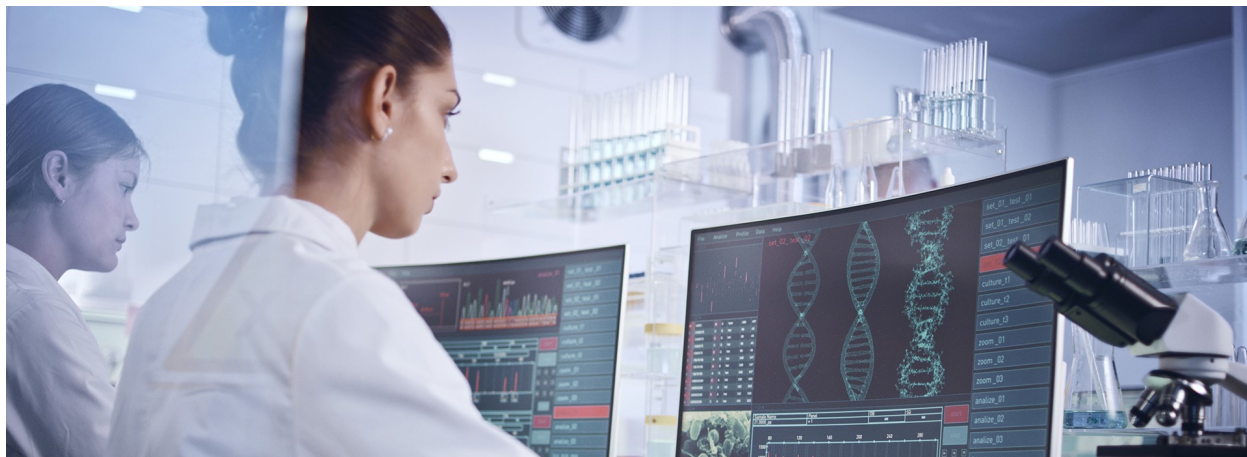


FACULTY OF SCIENCE Strategic Long-term Plan 2021-2025



About this document

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Preface

The Strategic Long-term Plan (sLTP) for the Faculty of Science was made possible thanks to the valuable feedback received from various fora and faculty staff, including heads of department, department managers, policy officers, heads of service departments, programme directors, the Faculty Work Council (ODC) and the Faculty Student Council (FSR). The sLTP links in with the VU Amsterdam Strategy for 2020-2025 and builds on the joint Strategic Plan of the former Faculty of Sciences (FEW) and the Faculty of Earth and Life Sciences (FALW) for 2016-2020. In the sLTP, we discuss our new plans and do not address more regular work, such as the quality assurance cycle for education and research. All of the plans presented will inevitably have an impact on workload and how it is experienced (including the administrative and regulatory burden). In the annual plans, we will discuss which plans will take priority in managing and reducing workload with the ultimate aim of achieving an acceptable workload (and experience of it).

The LTP is made up of several different sections. The first section takes a look at our mission statement and what we stand for, together with the major challenges that our faculty faces in the years ahead. It also describes the relationships between activities in the Faculty of Science and the Vrije Universiteit (VU Amsterdam) priority areas and profile themes. The subsequent sections cover our plans for education, research, valorization and impact, operational and financial management. We conclude by describing how we intend to implement this strategic long-term plan.



1. Mission, challenges, relationship with VU Amsterdam priorities

Mission

Our mission is to make a contribution to complex societal issues in the fields of sustainability and health through interdisciplinary collaboration and with the help of computational thinking, by means of fundamental, curiosity- and value-driven scientific education and research involving experimental methods and techniques.

The faculty (and its ten departments) is characterized by a combination of fundamentally curiosity-driven and application-oriented scientific education and research. As a result of this, most of the education and research is experimental in nature. Another important characteristic of the education and research is interdisciplinarity, manifested in collaboration in education and research between the various departments within the faculty, cooperation with other VU Amsterdam faculties (including interdisciplinary research institutes) and outside the university with important collaborative partners that include the nearby Amsterdam University Medical Center (UMC), the University of Amsterdam (UvA), and Amsterdam University of Applied Sciences (HvA). The University of Twente recently became another important strategic partner, and is an excellent match for our faculty's experimental education and research. In the future, this will also enable us to present ourselves as the technology campus of the north-west Netherlands.

Challenges

We expect the following subjects to constitute the main challenges for the Faculty of Science in the period 2021-2025:

1. Strengthening structural support for research and education across the sciences by means of [Sector plans](#)
2. Implementing the principles of [Recognition and Reward](#) within HR policy
3. Strengthening and expanding on strategic partnerships, especially the joint education and research with Amsterdam UMC and the University of Twente (see also [Appendix 1](#))
4. The challenges in the [housing programme](#) for the already growing faculty, especially the demolition of the Maths & Physics (W&N) building and its integration within new (SWT, NU, O|2) and renovated buildings (W&N AB, MF).

The housing programme (and all the associated operational repercussions), together with the continuing coronavirus crisis, has had an impact in terms of limiting our ambitions in other areas in this planning period.

Relationship with VU Amsterdam priority areas

The faculty contributes to the three VU priority areas in different ways:

1. Diverse:
 - a. One of the key challenges involves adjusting HR policy in line with the principles of Recognition and Reward with a view to recruiting more diverse staff. This covers diversity in terms of staff competencies, (academic) age, gender and cultural background and an effective reflection of our diverse student population.
 - b. Through the sector plans, the requirements for diversity in terms of gender are applied to the recruitment of new, permanent staff (e.g. more than 35% female talent).
2. Enterprising:
 - a. Several Faculty of Science [degree programmes](#) have an intrinsic focus on the VU theme of 'Enterprising' (MPA, SBI), and the same applies to a variety of courses in all Science programmes that address the societal relevance of science and science communication.
 - b. We have an extensive [valorization strategy](#) in which our focus is on supporting start-up initiatives and encouraging a culture of (social) entrepreneurship among students and staff.
3. Sustainable:
 - a. We are the coordinator of the Amsterdam Sustainability Institute.
 - b. We are transforming two existing more general Bachelor's programmes into programmes that have a sustainability label: The Dutch programme Earth & Economics (*Aarde & Economie*) was renamed in 2020 to also include Sustainability and in the Health and Life programme (*Gezondheid en Leven*) the major in Health Sciences became the major in Sustainable Health and Care (*Duurzame gezondheid en zorg*).
 - c. Arrangements are being made within the faculty on more sustainable ways of working, for example with regard to travel (train for short distances and fewer flight transfers) and vegetarian lunches.

Relationship with VU profile themes

The faculty's research primarily contributes to three of the four VU profile themes: Science for Sustainability, Health, and Connected World (see [Appendix 1](#)). The faculty also has a profile theme of its own: Fundamentals of Science. For the profile themes that cover the whole university, we envisage the following points of focus:

- For the Science for Sustainability profile theme, attention has been focused on expanding the Amsterdam Sustainability Institute (ASI), which gained interdisciplinary research institute (iOZI) status in 2020. Faculty of Science departments with a particular involvement in this are Earth Sciences, IVM, A-Life (the merger of Ecology, MCB and E&H) and Athena. The Faculty of Science is the coordinator of ASI; all SSH¹ faculties are affiliated with ASI.

¹ Social Sciences and Humanities

- Data science is a key technology within the Connected World profile theme. Our faculty focuses primarily on data science research in the biological and medical domain (also in combination with the ADORE – Amsterdam Oncology and Neuroscience Research – initiative) and collaboration with the Humanities (partly in the context of the Hybrid Intelligence Gravitation programme).
- In the Health profile theme, the main focus is on the faculty's joint research activities with Amsterdam UMC, such as biophysics (LaserLab), pharmaceutical sciences (AIMMS), neurosciences (Amsterdam Neuroscience, Gravitation project) and prevention (Sarphati, Amsterdam Public Health).
- In alliance with Amsterdam UMC, we have begun to intensify our focus on animal-free innovations, as a follow-up to the successful [symposium](#) held in November 2019. This is why we launched TPI² Amsterdam, a partnership between Amsterdam UMC (AMC and VUmc), the ACTA dentistry centre, and various science departments and institutes (such as A-Life, Neurosciences, AIMMS). TPI fits in perfectly with the Science for Sustainability profile theme.

2. Education

The Faculty of Science education portfolio was thoroughly reviewed in 2019. The main reasons for this were:

1. The need for a strategic update of the education portfolio:
 - a. Which degree programmes do we feel belong in the faculty?
 - b. Is the education portfolio offering a good match for our research?
 - c. How does the education we offer reflect demand from society (potential students and the wider professional field)?
 - d. How does our education portfolio compare with other Dutch and international science faculties?
2. Heavy workload
 - a. Programme management tasks are part and parcel of every degree programme – reducing the number of programmes (#43 in 2018-2019) could help reduce these tasks.
 - b. Changes to the structure (content framework) and organization of programmes could help reduce workload.
 - c. By maximizing learning, certain educational innovations can also result in a reduced workload. These should be identified and taken on board.

This analysis directly resulted in a series of principles to apply across the Faculty of Science (essentially a set of Lipinski's rules for education), a shared vision for Faculty of Science education (see box), the discontinuation of one Bachelor's programme and plans for the re-profiling of several others (see point 6).

² *Transitie Proefdiervrije Innovatie* (Transition Programme for Innovation without the use of animals), see also <https://www.transitieproefdiervrijeinnovatie.nl/>

From the portfolio analysis:

"We do not want graduates that shout from the sidelines, but people who actively participate in society and understand how to access relevant and reliable data and apply and increase their knowledge."

In the second half of the academic year 2019-2020 – as a follow-up to the portfolio analysis – four organizational recommendations were made for reducing workload and improving the education portfolio. In the academic year 2020-2021, we will implement these recommendations:

1. Increase the number of courses shared between programmes;
2. Optimize programme size;
3. Optimize the offering and supervision process for placements and final projects;
4. Ensure the offering of minors matches student demand and research in the faculty.

In addition to organizational issues, the implementation of the Faculty of Science portfolio analysis is also focusing on educational innovation and renewal of the education portfolio with a view to achieving the ambitions set out in the VU Amsterdam strategy:

In the field of **educational innovations** in the Faculty of Science, the two chairholders with an education brief are working on research into science education (see, for example this [video](#)). Hereby, courses and degree programmes are used as living labs for experimentation. In addition, large numbers of individual lecturers (including junior lecturers) are piloting educational innovations and new software. Currently, research results and experiences are shared on an ad-hoc basis (AIMMS workshop, lecturer meetings, junior lecturer training, etc.). In the years ahead, we intend to transform this into a more permanent platform for the exchange of ideas, in which we also envisage a role for the VU-T&L. We also plan to increase possibilities for the wider implementation of innovations that are proven to result in improvements (in terms of understanding, learning performance, engagement). In this, we intend to take advantage of the momentum created by coronavirus to accelerate the introduction of blended learning and digital tools. We will start this by charting and analysing experiences gained in teaching during the pandemic.

Finally, implementation will focus on the following innovations in the education portfolio:

5. We are transforming two existing more general Bachelor's programmes into programmes that have a **sustainability label**: The Dutch programme Earth & Economics was renamed in 2020 to also include Sustainability and the Health and Life programme is developing the major in Sustainable Health and Care.
6. Several Faculty of Science programmes have an intrinsic focus on the VU theme of **Enterprising** (MPA, SBI), but the term 'entrepreneurial attitude' is much wider. We believe this can be linked to the academic development/training learning path that runs from Bachelor students to PhD – students (scientific curiosity, a willingness and ability to look beyond one's own discipline from a strong fundamental base, the ability to debate

about this, understanding what society/industry needs, identifying opportunities and having the confidence to experiment, etc.). The notion of ‘a broader mind’ is also linked with this (see box ‘rules of thumb for education’). In the years ahead, we aim to introduce explicit descriptors for these kinds of final attainment targets in all our education, translating them by means of constructive alignment into learning paths, learning objectives and teaching activities, including assessment.

7. In the years ahead, we intend to increase the visibility within the programmes of more beta general scientific skills, such as ‘computational thinking’, programming, **data science and artificial intelligence** and to explore how we can support other faculties in applying these disciplines.

As agreed with the Faculty Student Council, we will continue to target the long-term quality-related resources (funding obtained through the new student-loan funds (“studievoorschotmiddelen”) at junior lecturers: hands-on support in the classroom, opening up opportunities for innovation and reduced workloads, to enable us to achieve the above ambitions. A small portion will also be used for study advice and student well-being.

Within the Faculty of Science, work is being done at individual, programme and departmental level on two other subjects from the VU Amsterdam Strategy (Impact through Education and Lifelong Development). Currently, these are not strategic priority areas within the faculty.

3. Research

The faculty’s research is characterized by a combination of fundamental and applied research using experimental methods and techniques, partly supported by our technology centres for precision mechanics instruments and electronics.

The research strategy takes its direction from the national focus agreements laid down in the sector plans (2019) for Physics, Chemistry, Mathematics and Computer Science and more recently in the sector portraits (*sectorbeelden*, potential precursors for sector plans) for Earth and Environmental Sciences and Biology (2020). In view of this, it is the departments that bear most of the responsibility for the precise details and national coordination of the research strategy. The research strategy and how it relates to staff deployment and talent development is discussed annually with the departments in administrative consultation meetings. The strategic partnerships that departments enter into in order to achieve the research strategy are part of this and manifest themselves in participation in interdisciplinary institutes (see [Appendix 1](#)) or by means of endowed chairs initiated by national institutes/knowledge institutions.

Because of their importance for our research strategy, the sector plans constitute a key challenge for our faculty. Recruiting new talent in a short space of time will be challenging, especially in view of the diversity requirements set by the Ministry. The implementation of the sector plans will need to be carefully monitored in order to ensure that the funding becomes a structural component of our faculty budget from 2025. Another challenge for the years ahead

will be to secure the sector funds for Earth and Environmental Sciences and Biology. This calls for nationwide organization in national platforms representing these fields and a joint political lobby that also involves the science faculties from other universities. In the shorter term, the faculty intends to use the 'Van Meenen funds' (approx. €2.85 million) to support the sector plans by:

- Providing each of the existing sector plan positions with one PhD position, as required by the Sector Plan Committee;
- Funding outreach programmes and teacher training;
- Supporting Earth/Environment and Biology with additional staff;
- Supporting the sustainability initiatives relating to innovations planned for the educational programme;
- Supporting the national Education for Science/Technology sector plan.

PhD student policy

The vulnerable position held by PhD students has been featuring in the media for quite some time. Recent [research](#) by the Netherlands' PhD Network (*Promovendi Netwerk Nederland*) and the results of the 2020 [survey](#) conducted by the Faculty of Science PhD Council confirm that PhD students experience serious problems during their PhD programmes. This is a complex issue: how does healthy stress – inherent in any PhD research – differ from unhealthy stress caused, for example, by poor supervision, pressure to publish and the associated overrun in terms of duration of the trajectory? And how do you address this issue, bearing in mind that we are part of an [academic system](#)³ that encompasses much more than the everyday practice of the Graduate Schools in our faculty?

Potential solutions to these problems could involve applying the [Recognition and Reward](#) vision to the appraisal of PhD students (thesis chapters on data and software management, open science and valorization/impact/knowledge transfer), expectation management with regard to career opportunities in science, empowerment of PhD students and improving the training of those supervising PhD students. A proper educational programme for PhD students that focuses both on content and so-called transferable and soft skills has an important role to play in this. The supervisor also plays a key role in reducing problems through clear expectation management regarding pressure to publish, developing alternative potential output, skills and future prospects.

At the faculty's New Year meeting, the Dean announced that 2021 will be the year of the PhD student. During 2021, guidelines will be compiled aimed at achieving a working environment in which:

³ See, for example recent developments from [WO in actie/University-education-in-action](#) (e.g. the position paper on [democratization](#)) and the publication outlining 40 propositions about science ([40 stellingen over de wetenschap](#)). And the [position paper](#) of one of the very first advocates of change to the academic system '[Science in Transition](#)'.

- a. PhD students have (greater) confidence to speak out about what they need in order to be able to complete their PhD programme in four years based on realistic expectations and
- b. supervisors have a solid basis for providing proactive help in achieving that goal.

In order to implement these guidelines, an action plan (for the long-term) will be drawn up with step-by-step guidance on addressing problems within the faculty's sphere of influence or escalating them to a higher level.

Post-docs also face similar problems in terms of their workload and pressure to publish, career prospects, training, and supervision. A set of (draft) [Career Development Guidelines](#) has been developed for this group of temporary staff and their supervisors. These guidelines will be further developed and implemented in the years ahead. The policy for post-docs also links in with the application of the Recognition and Reward vision that aims to reduce workload and help facilitate a healthy working environment (for more information, see [Recognition and Reward](#)).

Research support

As a result of new Dutch and international legislation/regulations and policy in such areas as privacy (GDPR), genetically-modified organisms (GMO legislation) the importation, exportation and use of genetic sources (Nagoya protocol), medical devices (MDR), data management (RDM/FAIR data) and open science, together with the related requirements from government, research funding authorities and journal publishers, researchers have an increasing need for research support in order to comply with [the principles of good and ethical scientific practice](#) in accordance with these laws and regulations. There is a need for clarity with regard to the various requirements that exist for the design, execution and reporting/completion of research and particularly for practical support in meeting these requirements. Issues faced by researchers often cut across all kinds of areas, including quality assurance, finances, regulations/law, ethics, privacy, project and data management and IT. For this reason, the faculty intends to join forces with the central service departments (University Library, Grants Office, Project Control, Finance, IXA, IT, C&M, JZ and BZ) to work out how we can ensure that existing and future research support is organized and implemented more effectively and efficiently within the faculty and across the University. The process of achieving this will be done in five phases, which we will start working on in the years ahead:

1. Providing an overview:
There is a lot of [research support](#) already available at central and faculty level (e.g. ethical assessment by the Research Ethics Review Committee (BETCHIE), support for RDM, a faculty Privacy champion and central Legal Counsel Privacy and Data Protection), but it is not always sufficiently clear for researchers where they should go for which type of support. For this reason, we intend to provide a clear overview of the available research support for the different phases of research (design, execution, completion).
2. Widening the support provided:

For some processes, the support has not yet been sufficiently organized. For Nagoya, for example, this was initiated in 2020 and will be further implemented in 2021. It will be initiated and developed for MDR in 2021. We also need to investigate whether further extra support is required within the departments in addition to the central and/or faculty support. We are therefore examining where there is need for support and how it can be implemented efficiently. The Recognition and Reward policy can be useful in this, since this policy makes it clearer that these supportive tasks are recognized and rewarded.

3. Designing participatory processes:

Any successful implementation of regulations and policy requires clear process descriptions establishing responsibilities and ownership for researchers, support staff and managers. The process description must also make it clear whether it concerns specific departmental or faculty support or more general support from central VU Amsterdam services (See [An Effective and Agile Faculty](#)). In this, it is important for processes to be designed together with the academic and support staff involved. A recent example developed is the process description for the [Nagoya protocol](#).

4. Active implementation:

Words alone will not suffice. Active implementation is essential as it also helps increase awareness. In the case of the Nagoya protocol, a digital roadshow was set up for this purpose to provide information to the department and highlight the available support by means of a clear [‘helpdesk’](#). This is intended to prevent researchers being sent from pillar to post.

5. Evaluating shortcomings in research support:

In the implementation of processes or policy, it will be important to evaluate whether the support is sufficient in terms of staff capacity, systems and software, the need for information and clarity. The annual plans will indicate which areas of policy are being earmarked for evaluation and/or revision and which policy/support needs to be highlighted more effectively by means of internal communication resources and channels.

4. Valorization

Vrije Universiteit Amsterdam is committed to create knowledge and impact via three, equally relevant core activities: research, education, and valorization. At the Faculty of Science, we fully endorse these missions. It is for this reason that we have elaborated a specific strategic plan that could bring our valorization efforts at par with our research and education achievements.

Within the Faculty of Science, we have a long list of excellent valorization examples in each and every department. However, when it comes to recognizing and acknowledging the success of our departments or the career of our staff members on the valorization topic, there is still limited attention for “third mission” initiatives and results. For instance, only a few departments have elaborated a valorization strategy, and knowledge transfer and knowledge co-creation have been only rarely included as a topic in the yearly appraisals or in promotions. It seems therefore

important that we give those initiatives more space, more support, more visibility, and more recognition in relation to education and research. In this way, we provide researchers the opportunity to expand their network and generate new social or financial capital for further research and education, and give them recognition and reward for those efforts.

To obtain this result, we need to keep laser-focused attention on what valorization is actually all about: creating economic and/or societal value for the benefit of the society we are immersed in¹. In line with the VU vision on valorization, our ambition as faculty is to support valorization providing tools that could foster an entrepreneurial academic culture and unleash the knowledge transfer and knowledge co-creation potential of our organization.

Valorization strategy

The valorization process depends on the context it is developed in, which relates to the research activity it is based on, the societal problem it aims to tackle, and the stakeholders involved. Due to the breadth of scientific topics that our faculty is engaged with, we expect that the valorization process develops along three strategic paths (see figure 1), namely:

- *End-of-pipe knowledge*, where valorization is expected to emerge as a by-product of blue sky research (from solution to problem; idea-to-society)
- *Society driven knowledge transfer*, where valorization is generated by undertaking research activities that are driven by an external societal need (from problem to solution; idea-for-society);
- *Impact by design knowledge co-creation*, where groups of researchers and groups from society (e.g., citizens, industry, government, NGOs) come together to form an ecosystem aimed at identifying and solving different aspects of industry related or societal problems (blended problem solving; idea-with-society).

The three paths can be different for different research projects, and the valorization process can result in different outcomes. Clearly, valorization via **‘end-of-pipe’ strategy** is, by design (but not exclusively), more serendipitous and therefore may be more appropriate for blue sky research. A **‘society driven’** path is often more suitable when the research activities are focused on specific user groups, target groups, or stakeholders. Finally, an **‘impact-by-design’** path is more conventional for research that is focused on improving a specific practice or societal context in collaboration with societal partners. This path resorts, among others, to so-called ‘participatory action research’, ‘citizen science’, ‘trans-disciplinary research’, or ‘practice-based research’. All these opportunities are already applied more or less implicitly by our departments and also generated various valorization outputs, as illustrated, for example, in figure 1.

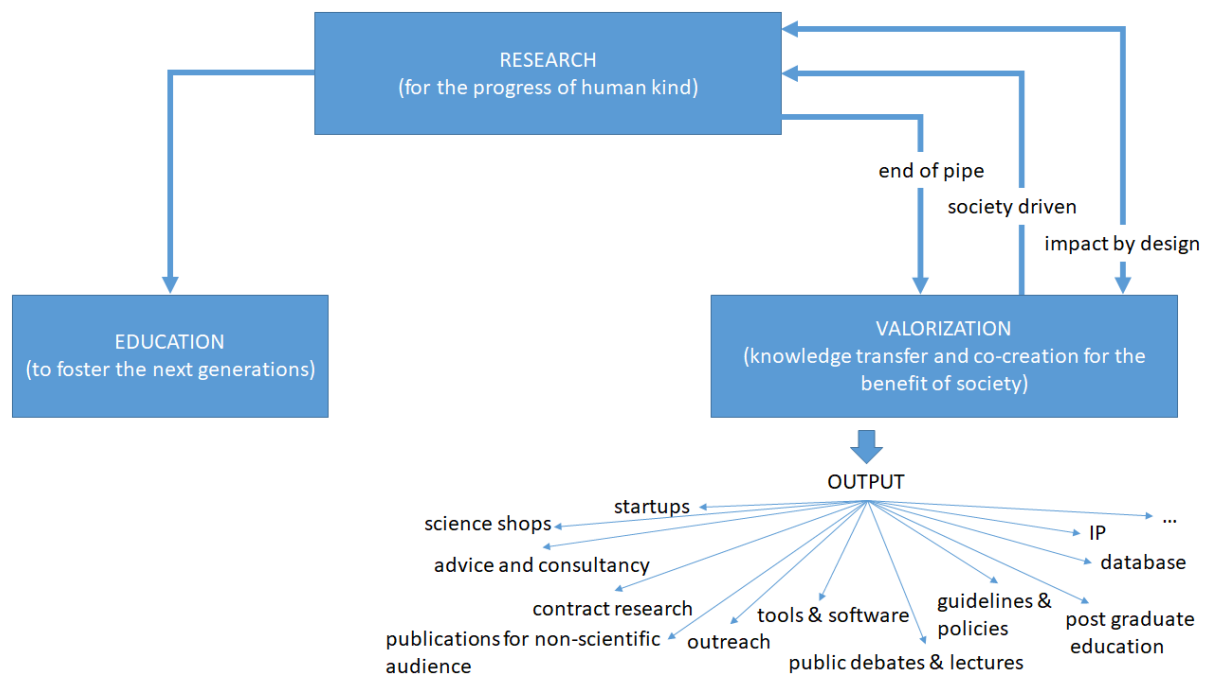


Figure 1: Valorization process as result from interaction between knowledge and society

Tools to support the departments

In the next 5 years, the faculty board has the ambition to facilitate the valorization process by (see for detailed explanation [Valorization Strategy BETA](#)):

1. Define a valorization vision and strategy at departmental level that is related to the departmental research and educational programs and aligned with the faculty and VU strategy;
2. Support researchers by defining policies and initiatives that could: a) promote, support, and regulate valorization in a broad sense; b) offer proper reward and recognition of valorization, ancillary activities, contract research; and c) nurture cross-departmental activities and harmonized communication approaches to foster a coherent image of our knowledge transfer initiatives;
3. Support network initiatives to attract external partners and, in this way, contribute to the VU campus as innovation hub;
4. Support startup initiatives and incentivize a (societal) entrepreneurial culture among our students and staff.

These activities are carried out in close collaboration with all the relevant partners within our university, including IXA, project control, marketing & communication, grant office, HRM and FCO. Furthermore, the faculty board plays a central role in the implementation of knowledge transfer initiatives that require a campus-wide effort.

5. Operational and financial management

The faculty's operational and financial management essentially involves facilitating effective support for and funding of the primary process in order to ensure that the ambitions for education, research and valorization can be effectively achieved with a sound financial basis. An essential precondition for this is a vital working environment in surroundings that are physically and socially safe. In this, responsibilities are as far as possible placed in the departments and these departments have a high degree of autonomy.

Recognition and reward in a wider sense

In common with VU Amsterdam as a whole, the faculty acknowledges the importance and urgency of the problems around a heavy workload (and how it is experienced), that have an influence on a vital working environment. Reducing workload is a complicated issue that calls for a range of different measures. One of these measures is to organize education more efficiently (see [Education](#)). Within the faculty, we also intend to set clear priorities in our activities and make choices to reduce workload. Finally, it is important to reduce the administrative burden and/or offer effective support. Another measure we wish to introduce for this purpose is part of tackling one of the faculty's key challenges: focusing on the improvement of (diverse) recruitment, development and long-term deployment of talent and careers in line with Dutch and international developments in terms of [Recognition and Reward](#). For this purpose, the faculty will develop, evaluate and implement policy in order to ensure that there is greater recognition of ambidexterity in research and education through equal acknowledgement of valorization/open science, leadership (in the broadest sense) and collaboration as measures of academic performance. Talent policy for young academics (aged 25-35) is essential in ensuring a vibrant and vital faculty. The tenure-track policy, currently will be evaluated in accordance with the principles of recognition and reward and in the light of diversity. This is because the tenure track is a crucial ingredient in recruiting a more diverse permanent academic staff. Alongside tenure tracks, career tracks have become common practice as a means of personal career development. This existing practice will be made more formal as part of faculty policy. Finally, the faculty intends to place greater emphasis on the development and training of academics who hold or are expected to hold leadership positions in the faculty, such as heads of department, directors of studies and (vice-)deans. The [VU Art of Engagement](#) will be the point of departure for this.

Staffing policy is part and parcel of the strategy for education, research and valorization. In order to determine which talent should be recruited and how to focus on career development in order to enable employees to be deployable in the longer term and to grow and develop, the strategic personnel plan (SPP) has been developed and applied within the departments in recent years. The SPP links the departmental strategy with staffing policy. A training plan is also part of it. A department's SPP is discussed by and approved annually by the Faculty Board and forms the framework in which the department can make its own decisions. The SPP focuses not only on academic staff, but also on support professionals. Talent and career development for support

professionals in (service) departments, such as secretarial staff, technicians and analysts is of essential importance in the primary process because of their crucial role in the faculty/department. Especially in the context of recognition and reward, there will be greater focus in the SPP on collaboration with support professionals in the years ahead.

Housing

Accommodation is another key challenge faced by the faculty. The faculty is in the process of a long-term and large-scale relocation programme from the W&N building to at least five separate buildings: O|2, the New University Building (NU), the VU Research Building SchoolWerkTuinen (SWT), MF and the AB wing of the W&N building. The new construction, partial relocation and related demolition and renovation process of part of W&N (in the period 2024-2027) requires continuous monitoring. The faculty is involved in drawing up the Schedule of Requirements, is contributing to the design process and maintaining contact with the (service) departments. One specific area of concern is that the faculty has grown enormously structurally, partly as a result of sector plan funds, Van Meenen funds and Gravitation projects, leaving insufficient room for the faculty in the current VU Amsterdam accommodation plan. A critical issue in the relocation process involves moving the animal-testing facility. The schedules for the demolition of W&N and new construction of SWT are not aligned, which means that there will be no animal-testing facility on campus for an extended period. This will be a great loss for the hundreds of VU Amsterdam and VU mc researchers who use the facility for their research. Temporarily relocating part of the animal-testing centre to the animal-testing facility on the AMC location is currently under serious consideration. This is a complex and risky project, in view of the strict laws and regulations, the capital-intensive nature of the facility and wide diversity in terms of the type of experiment and equipment.

The tight deadline for the complicated demolition schedule in a building with asbestos, radioactivity and a lot of concrete means that internal relocations are required. Laboratories will be excluded as far as possible, but this is partly why this is such a complex operation that will inevitably cause disruption to the remaining occupants of W&N. The faculty has now invested in additional staff in various places in order to effectively deal with the accommodation issues. In the years ahead, it will be important to monitor continually whether this is sufficient to deal with the rehousing programme and its future management.

The relocation across several buildings and the associated operational repercussions also have an immediate impact on the working climate. Spreading the growing faculty across various buildings means that we will once more need to address the issue of social cohesion. As a result, we will need to ensure that we can properly achieve the VU Amsterdam theme of social campus at faculty level: *living apart and working together*. In addition to organizing social events, this will also involve more specific issues relating to staffing, investments in equipment and collaboration for our facilities, such as the technology centres, labs, practical rooms, animal-testing centre and the faculty support services. Finally, and no less important, the visibility and proximity of the Faculty Board requires further attention. These issues will be addressed in the years ahead in collaboration with the department and support services.

Effective and agile faculty

The fact that our faculty is growing means that we must make efforts to maintain our effectiveness and agility, in line with the ambition for the whole of VU Amsterdam. For this reason, our faculty attaches great importance to the principle of integrated partnership, whereby academic staff and support professionals from different service departments take joint responsibility for tackling shared objectives for education, research and valorization/impact within the faculty and across VU Amsterdam. We develop faculty policy in mixed working groups of senior academic staff and support professionals. The faculty is increasingly developing specific policy and has specific support professionals on the payroll. This development is in line with the principle that general support is provided by central services and more specific support organized within the faculty itself. This is why, for example, the faculty employs a radiation expert and a coordinating biological safety officer (BVF) – positions that are too specific to be central, but extremely essential for the faculty in ensuring the physical safety of its staff. In addition to the radiation expert and the BVF, we also now have our own occupational health and safety officer, and additional capacity in HRM, C&M, IT, Strategy, and Accommodation. New, stricter laws and regulations mean that the number of issues is increasing, including new legislation on genetically-modified organisms (GMOs) and the Nagoya protocol for genetic sources. As a result, the demand for specific services is expected to increase in the years ahead. The link between central provision of general services and the specific issues dealt with in the faculty is one that has largely been designed and funded by the faculty itself over recent years. The faculty intends to evaluate these links, together with the central service departments involved. The aim will be to determine whether the existing links are sufficient, sustainable and appropriately funded and whether any new links will be needed. In addition, the faculty's ambitions for knowledge transfer call for additional capacity in terms of legal support and business development, as has already been realized in Amsterdam Neuroscience's [IAO](#) in partnership with IXA. Of course, there are countless issues at play at the interface between the more general and specific, which will require coordination in the form of integrated partnership.

One way of maintaining the effectiveness and agility of our growing faculty will involve applying the faculty's management philosophy of positioning the departments independently with their own overall management responsibility. To achieve autonomous positioning, a department requires sufficient critical mass and financial clout. Before, three smaller departments were merged to form A-Life, department sizes varied from 30 FTEs to 150 FTEs, with turnover ranging from 2.2 to 15 million. The smaller departments did not have the resilience to handle peaks and troughs independently. The differences in scale also meant that the tasks and challenges faced by departments were difficult to compare, making discussions about faculty strategy and policy more complex. Finally, greater numbers of departments mean a heavier administrative burden on the planning and control cycle.

Financial management

Financial growth and the increasing organizational complexity call for more robust internal financial management of the faculty in order to guarantee a stable financial base. To achieve

this, the faculty needs to have a better insight of the operating costs of education, research and valorization based on the principle of minimizing the administrative burden.

In 2020, the total budgeted turnover is more than €160 million with a staff of almost 1,100 FTEs. In recent years, student numbers have increased, doubling to reach over 8,000 students in less than ten years. We currently have more than 40 mono and multidisciplinary programmes. Many of these programmes are offered in close collaboration with other faculties, Amsterdam UMC, UvA, and the University of Twente. As a result, there is a high level of organizational and financial complexity, which calls for significant management effort from everyone involved in education. Both turnover and complexity are likely to increase further because the Van Rijn Committee has placed the funding of and collaboration within the science and technology domain high on the political agenda. In addition, research capacity has also increased significantly since 2019 as a result of the allocation of sector funds for sciences. As a follow-up to this, additional budgetary resources have become available as a result of the so-called Van Meenen motion. Some of this budget will be used to strengthen sector plan positions, but another portion will be released for other areas of research (the development of national sector plans for Earth & Environment and Biology and the faculty themes of sustainability and health, see [Research](#)).

Starting from 2020, changes are being made to the allocation of government university funding and this will primarily have significant consequences for the so-called KDM (model for passing on costs incurred). The KDM budget and KDM expenditure were made variable with a view to more effective management of funding levels on the one hand and overall costs of specific activities on the other. The implementation of the new VU Amsterdam financial and administrative system will be used to restructure administration within the faculty. In the future, departmental operations will need to be divided into sources of funding and educational programmes. This administrative restructuring is in part required for the financial management of research, since, from 2020, the overheads for contract-funded research commissioned by private parties will no longer receive additional funding. That means that all of the costs will need to be funded by commissioning authorities. As a result of this, the KDM costs will, from 2021, be charged to all projects, providing greater insight into the way in which the government funding budget is matched with projects. The administrative restructuring will also involve the financial management of education and/or degree programmes. The poor insight into the operation of education was a key point of criticism included in the Van Rijn Committee's report. In the longer term, it is expected that universities will have to report on the operation and overall costs of separate degree programmes. For internal management purposes, this knowledge is important for the Faculty Board in making decisions on any additional funding of specific degree programmes (at the expense of other programmes). This will therefore require reliable insight into the operations and the success and performance of the degree programmes as well as insight into the overall costs of programmes (KDM costs).

6. Implementation of Strategic Long-term Plan

In the sLTP, we have outlined the main challenges and plans for the years ahead. It goes without saying that we will not be able to achieve everything simultaneously. Our priorities will be laid down annually in annual plans. To determine these priorities, we will rely on input from the different faculty fora, committees, working groups and networks:

- FGOV with faculty Work Council (ODC) and the Faculty Student Council (FSR).;
- Heads of department's meeting;
- Educational programme councils;
- Faculty Board and observers (two student assessors and a member of staff);
- Administrative Consultative Meeting with the MT from departments, HR and BC (two per year)
- Departmental managers' meeting;
- Educational programme coordinators' meeting;
- Heads of service departments' meeting;
- Faculty lunches with various groups of staff (technicians, analysts, post-docs, associate professors, senior female staff, etc.);
- PhD coordinators' meeting;
- BETHCIE;
- Science secretariat meeting;
- Ad-hoc working groups, for example for the education portfolio analysis.

In the annual report, we will report on and evaluate the results of the priorities set. All annual plans and annual reports will be shared transparently within the faculty via our [FB webpage](#) (until we have a good environment in the new VUnet). All important policy documents and faculty information can also be easily accessed there. The Faculty of Science policy team supports the Faculty Board and the departments in the implementation of plans and policy in close collaboration with the faculty service departments.

Appendix 1: Interdisciplinary collaborations

Source: “[Interdisciplinary collaborations](#)”

Instituut / Profielthema	Health	Science for Sustainability	Connected World	Fundamentals of Science
Earth, Environment & Ecology		A-Life, AardW, IVM		
AIMMS	S&F, A-Life	S&F, A-Life		S&F, A-Life
Amsterdam Sustainability Institute (ASI)		BETA-breed		
		VU-breed		
Network Institute (NI)			INF, Athena	
			SBE, FSW, FGW	
LaserLaB	N&S			
	Amsterdam UMC			
A'dam Center Business Analytics (ACBA)			WIS, INF	
			SBE	
CLUE+			Athena, AardW	
			VU SSH faculteiten	
Amsterdam Center World Food Studies (ACWFS)		Athena		
		SBE		
ARCNL				N&S
				UvA, NWOM ASML
Amsterdam Neuroscience (ANS)	NeuroW, WIS			
	UvA, A'dam UMC			
Sarphati Amsterdam	GezondW			
	GGD, UvA, HvA, A'dam UMC			
Amsterdam Public Health (APH)	GezondW, Athena			
	FGB, A'dam UMC			
Talma Institute	GezondW			
	FSW, SBE			
Amsterdam Movement Sciences (AMS)	GezondW			
	FGB, A'dam UMC			

TPI Amsterdam		NeuroW, S&F, A-Life		
		A'dam UMC, ACTA		
VU-UT verbinding onderwijs & onderzoek				N&S, S&F, WIS
				UT