



TIES® with Impact

Transfer Strategy of TU Braunschweig



Foreword

Dear readers,

innovations are the engine of our society and the foundation for progress and prosperity. They bring new ideas and technologies into the world and make a significant contribution to overcoming the major challenges of our time.

TU Braunschweig is characterised by its outstanding research and teaching in many disciplines. The expertise built up over decades and the passion of our scientists form a strong basis for successful collaborations and transfer activities. Our focus is not only on cooperation with industry, but also on dialogue with society, especially social partners such as authorities, associations and NGOs.

As a performance dimension, transfer is part of the holistic development of our university. The targeted development of transfer requires a strategic approach

focussed on clear objectives. With our transfer strategy "TIES with Impact", we are emphasising transfer and innovation ecosystems (TIES) in order to generate impact in civil society. With our transfer activities, we are making a sustainable contribution to the further development of our economy and our society, particularly in our region.

We firmly believe that networking and collaboration between different transfer actors within and outside TU Braunschweig will lead to innovative solutions that contribute to global sustainable development in line with the UN Sustainable Development Goals. Let's launch projects together and explore new transfer paths. I cordially invite you to help shape the transfer of knowledge and technology between science, business, politics and society.

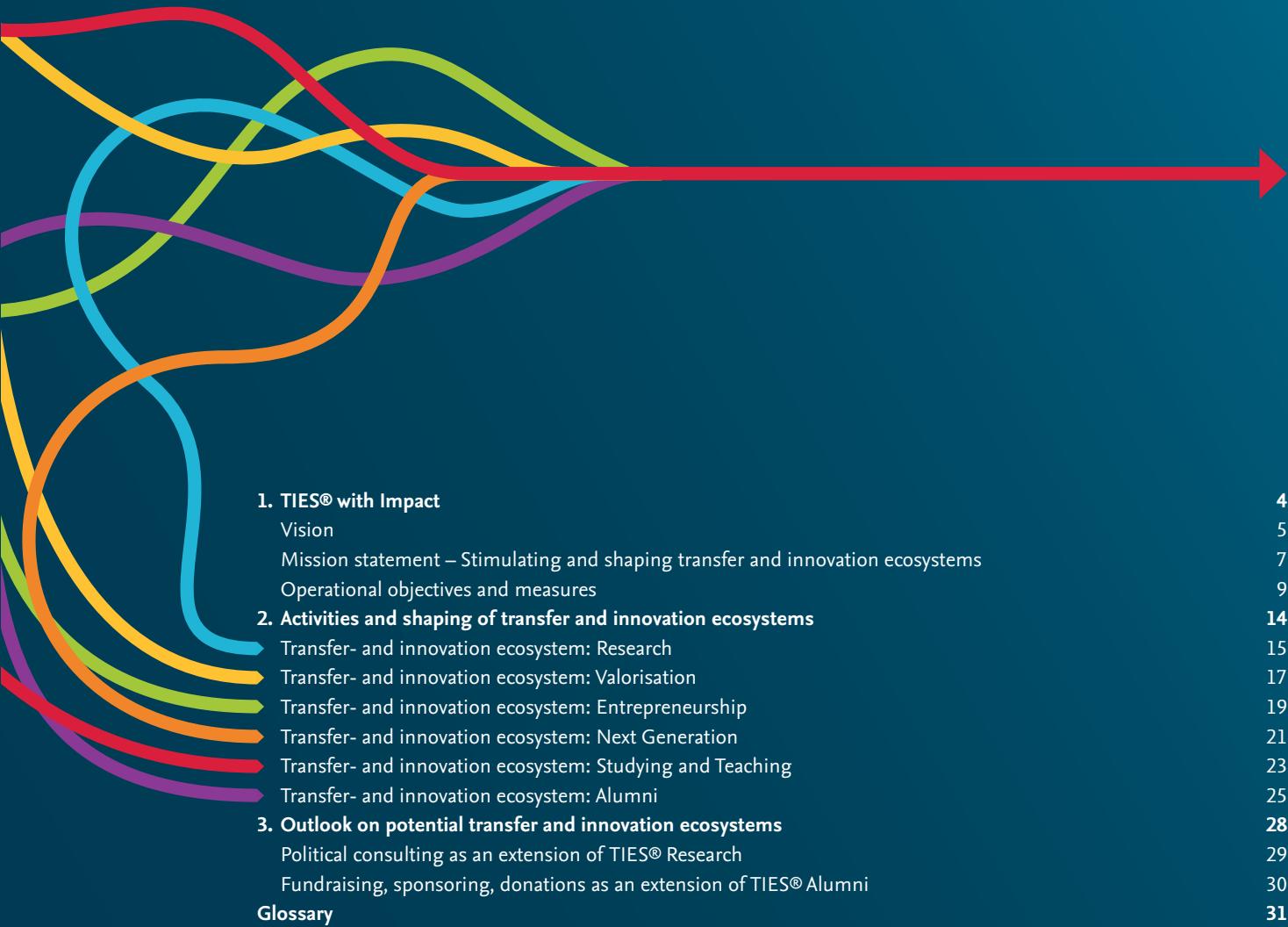
Best regards,



Foto: Frank Bierstedt | TU Braunschweig

A handwritten signature in black ink, appearing to read "Arno Kwade".

Vice President for Transfer and Innovation
at TU Braunschweig
Prof. Dr.-Ing. Arno Kwade







TIES®
with Impact

Vision

The University of Braunschweig meets the global challenges of our time with a passion for innovation. We offer our students, teaching staff, researchers, employees and partners spaces to actively shape social transformation processes. Under the umbrella term 'transfer', we combine concepts of technology transfer, knowledge transfer, relationship management and profitable contexts of knowledge exchange into a comprehensive understanding of transfer.



Knowledge exchange¹ is an important characteristic of our work and classifies an essential dimension of our transfer activities. Our relationships are multidirectional, with the aim that all parties involved benefit from the mutual exchange. We think of transfer in a circular way: from the university into society and economy in order to address their needs and expectations, and from society and economy into the university in order to address relevant issues and impulses.

Alongside study and teaching, research, governance and administration, transfer is one of the university's four performance dimensions and is firmly anchored in the university's strategic development concept. It is part of our self-image to align our work with the performance dimensions and overarching dimensions² and to build profitable bridges between the subject areas. We involve diverse target and status groups in the design, conceptualisation and implementation of our transfer activities and see ourselves as an enabler of opportunities. We offer opportunities for ALL to work in partnership with technological and social innovations to secure the future of human life.

Our research results provide the basis for a successful transfer of technology and knowledge. Our core research areas and research centres, as well as our collaborative research centres and clusters of excellence conduct interdisciplinary and transdisciplinary^{3,4} research, and play a special role as incubators and drivers of transfer. In the centre of one of the strongest research regions in Europe, we have strong regional ties with non-university research institutions and are constantly expanding these partnerships.

A wide range of teaching and study programmes enable future generations to develop versatile, interdisciplinary skills in addition to specialist expertise. Our research and transfer-orientated teaching formats enable our students to transfer the knowledge they have acquired to society and the economy and open up exciting regional and international career options for them.

At the centre of our vision for successful transfer are our Transfer and Innovation Ecosystems (TIES®), which we are building and strengthening through the measures set out in this strategy. We are able to accelerate transfer through successful collaborations and partnerships that create added value. The main players - politics, science, economy and civil society - are engaged in an open, reciprocal and partnership-based exchange that enables rapid permeability between the partners involved in the innovation system. Together, we address the global issues and challenges of our time and transfer solutions to society and the economy.

With our transfer activities, we are pursuing a path with the aim of generating impact⁵⁻⁸, i.e. having an effect on society, and jointly shaping the transformation of the present for a better future. For us, transformation also means that we operate in line with the 17 Sustainable Development Goals of the United Nations and accept our responsibility to create a better future for present and future generations.

Mission statement

Stimulating and shaping transfer and innovation ecosystems

The basis for the innovative capacity at TU Braunschweig is our research strength. Our researchers are able to devise teaching, research and transfer activities from our six faculties. In particular, our core research areas – ‘Mobility’, ‘Metrology’, ‘Engineering for Health – from Molecules to Processes’ and ‘City of the Future’ – bring together scientists from all disciplines across our faculties – from engineering and architecture to natural and environmental sciences, computer science, as well as economics, humanities and educational sciences. In our cross-faculty and interdisciplinary research centres, we work in international teams on the major questions and challenges of our time. We are aware of our social responsibility to create innovations and make knowledge accessible and understandable. Against this backdrop, we are expanding our current interdisciplinary innovation systems into transdisciplinary^{3,4} transfer and innovation ecosystems (abbreviated TIES®).



TIES® MISSION STATEMENT

We operate cooperatively at all levels (regional, national, European, global) with partners from politics, academia, economy and civil society in transfer and innovation ecosystems and make our innovations, ideas and results effective and visible with society and the economy.

Together with our partners, we maintain and strengthen our long-term and successful transfer and innovation ecosystems in the following six key areas:

- Research
- Valorisation
- Entrepreneurship
- Next Generation
- Studying & Teaching
- Alumni

Embedded in transdisciplinary TIES, which we actively develop and help to shape, we - together with our diverse partnerships - drive forward application-oriented cutting-edge research that results in technological and social innovations with impact. Our TIES® are dynamic and boast a far-reaching impact. Long-term partnerships at eye level, effective knowledge transfer and knowledge exchange (mutual, multi-directional exchange) characterise our cooperative work. Amidst one of the strongest research regions in Europe, we are in open dialogue with external stakeholders worldwide through collaborations, networks and memberships. The transfer and innovation ecosystems become a motor for cooperation and innovation.

We consciously focus on cooperation with various stakeholders, such as citizens, companies, universities, social actors, politics, research institutions, universities, start-ups, investors and government authorities. We recognise the value of specific expertise and individual skills and resources that are essential for collaborative, sustainable change and transformation. All participants have a strong mindset and understanding of transfer and focus their joint work on creating impact. This collaboration leads to the development of both technological and social innovations that are jointly implemented to achieve impactful results.

Operational objectives and measures

In order to enable the successful development and expansion of our transfer and innovation ecosystems, we are creating end-to-end transfer governance that synergistically bundles centralised and decentralised transfer structures. Transfer activities are driven forward and supported in a targeted and professional manner by our designated Transfer Service office, as well as the Entrepreneurship Hub, Haus der Wissenschaft GmbH and Innovationsgesellschaft TU Braunschweig (iTUBS) mbH.

To this end, we define clear objectives with all those involved and ensure effective communication and cooperation between all those who assume responsibility for transfer within our TIES in- and outside our university. The objectives, measures and activities of our transfer strategy are based on the University Development 2030² initiative, with which TU Braunschweig is implementing its strategic path of holistic development.

We are convinced that, on the basis of these guidelines, TU Braunschweig will remain effective and competitive in national and international competition in the future. The concept of holistic development systematically links the four central performance dimensions (research, studies and teaching, transfer, governance and administration) of our university with the overarching dimensions of strategic importance to TU Braunschweig: digitalisation, internationalisation, equality and diversity, and knowledge exchange. The paradigm of sustainability is the guiding principle for our work in all performance and overarching dimensions. The development goals and principles, formulated as part of the University Development Initiative, guide us in our holistic development and provide orientation for the development planning of its units.

The basis for the success of holistic development is, on the one hand, the foundation of jointly developed values for cooperation at our university and, on the other hand, the targeted coordination and management of strategic activities in all performance and

overarching dimensions. The objectives, measures and activities of the transfer strategy strategically develop the performance dimension of transfer. With our transfer strategy "TIES with Impact", we place transfer and innovation ecosystems at the centre of our transfer objectives and activities. We particularly aim at bringing the various transfer stakeholders within and outside TU Braunschweig together in order to achieve the best possible impact.

We ensure a cultural change that values transfer, creates incentives for transfer activities and strategically develops transfer. In doing so, we follow the maxim of efficiently pooling and utilising existing resources in order to generate significant added value. As part of the transfer strategy, the following overarching goals are to be pursued and gradually supported and achieved through key measures in order to build a forward-looking transfer culture and establish TIES and lead it to success.





STRATEGIC OBJECTIVE #1

Institutional anchoring of transfer in the sense of transfer governance

Measure 1.1

Anchoring transfer as a performance dimension at TU Braunschweig and assigning transfer to a Vice President for Transfer and Innovation (VPT) in the sense of an expanded understanding of transfer (technology transfer, knowledge transfer, knowledge exchange and relationship management).

Measure 1.2

Establishing transfer and innovation ecosystems as well as developing and establishing agile and efficient governance structures for the respective TIES®, taking into account existing structures, individuals, institutions and organisational units that drive transfer-relevant topics.

Measure 1.3

Anchoring transfer in the designated Transfer Service office, which bundles the service structures in transfer, including technology transfer, knowledge transfer and relationship management, is responsible for setting up the TIES® governance structure, and organises and strategically expands the transfer portfolio in collaboration with additional partners (including Entrepreneurship Hub, iTUBS mbH and Haus der Wissenschaft GmbH).

Measure 1.4

Establishing transfer contact persons in each core research area, as well as in the research centres and clusters of excellence contained therein, who translate and shape the transfer strategy in the respective area.

Measure 1.5

Establishing dean's office members for transfer in the faculties, who carry the understanding of transfer into the faculties and accompany the development of transfer activities.

Measure 1.6

Establishing an editorial and communication staff member for transfer at the interface between the Transfer Service and Press and Communication units, who makes transfer activities visible and manages transfer communication.

Measure 1.7

Establishing and integrating transfer mentors appointed by the university's executive board into the TIES® governance structure.



STRATEGIC OBJECTIVE #2

Establishing expanded key transfer structures

Measure 2.1

Establishing an innovation fund for transfer-promoting measures, complementing the impulse fund for research.

Measure 2.2

Establishing incentives for transfer activities from the innovation fund that recognise and promote commitment to transfer activities from research and teaching.

Measure 2.3

Developing an university-specific set of indicators for transfer, which serves as the basis for distributing money from the innovation fund and, in due course, includes the transfer activities of the Innovationsgesellschaft TU Braunschweig mbH and the Haus der Wissenschaft GmbH.

Measure 2.4

Developing and integrating a transfer monitoring system into the university's documentation systems (e.g. research information system) for the continuous observation of the results and effects of transfer activities and for the strategic development of our TIES® priorities and structures.

Measure 2.5

Anchoring and incorporating transfer in internal university documents and processes by adapting key documents of the TU.

Measure 2.6

Establishing an acknowledgement culture for commitment to transfer by anchoring transfer as a category in internal awards in research and teaching, and by taking transfer into account when drawing up target agreements and receiving performance-related payments.





2

Activities and shaping
of transfer and
innovation ecosystems

Research



Strategic objective:

We strengthen our transdisciplinary relationships with society, politics and the economy, and pro-actively involve our practice partners.

Our researchers have long conducted their research in an interdisciplinary manner and work closely with national and international scientific partners at regional and global level. In order to bring technological and social innovations to fruition more quickly and to have an impact on society, we strive to further develop our core research areas with the therein integrated research centres, clusters of excellence and collaborative research centres into internationally visible beacons and engines of transfer.

Our aim is for our researchers to develop a transfer mindset and involve practice partners⁹ from society and industry in their transdisciplinary^{3,4} transfer projects from the beginning, as part of a lively transfer culture. In line with a multidirectional knowledge exchange approach, external partners support us in jointly defining problems and developing creative solutions. They help us to successfully implement projects and develop the impact of research results.

Research results with primarily commercial exploitation aspects, such as intellectual property or business start-ups, are dealt with in separate chapters. The valorisation of the findings of our research in this chapter includes many possibilities, in particular aspects and formats of social communication, consulting and participation, including cooperation with Innovationsgesellschaft TU Braunschweig mbH and Haus der Wissenschaft GmbH.

In order to implement innovative transfer activities in research, our researchers receive support, recognition and incentives from the innovation fund. Target agreements lay the foundation for the further development of transfer activities. Efficient community-building outreach formats, particularly for larger collaborative projects such as Clusters of Excellence and Collaborative Research Centres, enable the development of new stakeholder groups for integration and connection to transfer activities, e.g. potential students and people who are under-represented at the university.

As part of TIES® Research, we are striving to achieve the strategic objective through the following activities:

Activity 1.1

Developing and establishing an agile and efficient governance structure for TIES Research and detailing the role profiles of the governance actors.

Activity 1.2

Expanding and extending the range of courses and workshops for researchers to promote transfer and cooperation skills and strengthening a transfer mindset.

Activity 1.3

Developing and expanding dialogue-oriented transfer formats, including knowledge exchange with society (through citizen science projects, co-creation, living labs, Zukunftswerkstatt) and establishing transfer incentives from the Innovation Fund to intensify these activities.

Activity 1.4

Establishing acknowledgement structures for transfer activities in research, including prizes, transfer communication, performance-related pay.

Activity 1.5

Coordinating and regulating the cooperation with Innovationsgesellschaft TU Braunschweig mbH (iTUBS) and Haus der Wissenschaft GmbH (HdW) with regard to extended transfer activities, including science communication, services (e.g. contract research, expert opinions and consulting services), event management (conference organisation and conferences), transfer-oriented further training.

Activity 1.6

Coordinating, establishing and developing collaboration formats with non-university research institutions, including joint transfer centres and joint labs.



Photo: Sebastian Olszewski | TU Braunschweig



Photo: Marek Kruszewski | TU Braunschweig

Valorisation



Strategic objective:

We systematically identify and utilise innovations with economic and/or social benefits on the basis of our developed active and modern IP management.

TU Braunschweig is a driving force for innovation in the region and plays a central role in the regional innovation network. We generate valuable knowledge and diverse research results, particularly in our core research areas. Good collaboration with commercialisation partners is necessary to ensure that these results have an impact on the economy and society.

The chapter "TIES: Research" addresses opportunities for valorising research results that do not focus on the protection of intellectual property, such as (paid) services. Spin-offs are also considered a valorisation option, but are given a separate chapter "TIES: Entrepreneurship" due to their particular importance.

We pave the way for our researchers to exploit their inventions commercially and socially, as they form the basis for new products, processes and services that have an impact on the economy and civil society. The protection and utilisation of intellectual property play a special role at TU Braunschweig and are anchored in a special patent strategy that builds on the transfer strategy.

The protection of our research results emphasises our professional expertise and enhances our national and international reputation. We work together with external commercialisation agencies and evaluate invention disclosures on the basis of defined criteria before we file a patent application. Our intellectual property rights, especially patents, are successfully used to attract third-party funding and initiate collaborative research. Property rights often form the basis for our collaboration with industry, regional SMEs and our spin-offs. In the medium term, we will operate in a strong regional network with strategic commercialisation formats and application partners.

As part of TIES® valorisation, we are striving to achieve the strategic objective through the following activities:

Activity 2.1

Establishing innovation scouts in the context of developing and establishing an agile and efficient governance structure for TIES® Valorisation and TIES® Entrepreneurship for active innovation scouting.

Activity 2.2

Expanding and optimising service structures in the patent and valorisation process, as well as expanding the range of courses and workshops offered for our researchers on managing intellectual property rights, inventions, patents and their valorisation.

Activity 2.3

Expanding the intellectual property rights contract portfolio to strengthen our position for collaboration with industry, start-ups and regional small and medium-sized enterprises.

Activity 2.4

Developing an IP marketing concept in collaboration with the Innovationsgesellschaft TU Braunschweig mbH.



Photo: Marek Kruszewski | TU Braunschweig

Valorisation should already be considered when developing new project ideas and during the course of the project.

Entrepreneurship



Strategic objective:

We and our region will become one of Germany's start-up hotspots and produce successful spin-offs with a lasting impact on the economy and society.

Spin-offs play an important role in the economic and social development of the region and strengthen the university's profile. Our spin-offs create jobs, retain skilled labour in the region and transform the economy and society. Our start-ups, which are both economically and socially orientated, bring innovative products, business models and services to the market. They secure our economic and social prosperity and remain closely linked to the TU through long-term collaborations and joint projects.

The path to a spin-off is extensive and is supported by the TU Braunschweig with a variety of service offers. Through an active role and close cooperation in the region's start-up network, we enable our founders and those interested in founding a company to make the transition from university life to self-employment along the start-up journey. TU Braunschweig is working in a cross-university initiative to establish a university-independent organisation in a close network of universities in Lower Saxony and university-related start-up and commercialisation centres. In order to promote entrepreneurial action, we actively identify promising

technologies and develop them step by step with a suitable start-up team into a product or service. The Entrepreneurship Hub's idea generation and entrepreneurship education services (workshops, seminars, innovation scouting) form teams and talents that are operationally supported and promoted by the Transfer Service (application advice, EXIST funding programmes, start-up grants, networking, innovation scouting). Early contact with external partners in the start-up network such as Braunschweig Zukunft GmbH, Innovationsgesellschaft TU Braunschweig mbH (iTUBS) and TRAFO Hub GmbH opens doors to groundbreaking factors for success in the post-foundation phase such as networking events, investors, financial capital and customers.

As part of TIES® Entrepreneurship, we are striving to achieve the strategic objectives through the following activities:

Activity 3.1

Developing and establishing an agile and efficient governance structure for TIES® Entrepreneurship, and detailing the role profiles of the governance actors along the entrepreneurial journey, in particular from the Entrepreneurship Hub through the Transfer Service and up to external start-up funding organisations and agencies.



Photo: E. Qirinxhi | TU Braunschweig

Activity 3.2

Establishing social and female entrepreneurship as important pillars of the university's entrepreneurial activities by establishing support programmes.



Photo: Eric Haase | TU Braunschweig

Activity 3.3

Anchoring and expanding our Entrepreneurship Education offerings of courses, seminars and workshops to raise awareness and professionalise relevant status groups.

'Entrepreneurship as a career option?!' – Every member of the university should have had this thought in their head at some point during their university life.

Activity 3.4

Fostering the service structures along the start-up process (including subsidy consultancy, entrepreneurial alumni networking, communication) as well as active screening for entrepreneurial talent and technologies, and patents with entrepreneurial potential in our research centres and core research areas by innovation scouts.

Activity 3.5

Further developing the entrepreneurial incubator space concept and establishing further co-working spaces close to campus where entrepreneurship culture is lived.

Activity 3.6

Expanding our collaboration with the regional entrepreneurial network to implement joint projects for supporting the regional seeding of start-ups in the post-entrepreneurial phase (networking events with investors and/or customers, attractive conditions for seeding start-ups).

Next Generation



Strategic objective:

We interest and attract young people from different backgrounds to the university through tailor-made offerings, formats and channels in various social spaces and at different learning locations.

TU Braunschweig attaches great importance to school-related outreach activities with young people in order to promote transfer. We want to create low-threshold access to the university for many groups. We want to address a large number of young people in their respective educational ecosystems, which are characterised by the spatial, social and cultural contexts in which these young people live. To this end, we offer tailor-made and empirically validated formats to address both particularly interested students and under-represented groups, including first generation. In the STEM field, we are particularly committed to girls and want to inspire young people from different social backgrounds to pursue a university education. In addition, we offer training courses to the region's teachers to get them interested in TU topics and incorporate research content in their school lessons.

Existing structures pool their expertise in order to successfully establish and further develop school-related outreach activities. The working group "School-University" (deut. AG Schule-Uni), in which existing school projects already cooperate, can be further developed into a network of shared expertise. The Faculty of Humanities and Education, in particular the Research Institute of Teacher Education (RI), initiates or supports interdisciplinary, co-operative research projects in the field of teacher training and further education on the basis of empirical research. The Press and Communication department has contacts with schools and expertise in making the offers visible. The House of Science offers an extensive portfolio of school-related outreach formats as well as organisational expertise in the application for and implementation of third-party funded outreach projects.

As part of TIES® Generation Future, we are striving to achieve the strategic objective through the following activities:

Activity 4.1

Developing and establishing an agile and efficient governance structure for TIES Next Generation by integrating or transferring existing structures and activities, including the School-University Working Group and pupil laboratories.

Activity 4.2

Establishing an overarching coordination staff member (cross-faculty and core research area wide) for school-related outreach activities, which bundles TU offers for pupils and teachers, including targeted teacher training and service structures for researchers, including planning and advising on school-related outreach activities for research grant writing.

Activity 4.3

Expanding existing pupil laboratories into teaching-learning laboratories that build on empirical research results and focus on the effectiveness of the measures.

Activity 4.4

Further developing our format 'Children's University's' (Kinder-Uni), and expanding the offering structures, formats, channels and extracurricular learning locations to address young people from different spatial, social and cultural contexts.



Photo: Ahmed Nassef | TU Braunschweig



Photo: E. Qirinxhi | TU Braunschweig

Studying and Teaching



Strategic objective:

We involve strategically selected practice partners in our degree programmes and teaching and provide our students with universally applicable transfer and innovation skills.

Our trainees, students and graduates have been contributing to the economy, politics and civil society at regional, national and international level for decades. Teaching staff not only enable them to acquire up-to-date scientific expertise, but also important future skills (see teaching mission statement). In this way, we support them in developing responsible, sustainable and future-orientated ways of thinking and acting. Practical partners from outside academia support us in our teaching and studies by providing skills-oriented training and practical insights alongside specialist expertise. For their part, they benefit from the proximity to research and competent specialists of the future.

Our students use their encounters with successful players from society and business to strengthen their own profile and develop collaborative transfer skills. Our innovative and creative graduates learn to tackle societal and technological challenges, develop a transfer mindset and understand how to apply key principles they have learnt.

Our teaching staff receive support, appreciation and recognition when implementing innovative transfer activities in teaching. Prizes honour their commitment to transfer-oriented teaching, while performance awards recognise special transfer activities in teaching. Target agreements lay the foundation for the strategic further development of transfer-orientated teaching and we use the innovation fund to create targeted incentives for the integration of transfer into teaching. Seminars, courses and workshops contribute to a broadening the understanding of transfer and promote the development of transfer and cooperation skills.

As part of TIES® Teaching and Studying, we are striving to achieve the strategic objective through the following activities:

Activity 5.1

Developing and establishing an agile and efficient governance structure for TIES Teaching and Studying and detailing the role profiles of the governance actors (e.g. dean's representatives for transfer).

Activity 5.2

Expanding the involvement of practice partners to extend the range of transfer-orientated teaching and to strengthen a transfer mindset, e.g. by:

- Integrating entrepreneurship education from the Entrepreneurship Hub into degree programmes, e.g. a double lesson in the first semester of study;
- Involving practice partners in teaching and learning formats (individual lectures, seminars, excursions, etc.), especially from the second year onwards;
- Developing new transfer activities together with practice partners such as service-learning, co-creation, Hi-challenges, engagement and public welfare projects;
- Increase in Bachelor's, Master's and doctoral theses with external support.

Activity 5.3

Expanding and extending the range of courses, workshops and cross-faculty good practice dialogue rounds for teaching staff to promote transfer and cooperation skills and to implement a broad understanding of transfer.

Activity 5.4

Establishing transfer incentives for the implementation and development of innovative transfer activities in teaching programmes and for the appreciation and recognition of transfer-oriented teaching commitment and activities, in particular via the innovation fund.

Activity 5.5

Strengthening the support of students and student associations through foundations and active alumni relations.



Photo: Kristina Rottig | TU Braunschweig

By providing support as part of the Deutschlandstipendium scholarship programme, we create financial relief and give our students more time for their studies.

Alumni



Strategic objective:

We strengthen the individual bonds and relationships with our alumni worldwide, who, as a visible part of our vibrant community, leverage their time, skills and financial commitment (time-talent-treasure) together with us.

We welcome and promote the involvement of our alumni and alumnae in university activities and anchor activities with and for alumni as an important pillar of transfer, especially knowledge exchange. Alumni and alumnae of TU Braunschweig are people who have studied, taught, researched and/or worked at the university for a period of at least six months. We consider these former students, lecturers, researchers and employees to be important ambassadors for the university who have valuable practical experience in various sectors. We want to actively involve them in university life and encourage them to leverage their time, skills and financial commitment (Time-Talent-Treasure) together with us.

In the development of alumni work with a focus on transfer activities, we initially place an emphasis on individual, committed personalities who act as convinced multipliers both nationally and internationally and open doors to new partnerships, collaborations and networks. Alumni return, for example, as cooperation partners for science or enrich a lecture with practical insights and career opportunities for students. The central Alumni and Career Service Centre works together with existing alumni associations and the Braunschweig University Association to strengthen alumni work and encourage transfer activities and financial donations from alumni.

As part of TIES® Alumni we are striving to achieve the strategic objective through the following activities:

Activity 6.1

Developing and establishing an agile and efficient governance structure for TIES® Alumni, and detailing the role profiles of the governance actors.

Activity 6.2

Developing and implementing a communication strategy for addressing alumni to expand our network and relationship management in line with the alumni strategy deployed by our Transfer Service office.

Activity 6.3

Fostering an allegiance to the university, and actively maintaining long-term, reciprocal ties by making attractive offers to return to their former place of work, and become actively involved, for example at alumni events.

Activity 6.4

Establishing and developing service structures for researchers and teachers that promote the active involvement of alumni when it comes to research, teaching and transfer activities.

Activity 6.5

Identifying alumni-based shared-interest subgroups (e.g. entrepreneurial alumni, international alumni, first-generation ambassadors), and supporting these groups in setting up and running subject-specific networking events with the involvement of the TU community.

Activity 6.6

Developing our communications concept to interest our alumni in the wide range of opportunities of making a financial commitment to and with the TU, including the Carolo Wilhelmina Foundation, Braunschweig University Association, sandbox projects, Deutschlandstipendium stipend programme, fundraising, and individual inheritance-based funding.



Photo: E. Qininxhi | TU Braunschweig



Photo: Marek Kruszewski | TU Braunschweig





3

Outlook
on potential transfer and
innovation ecosystems

Outlook

The following transfer topics are promising for the further development of the six transfer and innovation ecosystems mentioned, but will only be accompanied by active measures at a later date if the appropriate resources are available:

Political consulting

as an extension of TIES® Research

We are known regionally, nationally and internationally for our expertise, and are shaping the political discourse on the key global issues of our time.

Consultancy

We make our expertise available through the preparation of expert reports, position papers, policy papers and similar publications.

Committee work

We are involved in various committees, contribute our expertise, and make a contribution in the decision-making process.

Networking

We actively participate in events (e.g. parliamentary evenings) or take part in their organisation in order to present our assessments and proposed solutions to a broad audience and promote dialogue.

Fundraising, sponsoring, donations

as an extension of TIES® Alumni

We have professional fundraising management and strong contacts with committed individuals, foundations and other organisations in order to successfully plan and implement fundraising projects and bring them to fruition.

Our Fundraising service desk of the Transfer Service office is developing a fundraising vision for TU Braunschweig and expands our fundraising portfolio accordingly (legacy marketing, memorial donations).

We raise awareness among key figures within the university (presidential board, professors, deans, spokespersons of research centres) and systematise the recording, evaluation, planning and implementation of fundraising projects.

We show our partners how they can actively support our university and show them the extent to which their actions have an impact.

Our fundraising campaigns for projects of strategic importance convey our strengths, the values we stand for and help raise the public profile of our university. We are developing a communications marketing campaign to show our supporters and friends how much we appreciate their financial commitment.

Glossary

1 Knowledge Exchange

Knowledge exchange activities and processes are collaborative, creative, mutually beneficial activities aimed at transforming knowledge, ideas and research results into outcomes and impact. Knowledge exchange encompasses a range of activities, formats and skills that enable close collaboration between universities and partner organisations. Knowledge exchange refers to any process through which academic ideas and insights are shared, and external perspectives and experiences are integrated into academia. This can occur at any point in the research process.^a

2 Overarching dimensions in our University Development Initiative 2030

Our overarching dimensions are digitalisation, internationalisation, equality and diversity, knowledge exchange as well as sustainability and are anchored in TU Braunschweig's University Development Initiative 2030.^b

3 Transdisciplinarity

According to Jürgen Mittelstraß from 1998, '[...] transdisciplinarity is understood to mean that scholarship, i.e. research, breaks away from its professional, disciplinary boundaries, and defines its problems with a view to non-academic, social developments in order to solve these problems independent of discipline and subject'.^c

4 Quadruple-Helix-Model

The Quadruple Helix (QH) model of innovation was first described by Elias G. Carayannis and David F.J. Campbell in 2009. It recognises four main actors in the innovation system (academia, politics, industry and society) that do not interact in unidirectional push-pull relationships, but in multi-layered, dynamic, bidirectional ones. This underlines the role of society as an important actor in national innovation systems, and the importance of the public's active involvement in innovation projects.^d

5 Impact analysis

Effect (chain of effect or impact ladder) is described as inputs to outputs up to outcomes and impact. The KTT Impact Canvas is a template for planning, presenting and compactly recording the impact measurement of transfer activities when it comes to knowledge and technology transfer.^{e,f}

6 Output

Direct products or implemented transfer activities, e.g. invention disclosure, workshops and events, exhibitions, etc. Outputs are essential prerequisites for achieving an effect, but do not themselves say anything about the effect of a project.^{e,f}

7 Outcome

Effects at the level of the groups of actors involved, also called direct effect. A change in abilities and/or activities can be observed after a time lag. The transfer partners can be both knowledge recipients and knowledge providers (multidirectional understanding of transfer).^{e,f}

8 Impact

Effects at the societal level, also called indirect effect or societal effect. A long-term effect and benefit can be observed in society, leading to changes in society with a time lag to the transfer activity.^{e,f}

9 Practice partners

Practice partners from business, politics, the public sector and civil society are all those conceivable external actors that universities collaborate with, e.g. companies, associations, NGOs, cultural institutions, foundations, the social economy, clubs, churches or religious communities, actors in politics and levels of government at the municipal, state and federal level, as well as at the international level.^g

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