



Summaries of the PROFI 3 final reports Profi 3 -loppuraporttien yhteenvedot

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Aalto University

Funding 10,8 M€

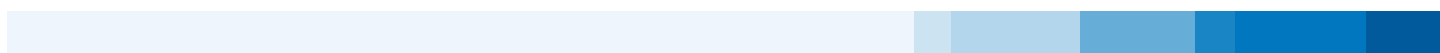
Summary

Profi3 covered three research themes that are important for the future economic growth of Finland: Digital Technology Ecosystems, Sustainable Production and Consumption and Marine and Arctic Technology.

The University's strategy of strengthening research in the themes was implemented mainly by recruiting tenure-track professors and fixed-term faculty, with 24 new tenure-track professors recruited in Profi3 themes. The substantial recruitment strategy permitted the proactive substitution of retiring professors and the addition of new faculty specialising in the mentioned themes.

Aalto has reached a solid position in rankings specific to Profi3 research areas and is recognised as the number #1 university in Finland in all three areas. Our advancement in research excellence is also reflected by our ability to win important competitive research funding, such as Flagships, centres of excellence and ERC grants. The MNCS indicators show that the citation impacts of publications by Aalto staff in Profi3 areas are 23-92% above the world average. Top10% indicators demonstrate that a remarkable share of publications in Profi3 areas (14-22%) belong to the 10% most highly cited publications in the world, exceeding our aspired levels.

Profi3 activities also supported the collaboration with our important partners, such as VTT and the University of Helsinki, as well as with companies such as Wärtsilä, Neste, the Finnish Marine Industries and Aker Arctic Technology Inc.



Hanken School of Economics

Funding 1,5 M€

Summary

With its limited Profi 3 funding, Hanken was able to hire nine new researchers across the two subjects. Profi 3 funding supplied ‘bridge funding’ for two researchers to support the implementation of Hanken’s strategy by concentrating on and extending work in SCM and social responsibility, including humanitarian logistics. Research and education on information systems and technology per se was and is, thus, left for other universities to concentrate on. Further, recruitment of new staff to the SCM&SR subject area with Profi 3 funding contributed to raising the quality level of that research area as well as increasing the share of international faculty of Hanken’s senior faculty. This led to the subject area becoming identified as one of Hanken’s three Areas of High Potential by an international expert panel in 2018. Hanken’s own investments in this Area of High Potential during 2019-23 of 200k€ further leverage the investments made in this area with Profi 3 funding.

Lappeenranta-Lahti University of Technology LUT

Funding 3,8 M€

Summary

LUT received 3.8 M€ Profi 3 funding from the Academy of Finland. The funding was allocated to strengthen our core competences. By Profi 3 funding five tenure track professorships were recruited using international open calls to strengthen the three profiling areas, namely ENERGY: Transition to carbon-neutral world (Clean energy before 2021), WATER: Refining sidestreams into value (Circular economy before 2021) and BUSINESS: Sustainable renewal of business and industry (Sustainable business and entrepreneurship before 2021). LUT works constantly with universities, research institutes

and other relevant organisations to collaborate within our profiling areas.

LUT has occupied a position as a high-quality, productive and influential player in Europe in our profiling areas. We are rising in international rankings: in THE impact ranking 2021 LUT was among 10 best universities in the world in climate actions. Field-Weighted Citation Impact of LUT's publications 2021 was 1.68 (Scopus – SciVal). International top-level peer-review panel evaluated LUT's research and impact with grades 4/5 in 2019 and evaluated our multidisciplinary research platforms are excellent initiatives. We have created solutions for society and industries in our profiling areas: new business models, inventions and patents, new products and spin-off companies. We are emphasising systemic approach to global challenges, sustainable development, and responsibility and are working towards a more sustainable future.

University of the Arts, Helsinki

Funding 600 000 €

Summary

Profi 3 funding has supported the implementation of the following Uniarts Helsinki's strategic targets: increasing the growth of postdoctoral research and widely networked research community, promoting research-based development of arts education and pedagogy, promoting responsible internationalisation and multidisciplinary research, and enhancing collaboration of artist and researchers to promote their active participation in society. With Profi 3 funding, the university has strengthened its three profiling areas of research: history of music and arts, artistic research, and arts education.

During the funding period, Uniarts Helsinki has established its research in the field of history of music, arts, and artistic practices with a special focus of societal power structures, politics, and economic resources. The funding has also fostered research in the history of higher education in the arts in Finland.

Profi 3 funding has strengthened the research profile and community building in the field

of artistic research. Research and artistic outputs by Uniarts Helsinki's artist-researchers have been presented to a wider audience during the Research Pavilions in artistic research in connection with the Venice Biennale (2015, 2017, 2019) and in Helsinki in 2021.

In the field of arts education, the funding has helped to attract researchers, arts pedagogues and artists from different arts disciplines to collaborate on themes such as inclusivity, cultural wellbeing and sustainability. Research in the profiling area has significantly contributed to interculturality, equality and expanding professionalism in the arts and arts education internationally.

University of Eastern Finland

Funding 3,6 M€

Summary

The strategy of the University of Eastern Finland 2015-2020 called for multidisciplinary research-based innovations to solve global challenges. With PROF13 funding in 2017-2021 UEF has built up multidisciplinary research platforms in two profiling areas 'Ageing, lifestyles and health HEALTHLIFE' and 'Environmental change and sufficiency of natural resources, SUSTENVIRON'. In HEALTHLIFE platform we have developed following fields: genomics and epigenetics, gene therapy, big data and bioinformatics and cost-effectiveness of health care. In SUSTENVIRON platform we have developed areas in biosphere-atmosphere interactions modelling and management and policy and legal responses to the bioeconomy. Our measures, recruitment of 14 researchers, have been built around advanced research techniques and methodologies, which have further promoted innovations, societal impact as well as policy-making processes in society. UEF e.g. participates in 3 national flagships: Atmosphere and Climate Change Center, Gene, Cell and Nano Therapy Competence Cluster for the Treatment of Chronic Diseases, UNITE Flagship - Forest-Human-Machine Interplay and several H2020 funded projects. These new recruitments have had a key role in building-up new networks, increasing scientific quality

and boosting multidisciplinary. UEF will further develop research in these profiling areas according to the goals of our new strategy 2030, by seizing a sustainable future with interdisciplinary research approaches.

University of Helsinki

Funding 15 M€

Summary

Profi 3 funding has strengthened UH strategy during strategic terms (2017–2020) and new strategic term (2021–2030) in fostering top level science and new knowledge creation.

INAR has had a vital role in strengthening Finnish business sector, identifying and avoiding health risks, planning healthier and more sustainable cities, life-long learning, knowledge-based leadership, improving air quality in heavily polluted environments, and mitigating and adapting to climate change. It has created world-class research environment for atmospheric and Earth system science in Finland. HiDATA and INAR have contributed together to the birth of two Academy of Finland flagships at the university (FCAI and ACCC) and Centers of Excellence. Via HiDATA the collaboration with the City of Helsinki and with the international research network, including UNA Europa, has been extensive. HiDATA has brought together people from different faculties, and from other universities also internationally, around common topics, explored in 27 public events and in 35 research projects as well as contributed to highly successful MOOCs, such as the Elements of AI, available in all EU languages. During the funding period, UH has incorporated sustainability science into the core strategies of the University. HELSUS has grown into an interdisciplinary unit and network comprising 550 members within UH. HELSUS keeps advancing high-quality interdisciplinary sustainability science research and education that have large societal value.

University of Jyväskylä

Funding 4,6 M€

Summary

The Strategy of the University of Jyväskylä (JYU) for 2015–2020 with the core research areas has been the strong basis of JYU profiling. The results and implementation of the profiling actions in all the profiling rounds have been one of the key drivers to the renewed JYU strategy called “Wisdom and wellbeing for us all”. The formation of this new strategy continues the profiling work, which at the same time speeds up the focusing of JYU into solving global societal problems and developing excellence of our research environment.

JYU selected three profiling actions in Profiling round three, directly linking JYU strategy and vision to the core fields and previous profiling actions. Aspects of societies and cultures were central in the CRISES profiling area and those very aspects certainly are extremely timely just now and connect e.g. populism, equality, immigration and security. BRAIN-profiling area sheds light to how brains work even at the cell level but also how we can protect brains and how for instance physical exercises affect brains. Decision analytics (DEMO) provided data handling tools which cover much wider areas than decisions and extend to development of education and health services.

The tremendous impact, which JYU achieved with these profiling actions, has been based on carefully implemented recruitment plans to further increase number of leading researchers in the core research areas. Commitment, support for the necessary infrastructures and resources by the university itself were essential, e.g. JYU allocated funding for each of the profiling areas for doctoral students and started doctoral programs in totally new areas like neurosciences, security and strategic analysis, started programs for International Visiting Scholars, and supports open science in many ways. International conferences, seminars, community events and summer schools have been channels to disseminate and publish research results. The number and level of peer reviewed international publications, research funding and national and international collaboration activities have substantially increased during the profiling period 2017-2021.

These actions of the profiling areas have led for instance realizations how visualizations can be used in decision making, how history gives insight to the current crises or how brain cells interactions change during sport and over life span.

University of Lapland

Funding 600 000€

Summary

The University of Lapland PROF13 funding was targeted at a single profiling area: Arctic politics and governance, which was considered an interdisciplinary research area at the crossroads of political science, international relations, sociology, administrative science, and law. The research area was classified as an existing high-quality research area already at the start of the funding period. The university focused the major portion of the granted funding on associate professor position in political science, especially Northern politics and governance. In addition, the funding was used as a seed money for increasing the amount of external funding in this area, promoting new research initiatives, and high-quality publishing. The main measure: the associate professor position was promoted to full professor position, which now continues with the university basic funding.

The direct, concrete impact of the funding has been an increase of one professorship in the research area. The indirect, cumulative effects include high-level publications, researcher collaborations and acquired external funding, which have further helped to develop the profiling area and increased the volume of research also at the postdoctoral and junior researcher levels.

During the funding period, the university adopted a new strategy. In the new, updated strategy towards 2030, the Arctic politics and governance research area is an integral part of one of the three strategic strengths, namely Global Arctic Responsibility, which is the largest of the university's strategic choices, when

measured by volume of research both in personnel and outputs. The profiling efforts have thus fed well the implementation and also the development of the university strategy, and the research area continues to evolve within the Global Arctic Responsibility strategic choice also in the future.

University of Oulu

Funding 3,3 M€

Summary

The University of Oulu (UO) works as part of the international science community to produce new scientific information and science-based solutions, and it trains future pioneers to build a more sustainable, intelligent and humane world. UO has systematically built a scientific profile, which highlights its scientific strength and multidisciplinary approaches in globally significant challenges.

In Profi3, UO has strategically developed two scientific profiling areas, 'Fibrosis Disease - Fibrosis as a shared risk factor in the etiology of complex chronic diseases and unhealthy ageing' and 'Genome of Steel – Physics for strong, tough, and sustainable steel'.

UO's Fibrosis research has been strengthened through the recruitment of new tenure track professors, by consolidating the existing strong, but fragmented community to joint interests, by increased cooperation between basic and clinical researcher, by development of research infrastructures, and by building a nationally leading role in the theme. The Profi6 theme 'Fibrobesity' targets obesity-related fibrotic pathologies.

Genome of Steel has successfully developed research towards climate change solutions and central United Nation's Sustainable Development Goals. The multidisciplinary cooperation of material physicists and steel researchers have significantly forwarded science-based metallurgical routes for realizing sustainable

ultrahigh-strength steels and boosted steel knowhow to solve climate change issues.

University of Tampere

Funding 1,9 M€

Summary

The Academy of Finland funding to strengthen university research profiles has been an integral part of the strategic process, resulting at merging the two Tampere Universities. Following the new University of Tampere strategy immediately after its adoption, the profiling application (Profi 2) sought to reorientate the strength area of its research, social sciences, to the world of multidisciplinary, internationality and impact. The related funding decision in profi 3, on global governance, produced an additional edge to the unified and successful programmatic entity. The resulting New Social Research (NSR) programme has been one of the main drivers in major change in perception of and discourse on interdisciplinarity. Internationalisation has meant intensive co-working and with international scholars, publication in English, and mobility. Impact has meant seeking engagement with policy-makers, community groups and business.

The basic approach was to recruit, develop and retain new researchers who would act as an engine for change. To pursue these objectives, NSR made 15 appointments – a director (0.7) and vice-director (0.3), three professors, nine associate professors and one university researcher. Recruited tenure tracks have their positions secured in the Faculties and are making excellent progress. This group of scholars have had significant ‘soft’ impact on the new university. They have all curated significant new lines of impactful internationally-recognised research. They have excellent funding records, as exemplified by acquisition of an ERC consolidator grant. The NSR scholars have also led by example in changes in professional practices (publications, funding applications, approach to social engagement etc.).

University of Turku

Funding 1,9 M€

Summary

University of Turku made the strategic decision to target Profi3 funding to a single profiling area, Sea and maritime studies. Profi3 is the first profiling funding to target this area. The area constitutes a nationally and internationally unique profile, integrating research on existing and emerging topics related to marine and coastal nature, economies and cultures. It builds on the multidisciplinary strengths of the University of Turku and brings them into a joint profiling area. The area is developed in close collaboration with the Åbo Akademi University.

The aims to be reached with the help of the Academy of Finland Profi3 funding were to 1) strengthen and broaden the international research excellence of the Sea and maritime studies profiling area; 2) intensify collaboration nationally and internationally, and; 3) build future potential for leading-edge research. These goals have been achieved by recruiting new tenure track professors, by creating a formal structure for the profiling area and intensifying existing high standard research and establishing interdisciplinary collaborations both internally and externally. The profiling area has also created a long-term impact plan to reach their vision to develop and establish a recognized world class research environment in the field of sea and maritime studies by the year 2030.

Åbo Akademi University

Funding 2,4 M€

Summary

Åbo Akademi University (ÅAU) has profiled its research in the same profiling areas since the first profiling round: Molecular Process and Material Technology (MPMT), Drug Discovery and Diagnostics (DDDP) and Minority Research. In Profi 3, we added a fourth profiling area,



the Sea, and with the new strategy period (2021-2030), MPMT and DDDP were renewed and renamed Technologies for a Sustainable Future and Solutions for Health, respectively. As a small, multidisciplinary university, ÅAU acknowledges the importance and potential of collaboration. In Profi 3, we invested in international mobility to strengthen existing partnerships and create new ones. Right up to March 2020, when the global pandemic interrupted travelling abroad, we hosted 22 international researchers from 21 research institutes and 13 of our researchers visited 11 different research institutes abroad. The impact of this international reach, in combination with previous investments in research, came in the form of joint publications, joint applications and projects, external funding, supervision of degrees and knowledge exchange that further strengthened the excellence of our profiles. Due to the travel restrictions, ÅAU's mobility programme was eventually suspended and the remaining funding was redirected to purchasing instruments and equipment to promote the conditions for research locally. In 2021, the final year of Profi3, which was also the year of research-based knowledge, ÅAU took a visible presence in society. The profiles and their researchers participated in outreach events, engaged with the public, co-created with industry and contributed to policy work and decision making with expert knowledge.

