KANSALLINEN KOULUTUKSEN ARVIOINTIKESKUS
NATIONELLA CENTRET FÖR UTBILDNINGSUTVÄRDERING
FINNISH EDUCATION EVALUATION CENTRE

AUDIT OF AALTO UNIVERSITY

Författare **Antoinette Perry, Mia Brzakovic, Mika Konu, Geir Øien & Sirpa Moitus, Self-assessment of Aalto University (ed.) Rediet Abebe**
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Abstract

Title of publication

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Authors

Antoinette Perry, Mia Brzakovic, Mika Konu, Geir Øien & Sirpa Moitus, Self-assessment of Aalto University (ed.) Rediet Abebe

The Higher Education Evaluation Committee’s decision

Aalto University passed the audit on 28 April 2023.

The Quality Label is valid until 28 April 2029.

The audit team’s evaluation of the evaluation areas I-III

I: HEI creates competence: excellent level

II: HEI promotes impact and renewal: excellent level

III: HEI enhances quality and well-being: excellent level

HEI as a learning organisation – evaluation area chosen by Aalto University

Equality, Diversity and Inclusion

Theme and partner for benchlearning

Theme: Equality, Diversity and Inclusion

Partner: Swiss Federal Institute of Technology Lausanne EPFL

Key strengths and recommendations

Strengths

- The agile living strategy process provides a thorough continual analysis of trends and external conditions, which strongly facilitates systematic revision and follow-up of the educational portfolio. This gives the Aalto University an excellent means of keeping their curricula and programme provision dynamic, scientifically and pedagogically up to date,

strategically and societally relevant and fit for purpose.
- Aalto's strategy of societal renewal creates an ethos of usefulness-driven questions, entrepreneurial mindset, and cross-cutting approaches across the university, strengthened by strategic partnerships within Aalto and external stakeholders.
- Aalto's systematic implementation of the Preview-Review-Dialogue process is a feedback-driven strategic process with broad community participation, enthusiasm and commitment. Specifically, Aalto has a unique University Preview process to analyse changes in the operational environment and their impact on processes.
- Aalto has integrated equality, diversity and inclusion (EDI) initiatives into all processes with a bottom-up approach across the university and campus in a timely, efficient and collaborative manner.

Recommendations

- Systematic feedback for students should be strengthened. Firstly, formative feedback should be provided systematically and timely so that students can take action to improve their learning. Secondly, Aalto should develop more systematic procedures for informing students of changes introduced based on their feedback (feedback-on-feedback).
- Aalto should incorporate radical creativity into capturing the impact and develop further qualitative measurements and indicators to capture impact, particularly in artistic activities.
- Aalto should consider ways to improve work-life balance for staff and study workload for students.
- Aalto should progress their outstanding work in EDI by continuing to raise broad awareness, building capacity and considering how to capture their achievements in this space.

Tiivistelmä

Julkaisun nimi

Aalto-yliopiston auditointi (Audit of Aalto University)

Tekijät

Antoinette Perry, Mia Brzakovic, Mika Konu, Geir Øien & Sirpa Moitus, Aalto-yliopiston itsearviointiraportti (toim.) Rediet Abebe

Korkeakoulujen arviointijaoston päätös

Aalto-yliopiston auditointi on hyväksytty 28.4.2023.

Laatuleima on voimassa 28.4.2029 asti.

Auditointiryhmän arvio arviointialueista I-III

I: Osaamista luova korkeakoulu: *erinomainen* taso

II: Vaikuttava ja uudistava korkeakoulu: *erinomainen* taso

III: Kehittyvä ja hyvinvoiva korkeakoulu: *erinomainen* taso

Oppiva korkeakoulu – Aalto-yliopiston valitsema arviointialue

Yhdenvertaisuus-, monimuotoisuus- ja inklusiivisuustoiminta

Vertaisoppimisen teema ja kumppani

Teema: Yhdenvertaisuus-, monimuotoisuus- ja inklusiivisuustoiminta

Kumppani: Swiss Federal Institute of Technology Lausanne (EPFL)

Keskeiset vahvuudet ja kehittämissuositukset

Vahvuudet

- Ketterä ja elävä strategiaprosessi tuottaa Aalto-yliopistolle jatkuvaa analyysia ja palautetietoa trendeistä ja ulkoisista muutoksista. Tämä tarjoaa Aallolle erinomaisen keinon pitää opetussuunnitelmat ja koulutustarjonta dynaamisina, tieteellisesti ja pedagogisesti ajan tasalla sekä strategisesti ja työelämän tarpeita vastaavina sekä

tarkoituksenmukaisina.

- Aallon yhteiskunnallisen uudistamisen strategia luo yliopistoon käyttäjälähtöisten kysymysten, yrittäjähenkisen ajattelutavan ja poikkitieteellisten lähestymistapojen eetoksen, jota vahvistavat Aallon sisäiset ja ulkoiset strategiset kumppanuudet.
- Aallon järjestelmällinen ennakkokatselmus-vuosikatselmus-yliopistodialogi (Preview-Review-Dialogue) prosessin toteuttaminen on palautteeseen perustuva strateginen prosessi, johon liittyy laaja yhteisöllinen osallistuminen, innostuneisuus ja sitoutuneisuus. Aallossa on käytössä ainutlaatuinen yliopiston ennakkokatselmusprosessi (University Preview), jonka avulla analysoidaan toimintaympäristön muutoksia ja niiden vaikutusta prosesseihin.
- Aalto on sisällyttänyt yhdenvertaisuus-, monimuotoisuus- ja inklusiivisuusaloitteet kaikkiin prosesseihin erittäin oikea-aikaisesti, tehokkaasti ja osallistavasti sekä alhaalta ylös läpäisten koko yliopiston ja kampukset.

Kehittämissuositukset

- Opiskelijoille annettavaa systemaattista palautetta tulee vahvistaa. Ensinnäkin opiskelijoille tulee antaa järjestelmällistä ja oikea-aikaista formatiivista palautetta heidän oppimisensa tueksi. Toiseksi Aallon tulee kehittää järjestelmälliset menettelyt, joilla opiskelijoille tiedotetaan heidän palautteensa perusteella tehdyistä muutoksista (palaute palautteesta).
- Aallon tulee hyödyntää radikaalia luovuutta vaikuttavuuden määrittelyssä sekä jatkaa vaikuttavuuden laadullisten mittareiden ja indikaattoreiden kehittämistä erityisesti taiteellisen toiminnan osalta.
- Aallon tulee pohtia keinoja, joilla se voi tasapainottaa henkilöstön työmäärää ja helpottaa opiskelijoiden opintojen kuormittavuutta.
- Aallon tulee jatkaa erinomaista työtään yhdenvertaisuus-, monimuotoisuus- ja inklusiivisuusasioissa (EDI). Laajaa EDI-tietoisuutta tulee lisätä, EDI-valmiuksia kehittää sekä pohtia, miten yliopiston saavutukset näissä teemoissa saadaan paremmin esille.

Sammandrag

Publikationens namn

Audit of Aalto University (Auditering av Aalto-universitetet)

Författare

Antoinette Perry, Mia Brzakovic, Mika Konu, Geir Øien & Sirpa Moitus, Aalto-universitetets självvärdering (red.) Rediet Abebe

Beslutet av sektionen för utvärdering av högskolorna

Auditeringen av Aalto-universitetet godkändes den 28 april 2023.

Kvalitetsstämpeln är i kraft till och med den 28 april 2023.

Auditeringsgruppens omdöme för utvärderingsområdena I-III

I: En kompetensskapande högskola: *utmärkt* nivå

II: En nyskapande högskola med genomslagskraft: *utmärkt* nivå

III: En utvecklingsorienterad och välmående högskola: *utmärkt* nivå

En lärande högskola, utvärderingsområdet som Aalto-universitetet valde

Equality, Diversity and Inclusion (EDI, Jämställdhet, mångfald och inkludering)

Tema och partner för kollegialt lärande

Tema: Equality, Diversity and Inclusion (EDI, Jämställdhet, mångfald och inkludering)

Partner: Swiss Federal Institute of Technology Lausanne

Centrala styrkor och rekommendationer

Styrkor

- Den flexibla strategiprocessen ger en grundlig och kontinuerlig analys av trender och externa förhållanden. Det här underlättar en systematisk översyn och uppföljning av utbildningsportföljen. Detta förser Aalto-universitetet med en utmärkt metod som för med sig att läroplaner och program hålls dynamiska, vetenskapligt och pedagogiskt

uppdaterade, strategiskt och samhälleligt relevanta och ändamålsenliga.
- Aalto-universitetets strategi för samhällelig förnyelse skapar en etik av användbarhetsdrivna frågor, entreprenörstänkande och övergripande tillvägagångssätt inom hela universitetet, som stärks av strategiska partnerskap inom Aalto-universitetet och externa intressenter.
- Aalto-universitetets systematiska genomförande av processen Förhandsöversikt-Årsöversikt-Dialog är en responsdriven strategisk process med brett samhällsdeltagande, entusiasm och engagemang. Aalto-universitetet har specifikt en unik process för förhandsöversikten för att analysera förändringar i verksamhetsmiljön och deras inverkan på processerna.
- Aalto-universitetet har integrerat initiativ till jämlikhet, mångfald och inkludering (EDI) i alla processer med en nerifrån upp-strategi inom hela universitetet och campus på ett lämpligt, effektivt och samarbetsinriktat sätt.

Rekommendationer

- Den systematiska responsen för studerande bör stärkas. För det första bör formell respons ges systematiskt och i rätt tid till studerande så att de kan vidta åtgärder för att förbättra sitt lärande. För det andra bör Aalto-universitetet utveckla mer systematiska förfaranden för att informera studerande om ändringar som införts på grundval av deras respons (respons på respons).
- Aalto-universitetet bör införliva den radikala kreativiteten då effekterna mäts och utveckla ytterligare kvalitativa mätningar och indikatorer för att fånga upp effekterna, särskilt inom konstnärlig verksamhet.
- Aalto-universitetet bör överväga sätt att förbättra balansen mellan arbete och privatliv för personalen och lätta på den arbetsbörda som studierna innebär för de studerande.
- Aalto-universitetet bör gå vidare med sitt enastående arbete inom EDI genom att fortsättningsvis öka medvetenheten, bygga upp kapaciteten och ta fasta på hur man kan fånga upp sina resultat på detta område.

The premise and implementation of the audit

The work of the Finnish Education Evaluation Centre (FINEEC) is based on the principle of enhancement-led evaluation and producing impactful information which contributes to the enhancement of education.

The purpose of the audit model is

- to evaluate whether the quality work in the HEI meets the European quality assurance standards,
- to assess whether the quality system produces relevant information for the implementation of the strategy and the continuous development of the HEI's activities, and whether it results in effective enhancement activities,
- to encourage internationalisation, experimenting and a creative atmosphere at HEIs, and
- to accumulate open and transparent information on quality work at Finnish HEIs.

The principles of the audit model are described in the audit manual.

The implementation of the audit

The four-member audit team carried out the audit. The members of the audit team were:

- Antoinette Perry, Vice Principal and Associate Professor, University College, Dublin, Ireland (chair)
- Mia Brzakovic, student, University of Belgrade and Trinity College, Dublin, Serbia
- Mika Konu, CEO, Technology Centre, Merinova, Finland
- Geir Øien, Professor, Norwegian University of Science and Technology, Norway.

Sirpa Moitus from the Finnish Education Evaluation Centre (FINEEC) acted as the project manager of the audit, and Kirsi Mustonen was the backup project manager. In addition, Sirpa Moitus, Kirsi Mustonen and Lassi Kannel from FINEEC supported the implementation of the audit visit. The audit is based on the material submitted by the Aalto University, a self-evaluation report (SER), additional material requested by the audit team and the audit team's visit to the institution between 25 and 26 January 2023. During the audit visit, the team conducted 19 interviews and workshops for staff and students. The audit team also had access to essential digital materials and systems. The main stages and timetable of the audit were:

Appointment of the audit team	13 September 2022
Agreement negotiation	27 September 2022
Submission of the audit material and self-evaluation report by Aalto	30 November 2022
Information and discussion event at Aalto University	16 December 2022
Audit visit	25–26 January 2023
Higher Education Evaluation Committee's decision on the result	28 April 2023

Publication of the report	28 April 2023
Concluding seminar	16 May 2023
Follow-up on enhancement work	2026

Evaluation criteria

The evaluation areas I–III are each assessed as one entity using the scale *excellent, good, insufficient*.

The level *excellent* means that the HEI shows evidence of long-term and effective enhancement work. The HEI's enhancement activities also create substantial added value for the HEI, stakeholders, or both. The HEI presents compelling examples of successful enhancement activities.

The level *good* for the evaluation areas I–III is described in appendix 1.

The level *insufficient* means that the HEI shows an absence of or major shortcomings in systematic, functioning, and participatory procedures in the evaluation area (I–III). There is no clear evidence of the impact of quality management in the enhancement of activities.

In order for the HEI to pass the audit, the evaluation areas I–III should reach at least the level *good*.

The organisation and strategy of the HEI

The organisation of Aalto University

Aalto University is a foundation-based university founded in 2010 by the merger of the Helsinki School of Economics, the University of Art and Design Helsinki and the Helsinki University of Technology. Scientific research, artistic activities and teaching are carried out at Aalto University's six schools and their departments and units. The schools are responsible for research and education within their own fields based on the university's strategy, the schools' annually updated strategic plans ('Our plan'), their budget and the university's joint rules and principles.

The executive bodies of the university are the Board (AUFB), the President, and the University Academic Affairs Committee (AAC). Their roles and responsibilities are described in the Aalto University Constitution and Bylaws. The management teams and steering groups coordinate operative work at the university and the preparation of pre-decision motions.

Aalto University management consists of the President, Provost, Vice Presidents for Research, Education and Innovation, the Deans of the university's six schools and the Service Directors of the seven service functions. Schools are led by deans who are assisted by vice deans. The departments are led by department heads assisted by vice department heads. Other relevant committees, advisory boards and groups also support decision-making. The organisation is described in Figure 1, and more detailed information is available in the Aalto Handbook.

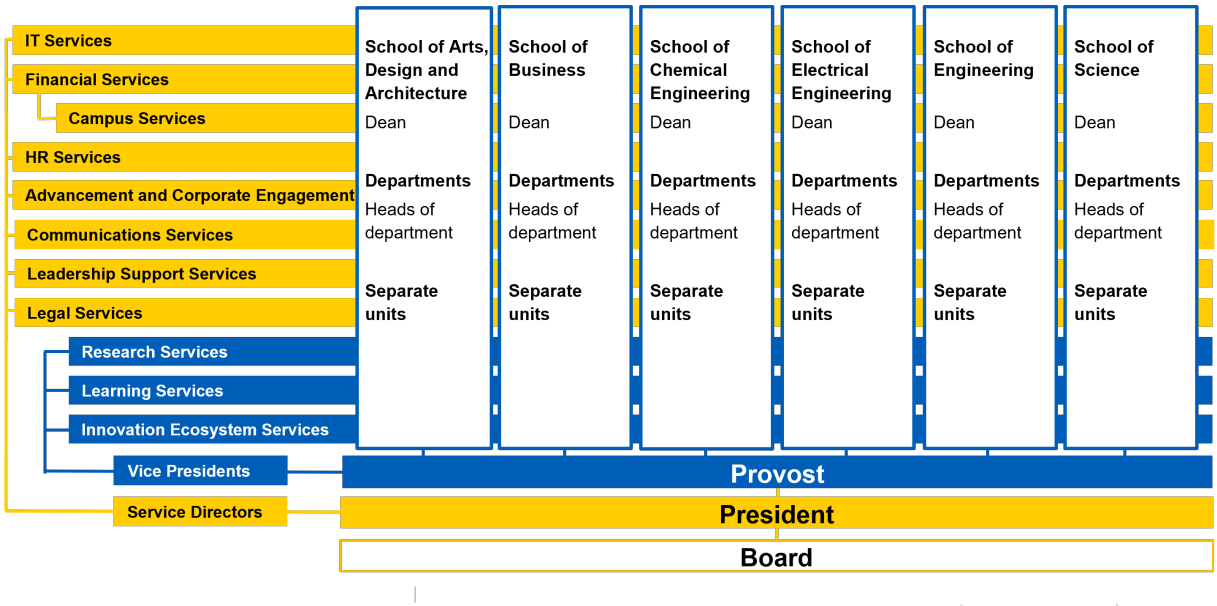

Figure 1. Organisation of Aalto University

Aalto University's diverse community and lively campus

Aalto University has around 12,600 fulltime-equivalent degree students. Each year, our students earn about 200 doctoral degrees, 1,800 master's degrees, 1,500 bachelor's degrees and 300 MBA and EMBA certificates. The university has about 4,000 employees, of which nearly 400 are professors. The share of international academic faculty is 47%. See other key figures and reports.

Aalto University operates from its main campus located in Otaniemi, Espoo, and at its other locations in Metsähovi, Töölö and Mikkeli. The Otaniemi campus has developed into a lively collaboration hub, where companies, start-ups, technology parks and the university campus support the creation of new knowledge and innovation. Learn more about our campus here and take a virtual campus tour.

Aalto University's living strategy – *Shaping a sustainable future*

Aalto University has adopted a living strategy tailored to a world in motion. Our purpose, values and way of working define our long-term direction. We choose development areas and actions that drive us towards our purpose. As a community, we proactively and continuously re-evaluate our choices.

The purpose of Aalto University is to shape a sustainable future (Figure 2). Our long-term direction is based on high-quality research, education and impact, as well as our shared values – responsibility, courage and collaboration. We strive to make breakthroughs in and around science, art, technology and business, to spark the game changers of tomorrow and to create innovative solutions that tackle global grand challenges. We renew society with research-based knowledge, creativity and an entrepreneurial mindset.

The focus of our long-term development is to drive excellence in research, future-led learning in education and an inspiring ecosystem in impact. To enable our success, we encourage participation, curiosity and collaboration, as well as promoting the wellbeing of Aalto community members. To drive our purpose of Shaping a sustainable future, we have chosen three cross-cutting approaches that we strive to integrate in everything we do: solutions for sustainability, radical creativity and an entrepreneurial mindset. Read more on our strategy.

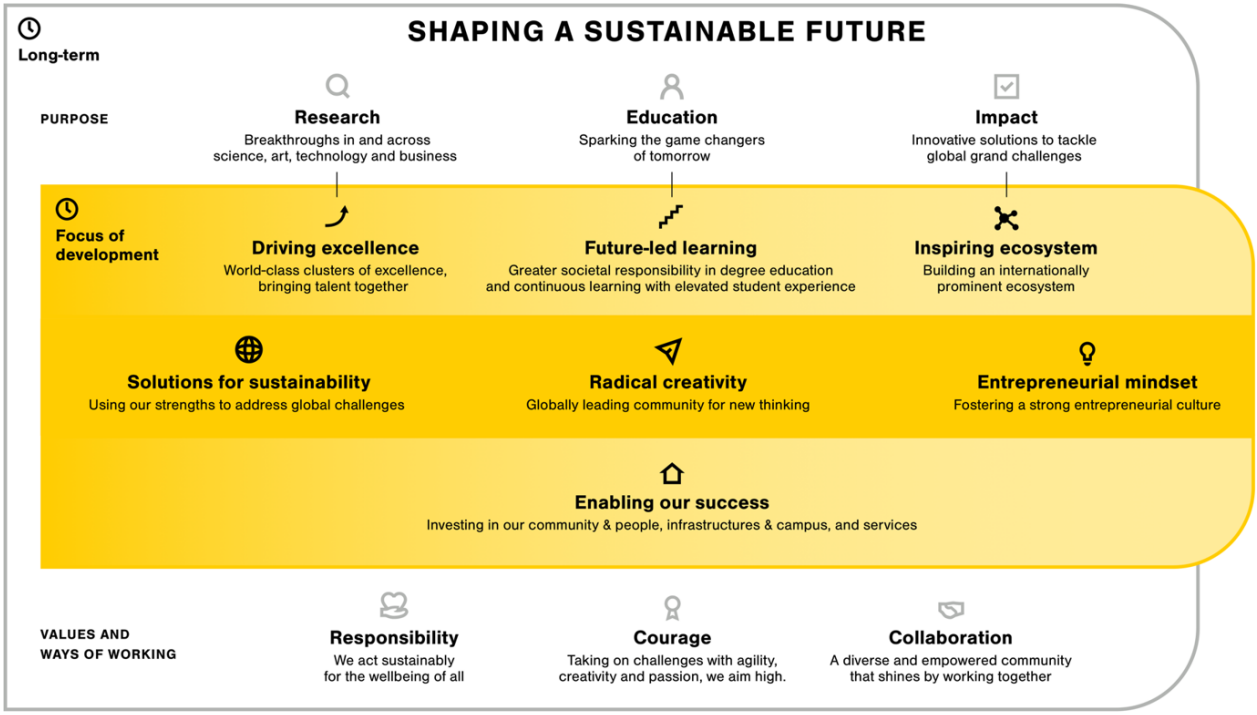

Figure 2. Aalto University's living strategy

Aalto has seven key research areas: (1) ICT and digitalisation, (2) materials and the sustainable use of natural resources, (3) arts and design knowledge building, (4) global business dynamics, (5) advanced energy solutions, (6) human-centred living environments and (7) health and wellbeing. These key areas combine our four core competences in the fields of ICT, materials, arts, design and business together with three grand challenges related to energy, the living environment and health.

Aalto University's joint and school-specific strategic plans are updated annually in the University Dialogue process and documented in Our plan. The strategic plans incorporate a clear focus on development and our long-term direction, as well as specific actions and milestones.

1 HEI creates competence

- Auditeringsgruppens bedömning

The evaluation area I assesses the procedures which support student-centred, working-life oriented planning, implementation and enhancement of education, which is based on research or artistic activities.

Based on the audit team's evaluation, the evaluation area I is at the level *excellent*.

The audit team identified the following as the main strengths and recommendations:

Strengths

- Aalto has solid procedures and guides in place for competency-based education planning, constituting an excellent and well-defined framework for planning education with clearly defined learning outcomes.
- Aalto has implemented a rich menu of measures and support services to promote students' well-being and equality.
- Aalto's annual strategic management processes dynamically support agile curriculum development and continuous quality development of degree programmes.

Recommendations

- Aalto should continue to assess and balance workload related to studies, focusing on minimising the risk of student burnout due to excessive total workload.
- Aalto should use the Leap for Learning project to develop feedback on students' learning to become more systematic and personal.
- Aalto should focus on developing more systematic procedures for informing students about changes introduced based on student feedback (feedback-on-feedback).

1.1 The planning of education

- Högskolans självvärdering

A future-led learning strategy guides the planning of education

Clear roles and responsibilities provide a good basis for the management of education and the implementation of our future-led learning strategy. The Vice President for Education leads and coordinates the development of the University's educational activities across the Schools leads the Learning Steering Group (LESG), which prepares and coordinates the implementation of the university's strategy and joint development projects in education. The LESG also coordinates the planning and development of new degree programme initiatives and the Aalto degree programme portfolio by ensuring that these have a clear purpose which aligns with the strategy and research focus areas and meets the national and international framework and working life needs. LESG coordinates and prepares items for the university's decision-making bodies, such as the Academic Affairs Committee. The Doctoral Education Working Group (DEWG) supports the LESG in its duties by coordinating the planning, execution and evaluation of doctoral programmes. The annual University Dialogue steers the planning of education by setting specific targets for schools and fields. The Learning Services management team (LESjory) supports the LESG and other education-related bodies by coordinating the preparation of administrative items.

The President decides on the introduction and termination of degree programmes and annual student intake numbers. The University Academic Affairs Committee (AAC) decides on student admission criteria, the university's curricula and degree requirements, as well as other general rules related to teaching, research, art and creative practices.

Collaboration with external stakeholders (alumni, research or network partners and advisory board members) supports the planning and development of a future-led learning portfolio and curriculum at all levels (university, school and department/degree programme).

The university curricula are designed and implemented in accordance with the university's strategy and various academic guidelines, rules and regulations. The school-specific degree regulations have been replaced with common degree regulations for bachelor's and master's degrees (in 2021) and doctoral education (in 2018), and these provide a joint framework for the planning of education at Aalto. The degree programme director oversees the planning, execution, assessment and development of the programme, and each study module has a teacher in charge of developing and implementing its teaching. The programme director's handbook includes guidelines and instructions for the curriculum design process.

Future-led teaching and learning is one of the cornerstones of the university's strategy. The understanding of future competence needs is therefore an important part of the planning of education. Schools and degree programmes have different avenues to ensure close collaboration with external stakeholders and alumni. There are both school-level formal advisory boards (e.g.,

the Corporate Advisory Board at the School of Business) and programme-level informal annual events for stakeholders. This supports two-way communication to build an understanding of current and future needs in work life.

Teachers are encouraged to integrate internationalisation and global competence skills into their teaching. An internationalised curriculum also helps build future working life skills for Aalto graduates.

Concrete tools to support teachers in this mission are the curriculum design guidelines and pedagogical training courses, such as curriculum development and multicultural teaching. The new Equality, Diversity and Inclusiveness guidelines also include concrete examples on how to enhance internationalisation in teaching and education.

Our objective is competency-based planning of education

The degree programme supports both the development of the field and the student's securement of a meaningful future profession. The aim is the acquisition of the knowledge and skills that are vital for the student's professional future and working life, including transferrable skills and special competencies in their own field.

The learning outcomes and contents of the programme, as well as its methods for evaluating teaching and learning, should form a cohesive, foreseeable whole from the student's point of view, thereby helping them graduate within the target timeframe. The goal is for students to graduate on time and in a state of wellbeing, ready for the demands of working life and to continually develop their competencies.

As part of the course feedback surveys, students are asked to evaluate the workload they experienced in the course. Student wellbeing surveys ('AllWell?' and Doctoral wellbeing study) also provide valuable information on the workload that students experience. The results from these surveys, together with other programme evaluations, are discussed at different meetings and forums in the schools to identify suitable development actions.

Each degree programme has nominated student representatives, and many also have external stakeholders from industry, non-profit organisations and/or other relevant parties who participate in the development of the programme. Programme development is a continuous process that is done following the continuous improvement cycle. Students take an active part in all phases of the process, while external stakeholders are mainly involved in the evaluation and planning phases.

The curricula of the programmes, majors and minors (BSc, MSc), as well as course descriptions, are approved by the school's Academic Affairs Committees (excluding offerings from the Language Centre and the Open University, which are approved by the University Academic Affairs Committee), where there are representatives of professors, students and other faculty and staff.

Strengths	Enhancement areas
The university has a strong focus on managing and developing its educational portfolio, with well-established processes and joint criteria for new degree programme initiatives.	Further development of a critical and evidence-based review of the attractiveness of the current portfolio would be helpful. Stakeholder feedback should be systematically considered in portfolio management.
The university works to create awareness of the importance of multidisciplinary skills while striving to balance between disciplinary and multidisciplinary approaches.	Educational planning could be improved further through enhancing the pedagogical competence of the teaching community.
The annual clock designed for programme management helps programme management teams plan and execute their tasks alongside their other academic duties.	The programme director’s role should be further clarified, especially in relation to the role of the heads of departments.
Concrete development in integrating the university’s strategic cross-cutting approaches (i.e., sustainable solutions, entrepreneurial mindset and radical creativity) is accomplished by providing support for teachers’ competence.	There is a need for active and systematic interaction with upper secondary schools for curriculum development and alignment across different levels of education.

1.1 The planning of education

- Auditeringsgruppens bedömning

Aalto’s degree programmes and other provisions are planned with clearly defined learning outcomes

Aalto has robust procedures, instructions and guides for competency-based education planning. Emphasis is put on identifying future competence needs and planning education according to these needs. There are detailed instructions for formulating and designing programme-level learning outcomes. A Guide to Successful Teaching advises teachers on devising and implementing learning outcomes at the course level. These materials constitute an excellent framework for planning education with clearly defined learning outcomes. During the interview with Aalto education specialists, it was pointed out that the specification of learning outcomes may also be influenced by discussions with students, alumni and external stakeholders.

There is a 2-year curriculum planning cycle – i.e., curriculum contents are confirmed for two years. A sampling of the Academic Catalogue indicates that programmes and courses, as a rule, have learning outcomes adhering well to principles laid out in the instructions. The interviews with student union representatives and doctoral students showed that learning outcomes, as a rule, are systematically communicated to students. However, during the student workshops, it was mentioned that intended programme-level outcomes could be communicated better.

In addition, although the programme-level learning outcome descriptions are de facto in reasonable compliance with the National Framework for Qualifications (FINQF), procedures applied in ensuring formal compliance with the FiNQF could be stated more explicitly in Aalto documents.

The planning ensures that Aalto’s education is strategically aligned and relevant for working life

Through the systematic annual processes, the University Preview, the University Review, and the University Dialogue, which cover all schools and degree programmes, Aalto updates strategies, priorities and goals and makes plans for their education portfolio. The resulting education planning documents are openly available. Aalto’s Strategic plan for education is an annually revised target agreement with ambitions to be realised through five prioritised actions. These are described in terms of a desired target state in 2030 and concrete, measurable milestones to be passed.

Furthermore, all schools have defined their own strategic visions, plans and goals based on the common framework of the institutional strategies and plans and the long-term direction and prioritised actions defined therein. In education, the schools have the same five prioritised

actions as the university, but individual target states and milestones are based on their own strengths, needs and characteristics. The stated goals are always transparent, ambitious and measurable.

The organisation of the education area and the various roles and responsibilities involved in education planning creates an interplay between all organisational levels. The SER and several interviews confirmed systematic interplay between the various committees, working groups and decision-makers involved in education planning. It also links strategic management to operational issues.

In conclusion, Aalto's educational strategy is strongly and systematically linked to action plans at the institutional and school levels. It was repeatedly pointed out in interviews that the three interlocking annual strategic management processes ensure strong alignment between strategies, priorities and actions. Also, it was emphasised in several interviews, including that of the Board, that the revision of plans is based on systematic and inclusive analysis and feedback loops. Roles and responsibilities are clearly described, and the overall organisation of the education area is fit for purpose.

Regarding procedures for ensuring relevance for working life, top management described a multilevel process, from contact with individual professors up to the programme, school and university level. At the institutional level, external stakeholders contribute to the University Preview process.

Aspects concerning internationalisation are ensured in Aalto's planning process

Aalto's aim of internationalisation is educating globally competent graduates. Internationalisation aspects are well integrated into Aalto's education offerings at all levels, and there is evidence of systematic planning for and prioritisation of those aspects from bachelor to doctoral education.

A rich menu of supporting tools for internationalisation is available: curriculum internationalisation, student and staff mobility, international partnerships and projects, international joint programmes and double degree agreements, international student recruitment and promotion of multicultural learning environments. Pedagogical training courses, Aalto's Language Centre and Equality, Diversity and Inclusion (EDI) guidelines support planning for integrating internationalisation possibilities into courses and programmes. Some schools have established international advisory boards to strengthen global visibility. Aalto's high proportion of international staff members and students and an extensive network of partner universities in all parts of the world also enhance opportunities for internationalisation.

The interview with educational specialists emphasised the importance of international mobility and double degree programmes with international universities while pointing out a challenge in motivating Aalto students to study abroad. Another future challenge relating to sustainability demands and reduced CO2 emissions may impact travel regulations and, thus, possibilities for

international physical mobility.

Teaching, assessment and learning environments are planned to support learning outcomes

The principle that teaching methods, student assessment and learning environments must support the achievement of learning outcomes is well integrated into Aalto's guidelines for education planning. There are clear instructions, useful tools for programme directors and much good practical guidance for teachers. One example is the guide Get Inspired! – A Guide to Successful Teaching. The Programme Director's Handbook contains curriculum design instructions placing learning outcomes at the centre of education planning while teaching and assessment methods are seen as tools to support the outcomes.

Input from staff workshops emphasised Aalto's wide range of physical learning environments supporting different learning activities, such as seminar rooms, workshop spaces, auditoriums, group-work rooms, self-study spaces and video studios. Students have access to these spaces outside organised teaching. There are interesting examples of virtual learning environments, e.g. for learning about lab work. An explicit aim in Aalto is to enhance the social learning environment to support open discussions and inclusion.

Students and external stakeholders participate systematically and purposefully in education planning

Students participate in the planning of education in several fora, for instance, the Academic Affairs Committee (AAC), The Learning Steering Group (LeSG), the Doctoral Education Working Group, individual degree programme committees and the Aalto Management Team (AMT). The student representatives are selected in elections organised by the Student Union upon request from the university. Individual Schools also have school-level Academic Affairs Committees. Doctoral students also participate systematically in doctoral programme committees at the school level. However, no student representative is on the Board (see Chapter 3.3).

External stakeholders also participate in education planning at all levels, from the University Board to school-level formal advisory boards. In addition, there are various informal programme-level annual events for stakeholders. The SER states that collaboration with external stakeholders supports the planning and development of a future-led learning portfolio and curriculum at all levels. This was confirmed in interviews with top management, deans, and education specialists.

Research, development, innovation and artistic activities link education with research-based information

During several interviews, it was apparent that Aalto's research and innovation culture is strong and impacts education activities. One example given by top management is how Aalto's seven key research areas guide the recruitment of professors across schools and programmes. New

people are hired to contribute to the key areas while also contributing to education. Aalto also has degree programmes focused explicitly towards vital research areas.

Another example is Aalto's three cross-cutting areas, sustainability, entrepreneurial mindset, and radical creativity, which were designed to impact all activities at Aalto. A special group of Aalto Co-educators plans the areas' integration into education. It entails integrating cross-cutting area aspects into courses and influencing pedagogical training. Integrating entrepreneurial skills into programmes is one example. Based on the output from staff workshops, the practical implementation of cross-cutting area approaches in education is still a work in progress and a development area. Aalto should put effort into overcoming practical challenges, defining suitable indicators and designing incentive mechanisms to advance the integration of cross-cutting approaches into education.

Doctoral students and their thesis projects are systematically integrated into ongoing research in Aalto, thus ensuring a strong link between the doctoral programmes and Aalto's research groups and research projects. Aalto's tenure track system, where academics may advance to a tenured associate and, subsequently, full professor position, also supports the integration of research and education.

The interview with deans emphasised the strong internal forces in place for keeping research and education together and the departments' strong ambitions for science-based education. It was also clearly demonstrated in academic staff workshops: teachers mentioned student project topics from research groups, use of research equipment in student projects, updating course materials based on recent research findings, including their research interests in courses and students in research discussions. Challenges were also mentioned, such as how to strike an optimal balance between standard textbook material and more current topics for courses on different levels and various audiences.

Monitoring students' workload adheres to the ECTS principles

The systems and procedures for monitoring student workload at Aalto are clearly related to the ECTS credits system. For example, in the student feedback survey common to all Aalto courses, students are asked to compare the course workload to the official number of work hours per ECTS credit. The workload is also a topic in the annual AllWell? well-being questionnaire. Based on the interviews with education specialists and through summaries from the workshops for academic staff, the audit team became convinced that results from these surveys are systematically monitored and followed up on.

Still, the SER notes that the risk of burnout due to high workload is high among students. This was further emphasised in responses from student workshops held during the audit visit. It is, therefore, timely that to assess and balance workload related to studies is set as one of the three main goals of curriculum development at Aalto.

Aalto has systematic procedures for approving the plans for degree programmes or other study entities

Aalto's guidelines for preparing new degree programmes are in the Programme Director's Handbook. The Learning Steering Group is formally responsible for supporting schools in developing their programme portfolio and coordinating the university-level portfolio. Portfolio development includes the establishment of new degree programmes. The guidelines describe the entire process for preparing new education initiatives as dialogue-oriented and systematic, starting with discussing ideas and new needs at the school level. If a new programme is approved by all internal bodies and stakeholders involved, a formal decision process follows: the dean formally proposes a new programme, and the president makes the final decision. Individual Schools' Academic Affairs Committees formally approve proposals for majors, minors and course descriptions. The Programme Management Services team administratively supports the work processes. The system appears inclusive and fit for purpose, with transparent and systematic procedures and proper administrative support.

Aspects related to continuous learning needs are still developing but ensured in Aalto's planning

Regarding providing lifewide learning in Aalto and integrating it into the overall educational portfolio, top management emphasised that this is still an ongoing process and a development area at Aalto. However, Aalto is still involved in a diverse and interesting menu of lifewide learning offerings, including open university studies, customised trainings and development projects, executive education and professional development for early-stage and advanced/senior professionals. In addition, Aalto's Career Design Lab supports both Aalto students, alumni and lifewide learners in career planning. Aalto's several schools are also involved in the FiTech initiative, a national portal for tech-oriented courses which provides both large-audience and specialised courses and offers an additional channel for the input of working life needs.

While Aalto's lifewide provision is clearly developed based on the need for continuous learning, interviews with external stakeholders indicated there are unmet demands and potential in this area. At the national level, challenges relate to new frameworks and funding mechanisms that are still being developed, resulting in a current gap between demands and resources. Based on lifewide experts' views in the workshop at the Aalto level, there is a need for data-driven decision-making in building a scalable lifewide learning portfolio and more transparent governance and infrastructural development in lifewide learning, as several relevant topics are divided between many departments/schools. The audit team recommends that Aalto strengthen synergies between the various departments and schools to build a holistic and cross-organisational portfolio of lifewide learning to serve the needs of many different learner groups.

1.2 The implementation of education

- Högskolans självvärdering

Aalto has jointly prepared and openly communicated student selection criteria for all degree levels. The schedules, study options and intake numbers of the BSc and MSc student selection are decided well in advance. The university has processes prepared with clearly delineated responsibilities for handling appeals regarding student selection.

The degree programmes have been instructed to base their programme planning and the selection of teaching and evaluation methods on the intended learning outcomes. To achieve the degree programme's targets, the learning outcomes are investigated from different points of view (student experience, digitalisation, etc.), and varied and experimental teaching methods are supported. Pedagogical and digi-pedagogical consultation and support is available at each school to help with tasks like choosing teaching methods. The goal of pedagogical support is to foster and strengthen the quality of teaching and learning.

Our goal is a future-led learning culture

Aalto University fosters and supports a learning-centred, interactive and inclusive educational culture. Our goal is to enhance dialogical course practices and ways of working between community members. An inclusive orientation programme at the start of studies brings students into Aalto's academic community. Students are encouraged to actively discuss and plan their studies and to give feedback not only at the end of a course or their studies but also throughout. Peer practices and students' collaborations also play an important role in inclusion activities. Some programmes invite students to additional development meetings to get a better understanding of their experience and to activate them more deeply.

Teachers inform students about practicalities and ways of working at the beginning of each course. This includes, for example, the learning outcomes, feedback and assessment practices and the assessment criteria. This practice encourages students to take responsibility for their own learning and to be involved, as well as to cooperate actively with their co-students and teacher(s). Academic advising and student counselling throughout the studies are also tools of inclusion.

Feedback on students' learning is provided through a variety of assessment and feedback methods. For example, Aalto teachers use peer-assessment, peer feedback, counter feedback and self-evaluation methods both during and after a course. Continuous assessment is becoming more common as a tool to replace or supplement final exams.

The methods of assessment and feedback vary depending on the course and the number of students. Personal feedback on a student's learning is given more often in small teaching groups and is less common in larger courses. Teaching and learning in larger groups generally uses

scalable and digital tools of assessment and feedback. Academic advice given to each student supports the learning processes and the student's academic and professional growth.

Close stakeholder collaboration improves the possibility of students getting employment during their studies and after graduation. The close connection with working life is also evident in how education is implemented, such as in the use of real-life cases and visiting lecturers, and collaboration with industry and the public sector in courses, as well as excursions and thesis work with industry. Professors of practice also bring additional specific expertise and practical skills to teaching and research.

Course practices support individual study paths

Courses and minors at Aalto generally do not have application procedures or quotas for Aalto students. Where application procedures are required, they are made as easy as possible for students and are mainly to ensure that students have the requisite knowledge or that labs/studios have adequate seating.

Multidisciplinary studies and student mobility are promoted through the degree structures: programmes at BSc and MSc level generally have a large scope for electives, and all BSc programmes include a compulsory minor that is almost always chosen freely. Students are encouraged to follow their interests and enthusiasm when planning their studies. The degree structures enable students to try many paths before choosing their minor or deciding on an MSc programme. In addition, multidisciplinarity is enhanced at course planning and teacher collaboration.

Students may also choose to undertake exchange studies that are embedded in the timetables of the BSc programmes, which include at least one semester without compulsory studies during the three-year programme. In all the schools, exchange studies may comprise the minor in a degree.

In addition, Aalto has agreed on flexible study rights with other national Finnish universities, which allows students to take courses at other universities as electives or as a minor. Aalto is also part of various networks that offer courses to our students, such as the Hilma gender studies network, Helsinki Graduate School of Economics and FITech Network University, which includes all the technical universities in Finland.

Degree students may transfer credits from accredited universities as part of a degree at Aalto University. The guidelines for credit transfer require that the transferred credits be at a level corresponding to the degree they become part of and be aligned with the programme's intended learning outcomes. If a student wants to use transferred credits to replace compulsory courses, then the content and intended learning outcomes must also match the ones being replaced. Students apply for credit transfer after completing the course and provide the transcript and course description or other extracts from the curriculum. Skills and capabilities gained outside of formal education may also be included in a degree. The responsible teachers determine how the student can validate their learning using various methods such as oral exams, learning diaries,

and reports.

Significant attention is given to offering students support and counselling services throughout their studies. Every degree programme has a designated planning officer/coordinator who is at the disposal of the students for both practical questions and individual study planning. Planning officers/coordinators take care of orientation activities and introducing students to the programme, as well as offering individual advice and counselling services in face-to-face and online meetings, as well as via email or phone. Academic advice is provided to all students either individually or in group sessions to support their study planning and integration into the academic community. In addition, University provides career services aiming at improving students' possibilities to get employed during their studies (e.g. internships) and after graduation. The new Career Design Lab is intended to be beyond service delivery and become an integral part of teaching to increase the accessibility of the support.

Moreover, Aalto University has several study psychologists to provide counselling to students with study-related difficulties, such as with time management skills. Aalto University chaplains are also available to all students for counselling in times of stress and to help them with other personal concerns. Aalto has also launched a 'Starting point of Wellbeing' desk as a low-threshold service for students to seek help with any issue they might have. The service desk is available in person at the Otaniemi campus and online via Zoom. Students can seek support without make an appointment and receive either immediate help and advice or assistance in finding and reserving counselling or other services required by their situation.

The wellbeing of students has been a priority at Aalto for several years. The 'AllWell?' survey provides information about students' study wellbeing, and the results are used widely to develop degree programmes, courses and services. A doctoral wellbeing survey has also resulted in a dedicated study psychologist resource for doctoral students.

The Aalto University Business Students association (KY) started a new wellbeing program, 'BeWell', in 2019 in response to challenges in student wellbeing. The program offers wellbeing tutors and anonymous help as peer-to-peer support to students. The School provides support for this activity and works together with KY to reach students in need of support.

Strengths	Enhancement areas
Stakeholder collaboration in teaching improves students' employment possibilities. Stakeholders are involved through the use of real-life cases in teaching, company projects, Capstone courses, and student internships.	The integration of international students and supporting them in getting employed needs further attention. This is addressed through the Talent Boost project, for example, which aims to develop and advance the recruitment of international talent and support their integration.

Clear and transparent student selection procedures at all degree levels, including the annual evaluation of student selection and admission criteria.	Processes for maintaining a manageable course portfolio in school and in programme level need to be improved.
Clear processes for the recognition of prior learning and for learning gained outside of formal education.	Incentives are needed to encourage co-teaching practices so that cross-cutting themes are more broadly integrated into teaching.
Strong focus on the development of feedback and assessment practicalities.	The development of versatile evaluation and feedback mechanisms.
A focus on learning-centred education and the use of challenge-based learning, where practice, theory and reflection are tightly connected.	The orientation of teaching towards working life is being improved, starting from defined learning outcomes. This will help get the best out of existing collaboration mechanisms in all fields.

1.2 The implementation of education

- Auditeringsgruppens bedömning

Aalto has consistent and transparent provisions and regulations concerning student admission, the recognition of prior learning, the progress of studies, and the completion of degrees

Aalto's intake numbers result from a national agreement between Aalto and the Ministry of Education and Culture. At the same time, Aalto's criteria for student admission are decided by the university's Academic Affairs Committee (AAC) and are openly available.

Aalto's policy on credit transfer and recognition of prior learning is also openly available. It lists detailed principles relevant to credit transfer and criteria for recognition of prior learning in a target-oriented way, which is a strength. It concludes with an explanation of the formal procedures used in credit transfer, including the opportunity to appeal against a negative decision from the university.

Since 2021, the regulations associated with bachelor's and master's degrees have been collected in common degree regulations across schools. Doctoral education has had similar common regulations since 2018. The regulations come across as both consistent and transparent.

Students have an active role in their learning process, but feedback on students' learning could be more systematic and personal

Both Aalto's Programme Director's Handbook and the guide GetInspired! – A Guide to Successful Teaching focus on this constructive alignment principle. Aalto has also designed a Teacher's Handbook with explicit checklists on what teachers must consider when preparing and implementing a course. It explicitly supports target-oriented learning and the active role of students in their own learning processes.

When it comes to student-active learning, Aalto lists many specific tools for teachers, e.g. in the design of assignments, online sessions, student feedback activities, questionnaires, in-class multiple-choice surveys and shared course diaries. Students can ask the lecturer questions, comment on lectures or give feedback through an online platform. The lecturer can also request students to answer questions. It is a very useful tool to aid target-oriented learning and active student participation.

Responses from student workshops during the audit visit also indicate that students appreciate student-activating teaching methods, assignments and peer tutoring as essential aspects of their learning experience at Aalto.

As regards student assessment, the principles of good assessment are defined in Aalto's Teacher's Handbook as aligned – versatile – continual and, interactive – sustainable – transparent. In the SER, Aalto also lists several good practices for giving students feedback on their learning. In the interview with student union representatives, however, interviewees indicated that little or no personal feedback is provided in most courses.

The ongoing project Leap for Learning has been devised to renew Aalto's digital tools and platforms to support teaching and learning services and workflows. The audit team recommends that Aalto use this tool to improve processes for giving feedback to students on their learning.

Aalto has implemented extensive support procedures for the progress and completion of studies

Aalto has an extensive system for supporting students at all levels throughout their study path, including career guidance. Aalto's web pages on Academic advising describe how students can be guided and supported throughout their studies in their study skills, study planning, study well-being and career reflections. The web portal Info for Aalto students contains supplementary information. The audit team recommends structuring all this info in a way that is easier to navigate.

Aalto requires each student to draft a personal study plan. Service staff, academic advisors, and the recently updated student information system Sisu support students in this process. The interview with student union representatives emphasised that there is still considerable room for improvement in developing Sisu as a support system.

Degree structures support flexible study paths and student mobility with ample room for electives at the BSc and MSc levels. All bachelor programmes have at least one semester without compulsory courses and include a minor which can be chosen freely.

The webpage Doctoral education services contains information about the support offered to doctoral students. The webpage Your hub for doctoral education includes a Doctoral student study guide. Aalto HR handles employment contracts for doctoral students.

The Leap for Learning project seeks to integrate existing digital education support platforms into a more holistic experience. Thus, developing digital platforms and support systems is ongoing and will probably result in better student support over time.

Aalto has several systematic procedures in place to support students' integration into working life

A particularly interesting piece of evidence of students' integration into working life is the 2020 Stakeholder Review process, a part of the Teaching and Learning Exercise (TEE) 2020 project. Sampling the TEE 2020 final report, it was found that the School of Electrical Engineering's review identified several well-functioning forms of stakeholder collaborations: theses completed in

cooperation with stakeholders, project-work courses, assignments from stakeholders, student internships in companies, summer jobs for students, guest lecturers, materials and equipment and Professors of Practice. Several schools seem to have the potential to systematise and strengthen the integration of students into working life. The ELEC School's good practices should inspire such work.

The comments about working-life connections were all positive in the student workshops held during the audit visit. The students mentioned that much attention is paid to the link to working life and that courses encourage students to apply for jobs in their field. There are also examples of various well-appreciated student events supporting integration into working life. Also, master theses done for external organisations, and visiting lecturers from industry, were appreciated by the students. The visiting lecturers bring viewpoints from the industry and relate them to the theories taught in the courses. The students' comments confirm that their integration with working life is prioritised and works well at Aalto.

The well-being and equality of students are strongly promoted

Aalto has substantial resources and procedures for counselling and other services to support student study progress and well-being. University-level examples include, for instance, periodic student and doctoral student well-being surveys, systematic discussions of survey results to identify suitable development actions and a Starting Point of Well-being desk, which is a low-threshold service for students experiencing problems, offers of psychology services for students at all levels and ombudspersons and stress management tools for doctoral students. There are also school-specific measures, such as the Business Students association's new well-being programme, BeWell.

However, output from the staff workshop indicated that although the Starting Point of Well-being offers students a place to drop in for advice and guidance on study issues or well-being, even more emphasis should be addressed on structural guidance as a proactive tool. It was revealed that fewer study psychologists' resources are available this year (2023), and consequently, there is a long queue for individual appointments. Aalto is recommended to take proactive measures to address this issue, one possible approach being closer integration of health services support at the school level.

1.3 The evaluation and enhancement of education

- Högskolans självvärdering

Continuous development and clear responsibilities in the development of education

Aalto University's operating principles, together with its academic policies and regulations, guide the continuous development of education (through the PDCA cycle). The Vice President of Education, Vice Deans of Education, Heads of Departments and Directors of the BSc, MSc and PhD programmes are responsible for the development of education. Doctoral and degree programme committees are responsible for developing the programmes, assuring the quality of teaching and processing the feedback. LESG coordinates joint development projects in education and degree programme portfolio development through the process for preparing a new degree programme. DEWG coordinates the development the university's doctoral education.

Broad collaboration and evaluation activities on different levels

Education and the implementation of the strategy are reviewed annually as part of the University Review process. The review includes material from the schools' and the Learning Steering Group's self-assessments and the analysis of KPIs for education. Practices to evaluate the implementation of the strategic cross-cutting themes (i.e., sustainable solutions, entrepreneurial mindset and radical creativity) need to be developed further.

The schools and programmes carry out annual programme reviews and workshops, including evaluation of the previous academic year. In addition, the degree programmes utilise e.g. course feedback for continuous improvement of every day operations. The process involves knowledge-based development and assessment. Broad-based cooperative planning with teaching and research staff forms the basis of the development work, which also includes students and other stakeholders. Programme directors ensure the aligned development of teaching withing a programme, and teachers develop courses in close interaction with programme development. Programme-level development actions are agreed upon by the programme committees, where both faculty and students are represented.

Collaboration with student guilds and organisations is an important part of evaluating and developing education at Aalto. This can be seen in the wide presence of student representatives on decision-making boards, steering and management groups, and other co-operative activities at the schools and degree programmes. Student feedback plays an important part in the evaluation of education, including feedback on teaching, learning outcomes, wellbeing, workload, employment and internationalisation.

Doctoral students are asked to answer a follow-up survey annually which includes questions on

their doctoral personal study plan (DPSP) covering their course work, supervision, research, career and financial issues. Since supervision is a key quality factor of doctoral education, special attention is paid to the evaluation and development of thesis supervision.

Development needs regarding degree education and continuous learning are collected from stakeholders through advisory boards and events for alumni and partners. Feedback from working life and needs for continuous learning are also channelled through close collaboration with the FITech Network University.

External evaluation processes, such as the Business School's accreditations and extensive teaching and learning evaluation exercises (TEE), provide Aalto with valuable reviews from international specialists.

Supporting the development of a feedback culture

The principles and goal of feedback in education at Aalto are to support the active development not only of our education but also of our feedback culture – to ensure interactive, impactful and streamlined feedback processes. Teachers can use these principles both to support the development of feedback practices in their teaching and when discussing feedback with their students. The ability to actively collect and use student and collegial feedback in developing teaching is also assessed as part of tenure track promotion.

Course development occurs both during and after a course. Student feedback is automatically collected after each course, and teachers are also encouraged to collect valuable feedback regarding their teaching and the students' learning and workload during the course. To underline the significance of the feedback, teachers are asked to clearly communicate development actions based on previous student feedback, as well as providing feedback to students on their learning outcomes. Teachers can also award students additional points for giving feedback since it can be valued as an important working life skill.

The importance of constructive feedback is emphasised in all communications, including ongoing surveys and communications about previous development activities. This is a central action to develop our feedback culture and feedback skills. Offering feedback to students who reply to surveys is also important. The 'AllWell?' student survey is a good example of successful counter feedback. After replying, students get personal feedback on their strengths, as well as tips regarding their well-being and developing their study skills.

Tools and services to support evaluation and education development

Aalto University's Learning Services use service design and user-centric methods to enhance their activities and services. For example, the development support services or the conceptualisation of new curriculum design and is done with teachers and stakeholders through user (teacher) interviews, organising workshops and benchmarking. Other user-centric methods, such as surveys, feedback questionnaires, participatory observation, reviews and reflections, are

also used.

Similar principles are evident in the report tools, which offer data and feedback on teaching and studying to support the continuous evaluation of programmes. The tools were developed based on feedback from programme directors, co-creation workshops and user experience interviews. For example, the results of the student wellbeing survey 'AllWell?' are available in the report tool for degree programmes. The survey was developed to address the needs of students and degree programmes, and it provides valuable information on development needs.

Many development projects concerning teaching and learning services, workflows and tools have been brought together under the heading of Leap for Learning. This includes possibilities to develop new dynamic feedback processes with the help of a service platform. One of its objectives is to renew services and support for the evaluation, development, planning and implementation of education. Services and guidance for students will also be improved when the new online student success hub is launched.

Strengths	**Enhancement areas**
Systematic evaluation of key performance indicators (KPIs) in education as part of the university's review process.	The ways to assess the progress in enhancing the strategic cross-cutting themes (i.e., sustainable solutions, entrepreneurial mindset and radical creativity) in education need to be developed.
Strong tradition of programme reviews and development in the schools.	A university-wide shared template/model and annual clock would greatly benefit and strengthen the programme review's role in the university's annual planning cycle.
Joint data reporting tools are available in Power BI for all degree programmes to evaluate BSc, MSc and PhD programmes.	Criteria and measures for viable programmes need further development.
Triple Crown status (AACSB, AMBA, EQUIS) for education in business is an honour held by only a few business schools worldwide.	More systematic assessment practices need to be developed at the course level.
Students participate in the 'AllWell?' wellbeing survey and receive feedback and tools to enhance their wellbeing based on the results.	When planning development actions, the students' perceived workload and their risk of burnout – currently high– should be carefully noted to avoid further stress.
Leap for Learning supports user-centric service design and modern service development activities.	Ensuring an appropriate balance between development activities and workload.

1.3 The evaluation and enhancement of education

- Auditeringsgruppens bedömning

Feedback-on-feedback is one of the main improvement areas in education

The university strongly emphasises gathering and utilising student feedback data to continually improve the quality of education and support services offered. Through various channels, such as surveys, focus groups and individual feedback mechanisms, the university systematically collects data on the needs, the progress of studies and the well-being of students. This feedback data is then analysed to make data-driven decisions and improvements to the degree programmes, including curriculum development, teaching methods and student support services.

Based on the interview with education specialists, Aalto is in the process of renewing their course feedback system and developing tools for teachers to give counter-feedback. Teachers have requested more resources for responding to feedback, and the university is taking a positive approach to encourage teachers to participate. The process of renewal and development is being discussed with teachers to ensure a systematic approach. However, at the time of the audit visit, it was not yet clear how the university would ensure whether counter-feedback on course feedback was given. Students reported that giving feedback on feedback depends on teachers. Aalto is recommended to develop more systematic procedures and support for teaching staff to inform students of changes introduced based on student feedback.

Systematic monitoring and evaluation of degree education is up to date and meets the needs of society and working life

Concerning evaluation and development of the overall education portfolio, Aalto's annual strategic University Preview, University Review and University Dialogue processes strongly support agile curriculum development and ensure continuous quality development and updating of degree programmes. It dynamically links and aligns societal development trends, strategic goals, performance development and priorities over time. The process includes annual self-assessments, reviews, workshops, and analysis of the previous year's performance at the school and programme levels.

In programmes and schools, the deans' interview emphasised that various indicators are followed and data analysed to gauge relevance. This includes employment and employer association statistics, programme review results, student feedback, external stakeholder feedback and intake statistics. There are examples of alumni boards and international advisory boards providing ideas and feedback on relevance to schools and programmes. Input from several audit interviews showed that employees and students saw these processes as very inclusive. They involve systematically analysing plans and indicators, feedback from diverse sources and community discussion at all levels. On the Aalto level, the Learning Steering Group discusses school

feedback, including work-life aspects, and analyses new needs that should be considered.

There was convincing evidence that the evaluation data is being used for the revision of existing degree programme structures and contents, specification of learning outcomes in curricula, analysis of how well the intended learning outcomes are achieved, coordination and planning of new programmes and course initiatives, as well as portfolio changes and development of lifewide learning provision. The use of data to gain insight is systematic and diverse, going far beyond the standard institutional KPIs (Key Performance Indicators).

Systematic development of support services is based on the needs of students and staff

Aalto has a well-structured system for developing support services based on the needs of students and staff. They use various methods to gather feedback, such as questionnaires, joint projects, well-being surveys for students and well-being surveys and monthly meetings with schools for staff. The university has also introduced new services and support tools for student well-being based on student feedback or initiatives. These include intensified student career guidance, such as Career Design Lab and a mentoring programme that involves alumni.

Another important initiative is the Leap for Learning project which aims to create a more student-friendly educational experience with the help of a news service platform and a success team to support students. Some challenges include transferring from online to on-site teaching, larger cohort sizes and heterogeneity in background knowledge. Nevertheless, the project employs strategies to tap into intrinsic motivation, involves student project work and provides real-life exposure to build competencies. The project also acknowledges the need to support and integrate Finnish language studies for international students and organise instruction for large courses. Furthermore, the Leap for Learning project has future potential to improve feedback for students from their learning while addressing critical challenges in facilitating student learning and competences.

As for developing staff support services based on feedback, the development and availability of pedagogical peer support were mentioned as good examples.

1.4 The HEI’s examples of successful enhancement activities

- Högskolans självvärdering

Encouraging the internationalisation and global competency of students

The diverse community at Aalto offers both exposure to internationalisation and opportunities for day-to-day interaction with students, faculty and staff of over 100 nationalities. Group work design, shared projects and the mixing of different disciplines in a selection of purpose-designed courses encourage the development of global competencies throughout the student population.

At Aalto, we support the development of internationalisation and global competences in many ways, such as:

- including global competences in the curriculum design process by making them visible in learning objectives and intended learning outcomes (ILOs) at both the programme and the course level;
- encouraging students to make use of the student mobility possibilities (exchange studies and internships) that the university offers and making space for exchange studies in the degree structure and timetables;
- promoting a multicultural and diverse learning environment through worldwide student recruitment;
- offering international joint programmes that give students the possibility to study at different partner universities.

At the School of Business, about 75% of students complete an international exchange and/or internship during their studies. To enable this, the School maintains close ties with its international peers. Recently, the School joined the European Common Online Learning (ECOL) network, in which Aalto and several international partners share online courses. This provides an opportunity for an international learning experience even to students who are unable to travel to another country.

The School of Business also focuses on providing a rewarding experience to incoming exchange students. An active and satisfied group of exchange students who are realising their learning goals also benefits Aalto students, who get more international exposure from their peers. Incoming exchange students are supported with comprehensive services, social opportunities and integration activities.

In addition, Aalto has several MSc-level international double degree programmes that give our students the opportunity to complete a master’s degree in parallel with their home university master’s degree. Moreover, all Aalto MSc students have the opportunity to complete a one-year

CEMS Master's in International Management (MIM) programme in parallel with their programme.

Students at the centre of planning their study path

At Aalto, we have further strengthened our student-centred approach by encouraging students to proactively take responsibility for their studies. This is accomplished primarily through study planning: each student is entitled and advised to make personal choices regarding their studies. Students have options regarding the selection of study entities, and courses they have selected may be included in Aalto bachelor's and master's degrees, enabling students to focus on their individual interests. Students are also supported throughout this process by service staff and academic advisors. The university has recently renewed the core student information system, and the new 'Sisu' system is strongly based on a student-driven approach and an operating logic that supports students' planning processes.

Education leadership practices

A recently developed education leadership practice to support the management and development of the education portfolio at Aalto is the preparation process for the degree programmes. The process guides faculty to involve key actors in the discussions and preparations of a new programme initiative as early as possible. As part of the process, new initiatives are presented for discussion and feedback in the LESG. This encourages development ideas to be shared across Aalto schools and educational fields to ensure collaboration.

Since 2021, education leaders, such as degree programme directors and the heads of majors, have been invited to participate in the Educational Leadership Forum. The forum is a joint university-level event held three times a year by the Vice President for Education and the schools' Vice Deans of Education. Its purpose is to enable discussions of strategic educational development, management and leadership topics, and it supports dialogue between educational leaders at different levels within the university. Since the schools have different education leadership practices and forums for coordinating degree programme development, the joint university-level forum provides a good opportunity for peer support and the sharing of best practices across the schools.

One of the school-specific good practices is the steering groups for the bachelor's and master's programmes at the School of Engineering. These groups consist of the Vice Dean of Education, programme directors and/or heads of majors, planning officers of the programmes and student representatives. Their mission is to coordinate the activities and practices of the degree programmes and to offer education leaders opportunities for peer support and sharing of good practices.

Another good practice is the annual programme development discussions at the School of Science. Programme directors are called to reflect on programme-specific needs with the Vice Dean of Education. The aim is to analyse the results and identify objectives for development activities. In addition to this process, the School of Science has created a role, the department

vice head of education, to support programme directors in the challenging task of planning and allocating resources for teaching. This has been recognised as a good practice to support programme directors in the challenging situation where the teaching and courses in a programme are offered by many departments with separate budgets, resources and objectives.

New services to support education leadership practices are being developed in co-operation with HR services and Learning Services. In August 2022, an online coaching for programme directors was piloted, and new onboarding material is under development.

Student engagement in the university's development and core activities

A core value has been the involvement of the community at all levels to ensure that its voice is heard. This requires that there are known, existing channels to bring matters to the attention of management for further consideration. Providing students with a means to participate and develop their home university was addressed in the national bachelor survey of 2013.

From the students' perspective, the university and school bylaws specify decisions-making bodies where students have representatives, such as the academic committees, programme committees and the Aalto management team. Students are also involved in advisory bodies, such as steering groups and service management teams. Their role is essential in ensuring adequate communication and providing the students' perspectives on matters under discussion.

Students select their representatives independently. The number of student members and their substitutes are set in the bylaws. The university annually requests that the student union nominate their representatives to the bodies. The student union organises elections and nominates their representatives.

In addition to participation through formal avenues, the university and student organisations arrange networking events and other free-form forums for joint discussions and sharing ideas. For example, the student union board regularly meets with members of the management team to discuss topical items. The Vice President of Education and the Learning Services director regularly meet the chairs of student organisation from all fields to hear their insights and get feedback.

2 HEI promotes impact and renewal

- Auditeringsgruppens bedömning

The evaluation area II assesses the procedures used to manage and improve societal engagement, strengthen the impact of the HEI's research, development and innovation as well as artistic activities, and support an innovative organisational culture.

Based on the audit team's evaluation, the evaluation area II is at the level *excellent*.

The audit team identified the following as the main strengths and recommendations:

Strengths

- The Living strategy process is an enabler of immediate and agile delivery of societal impact, which is ensured and deepened by multi-layered, ecosystem-based collaboration and constant dialogue with external stakeholders.
- Cross-cutting approaches are commendable, particularly in areas of sustainable development and entrepreneurship.
- Aalto's organisational culture encourages experimentation and co-development with colleagues and external partners, creating excellent conditions for a creative atmosphere and innovations.

Recommendations

- Aalto should further clarify how the impact is defined and continue to develop quantitative and qualitative indicators to capture societal impact.
- Aalto should incorporate radical creativity into capturing the impact and visibility of artistic activities.
- Aalto should strengthen and systematise its alumni cooperation.

2.1 Managing societal engagement and impact

- Högskolans självvärdering

Aalto strives to contribute to society

According to the constitution of the Aalto University Foundation, the foundation's purpose is to 'work in interaction with the rest of society and with the international scientific and artistic communities and advance the impact of research and artistic activities on society.' Societal impact and societal engagement are thus Aalto University's very *raison d'être* and are accordingly the principles and goals that guide all the activities of the university. Through our strategic aim of 'shaping a sustainable future,' Aalto University strives to contribute to society.

Our most prominent impact is to educate experts for society—for companies and the public sector— and to provide research results addressing the global challenges facing humanity.

As a community of faculty, staff, students, alumni, donors and partners, Aalto builds an ecosystem of innovation, creativity and entrepreneurship that connects with others in global networks. Our long-term purpose is to renew society with research-based knowledge, creativity and an entrepreneurial mindset, and to generate innovative solutions that tackle grand global challenges.

Participation in public conversation

Aalto's societal impact and engagement are integral elements of the university's core functions and their management, not separate endeavours managed and carried out separately from the core activities. The operating environment analysis is led by the President and the Development Director and supported by the Advisory Services Team. The advisory services, together with other relevant service teams, support the Aalto Leadership in participating in the public conversation, as well as in formulating Aalto's statements and comments, operating environment and policy analysis, and in maintaining a constant dialogue with higher education policy actors, such as partner higher education institutes, Universities Finland (Unifi), ministries, Parliament, cities (especially in the Helsinki Metropolitan Area), the Aalto University Student Union (AYY) and other student organisations, employers' and labour unions, political parties, the European Parliament and Commission, and others.

The main strength of Aalto University's operating environment analysis is that it has notable specialist resources. The work is planned and assessed systematically and included in the annual management cycle of the university.

Clear annual processes and organisation

As part of the annual strategic processes, Aalto has a University Preview in which assumptions related to the university's operating environment are evaluated against new trends and other signals to update the assumptions for the planning process of the coming year. In the University Review, the academic and service units self-assess their strategy implementation using results and feedback from the previous year. Academic units highlight research and education activities that have had significant societal impact, such as research contributing to mitigating climate change. These self-assessments are gathered and reviewed first by the steering groups and then as a whole by the Aalto Management Team (AMT).

Vice President for Research leads and coordinates the development of the University's research and artistic activities across the schools and represents the University in the development of research nationally and internationally. Vice President for Research oversees the support services for research. The work of the Vice President for Research is supported by the Research Steering Group (ReSG). Similarly, Vice President for Innovation leads and coordinates the development of the University's innovation activities across the schools and represents the University in the development of innovation ecosystem, commissioned research, other business cooperation and partnership activities as well as innovation policy and instruments. Vice President for Innovation oversees the support services for innovation. The work of the Vice President for Innovation is supported by the Impact Steering Group (ISG). The steering groups discuss strategic and operational issues (including university-level strategic development projects) that require a university-wide position, policy line or recommendation for the university's leadership and decision-making.

Strengths	**Enhancement areas**
The combination of an annual review to assess the previous year's results and university dialogues to set new targets.	Working profiles and targets should be provided for Vice Deans responsible for Impact at schools.
Engagement in societal discussions and policy-making at both the university and school level.	There is a need for quantitative measures of societal impact.
An Impact Steering Group prepares, discusses, and develops the university's positions and policies in line with its broader goal of societal impact.	There is a need for qualitative and quantitative measures of multidisciplinary activities so that researchers are properly merited for multidisciplinary work.
	Improve the definition/recognition of forums for societal discussion and increase Aalto's presence at societal discussion forums where its expertise would be of great value to society.

2.1 Managing the societal engagement and impact

- Auditeringsgruppens bedömning

Reforming society is Aalto’s long-term goal

Aalto University has defined ambitious goals of societal engagement and impact and developed a variety of means and instruments to achieve them. The long-term strategic goal of Aalto University is to renew society with research-based knowledge, creativity, and an entrepreneurial mindset and to create innovative solutions that respond to major global challenges. Among the central means to boost cross-disciplinarity are Aalto’s three cross-cutting areas and seven key research areas.

Based on the SER, Aalto’s most significant impact is to train experts for society – to meet the needs of companies and the public sector and provide research results to answer the global challenges facing humanity. Based on the audit visit, lifewide learning is closely tied to societal impact as a continuum of Aalto’s teaching and learning activities. In addition to professional upskilling, reskilling, and international executive education of individuals, Aalto focuses on supporting organisations in RDI development through lifewide provision.

Aalto has impressive and multilevel organisational structures for managing societal engagement and impact. The vice presidents for Research and Innovation lead the research, innovation and ecosystem activities, supported by the Research and Innovation Ecosystem units and the Advancement and Corporate Engagement unit. The Impact Steering Group plays a vital role in the university-level development of innovation and entrepreneurial ecosystems. Based on their interview, Aalto relies on a bold and risk-taking approach, allowing researchers to trial and error and embracing the fact that innovations may emerge after a long period.

Aalto’s measures to promote start-ups have proven highly effective. Aalto’s intranet has a page, From Ideas to Impact, with services and models of how research ideas can turn into impactful commercial activity and what steps must be taken to proceed from an innovation project to a start-up company. All these efforts, together with the Aalto Start Up Centre, have led to the acceleration and creation of hundreds of companies. Furthermore, Aalto Start Up Centre has been evaluated by UBI Global as one of the three best university-affiliated accelerators in the world. During the audit team’s interviews, members of Communications Services acknowledged their central role in promoting societal impact by communicating Aalto’s innovations to the public and building a broader narrative on how Aalto’s innovations advance sustainable development in society and people’s everyday life.

Regarding operational environment analysis, the University Preview process uniquely identifies significant trends shaping Aalto and its strategy. The process involves foresight surveys, workshops, community events and students’ projects for future visions. Based on the top management interview, Aalto changed their strategic focus in the global collaboration context

due to the recent uprisings of a pandemic and war, indicating how the Living Strategy delivers on its name.

School-level societal impact is assessed through the University Review, where academic and service units self-assess the implementation of the strategy based on the results and feedback from the previous year. The academic units emphasise research and educational activities that have had significant social impacts. Furthermore, in the RAI evaluation conducted in 2018, the impact was one of the areas evaluated from four perspectives: societal quality and impact, valorisation and dissemination. The audit interviews indicated RAI recommendations had been utilised, for instance, in the Aalto strategy process.

During the audit visit, the team asked how Aalto measures societal change and reform. As for quantitative indicators, Aalto's KPIs for impact align with the national funding model and include technology transfer income, the volume of university and group corporate collaborations and the share of open-access publications. Based on the SER and audit interviews, Aalto sees these indicators do not capture societal impact to its full meaning. It was also confirmed by the audit interviews that there is not yet a shared understanding of the concept and dimensions of impact in the Aalto community. The top management interview revealed that Aalto is working towards a holistic picture of impact.

In many respects, Aalto's organisational structures and achievements advancing societal impact are exceptional. However, Aalto might benefit from clarifying short-term, medium-term and long-term goals and milestones for societal impact and defining processes to continuously monitor together with its partners if the intended change is taking place at a desired pace.

Sustainable development and the entrepreneurial ecosystem are at the core of Aalto's impact

Building sustainability and a sustainable future is at the core of Aalto's activities around societal reform. Through the audit visit, it was clear that Aalto's research has focused on sustainability in recent years. As a good practice, some courses within degree programmes evaluate how they contribute to strategic areas, including sustainable development. Aalto measures its carbon dioxide emissions from its operations with the ambitious and commendable goal of becoming carbon neutral by 2030. A key element will be flight reduction; to this end, digital meeting tools and practices are being embedded and encouraged. Evidence already shows that CO2 emissions in Aalto are decreasing yearly.

A new initiative recently launched is a designated Sustainability Action Fund, targeted at students, recognising that students feel a lot of climate anxiety. The thinking behind this initiative is that it will support students in setting up their own projects and solutions to tackle this global crisis. It is expected that there will be up to 100 student-led actions in place over the next two years. It is an exciting initiative which has the potential to considerably increase climate engagement among Aalto students and stimulate climate-related student innovation.

Aalto has a lively entrepreneurial ecosystem, with students and stakeholders, generating approximately 100 start-ups annually, many of them in deep tech, working on sustainability solutions. The university has its own accelerator programme. Several successful start-ups, such as a satellite imaging technology company and the first Finnish quantum computer, have spun out from Aalto. IPR and patents sold to other companies have led to products and services in everyday use, including phones and computers. This entrepreneurial spirit and track record are one of the university's strengths.

Aalto also strives to strengthen students' potential to affect societal change through entrepreneurship. More than 2,000 students are exposed to entrepreneurial education every year. Underpinning this is the theme of sustainability. Every bachelor student acquires an entrepreneurial mindset during their degree. Entrepreneurial studies are also supported by Aaltoes, a student-run society providing entrepreneurial training to students and running events open to the public. Another impressive example of student-driven success is the Slush event, with over 12,000 attendees, attracting a lot of venture capital and consisting of a network of thousands of students and companies.

Overall, Aalto's emphasis on entrepreneurial competences and training for students is highly important, as it prepares the ground for future entrepreneurial initiatives and subsequent societal impact from Aalto graduates.

Multi-layered collaboration and an ecosystem-based approach ensure and deepen the societal impact

The audit team commends Aalto for inclusive dialogue and an ecosystem-based way of promoting societal impact. Based on the interviews, there is a continuous dialogue with external stakeholders, donor foundations and other universities. Through Aalto strategic partnerships, deeper and broader research and a wide impact on society are achieved. Aalto's strategic partnerships with leading companies in various fields are reflected in a significant number of research projects and programs. In the SER, Aalto stated that it aims to strengthen communication forums with stakeholders even more to promote impact. This is an important aim very much supported by the audit team.

During the audit visit, several examples were given of Aalto members contributing to societal reform in different aspects – with companies, cities, particularly in the capital region and ministries. It was learned through audit interviews that the Finnish government partnership proved particularly fruitful. Specifically, an academic project to cut carbon emissions by 30% in conjunction with the government and a €30m project on improving preschool education in Finland in partnership with the Finnish government, education researchers at the University of Helsinki and economists at Aalto. Another example is learning gained from the pandemic. During the COVID-19 crisis, Aalto approached the government to offer assistance. As a result, they helped with economic policy writing and establishing a data room for immediate analysis of trends, such as outbreaks and vaccination uptake. The interview with stakeholders also

highlighted strategic cooperation between Aalto and the University of Helsinki in research profiling and identifying shared interests, such as computer science.

Overall, Aalto has various well-functioning procedures and arenas for interacting with external stakeholders and strategic partners to produce and co-create societal impact. Several interesting examples of concrete collaborations demonstrate the strength of Aalto’s approach in this area.

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

- Högskolans självvärdering

Aalto offers a strong foundation for scientifically and socially impactful research, education, artistic activities and innovations. This is accomplished by securing a long-term funding base, by creating career systems that support academic and professional excellence, by maintaining world-class infrastructures and by providing an internationally networked ecosystem. The research and innovation activities at Aalto's schools are directly aimed at solving global challenges and building a sustainable future.

We support multidisciplinarity and new collaborations across fields via the Aalto Networking Platform, whose mission is to facilitate matchmaking and networking of multidisciplinary activities leading to larger research initiatives and solutions to grand challenges.

Measuring quality and impact

Success in research and impact creation is monitored through KPIs relating to the quality of publications (measured by the number and proportion of Top 10% publications and Publication Forum scores), acquired competitive research funding, the number of artistic outputs, corporate collaboration volume, the share of open access publications, income from technology transfer and the number of employed graduates. We also measure the carbon dioxide emissions of our operations. In addition to numerical measures, we follow qualitative measures such as employer opinions.

Aalto University continuously assesses its societal impact and the quality of its research and artistic activities. The Research, Art and Impact Assessment (RAI) evaluation by international peers is conducted every 7-9 years. Its aim is to assess Aalto's international standing and to identify areas with world-class potential. The development of each school is monitored by a Scientific Advisory Board or Scientific and Artistic Advisory Board (S(A)AB) made up of international experts in fields relevant to the future development of the schools. In biennial meetings, the S(A)ABs provide recommendations for further development. The recommendations given by the RAI and S(A)AB are incorporated in the annual planning cycle, and the academic units are asked to report on how they respond to the recommendations. For example, merging of departments has taken place following recommendations by one or more external panels and internal discussions.

In reviewing and evaluating its research and impact, Aalto takes into account international guidelines (DORA, Leiden Manifesto) and national guidelines (i.e., the recommendation for responsible researcher evaluation guides the implementation, ethical conduct and transparency of researcher evaluations).

Aalto's track record in creating impact through research, innovation and artistic activities is very good, but university-level KPIs and target setting need to be developed further in order to better reflect changing circumstances and to guide personnel to consider how to increase the societal impact of their research. Collaboration between student activities and research, innovation and artistic activities also requires development. Furthermore, because research infrastructures are a prerequisite for research excellence and also provide a meeting place for researchers and companies, their development needs special emphasis.

A challenge is to ensure that art and creative practices receive sufficient attention and management after the responsibility for artistic activities was transferred from a separate Artistic Activities Steering Group (led by the VP for Art and Creative Practices) to the Research Steering Group (ReSG, led by the VP for Research). We have recently established an Artistic Activity Task Force under ReSG which will report on artistic activities and support awareness of art. The question of how to measure excellence in art objectively also sometimes arises since there are no established indicators available.

Open access for greater impact

Open science increases the societal impact of research, accelerates innovation, ensures the quality and transparency of science, and makes the results available for use in solving global problems. The Vice President for Research leads services that support open science activities.

The university has taken several measures to promote open science since 2017. In recent years, the UNESCO Open Science recommendation and our active participation in the National Open Science Coordination (TSV) have offered us objectives to work towards. Aalto University's Open Science and Research policy, established in 2020, encourages researchers to make their publications open access and requires researchers to parallel publish all peer-reviewed scientific articles and conference papers. The number of openly accessible research publications is an internal KPI (82% in 2021). It is also one element determining the Ministry's basic funding for the university. In 2022, two more components will be added to our open science and research policy: open infrastructures and open learning materials.

Data and code are increasingly important as research outputs. Our major funders require open access to data unless ethical or legal reasons prevent it. Our Research Data Management network of 12 researchers and service personnel works to increase our researchers' awareness of FAIR (Findable, Accessible, Interoperable, Reusable) data.

Aalto University's research information system, ACRIS, provides a good platform for collecting and maintaining reliable publication and research data.

Ensuring research ethics and the responsible conduct of research

Aalto University follows the Finnish Advisory Board on Research Integrity (TENK) guidelines for ethical principles of research and the guidelines for the responsible conduct of research. The

Aalto University Research Ethics Committee is responsible for the preliminary ethical evaluation of the university's non-medical research projects with human participants. Statements on research projects that fall under the Medical Research Act are provided by the ethical committees of the Hospital District of Helsinki and Uusimaa. A network of research ethics advisors supports the researchers. In addition, the Aalto Code of Conduct sets the foundation of our community culture and provides ethical principles and legal compliance policies to create a better working environment. In everyday life, the code helps us make ethically sound choices and gives practical examples of actions that are in line with our values. Legal compliance has also been strengthened via a support system for export control.

Strengths	Enhancement areas
Research and impact KPI targets are ambitious and are evaluated and established annually.	Support for developing sensitivity to see art in science, engineering and business.
An innovation management system helps manage and analyse innovation pipeline activities.	More systematic collaboration between different stakeholders within the Aalto community.
Research and artistic agendas are discussed and aligned with strategic public and private partners.	Developing a systematic approach to translate fundamental research into innovations with a wider impact.
Systematic and regular consultation with industrial advisory board in several schools.	Motivating researchers to practice open science.
Multidisciplinarity and new collaborations across fields are supported via the Aalto Networking Platform.	

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

- Auditeringsgruppens bedömning

Cross-cutting research exists between schools but needs better visibility

Aalto’s long-term strategy is to excel and make breakthroughs in and across science, art, technology and business. Aalto aims to create the conditions needed for innovation, economic growth, employment, and well-being. Aalto’s research focuses on seven key areas combining four core competences in the fields of ICT, materials, arts, design and business, together with three grand challenges related to energy, living environment and health.

Aalto’s networking platform promotes cross-disciplinary actions in its seven key research areas between different departments and schools and even supports collaboration outside the university. In the SER, Aalto stated that all cross-cutting approaches are discussed within all steering groups as part of the University Review process. Here the cross-cutting managers have a particular role in reaching out to departments and schools, bringing people together to enhance interdisciplinary dialogue and competence building. There is also a focus on improving staff competence related to Aalto’s cross-cutting areas of sustainability, creativity and entrepreneurship. However, based on the audit interviews, cross-cutting research between schools still needs better visibility. Therefore, the audit team recommends that Aalto continue working towards a visible cross-disciplinary approach.

Aalto has a Research Steering Group with representatives from each school, including the School of Arts, Design and Archtitecture. Some joint faculty positions exist, for example, between the Schools of Arts and Electrical Engineering. Seed funding initiatives can also promote cross-disciplinary collaborations and fruitful collaborations between different scientific fields. In the audit interview, the university’s leadership team recognised that systemic problems required systemic solutions.

One of the three cross-cutting approaches by the university is radical creativity. It seeks to encourage creative and transdisciplinary research approaches. Some good examples are found in Space 21 – a cluster of rough, free project spaces. The university intends to utilise vacant/diverse spaces for studio types of workshops for bottom-up experimental needs and inclusive events for students and personnel. Another initiative involves seed funding for radically creative risk-taking and bold transdisciplinary collaborations. At the time of the audit visit in January 2023, Aalto was planning to launch educational offerings to develop a creative mindset among university community members. This includes online courses as well as summer bootcamps. Hence, the cross-disciplinary concept of radical creativity is well-stimulated by various means.

Research impact is monitored through quantitative KPIs, but defined targets should be clearly defined and communicated

KPIs for monitoring research impact include 1) Peer-reviewed publications, quality and quantity (number and proportion of the top 10% publications and publication forum scores) and the share of open access publications. It is evident that whilst the total number of publications has risen over the last decade, the percentage in the top 10% has remained relatively static. This is despite a doubling of the number of faculty with ERC funding. 2) Acquired competitive research funding; this has remained relatively static, even though the number of professors has risen by 50%. 3) Corporate collaboration volume, which appears to have declined since 2015. 4) Income from technology transfer. This has increased substantially and particularly in more recent years, by 70-fold. 5) The number of employed graduates.

Other non-official KPIs captured locally at the school level include invention disclosures, patents, licences and spinouts. Metrics on these performance measures are shared but are not benchmarked against predetermined targets. Aalto is recommended to give more attention to the impacts emerging from these KPIs. Alone, they are merely outputs or academic metrics. In order to augment KPIs on academic outputs, which are well captured, it might be valuable to consider additional measures to capture the impact of these achievements from societal, economic and sustainability perspectives. Reactive solutions should be devised to capture the societal impacts of these outputs.

The audit team recommends that Aalto consider setting transparent targets and benchmarking to relevant institutions in assessing the impacts of its R&D and innovation activities. Furthermore, to mainstream EDI goals within the university's R&D activities, it would be valuable to break down KPI metrics by gender and other considerations, such as minority groups. In the future, this will enable greater insight into the impact of Aalto's EDI initiatives on the university's success.

In addition to these numerical measures, Aalto follows qualitative measures such as employer opinions to capture the impact of its research. One of the most significant impacts recognised by Aalto is its students. They are proud to be educating game-changers. There is a continual dialogue with stakeholders about how graduates' competencies are aligned with their needs. This is very much appreciated by the audit team, as it contributes to ensuring that graduate competences stay relevant and up to date.

There is evidence that Aalto's research, development and innovation activities and artistic activities contribute to reforming society. During the audit visit, the team learned from several examples where Aalto is collaborating with industrial partners towards the shared goal of societal reform. For instance, SAAB has an extensive research programme with Aalto involving ten PhD students. In collaboration with VTT, individuals move between the two organisations. There is also sharing of equipment with ABB Finland.

The in-house ACRIS system is the most critical tool for tracking research and artistic activities. Three specialists are designated to benchmark Aalto to other universities in terms of different

indicators and bibliometrics. Based on the audit interviews, it would be advantageous if support personnel could also input results into the system.

Defined targets for the impact of artistic activities are not distinguished from research other than the number of artistic outputs. The SER does not detail how this is quantitatively and qualitatively assessed. Aalto should invest some more thought into defining targets for these activities.

Combining art and creativity – what societal impacts has this realised?

Aalto assesses its societal impact and the quality of its research and artistic activities through a Research, Art and Impact Assessment (RAI) conducted by international peers every 7-9 years. The remit of this committee is to assess Aalto's international standing and to identify areas with world-class potential. The last one was carried out in 2018. The evaluators were very complimentary, particularly concerning the enthusiastic and collaborative work atmosphere, the university's infrastructure, the tenure track career system and the student-driven entrepreneurial ecosystem.

The 2018 RAI made numerous recommendations. An example was the recommendation to provide seed funding to support the generation of pilot work to allow larger grant acquisitions. There needs to be due consideration given to how (seed) funding can best be used to develop artistic activities. Similarly, another initiative to stem from the 2018 RAI is the joint professorship initiative. Notably, the RAI did recommend developing a Vice President of Art and Creative Practices role to lead the strategic development of multidisciplinarity, sector/government engagement and leadership in the creative industries.

Aalto chose not to go down this route but instead to establish an Artistic Activity Task Force under the Research Steering Group, which reports on artistic activities and supports art awareness. In Aalto's Living strategy from 2021 onwards, art is now embedded in research, and radical creativity was chosen as one of the cross-cutting approaches. Aalto sees that the cultural and creative sectors should be integral, not separate, parts of the economy and society, as then the entire creative human potential and imagination is in use.

Through the SER, Aalto self-identified the challenges in ensuring that art and creative practices receive sufficient attention and management after the strategic and organisational change mentioned above. Within Aalto, a working group has been established to try and improve the visibility of artistic activities. Based on the interviews, the visibility of the School of Arts, Design and Architecture is also achieved through its high-level national and international networks. Furthermore, within new buildings on the Aalto campus, 5% of the budget is ring-fenced for art and regular exhibitions to enhance visibility.

The audit team finds it essential to consider the cross-cutting approach to radical creativity in all of Aalto's activities and steering groups. The audit interviews brought up that due to cross-cutting approaches between art and science, a project between chemistry and art led to the creation of new textiles. This is an excellent example of innovation potential embedded in cross-cutting

approaches and promoted by Aalto's procedures. The audit team recommends that Aalto ensure and promote the visibility of artistic activities creatively.

A Scientific and Artistic Advisory Boards (S(A)AB) review regularly the research, artistic and teaching activities and plans of the schools with focus on research activities. In biennial meetings, the S(A)ABs provide recommendations for further development. The recommendations given by the RAI and S(A)AB are incorporated into the annual planning cycle, and the academic units report on how they respond to the recommendations.

Aalto considers international guidelines such as DORA, Leiden Manifesto and national guidelines for instance regarding the recommendation for responsible researcher evaluation guides the implementation, ethical conduct and transparency of researcher evaluations.

A clear strategy for advancing open science through open-access publications, FAIR data archiving

The university has taken several measures to promote open science since 2017. Aalto's Open Science and Research policy, established in 2020, encourages researchers to make their publications open access and requires researchers to parallel publish all peer-reviewed scientific articles and conference papers. The number of openly accessible research publications is an internal KPI (82% in 2021). It is also one element that determines the Ministry's basic funding for the university. In recent years, the UNESCO Open Science recommendation and Aalto's active participation in the National Open Science Coordination (TSV) have provided objectives to work towards. The vice president for research is responsible for leading services that support open science activities.

As of 2022, two more components were added to the Open Science and Research Policy: open infrastructures and learning materials. Data and code are increasingly crucial as research outputs. Funders require open access to data (save ethical/legal restrictions). The interviews indicated that Aalto's Research Data Management network and service personnel work hard to increase researchers' awareness of FAIR data. Aalto University's research information system, ACRIS, provides a good platform for collecting and maintaining reliable publication and research data and ensuring long-term, sustainable data management and warehousing. An online code of conduct course is obligatory for everyone at Aalto. During the staff workshop, several individuals expressed its positive impact on their research ethics.

Whilst there is a clear strategy for supporting open science practice in the university, it would be advantageous to have incentives and support for students and researchers to implement open science, such as covering publication costs. The audit team also recommends regular staff training, particularly doctoral students, to ensure ethical and transparent research.

2.3 Promoting renewal through the organisational culture

- Högskolans självvärdering

Aalto University's purpose, values, and way of working define our long-term direction. All community members are welcome to join in the annual development of our living strategy.

According to the strategy, research efforts should focus not only on strong basic research that builds excellence and impact in the fields represented by the university but also on collaboration with leading companies and the development of a vibrant innovation ecosystem around the university's research, artistic and educational activities.

Renewal of research

Renewal is naturally built into the research process, as science develops through new findings, novel ideas and creative collaborations. The renewal of research is also ensured by defining the research area of each professorship in a negotiation between the schools and the president. When a professor retires or leaves the university, the position is not automatically filled in the same research area, but instead the departments and schools discuss future needs before committing to a new professorship.

Aalto participates in the biannual University Profiling funding call of the Academy of Finland. Each time, 3-4 research themes are identified for further resourcing and development.

Aalto's three cross-cutting approaches (solutions for sustainability, radical creativity and an entrepreneurial mindset) are embedded in everything we do. Our combination of science, art, technology and business expertise allows us to rethink challenges and solutions alike. By encouraging a radically creative and entrepreneurial culture within our community, we can work together to make an impact and create sustainable solutions.

Each of the three cross-cutting approaches has a lean organisation in charge of developing its activities and inclusion in everything we do.

Radical creativity cherishes renewal, risk-taking and questioning one's working practices. As a strategic development project, we support bold, creative and transdisciplinary research approaches.

We established Space 21, a cluster of rough, free project spaces that Aalto offers to encourage experimentation and creative collaboration within its community. Students, staff and faculty are all welcome to make their ideas reality, let their radical creativity flow free and explore the realms of the unexpected.

Two university-level strategic development projects are starting in 2022 to promote and communicate impact creation with the aim of enhancing the culture of innovation within our

community.

Creating a community

Aalto has been exceptionally successful in putting students in focus by trusting students and empowering them to take a central role in the university community and beyond. As an example, Aaltoes (Aalto Entrepreneurship Society) has been a driving force in the Finnish startup scene. It has changed the attitude towards entrepreneurship, developed Slush to its current scale and implemented world-class concepts and some of Europe's most significant events.

The Aalto University alumni community consists of about 100,000 alumni in more than 80 countries. Aalto offers its alumni diverse opportunities for lifewide learning and networking. Over 40 alumni associations organise activities for alumni. The Alumni Network Board brings forward the views of the alumni into the university's long-term development and supports the activities of the alumni associations. Alumni agents support students and strengthen local networks around the world. The mentoring program brings together Aalto alumni and students.

Strategic partnerships with leading universities, research organisations and industry provide collaboration opportunities, as well as joint institutes, facilities and infrastructures. In the capital region, our key partners are VTT Technical Research Centre of Finland, the University of Helsinki (UH), HUS Hospital District of Helsinki, and the cities of Espoo and Helsinki. Nationally, collaboration with other Finnish universities is central for research profiling and avoiding overlaps, examples being the Helsinki Graduate School of Economics, Academy of Finland Flagships and shared research infrastructures. Aalto also has a wide network of corporate partners, and we engage in collaboration with more than 2500 companies. Aalto is ranked internationally among the 25 best universities in multidisciplinary collaboration. About 70 percent of master's theses are done in collaboration with companies. Aalto ranks third in Finland in patent applications, and nearly 100 start-ups are set up each year in our ecosystem.

Donations contribute to Aalto's financial resilience, and our donors, including alumni, companies, foundations and public entities, contribute to form a broad network for continuous dialogue with society. Institutional donors increasingly want to build impact in collaboration with Aalto through long-term relationships.

Aalto's Customer Relationship Management (CRM) system provides streamlined, high-quality data on Aalto's corporate partnerships, research projects with external partners, and alumni and donors, which facilitates the effective data-driven development and societal impact of the university.

A global vision

Internationalisation plays a significant role in enabling us to contribute towards improving the world and developing Finland's competitiveness. Internationalisation helps develop the global competence of Aalto's staff and students, as well as enriching the diversity of the research

community. A working group of top management coordinates strategic partnerships and guides their development, supported by the service teams. Aalto belongs to international networks that support Aalto's strategy, especially in terms of shared research and/or education agendas. Aalto University schools participate in subject-specific networks, and each researcher also has their own international collaborations.

Promoting international teaching and learning is a central element of Aalto's strategy. In particular, the strategy addresses how internationalisation can contribute to improving the quality of education.

Aalto is a partner in six European Institute of Innovation and Technology (EIT) Knowledge and Innovation Communities (KIC). Each EIT KIC focuses on a different challenge and sets its own strategic objectives and business plan while holistically building innovation ecosystems through a portfolio of activities that address specific societal challenges. The KICs also integrate Europe's leading players in education, research and business. Aalto receives more EIT funding than any other entity in Finland.

Strengths	**Enhancement areas**
Vice Deans for Impact at the schools guide decision-making in line with societal impact.	A more robust support system for the Vice Deans for Impact.
Systematic support for student-driven entrepreneurial activities, as well as entrepreneurial education (AVP).	Developing incentives for academics to create innovations and have societal impact.
Professors of Practice and Executives in Residence act as developers and bridge builders between the university and relevant industries.	Cross-cutting approaches need more clarity and systematic implementation and monitoring.
Multidisciplinary collaboration between alumni from all three fields – technology, business and art & design.	Strengthening the identity of Aalto's alumni.
Long-term multidisciplinary strategic collaboration with leading companies in their fields.	Increasing strategic partnerships with major national and international companies.

2.3 Promoting renewal through the organisational culture

- Auditeringsgruppens bedömning

Based on the audit visit, it is evident that one of Aalto's strengths is the organisational culture that encourages experimental activities and active engagement with stakeholders. Aalto's incubators and accelerators support societal impact. Furthermore, Aalto Startup Centre and Innovation Services have proven effective in providing support services for researchers interested in exploring the commercialisation potential of their results.

Several intentional procedures also support and strengthen the university's creative atmosphere. One such good practice is Space 21 – for unexpected ideas, outcomes and encounters – offering free studio spaces for all Aalto community members to experiment and explore new ideas.

Aalto has functioning procedures to support the use of the competences possessed by its staff and students. Many internal forums at the university, school and degree programme levels are available for joint analysis and co-development. The University Preview, University Review and University Dialogue processes are participatory and supported by collaborative discussion forums and community events. Staff competencies are reviewed and developed in the My Dialogue process, and staff may request professional and pedagogical training in specific areas they are interested.

Overall, staff workshop participants characterised Aalto's organisational culture as appreciative and supportive, stating that many possibilities are available for staff members to show their potential. They also emphasised the high level of encouragement to collaborate across the school, departmental or unit boundaries. As for pedagogical development, staff members appreciated the availability of team-based encouragement and peer-driven teacher cafes and teacher teams for sharing problems, solutions and best practices. A!OLE project was mentioned as an enabler for teaching development. On the other hand, it was also stated that due to Aalto's founding history, different schools have different backgrounds and traditions. Thus, the challenge for Aalto is keeping those local cultures alive while still having an aligned organisation.

The HEI seeks opportunities to engage with stakeholders in activities that enable renewal and enhancement. Aalto is a strong actor with an open attitude towards society. Aalto cooperates with the community, other universities, companies and research organisations.

Alumni cooperation brings a lot of added value to enhancing Aalto's activities. As mentioned in the SER, more than 40 alumni associations organise activities for alumni. Based on the audit visit, Aalto benefits from alumni cooperation in many ways. For example, a new mentoring programme was established with about 100 alumni acting mentors for students, alumni proposals have led to new programme initiatives, and alumni have contributed to the university strategy and funding of new programmes. At the same time, as recognised by Aalto's top management and Board, alumni cooperation still has unused potential. Thus, the audit team encourages Aalto to

strengthen and systematise alumni cooperation and utilise advisory boards as idea generators and sounding boards even further.

The management of Aalto's multilevel national and international networks supports implementation and brings added value to the development of internationalisation, research, artistic activities and education. As mentioned in the SER, Aalto belongs to many international networks, including six European Institute of Innovation and Technology (EIT) Knowledge and Innovation Communities (KICs). As another good example, Aalto is part of the Unite! European University alliance of innovation, technology and engineering, consisting of nine universities, brings new possibilities for Aalto students' internationalisation and joint research projects.

Aalto has defined its strategic partnerships at the university and school level, and stakeholder relations and collaboration networks are maintained through Aalto's Customer Relationship Management (CRM) system. Based on the interview with the Board, Aalto has progressed, particularly in corporate cooperation, being more selective, seeking long-term partnerships, going to unknown areas and trying to learn together. However, as stated in the SER, Aalto strives to increase strategic partnerships with major national and international companies.

2.4 The HEI’s examples of successful enhancement activities

- Högskolans självvärdering

Career design lab

To help our students, alumni and other lifewide learners prepare for changes in working life, in 2021 we launched a new service concept called *Career Design Lab*. Its purpose is to facilitate creative career design and lifewide learning, develop new forms of alumni and employer collaboration, and strengthen Aalto’s impact in shaping a sustainable future of work. In the *Career Design Lab*, *CoDesigner* collaboration companies are invited to join us in developing radically creative career designs and lifewide learning.

Strategic corporate partnerships

We have been systematically developing corporate collaborations with a focus on long-term, multidisciplinary strategic and thematic collaborations. Corporate collaboration includes research projects, educational and innovation cooperation and recruitment services for companies, career design for students, and, increasingly, lifewide learning opportunities. With our strategic corporate partners, we strive for a sustainable future by building capacity and investing in mutually beneficial, long-term collaborations.

The collaborations are developed by the Corporate Relations team together with the university leadership and researchers. Through collaborations, we can better develop our operations and the quality of our research and education, as well as meeting the future needs of businesses and more quickly providing research results and skilled experts to benefit society. Long-term partnerships and participation in key multilateral networks give Aalto a broader societal impact and a more stable financial base.

Open science services

Aalto University has adopted the general guiding principle of open science: research outputs (scientific publications, research data, methods, software code and infrastructure) should be as open as possible and as closed as necessary. Our services for researchers are extensive. In addition to a standard service organisation that helps researchers open their research articles and data, we have also established a service network of ‘data agents’ whose primary job is research but who devote a fraction of their working hours to supporting their colleagues in area-specific data management. We also have a service address (researchdata@aalto.fi) which is read by a team of data experts (IT specialists, legal counsels, data agents and information specialists). We offer research data management training openly to anyone interested, reaching audiences in several European countries. We also network with similar endeavours at other universities (e.g.,

Unite, TU Delft).

Activities related to open science and research are part of academic work and are considered impact merits in recruitment and career promotion decisions. Aalto University's significant infrastructures are open to academic researchers and industry professionals.

HGSE COVID-19 situation room

The Helsinki Graduate School of Economics (HGSE) is an academic initiative bringing together three Finnish universities – Aalto University, Hanken School of Economics, and the University of Helsinki. During the COVID-19 pandemic, HGSE, which usually has a strong emphasis on teaching, undertook a ground-breaking initiative to help society. HGSE established a situation room that provided information to support economic policy decision-making during the pandemic. The aim of the situation room was to provide near-realtime information on developments in the corporate sector, the labour market and society as a whole. This information was provided in the form of graphs and other material in a regularly updated public database. For example, an HGSE report was cited in the Finnish Government's publication about the societal impact of the COVID-19 crisis in Finland.

3 HEI enhances quality and well-being

- Auditeringsgruppens bedömning

The evaluation area III assesses the functioning and development of the quality system and how the system is used in strategic management. The procedures used to support the competence development and well-being of the staff are also assessed.

Based on the audit team's evaluation, the evaluation area III is at the level *excellent*.

The audit team identified the following as the main strengths and recommendations:

Strengths

- There is a strong connection and commitment in the Aalto community to the annual process and quality system, and the prioritisation of resources supports strategic plans and aims through solid leadership.
- Aalto has a systematic, diverse and well-documented approach to identifying and supporting staff competence development at the individual and the institutional level. In particular, the support of pedagogical competence is excellent.
- Aalto can provide strong evidence of the functionality and impact of its quality system on enhancing the core activities. The quality system is comprehensive, including a long-term evaluation programme.

Recommendations

- As Aalto is a global university, it should ensure that international staff and students feel fully integrated with implementing the quality system.
- Aalto should strengthen the communication of its well-being services and their alignment with staff needs. Also, feedback on how staff input in strategic processes is considered, and communication of which channels are available for staff to influence decision-making, should be improved.
- Aalto should consider implementing formal student and staff representation in the Board.

3.1 Using the quality system in strategic management

- Högskolans självvärdering

Strategic management and the quality system are strongly interconnected

Aalto's quality system supports the continuous development of the university's living strategy and core activities (Figure 3). Aalto University's purpose is to shape a sustainable future. Aalto's operations are built on a foundation of high-quality research, education, impact and shared values – responsibility, courage and collaboration. The quality policy sets the principle that everyone works towards this joint purpose. The link between strategic management and the quality system is solid, visible and impactful.

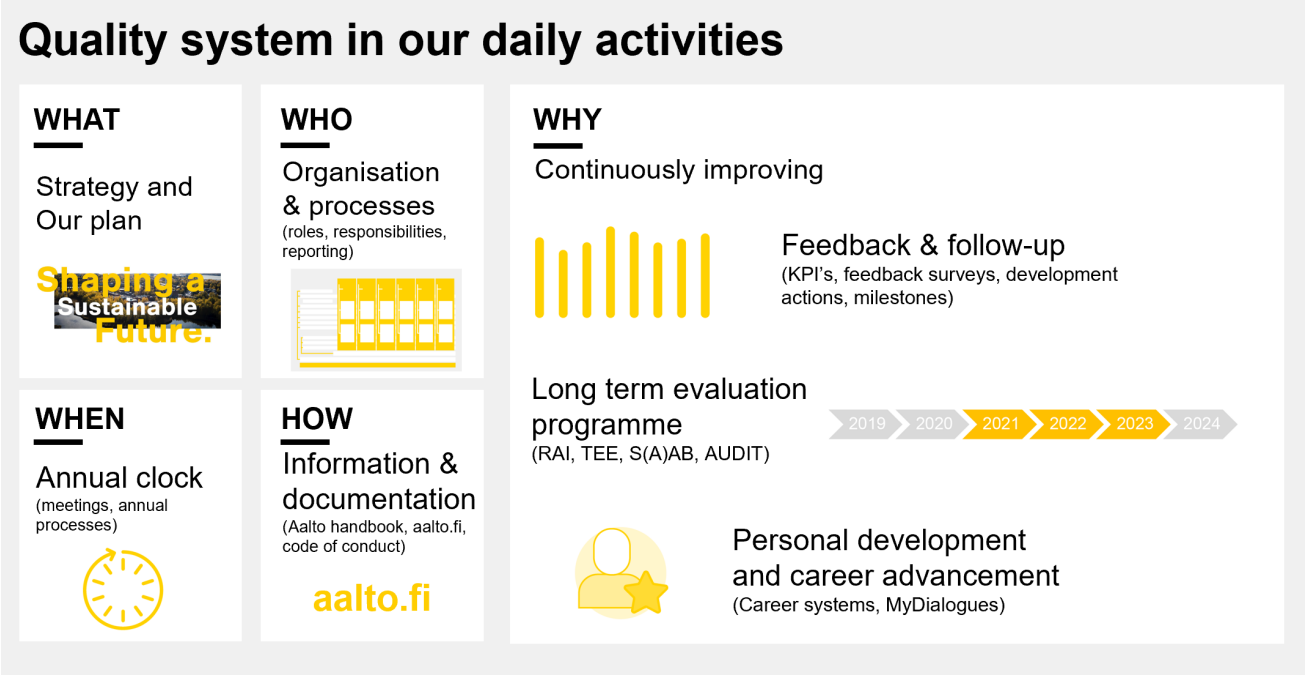

Figure 3. Elements of the quality system at Aalto

Aalto's annual strategic processes, namely the University Preview, University Review and University Dialogue, link the strategy implementation and the quality system together (Figure 4). Aalto's living strategy is continuously developed through these processes. In University Preview, the emerging trends and developments shaping the operating environment are analysed. In University Review, the strategy implementation during the previous year is reviewed. In University Dialogue, targets for the strategy implementation for the upcoming 1+3 years are set. These processes ensure that information from the quality system is used in the management of Aalto. Strategic plans, with indicator targets and development actions, are documented in the university's target agreement, Our plan. The annual clock ensures the timely planning and implementation of key annual management and strategic planning and development actions.

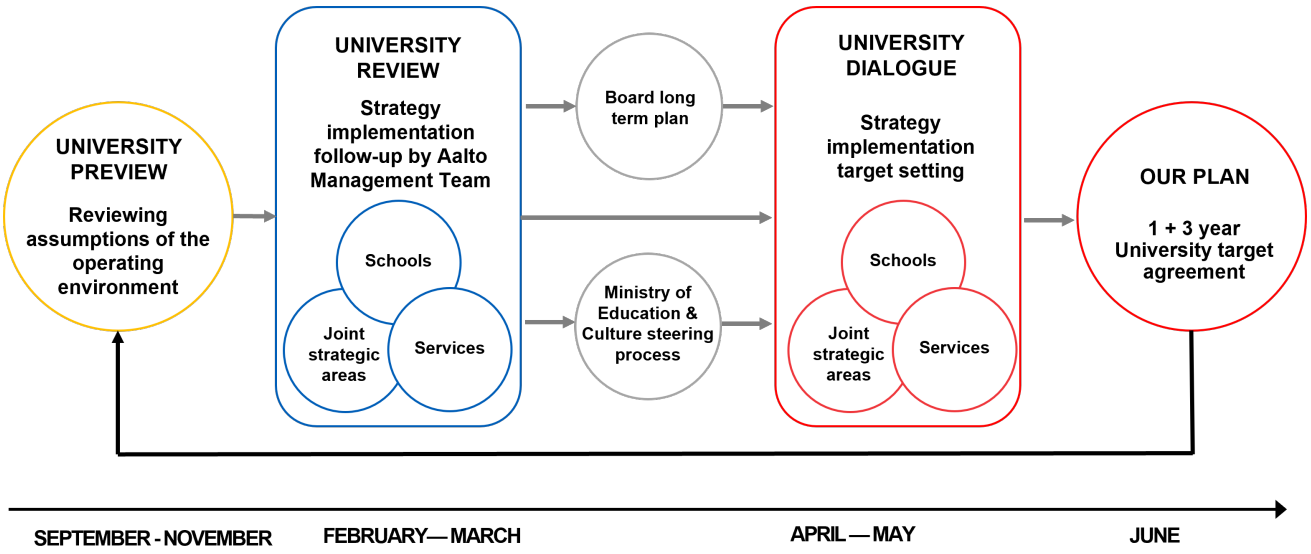

Figure 4. Annual strategic management processes and their interconnections

The implementation of recommendations and feedback from quality evaluations, conducted based on Aalto's long-term evaluation plan, is carefully followed up on through annual strategic processes.

Strategy implementation is monitored based on evidence from the quality system

Based on the recommendations in the latest quality audit (in 2016), the university has made substantial progress in the use of indicators and data in monitoring the implementation of its strategy. For example, in 2019 Aalto adopted a novel living strategy approach that is tailored for a world in motion through an inclusive process in which target setting and review of performance against indicators are integrated into the strategy process.

Clearly defined and systematically maintained Key Performance Indicators (KPIs) are used to evaluate research, education, impact and enablers. Aalto's performance at all levels is monitored using accurate, timely and openly accessible data from the KPI dashboard and Aalto Key Information reports, both available on the Power BI cloud service since 2018. This tool is also used to monitor Aalto's human resources and finances. Aalto's KPI Handbook is updated annually during the University Review process based on input from the Aalto community. KPI dashboards are used by the Aalto Management Team (AMT) for trimesterly follow ups (T1, T2, T3) and in schools and steering groups throughout the year.

Aalto has decided to monitor the cross-cutting approaches of its strategy not with numeric metrics but based on milestones. Work is still on-going to improve the interconnections between the strategic cross-cutting approaches and to follow up their implementation in schools and steering groups.

Systematic mechanisms link individual work and Aalto’s strategic objectives

The ‘My Dialogue’ process links the strategic targets of Aalto with the targets of individual staff. This well-functioning process integrates goals, wellbeing and competence development to achieve Aalto’s strategic goals. Employees develop personal goals and specify how they are linked to Aalto’s priorities, mainly by using the Workday system. Feedback from supervisors ensures that employees receive support during this vital process.

As part of a systematic onboarding process, new employees review their tasks and the goals of their job, get to know Aalto University’s way of working and work community, and familiarise themselves with the guidelines linked with their work. The Workday system, a structured onboarding guide and onboarding buddies support this process.

The annually updated Aalto Handbook contains information on the university’s shared way of managing and organising its core activities in a uniform manner that meets high standards. The consistent practical guidelines, operating principles and process descriptions for everyday work constitute the basis for quality work and serve as orientation material for new employees and students.

Strengths	**Enhancement areas**
Annual strategic processes ensure the effective implementation and continuous development of Aalto’s living strategy. These processes also foster participatory, transparent and dialogic approaches.	Development work is still needed to better incorporate the planning of services at large into the annual University Dialogue.
Strong commitment of the Aalto community to realising the university’s strategy and excellence in its core activities.	Linking structured feedback from the schools and departments to services, as well as KPIs for services, is still needed.
Resource planning and strategic planning are connected in the University Dialogue, where joint plans, targets and resourcing are set for the upcoming 1+3 year period.	Better utilisation of all available digital tools and platforms for more effective community discussion and communication.

3.1 Using the quality system in strategic management

- Auditeringsgruppens bedömning

The quality system is closely linked with the strategic management

Aalto University's quality policy is public, described on Aalto's intranet and open internet pages. The policy encompasses four themes: 1) pursuit of excellence in all activities, 2) broad community participation towards a common purpose, 3) continuous review and improvement of activities and management and 4) systematic and shared ways to deliver quality and effective activities.

The quality system is the set of electronic tools Aalto uses to implement their quality policy. The senior leadership team and Board demonstrated their strong commitment to the quality policy through their daily implementation of the quality system in strategic management.

Aalto University's annual strategic processes, i.e. University Preview, University Review and University Dialogue, combine the strategy and quality system implementation. Aalto University's living strategy is constantly being developed through these processes. In University Preview, emerging and development trends shaping the operating environment are analysed. In University Review, strategy implementation during the previous year is examined. In the final phase, University Dialogue, the goals for implementing the strategy are set for the next 1 + 3 (+ 10) years. This process ensures that the information produced by the quality system is used in the university's management.

The SER describes utilising the information produced by the quality system in the higher education institution's management and strategy implementation. Clearly defined and systematically maintained Key Performance Indicators (KPI) are used to evaluate research, education, impact and enablers. Aalto's KPI manual is updated annually in connection with the University Review process based on feedback from the Aalto community.

The quality policy is promoted by utilising the quality system in all daily activities within teaching and learning, research, cross-cutting approaches, impact and enablers across the university. There is good evidence of how Aalto's quality system supports successfully implementing its core duties. Within education, for example, qualitative programme reviews at the school level and quantitative indicators – such as numbers of graduates and postgraduates – are used to feed into objectives for the next four years and future development processes.

The senior leadership team expressed that the University Preview of the annual clock is the most valuable aspect of the quality system for implementing the university's living strategy because it allows them to understand the changes needed by the Aalto community. Similarly, the University Review phase permits the team to reflect on and evaluate how they achieved their plans in the previous year.

Based on the interview with the Board, they monitor Aalto's strategy implementation through a president's review in each of their meetings, in which they learn what is working well and not so well and the performance of core activities. An example of an area that needed improvement was the services resource model, which was brought to the Board's attention. A revised model was devised and ultimately approved. This regular and open communication of information amongst leadership is another key aspect of the successful management of the university.

After the annual Review phase, Aalto management summarises the results using a university template and prepares a tailored package for dissemination to individual schools and departments. This informs the topics that need to be discussed in the University Dialogue phase. It allows staff members to review feedback, including programme reviews. Schools can decide how they will update their action plan, target setting and infrastructure investments.

Numerous measures are in operation to ensure staff members know the connection between their own work and Aalto's strategic objectives

Indeed, there was broad awareness among staff throughout the university of their responsibilities and roles. The predominant mechanism is through Aalto University's biannual My Dialogue process. This process ensures that community members recognise the connection of their individual goals, well-being and competence development to the university's goals.

Aalto has devised other well-functioning approaches to increase broad awareness of the synergy between their work and the university's strategic objectives. For example, some schools have 'Meet the dean' events five times a year, which provides frequent opportunities for staff to reflect on how their activities and efforts align with Aalto's objectives or how they should be modified accordingly. Another measure is the Aalto Handbook, which details the universal quality system across campus. Individual schools supplement the handbook by providing their own specific information for staff on their webpages.

During audit interviews discussing EDI issues, both students and staff members brought up the need for more systematic measures facilitating a sense of integration and inclusion of more diverse groups into the university operations and culture. This includes international students and points to a need for Aalto to differentiate this large and heterogenous group to ensure their needs are met.

3.2 Supporting the competence development and well-being of the staff

- Högskolans självvärdering

Fairness and transparency in recruitment

Attracting the broadest possible candidate pool and evaluating candidates fairly enhances our chance of attracting top talent and making excellent recruitments. Aalto University has established official recruitment and advancement policies and procedures for professors' tenure track, lecturers' career, and other academic positions.

We are committed to ethical recruitment, treating all applicants equally and fairly, and all our policies and procedures in researcher recruitments are aligned with the European Commission's Code of Conduct for the Recruitment of Researchers and HRS4R Charter and Code, including Open, Transparent and Merit-based Recruitment of Researchers (OTM-R). The Commission's policies are also reflected in the Aalto Handbook for Quality and Diversity in Recruitments and eLearning. These policies ensure that the best person for the job is recruited, guarantee equal opportunity and access for all, facilitate developing an international portfolio (cooperation, competition, mobility) and make research careers more attractive.

Supporting staff competence and career development

Aalto University's tenure track career system offers a well-supported and clear career path for professor-level academics towards a permanent professorship. It is based on the principle of commitment from the university and individuals to an academic career; it has clearly defined expectations, incentives, and assistance in personal development. Tenure track promotion proceeds according to intermediate reviews based on merit. This means that our professors are competing only with themselves and not with their colleagues. Aalto supports the professional growth and development of the expertise of tenure track professors in many ways. One important form of support within the tenure track career system is research leave.

The Aalto lecturer career system is a standard career advancement path, providing a transparent and consistent process with common rules throughout the schools and departments of the university. The lecturer career system supports individual development and career advancement through clear principles and systematic evaluation criteria, and it allows Aalto teachers and lecturers to advance in their careers with teaching-focused merits.

Aalto actively supports the career and competence development of the staff by creating opportunities for career advancement, flexible job rotation or moving on to a parallel career.

Competence development at Aalto is based on the 70/20/10 model. The university's competence

development index page covers the competence development solutions available to personnel. Aalto supports various forms of development, such as job enrichment, mentoring, coaching and staff training. Trainings for personnel are available in the Workday system.

Aalto University encourages its academic personnel to create new information and share competence and expertise both at Aalto and in society more generally. Trainings to support research work and pedagogical skills are offered.

Building competencies for the future

Highly competent and motivated people form the foundation of Aalto's success. Aalto University has identified five core competency areas aligned with our strategy that are crucial to Aalto's success and the success of our people:

Figure 5. Aalto University's future competencies

The future competencies project has been developed with the aim of building Aalto as a learning organisation for employees.

Aalto supports the competence development of its personnel with solutions that combine future competence needs with an individual's own career and expertise development needs. Development needs and individual development plans are discussed in the biannual My Dialogues.

Talking regularly about wellbeing, development and goals

My Dialogue is a conversation about wellbeing, development and goals that takes place twice a year between an employee and their supervisor or their direct and matrix supervisors. The work

plan is an essential part of teaching and research personnel's My Dialogue discussion, where the supervisor and employee agree together on the goals and tasks the employee will have in the coming academic year, which is important for planning their workload and thus ensuring wellbeing.

Supporting wellbeing

Wellbeing, workload, new hybrid ways of working and a sense of belonging to our community remain key development areas after COVID-19. To get a comprehensive overview of the wellbeing of our personnel, we collect information from several channels. For example, every two years, we carry out a joint university wellbeing survey, individual pulse surveys and a workplace survey. In addition, the wellbeing of doctoral students is monitored through a separate wellbeing survey. Occupational health care reporting is used and reviewed at regular meetings at both the university and the school level. Close cooperation with occupational health services and pension insurance companies is important. For example, in 2021 we launched a steering group involving Aalto, Terveystalo, Varma and Keva to support the development of timely and effective support processes and services.

Aalto has extensive wellbeing and work ability support services and processes, and they are being constantly developed. For example, a new easy access 'Wellbeing Desk for personnel' service was launched in 2022, bringing together Aalto's wellbeing support service providers. A wide range of other services are available to support work ability and wellbeing, including comprehensive occupational health services, work coaching, mentoring, self-leadership support, workplace mediation, support for teams and supervisors, and physical exercise services (Unisport). Aalto has an early support model to encourage supervisors to intervene as early as possible if they face challenges.

To ensure the wellbeing of the whole community, students' wellbeing is also followed through surveys ('Allwell?') and through study environment inspections in cooperation with FSHS. According to several studies, the wellbeing of teachers and students are inextricably interlinked.

Developing equality, diversity and inclusion

Equality, diversity and inclusiveness (EDI) are among our core values. They support our community's wellbeing and creativity, along with our ability to foster world-class research, teaching and impact. See Chapter 4 for a more detailed discussion of EDI at Aalto.

Strengths	Enhancement areas
Clear and transparent career systems for professors and lecturers, as well as processes to enhance and support quality and diversity in the recruitment processes.	Enhance supervisors' ability to discuss development, workload and wellbeing as part of My Dialogues and daily leadership discussions whenever there is a need for it. Further develop processes and tools to manage academic work time and workloads.

Systematic competence building both individually (e.g., My Dialogue) and together (e.g., at the unit and management team level), such as future competencies workshops held in units. Availability of a wide range of competence development activities and self-learning materials through Workday Learning.	Enhance staff learning practices by developing learning pathways for future competencies and core role-specific skills for each staff group, as well as developing innovative ways of learning and of measuring the impact of learning.
Diverse practices to promote staff wellbeing.	Develop our culture of inclusion, curiosity, collaboration and wellbeing as our competitive edge.

3.2 Supporting the competence development and well-being of the staff

- Auditeringsgruppens bedömning

Aalto has well-functioning procedures for identifying and supporting staff competence development needs

Aalto has systematic, diverse and well-documented procedures for identifying and supporting staff competence development at the institutional and individual levels. The University Preview process was mentioned in the interview on staff competence and well-being as a central process for identifying new needs at the institutional level. The bi-annual My Dialogue process is the primary tool when identifying individual staff development needs.

The usefulness and central place of the My Dialogue process was emphasised in the SER and several interviews during the audit visit. For instance, during the deans' interview, interviewees pointed out that the My Dialogue process is where staff members are explicitly encouraged to discuss competence development needs and that they are systematically supported. In the staff workshops, this was mostly confirmed. However, some staff had a few critical remarks about the user-friendliness of the supporting software. Some emphasised that informal dialogues with supervisors are equally important for developing competence in the My Dialogue process.

With regard to individual staff competence development, Aalto aims for the so-called 70/20/10 model, in which 70% of learning takes place on the job, 20% happens through learning from others, and 10% is learning in formal settings. On the intranet, one can find an overview of the various formal staff training options, which cover a broad range of relevant topics. These options are open to all Aalto employees and cover development needs for all staff categories. It was also underlined strongly during the staff competence and well-being interview that Aalto treats all employee categories on an equal footing when it comes to acknowledging and supporting competence development needs.

The following processes, procedures, and fora are also supportive of staff competence development: the Tenure Track career system for academic staff, research leaves (sabbaticals) for tenured academics to develop their competences further, and the Educational Leadership Forum. The latter is an event for the development of educational leaders, such as programme directors and heads of majors, offering possibilities for interaction and networking to strengthen the management and development of degree programmes.

Pedagogical competence development has been identified in Aalto's SER as an essential need. There is a Pedagogical training web page designed to support pedagogical competence development. It lists basic compulsory and elective ECTS-giving courses, e.g. for course design, teaching practice, sustainability in teaching and doctoral supervision. During the staff

competence and well-being interview, the interviewees also emphasised that pedagogical training is one of Aalto's main tools for formal competence development. Three hundred teachers per year go through pedagogical training. There is institutional support for pedagogical questions, discussions and events. Many teachers have taken more than the required minimum pedagogical ECTS credits. Responses from staff workshops confirm that the teachers appreciate the availability of pedagogical development courses and programmes. Time available for individual competence development was raised as a problem.

More generally, Aalto's Human Resources (HR) services support all kinds of staff needs, including competence development. There are also several examples of tools for internationalisation which serve to develop the staff's global competencies. Finally, the Competence development index is a useful web page which collects information on all the processes, procedures and tools available for identifying and following up on staff competence development needs. Various forms of professional training, personal coaching services and mentoring opportunities are provided. It also enables individual staff to request feedback from colleagues on one's strengths and enhancement areas.

The SER also refers to a future competencies project which has led to the identification of five future competency areas found to be crucial for Aalto as a learning organisation: working together, insightful expertise, learning agility and creativity, achieving excellence, and empowering leadership. However, it is unclear how explicitly these are linked to the current portfolio of training options and support services for competence development. Aalto should develop its portfolio of staff training options and their support services for competence development to ensure that these essential future competence areas are explicitly covered and supported.

Aalto has clear, transparent, and fair procedures for staff recruitment

Aalto has clear, transparent, and fair procedures for recruitment, and career paths for development after recruitment. The SER states that Aalto is committed to ethical recruitment, treating all applicants equally and fairly, and all the policies and procedures in researcher recruitment are aligned with the European Commission's Code of Conduct for the Recruitment of Researchers and the HRS4R Charter and Code. These claims are convincingly documented on the web page Recruitment at Aalto, where one finds a detailed description of the recruitment process, including a section on Ensuring equality. It also contains a comprehensive handbook on quality and diversity in recruitment with sections on equality, diversity, unconscious biases, prearrangements to support equality, institutional policies for various career paths and various support materials. This excellent source of information contributes significantly to promoting fairness and transparency in staff recruitment. There is also a webpage describing how academic leadership is recruited with an open search in a transparent and communal manner. Fairness and transparency in career development are supported through institutional policies such as the Tenure Track and Lecturer career paths.

Aalto has systematic and diverse procedures to support the well-being, equality and non-discrimination of all staff categories

Aalto provides an impressive and diverse set of procedures, services and fora for supporting staff well-being. Staff well-being is referred to as a key development area in the SER, and the importance of well-being was also emphasised strongly in several interviews during the audit visit, from top management on down. For example, recruitment to ensure sufficient capacity in well-being support services was explicitly mentioned as important in the interview with deans.

Several tools are used for monitoring staff well-being at Aalto. Examples are the biennial staff well-being survey, individual pulse surveys such as a monthly survey on hybrid working, workplace surveys every five years and a well-being survey for doctoral students. The aforementioned My Dialogue process also includes well-being aspects. This process was emphasised in several interviews as perhaps the key procedure for discussing well-being aspects with individual staff members and making individual follow-up plans.

The webpage Wellbeing at work index provides information on healthcare services, perks, and employee benefits including sports/training opportunities and other practical aspects of well-being. Other relevant support services include the Wellbeing desk – a newly launched low-threshold service point for employees. It provides advice and guidance on work well-being and ability via online information, physical meetings and events. The Wellbeing Desk is one of the services offered under the more comprehensive project Oasis of Radical Wellbeing, designed to be an accelerator of well-being for students and employees in Aalto.

Aalto's staff well-being services have an impressive level of ambition and broadness of scope. However, a challenge may be that not all services are well-known to all staff members. In some cases, services may not be well-matched to the essential needs of staff members. During the audit visit, staff workshop summaries highlighted the need for more practical services and actions for well-being. Examples given were the need for better support for conflict management and handling of difficult situations, more explicit guidelines for workload management and leadership development considering human aspects more.

There also seemed to be a perception among some staff members that staff well-being is not prioritised on the level of student well-being. These concerns should be investigated to ensure well-functioning communication of the available services and the best possible alignment between services offered and the needs identified.

Equality, diversity and inclusion (EDI) is generally an area where Aalto has strong strategic aims and ambitions. EDI is also Aalto's self-chosen evaluation area in this audit, and this topic is therefore treated in more detail under Chapter 4. Overall, Aalto takes their EDI responsibilities very seriously and has many well-functioning procedures and tools in place to enhance equal and non-discriminatory treatment of staff and students.

3.3 Functionality and development of the quality system

- Högskolans självvärdering

The quality system supports continuous developments in core activities

Aalto's quality system ensures that our core activities are systematically assessed and enhanced and that they meet acceptable national and international standards. Elements of the quality system are systematically embedded in the university's governance and daily activities.

Aalto's well-functioning quality system tangibly supports the enhancement of core activities and management through a variety of tools, such as regular internal and external evaluations that focus on key areas of the university's operations (e.g., the long-term evaluation programme described in section 3.4), feedback and development mechanisms that engage members of our community and stakeholders, an annual clock for the university management processes and a clear quality policy and PDCA cycle. The Aalto Handbook clarifies the responsibilities for the quality and development of core activities.

Aalto actively monitors its performance in international rankings and has markedly improved in rankings specific to science, art, technology and business. This has enhanced Aalto's competitiveness and visibility. Additionally, the School of Business participates in international accreditations and has Triple Crown status (AACSB, AMBA, EQUIS)—an honour held by only few business schools worldwide.

Sharing of good practices improves operations and fosters internal cooperation

Aalto University believes in the value of sharing good practices to fully realise the potential for internal learning and cooperation. Good practices are shared through regular peer meetings, such as the Aalto Leaders' Dialogue, professors' council, development team (comprising school's development managers and Leadership Support Services), the Service Leader Seminar and the EDI committee.

Some examples of good practices that are broadly applied at Aalto include the use of risk maps in annual risk assessment and management and the lessons learned from remote and hybrid ways of working. Additional examples include the sharing of information in collaborative networks, crisis communication practices, the use of data and web analytics in decision-making and developing communication and marketing content, and student marketing and recruitment steering groups.

Aalto strives to build a participatory and impactful quality culture

At Aalto, quality management is a collective undertaking. Efforts are systematically directed towards ensuring a wider sense of ownership of quality management processes and the PDCA way of working at all levels. Aalto's quality culture promotes participation, open discussion and continuous improvement of the university's activities and operations (Figure 6). Progress in this regard has been commendable and in line with the feedback from the latest quality audit.

Figure 6. PDCA through a participatory approach

The university promotes the active participation of Aalto community members and stakeholders in quality system processes. Well-developed formal feedback channels ensure that members of the Aalto community have adequate opportunities to influence decision-making and contribute to the development of operations. Student feedback and course development and student representation in various management units are integral components of the system. Improvements made based on feedback are communicated to the university community. This has built mutual trust and commitment.

External partners also engage in Aalto's research, teaching and lifewide learning. Stakeholder engagement was commended in the latest quality audit and has continued to progress. However, Aalto still lacks a comprehensive way to collect service feedback despite several good individual cases.

Aalto's quality system is continuously assessed and developed

The purpose of Aalto's quality system is to support the management and development of core activities. To ensure that this is achieved, a periodic review of the quality system is conducted. A thorough evaluation is carried out every six years as part of the quality audit by FINEEC, and an interim review of developments in the quality system is conducted every three years. Elements of

the quality system are reviewed annually during the University Review. Aalto also periodically assesses its strategy in order to revise strategic choices continuously and proactively. This complements the current annual strategic processes that fine-tune the system incrementally.

The information obtained from quality management processes is used to improve the quality system. For example, a feedback survey is administered every year for annual strategic planning processes, and developments based on it are undertaken in subsequent rounds. This feedback was used to prioritise focus areas in the annual strategic processes and reduce overlaps by combining the University Review and the self-evaluation of the quality audit. Merging the Research, Art and Impact assessment (RAI) and Teaching and learning Evaluation Exercise (TEE) is also being considered. Feedback is also currently being used to further improve the follow-up on strategic plans and milestones and budgeting issues in the University Dialogue. Furthermore, the Aalto Handbook has been extensively updated to enhance its visibility within the Aalto community and further improve the university's quality culture.

An important feature of the quality system is its flexibility in enabling schools and services to use quality management procedures and processes in ways that serve their specific needs and disciplinary contexts. The annual strategic processes ensure a degree of consistency in the implementation of quality management procedures across schools and services, and they serve as an umbrella for all information collection to avoid ad-hoc requests. Through the Leadership Support Services (LSS), the university management coordinates the university-wide quality work.

Strengths	**Enhancement areas**
Internal and external quality evaluations of core activities are conducted systematically and continuously based on a clear long-term evaluation plan that is updated annually.	Need for continuous assessment and management of the workload that quality management processes create for members of the Aalto community at various levels.
Transparent communication and documentation systems are open to Aalto community members (e.g., KPI dashboards, open digital platforms for joint working, and Aalto's 'Our plan' site).	More systematic methods to identify and share good practices are needed.
Steering groups further facilitate the implementation of strategy, improve quality and ensure that all stakeholders are engaged.	Enhanced methods to fully use the feedback and data generated by the quality system.
Measures to implement our values, including a Code of Conduct, based on our values, which all community members commit to following (on-line course for all community members).	A clear and structured approach to understanding, implementing and monitoring cross-cutting approaches and strategic initiatives is needed.

3.3 Functionality and development of the quality system

- Auditeringsgruppens bedömning

Aalto’s quality system is comprehensive and systematic

The audit team commends Aalto University for a comprehensive and well-functioning quality system. Aalto’s long-term evaluation programme clearly demonstrates the systematic use of internal and external evaluations to enhance Aalto’s activities and regular cycles of improvement. The strategic annual University Preview, University Review, and University Dialogue processes form the core of the quality system, encompassing all of Aalto’s core duties; education, research, artistic activities and societal engagement and impact.

Regular external evaluations complement Aalto’s quality system: Research, Art and Impact (RAI) and Teaching and Learning Evaluation Exercise (TEE) conducted in 7–9-year intervals and as well as regular reviews conducted by the Scientific (and Artistic activities) Advisory Boards (S(A)AB). Furthermore, the School of Business regularly participates in external AACSB, AMBA and EQUIS accreditations and has acquired a rare Triple Crown status.

During the audit visit, the team gained abundant evidence of how information generated by the quality system helps the Aalto community to identify development needs in core duties and how the evaluation and feedback data is used to manage Aalto successfully. Through the systematic annual Preview-Review-Dialogue processes, feedback from RAI and TEE evaluations and S(A)AB reviews, Aalto updates strategies, priorities, goals and overall portfolio. With this evaluation data, Aalto University can continuously monitor and develop the quality of its degree and other educational provision, research, innovation and artistic activities and support services and improve its societal impact. Overall, there is strong evidence that the PDCA cycle is implemented in all of Aalto’s core activities.

The quality system is being systematically developed

Quality management is steered by the Aalto Management Team, which convenes fortnightly. The Leadership Support Services prepares the Evaluation Programme. The operative Quality Management team manages the operations and meets formally monthly and casually every Friday.

Aalto monitors and develops its quality system annually in connection with the University Review. Feedback is collected from all staff members each year on the Preview-Review-Dialogue process itself, how it can be improved and whether the annual timetable works. This process works well and ensures broad participation in developing the university’s quality system. For example, in the last annual University Review, the operative Quality Management team learned that services needed attention and resourcing because end users found the system too time-consuming. Based on staff feedback, the workload created by the quality system was lightened, and common

templates were revised. The workload created by the quality system needs constant attention from leadership.

Aalto also utilises feedback from FINEEC audits. Since the previous FINEEC audit in 2016, the KPI dashboards were introduced, the Aalto Handbook format was changed from pdf to electronic format and school-level handbooks were combined into a common handbook.

Based on the SER and audit visit, there is ample evidence that good practices are shared via the intranet and through regular meetings of the Development team, the university-level Quality Management team and department quality teams, and EDI Committee. However, the audit team agrees with Aalto's conclusion in the SER that even more systematic methods could be introduced to identify and share good practices.

Participatory quality culture

Significant evidence was contained within the SER and showcased during the audit visit of Aalto's participatory and open-quality culture. Aalto's quality culture promotes participation, open discussion and continuous improvement of the university's activities and operations. One example mentioned in the interviews was the Quality Party at the School of Arts, Design and Architecture to develop and renew the course provision, including broad student participation. In other schools, such as Business, the quality culture is driven by accreditation bodies, whose processes must be followed. This allows for continuous improvement, learning and action. The staff and leadership in this school were very positive about this process. Overall, the progress in improving participatory quality culture has been commendable and in line with the feedback received in the previous FINEEC audit.

Several channels are available for Aalto community members to give feedback and influence strategic choices and decision-making, thus influencing the development of operations. External stakeholders and Aalto alumni can contribute to and enhance Aalto's activities at different levels; for instance, as members of the Board, on school-level advisory boards, and as partners in research and artistic activities. Furthermore, student feedback, course and programme development and student representation in different working groups are essential to the quality system.

However, interviews with students revealed that many feel they could be better integrated into the preparatory decision-making processes. Similarly, staff workshops identified a lack of transparency on how staff input can influence high-level decision-making. As a result, the audit team recommends Aalto better showcase the importance and value of community input, perhaps with direct evidence of how it has affected essential decisions.

3.4 The HEI’s examples of successful enhancement activities

- Högskolans självvärdering

The University Preview as a unique strategic process

The University Preview is a communal foresight process integral to Aalto’s living strategy that enables the university to proactively react to changes in its operating environment. The process involves foresight surveys, workshops, community events and PMT discussion. The outcomes of the Preview have been the identification of key emerging trends and developments, updates to the description of the major trends shaping Aalto (incorporated into the living strategy) and analysis of the ways in which these may shape Aalto’s core activities. For example, emerging signals and trends relevant to Aalto’s operations were identified in 2020 and 2021, such as the global sustainability crisis, the changing landscape of higher education and the shifting of the global economy and security. Additional examples of development activities being undertaken based on Preview results include the exploration and development of hybrid ways of working and the revision of the long-term campus development programme. In 2022, the Preview explored the changes in the global context. The University Preview also contributes to the other annual strategic processes—Review and Dialogue.

Developing community wellbeing through an OASIS of Radical Wellbeing

The OASIS of Radical Wellbeing is a strategic development project which builds on wellbeing expertise and delivers research-based information and tools to help Aalto community members take care of their own wellbeing so that they are able to act on the issues they consider relevant and valuable. OASIS plays a vital role in raising Aalto community members’ awareness of wellbeing, belonging and support services through facilitated dialogues, podcasts, video productions, webpages and social media, renewed Personal Impact courses and Aalto students working as Wellbeing Ambassadors. OASIS also promotes diversity skills, participation and safe conditions for working and studying.

OASIS analyses information related to wellbeing to identify load factors by combining the responses to different wellbeing questionnaires, thereby supporting the development of a more holistic view on wellbeing within the Aalto community. New solutions created through OASIS to support wellbeing include a guidance counsellor at the School of Arts, Design and Architecture, new pedagogical training for academic advisors, webpages on wellbeing in teaching and guides for developing teaching based on the results of the ‘AllWell?’ and ‘HowUTeach’ surveys. In 2022, Aalto launched the Wellbeing Desk, a low-threshold service point for personnel which aims to improve the accessibility of services and support for work ability and wellbeing. Through experimentation and pilot projects, OASIS is creating and further developing concepts, services

and marketing methods that foster holistic wellbeing in the community.

Data-driven planning and management approach

The data-driven university is a holistic approach to incorporate data as a resource for collaboration and advanced analytics to develop and lead university operations. The purpose is to help students learn better, develop partnerships, find new funding possibilities and donations, serve the community more efficiently, advance sustainability and make better fact-based decisions. Centrally created and maintained dashboards are used effectively in annual planning processes, such as University Dialogues and the University Preview and Review. The dashboard of the university KPIs is monitored thrice a year by the Aalto Management Team (AMT). In addition, the school management teams, steering groups and other committees use the dashboards when relevant to their work.

Research and education leadership uses deeper analyses based on internal and external data and created by field specialists to constantly monitor, review and assess development. Our Customer Relationship Management (CRM) ecosystem uses and develops data-driven analytics for partner management and to support fundraising decisions through KPIs, dashboards and embedded reporting.

However, to properly realise the benefits of data, we also need to ensure its quality. On one hand, this requires that data governance, information architecture and data management practices be included in all development work at the university. On the other hand, proactive measures for information security and data protection are also needed to guarantee the safe and appropriate use of data.

Aalto University’s long-term evaluation programme

Aalto has employed a unique and gradually developing long-term evaluation programme since 2011 that has enabled the university to map, plan, review and follow up all quality assurance evaluations (Figure 7). In 2017, the programme further integrated annually rotating special themes that are assessed as part of the University Review.

The Leadership Support Services (LSS) prepare the evaluation programme, whereas the Aalto Management Team (AMT) approves the programme annually in the University Review, as well as the measures to be implemented based on the results of evaluations. The programme implementation and the need to update it are assessed annually during the University Review based on inputs from the Aalto community.

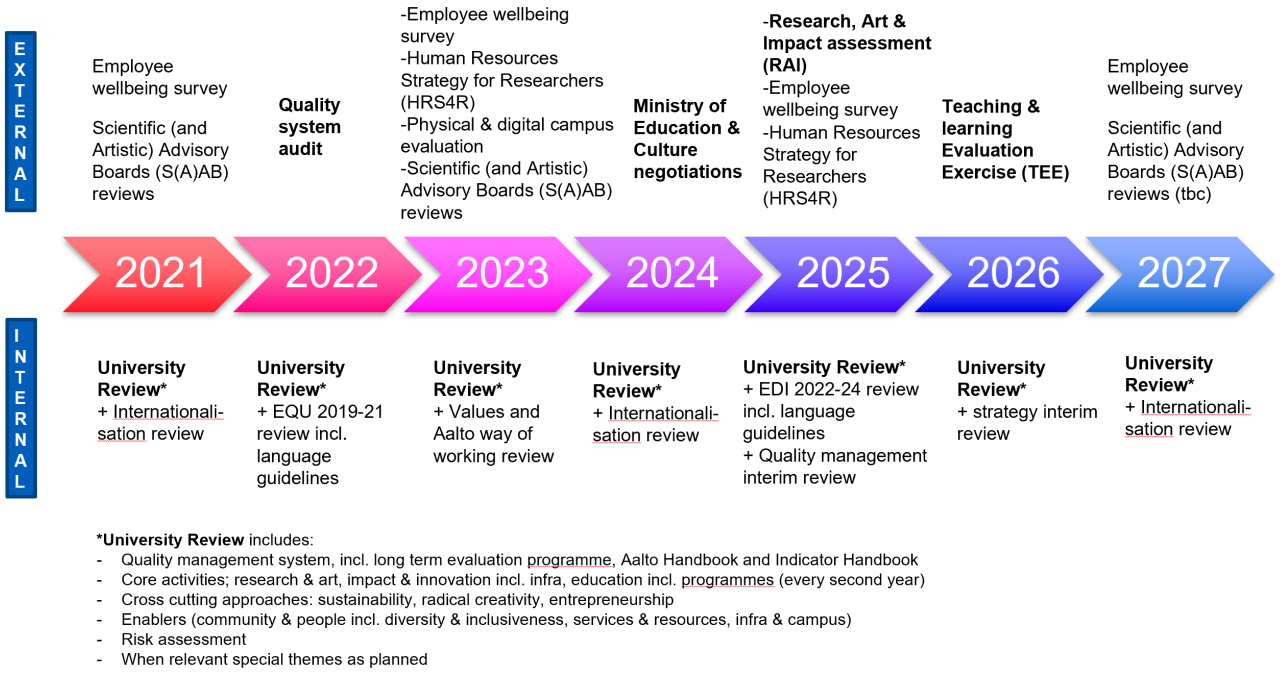

Figure 7. Aalto University long-term evaluation programme 2021-2027

The long-term evaluation programme ensures that Aalto's core activities are regularly evaluated, both internally and externally. For example, the Research, Art and Impact assessment (RAI), Teaching and learning Evaluation Exercise (TEE) and Scientific (and Artistic) Advisory Board (S(A)AB) reviews are carried out at regular intervals, and their recommendations are integrated into the university's strategic planning and other relevant activities, such as the renewal of educational programme portfolios and the guidelines for curriculum development.

The evaluation programme has brought several benefits. It has enabled the university to approach quality management strategically and from a long-term and comprehensive perspective. It has also facilitated transparency in the planning and implementation of evaluations. Long-term planning has supported continuity in evaluations and the enhancement of core activities. The programme also enables the university to undertake early preparations for evaluations and ensures a feasible workload of quality management for each year. In addition, the evaluation programme, together with the annual strategic processes, has enabled quality management to become an integral component of Aalto's operations.

4 HEI as a learning organisation

- Auditeringsgruppens bedömning

The evaluation area IV assesses an area selected by the HEI where it wishes to receive feedback for the enhancement of its activities.

The audit team identified the following as the main strengths and recommendations:

Strengths

- The Equality, Diversity and Inclusion (EDI) Plan for 2022–2024 is ambitious and closely linked to Aalto's strategy and core values.
- The processes and measures taken to increase equality and diversity in the recruitment process are extensive and well thought out.
- Excellent progress has been made in several areas, such as gender balance and parity in salary. Improvement measures are well identified by Aalto in the SER and during the audit team's visit.

Recommendations

- To build broad EDI awareness, Aalto should invest in branding their EDI plan and initiatives to increase commitment throughout the Aalto community beyond those with formal EDI roles.
- Whilst the extensive set of EDI objectives is commendable, their implementation needs prioritising and scheduling. Including milestones in the EDI plan would serve to monitor the impact of EDI initiatives, incentivise and provide a sense of achievement to be celebrated by the Aalto community. The near-future EDI dashboard would serve well for this exercise.
- Aalto should consider the importance of role models, particularly in underrepresented groups.

4.1 Equality, Diversity and Inclusion (EDI)

- Högskolans självvärdering

Equality, Diversity and Inclusion (EDI) was chosen to be the theme of our learning organisation and benchlearning based on our community input and discussion. The Aalto Management Team agreed on the importance of this evaluation area in 2021. Aalto considers a comprehensive assessment of EDI vital for understanding how well it is being managed and implemented and for further developing EDI through insights from the evaluation and lessons from the benchlearning.

EDI is part of our core values, supporting our community's wellbeing, creativity and ability to foster world-class research, teaching and impact. We actively work towards providing an inclusive and accessible environment in which employees and students from diverse backgrounds are treated equally and are free to work and study without fear of discrimination. Our operating model stresses community engagement, accountability, and proactive and systematic development. All community members have a responsibility to build equality, diversity and inclusion locally in their own environment.

The Aalto University EDI Plan defines the ways in which we promote EDI in our community: the current status, recent developments and development plans for a three-year period. The EDI Plan outlines five development areas and feeds into the annual action plans, which outline concrete action steps for each year at the university level and in each of Aalto's six schools (see figure 8). The EDI Plan was built in a community-driven manner through the participation of faculty, staff and students.

Figure 8. Aalto's EDI plan

Building EDI capabilities

Based on the 2021 Employee Wellbeing Survey, the overall experience of equality, diversity and inclusion at Aalto is at a good level (average 4.17 on a scale of 1 to 5), but there is variation across different demographics. Personnel with a nationality other than Finnish assess their

experience positively but indicate that better support is needed for spouses and families, as well as for understanding Finnish culture, language and working life opportunities. The Aalto community continues to grow more diverse. During 2022-2024, we will take further actions to facilitate making all students and personnel feel included in the Aalto community by building EDI awareness, communication and competencies further and by focusing on psychological safety, inclusive communications and inclusion of diverse minorities. After COVID-19, a sense of belonging and togetherness needs to be fostered through grass-roots level activities to promote an inclusive environment. We organise monthly EDI discussions for Aalto personnel as part of our efforts to enhance the EDI awareness of the Aalto community.

Fostering inclusive learning experience

The diversity of Aalto's student body is gradually increasing. The results of the 2022 'AllWell?' student questionnaire indicate that the overall wellbeing of Aalto's students decreased during the COVID-19 pandemic. The largest single factor contributing to this was a lack of peer support, and this remains a key development area. During 2022-2024, we will continue to work to attract diverse students to Aalto's educational programmes and will also continue joint EDI development work with the Aalto University Student Union (AYY) and student associations. Specific development areas focus on inclusive teaching and learning practices and equality and consistency of supervision.

Developing equal people processes and practices

The share of women in academic positions is improving but continues to be a development area. Aalto is the 40th most international university in the world (THE Most international universities 2022), with a highly diverse international faculty, but the share of international service personnel is still a clear development area. The share of women among heads of departments is 15%, which also represents a clear development area. During 2022-24, we will take actions to embed equality, diversity and inclusion further into the recruitment and onboarding processes, widen mentoring and support in career paths, and continue to use job pay analyses to achieve equal pay. Specific development areas are holistic well-being and improving diversity in management and service positions.

Strengthening a data-driven operating model

The management and development of EDI work is part of Aalto University's overall quality system of continuous development and is aligned with the university's planning cycle. The Provost, supported by the EDI Officer and EDI Committee, is responsible for equality, diversity and inclusion development work at the university level, and the Deans, supported by the schools' Development Managers (or equivalent), are responsible at the school level. School-level EDI Task Forces (or equivalent bodies) make annual action plans for their school and follow up on these. The EDI actors monitor EDI statistics annually. By linking EDI to the university's annual clock, we systematically monitor Aalto's progress toward the 2022-2024 EDI goals outlined in this

document. We are aiming for even tighter alignment between EDI and our annual management processes.

Promoting accessibility and barrier-free environments

Based on the 2021 Employee Wellbeing Survey, the overall experience of the accessibility of university facilities is at a good level (average 4.04 on a scale of 1-5). However, experiences vary between demographics. We will focus on building awareness and ensuring the competence of our employees regarding both physical and digital accessibility. We will also further develop ways to measure accessibility and use data to prioritise development work (for example, accessibility inspections of each of Aalto University's buildings).

At Aalto, we evaluated our current EDI state in five areas as a part of the University Review process. Our strengths and enhancement areas are summarised in the table below. More detailed development actions are included in our EDI plan.

Aalto University expects to receive recommendations that would be relevant for addressing the enhancement areas identified in the table below.

	Strengths	**Enhancement areas**
Building EDI capabilities	• Aalto's values, ways of working and Code of Conduct were updated through a participative process, and the Code of Conduct is now also an e-learning modules. Code of Conduct workshops were organised across the university. • Trainings and workshops about unconscious bias are held.	• Build EDI awareness, communication and competencies further and reach a wider audience. • Specific development area: increased awareness and focus on psychological safety, inclusive communications and inclusion of diverse minorities, including peer-support networks. Inclusion of international employees and students in the Aalto community and Finnish society.
Fostering an inclusive learning experience	• Active collaboration with the student community together with the AYY equity team. • Student marketing and the 'Shaking up Tech' event aim to attract women to tech fields. • A dedicated 'Starting Point for Wellbeing' was established, offering students advice and guidance on services related to wellbeing. Student psychology services, online support and workshops were increased. The 'AllWell?' wellbeing survey results were systemically analysed and discussed in all study programmes and with the student union, and corrective measures were taken.	• Continue actions to attract diverse students to Aalto's educational programmes; continue joint EDI development work with AYY and student guilds at all levels. • Specific development areas: inclusive teaching and learning practices, equality and consistency of supervision.
Developing equal people processes & practices	• Integrated EDI aspects into Aalto's training programme for new supervisors. • Systematic development of recruitment practices in job marketing materials and the in-house headhunting service, 'Talent Search', particularly to recruit professors in fields lacking women applicants. • A handbook and e-learning tool on EDI aspects in recruitments is available. • Ensuring equal pay across gender and nationality groups, and following up with employee unions.	• Embed EDI further into recruitment and onboarding processes, and broaden personnel mentoring and support in career paths. • Specific development areas: holistic employee well-being, and diversity in management and service positions.

Strengthening a data-driven operating model	• Overall EDI governance was strengthened. The initiative is led by the Provost, and there is a dedicated EDI Officer and an operative EDI Task Force. The EDI committee composition was strengthened by adding members representing international faculty. • EDI work organisation was established at the schools (e.g., the Dean's Taskforce at the School of Business, Inclusive ARTS at the School of Art, Design and Architecture) • Increased support is provided for people in challenging situations, and ombudspersons for doctoral students were established.	• Tighter alignment of EDI with annual management processes. • Development of an EDI dashboard to provide transparent real-time access to data and analytics. • Further improve processes, guidelines, communication and monitoring of reports of inappropriate behaviour.
Promoting accessibility and barrier-free environments	• Harmonised and systematic practices for individual study arrangements were launched, and a toolbox for individual study arrangements in diverse situations was established. • The Aalto University Open Science and Research Policy was updated to promote open access to scientific publications, research data, methods, software code and infrastructure.	• Continue implementation of the accessibility requirements of the Finnish Act on the Provision of Digital Services 306/2019. Build the relevant awareness and competences. • Improve the accessibility of the national SISU information system. • Further improve students' and teachers' awareness of individual study arrangements. • Develop better metrics for the accessibility and use of data for development.

4.1 Equality, Diversity and Inclusion (EDI)

- Auditeringsgruppens bedömning

By choosing Equality, Diversity and Inclusion (EDI) as its optional evaluation area in the FINEEC audit, Aalto University expects to receive recommendations that would be relevant for addressing five key areas. Below are the audit team's assessments and detailed recommendations concerning the EDI plan and these five areas.

The EDI plan is ambitious, comprehensive and strongly linked to Aalto's strategy and core values

Aalto's three-year EDI plan for 2022–2024 has been crafted creatively and collaboratively by the university EDI Committee, chaired by the provost and comprising faculty, staff and students from across the campus. The plan defines how Aalto promotes EDI values and principles in its community and includes recent developments, the status and key priorities over the next three-year period. The EDI plan is ambitious and bold, strongly linked to Aalto's strategy, prioritising gender equality and inclusion, particularly for international staff and students. Aalto sees EDI as a tool to advance the university's core values and a competitive edge towards better research, education and impact.

At a governance level, in addition to the university EDI Committee, each school has its own local EDI committee, comprising staff and student members at different career stages (from assistant professor to full professor). However, whilst EDI reps from schools were positive about buy-in from senior staff, some departments have not yet participated in the process. Furthermore, discussions with students revealed an absence of awareness of such EDI committees or plans. Thus, to build EDI awareness and reach a wider audience, the EDI plan needs to be branded, so it is instantly recognisable and evident to those not formally engaged in the process. Notably, the audit interview with staff involved in EDI consisted of only 25% of males. A conscious and systematic approach must be adopted to ensure equitable EDI workload, representation and chairing of EDI committees across schools.

The Aalto EDI Plan outlines five development areas. Each area has several priorities and actions. These are being implemented via university-wide initiatives, organic bottom-up events and trainings. The EDI plan feeds into action plans at the school level. Progress on these actions is monitored via the university's annual clock (Preview-Review-Dialogue). Regarding implementation and progress, Aalto has already achieved significant gains across its five development areas.

Area 1: Building EDI capabilities

Aalto identifies building EDI capabilities as its key priority area and has implemented numerous

initiatives. These include creating and revising policies, forming local committees in each school, and establishing a dedicated EDI web resource with information, policies and EDI tools accessible to the whole Aalto community. Other approaches to building EDI capabilities include staff training, such as unconscious bias, which has been taken by academic and support staff across the university.

To support the university's goal of promoting psychological safety, Aalto has developed a code of conduct with mandatory training for all staff provided through video content and e-training. Aalto also has dedicated support personnel to whom incidents of harassment, bullying or misconduct can be reported. The audit team interviews with post-graduate students revealed them to be very well informed on the support available to them and how to report difficulties. Similarly, the student union has trained harassment contact persons and provides a range of trainings to students, which they were overwhelmingly positive about.

However, beyond those immediately engaged in EDI, it was evident that, more broadly across the university community, there is a lack of awareness of the EDI plan and participation in EDI trainings. Specifically, students were largely unaware that there is even an EDI plan; the minority who were aware only knew of initiatives to improve gender equality for women.

Ideas on achieving widespread participation in EDI trainings are being discussed by the EDI committees; currently, this is encouraged through internal communication channels, including development managers and human resources. Based on the primary evidence gained during the audit visit, whilst progress has been made, there is a lot more to do in Area 1.

Aalto should invest in branding their EDI plan, making initiatives across the campus immediately attributable to this important pillar. This, together with regular communication and education of EDI philosophies and priorities to staff, particularly students, will help build awareness and competencies. One approach to mainstream/integrate EDI into daily operations is to include it as a standing agenda item at school/department meetings and have it at the start of the agenda so that it is not seen as tokenistic. EDI awareness needs to be extended to aspects beyond gender. For example, students expressed a wish to improve staff awareness and competence in tailoring their teaching and assessment for students with disabilities or additional needs.

Area 2: Fostering an inclusive learning experience

Student diversity is increasing. Learning Support Services and the pedagogical team within this unit provide training to lecturers on inclusive and accessible teaching and assessment. During interviews with staff from support services, the audit team learned that Aalto has a policy that each student has a right to reasonable individual study arrangements due to any impairment restricting their ability to study or any other health condition. Should teaching not allow a student, due to a disability or other health condition, to complete their studies as outlined in the curriculum or the course, the school is obligated to make reasonable accommodations to organise a mode of completing their studies. Such alternative completion modes must allow the student to achieve the intended learning outcomes set for the course or degree.

Student feedback systems enable an analysis of student inclusion. Overall, students at Aalto (including international) were very positive about their sense of inclusion and felt that the staff and lecturers made a great effort. They have neither witnessed nor experienced discrimination or exclusion incidents among their peers. However, some interviewees pointed to a need for Aalto to differentiate more within the large and heterogeneous group international students, in order to better meet individual students' needs.

The inclusion of international students (undergraduate and doctoral) is supported by language tutoring, guidelines and social activities. Several new initiatives are planned for 2022–2024, emphasising doctoral students, including training for supervisors and establishing a set of standards for supervision. The audit team's discussions with postgraduate students revealed that this is especially needed for international students.

The audit team recommends that Aalto could further strengthen its inclusive teaching and learning practices by providing resources – such as teaching materials, assessment guides and staff training – to embrace neurodiversity in lectures, learning materials and assessments, with a goal of increasing inclusion. Staff could be incentivised to develop these competencies in inclusive teaching through professional accreditation such as digital badges.

Area 3: Developing equal people processes and practices

Internationalisation and gender have been identified as priority EDI areas to achieve equality. Aalto is Finland's most international tertiary-level institution; 48% of its staff are international.

Regarding Aalto community members from abroad, several measures are in place to help onboard and welcome international staff. At the university level, these include the annual Finland Independence Day dinner for all staff and their families and a spousal job-seeking assistance programme for new tenure track hires. Many local initiatives have also been developed. For example, the School of Arts, Design and Architecture organises regular dinners and get-to-know-you social events that have proved very popular. Other schools organise an onboarding buddy, excursions and language training and have set up an informal spousal network.

In terms of gender equality, in the ten years since Aalto's beginning, the percentage of female professors has doubled from 11% to 22%. One initiative to support this goal is the introduction of mentoring for all new assistant professors and all female academic staff. Aalto's participation in the national project Equal career paths for women is further evidence of their work in this space. In order to ensure success in this area, it will be essential to monitor figures at the local department/school level because significant differences exist between disciplines, which risk being overlooked or missed when data are aggregated at a higher level.

Another initiative by Aalto is embedding EDI philosophies into their recruitment process to broaden diversity in the applicant pool, for example, by using gender-neutral language in job descriptions and utilising dedicated search committees to try to attract more female candidates to predominantly male-dominated disciplines, for instance, chemical engineering. Marketing

materials that embrace EDI philosophies to encourage females and males to apply for typically gendered roles are also being developed.

Unconscious bias training is provided for all managers and hiring committees. Detailed tracking of metrics (applicants, shortlisted candidates and those offered positions) needs to be maintained to measure the impact of these measures. However, early indicators are positive; of the last ten assistant professor hires in the School of Science, 50% were female. Gender parity has been achieved in salary and should be monitored going forward across other equality grounds, such as race, particularly as the international community grows.

A staff well-being survey assessed staff attitudes towards working from home and hybrid working models. Different hybrid models are available in Aalto, enabling flexibility for those with caring responsibilities.

Aalto should strive for diversity in all senses at leadership levels and adopt a range of approaches to achieve this. Noteworthy is the audit team's observation that the percentage of female heads of departments is only 15%. Measures might include targeted, tailored, small-group leadership training for minority groups or the 'see it to be it' approach, which promotes the importance of visible role models at senior and leadership levels.

Area 4: Strengthening a data-driven operating model

Aalto uses its annual clock of Preview, Review and Dialogue to understand and monitor the impact of its EDI plan. This includes monitoring staff and student well-being/satisfaction/recruitment/pay through seven complimentary and discrete tools. Staff members described how through this system, data is readily available within 48 hours, with minimal effort. There is a plan to incorporate EDI into the university's PowerBI dashboard, making them available instantaneously.

The existing biennial employee well-being survey serves as a useful metric to measure the impact of different EDI initiatives. For example, the feeling of inclusion or belonging, particularly felt by non-nationals and their spouses and families, as identified in the last survey, is a vital area for improvement. Aalto has a high completion rate for its staff well-being survey at nearly 60%, and the overall staff well-being results are the highest in Finland.

Whilst student intake is nationally regulated, Aalto should strongly consider innovating a means to measure and monitor the diversity in its student population, encompassing grounds such as gender, race, socio-economic status and disability. This level of awareness of the diversity (or lack of) within its community could illuminate areas where creative solutions could be taken to enhance diversity in its population through creative ways to attract underrepresented groups.

Admission services webpages should make the support available for people with physical or learning difficulties more visible. Such knowledge would strengthen the data-driven operating model, which to some degree, is relatively limited at present. Further evidence of this comes from the two gender only system operated at a national level. There is a lack of awareness of

what percentage of the Aalto community does not identify with either of these two genders and, thus, what percentage of the community may feel excluded. Some interviewed students expressed frustration with the inability of Aalto to record other measures of diversity adequately and found the gender-binary recording system antiquated. Although Finnish national legislation does not yet consider gender beyond being binary, careful consideration should be given to how Aalto can overcome this hurdle and be more inclusive to the university community by delivering a creative solution to capture and monitor a broader spectrum of genders.

The audit team recommends that Aalto reconsider its decision to exclude targets from its EDI plan. The EDI leads/champions should carefully consider how they can objectively capture progress and impact in the EDI areas without targets. Some staff voiced their enthusiasm for setting quantitative targets within schools, especially where stark differences in gender balance, for example, exist. Milestones should be included at the very least and would incentivise and provide a sense of achievement to be celebrated by the university community.

Area 5: Promoting accessibility and barrier-free environments

Aalto is monitoring staff satisfaction in this regard through its well-being at work surveys and has identified areas to prioritise and improve. For current students, the Learning Services' collaborative accessibility group shares best practices for arranging suitable actions and developmental issues. Campus development is controlled by Finnish legislation. However, staff felt that much effort has gone into increasing campus accessibility.

Through discussions with international students, language emerged as a barrier to their sense of belonging to the Aalto community. This is primarily felt outside the classroom, which students feel is also part of their learning experience. They expressed a desire for the university to be more proactive in this regard.

As regards to promoting accessibility of studies, the audit team recommends that Aalto consider what alternative measures or flexible entry and learning pathways they could introduce to strive for equity amongst a diverse entrance student population. For example, students from socio-economically disadvantaged homes, minority groups, migrant families, and students with learning difficulties or physical or mental disabilities have a much higher barrier to entering tertiary level education. While some alternative admission routes exist, such as open university and vocational degree pathways, no formal processes are in place to train, educate and equip faculty with how to assess these cases. Initiatives may include improving web-based admissions information, physical and online support for these students and targeting outreach events and programmes to them in the community.

5 Benchlearning

- Högskolans självvärdering

5.1 Benchlearning process with the Swiss Federal Institute of Technology Lausanne (EPFL)

Equality, Diversity & Inclusion (EDI) was chosen to be our learning organisation and benchlearning theme based on community input and discussion. The Aalto Management Team agreed on the importance of this evaluation area in 2021. Aalto considers a comprehensive assessment of EDI vital for understanding how well it is being managed and implemented and for further developing EDI through insights from the evaluation and lessons from the benchlearning.

Aalto University identified several potential benchlearning partners, of which the Swiss Federal Institute of Technology Lausanne (EPFL) was selected not only for its continuous effort on EDI work and status as the 3rd most international university in the world (THE most international universities 2022) but also because it is a prominent Aalto partner in research and education. In previous years, Aalto has for example benchmarked its career systems against EPFL.

EPFL is Europe’s most cosmopolitan technical university. It welcomes students, professors and collaborators of more than 120 nationalities. Equal opportunities are an integral part of EPFL’s development and excellence policy. The Equal Opportunity Office is attached to the Vice Presidency for Responsible Transformation (VPT).

At the beginning of our learning journey, we met three times virtually and discussed our current state, strengths and enhancement areas, as well as the development plans both institutes have in place for 2024. Topics for the site visit were agreed upon in the final preparatory meeting between the EPFL vice president and Aalto provost.

During the site visit to EPFL (24-26.5.2022), we met EPFL’s provost, vice-president, and many people from student associations, the equal opportunity office, HR, the School of Architecture, Civil and Environmental Engineering, and different leadership support teams. The participants from Aalto included a student representative, the provost, an EDI officer and the person responsible for the quality audit process.

5.2 Evaluation and results of the benchlearning

The benchlearning process and site visit resulted in useful knowledge and insights for further developing EDI work within Aalto’s development areas. Accessibility (i.e., Aalto’s fifth EDI development area) was excluded from the benchlearning agenda because accessibility is not part of EPFL’s development plan.

Building EDI capabilities

At both universities, data shows that the sense of belonging and overall experience of EDI varies between different demographics, hence both are focusing on recognising the breadth of diversity and fostering an inclusive culture for diverse community members. Both universities are working to raise awareness through dialogue and communication and by building competences, especially about working together and inclusive communication. Structural developments are also ongoing, such as updating processes and data. One of EPFL's best practices is a holistic 'Respect' initiative that combines survey results with a communications campaign with community dialogues, workshops and eLearning. Grass-roots development activities are also ongoing within schools and units. At the school level, the Diversity Office at EPFL's School of Architecture, Civil and Environmental Engineering (ENAC) is actively working on ensuring that their culture is welcoming to everyone and that people have awareness about diversity, and that they fight stereotypes. They have built webpages and organised workshops and informal EDI movie nights. In addition, EPFL has several smaller bottom-up activities, such as a safer space for LGBTQIA+ supported by the university administration. At Aalto, bottom-up grass-roots activity is mostly visible within the student community but has recently become more active amongst personnel as well. For example, our Department of Computer Science has recently appointed the first Vice Head of Department focusing on diversity. At EPFL, support for international hires is more advanced than at Aalto, including dual career funding to support international employees; we agreed to investigate their processes and practices in this area in more detail.

Fostering inclusive learning experience

Although the number of women is gradually increasing at both universities, they are still an underrepresented group. Both universities are taking actions to attract diverse students across study programmes, including collaborating with high schools and organising student recruitment fairs. EPFL has benchmarked gender balance across 15 institutes of technology and found that women are underrepresented in technology higher education across Europe, although there are differences between institutes and fields. This study suggested that actions are needed earlier, in primary and secondary education, and this is an area that Aalto is already investing in through the Aalto Junior programme and the 'Shaking Up Tech' event.

At both universities, students are actively working on fostering safer and more inclusive learning environments, collaborating closely with the university administration. At Aalto, the board of the student association AYY, as well as its hired professionals and other associations, are all highly committed to EDI development. For example, they have organised workshops and revised the student orientation process to include EDI and wellbeing topics. Students at EPFL have played an active role in preventing harassment and inappropriate conduct and building a culture of respect through multi-channel communication campaigns, following up on cases of inappropriate conduct and organising workshops together with the university. This is an area we agreed to continue working on together.

Developing equal people processes & practices

The share of women in academic positions is improving, but a gender gap in career progression is present at both universities. Thus, diversity and a better gender balance continue to be a development area for both Aalto and EPFL. Switzerland has a federal program to support equal opportunity at universities, and they also have set a target state for gender-balance (35% newly nominated professors and 25% upper management women by 2024). Both universities have developed recruitment tools and practices to ensure a merit-based, bias free processes. At EPFL, unconscious bias training is compulsory for all recruitment committee chairs, and at Aalto, all employees are required to complete a Code of Conduct e-training. In the School of Architecture, Civil and Environmental Engineering at EPFL, a member of the diversity office participates in departmental tenure track committee work and helps to spot and address unconscious biases. The Dean may also pause a recruitment process if the candidate pool is not diverse enough. At Aalto, there has a been a lot of focus on gender balance in academic recruitments. For example, we use an internal headhunting service, Talent Search, to provide support for identifying and attracting diverse candidates. Aalto is using leadership trainings (e.g., the Aalto Academic Leader programme) to attract diverse candidates to leadership and management positions, but more work is needed in this area.

Strengthening a data-driven operating model

Both universities are continuously developing EDI data and analytics, and both have made some key information available publicly. EPFL conducted an in-depth survey on harassment and a culture of respect and published the Report of the Commission on the Status of Women Faculty at EPFL, and at Aalto EDI-related experiences are part of the biannual personnel and student wellbeing surveys, and statistics on gender and internationality are followed up in the annual University Review at the schools and at the university level.

Both universities have strengthened their EDI governance. EDI work is led by the provost at Aalto and by the vice-president for responsible transformation at EPFL. More governmental funding is allocated for developing equal opportunities in universities in Switzerland than in Finland; this is reflected in a larger team working full-time on EDI development at EPFL. On the other hand, Aalto's EDI work is perhaps better integrated across the community: Aalto has a university-level EDI committee that has representatives from each school, diverse and active employee and student groups, and an EDI task force or equivalent body in each school which works on EDI development and annual action planning that builds on the university-level development plan.

Further improvements in the processes, guidelines, communication and monitoring of reports of inappropriate behaviour are ongoing at both universities. For example, EPFL's Trust and Support Network, a multi-professional network providing low-threshold support for challenging situations, is a good model that Aalto is investigating for our formal processes.

Good practices of your organisation	Good practices of the partner organisation
Close collaboration with the student union and associations. AYY board and its hired professional employees, as well as other student associations, are highly committed to EDI development.	Raising awareness and building an inclusive culture through a holistic 'Respect' initiative, and grass-roots development done at ENAC and through peer-support bottom-up initiatives.
Well-integrated organising model: university-level EDI committee led by the provost, with representatives from each school; diverse employee and student groups.	Recruitment practices to tackle unconscious bias at the university and school level developed by the Diversity Office at ENAC.
All schools have an EDI task force or equivalent body which is responsible for the annual action plan for EDI development.	Advanced support to international employees.
EDI is integrated into values and strategy and as a part of the University Review in 2022.	Trust and Support Network and processes to handle challenging situations and inappropriate conduct.

Applying the benchlearning observations

At Aalto, an overview of the best practices has been shared with EDI actors across the university in a shared workshop between the university EDI committee and the schools' EDI task forces. The provost and the EDI officer will discuss the new ideas with process owners: EPFL campaigns with our communications team, competence development solutions with our HR team, multi-sectoral support team for handling inappropriate conduct with our Education team, and support of grass-roots activities with the schools and the student union. The implementation of some best practices has already started; for example, the multi-sectoral support team for handling inappropriate conduct, as well as work on inclusive language.

Audit team's feedback

The benchlearning project with the Swiss Federal Institute of Technology Lausanne (EPFL) provided Aalto University with valuable insights into EDI approaches, including awareness and discussions, dual career support and the importance of addressing sensitive issues such as harassment and unconscious biases. As a result of the visit, new ideas and activities to promote EDI at Aalto University have been proposed, such as creating content about inclusive language use on the university's website.

While EPFL was found to be ahead of Aalto in internationalisation and funding, Aalto has successfully integrated EDI into all activities and processes. However, as the project was recently completed, there has not yet been an opportunity to analyse and implement all the lessons learned fully.

Overall, the benchlearning project has the potential to enhance Aalto's EDI actions, but further analysis and implementation are needed to realise the benefits of this exercise fully. The audit team recommends that Aalto utilise the benchlearning experience to specifically advance support

and inclusion for international staff and students in the Aalto community.

Appendix 1. Evaluation criteria for the level good

1 Evaluation area I: HEI creates competence

1.1 The planning of education

The degree programmes and other provision are planned with clearly defined learning outcomes. The planning process ensures that the educational provision is in line with the HEI's strategy and relevant for working life. Aspects concerning internationalisation and continuous learning needs are ensured in the planning process. In terms of degrees, it is ensured that they correspond with the National Framework for Qualifications and Other Competence Modules. The education is planned so that the teaching methods, assessment of learning, and learning environments support the achievement of the learning outcomes. Students and external stakeholders participate in the planning of education in a purposeful manner. Research, development, innovation and artistic activities are integrated in the education in a way that links research-based information to the education in a relevant way. The students' workload is defined according to the principles of the ECTS (European Credit Transfer and Accumulation System). The HEI has systematic procedures for approving the plans for degree programmes or other study entities.

1.2 The implementation of education

The HEI applies the provisions and regulations concerning student admission, the recognition of prior learning, progress of studies and completion of degrees consistently and transparently. The education is implemented in a manner that supports target-oriented learning and the active role of students in their own learning process. Students receive feedback on their learning which helps them achieve the learning outcomes. The procedures connected with the implementation of education support the efficient progress and completion of studies as well as the integration of students with professional life. The well-being and equality of students are promoted throughout the student's study path. The HEI provides adequate resources, counselling and other services to support the progress of studies and learning.

1.3 The evaluation and enhancement of education

The HEI systematically collects and uses feedback data on the needs of students, the implementation of the education and the progress of studies in order to enhance the education. Feedback-on-feedback, i.e., information on changes introduced based on student feedback is provided to students in an appropriate manner. The HEI monitors and evaluates the degree programmes and other provision to ensure that they are up to date with regard to the latest research findings as well as the changing needs of the society and working life. Opportunities for continuous learning are ensured in the educational provision. In the degree programmes and other provision, how well the intended learning outcomes are achieved is analysed. Feedback and

evaluation data is used systematically in the enhancement of education. The needs of staff and students are considered in the development of support services.

1.4 The HEI's examples of successful enhancement activities

The HEI is able to present examples of successful enhancement activities.

2 Evaluation area II: HEI promotes impact and renewal

2.1 Managing societal engagement and impact

The HEI enhances its societal engagement and impact, and this is also supported by its management system. The HEI has defined goals for its societal engagement and ways in which it attempts to reach those goals. Information produced by the HEI's analysis of its operational environment is used to set the direction for its activities. Appropriate procedures help to ensure that societal engagement supports the implementation of the HEI's overall strategy.

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

The HEI's research, development and innovation activities as well as artistic activities contribute to reforming society. Targets have been set for the impact of the HEI's research, development, innovation and artistic activities. The HEI collects relevant information regarding the societal impact of research, development, innovation and artistic activities, and the information is used in the enhancement of these activities. The HEI has systematic procedures for ensuring the responsible conduct of research. The HEI enhances open science.

2.3 Promoting renewal through the organisational culture

The organisational culture of the HEI encourages experimental activities with partners and strengthens the conditions for a creative atmosphere. The HEI seeks opportunities to engage with stakeholders in activities which enable renewal and enhancement. The HEI has functioning procedures that support the use of the competences possessed by its staff and students. The HEI has target-oriented cooperation with its alumni and it utilises the alumni in enhancement activities. Collaboration with both national and international networks supports the enhancement of the HEI's activities. The HEI has well-functioning procedures for managing and updating its stakeholder relations and collaboration networks.

2.4 The HEI's examples of successful enhancement activities

The HEI is able to present examples of successful enhancement activities.

3 Evaluation area III: HEI enhances quality and well-being

3.1 Using the quality system in strategic management

The principles, objectives and responsibilities of the quality system constitute the HEI's quality policy, which is public. The quality policy forms a common basis for the quality work. The information generated by the quality system is used in the management of the HEI. The system supports the profile of the HEI, the achievement of its objectives related to the core duties and the implementation of its strategy. The HEI ensures that the staff recognise the connection between their own work and the goals of the HEI.

3.2 Supporting the competence development and well-being of the staff

The HEI has functioning procedures to identify development needs concerning staff competence and to support the development of staff competence. The HEI has transparent procedures for staff recruitment. The HEI has systematic procedures to support the well-being, equality and non-discrimination of staff.

3.3 Functionality and development of the quality system

The HEI has a functioning quality system which covers its core duties. The quality system helps the HEI to recognise development needs and to enhance its activities in a goal-oriented manner. There is evidence of the functionality and impact of the quality system on the enhancement of the core duties. The system is developed in a systematic manner.

The quality culture of the HEI is participatory and open. Staff, students and external stakeholders participate in the enhancement of the HEI's activities in a purposeful manner.

3.4 The HEI's examples of successful enhancement activities

The HEI is able to present examples of successful enhancement activities.