Annual Review 2020

Lahden Yliopistokampus

LAHTI UNIVERSITY CAMPUS

Annual review of the Lahti University Campus 2020

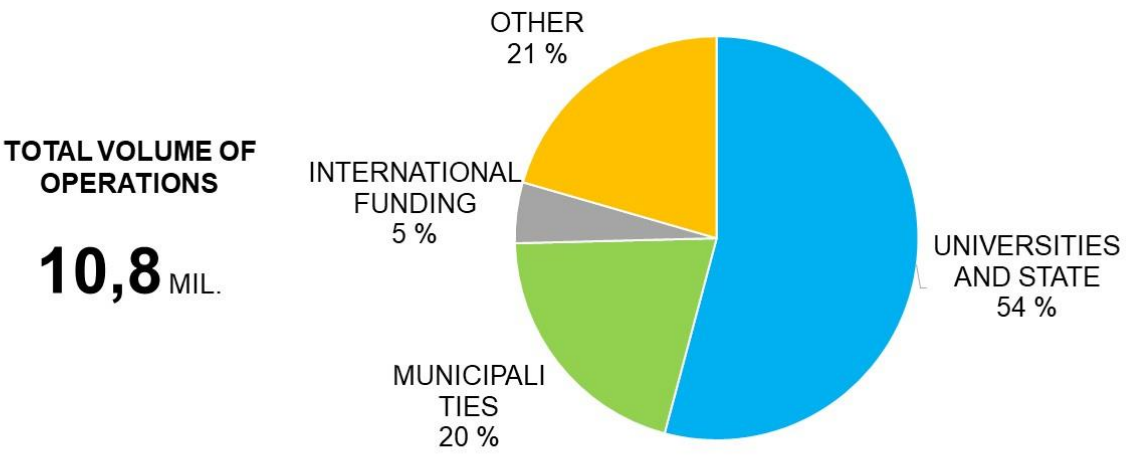
The Lahti University Campus offers facilities to the University of Helsinki and LUT University, and its Coordination Unit supports the operations of the two universities. This review presents the key research, teaching and other operations undertaken on the Lahti University Campus in 2020.

The total volume of operations grew from €10.4 million in 2019 to €10.8 million in 2020. The volume of research, development and innovation projects increased from €3.8 million to €5.1 million. The funding base remained largely the same, with the government and universities as the main funders (54% of the total volume), followed by municipalities (approx. 20% of the total volume). Key figures are presented in detail at the end of this review.

The University of Helsinki and LUT University have concluded an agreement on strategic partnership in the region. Other central cooperation partners in 2020 included the City of Lahti, LAB University of Applied Sciences, Lahti Region Development LADEC Ltd and regional business representatives. Together with these partners, the two universities act as a centre of environmental and sustainability expertise in the Lahti region.

The expansion of science education activities reached a new milestone when Lahden JunnuYliopisto (Lahti Junior University) began its operations. Lahden JunnuYliopisto is a unique provider of science education stretching from early childhood education to general upper secondary education, implemented cooperatively by the City of Lahti, the University of Helsinki, LAB University of Applied Sciences, LUT University and the Päijät-Häme LUMA Centre. Its operations are coordinated by the Lahti University Campus.

The Covid-19 pandemic had a significant impact on university operations. Staff and students mostly moved to remote working and learning. Other activities were also adapted. For example, many events were organised virtually, most notably Lahti Science Week, which had 900 participants.



University of Helsinki

An international and regional player – in partnership

Lahti is home to various operations of the University of Helsinki's **Faculty of Biological and Environmental Sciences, Faculty of Arts, Faculty of Agriculture and Forestry, Faculty of Science, Faculty of Medicine and Faculty of Social Sciences** as well as the **Open University, the Centre for Continuing Education HY+ and University Services**. This network seamlessly connects the Lahti economic region to the University of Helsinki's high-quality research and profile-building projects, including the **Helsinki Institute of Sustainability Science HELSUS** and its **Helsinki Institute of Urban and Regional Studies URBARIA**, the **Institute for Atmospheric and Earth System Research INAR** and the Helsinki Institute of Life Science **HiLIFE**. The **Päijät-Häme LUMA Centre** on the Lahti University Campus is part of the LUMA Centre Finland organisation. All research and teaching in the University of Helsinki network in Lahti relate to the development of an *ecologically, socially and culturally sustainable urban environment*.

Research on ecologically, socially and culturally sustainable cities

The University of Helsinki's multidisciplinary and international researcher community in Lahti as well as its diverse network of partners enable basic research, the application of its results and new research initiatives. Close relationships with businesses play a key role in its cooperation with partners.

In 2020 research in the biological and environmental sciences focused on projects that support Lahti's status as the European Green Capital 2021. At the beginning of December, Ian MacGregor-Fors arrived in Lahti from Mexico to take up the position of professor of urban biodiversity and ecosystems. He will work with his team to strengthen research in Lahti on ways to increase the consideration of biodiversity in urban land use planning and park maintenance. Stephan Pflugmacher Lima, professor of aquatic ecotoxicology, moved to Canada at the end of October, but Maranda Esterhuizen and Costanza Scopetani will continue to conduct research in the field in Lahti.

The main goal of **Professor Ian MacGregor-Fors's urban biodiversity research group** is to untangle the patterns and mechanistic processes behind the responses of wildlife to urbanisation. The group aims to support direct local and regional stakeholders to make evidence-grounded decisions that are in accordance with more biodiverse and livable cities. For this, the group generates first-class evidence-based knowledge through a diverse, inclusive and collaborative approach, where networks of students of all academic levels and colleagues – both institutional and external – play stellar roles. The group is starting a pilot study in Lahti where it seeks to understand and integrate different aspects of cities (i.e., ecological, physical, social). This will hopefully allow the group to better inform decision-makers on how to take effective environmental management actions, for instance. The idea is to broaden the scope of the group's model to more Finnish cities and those from other contrastingly different countries. The group aims to further refine the models, allowing it to build tools that cities can use to generate useful information for their decision-making processes.

University Researcher Maranda Esterhuizen, Postdoctoral Researcher Costanza Scopetani and Professor Stephan Pflugmacher Lima conduct research focused on the **ecotoxicity of microplastics in aquatic and terrestrial environments**. This research collaboration, which already started in 2017, with Korea Institute of Science and Technology (KIST EU) continued, funded by the National Research Council of Science & Technology (NST), and also included the toxicity of reused construction material (concrete) and cyanobacterial toxicants. The transfer of chemicals from plastic materials to recycled fertilisers in aquatic and terrestrial ecosystems was a new topic of investigation.

Postdoctoral Researcher Elina Peltomaa's research group continued its **applied algal research,** searching for microalgae-based solutions to biotechnology needs. The group aims to develop

carbon-neutral solutions based on the principles of the circular economy. Examples of research projects undertaken in 2020 include one focused on leveraging cryptophyte metabolism to turn wastestreams into valuable bioproducts, and another on microalgae-based antimicrobial compounds as natural food preservatives and as materials for food packages.

Research in environmental biotechnology as well as related cooperation with higher education institutions and businesses continued in 2020. Professor Martin Romantschuk and University Lecturer Merja Kontro concentrated on the restoration of degraded environments as well as the generation of added value from industrial sidestreams associated with the circular economy. Examples of topics include (i) the restoration of contaminated soil, groundwater and surface water, (ii) the transformation of industrial sidestreams previously classified as waste into new high-value products, (iii) and the intensification of various biological waste treatment processes, such as composting, biogas production, and the recycling of nitrogen, phosphorus and carbon. Projects in 2020 included the Academy of Finland-funded BioFuture project (University of Helsinki, Åbo Akademi University) in which Merja Kontro's group investigated the occurrence of hospital bacteria in waste treatment processes, and the disruption of the biofilms they form with antibacterial compounds. In a sub-project of the BIOSYKLI (Circular Bioeconomy in Päijät-Häme Region) project funded by the European Regional Development Fund, the group investigated the microbiological transformation of carbon in sewage sludge into raw material for biodegradable plastics (LAB University of Applied Sciences, LUT University, University of Helsinki, Finnish Plastics Association, LADEC, Salpakierto). One of Martin Romantschuk's notable projects focused on the replacement of peat in greenhouse cultivation, with funding provided by the Finnish Development Fund for Agriculture and Forestry (University of Helsinki, Aalto University, Häme University of Applied Sciences). A project funded by the Maj and Tor Nessling Foundation, the Doctoral Programme in Interdisciplinary Environmental Sciences (DENVI) and the MUTKU society explored pesticide dissipation in groundwater using organic matter fractions and by regulating water reuse conditions (Lahti Aqua Ltd, University of Helsinki).

One of the major projects continuing in 2020 in which research conducted in Lahti plays a key role was the international PARKTRAITS project focused on **urban ecosystem ecology** and headed by Professor Heikki Setälä. The project examines the soil processes of urban parks with funding from the Academy of Finland. Docent Aki Sinkkonen's **Nature-Based Solutions** research group continued its projects, including the EU-funded HEDIMED project (Human exposomic determinants of immune-mediated diseases) undertaken with Tampere University, the Tampere University of Applied Sciences, Natural Resources Institute Finland and the University of Helsinki, as well as Postdoctoral Researcher Riikka Puhakka's project entitled 'The health and well-being impacts of outdoor recreation – study on urban youth' (funded by the Academy of Finland).

A **social gerontology study** linked to the Lahti region launched new initiatives in 2020 relating to second residences and summer cabins, their benefits for municipalities, as well as the wellbeing of the elderly, particularly in residential care homes, and the impact of a service voucher scheme adopted for use. The project partners are LUT University and the Päijät-Häme Welfare Group (PHHYKY).

In 2020 the **International Institute of Applied Aesthetics (IIAA)** invested in research and events on 'green aesthetics'. Jukka Mikkonen, DPhil, headed a research project on aesthetic values and climate change under the IIAA's auspices. The IIAA's traditional autumn seminar, organised this time on a fully remote basis, also explored this topic. Preparations were made in 2020 for an international conference to be organised in summer 2021. Funding from the Lahti Environmental Capital project was allocated to the Sensus Communis project, and the resulting interactive work will be performed to the public in summer 2021. Vesa Vihanninjoki, who has conducted research under the IIAA, submitted his doctoral thesis on the philosophical and aesthetic problems of the urban environment for preliminary examination.

Marja Mikkelsson (physical medicine and rehabilitation) and Markku Kauppi (rheumatology) took up positions as part-time professors at the **Faculty of Medicine**. They both work at Päijät-Häme Central Hospital. The positions are endowed professorships. Kauppi, head of the rheumatology department, and his group investigate pain, quality of life and disease prevalence and prognosis among the elderly using demographic data from the Päijät-Häme region. Mikkelsson, who has analysed the epidemiology of pain symptoms in children and adolescents, now specialises in the rehabilitation service system.

Teaching: A city with environmental expertise

The increasing focus on **teaching in the biological and environmental sciences** in urban ecosystem research and research-based teaching continued in the Bachelor's Programme in Environmental Sciences and the Master's Programme in Environmental Change and Global Sustainability. Teaching was delivered in Lahti both on site and using blended learning methods, including laboratory teaching, field courses and online courses. The key themes of teaching are ecological urban studies, ecotoxicology and environmental chemistry, as well as environmental biotechnology from the perspective of environmental remediation. Teaching based on the old degree requirements drawn up prior to 2017 ended in December 2020, and the new degree requirements began to apply to all teaching at the University.

Teaching in social sciences, particularly social gerontology, was based on cooperation with the thesis accelerator project funded by the European Social Fund (ESF) on the University Campus. The project aimed to integrate thesis writers with ongoing regional research projects. In addition, the Faculty of Social Sciences will offer a career module that familiarises students with wellbeing technology companies in the Lahti region. The goal is to organise a professional project course focused on Lahti in 2022.

Faculty of Medicine professors are currently supervising a total of five doctoral researchers.

The **Open University** cooperated with the director and guidance counsellor representatives of Lahti's general upper secondary schools in planning and implementing a concept aimed at promoting pupils' access to university education. The concept consisted of three stages: 1) A course on studying at the university, 2) two introductory courses for general upper secondary schools offered by the University of Helsinki and 3) the option of selecting any studies offered by the Open University. The City of Lahti enabled pupils to study free of charge. The pilot was deemed a success, and it was decided that it would be implemented again in the next academic year. The City of Lahti and the University of Helsinki also concluded a permanent cooperation agreement on general upper secondary school cooperation in autumn 2020.

One pupil gave the following feedback on the pilot: *"My expectations at the beginning of the course were to obtain more information on studying at university and to possibly find out whether I am cut out for university studies. The course met these expectations because I now have a sense of what studying at university is like and also have an idea of whether I wish to apply to study at university."*

The Covid-19 pandemic led to all of the University of Helsinki's Open University instruction being moved online. The extensive studies offered by the Open University were therefore available to all Lahti residents. Courses were also offered free of charge. Unemployed people and those temporarily laid off also had the opportunity to take Open University courses free of charge.

The **Päijät-Häme LUMA Centre** organised multiprofessional science and research education activities, with a focus on STEM subjects, in Lahti and the neighbouring areas. After the pandemic put an end to on-site visits to the Science Class SOLU in March, teaching offered to all levels from early childhood education to upper secondary education was swiftly moved online. The third visitor programme offered to year 9 pupils in Lahti was completed in the autumn term using a hybrid model in which research supplies were delivered to the schools and teaching was given remotely from

SOLU. Science classes and camps were also organised in virtual environments. Despite the pandemic, SOLU's visitor activities reached close to 1,500 children and adolescents, and the camps had some 150 participants. The LUMA2020 project established new, successful science education connections with preschools in the region. The Päijät-Häme LUMA Centre planned a package of science experiments focusing on water for preschool children under the Lahti Junior University Concept, and this package was piloted in early November.

The **University of Helsinki Centre for Continuous Education HY+** cooperated closely and successfully with the City of Lahti and various regional actors. Three training programmes were implemented together with regional education sector representatives: one focused on the resilience of work communities, another on preparing for the national certificate of language proficiency (YKI) and a third on support and wellbeing of general upper secondary school pupils. A total of 156 teachers participated in the three programmes. In addition, several people from the Päijät-Häme region participated in the various open training sessions organised by HY+. Some customer-specific training sessions were also organised in the region.

Together with parties active on the Lahti University Campus, two training sessions, one on impact and visibility through specialist communication and the other on facilitation training, were arranged, with a total of 40 participants. In 2020, cooperation related to Lahti's designation as the European Green Capital 2021 resulted in the development of online training providing an introduction to current issues in the environmental sector. This online course will be offered in 2021 free of charge to all those interested in the topic.

Lappeenranta–Lahti University of Technology LUT/Lahti Campus

All three schools of LUT University – Engineering Science (LENS), Energy Systems (LES) and Business and Management (LBM) – operate on the Lahti Campus.

In 2020 LUT University continued the significant expansion of its research and education activities in Lahti. Several researchers were also recruited to boost this growth. In addition, LAB University of Applied Sciences, which was established on 1 January 2020 as a result of a merger, and LUT University implemented their shared group strategy as outlined and scheduled.

The most significant addition to operations on the Lahti Campus in 2020 was the launching of two new English-language bachelor's programmes. These programmes, in software and systems engineering as well as energy technology, will begin to operate in autumn 2021.
In 2020 LUT University celebrated its first full year of operation on the new Lahti Campus in Mukkula. The new facilities have enabled the rapid expansion of teaching and research activities. This was also the first year of operation for the shared two-campus higher education services of LUT University and LAB University of Applied Sciences.

Research

The research resources of the Lahti Campus were significantly enhanced in 2020.
In recent years, the **Performance Management Team** has focused on the management of sustainable and comprehensive corporate performance. This has included the 'servitisation' of production, capacity for renewal and consideration of the special features of digital business activities. In addition to conducting research, the team has created several practical tools and methods for companies and other organisations (e.g., in the digiUP project).

In 2020 the Performance Management Team continued its strong research work to enhance organisational performance through digitalisation. The team has been involved both in the SIM research platform, which was closed in 2020, and in its successor, the MORE SIM ('Modelling reality

through simulation') research platform. Currently, the team leads or participates in several research projects which involve dozens of companies from the Päijät-Häme region and other Finnish localities. The DigiBuzz project funded by Business Finland continued its activities in 2020. The project participants also include VTT Technical Research Centre of Finland and a host of companies. A new project launched in 2020 and entitled 'Digital appeal – Increasing and highlighting factors contributing to the appeal of residential and living environments through digital means' aims to develop a new approach and increase understanding of factors that can highlight the appeal of residential and living environments through digital means.

Research in the field of welfare technology assumed a strong position in 2020 both in Finland and abroad as well as locally in care robotics and, more broadly, digitalisation. The team cooperated closely with Mälardalen University in Sweden and Paderborn University in Germany in the project entitled 'Use of care robots in welfare services: New models for effective orientation – ORIENT' (www.robotorientation.eu). The key topic was orientation to care robotics throughout society. In addition, international cooperation in the field has led, for example, to the chairmanship of the Nordic research network in health and welfare technology under the Nordic Welfare Centre.

Cooperation on the theme of robots and the future of welfare services, which has been ongoing for the past six years, also continued in 2020 with Aalto University, Tampere University, the Laurea University of Applied Sciences and VTT Technical Research Centre of Finland (ROSE, http://roseproject.aalto.fi/en/). Professor Helinä Melkas continued to serve as the university representative (appointed by Universities Finland) on the Well-being and Health Sector's Artificial Intelligence and Robotics Programme (Hyteairo), a role she has held since 2018.

At the local level, a research group has enabled the staff and clients of social services and health sector organisations in the Päijät-Häme region as well as regional inhabitants to experiment with new welfare technology solutions, such as an exoskeleton in care work, a companion cat for people with memory disorders, and a pillow robot boosting the wellbeing of adolescents and the working-age population (HyTeLab, https://www.hytelab.fi/). Cooperation with, for example, the Päijät-Häme Welfare Group and the Lahti Foundation of Housing and Services for the Elderly has continued in various contexts. The welfare technology research team has also supported the creation of a regional development environment in Lahti.

The research and development work of the welfare technology and care robotics team focused on themes such as the innovation ecosystem, resilience, orientation to robotics and other welfare technologies as well as the introduction of robots, a user-centred approach, user data, co-development and the socio-technical transformation.

In addition to numerous scholarly and professional publications, the researchers have created several Finnish-language tools, such as animations, visual discussion cards and a guide to support orientation to welfare technology and care robotics throughout society, from public discussion on robotics and other technologies to the orientation of elderly clients.

For years now, another significant and internationally valued part of LUT's **innovation research** has been the use of art-based methods in organisational development. One example is the six-year The Arts as Public Service: Strategic Steps towards Equality project (https://www.artsequal.fi/fi/etusivu), coordinated by the University of the Arts Helsinki, in which LUT analyses client work and organisations in the social services and healthcare sector, particularly easy-access services for young people. This has led to cooperation with Keele University https://www.keele.ac.uk/ and the RECAP Centre at the University of Chester https://www1.chester.ac.uk/departments/recap-centre. Currently being developed is a research project to be undertaken in 2021 with a focus on a major social issue, namely, poverty, through the method of ethno-drama developed at LUT. In collaboration with the Keele social scientific group, social enterprises and politicians, the aim of the project is to provide qualitative data in understandable form.

The international Participatory Communication of Science project uses art-based methods to develop tools for the science education of children and adolescents, such as a learning game coordinated by the Lahti University Campus/Junior University and developed together with general upper secondary school pupils in the region. Client- and actor-oriented information is collected and analysed to support community planning in the Yhteinen Mukkula ('Shared Mukkula') project steered and funded by the Ministry of the Environment. The project also includes a broad team of international experts from universities including those of Liverpool, Chester, Bath and Kyoto as well as the University of the Arts London and the Cass Business School in London. The international Beyond Text network has published a book on art-based methods: https://beyondtext.weebly.com/. LUT's Lahti innovation research team developed, tested and generated concepts for research, development and learning methods in a customer-, user- and citizen-led context.

The LUODE project explored how young people could be encouraged, and what kind of business activities could be used, to contribute to a new world and new types of business activity, and outlined new guidelines and pedagogical approaches, drawing from adventure and art education. As part of the project carried out at LUT Lahti, a guide was created for entrepreneurship education in connection with on-the-job learning and traineeships. This guide (entitled *Kartta maailmaan, jonka haluat – omannäköistä yrittäjyyttä ja työelämää etsimässä* in Finnish) is intended for both learners and supervisors.

Entrepreneurship research (research on entrepreneurship education and ownership) is conducted in Lahti by a team of more than 10 researchers. In addition, entrepreneurship researchers have established an international network that publishes actively. In autumn 2020, a nationwide survey was conducted to explore the notions of year 9 pupils concerning entrepreneurship as well as their entrepreneurial skills. The extensive data also enable, for example, regional analyses and the more detailed, nationwide investigation of selected focus areas. The collection of data will continue in 2021 and 2022. The strong publishing activities and internationalisation of the ownership research team has continued. Changes of ownership among companies in Päijät-Häme have been examined through data based on interviews, and several case studies of family businesses in the Lahti region are ongoing. Results will be published, for example, in an international compendium on family business groups.
Research on **software engineering** expanded on the Lahti Campus in 2020. Seven doctoral degree holders began or are about to begin working at the software engineering department in Lahti. In total, software engineering staff increased by 12 people in 2020. The newly recruited staff conduct research in areas such as software products and software ecosystems, global and agile software engineering, and digital service design.

The **LUT Department of Separation Science** developed significantly in 2020 on the Lahti Campus. For example, LUT University recruited three tenure track professors for the Lahti Campus with funding from the Marjatta and Eino Kolli Foundation. The fields of these professorships are separation technology in biorefining, process and plant design for biorefining, and biopolymers and their production. The recruited individuals are:

Mari Kallioinen, professor of separation technology in biorefining (tenure track), as of 15 June 2020
Kristian Melin, assistant professor of process and plant design for biorefining, as of 1 August 2020
Rama Kanta Layek, assistant professor of biopolymers and their production, as of 1 January 2021

In addition, LUT used its own funding to recruit another professor of separation technology in biorefining (tenure track), Tuomo Sainio, as of 1 June 2020. Tuomas Koiranen, professor of chemical process systems engineering, also moved to work in Lahti in autumn 2020. His position is also funded by LUT.

The professors of separation technology in biorefining introduced themselves in November at Lahti Science Week 2020 (in Finnish), where they hosted a separate session, describing their research topics and discussing the current state and future prospects of biorefining together with business

representatives. The research on separation technology at LUT was also highlighted in other Science Week sessions.

In 2020 the professors of the separation science department participated in several national and international initiatives and application drafting processes aimed at the development of the Lahti region. The focus areas of research were the development of biorefining processes and the Power-to-X theme. The LUT professors and researchers of separation science also work in the Lahti region on issues relating to water treatment. Business collaboration was active, taking the form of projects and discussions, for example, with regional companies in the wood products industry.

The **knowledge management** researchers of LUT School of Business and Management continued their active publishing efforts on the Lahti Campus. The team was involved in several research projects on themes including the construction and impact of knowledge capital, the utilisation of data analytics as an organisational capability, and factors promoting an individual's innovation capacity, such as creativity and resilience. Despite the restrictions imposed by the Covid-19 pandemic, the knowledge management researchers continued their close research cooperation, for example, with one of the world's leading universities, the Nanyang Technological University in Singapore. The project 'Workplace learning in disruptive innovators: A knowledge management perspective' explores the role of knowledge management in supporting on-the-job learning, knowledge construction and innovation capacity in platform economy companies.

The research article 'Corporate social responsibility in luxury contexts: potential pitfalls and how to overcome them' by Jenni Sipilä, assistant professor of **marketing**, who began working on the Lahti Campus in March 2020 and wrote the article together with German colleagues, was accepted for publication in the Journal of the Academy of Marketing Science, one of the world's top 50 scholarly journals in the field (Financial Times ranking). Having an article published in such a highly ranked scholarly journal is challenging, and international competition is tough, so this was a major research achievement.

The CitiCAP (Citizens' cap-and-trade co-created) project under the auspices of **sustainability transformation research at the LUT School of Energy Systems** was selected as the higher education action of the year in Lahti. The project has gained considerable international visibility, with an article by the AFP news agency reaching 82 million readers worldwide.

Teaching

LUT University's **Master's Programme in Knowledge Management and Leadership** was again the institution's most popular programme in 2020, receiving applications from 689 prospective students (with 45 eventually admitted). A new programme launched in autumn 2020 was the **Master's Programme in Software Product Management and Business**. Also continuing on the campus were the **two Master of Science in Technology programmes (one focused on industrial engineering and management and the other on entrepreneurship) as well as the master's programmes in energy technology, environmental technology and mechanical engineering**. A total of 1,392 people applied to the programmes, and of them, 246 began their studies in autumn 2020 on the Lahti Campus.

Assistant Professor Henri Hussinki, who teaches in the Master's Programme in Knowledge Management and Leadership, received, together with his colleague, Professor Paavo Ritala, LUT University's teacher of the year award for the course Contemporary Issues in Strategic Management and Innovation.

LUT University's Master's Programme in Circular Economy cooperated with the University of Helsinki in designing the Sustainability Challenge Project Work course, to be offered in spring 2021. The course will also be available to students of the University of Helsinki's Master's Programme in

Environmental Change and Global Sustainability. In the course, student teams will tackle companies' responsibility and sustainability challenges.

Education leading to the degree of Bachelor of Science in Technology will begin to be offered on the Lahti Campus in autumn 2021. The English-language **Bachelor's Programme in Energy Technology and Bachelor's Programme in Software and Systems Engineering** are implemented together with Hebei University of Technology (HEBUT). Students complete their three-year studies in Lahti. The programmes were launched and their marketing began in 2020. Both LUT and HEBUT recruit students to the programmes through their own channels. In autumn 2021, the programmes will have an intake of 50 students per programme.

The planning of the English-language **Bachelor's Programme in Industrial Engineering and Management** also began in autumn 2020. The programme will be offered as of autumn 2022 to a planned intake of 40 students.

Continuing education offered in 2020 included the controller specialisation studies and related modules. Diverse studies in management and economics have been offered as online courses (e.g., courses in profitability management, cost management, management studies classics, and sustainability strategy and business ethics), which has enabled remote studying despite the pandemic-related restrictions. Also being planned in the Lahti region are new company-specific training sessions as well as a new programme in the management of a distributed organisation, to be made openly available.

The sustainability transformation team at LUT School of Energy Systems has contributed to the development of a teaching module on the circular economy of textiles for year 3 pupils in Lahti comprehensive schools as part of LUT University's Junior University activities. The purpose is to highlight science, research and scholarly work as well important societal themes in a way that children can relate to. Other ongoing projects include the development of a calculator for the resource use associated with clothing as well as videos. This work will continue in 2021.

New academic staff recruited to work in Lahti

Research groups on the Lahti Campus expanded significantly in 2020. Seven new professors took up their positions in the following fields: customer and consumer behaviour in a digital environment; business models based on analytics; biopolymer production; process and plant design (two professorships); and separation technology in biorefining (two professorships, one in membrane technology and the other in chemical separation processes).

Lahti University Campus Coordination Unit

The Coordination Unit of the Lahti University Campus is a service unit that provides communication and other services for regional universities, lobbies on their behalf, and organises events and activities. The unit brings together people, universities, stakeholders and organisations, building bridges between universities and business representatives in the region and enabling the practical implementation of new initiatives. In 2020 two ESF-funded projects coordinated by the unit concluded successfully.

The two-year ESF-funded **thesis accelerator project** (in Finnish) developed an approach to help students write theses commissioned by companies in the Lahti region. The project reached more than 300 master's students and dozens of companies in the region thanks to broad cooperation with regional networks (a municipal company in the region, entrepreneurial organisations, education sector representatives). As part of the project, a fully remote version of the Lahti Venture scheme

was also organised collaboratively. The thesis accelerator model describes the required measures and related tools through five steps.

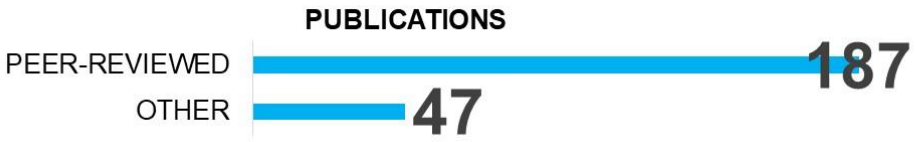
The ESF-funded **LUODE project** created an innovative humanities-based model for entrepreneurship education. The 'cross-pollination' of pilot ventures in nature, sports, art and entrepreneurship education created new types of extracurricular activities. The resource packs for comprehensive and secondary education, created during the project to familiarise pupils with the job market, were distributed regionally and across Finland through the Talous ja nuoret ('Economy and youth') foundation, and can be found in Finnish at www.kunkoululoppuu.fi.

In addition, the LUODE project generated and distributed knowledge about the daily lives of young people, the impact of the pilot activities as well as about the effects of entrepreneurship education on the wellbeing of young people through several popular research papers, reports and blog posts.

The project also issued the publication *Kasvun maisemia – Uusia näköaloja nuorten kanssa työskentelyyn* ('Landscapes of growth – New perspective on working with young people') in a textbook-like format for use by professionals working with young people. This Finnish-language publication is available as both a traditional book and an online version: http://urn.fi/URN:ISBN:978-952-335-615-3

The year 2020 in numbers

RESEARCH



TOTAL VOLUME OF RDI PROJECTS

5,1 MIL.

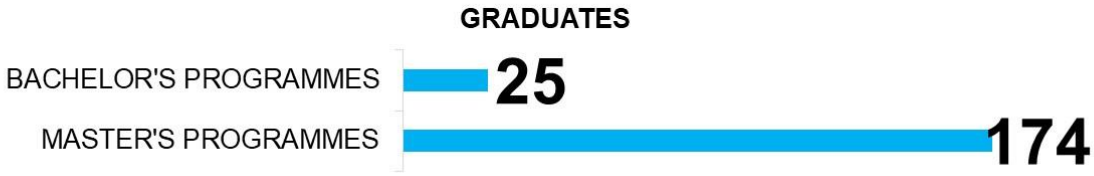
COMPLETED DOCTORAL DEGREES

8

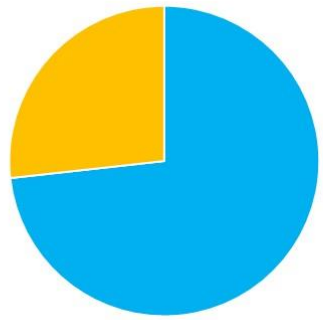
BUSINESS COOPERATION

169 COMPANIES

TEACHING



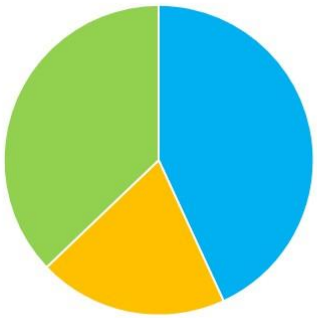
PERSONNEL



LIVING IN PÄIJÄT-HÄME
LIVING ELSEWHERE

EMPLOYEES

228

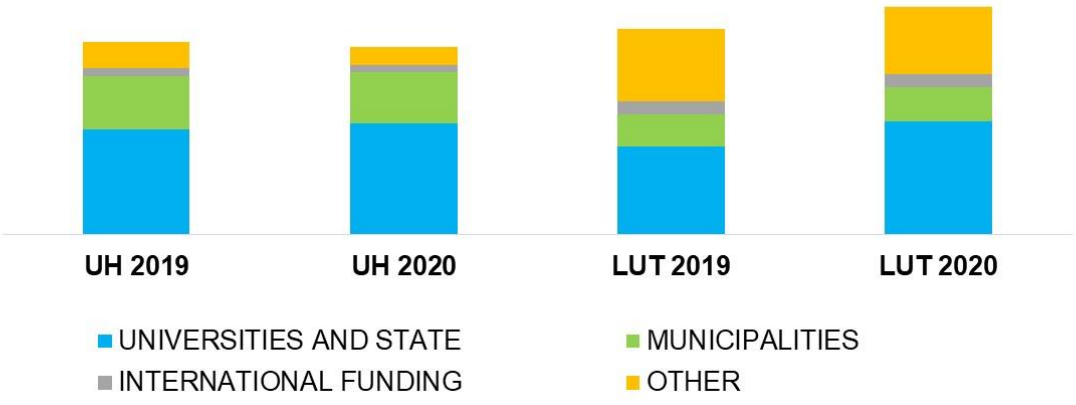


MASTER'S DEGREE
OTHER
PhD

VOLUME AND SOURCES OF FUNDING, BREAKDOWN AND COMPARISON TO 2019

UNIVERSITY OF HELSINKI
5 MIL. (2019) -> **4,9** MIL. (2020)

LUT UNIVERSITY
5,3 MIL. (2019) -> **5,9** MIL. (2020)



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Lahden Yliopistokampus
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