university of groningen

faculty of science and engineering

FSE Strategic Plan

2021–2026

1

2

3

4

5

6

February 2021

Board of Faculty of Science
and Engineering
University of Groningen,
The Netherlands

Graphic design
www.inontwerp.nl

Photography
> Front page, ©UG
> Page 5, ©UG
photo: Michel de Groot
> Page 8, ©UG
photo: Reyer Boxum
> Page 14, ©UG
photo: FSE Career Services

Introduction

This strategic plan articulates the vision and objectives of the Faculty of Science and Engineering (FSE) for the period of 2021–2026. It was developed within the framework of the strategic plan of the University of Groningen, with the help of many students and staff members.

This plan builds in many ways on initiatives that were set up in the previous strategic period, and many objectives of the previous plan remain important in this new plan. Key examples are our aim to stimulate interdisciplinary research via the FSE research themes, our efforts to improve the student-staff ratio by expanding our teaching capacity, and our goal to improve diversity and inclusion among both students and staff. There are also many new objectives in this strategic plan, in part due to our ever-changing environment. Three noteworthy developments of which the influence can be found throughout this strategic plan are:

- *Advances in educational technology*
  Many excellent digital tools for teaching and for learning analytics have been developed in recent years and these can be used to support both students and teachers.
- *The movement regarding recognition and rewards ("erkennen en waarderen").*
  The Dutch universities have committed themselves to the goal of valuing scientists for their particular talent – be it in education, research, leadership or impact – by allowing for more diversity in career pathways.
- T*he call from society*
  More and more, universities are expected to have an explicit impact on society: by preparing students for their professional life, by collaborating with societal partners in research projects, and by engaging the general public in their activities.

This strategic plan shows that FSE embraces each of these developments and plans to use them to its advantage.

This plan is being developed in uncertain times. We do not know how long the coronavirus crisis will limit our freedom of movement, nor how it will affect our financial position for the coming years. However, for most of our objectives the crisis does not affect whether we can reach them, but rather how we must act to reach them.

The structure of the plan is as follows. It starts with FSE's mission, its core values, and a brief general vision statement. This vision is subsequently elaborated in the following six chapters, which respectively address *education, research, impact, community and talent development, infrastructure,* and *partners*. Each of these chapters has four parts: (i) the current state of affairs, which briefly describes achievements in the previous strategic period; (ii) our vision regarding the situation in 2026; (iii) a number of policy areas on which we will focus in the coming strategic period (iv); and a noncomprehensive list of targets that we seek to realize before 2026. It is emphatically not the goal of this document to describe in detail how the objectives and targets will be realized; this is done in separate implementation plans.

Mission

The University of Groningen (UG) aims to be a top-100 international research university, with strong ties to the region of the Northern Netherlands. As the largest faculty within the UG, the Faculty of Science and Engineering (FSE) plays an important part in accomplishing this.

FSE's mission is to:

(i) excel in education and research in a broad range of disciplines in science and engineering,
(ii) promote innovation and have an impact in society, and
(iii) challenge and support students and staff to identify and develop their academic, professional, and personal talents.

Values

In realizing our mission, we are guided by the core values of the UG:

Freedom and integrity
Our education and research takes place in an open atmosphere in which students and staff can express themselves freely. We approach our studies, our work, and each other with honesty and respect.

Inclusiveness
We aim to be a diverse community of students, scientists, and support staff in which all members feel valued for their contributions and involved in decision-making. Being part of such a community enhances everyone's individual well-being and improves what we achieve together.

Sustainability
We feel responsibility for the environment and want to contribute to a sustainable future via our education, research, and by reducing the ecological footprint of our own operations.

Vision

At FSE excellence in education and research is considered essential and stimulated through an open and collegial atmosphere. Differences between individuals and disciplines are embraced and harnessed to make the entire faculty stronger than the sum of its parts. We adopt an international perspective in order to attract the best talents, train our students to become interculturally-sensitive global citizens, and be optimally positioned to contribute to today's scientific and societal challenges.

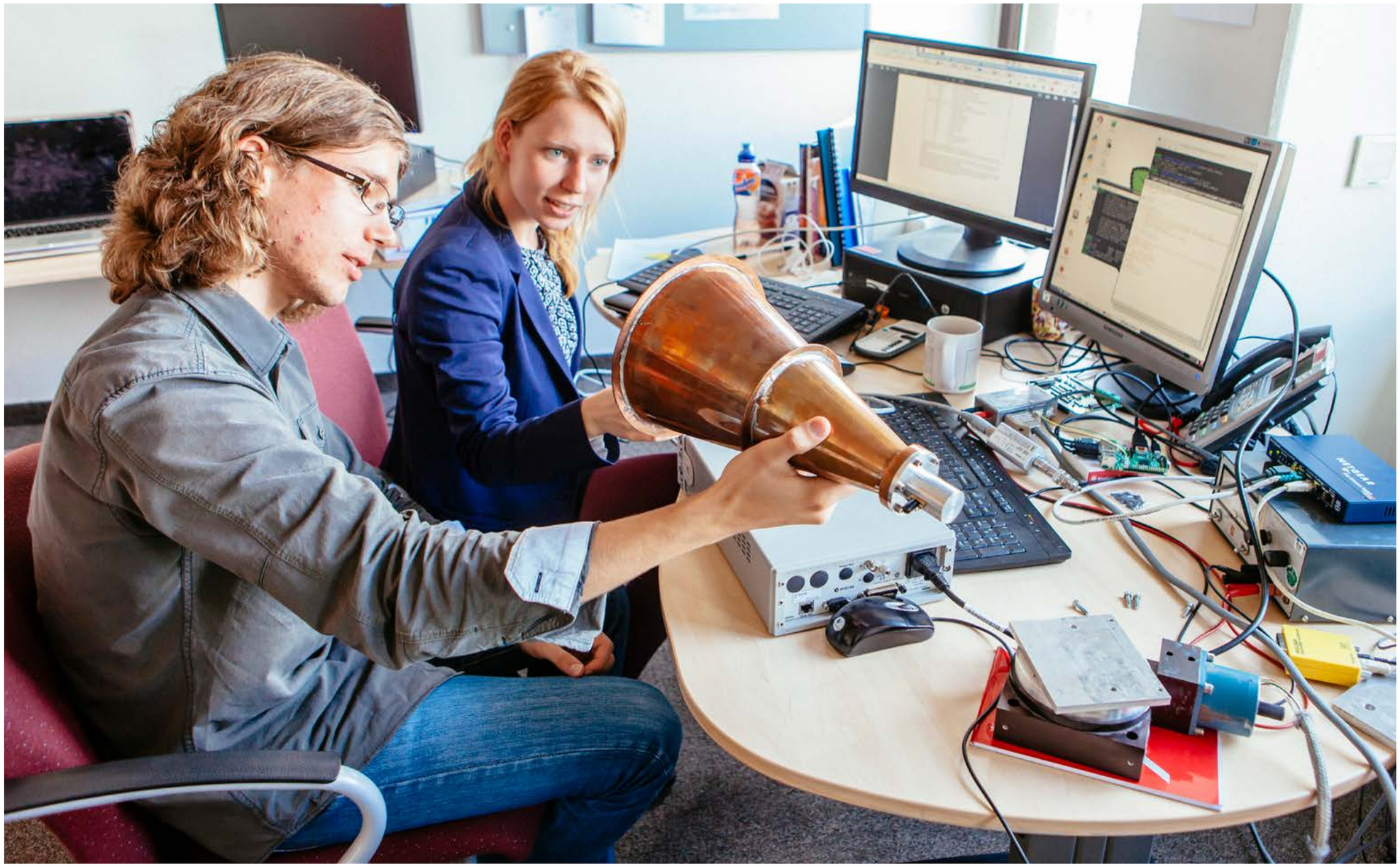
As an academic institution, education is the reason for our existence. We remain committed to the view that our education must be research-driven and that the teaching of scientific skills requires face-to-face interaction between staff and students. In recent years, however, big changes have taken place in our student populations and in the way we view the learning process. We believe that teaching must activate students, draw on a "blend" of online and offline methods, and occur in an international classroom. Implementing this vision at FSE requires a strong and flexible educational organization in which staff members feel stimulated to develop their didactic skills and their teaching methods.

A core strength of FSE is our unique potential for interdisciplinary discovery: we combine curiosity-driven and application-oriented research and education in a broad range of fundamental and engineering disciplines while situated in a comprehensive university with a medical centre. Building on this broad scope, on excellence in the individual disciplines, and on an open atmosphere, we stimulate collaborations on exciting developments at the interfaces between disciplines. Our wide scope also enables us to cover entire innovation cycles, from basic science to the development of processes and products, and to address the multi-facetted major challenges of our time in our research as well as in our teaching.

Realizing societal impact is an essential responsibility of our faculty. We do so in the first place by expanding human knowledge through our research and by providing the best possible education to our students. However, our ambitions go beyond that. To maximize our impact, we are in continuous interaction with other institutions of higher education, with societal partners, with our alumni, and with the general public; regionally, nationally, and internationally.

Our strongest asset is our talented and dedicated staff, whom we will continue to challenge to get the best out of themselves. However, we realize that the workload in universities is often too high and want to avoid staff members becoming overburdened. Part of the solution is hiring new staff: additional academic staff, but also new support staff. Doing so can improve the functioning of our organization and ensure that academic staff have more time for their primary tasks. We must also reflect on how we organize ourselves, such as on what administrative burdens we impose upon staff. We intend to use the national discussion on recognition and rewards to give staff more space to focus on and be recognized for one's particular talents.

1 Education



1 Education

Context

In the previous strategic period, important results in the area of education have been achieved, such as the internationalisation of all programmes and increased attention for diversity in our programmes. Also, important initiatives were started, such as the introduction of e-learning tools in our programmes. There are, however, also points of concern. While our teaching capacity has grown substantially over the years, we have not been able to keep up with the growth in student numbers. It has also become clear that our educational organisation was not optimally equipped to manage the organisational issues related to the increasing student numbers, nor for stimulating educational development in a structural fashion. With our newly installed School of Science and Engineering and the introduction of tenure-track career paths with a focus on education, we believe we are well positioned to make headway on both issues.

Vision for 2026

We educate our students to reach their full potential as academically trained experts in the science and engineering fields. Our alumni are ideally positioned to cross borders of disciplines and contribute, individually and in teams, to sustainable solutions for complex regional, national, and global challenges in science and society.

At FSE, education and research are strongly intertwined, and we value a strong disciplinary basis for our students. Our programmes in science and engineering, while diverse, share a common view on best practices for research-driven, international education, with contact hours in the form of classroom teaching, tutorials supervised by teaching assistants or PhD students, and computer and laboratory practicals. Our education culminates in research projects that are individually assessed and supervised by academic staff members. This mostly face-to-face interaction between staff and students and among students remains the cornerstone of our education.

In the coming strategic period we will build on this tradition to address challenges brought by the growing, more diverse student cohorts and the changing demands of science and society. The complexity of teaching faced by lecturers has increased: teaching requires more time, effort, didactic expertise, and intercultural competence to be effective in the learning process of students. To maintain high standards of education at FSE, emphasis must be put on evidence-based teaching and assessment methods (both formative and summative) and a more diverse palette of educational forms that engage and activate students. In particular, developments in online education and e-learning tools can support staff members to teach effectively in lectures, tutorials, and practicals with a “blend” of offline and online activities.

Focus areas for 2021–2026

Blended learning

Faced with larger, more diverse student cohorts, and motivated by our experiences in the coronavirus crisis, FSE will adjust its educational strategy to foster blended learning to achieve more effective teaching that engages and activates students in an educational setting that connects to our research groups.

International classroom

FSE programmes are international, with graduate attributes and learning outcomes appropriate for an international curriculum and a corresponding language and culture policy to foster inclusion and participation. FSE provides training of intercultural competences to staff, PhD students, and teaching assistants.

Portfolio

FSE offers a broad range of science and engineering degrees. We have defined target student numbers for all our programmes that are ambitious, but realistic, and that meet the employability demands of society. Growth is still foreseen in, for instance, computing science, artificial intelligence, and in engineering programmes. We will review our portfolio of programmes to improve their quality, cohesion, and viability, including the minor programmes and master tracks.

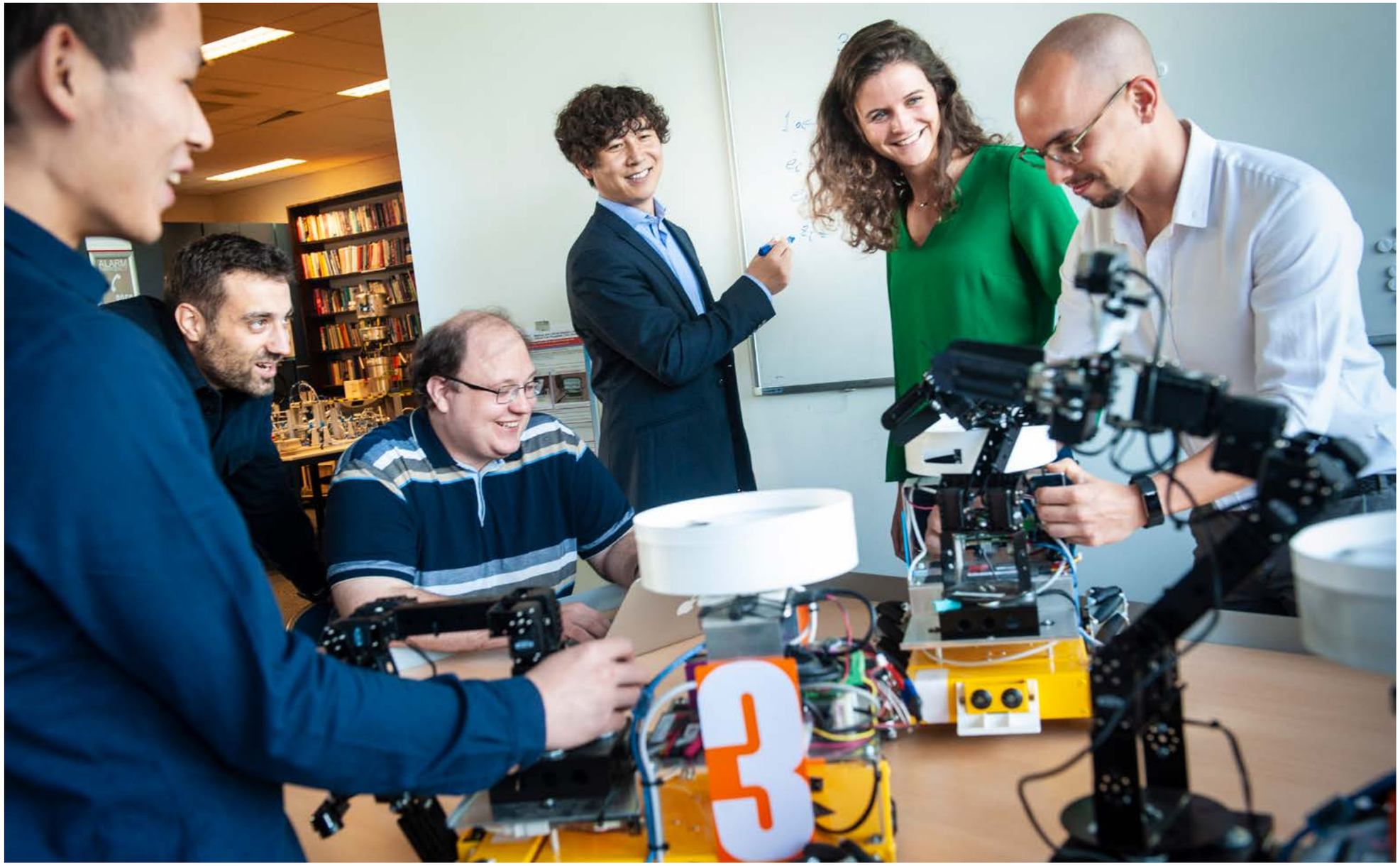
Student success

Student success remains the focal point of our educational strategy. We continue to invest in matching and information activities, to stimulate all prospective students to choose a programme that fits their talents and interests, and in further developing our academic advice. We aim to improve the study experience of all students through more effective teaching, activating and engaging students, and allowing for increased feedback of teachers to students. Inclusion of students with disabilities will be a focal point.

Targets for 2021–2026

- FSE's new educational organization, the School of Science and Engineering, has come to fruition, is fully focused on maintaining and improving the quality of our programmes, and able to deal with the varying influx of students in the programmes and possible resulting bottlenecks and capacity issues.
- All programmes have adjusted their portfolio of teaching activities to a blended-learning strategy, with a mix of offline and online or e-learning activities appropriate to reach the learning outcomes of the individual programmes.
- All programmes have introduced an international classroom, with corresponding graduate attributes and learning outcomes, diverse educational forms, and shared intercultural competences.
- FSE has a balanced and coherent portfolio of bachelor and master programmes and minors and tracks therein, with viable and sustainable student numbers, that conform to our educational strategy, research strengths, and the demands of society.
- FSE has a fully functional mandatory programme to train starting teaching assistants and PhD students in didactic skills for "peer instruction" and intercultural competences.
- FSE has implemented a fully operational "early-warning signals" system for all first-year students, aimed at optimizing our academic advice, engaging and activating students, preventing early dropout, and improving the effectiveness of our education.
- FSE has procedures, supported by academic and support staff, in place to facilitate the study and study experience of students with (visible or invisible) disabilities.
- FSE has completed a transition from our successful policy of quality control to a deeper culture of quality of blended education, wherein our scientific staff prepares students in an optimal manner for rewarding careers in science and society.

2 Research



Context

Research evaluations, rankings, and prizes show that research at FSE is in good shape. FSE has a very clear profile thanks to the FSE research themes, and we have also been able to strengthen our engineering profile substantially in the previous strategic period. The acquisition of funding is a point that we would like to improve in the coming strategic period; we expect that the implementation of Talent Development 3.0 and our new office for Research Strategy and Partnerships will lead to more success in this area.

Vision for 2026

FSE aims for research excellence. We are proud to host many excellent scientists who perform their research on the highest international levels. FSE combines strengths in a broad range of fundamental disciplines with strengths in a variety of engineering disciplines. We embrace excellence in the whole range from curiosity-driven to application-oriented research.

FSE highly values multidisciplinary teams, as these are often the key for scientific breakthroughs and innovations. For many years already, our research has been organized in institutes where scientists from several disciplines join forces. This has proven to be a successful formula, which will be continued.

Our traditional strengths in science and engineering are represented in FSE's five interdisciplinary research themes. These themes give us a clear profile and stimulate cooperation between our 10 research institutes. They provide an excellent basis for scientific breakthroughs, as well as for addressing societal problems together with partners inside and outside of the university. This includes collaborations with other faculties in the context of the four university Schools.

The five FSE research themes are

- Adaptive Life
- Advanced Materials
- Data Science and Systems Complexity
- Fundamentals of the Universe
- Molecular Life and Health

A cornerstone of our research strategy is to attract international top talent at all levels. FSE is proud of its collegial atmosphere and its approachable and accessible researchers. The sharing of facilities, an open lab culture, and interactions between the research institutes come naturally, and have done for many decades. While extramural funding is indispensable for our research activities, the faculty aims to introduce mechanisms to relieve the pressure on researchers arising from the extremely competitive funding climate.

Increasingly advanced digital tools enhance the possibilities and productivity of our researchers. In order to facilitate the use of digital tools and the big data they produce, FSE will invest in open science and research data management. Professional support will be provided to maximise the useful effect of working with digital media.

Focus areas for 2021–2026

Visibility

To improve the national and international visibility and impact of our research, we will use our research excellence to claim a leading role in a larger number of national and international consortia. The research institutes are challenged to choose the type of consortium that best suits their expertise and strategic aims. Chosen initiatives with good perspectives will receive support from the faculty, for example by making additional staff capacity available in the proposal phase.

Interdisciplinarity

FSE strives for a national and international leading role in its five research themes, together with its scientific and societal partners. FSE will use the opportunities offered by the four university Schools to further integrate research efforts across disciplines. We aim for strong connections between our themes and the Schools, so that they benefit from each other and fragmentation is avoided.

Funding support

FSE aims to offer more support to researchers in order to deal with the highly competitive national and European funding climate by developing mechanisms that relieve pressure, such as faculty-funded PhD positions.

Research data management

We will improve our infrastructure and support for storing research data, focusing on three key areas: location independent processing of measurement data, recording of research in digital lab journals, and FAIR (Findable, Accessible, Interoperable, Reusable) data storage.

Targets for 2021–2026

- Each FSE institute is leading, or is heavily involved in, at least one big regional, national, or international consortium.
- FSE has developed in collaboration with the faculty's Young Science and Engineering Network (YSEN) a strategy for the participation of tenure trackers in big (inter)national consortia.
- The strategic planning for funding acquisition is boosted, both at the level of individual researchers and across institutes, and aimed, inter alia at a diversification in the type of grant applications and the use of a broader scope of funding instruments.
- FSE has at least 200 PhD defences annually.
- The number of international PhD students with their own national fellowship is maintained at the current level.
- FSE has created a programme and allocated an annual budget to relieve funding pressure for researchers.
- FSE has an excellent support structure for easy-to-use research data management and digital tools for research in general.

3 Impact

Winners start-up competition

Context

FSE staff members contribute to society not only by educating students and expanding human knowledge, but also by actively engaging with the general public, cooperating with (non-) governmental organisations, and setting up businesses. We have in the previous strategic period improved our infra-structure for supporting staff in these activities, which includes the central departments: Science LinX, FSE's team for outreach and science engagement, Research Strategy and Partnerships, FSE team for strategic partnerships and business development; and the FSE Communication Team.

Vision for 2026

FSE contributes towards a prosperous society through scientific and educational activities. We do so by providing the best possible education to our students, the future leaders inside and outside of academia. But our ambitions go beyond that. FSE aims to have societal impact – to bring about cultural, economic, industrial, ecological, or social changes – through-knowledge utilisation and science engagement. To this end we interact on- and off-campus, physically and virtually, with targeted stakeholders, such as:

- teachers and their pupils at primary and secondary schools, to spark interest in science and engineering;
- companies, to accelerate innovation through joint research;
- policy-makers, to base themselves on solid scientific insights;
- non-governmental organisations, to co-create solutions to societal challenges;
- the general public, to inform and have them participate in scientific developments.

One of FSE's assets is its broad scope of scientific disciplines. FSE is the only faculty of a Dutch general university housing a broad range of science and engineering disciplines. Through smart multidisciplinary collaborations, both inside and outside the faculty, our researchers are able to address major societal challenges. Connections have been established with a wide variety of organisations, ranging from multinational companies to small local businesses, and from ministries to NGO's.

Via Science LinX and the Beta Science Shop, we involve targeted audiences in the way in which research is being done or translated. Engagement is a two-way process with the goal of generating mutual benefit. We use this formula to show companies, societal organizations, (local) governments and the general audience what FSE has on offer and to facilitate mutual learning.

We are proud of our track record in establishing spin-off companies based on our research, commencing with Syncom in 1992, and the exploitation of our patented technology through licensing. We aim to expand our business activities and stimulate and facilitate students and staff to create start-ups.

Focus areas for 2021–2026

Valorisation

FSE will improve its support structure for collaboration with societal partners and for setting up companies. Our Research Strategy and Partnerships team will help scientists to collaborate with industrial partners, for example in the context of the Top Sectors, and help students and staff with procedures for creating companies. We will also improve the recognition and rewards of such activities, among other things via a new version of Career Paths in Science.

Societal engagement

FSE will increase its connections with societal partners in topics of mutual interest. Science LinX will set up projects with our research institutes and societal partners, for example in the context of the National Science Agenda.

Science communication

FSE will develop a balanced set of communication tools to proactively report and attract attention to its research results and societal impact. We will use these to improve the visibility of our research as well as its relation to societal objectives, such as the UN Sustainable Development Goals.

Targets for 2021–2026

- FSE acquires at least 10% of its annual budget from industrial and/or societal partners.
- FSE annually has at least 5 leads for start-ups per year involving students or staff.
- FSE has at least 20 honorary professors from industry and NGOs.
- FSE structurally involves the faculty's study associations in activities with societal impact.
- FSE's research and its societal impact is displayed accessibly, attractively and coherently on relevant websites and social media.

4 Community and talent development

FSE Career Day

4 Community and talent development

Context

In the previous strategic period, significant steps have been taken to improve how we support the development of staff and students. Important examples are the update of Career Paths in Science, the development of the FSE Lecturer Policy, and activities to strengthen the FSE postdoc community. Another important development is the increased attention for diversity in our recruitment procedures, our degree programmes, and in the training that we offer to staff members and teaching assistants. For our student policies, the quality agreements are a noteworthy development, which allow us to set up a number of projects in support of student success. The implementation of these projects continues in this strategic period.

Vision for 2026

FSE aims to be an inclusive community in which students and staff feel recognized for their talents and contributions. We strive to make new staff and students from all backgrounds feel welcome in the faculty community and to help them settle in at FSE as smoothly as possible. We realize that, due to our great diversity, being truly inclusive requires continuous attention and efforts from all of us.

FSE also aims to be an open community in which all members feel stimulated to participate. We interact in an informal manner and cooperate well across borders between disciplines and institutes. With its diverse reservoir of expertise and talents, FSE thrives on bottom-up initiatives and participative decision making. Staff and students are encouraged to develop and explore new directions in education and research and are actively involved in defining new directions.

We challenge and support our students to develop themselves, academically and personally. In light of this, we stimulate students to take up extracurricular activities within FSE – such as teaching assistantships, roles in study associations, and positions in boards and committees of the faculty – and give them the opportunity to explore a diverse range of career options – from jobs in academia, to positions in industry, government, NGO's, and to setting up their own company. We want to pay more attention to special achievements of students, for example through a Dean's List.

Staff members, including postdocs and PhD students, are supported to identify and develop their individual talents, whereby we focus not just on academic and professional expertise but also on intercultural competences, leadership, and employability. We want to allow for more diversity in possible career paths and profiles for academic staff members by recognising and rewarding a variety of competences and talents related to teaching, research, leadership, and societal impact.

Focus areas for 2021–2026

Onboarding and community formation

FSE will make new students and staff feel welcome and support them to integrate easily. We stimulate community formation among students and staff by supporting the activities of study associations, the PhD and Postdoc Councils, and the Young Science and Engineering Network (YSEN).

Engagement

At all levels of the organization, students and staff are actively involved in the development of new plans. This is done structurally via bodies such as the Faculty Council, Programme Committees, the monthly director's meeting, but also via informal meetings with representative groups (e.g., YSEN) or events for which a broader range of staff and students are invited.

Diversity and inclusion

We seek to improve diversity and inclusion within the faculty. A special point of attention is the representation of female and international staff in boards and committees. An important method to improve inclusivity is to provide training to students and staff.

Employability

FSE will provide students, PhD students, and postdocs with more opportunities to explore careers outside of academia. In line with the national aim to increase the number of academics in secondary education, we will give special attention to careers in teaching.

Recognition and rewards

In light of the national discussion on the recognition and rewards of academics we will reconsider our career policy. The aim is to recognize and reward a diverse range of talents and potential successes and offer academic staff a degree of flexibility in the extent in which they focus on education, research, leadership, and impact.

Targets for 2021–2026

- All new first-year students are offered a kick-off week and all new staff members a tailor-made onboarding programme.
- All students and staff members are offered basic training to improve their intercultural competences; selected target groups receive advanced training, in line with the quality agreements.
- All staff members involved in recruitment procedures for academic staff have followed training about diversity and inclusion.
- FSE attracts a more diverse population of students to our science and engineering programmes, especially female and first-generation students.
- At least 25% of full professors and 35% of associate professors are female.
- Our students are better prepared for the non-academic job market, as measured by surveys such as the NSE or NAE.
- We have doubled the number of graduates with a teaching degree for secondary schools in the areas of mathematics, physics, and chemistry, and have increased it tenfold in the area of computing science.
- Staff members are significantly more positive about how recognized, involved, and safe they feel, and this is reflected, for example, in the employee survey.
- A new version of Career Paths in Science has been introduced that allows for more diversity in academic career paths, including an improved framework for recognizing and rewarding performance and achievements in education and impact.

5 Infrastructure

Context

We are proud of our infrastructure: the organizational, physical, and social facilities and services that support how we study and work. We have a well-functioning organizational structure, dedicated support departments, and excellent lab facilities. Still, challenges exist. On the organizational side, a major challenge remains the workload caused by administrative burdens. Although staff has been alleviated of certain burdens during the previous strategic period, new issues have appeared. Regarding physical infrastructure, the single most important challenge is the lack of space that we are facing due to growing student and staff numbers.

Vision for 2026

We can only excel in education, research, impact, and the development of students and staff when our infrastructure is excellent. Ensuring that facilities as well as our organization are up to the task requires continuous attention. As a Faculty of Science and Engineering, we are for an important part dependent on the quality of our facilities. That is why we continuously invest in new facilities and equipment for research and education. A case in point are the faculty's IT-facilities, the importance of which will only increase in the coming years. We strive to have IT-solutions that are secure, that fit the needs of our staff and students, and that can be easily used (in a lab-environment). Good housing is also important for the productivity and well-being of our staff members. The coronavirus crisis has underscored the value of frequent in-person meetings and discussions. With the arrival of the new Feringa Building, we will have a great set of modern buildings at our disposal that makes us even more attractive for students and new talent. However, using the space available to us wisely and fairly will remain a challenge in this strategic period.

Sustainability is a key consideration for the above investments. For example, we want new equipment to have as small an ecological footprint as possible. More generally, we aim to structurally improve the sustainability of existing operations, drawing on available expertise inside and outside the faculty (e.g., UG's Green Office).

Besides facilities, an important part of our supporting infrastructure is made up of people: while education, research, and impact are our primary processes, these are completely dependent on support staff. We therefore stimulate support staff members to continuously develop themselves and are open to hiring new staff at strategic points in the organization, especially when doing so ensures that scientific staff have more time for their primary tasks.

Keeping a good administration is very important for the university and the faculty. There is a pressing need to account for many of our actions to an array of third parties, regarding financial, but also HR-matters, etcetera. Furthermore, the use and importance of 'data driven management' is growing fast. Albeit important, administration is not the primary goal of our organization. As a consequence, our approach to administrative systems and procedures is that these should be straightforward and not distract us from research and education. We will continue our efforts to minimize the administrative burdens for all staff. When setting up new processes within the faculty, we adhere to the basic principle that administrative tasks should be performed by support staff rather than academic staff. In addition, we aim for the reduction of administrative boundaries that make cooperating with other faculties difficult.

A final aim for our infrastructure is that we want our students and staff to have a safe and pleasant study/work environment, in which they feel respected and supported. Among other things, this requires having systems in place through which problems are recognized early and having staff members who can provide tailor-made help. We see a key role for HR in improving our organization: for providing strategic advice, but also for ensuring that HR issues are taken care of promptly and respectfully. We can only reach our desired infrastructure with the help of central support services such as CIT, the University Services Department, and HR. We will therefore invest in our relations with these departments and make clear agreements about what service we can expect.

Focus areas for 2021–2026

Housing

As the Feringa Building will not be finished for a few years and is unlikely to solve all the space limitations that we currently experience, we will have to distribute the available space fairly and invent creative ways to use it efficiently. We will together with the Department of Property and Investment Projects (VGI) make a “master plan” for how to address our housing needs in the future.

Facilities for education and research

Keeping state-of-the-art facilities requires additional investments. For education, we focus on support for blended learning and on making education spaces more flexible. For research, we invite institutes to jointly make proposals for investments in the basic infrastructure, in line with our open lab culture.

Implementation of AFAS

The match between AFAS and the organizational structure of our faculty needs to be improved. Keeping administrative burdens as low as possible is a key consideration in improvements that are made in the coming years.

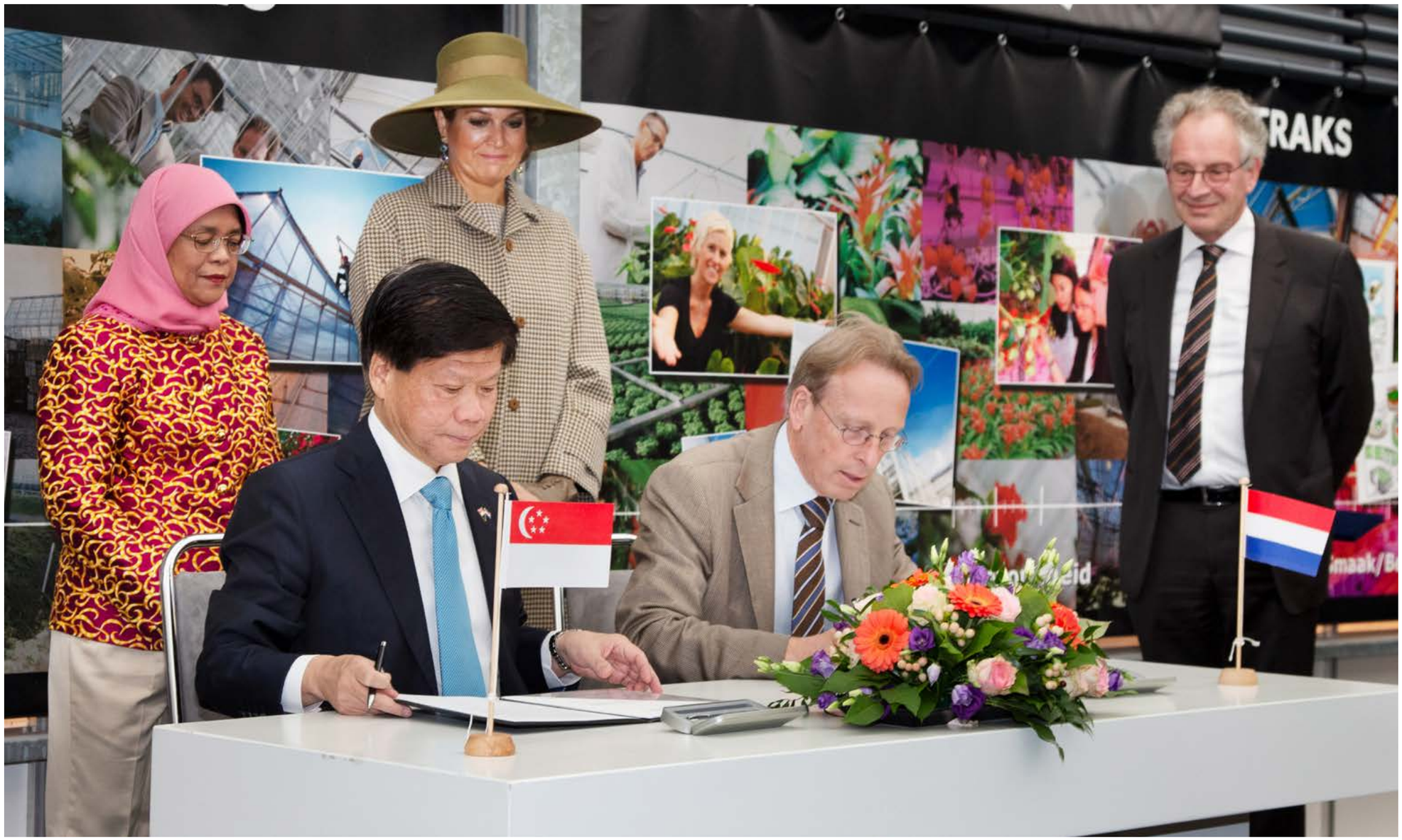
Safe and pleasant environment

We strengthen our support infrastructure in order to recognize problems early and to provide timely and tailor-made support. A point of attention is the well-being of PhD students, which we seek to improve by better progress monitoring and enhanced access to confidential advice and other forms of support.

Targets for 2021–2026

- Our department for Health, Safety and Environment will, in consultation with internal and external experts, assess which steps can be taken to improve the sustainability of our operations and in turn take these steps.
- FSE has a clear housing master plan that provides a roadmap for future building activities.
- FSE has a special fund for investing in basic and state-of-the-art research equipment.
- AFAS works well within FSE.
- We have a support infrastructure in place for PhD students that is directed at recognizing potential issues early and offering timely support.

6 Partners



NTU Singapore and UG sign Double Doctorate agreement

Context

In the previous period FSE has taken a more strategic approach towards institutional partnerships. Regionally, cases in point are our strong connection with the UMCG and the many new relations that have been set up with local industry, for example by the Groningen Engineering Centre. Nationally, we have invested substantially in our relationship with the Dutch technical universities. Internationally, we have strengthened our relationships with a number of strategic partners, among other things via double degree PhD projects, which we support via our Maria Sybilla Meriam programme.

Vision for 2026

FSE is committed to its partnerships within the university, nationally, and internationally. We realize that together with our partners we can contribute to far-reaching goals, both in terms of academic challenges and societal impact. Moreover, partnerships help us to profile and position ourselves, they enhance our opportunities to connect to new developments in education and research, and they allow us to tap into specific and wider pools of expertise and talent.

Collaborations across the boundaries of disciplines are increasingly important to reach scientific breakthroughs and solve existing societal challenges. We therefore value teaming up in research and education with other faculties at the university and we contribute to the success of the university's new Schools. The University's Medical Centre (UMCG) is a particularly important partner and we want to further strengthen our cooperation in the coming strategic period, for example in the area of health technology.

We have strategic alliances with other local educational institutions, industries and (non-)governmental organizations on themes that are important for the region, such as green chemistry, smart industry, and nature-inclusive agriculture. We actively participate in the "University of the North", entertain a strong relation with our alumni, and offer life-long learning programmes and a bridge to the universities of applied sciences and their students. We are attentive to the needs of the local job market and, together with our regional partners, make our students aware of career opportunities in the North.

FSE values its good relationships with other Dutch universities and with national research institutes. We continue to invest in our relationship with technical universities, with whom we have much in common due to our engineering activities. In order to enhance our research profile, we strengthen our relationships with national research institutes that have a clear relation with our research strengths through joint research programmes.

FSE continuously strives to maintain its position as a global player in science and education. We realize that to sustain this and even improve our standing, we have to be open to the world at large. We therefore embrace an international English-speaking setting at home, strive to hire the best staff from all over the world and attract top students from many nations, and we reach out to collaborate and build long-lasting partnerships with renowned institutions worldwide.

Focus areas for 2021–2026

UG Schools
FSE wishes to contribute to breakthroughs in addressing societal challenges with its partners. The structures to do this will include the University of the North and the new university-wide Schools. FSE will take a leading role in the school that focuses on energy transition and climate adaptation and the school that focuses on digital innovation and technological progress.

Industry
FSE wants to boost its strategic partnerships with local and national industries and businesses. To this end, we will organize matchmaking events and support institutes and researchers by making connections at executive levels.

Alumni
We want to strengthen the relationships with our alumni. In order to achieve this, we aim to extend and maintain our alumni network by consistent communication, involving alumni in research and education.

International students
Attracting talented students worldwide is a crucial part of our strategy. For this, we will continue marketing our degree programmes in our target countries, to attract degree and exchange students, as well as prospective PhD candidates. We will also increase our efforts to retain international graduates for the Dutch job market.

International institutions
FSE considers strategic partnerships with foreign institutions important to strengthen its international position and access pools of talent and research environments not available in The Netherlands. Therefore, we will continue investing in our collaborations with UG and FSE strategic partners for mutual benefit by combining our strengths in research and education.

Targets for 2021–2026

- We have organized our alumni network for mutual benefit and send them a quarterly communication.
- We have appointed an alumni officer within FSE.
- Between 30-50% of students in all our international degree programmes come from abroad.
- We have a scholarship programme for talented degree students by revolving a fraction of our non-EU tuition fees.
- FSE has strengthened its relations with the technical universities by being a natural partner in 4TU decision-taking bodies and forging collaborations with 4TU members on topics of common interest.
- We have enhanced our in- and outgoing international student exchange through tailored programmes with specific partner institutions.
- We start 20 PhD trajectories per year in collaboration with other UG faculties, in part within the context of the new UG Schools.
- We have increased the number of double-degree PhD defences with international partners to 25 per year, for the most part with our strategic partners.