

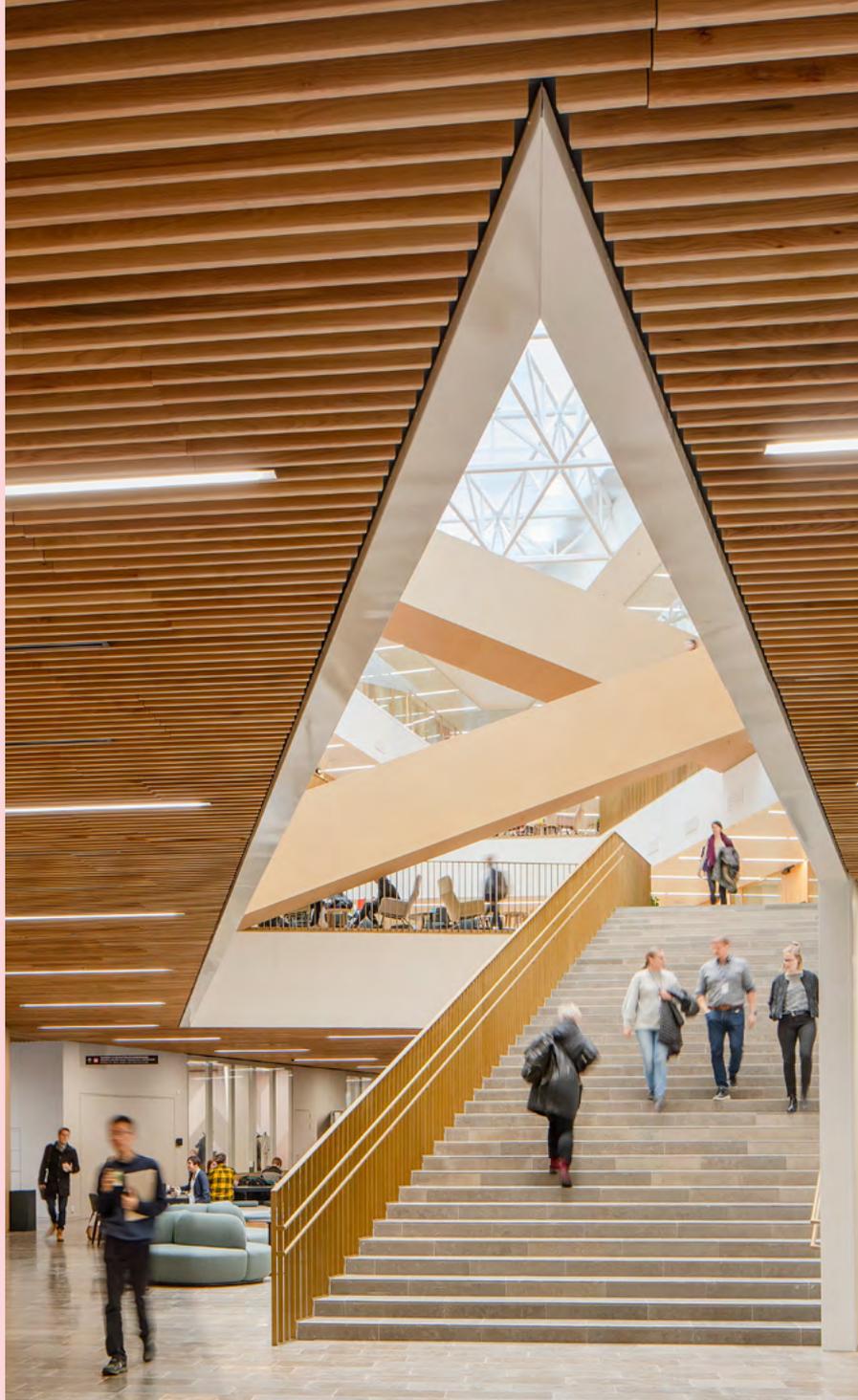


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**Review for
donors
2020**

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Aalto University
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The demand for economics experts is growing rapidly, both in Finland and internationally. Research in the field can often be directly utilised in both public and private decision-making. By donating, we support the strengthening of the role of economists and international networking in solving societal challenge.

*Petteri Karttunen
Chairman of the
Saastamoinen
Foundation Board of
Directors*



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Aalto is a forerunner in its key areas and at the forefront of developing solutions that create a more sustainable future for Finland and the whole of humanity.

Dear donor,

THANK YOU for participating in building a better world with us. The story of Aalto University began in 2010 when three universities merged to create a societally embedded, innovative research university. Aalto was given a national mission to strengthen Finland's innovation capacity through first-class research and education.

In only ten years, Aalto has already had major success in fulfilling this mission. Aalto has brought together science, art, technology and the economy, and we have become a pioneer in our key areas.

Donors play an essential role in Aalto's success story. In 2010, a solid capital basis was established for the university through donations by private individuals, foundations, companies and other communities. The continuous, unwavering support provided by donors has contributed significantly to Aalto's success from then on. In ten years, we have turned our campus into a world-class collaboration hub and grown into one of Europe's most international universities.

The world around us is changing at an unprecedented pace – it is undergoing a global sustainability crisis, and there are huge technological disruptions and transformations of how we work. Higher education too, will change as demand and competition increases, digitalisation progresses, and financial pressure builds up. In the past months, the coronavirus pandemic has challenged and united the academic community in the battle against the spread of the virus and in solving the problems it causes for humans and society. At Aalto, we are strongly involved in providing solutions to overcome the crisis through our areas of expertise.

Right now, universities are needed to lead the way and meet global challenges more than ever. Aalto is at the forefront of developing solutions that create a more sustainable future for Finland and the whole of humanity. As a donor, the importance of your role in enabling our mission keeps increasing.

Thank you for joining us in these efforts.



Mikko Kosonen
Chairman of the
Aalto University Board

Building a common future

Within the past ten years, Aalto University has developed into a multidisciplinary community of bold actors solving big societal challenges. Donors play an essential role in Aalto's success story.

When Aalto University was established, significant donations from private individuals, foundations, companies and other communities, as well as the associated matching funding provided by the government, created a solid capital basis for the university. Between 2015–2017, the state also supported the fundraising activities of higher education institutions with an opportunity to receive matching funding. Donations received in this fundraising campaign and the matching funding, as well as donations received after the campaign, have further strengthened the university's potential for top research and teaching.

'Without the donations, we would not be here now. They have allowed a long-term development of the university and evened out unexpected fluctuations in public funding. For that, we would like to express our warm thanks to all the donors', says President **Ilkka Niemelä**.

The key idea of Aalto University is to enable multidisciplinary and innovative cooperation; to make Aalto a place where science and art meet technology and business. This has also required significant investments in campus development. The strong balance sheet created by the donation capital has enabled the university

TODAY, Aalto University is a unique concentration of science, art, technology and business – a global leader in its key focus areas and one of the most international universities in Europe.

to make long-term investments as required and to find sustainable solutions for loan financing. This has made it possible to develop the campus in a more economically sustainable manner, while also ensuring that the university has resources for its main tasks.

The School of Arts, Design and Architecture moved to the Otaniemi campus in summer 2018 and the School of Business in early 2019, bringing the university's main functions to the same campus.

'We have had major development steps, renewals and challenges along the way but Aalto community has kept working passionately, in open collaboration, and with a positive attitude towards getting things done', Niemelä adds proudly.

The multidisciplinary Aalto community of game changers wants to be worthy of their promises to donors.

Pioneering research with impact

Right from the beginning, the new university was given a special national mission; to strengthen Finland's innovation capacity through first-class research, artistic activities and education. With strong and determined effort from all involved, the university has risen to the challenge.

Within ten years, Aalto University has become one of the world's top universities under the age of 50 and is a pioneer in its key areas: ICT and digitalisation, materials, art and design, business, energy solutions, living environments, and health and well-being.

'We want to be involved in solving big global challenges', says Niemelä.

Nearly 150 start-ups are already operating in the A Grid Centre established in the heart of the



We want to be involved in solving big global challenges.

*Ilkka Niemelä
President of Aalto University*



campus. The university offers leading expertise, an extensive network of partners, research infrastructure and new perspectives for the future, enabled by top research. The cooperation has been fruitful too as the networks developed around Aalto create nearly 100 start-ups annually.

Work-related competence is also integrated into teaching. For example, Aalto has more than 50 professor of practice positions, for which we have received significant donations.

Consisting of six schools, the Aalto University campus offers students multidisciplinary studies and encounters in art, technology and business.

Niemelä adds, 'The guiding light in the development of teaching is that the student and learning are placed at the heart of all activities. The Aalto Online Learning programme introduces new teaching and learning methods based on digitalisation. Significant investments have also been made in the well-being of students'.

Complex challenges ahead

During the past ten years, Aalto University has come a long way and wants to continue being a pioneer in the future. It is not easy, as the world around us is changing at an accelerating rate, and many global challenges are becoming increasingly complex.

Finland needs more international experts. Also demand for higher education is increasing, particularly in Aalto University's areas of education. Moreover, there is a growing interest in Aalto from potential students, and the number of applicants is increasing.

'We are prepared to take responsibility, but if we want to maintain the quality of education and research, more investments are needed. As the situation in public finances is rather tense, I hope that in the future we will work in even closer cooperation with the donors', Niemelä says.

Niemelä concludes with this pledge, 'We promise to be worthy of your trust and to work hard for the good of Finnish society and towards a more sustainable future.'

Bioproducts will revolutionise forestry in Finland

Biobased materials are the key to the sustainable use and more efficient recycling of textiles. The Ioncell® method can be used to spin cellulose and recycled materials such as textile waste into high-quality textile fibres.

Aalto University is working on new biobased super materials. Research is conducted on wood biomass to find a replacement for oil-based textiles and plastics.

Wood biomass is also an unparalleled raw material for product innovations. The golden egg has been uncovered.



Aalto University Vice President Janne Laine and Dean for the School of Chemical Engineering Kristiina Kruus.

In near future, microcrystalline cellulose may replace some of the fat in cheese, provide additional fibre in the morning porridge, fortify animal feed or even prevent diseases in production animals. It may also replace plastic in packaging materials and oil-based synthetic fibres in textiles.

A new production method developed at Aalto University under the leadership of Professor **Olli Dahl** opens up entirely new markets for microcrystalline cellulose (MCC). With the help of AaltoCell™ technology, it will be possible to manufacture microcrystalline cellulose much more economically and ecologically.

‘We have huge opportunities in our hands. Cellulose is a renewable and biodegradable material that can be used to replace materials such as plastic in the future’, says **Janne Laine**, Vice President responsible for innovations at Aalto University.

Microcrystalline cellulose can turn Finland’s pulp mills into bioproduct plants that will take our forest sector to a whole new level.

‘Instead of exporting cellulose, Finland could export refined products that have a high added value. Wood biomass provides opportunities for the development of a wide range of products.

In Finland, we have the advantage of knowing the material well’, says **Kristiina Kruus**, Dean of the Aalto University School of Chemical Engineering.

AaltoCell™ will revolutionise the market

Currently, small amounts of microcrystalline cellulose are manufactured worldwide mainly for medical applications but the patented AaltoCell™ technology could revolutionise everything. Even just one factory using the technology may double the current MCC production in the world.

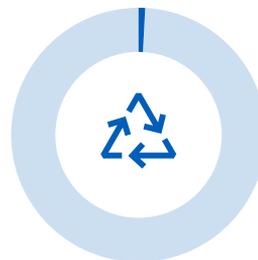
‘The greatness of the AaltoCell™ technology is that it can produce microcrystalline cellulose with high capacity in existing pulp mills. The manufacturing process can be fine-tuned according to the added value of the required product. It is also possible to scale the relationship between pulp production and MCC production in the factory’, Laine points out.

However, the market will soon be saturated if new uses are not sought for MCC, and they are numerous. One potential large-volume market is the animal feed industry. For cows, MCC is a power food that increases the energy content of the animal feed, while for poultry, it is a fibre

Aalto University is a world leader in the development of nanocellulose applications, and we are ranked among the first three in the number of scientific publications in the field.



The need for textiles in the world will increase 2.5-fold over the next 30 years.



Currently, only 1% of textiles end up in recycling.

supplement that improves growth and welfare. MCC has also been granted a food classification: for example, it can be used to keep the texture of yogurt even or as a fibre supplement in sweet buns.

While the less processed brown MCC is suitable for animal feed, the highly refined white microcrystalline cellulose is required for products such as pharmaceuticals.

Aalto University is taking the AaltoCell™ technology to the global markets in cooperation with Andritz Oy, a manufacturer of equipment for the paper and pulp industry. The first production plants are expected to be in operation within a few years. Alongside the commercialisation of the technology, Aalto and Andritz are developing new applications for microcrystalline cellulose.

Aiming at products with high added value

Cellulose is a renewable natural resource that the Finnish forests have in abundance. There is also a tremendous global demand for biobased, sustainable development solutions.

‘The Finnish forest industry will undergo a radical change in the future. I am convinced that within twenty years, all companies in the forest sector will have operations related to textiles. Everyone understands that the price of textiles is at least double the price of pulp’, Laine adds.

With new products, the value of the Finnish forest sector can be significantly increased from what it is today. At the same time, significant opportunities for new business will open up.

‘In the future, there will be a need for companies that manufacture packaging materials, fabrics or raw material for chocolate from microcrystalline cellulose fibres. Having the entire value chain of different products in Finland would open up huge opportunities for the country’s economy’, says Laine. ‘This really is a golden age for us. Let’s keep the business in our own hands’.

Aalto cooperates closely with industries in the field of new biomass-based innovations and there are also high expectations for biodegradable nanocellulose. When cellulose is split into nanoscale fibres, the material obtained is extremely strong and light.

Together with the VTT Technical Research Centre of Finland, Aalto has created a new material by combining nanocellulose and the silk protein found in spider web threads. The resulting material is durable, stiff and tough. Aalto has also been involved in developing a plant-based non-toxic glue that is extremely strong.

Imagination is the only limit when new applications are sought for nanocellulose, such as using it in cleaning mining waters, as a filler in paints or as a replacement for plastic in paper coatings.

‘Aalto is a world leader in the development of nanocellulose applications, and we are ranked among the first three in the number of scientific publications in the field’, says Kruus.



Aalto is doing pioneering work in the development of biomaterials. New applications for microcrystalline cellulose (left) are constantly being sought. The ecological Ioncell® method, for example, produces high-quality knits (above).

Towards a textile revolution

Currently, 100 million tonnes of textiles are produced in the world every year and by 2050, the need will rise to 250 million tonnes. It will not be possible to meet this need with oil-based synthetic fibres or cotton, which require a lot of cultivated area and water. If we continue as before, the world will also be drowning in mountains of textiles as only one per cent of textiles are recycled.

Biobased materials are the key to the sustainable use and more efficient recycling of textiles.

‘The clothing industry giants are feverishly looking for alternatives to the current oil-based synthetic fibres, and as one example, IKEA’s goal is to make all of its products biobased by 2030’, Laine explains.

Aalto has already set an example to the rest of the world in the development of sustainable textile production. The Ioncell® method developed at Aalto can be used to spin cellulose

and recycled materials such as textile waste into high-quality textile fibres. An ionic solvent developed at the University of Helsinki is used in the manufacturing process. The story of Ioncell® includes members of the Aalto community ranging from chemists to textile sector specialists, and their work has led to unique creations, such as the gown worn by Mrs **Jenni Haukio** at the Independence Day reception and the Allu dress designed for Marimekko.

‘We do pioneering work in the development of biomaterials and we are changing the world with innovations like AaltoCell™ and Ioncell®,’ says Kruus.

Check out Aalto University materials research and commercialization of the results at aalto.fi/aalto-materials-platform

The lure of cosmic mysteries

Astronomer Joni Tammi wants to uncover the secrets of the universe; secrets that have so far managed to elude us. However, with new advances in technology, the next major space discoveries are just around the corner.

DIRECTOR of Aalto University Metsähovi Radio Observatory **Joni Tammi**'s career as an astronomer was sparked already in first grade when he gave his class a presentation about stars. Since then, all of his study choices have steered him towards a career in space research.

During his studies, Tammi was introduced to the use of computer simulations for space research in a course taught by Professor **Esko Valtaoja**. At the time, the models of colliding galaxies were still relatively simple, nevertheless, Tammi was mesmerised, so he decided to focus on theoretical astrophysics and the modelling of space phenomena.

The minuteness of personal problems in the infinite vastness of space

Tammi sees space as part of our own environment, which we still don't fully understand - What is it that fascinates him about space?

'I remember reading an encyclopaedia at my grandparents' as a child. It showed how planets' trajectories could be demonstrated by cutting a cone from different directions. It's astonishing how the movement of such massive planets can follow basic mathematical shapes. Now as an adult, I still find myself fascinated by the beauty of mathematics and physics'.

Another thing that appeals to Tammi is the vastness of space and, in contrast, the minuteness of us humans.

'It's comforting to know that you're so small. No matter how badly you screw up, it always helps just to look up and think that from a height of two hundred kilometres, your problems are no longer visible'.

Tammi has great enthusiasm for the future of astronomy and he is interested in finding out how the forces created by black holes turn into light and radio emissions.

'We have now seen a photograph of a black hole, and we know that jets emitted by black holes send particles moving almost at the speed of light which makes them radiate strongly. However, we still don't understand the process that leads to this. To get more insights, we need simultaneous observations at several frequencies, and over a long period of time. Sadly, this is not possible with current equipment'.

Leaping to a new level of technology

Tammi illustrates how new technology would revolutionise our way of observing the universe by comparing it to music.

'In a way, radio frequencies correspond to the strings of an instrument. You can play one string gently or forcefully, fast or slow, but music played on one string alone isn't much good. However, add a few strings, and you can play an enormous number of different tunes'.

Hopefully, within a few years, researchers will have access to a new kind of device that enable the simultaneous detection of radio waves on three separate frequencies. This will make observations considerably more accurate and much faster than is presently possible. Our understanding of space will vastly increase, and the number of subjects to study will grow from hundreds to thousands.

The new receiver will also help humanity prepare for any space-related threats.

'Solar flares and dangerous solar storms could be forecast weeks before they hit the



The renovation of the Metsähovi Radio Observatory was started in the autumn 2019. In addition to changes to the facilities, the guidance system of the 14-metre radio telescope will be updated. The radio telescope will be equipped with a new 20-metre dome for protection.

'No one has yet been able to study the development of space objects on several radio frequencies at the same time, so the chances for gaining completely new and surprising results are excellent,' says Joni Tammi.



Earth. This is crucial information as solar storms can damage satellites, electricity networks and radio frequency communications, and cause extensive power outages', Tammi adds.

Furthermore, a more accurate understanding of quasars will help make satellite positioning more precise. Quasars are extremely distant objects that emit much more powerful radiation than normal galaxies.

Tammi says, 'Once we gain information about what happens in quasar eruptions, we will be able to determine the position of the Earth relative to quasars more precisely. In addition, we could reach centimetre-level accuracy in satellite positioning'.

Metsähovi is Finland's only astronomical observation station. In addition to research, its equipment enables the provision of instructions in radio astronomy and training researchers in the field. In order for us to remain on par with other world-class facilities, we require new technology.

Please help us see better and further – make a donation towards Metsähovi's radio receiver procurement at our website: aalto.fi/donate-metsahovi.

The industry needs experts in service sales

KONE, a leader in the lift and escalator industry, offers labour transport services that save working time and improve occupational safety at construction sites in Hong Kong. As buildings are completed, Kone will be responsible for maintaining and modernising the lifts throughout their lifetime. Siemens, on the other hand, has digitalised the Nestlé broth and gravy factory in Juuka to increase its production capacity. The two companies run the factory together, sharing the profits and risks.

‘Industrial companies are moving fast from simply selling products to service business’ says **Pekka Töytäri**, professor of practice in management of product-service system sales.

Competing with traditional products is increasingly difficult since the same products can be produced cheaper in such places as Asia. This is why companies seek sales growth from service solutions that are tailored for the customer; changing the traditional division of labour between the supplier and customer.

In addition to globalisation, digitalisation is shaking up the technology industry as software has become part of business, including the heavy engineering industry. Today, even cars are software products.

‘Previously, cars were at their best straight out of the factory but now they get improvements along the way with new software-based features such as lane departure warning systems and autonomous control as soon as they are invented. One good example of this is Tesla’, professor Töytäri adds.

Shared value instead of cash-grabbing

A service-oriented approach requires new kinds of skills in sales and its management. Service providers need to know their customers’ business and processes thoroughly in order to create innovative new solutions. Providers also need to convince customers that the proposed solutions



Pekka Töytäri’s five-year professorship is at the Department of Industrial Engineering and Management at the Aalto University School of Science and the Department of Marketing at the School of Business. The professorship in sales and management of product-service systems is funded by donations from the Weisell Foundation, Valmet, and Wärtsilä. Teaching and research are carried out in close cooperation with companies.

support the customers’ goals and improve their business.

Professor Töytäri explains, ‘The cornerstones of value-based sales are understanding, assessing, presenting and developing the added value that is generated for the customer. The added value can be much more than money, such as more environmentally friendly production or better occupational safety’.

Professor Töytäri wants to provide the technology industry with sales experts who have skills to develop service-based businesses.

‘I never wanted to settle for the traditional sales model where you use psychological tricks to turn a profit off of someone else. For me, sales means companies working together to find opportunities for creating new value and business’, professor Töytäri concludes.

Donors are recognised with a named seat

AALTO UNIVERSITY School of Business offers its supporters an opportunity to be recognised with a named seat in the school's new building. The opportunity is offered to all private individuals who donate a minimum of 1,000 euros to the School of Business. Three alumni who studied in the sixties, when the school was still called the School of Economics, tell their stories.

Kirsti Tamminen¹ fondly remembers the lovely autumn day back in 1962, when she first arrived at the School of Economics. 'I vividly remember the beautiful building with the magnificent reliefs that adorned the brick walls; the school was located in the Helsinki district of Töölö at the time. "This must be the School of Economics; I'm definitely going to enjoy my studies here!" I thought as I walked inside. Since I have used the school's chairs over the duration of two degrees, I consider it only fair to donate one chair to the younger generations', says Tamminen.

Markku Talvio² wanted to recognise his wife with a named seat to celebrate their 50th wedding anniversary last year. The couple got to know each other at the School of Economics where Talvio began his studies in 1965.

'We have returned to the School of Economics twice after having completed the first degree. I'm currently working on my doctoral dissertation. A named seat means a lot to the entire family, as many of us have been educated at the school', Talvio explains.

Outi Syvänperä³, who started her studies at the School of Economics in 1966, vividly remembers the humorous Mursujaiset ceremony organised for new students. She would go on to make life-long friendships with a number of her fellow students, and her studies ensured a great start to her career.

'If my grandchild ever studies in Otaniemi, Grandma's named seat will be there waiting', Syvänperä says.



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2



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Remember to claim tax deductions on your donation!

Did you know that your donations to Aalto University are tax-deductible? You can deduct monetary donations totalling EUR 850 or more during the calendar year.

This means that you can make your donation in several instalments. The maximum tax-deductible donation is EUR 250,000 for companies and organisations and EUR 500,000 for private individuals.

Read more:
aalto.fi/donate

Radical creativity sparks discoveries

An idea that may sound crazy at first can be the key to solving significant challenges. Aalto University provides a favourable environment for daring initiatives that can lead to the discovery of some genuinely novel solutions.



We are in need of radical new ideas to move forward.

‘With abundant multidisciplinary expertise, Aalto University provides a remarkably fertile environment for even the most unexpected collision of ideas. Now more than ever, the world needs radical thinking and new perspectives’, says **Tuomas Auvinen**, Dean of Aalto University School of Arts, Design and Architecture.

Ten years ago, the establishment of Aalto University showed the world a new way: it gave rise to a unique and innovative community for art, technology and business. Aalto now aims to be a global trailblazer of radical creativity, and make a substantial contribution to a sustainable future for all.

‘We at Aalto, have the capacity to think differently and identify connections that have not yet been discovered elsewhere. I hope that within another ten years, academics around the world will exclaim: “Wow, this idea originated at Aalto too!”’, Auvinen adds.

THE WORLD

is changing at a rapid pace and society will continue to face more and more perplexing global challenges that cannot be solved by individual disciplines alone.

A culture of novel discoveries

Radical creativity requires curiosity and the willingness to ask ‘What if?’. When people still travelled on horseback, it would have been crazy to think that one day, we would be using flying as a mode of transport!

At Aalto, radical creativity between various disciplines is already commonplace: what if spiderweb was used as a building material, and clothes were made of seaweed? What if retirement homes were replaced with grandma’s cottages, and all of us were energy producers? Creativity and management have also come together.

Auvinen says, ‘Creativity is ingrained in each and every one of us, whether it is with art, technology or business and critical thinking, innovation, problem solving and the identification of connections are human skills that can be developed together’.

Creativity can take flight when various viewpoints meet without having to compete for superiority. An atmosphere that supports new discoveries can also make positive use of disagreements, ‘We should create a culture where individuals can engage even in intense dialogue without having to feel insecure or experience any sense of competition’, Auvinen adds.

Students at Aalto are considered an essential asset as they are the ones that find each other from the beginning and form bold and promising connections between disciplines; helping them to push forward their vision of the future.

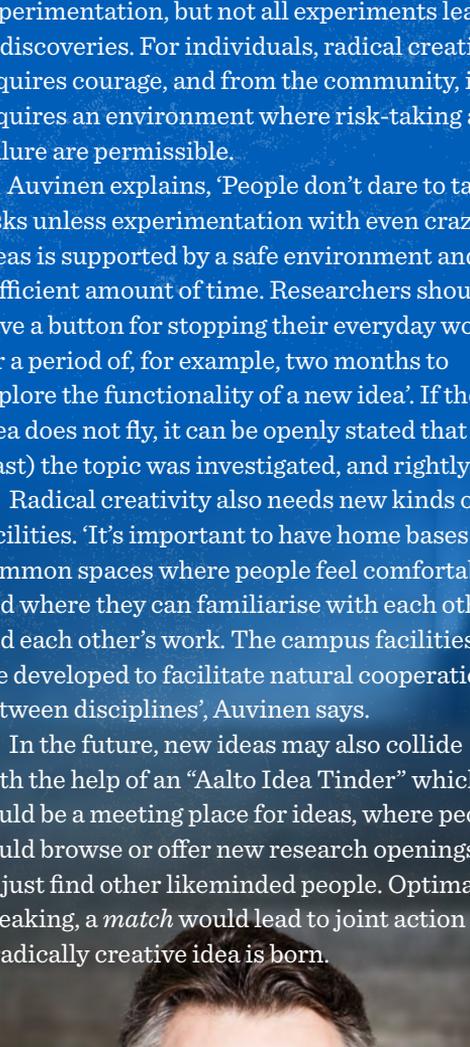
Shared home bases and Idea Tinder

It's impossible to create something new without experimentation, but not all experiments lead to discoveries. For individuals, radical creativity requires courage, and from the community, it requires an environment where risk-taking and failure are permissible.

Auvinen explains, 'People don't dare to take risks unless experimentation with even crazy ideas is supported by a safe environment and a sufficient amount of time. Researchers should have a button for stopping their everyday work for a period of, for example, two months to explore the functionality of a new idea'. If the idea does not fly, it can be openly stated that (at least) the topic was investigated, and rightly so.

Radical creativity also needs new kinds of facilities. 'It's important to have home bases – common spaces where people feel comfortable and where they can familiarise with each other and each other's work. The campus facilities are developed to facilitate natural cooperation between disciplines', Auvinen says.

In the future, new ideas may also collide with the help of an "Aalto Idea Tinder" which could be a meeting place for ideas, where people could browse or offer new research openings or just find other likeminded people. Optimally speaking, a *match* would lead to joint action and a radically creative idea is born.



'Now more than ever, the world needs radical thinking and new perspectives', believes Tuomas Auvinen.



Finns are good at developing basic technologies, but commercializing products based on technology has been challenging. I believe that the interdisciplinary education of information networks, which combines technology and business, give students good capabilities in commercializing technology in a digitalized world.

Kimmo Antonen
CEO of KPMG



Inspiration to boost entrepreneurship

As many as half of the companies created in Finnish universities come from Aalto University.

EVERY year, up to 100 new companies are established by the Aalto community. This is half of all the companies founded at universities in Finland.

Over the past six years, more than 3,700 students have taken part in the Aalto Ventures Program that offers instruction in entrepreneurship. The start-up and tech event, Slush, reached global recognition in the hands of Aalto students. In 2019, as many as 3,500 start-ups, 2,000 investors and 25,000 visitors participated in Slush. The Aalto-based start-up community A Grid is one of Europe's largest community spaces. It brings more than 150 start-ups, small businesses, creative entrepreneurs, accelerators and other partners together under the same roof at the Aalto campus.

The aim of Aalto innovation services is to convert research results into positive societal impacts through commercialisation. More than 150 inventions are published and over 10 spinout companies are set up annually. Aalto Startup Center is an accelerator that focuses on technology companies in particular and integrates research-based projects with business activities. Some 40 companies are involved, 10

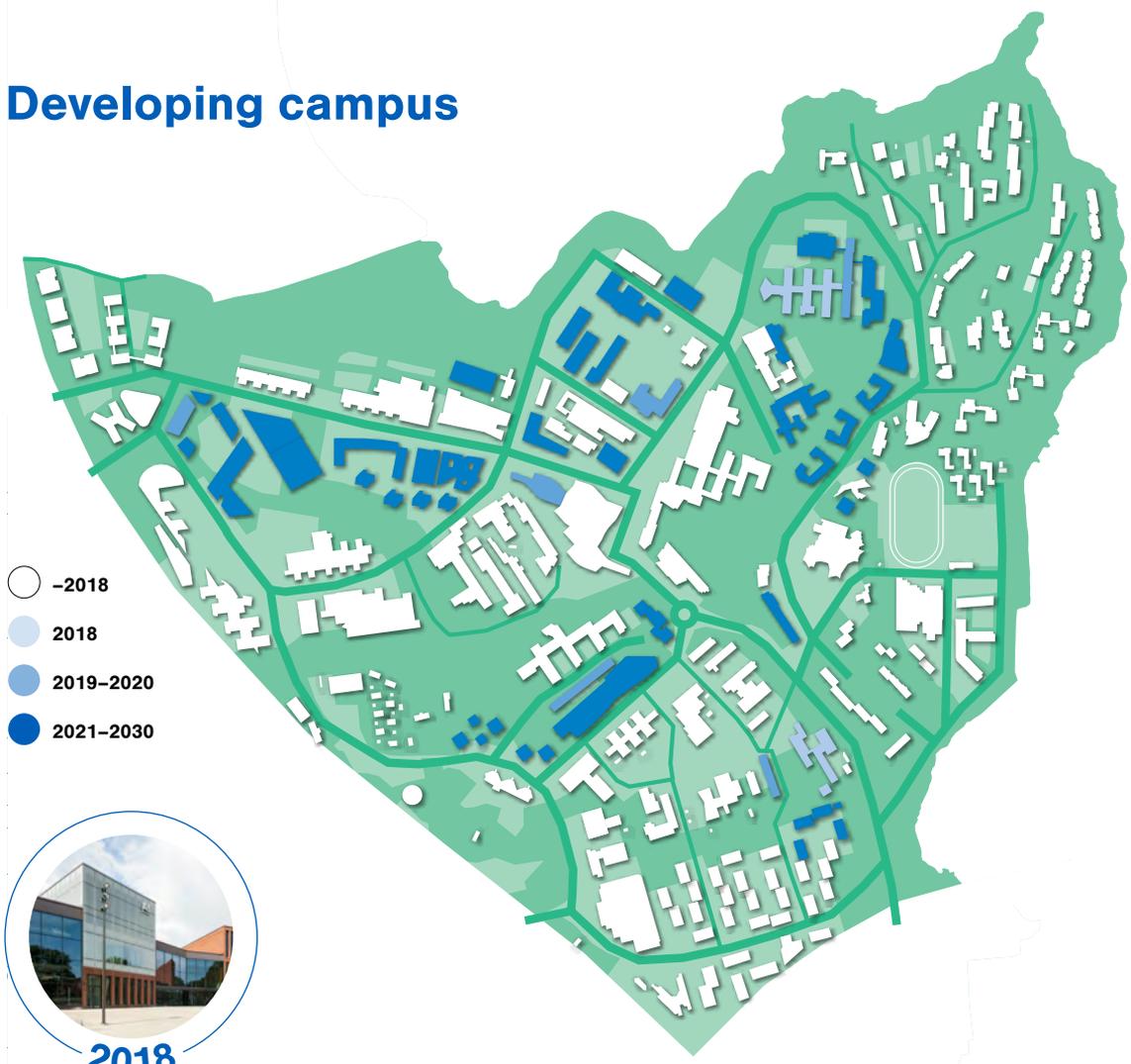
of which operate under ESA BIC Finland which specialises in space technology.

Aalto Entrepreneurship Society is Europe's largest and most active student-led entrepreneurship community. It participates in educating and inspiring the next generation of entrepreneurs. Europe's largest student entrepreneurship event, FallUp, brings together students, start-ups, other companies and head-hunters. The university's research group for strategic management and growth entrepreneurship is one of Europe's leading actors in its field. The unit provides students with learning experiences that open up international career opportunities.

Diverse business collaboration

Aalto has a total of 2,500 business partners. Our goal is to build significant, long-term strategic partnerships with companies and public operators. Our partners include, for example, ABB, Saab, Neste, Nokia and Wärtsilä. The collaborative activities include research, teaching, theses, course projects and presence at the campus. Approximately 70 per cent of Aalto master's theses are done in collaboration with companies.

Developing campus



- -2018
- 2018
- 2019-2020
- 2021-2030



2018

School of Arts, Design and Architecture (Väre), shopping centre A Bloc and startup community A Grid opened.



2020

Campus outdoor area improvement begins. Aalto University Töölö renovation completed. Otaniemi old shopping centre to be renovated.



2019

School of Business building opened. Renovation of Aalto University Töölö began.



2021-2023

Construction of Aalto Works, Student Centre, Otakaari 2A & B, Otakaari 5L and residential buildings.



2024-2035

Development of university buildings, new student housing, residential and office buildings.

The best trip ever!

A student embarking on international exchange brings home a lot more than just study credits. Topi Ronkainen set off on his journey with an open mind and had an opportunity to experience local student culture in its truest form.

in film and marketing, the crowning of a Homecoming Duke, a fraternity membership and a farewell party with 80 new friends.

‘I was the only Finnish exchange student at the university, so the need for any Finnish language flew out of the window right away. My roommates were from Australia and Ukraine, and at school, I used to hang out with fifty exchange students from all around the world’, says Ronkainen, who is currently studying at the Aalto University School of Business.

Ronkainen also became acquainted with the local students, as his long-term dream had always been to become familiar with university life in the USA, including the Homecoming and fraternity traditions, as famously depicted in films.

‘I took part in everything I could. After a number of competitions, promotions and voting, spanning several weeks, I stood in front of 25,000 spectators at the football stadium with the Homecoming Duke 2018 crown of the International University of Florida on my head’. And so it happened that Ronkainen also became an

Going abroad as an exchange student

TOPI Ronkainen’s richly-filled five-month exchange in the United States consisted of a study place at Florida International University, campus life in Miami, studies

lifelong member of the Phi Delta Theta fraternity on campus. ‘The ten-week introductory rites bound the group of applicants tightly together and I could always find a friend in the fraternity, no matter where I went’, Ronkainen reminisces.

Give yourself a chance!

Exchange studies also provided Ronkainen with an opportunity to study courses that he would not have been able to do in Finland. During the culture course, the students analysed films and familiarised themselves with the related marketing.

‘A course in psychology gave me a new perspective for my bachelor’s thesis, so my plan is to also use this knowledge in my master’s thesis’.

Exchange studies are part of Ronkainen’s bachelor’s degree in business at Aalto University and during his upcoming master’s studies, he will focus on information and service management.

‘I will definitely apply for an exchange during my master’s studies too; perhaps to Japan or China. Exchange studies are a unique opportunity to discover new things about yourself and get to know new cultures and meet new people. I highly recommend it to everyone. Allow yourself to gain the experience at least once’, he says.

Alumna encourages young people to become more international

Similarly to Ronkainen, more than 60 per cent of the students at the School of Business experience an international exchange every year.



**Topi
Ronkainen**



**Leena
Suviranta**



More than 60% of students at the School of Business experience an international exchange every year.



exchange destinations to choose from around the world.

There are 44 destination countries to choose from, including Australia, South Korea and Mexico. The School of Business gives financial support to every one of its students going on exchange abroad. As a donor, you can do the same.

This is what **Leena Suviranta** did. Educated at the Helsinki School of Economics back in the 1970's, she became interested in putting an international dimension into her life during her studies and summer jobs. 'I was very privileged to do part of my studies abroad, because doing so was not such a normal thing to do those days', says Suviranta. Suviranta graduated as a Master of Science (Economics) from the Helsinki School of Economics in 1978, followed by an MBA degree from the Catholic University of Leuven in Belgium.

'My studies in Finland and abroad, as well as my summer jobs in Paris, Norrköping and Monaco paved the way for my career in human resources'. Her summer job in a small oil drilling company in Monaco especially gave her a real sense of the international aspect of business, as her colleagues represented up to 16 different nationalities.

'I encourage young people to go abroad. You learn to operate independently, even in strange environments and gain new perspectives on life. I made some good friends during my studies abroad, and I still keep in touch with them', Suviranta says.

Plus, she adds, 'Donations help make sure that money does not prevent young people from having these experiences. And for the donor, the donations are tax-deductible'.

100,000 alumni

AALTO UNIVERSITY offers its alumni a broad range of opportunities for networking and development throughout their lives. Our mentoring program connects students, both past and present, and our alumni are active in over 80 countries.

The Alumni Network Board brings alumni's views to the long-term development of the university and supports the operation and establishment of alumni associations. They can also meet each other digitally within Aalto Alumni Circle.



'Aalto University's practice-oriented business projects, experienced professors of practice and lessons in self-management, have turned out to be valuable skills in the world of work. I am proud to be an Aalto alumna and this feeling becomes more concrete particularly when I meet other alumni or current students. For me, the most important thing is to support the new generation of members of the Aalto community, just as the older members of the Aalto community once supported me.'

Venla Väkeväinen

Master of Science (Economics and Business Administration) 2017
founder of the Brand Office Bou / PR and Communications Specialist

Wellbeing and people's experiences at the centre

While the hospital environment places great emphasis on effectively dealing with diseases, it's often at the expense of providing more comfort to the patients. Health and wellbeing architecture creates environments where people can feel good.

Assi Lindholm's work for the Design for End of Life Care course emphasises a green environment and bright, human architecture.





Laura Arpiainen wants to make the patient and family focus more important in the design of healthcare facilities.

WE need hospitals and treatment facilities that, in addition to curing diseases, also support people's holistic wellbeing. The human-centric design gives all the five senses the opportunity to take hold of things that calm the mind and create a feeling of safety.

'As the population ages, more and more people are experiencing their dying moments at a chronic ward in a hospital or in housing units for elderly people where the environment is either institutional, or at the very least, far from being peaceful and relaxing. In spaces that are human-centred in design, a person's life can gracefully come to an end', says **Laura Arpiainen**, professor of practice for Health and Wellbeing Architecture at Aalto University.

As death approaches, people's senses gradually fade, with hearing typically being the sense that lasts longest. What is the last sound that you'd like to hear? Is it a beeping buzzer, the patter of hurried steps, or a phone ringing. Or could it be the sound of the wind, of lapping water, or a chirping bird?

These were the kind of issues that Aalto University's architectural students dealt with last spring when they were given the task of designing an end-of-life care home. The Design for End of Life Care course involved pondering a big question: what would be a good environment to die in?

Home-like environments instead of institutions

'For those whose lives are about to end, an end-of-life care home is the last place they will be and

the days leading up to their death are also tough for their whole family. A home-like environment gives you room to prepare for death and take care of any last things that need to be dealt with', Arpiainen adds.

During the course, the students got a feel for how a variety of actors often need to be gathered around the table when starting the design work. The students had to put themselves in different roles, such as that of the dying patient, a nurse, a chief physician, a psychologist, a volunteer and a gardener.

Arpiainen explains, 'A dog therapist providing comfort with pet animals had to justify why bushes and water points were needed in the yard, and the municipal politician had to listen to the neighbours' complaints about the "death centre". The organist talked about the need for good sound insulation in the walls. Good design of care facilities is about much more than just deciding the bed layout'.

The City of Espoo gave the course an empty plot of land in Nuottalahti, next to the sea.

'Throughout this course, we planted the first seeds towards the eventual goal of building an end-of-life care home on this plot. There are only four end-of-life care homes in Finland and we definitely need more', Arpiainen says.

Both a workplace and a home

In a hospital, infection prevention and strict hygiene requirements largely dictate the design of the facilities and choice of materials. On the other hand, an end-of-life care home can have wooden



We are seeking donations to ensure the continuation of both the professorship of practice in health and wellbeing architecture and of teaching and research in this field.

surfaces and plants; it can be a place where you can wrap yourself up in your own blanket and enjoy the presence of pets as well. Good design of care environments takes all senses into account.

Nature can also bring comfort. A student of landscape architecture who was on the course created a multisensory therapeutic garden that surrounds the building and gives patients, for example, the opportunity to experience the warmth of the sun on their face or the feel of the soil between their fingers one more time. The designs for the courtyard included sweet-smelling bushes, colourful plants and a tucked-away place for spending time alone. Aalto Media Lab helped with the sound design for the indoor and outdoor areas.

The father of a student who was on the course had recently died after having been in hospital for a long time and the student had found the hospital environment oppressive, and with a lack of facilities for nurses. For that reason, he designed a home-like end-of-life care home in which the needs of the personnel are also taken into account.

‘End-of-life care homes and other care environments are at the same time, both workplaces and homes. Workers need safe and appropriate working conditions and patients need a home-like environment. Unfortunately, the latter is often sacrificed because of the requirements for treatment: we build institutions’, Arpiainen adds.

From delivery rooms to nursing homes

Arpiainen is the first Professor of Humanitarian Architecture both at Aalto University and in Finland as a whole. The professorship combines health and wellbeing with the design of human-centred living environments, both of which are key research areas at Aalto. The objective is to take into consideration ‘people’s wellbeing as a whole when planning care services and care environments.

Arpiainen says, ‘The medical care process and its technical requirements are essential in the planning of care facilities, but it must also be understood that patients are people. Through my work, I want to be advancing the impact and status of patient-centred and family-centred design’.

Arpiainen took up her position at the Department of Architecture in September 2018 when she returned to Finland after having spent more than 20 years living in Canada. In Canada, Arpiainen worked in architectural offices and the provincial health care administration and specialised in the design of health care buildings.

Arpiainen’s professorship covers a wide range of health care facilities and services, from delivery rooms to supported housing and care for the elderly. Her fields of teaching and research also include urban health. ‘I want to be involved in creating environments in which human wellbeing is at the centre. A broad approach and an open attitude towards learning can take us a long way. It is great that at Aalto, I can engage in interdisciplinary cooperation between different fields of design’, she says.

Aalto Health Platform promotes health and wellbeing

HEALTH and wellbeing is one of the focus areas of research at Aalto University. Aalto Health Platform is a collaborative programme that brings together more than 90 research groups conducting research in the field of health at Aalto and companies, health care and other organisations in Finland and around the world. The research projects develop and design technologies, methods and facilities that are important for human health, such as applications of artificial intelligence in health care, a brain imaging device, new implant materials, innovative hospital architectures and the methods used in neuroscience.

The collaboration supports the commercialisation of the innovations made in research and the creation of growth companies. It also produces important information to support decision-making in society.

The Aalto Health Platform collaboration covers health and wellbeing equipment, data science and neuroscience related to health and wellbeing, chemical and biotechnologies, such as research related to drug development, and the underlying technologies. The collaboration also includes the planning of work processes related to health and wellbeing as well as architecture and design.

90+

More than 90 research groups in the field of health.

Aalto University's key figures

During the first decade of operations, Aalto University's academic results have developed favourably, the university has become significantly more international, and the societal impact of its operations has strengthened, such as in the areas of high-growth entrepreneurship and sustainable development.

In field-specific international comparisons, Aalto is ranking among the best in its key areas (see the picture: Rankings in key research areas). The QS World University Rankings 2020 Top 50 Under 50, which features the world's 150 best universities under 50 years old, placed Aalto 9th worldwide and 3rd within Europe. In the Times Higher

Education University Rankings 2020, Aalto was ranked the 37th most international university in the world. In the Times Higher Education University Impact Rankings 2020, Aalto was 47th best in overall assessments of how well universities advance the United Nation's Sustainable Development Goals (SDG). Aalto was placed 2nd in the SDG of Responsible consumption and production, and 5th in the SDG of Industry, innovation and infrastructure. There are about 22,000 universities in the world.

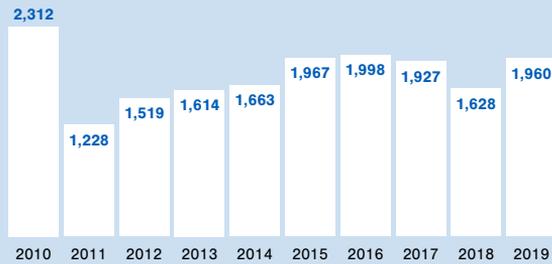
Aalto University's annual board report, financial statements and sustainability reports: aalto.fi/aalto-university

Degrees 2019

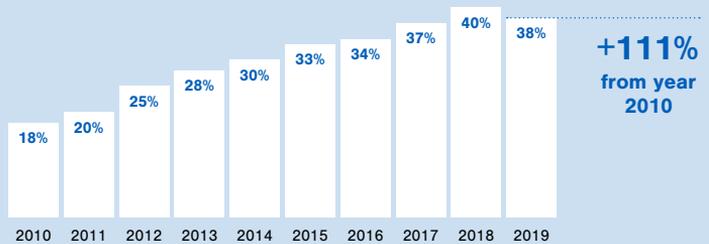


Master's degrees 2010–2019

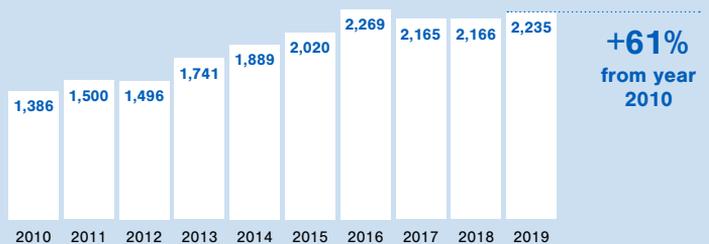
Degree reforms and their transition periods have affected the number of master's degrees in 2010, 2011 and 2018.



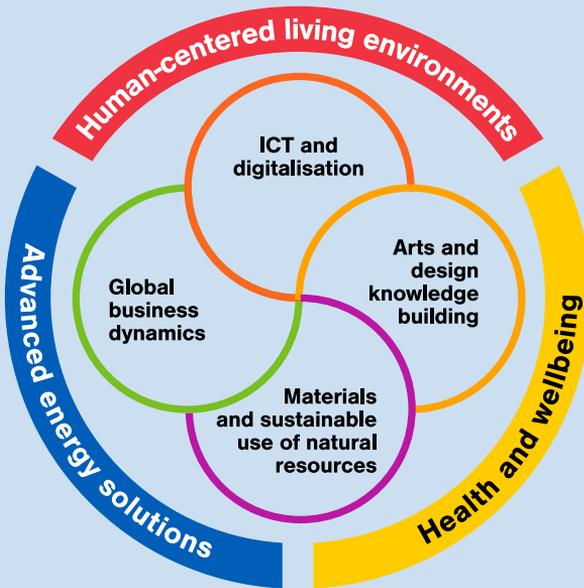
International faculty 2010–2019



International peer-reviewed articles in scientific journals 2010–2019



Rankings in key research areas



● **Arts and design knowledge building**

QS: Art & Design 2020: 7 (2019: 7)

● **Human-centered living environments**

QS: Architecture/Built Environment 2020: 41 (2019: 42)

● **Health and wellbeing**

ShanghaiRanking: Medical Technology 101–150 (2018: 101–150)

● **Materials and sustainable use of natural resources**

ShanghaiRanking: Mining and Mineral Engineering 76–100 (2018: 51–75)

● **Advanced energy solutions**

ShanghaiRanking: Electrical & Electronic Engineering 76–100 (2018: 51–75)

● **Global business dynamics**

ShanghaiRanking: Business Administration 29 (2018: 34)
Management 32 (2018: 36)

● **ICT and digitalization**

ShanghaiRanking: Telecommunication Engineering 22 (2018: 28)
US News: Computer Science 33 (2018: 43)

For me, having world-class universities in Finland is important. Ensto, our family company that specialises in technology, collaborates with Aalto University. As an owner, a personal donation to Aalto keeps me updated about Aalto's endeavours to develop its operation towards global leadership top, in cooperation with companies.

Marjo Miettinen
*Chairperson of
the Ensto Board of
Directors*

Donations to Aalto University in 2019

102

donors



€7.9M

in donated funds



Donations by donor categories



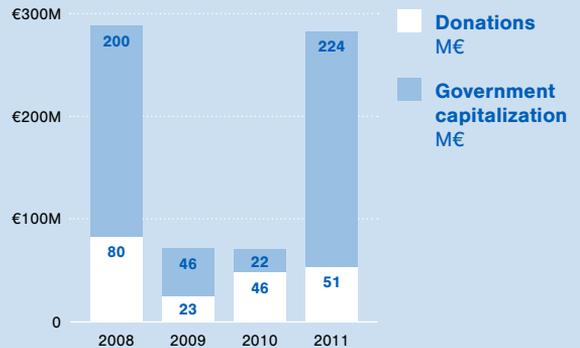
Donation targets



Received donations 2008–2019

Establishment of Aalto University and the first fundraising campaign 2008–2011

In addition, the management of the funds of Helsinki University of Technology, Helsinki School of Economics and University of Art and Design were transferred to Aalto University in connection with the establishment of Aalto University in 2010.

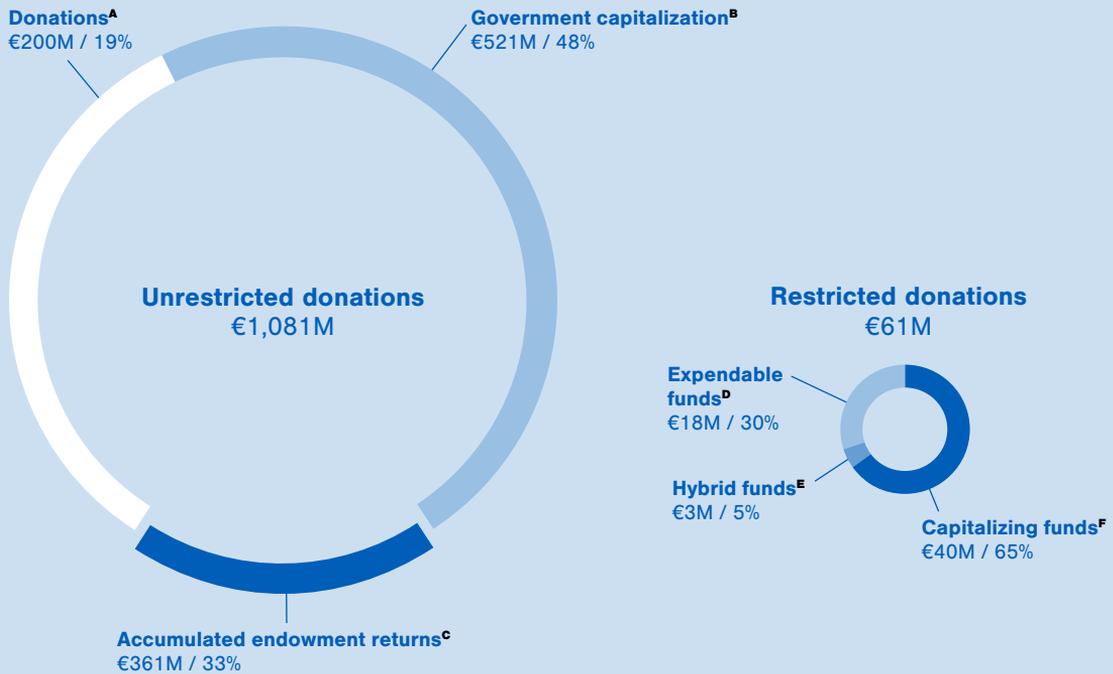


Donations 2012–2019

Donations M€
Government capitalization M€



Donation funds in total



The goals of the endowment activities are to preserve the real value of the endowment capital and to provide a steady and predictable income to fund university operations. Preserving the real value of the endowment capital secures the university's financial capacity across generations.

The average annual return on the endowment portfolio has been 5.1% after expenses since the inception of operations. The endowment portfolio's return in 2019 was 15.6% (-6.0%) after expenses. At the end of 2019, 30% (37%) of the portfolio was held in fixed income instruments, 57% (52%) in equities and 14% (11%) in alternative risk.

A Donations for the long-term development of the university.

B Government capitalization was received €492M in the first fundraising campaign 2009–2011 and €24M in the second fundraising campaign 2014–2017. In the fundraising campaigns, the government capitalized universities according to the donations collected. Government capitalization also includes €4M received as a part of the key projects in knowledge and education in 2018.

C The item includes the accumulated endowment returns fund of €207M and the endowment profit of €153M in 2019. The endowment profit and loss from previous financial year, including change in the fair value of investments, are transferred to the accumulated endowment returns fund, from which funding is transferred to the ordinary operations of the university by the decision of the university board. In the long term, only real return is used to fund university operations, and accumulated inflation adjustment preserves the value of the capital over time.

D Donations are used for the current needs of the university as agreed with the donor.

E Donations and their returns are used to fund professorships for a long but finite term.

F Donations' returns are used for the university's long term purposes as agreed with the donor. The value of the donation is preserved over time by using only the real return of the donation. A fixed nominal return based on long-term return expectations approved by the university board is transferred yearly to capitalizing donations. The nominal return is currently 5%, from which 2.5% preserves the value of donated funds over time.



A''

Aalto University

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donating to Aalto University:**

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