



Technische  
Universität  
Braunschweig



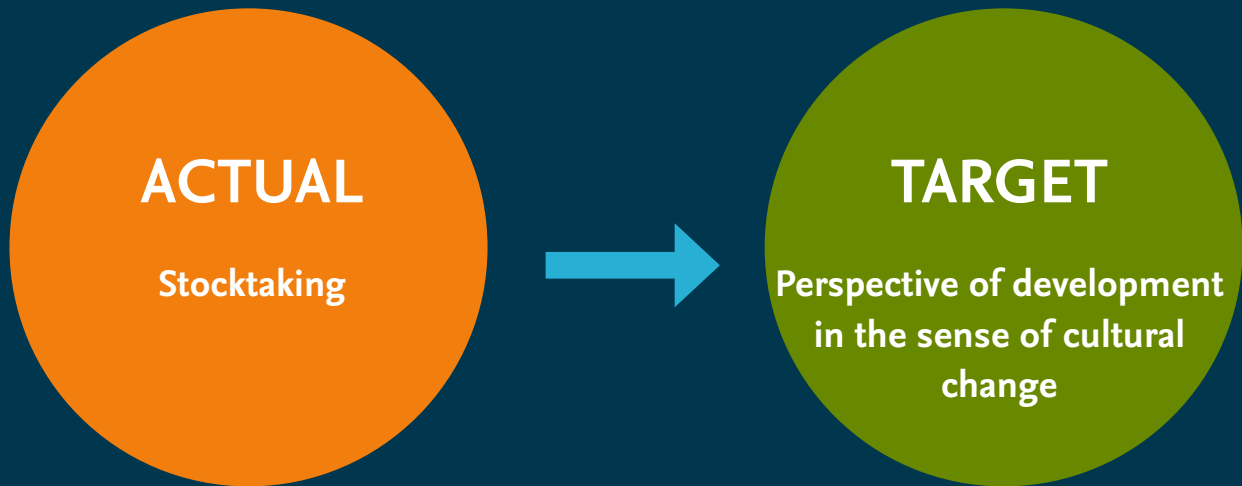
# Cultural Change at TU Braunschweig

in the Context of the early career researchers promotion programme

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## PREAMBLE

### **Inventory – actual consideration**

We are the University of Technology with the longest tradition in Germany and have been providing impetus for research, teaching, transference and science management for around 275 years. The members of our academic community, the professors, the academic staff, the students and the employees in technology and administration shape the development of our university. As part of a bottom-up strategy process, we have defined our goals and values and continue to develop them further.

### **Perspective of development in the sense of cultural change – target consideration**

We see ourselves as part of the international research system. Our career system is open and diverse, and our recruitment strategy is transparent. We realise academic career paths for externally and internally trained scholars. The scholars and the students we train bring their expertise to business, science, and other organisations and remain committed to us and our values.

# UNIVERSITY DEVELOPMENT

## Inventory

On the basis of its tradition and profile, TU Braunschweig is developing into an internationally visible, agile university with a participatory university structure.

## Current or on-going measures

### Structurally

- A strategy process on common aims and values
- Project centre for inter-university innovation projects, e.g. in the field of teaching and digitisation
- Participation platforms for campus life, e.g. "Sandkasten" (sandbox)
- Participatory development of a research governance
- Implementation of model regulations for institutes in cooperation with all faculties

### Materially

- Transparent budgeting for the faculties according to performance indicators, taking into account the performance-oriented allocation of funds by the State of Lower Saxony

### Culturally

- Faculty-transcending Core Research Areas and research centres
- Academic and organisational equality of W2/W3 Professors
- Reduction of one-professorship institutes and increase of the number of multi-professorship institutes

## Perspective of development

We want to further develop our research and research-supporting organisational units to develop more synergies, in research management and in the use of resources, between the disciplines. The new structures are based on international research standards for creation and quality assurance as well as for participation and joint responsibility. This will be secured in a binding and transparent manner.

## New measures

### Structurally

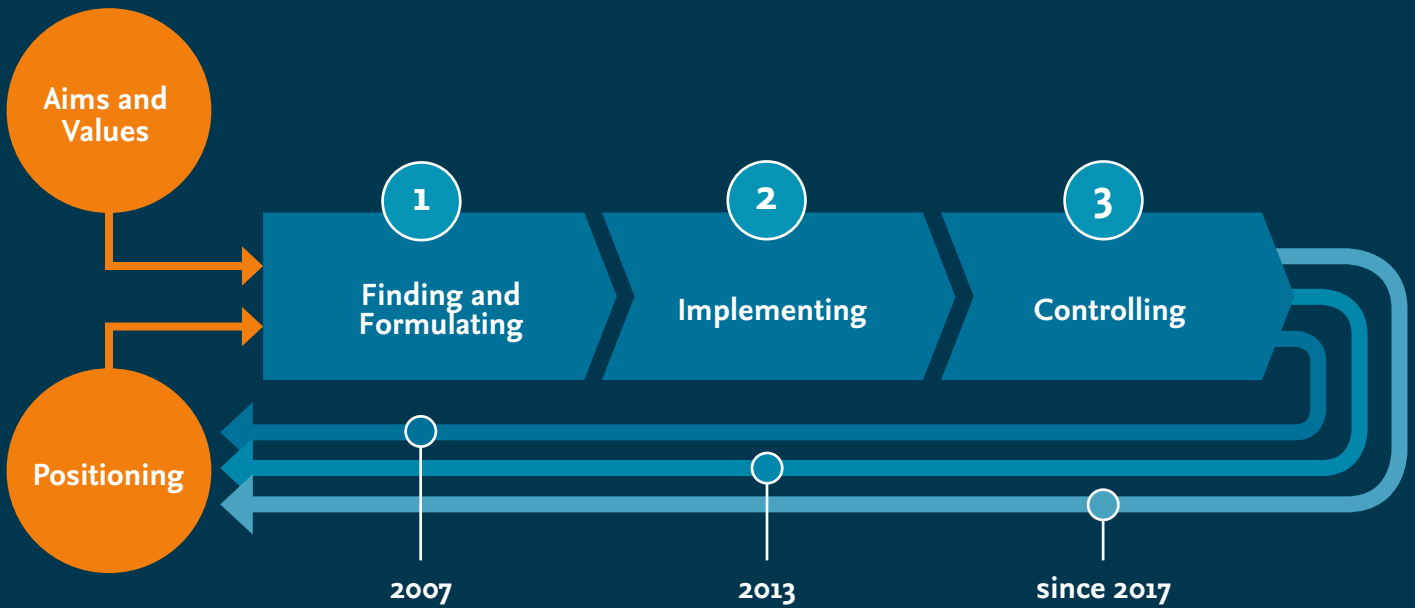
- The implementation of research governance
- Speakers and board members in the main research areas and research centres elected by members

### Materially

- The transparent and performance-based budgeting of Core Research Areas
- Incentive funds ("Impulsfonds") for further networking among disciplines and development of new research fields

### Culturally

- Research centres with interdisciplinary teams
- Development and targeted funding of interdisciplinary Research Training Groups
- Equal membership in research centres from career phase R2 onwards





LehrLEO

LehrLEO-Awards



# CULTURE OF "GOOD TEACHING"

## Inventory

We have established a culture of "good teaching". This is documented by the development and dissemination of innovative forms of teaching and learning, a broad range of qualification programmes for instructors and established quality assurance procedures in teaching.

## Current or on-going measures

### Structurally

- Quality assurance processes in studies and teaching, both at the faculty level as well as at TU as a whole
- A "Teaching and Media Education" project group
- The obligation of newly appointed professors to further their didactic qualifications
- High priority of didactic suitability in appointment processes

### Materially

- Acquisition of substantial third-party funding ("The Quality Pact for Teaching", "The Quality Initiative for Teacher Training")
- Internal university funding programmes for innovative teaching concepts and internal transference within the university
- "Special performance bonuses" for outstanding commitment to teaching
- Support for school laboratories in various disciplines

### Culturally

- Appreciation of special achievements, e.g. through awards like the "LehrLeo" award
- Visibility of innovative teaching formats, e.g. through special events such as "Tag der Lehre" (a whole day devoted to teaching)
- Regular exchange of best practice formats in teaching, e.g. within the framework of TU9

## Perspective of development

At TU Braunschweig, we want good teaching to directly incorporate the results and processes of current research and to be oriented towards research findings in teaching and learning. We promote subject-specific scientific discourse and the ability to conduct independent research.

## New measures

### Structurally

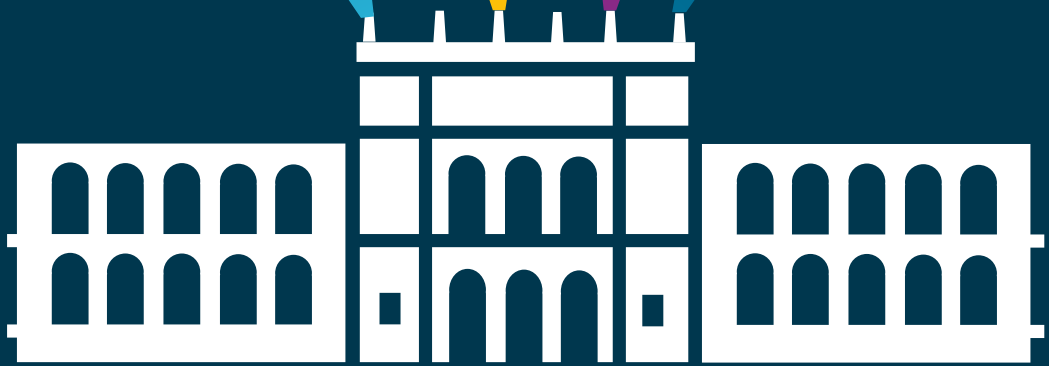
- Evaluation, clustering and sustainable safeguarding of competencies from the projects "The Quality Pact for Teaching", "The Quality Initiative for Teacher Training" and "The University Forum on Digitisation"
- The methodological advancement of teaching evaluations
- Support of early teaching responsibility and the visibility of emerging scholars, also in undergraduate courses

### Materially

- Institutional support for the acquisition of research and transference projects for innovative teaching and learning concepts
- Advancement of the digital teaching and learning infrastructure
- Expansion of the range of classrooms and student residences on offer

### Culturally

- Extension of categories for "LehrLeo"
- Increased nominations for external teaching awards
- Regular exchange of best practice formats in teaching with international partners
- Joint teaching formats with international partners



INFECTION & THERAPEUTICS

FUTURE CITY

METROLOGY

MOBILITY

# CORE RESEARCH AREAS

## Inventory

We have established interdisciplinary Core Research Areas (CRA). They generate internationally visible research results and are strategic research units that further develop TU's research profile and promote networking among scholars across disciplinary boundaries. We use the interdisciplinary diversity of our subjects to research socially relevant future issues.

## Current or on-going measures

### Structurally

- Participatory development of research governance
- Operationalisation of research governance

### Materially

- Acquisition and development of interdisciplinary research centres
- Acquisition of research buildings
- Acquisition of interdisciplinary clusters of excellence and larger collaborative projects in the main research areas
- Kick-off financing of research in interdisciplinary issues from the incentive fund

### Culturally

- CRAs and research centres transcending faculty boundaries
- Incentivisation of joint research projects

## Perspective of development

Much like a lighthouse, we want to make our research priorities more visible internationally, and we want to expand our research strength strategically. We want to lead the way in our Core Research Areas (CRAs), from the basics to application-oriented research and transference.

### New measures

#### Structurally

- Further spatial realignment of boundaries within the CRAs
- The use of quality equipment and the academic environment in the CRAs for high-calibre appointments and the recruitment of young talent
- Joint appointments with non-university research partners in the CRAs
- Establishment of additional non-university research partners
- Institutional cooperation with the Klinikum Braunschweig (Braunschweig Hospital)

#### Materially

- Acquisition of additional interdisciplinary research centres
- Acquisition of coordinated collaborative projects (in particular Collaborative Research Centres)

#### Culturally

- Profile-building effect of CRAs for the entire university
- Stronger use of the CRAs to create a brand for TU
- Intensifying the cross-faculty impact of CRAs and research centres
- Incentivisation of joint research projects
- Internationally leading institutions as benchmarks

## RESEARCH INFRASTRUCTURE

### Inventory

TU Braunschweig operates cutting-edge research infrastructures, which are consistently developed and supplemented with the complementary research infrastructures of its partners.

### Current or on-going measures

#### Structurally

- A joint operation of large research infrastructures:
  - with universities: e.g. Research Centre for Coastal Engineering Hannover
  - with non-university research partners: BRICS, PVZ, LENA, NFF, NFL
  - with the industry: OHLF
- Use of the research airport

#### Materially

- Establishment of the PPP model (OHLF)

#### Culturally

- Joint use of large, complementary research infrastructure with partners
- Close cooperation with the industry in application-oriented research

### Perspective of development

We make it possible for existing research infrastructure – in particular large equipment – to be used and further expanded with our research partners and throughout the university.

### New measures

#### Structurally

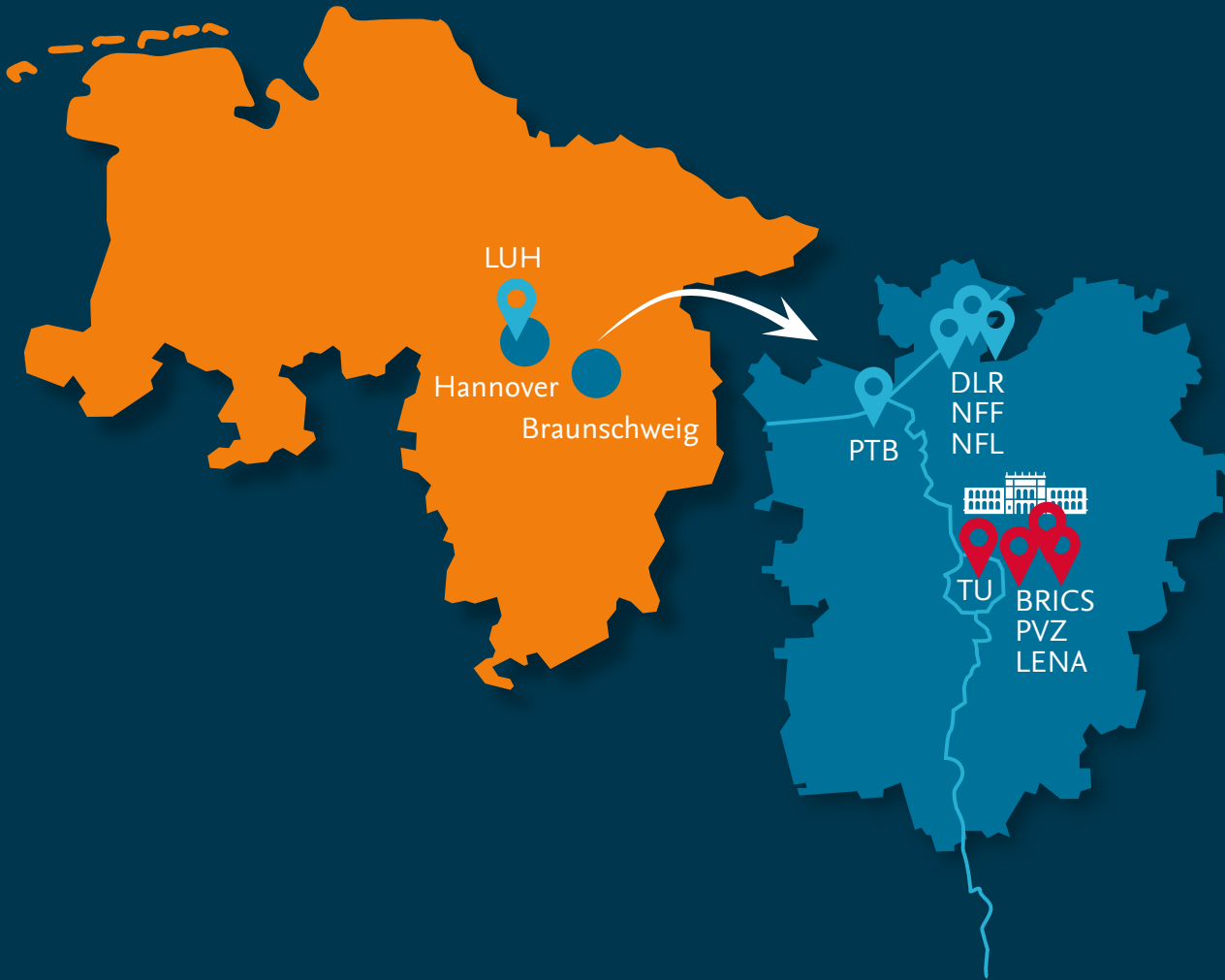
- Inter-university knowledge and access management for large-scale research equipment
- Facilitated access for SMEs and start-ups to our research infrastructure

#### Materially

- Coordination of major investments with non-university research partners
- Establishment of model agreements for use and billing
- Establishment of inter-faculty financing instruments for the joint procurement and replacement of large-scale equipment
- Expansion of accounting models for the use of large equipment by third parties

#### Culturally

- Joint application and use of research infrastructure within the university
- Continuation of the partnership relations with non-university research partners



OHLF

# KNOWLEDGE AND TECHNOLOGY TRANSFER/ START-UP CULTURE

## Inventory

Traditionally, we have had a strong technology transfer in order to give society and industry access to research results, especially in the high-tech sector. In addition, with creative and support services we are developing a start-up culture for our own companies. We have various offers and platforms for transferring knowledge and enabling social participation.

## Current or on-going measures

### Structurally

- Continuation of the Chair for Entrepreneurship
- Foundation of the holding company iTUBS mbH
- Foundation of Haus der Wissenschaft GmbH
- Foundation of the Entrepreneurship HUB (with Ostfalia)
- Establishment of teacher training and further education (KLBS)
- Establishment of counselling and qualification offers, e.g. for spin-offs

### Materially

- Acquisition of start-up grants (EXIST)

### Culturally

- Establishment of an "entrepreneurial mindset" among the students and professors

## Perspective of development

With enthusiasm, knowledge and structure, we want to accompany all members of TU Braunschweig in transferring their scientific findings into applications and services, and in introducing them to society by successfully placing them on the market.

### New measures

#### Structurally

- Expansion of the holding company iTUBS GmbH with new ventures and topics
- Local merging of entrepreneurship, technology transfer, investment company and municipal and private funding offers for start-ups
- Strengthening the cooperation with Ostfalia in the fields of transfer and start-up culture

#### Materially

- Development of further start-up grants
- Legal and financial security through model cooperation agreements
- Expanding and promoting investors and partner networks

#### Culturally

- Increasing the visibility of role models for knowledge and technology transfer for students and staff at all career levels as well as professors
- Harmonisation of the founding and transfer culture within the university



iTUBS

EXIST

Partner  
Network

HUBs

Stipends

Transfer

KLBS

Start-up  
Culture

Haus der  
Wissenschaft

Investors

Qualification

Start-  
Ups

Entre-  
preneurship

## CULTURE OF COOPERATION AND NETWORKING

### Inventory

We are the academic center of the Braunschweig region, which is, according to Eurostat, Europe's most research-intensive region. TU Braunschweig honours the social obligations closely associated with this status.

### Current or on-going measures

#### Structurally

- Enormous research strength that radiates into the region
- Strong networking with non-university research partners in the region
- Establishment of a multi-campus structure at the sites of the networking partners
- Provision of venues and networking platforms such as "Haus der Wissenschaft"
- Offering event formats for large parts of society such as "TU-Night", "Kinder-Uni"
- Further training programmes for teachers (KLBS)
- Open University Library with Open Access offerings

#### Materially

- Unsolicited expenditures for open educational offers and knowledge transfer

#### Culturally

- A close and trustworthy dialogue with society
- A high level of cooperation and networking among faculty and staff of TU Braunschweig
- A high regard for engagement inside and outside the university

### Perspective of development

In cooperation with our partners, we see ourselves as a motor for the further development of the region and as an active designer of social and technological transformation processes. In the sense of further development within and between the disciplines, we want to exemplify and further develop cooperation between scientists at all career levels within and outside the TU Braunschweig with our non-university research partners and industry.

### New measures

#### Structurally

- Expansion of joint appointments and shared professorships with the private sector
- Attracting large and visible research collaborations involving our non-university partners
- Expansion of thematic, status group overlapping communities in teaching
- Strengthening and expanding the international guest researcher programme at all career levels
- Cooperation in the region and beyond the city of Braunschweig

#### Materially

- Construction of a new guest house with regional partners
- Extending the infrastructure for joint international courses

#### Culturally

- Promotion of academic interaction in the sense of an academic campus life







# INTERNATIONALISATION

## Inventory

We see ourselves as an open-minded, international research university that attracts students and scholars from many nations.

## Current or on-going measures

### Structurally

- Development of an internationalisation strategy
- Establishment of support structures in the field of internationality
- Establishment of diverse international partnerships
- Achieving an average proportion of international students and scientists at all career levels

### Materially

- Advertising of projects in international competition

### Culturally

- International research cooperation and culture of scientific exchange
- Spaces for international exchange and contacts (e.g. Gauss friends)
- Internationality as an enrichment of our university culture and as a process of mutual learning

## Perspective of development

We want to increase our international visibility and accessibility and are continuing to develop our internationalisation strategies, particularly along our research priorities. Here we strengthen cooperation and promote exchange in research, teaching and other dimensions of performance with selected international partners. We want to enable our members to gain extensive

international experience. We give them the opportunity to prepare for responsible action in a global context in their professional activities and to compare themselves with international standards.

## New measures

### Structurally

- Definition of target regions and establishment of preferred partners
- Expansion of international event formats ( e.g. summer schools, conferences, etc.)
- Internationalisation of teaching
- Further development of support services for international scientists
- Reduction of administrative and bureaucratic obstacles for international cooperations
- Consolidation of supporting structures in the area of internationality
- Expansion of the scientific-specific language offering
- Internationalisation of administration

### Materially

- Acquisition of further projects in an international context
- Expansion of research presence abroad
- Establishment of joint research infrastructures with preferred partners
- Strengthening of commitment to the German Academic Exchange Service (DAAD) and the Alexander von Humboldt Foundation

### Culturally

- Members and alumni are ambassadors and intermediaries of the TU Braunschweig abroad
- Intensification of research cooperation and scientific exchange

## MOTIVATION, PERFORMANCE AND ERROR CULTURE

### **Inventory**

"Nec aspera terrent". "Even difficult tasks and adversities do not scare us" – this motto of our university founders is also valid for us today. We make decisions according to the principles of transparency and merit. Only if challenges cannot be met at a decision-making level will they be taken to the next level.

### **Current or on-going measures**

#### **Structurally**

- Strong culture of responsibility through decentralisation of decisions and the budget
- Heterogeneous support and promotion structures in the administrative divisions
- Commission for the Safeguarding of Good Scientific Practice / Central Ethics Commission
- Characterisation of the error culture through status as a state institution of Lower Saxony
- Historically grown, heterogeneous internal communication

#### **Materially**

- Budgets are used to the greatest possible extent where they are raised
- Target agreements on a personal and structural level
- Resources of the performance-oriented allocation of funds flow back into the faculties

#### **Culturally**

- Respectful and appreciative interaction with each other
- Commitment to cooperation within the university and with our partners

### **Perspective of development**

We want to promote and honour achievement in teaching and research, in transfer and science management as well as in administration. The basis for this is clear and transparently stated goals and perspectives. In the sense of mutual care, we also address deficits clearly and in advance, advise and support with tailored qualification offers and identify options inside and outside the university.

**New measures****Structurally**

- Development, implementation and evaluation of a concept for internal communication
- Transparency and university-wide standards for target agreements
- Development agreements and objectives for PostDocs
- Introduction of cooperation and career development interviews for all employees
- Consolidation of structures for targeted counselling and support for the further development of competencies at all career levels

**Materially**

- Implementation of a systematic nomination system for external prizes and awards
- Substantial performance fees via target agreement for professors
- Establishing incentive systems for performance in all status groups and for sustainable and appropriate use of resources

**Culturally**

- Changing attitude from failure avoidance to the use of opportunities (Lessons Learned Culture)
- Highlighting achievements in science and teaching, transfer and administration
- Careers in science, business, start-up and educational institutions are equally appreciated and promoted
- Expectations, criteria and evaluations are clearly stated in advance
- Early opportunities to gain experience with next career level tasks
- Visualization of role models
- Further development of an alumni culture

## EQUAL OPPORTUNITIES AND THE COMPATIBILITY OF WORK AND FAMILY LIFE

### Inventory

TU Braunschweig attaches great importance to equal opportunity and family friendliness, and it has developed necessary structures for this purpose. It is constantly working to further improve the family-friendly work environment for all members of the university.

### Current or on-going measures

#### Structurally

- Central counselling structures for family friendliness for all members of TU Braunschweig
- Central Equality Concept at TU Braunschweig and Faculty Equality Concepts
- Target-group-specific programmes to improve equality and reconcile work and family life
- Various certificates (e.g. Family-friendly University and Total E-Quality)

#### Materially

- Material support for female professors ("Female Professors for Lower Saxony")
- Dissertation completion assistance for female scholars with young families
- Compensation for disproportionate engagement in decision-making positions ("PROfessorin")

#### Culturally

- Equality and family friendliness as fundamental components of the aims and values
- Guidelines for family-friendly leadership
- A strong commitment to diversity
- Self-image defined as an open-minded, international university ("Weltoffene Hochschule")

### Perspective of development

We want to significantly increase the balanced representation of women and men on all qualification levels and career tracks. We want to make it even more visible that we consistently act in a family-friendly way at all levels and support women and men on their career tracks.

### New measures

#### Structurally

- Target quotas for women at all stages of their career
- Improved environment for the recruitment of female professors and junior scientists
- Special support for transitions between career tracks as well as for time spent abroad
- Continuation of all certificates
- Participation in all diversity audits of the Donors' Association for the Promotion of Humanities and Sciences in Germany

#### Materially

- Enabling stays abroad for female PostDocs with guaranteed re-entry (TU BS goes Abroad)
- Quantitative and qualitative development of child care
- Continuation of the finishing grant for female doctoral students

#### Culturally

- Increasing and promoting the attractiveness of the TU Braunschweig for female scientists
- Increasing the predictability of scientific careers
- Promoting contact between professional environment and parent during parental leave
- Establishment of working-time models adapted to the phase of life



## PERSONNEL DEVELOPMENT

### Inventory

The faculty and staff of TU Braunschweig provide services in research, teaching, study and management and give the university its profile. TU Braunschweig is committed to the continuous development of all employees.

### Current or on-going measures

#### Structurally

- Institutionalised Institutions for Personnel Development (PD)
- Versatile, quality-assured PD offers
- Membership in cross-university PD networks and offers
- Personnel development is the subject of target agreements
- Occupational health management

#### Materially

- Free and free access to PD measures for all employees during working hours
- Procurement of third-party funds for PD offers to a considerable extent

#### Culturally

- Establishment of a lifelong learning culture

### Perspective of development

We want to be an internationally recognized place where our employees can unfold, feel comfortable, prove themselves and develop further.

#### New measures

##### Structurally

- Personnel development concept for all personnel
- Integration of internationalisation into personnel development (PD)
- Uniform access to PD offers via a PD platform
- Digital, multilingual, location-independent services in PD
- anchoring aims and values in management development and their effect as multipliers
- Establishment of a committee for quality assurance in personnel development chaired by the Vice President for Research and early career scientists

##### Materially

- Development and consolidation of a specific PD programme for postdoctoral students based on experiences with the Graduate Academy Grad<sup>TUBS</sup>
- Strengthening PD measures in central institutions

##### Culturally

- Personnel development (PD) is a strategic field of action for university management
- strengthening the culture of lifelong learning and personal development
- Mediation of aim- and value-oriented leadership as well as necessary knowledge in project, finance and personnel management



# PROFESSORS

## Inventory

We support our professors in their tasks in teaching, research, transfer, management and leadership of employees in the face of changing requirements.

## Current or on-going measures

### Structurally

- Specialized further training courses for professors
- Program for the induction of newly appointed professors at the TU Braunschweig
- Support structures in the areas of teaching, research, transfer, management and leadership

### Materially

- Deploying budgets where they are raised

### Culturally

- Welcome culture for recently appointed professors
- Understanding the services of the central institutions and the central administration
- Workplace design is tailored to tasks and personal needs

## Perspective of development

Our professors are committed to our aims and values. They create attractive and reliable framework conditions for further qualification as well as different career models for early career researchers.

## New measures

### Structurally

- Target-group-specific counselling and mentoring for young scientists by professors
- Visible participation and active support of young scientists in collaborative research projects, in research centres and in basic teaching

### Materially

- Transition to standards for target agreements with professors on teaching, research, third mission and leadership issues
- Support of an international network and visibility through transparent measures, such as guest visits, conference attendance, as far as this can be represented in the budget

### Culturally

- Timely and clear communication of expectations, criteria and assessments
- Appreciation of achievements in science and transfer
- Professors make it possible for early career junior researchers to get to know the tasks of the next career level at an early stage
- Career paths in science, business, start-up and in the public service sector are equally appreciated and promoted

## EARLY CAREER RESEARCHERS

### Inventory

We have developed and implemented university-wide measures and instruments for the promotion of early career researchers. Our aim is to attract and promote outstanding young scientists, especially from abroad.

### Current or on-going measures

#### Structurally

- Comprehensive implementation of mentoring agreements for doctoral students
- Quality-assured doctoral process, e.g. structured doctorate
- Teaching of interdisciplinary qualifications
- International Graduate Schools
- Development of a Tenure Track Regulation

#### Materially

- Establishment and implementation of a graduate academy Grad<sup>TUBS</sup>
- University promotion programmes and fellowships

#### Culturally

- Attracting and promoting young scientists at an early stage of their careers, also from abroad

### Perspective of development

Together with our non-university partners, we want to establish an internationally compatible system with transparent quality standards for the promotion of young talent. In particular, we are expanding the "tenure track" as an additional career path towards a full professorship.

### New measures

#### Structurally

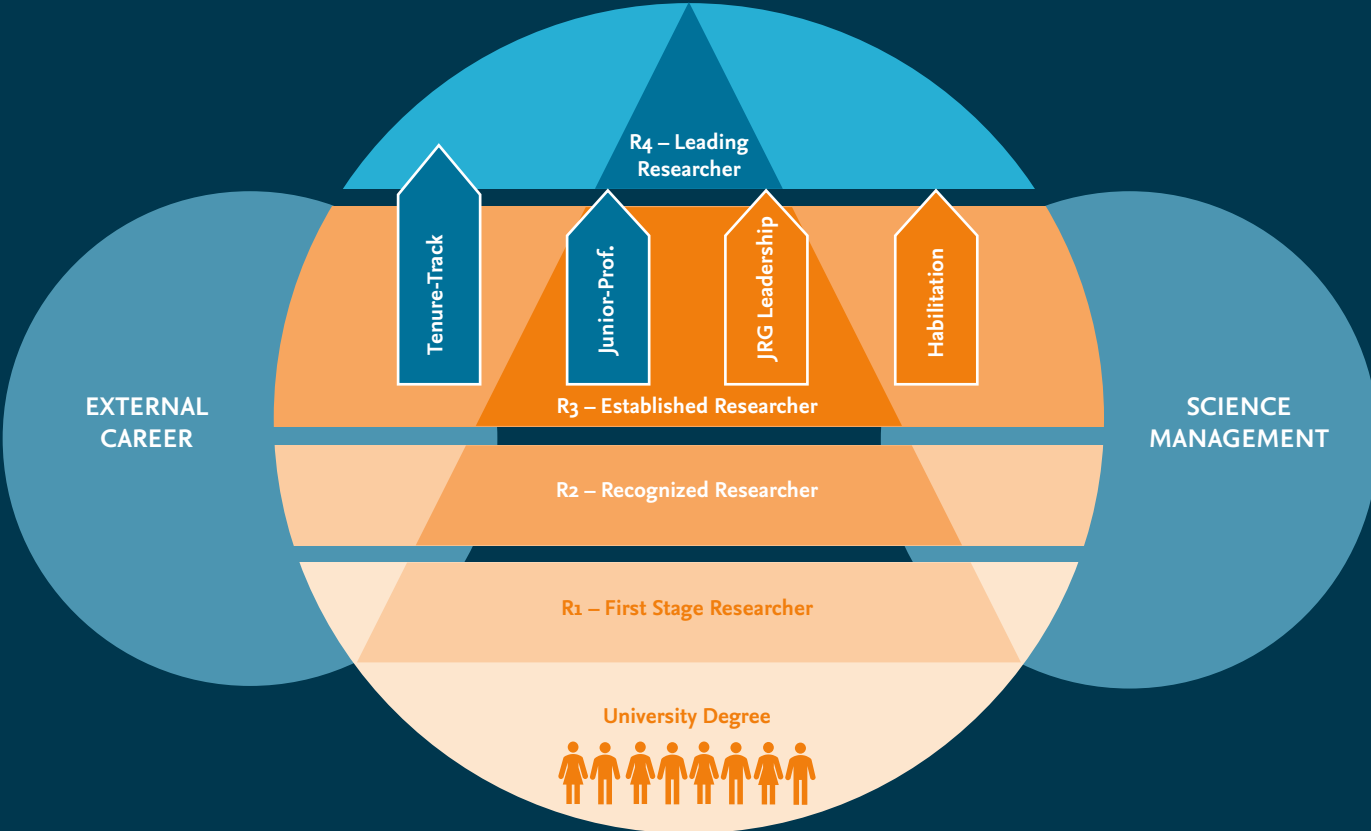
- Positions at all scientific career levels are advertised internationally and appointed in a transparent, quality-assured procedure
- Increase the proportion of newly appointed tenure-track professorships to 20% of all professorships that become vacant by 2032
- Implementation of the Tenure Track Regulations
- Increasing the international visibility of early career researchers
- Development agreements and objectives for PostDocs
- Induction programmes for early career researchers at all career levels, both at the central level and in the faculties on a decentralised basis
- Strengthen the promotion and demand of stays abroad in the R2/R3 phase
- Strategic exchange with industry and non-university research partners as well as with international preferred partners, supplemented by re-entry option
- Increasing the number of junior research groups, in particular with non-university research partners

#### Materially

- Acquisition of funds to expand the tenure track as an additional career path

#### Culturally

- Attracting and supporting early career researchers, including young talents from abroad
- Establishing an attitude of being part of an international community
- Appreciation of the success of alumni





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