staff confirmed that the regular review discussions with research units are based on the progress and achievement results and include the impact achieved, dissemination and commercialisation, partnership, funding, research competence, and the link between research and education. Indicators for monitoring are in place, yet most of them refer to input or output rather than to impact, with the notable exception of the "number of open research programmes drafted together with working life". The audit team therefore encourages HAMK to actively seek and define impact indicators to strengthen the relevance of its societal engagement.

There are several areas of high societal relevance, such as sequestration, circular economy, and sustainability, where partners and local and international excellence can meet. In these areas, HAMK has good coverage of the whole chain, from research to societal actors, companies, all the way to individual farms and farmers or urban planners. In the audit interviews, promising cases of bridging economic, ecological and social sustainability were mentioned, e.g., Living labs. HAMK is encouraged to continue this way and further intensify its societal impact.

Research ethics and Open Science are well integrated into curriculum and every-day practice

Distribution of responsibilities, as well as practices for the implementation of Open Science and scientific ethics, are in place. HAMK's principles for ethical and open science are guided by its "Principles of openness", which are transparently published on its website. Responsible research and Open Science are actively discussed and taken into consideration, as are the principles outlined by the Finnish National Board on Research Integrity (TENK) and research ethics. Practices and awareness of what to do in case of misconduct or concerns over research ethics are in place, with digital badges and micro credentials for students, assuring that the research ethics are widely familiar and in use. There are also staff members in charge of helping both students and staff with IPR and contractual questions.

Library and information services provide easily accessible and up-to-date guidelines and information on research ethics. The audit team also heard about the two-week -long "Deal Weeks", where students get to explore real-life business projects and real-life cases with special attention being paid to ethical principles. These are a good example of how to teach and explore research ethics in practice.