

STRATEGY

2021 - 2025

NTC



NEW TECHNOLOGIES
RESEARCH CENTRE
UNIVERSITY OF WEST BOHEMIA

INTRODUCTION

As an independent university institute of the University of West Bohemia in Pilsen, the New Technologies - Research Centre (NTC) has been focusing on fundamental and applied research since 2000.

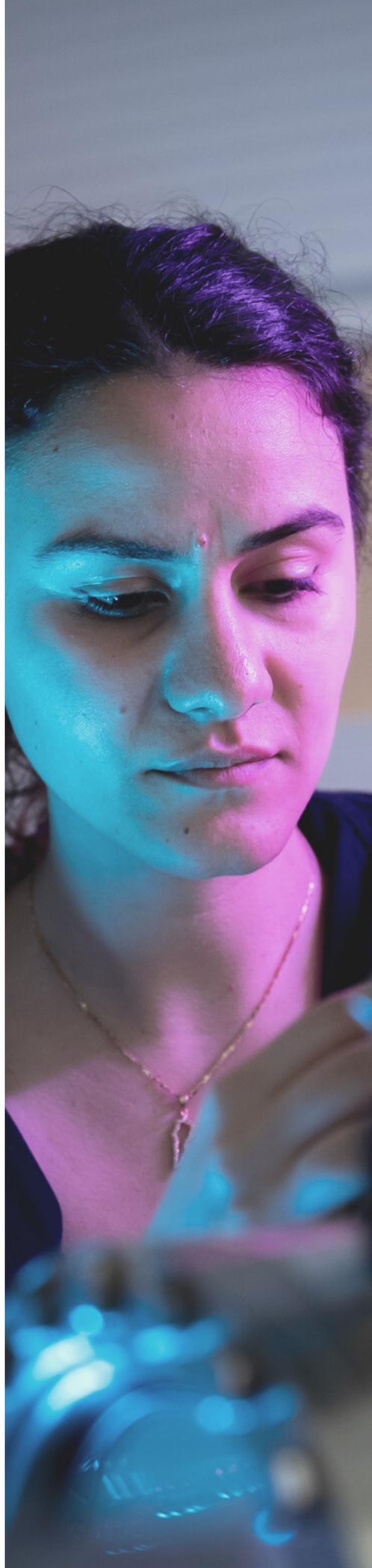
Researchers and scientists from various countries, cultural and social backgrounds jointly work together and create added value.

NTC belongs to the European research area. It has very strong connections with renowned international and domestic research institutions and companies across disciplines and continents. It is also well-established regionally and cooperates with neighboring regions.

WHAT THE DOCUMENT IS BASED ON

The strategy of NTC for 2021-2025 builds on the previous strategic plan and reflects the following documents:

- Strategic Intent of the University of West Bohemia in Pilsen for the Period 2021-2025
- National Research and Innovation Strategy for the Intelligent Specialization of the Czech Republic 2021 - 2027
- National Policy of Research, Development and Innovation of the Czech Republic 2021+
- Strategic Plan of the Ministry of Education Youth and Sports for Higher Education for the Period from 2021
- Innovation Strategy of the Czech Republic 2019–2030 (Country for the Future)
- National Recovery Plan - a plan for recovery and resilience of the Czech Republic
- Green Deal for Europe
- EU Research and Innovation Strategy 2020-2024
- Horizon Europe
- Regional Innovation Strategy of the Pilsen Region
- Integrated Territorial Strategy of the Pilsen Agglomeration 2021 - 2027



MISSION, VISION, CREDO

MISSION

Our mission is to bring solutions of the challenges in the area of advanced materials, ecological energy sources, smart transportations means and the quality of human life.



VISION

NTC is a respected partner of recognized global companies. The NTC is an attractive place where the most talented researchers make progress for the sustainable development of individuals, industry and society as a whole.

CREDO

RESEARCH
FOR YOUR
ACHIEVEMENTS

OUR VALUES

UNIQUENESS

We contribute to unique discoveries and solutions in the context of global knowledge.

FUNCTIONALITY

We want the results of our research to be used.
We practically verify theoretical ideas.

COOPERATION

We are open, positive and constructively cooperating with our partners and customers across industries and continents.

FLEXIBILITY

We work efficiently. We understand the importance of time. From the possible alternatives, we choose to achieve the result in the shortest possible time.

ADDED VALUE

The results of our work have a high added value for all involved in terms of financial benefits and benefits for society.

DEVELOPMENT

We make sure that we are constantly evolving. We are looking for projects that push our expertise beyond standard knowledge.



R & D

SITUATION

The core activity of the NTC includes research and development leading to new knowledge and its use in society. NTC carries out fundamental and applied research, but also activities directly related to development, innovation and knowledge transfer. In 2020, an international evaluation was carried out at the University of West Bohemia (UWB), as well as at other universities, in accordance with the methodology for evaluating research organizations, known as Methodology 17+. The NTC was rated "excellent" by an international panel of experts.

TARGET

We focus on **research and solutions for green technologies and advanced materials in the fields of ecological energy sources, smart transportation means, and the quality of human life and health.**

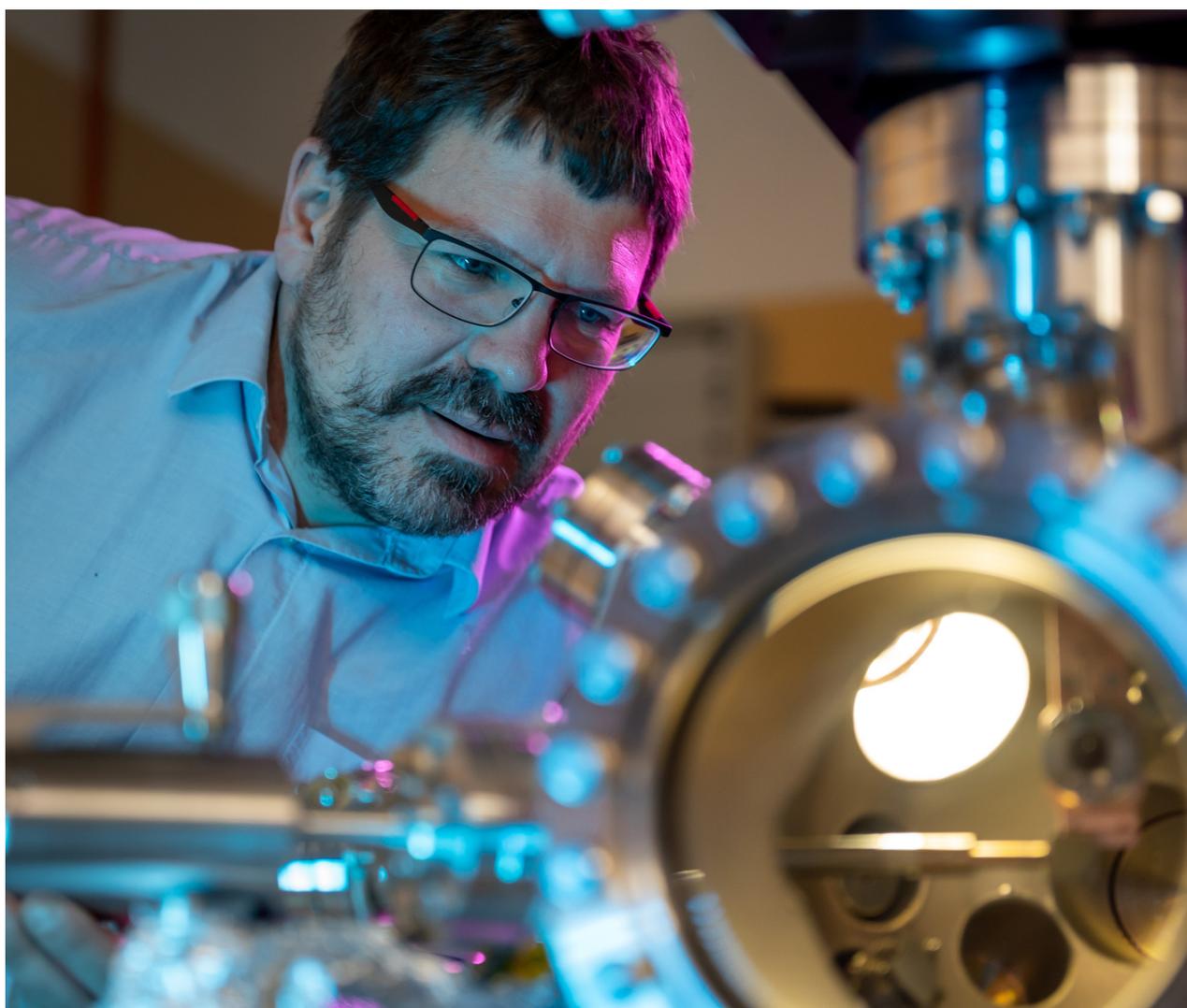
We work on useful, unique, and at the same time functional solutions. using the latest scientific knowledge and technologies, including artificial intelligence. We cooperate with each other and respond flexibly to the needs of society and the needs of our partners. We have excellent results of international importance. Our solutions have high added value. We regularly host foreign experts, postdocs, students and interns.

MEASURES

- respond to the needs of the quadruple helix
- favor international cooperation
- implement domestic and foreign research projects
- promote multidisciplinary
- expand the representation of foreign experts in our teams
- establish joint research centers with foreign partners
- develop our competencies in the intellectual property protection and transfer of results



Indicator	Name	Unit	Situation 2019	Target 2025
I1	Number of articles in impacted journals Q1,Q2	number	28	35
I2	Number of applied results	No. cumulatively 2020-2025	-----	7
I3	Number of gained patents	No. cumulatively 2020-2025	-----	8
I4	Number of excellent results according to M17+	number	1	3
I5	Number of projects funded from intl. sources	number	1	4



EDUCATION AND TRAININGS

SITUATION

Dissemination of knowledge and communication of science is a natural part of research projects. We work closely with domestic and foreign universities, faculties and science centers on educational activities.

We participate in teaching within master's and doctoral study programs. Our employees serve as teachers of professional subjects and leaders of students' qualification theses. We provide laboratories and instrumentation for these activities.

TARGET

We disseminate our knowledge and experience to future generations. We are invited to give lectures at prestigious events and institutions. We participate in teaching across disciplines and continents. We lead and review student qualification theses, prestigious scientific publications and we lead scientific workshops and conferences. In connection with our research topics, we prepare and conduct lifelong learning courses.

MEASURES

- establish cooperation with faculties and departments and offer our experience for teaching
- initiate new courses relevant to the 21st century
- encourage employees to teach
- offer topics for student qualification theses in accordance with the research focus of the NTC
- enable talented students to work in our research teams and with our state of the art devices
- review qualification theses and professional publications
- build the relationship between the educational process and the application sphere
- participate in the preparation and implementation of certification and retraining courses for employees of manufacturing companies and design and project offices with regard to the introduction of new technologies into technical practice



Indicator	Name	Unit	Situation 2019	Target 2025
16	Number employees that have more than 0,5 FTE at NTC and teach (at least 1h/week)	number	12	16
17	Number of student qualification theses led by NTC employees	number	not monitored	7
18	Number of reviewed student qualification theses	number	not monitored	7
19	Number of international publications reviews	number	not monitored	10
110	Number of invited lectures	number	not monitored	5
111	Using the NTC instrumentation for students	hours per year	not monitored	800
112	Number of trained persons in accredited lifelong learning courses at NTC	number	not monitored	30



SOCIAL RESPONSIBILITY

SITUATION

We are fully aware of the importance of the position we hold as the university research institute of the UWB. We play an important role in professional and social dialogue, we create space for public discussion, we contribute to openness, critical thinking, expertise and development.

To fulfill our mission, it is important that we understand the world around us with all the contexts and are able to respond in advance to the future needs of society. We are part of the international research community and therefore work closely with experts, industries and the public around the world.

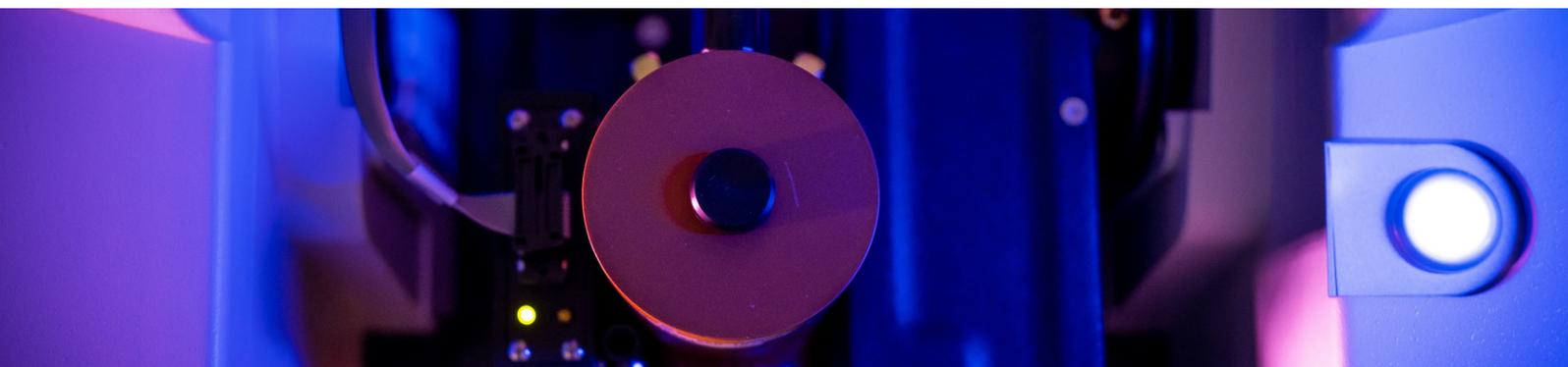
TARGET

We communicate the usefulness of our research for human society and its further development. We popularize science and stimulate interest in technical fields.

We develop relationships with key domestic and foreign stakeholders from the scientific, industrial, public and political spheres. We operate in major committees, decision-making bodies and participate in the creation of strategic documents.

MEASURES

- build our relationships and the NTC brand on our shared values, excellent results and personal contacts
- use traditional media, web and social networks for communication
- to encourage the involvement of employees in professional organizations, associations and bodies
- use cooperation with chambers of commerce, diplomacy and industry associations
- to develop activities in the field of secondary schools, such as professional lectures, teaching aids, hosting internships or organizing competitions



Indicator	Name	Unit	Situation 2019	Target 2025
I13	Number of media outputs	number	Not monitored	90/year
I14	Number of follower LinkedIn, Twitter	number	LiIn -90 Tw - 0	LiIn-1000 Tw- 650
I15	Number of visits on NTC web page	No. per year	Not monitored	7000/year
I16	Number of memberships in organizations	number	30	40



TEAM

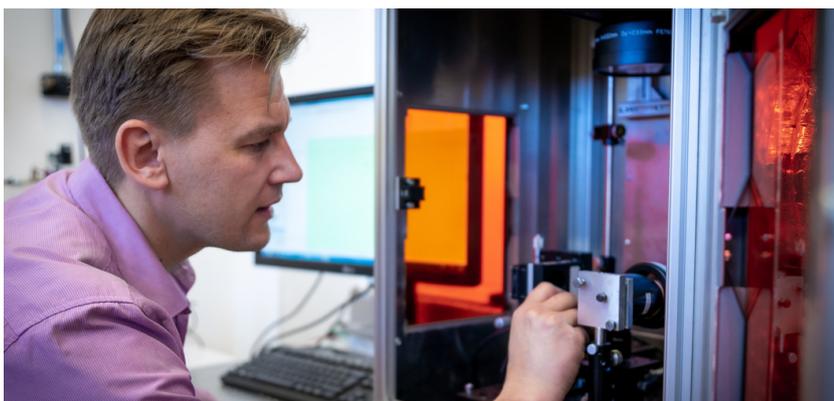
SITUATION

NTC consists of 130 employees, including 8 professors, 9 associate professors and 59 PhDs, and 46 university-educated professionals. Organizationally, the NTC is divided into 6 research teams and the administration of the center. The NTC employs 20 foreign researchers. We have established rules for evaluating and motivating employees and for providing remuneration depending on work performance and work results. In accordance with HRS4R, we are constantly developing our HR processes, Equality, Diversity and Inclusion (EDI) management and overall employee care.

TARGET

We are one NTC team and we support each other. We are accountable, we think positively and we act professionally. We abide by contractual and legislative obligations and respect academic freedoms and the principles of best research practice. We do not accept any action that would damage our reputation now or in the future.

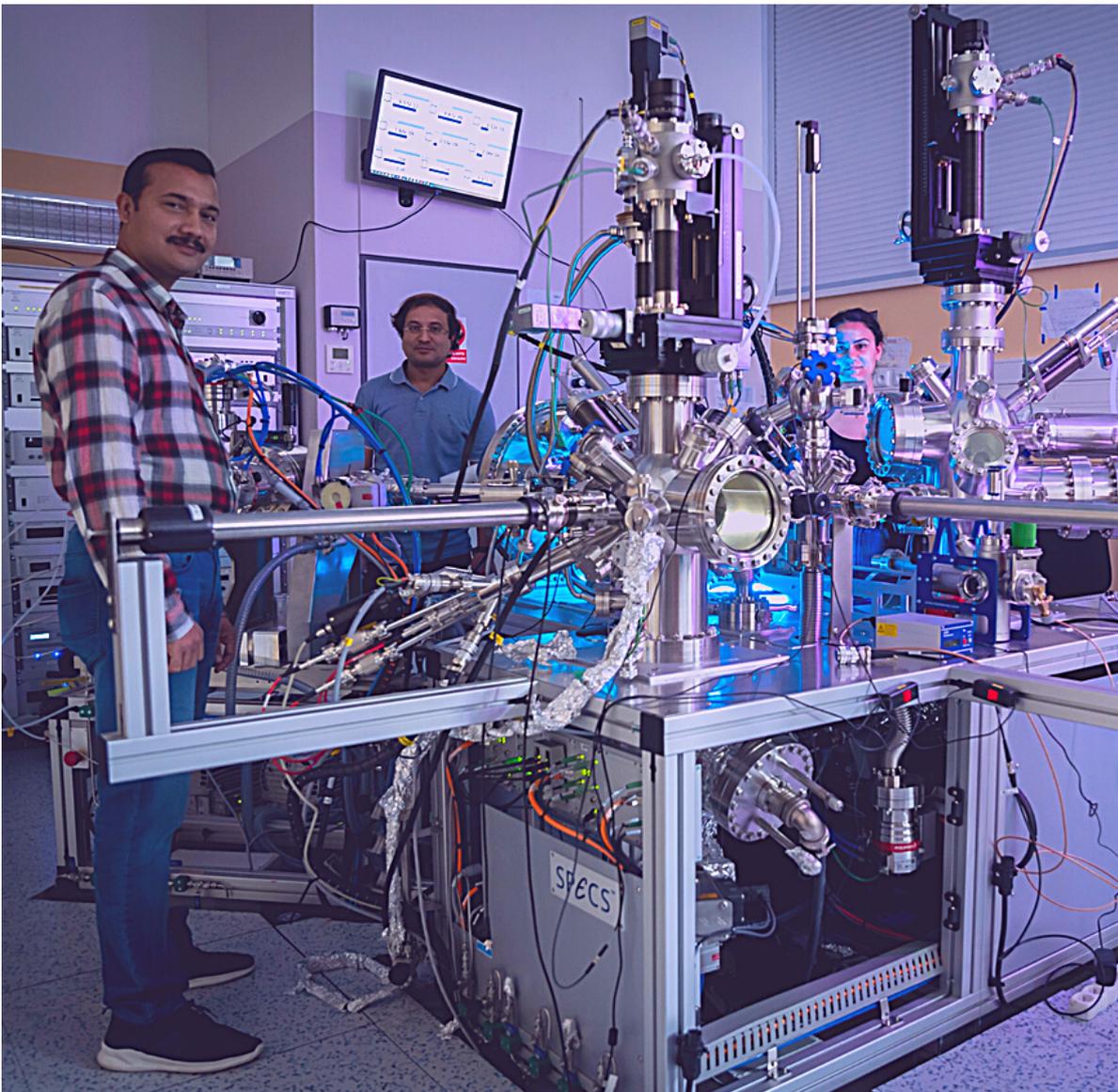
We create the environment at NTC through our personal actions. We are the inspiring place for our professional and personal development and open cooperation, a place where we support diversity and do not tolerate any discrimination. We are fully integrated into the international research area and meet the conditions of HRS4R and EDI.



MEASURES

- communicate shared values
- create an anonymized system for notifying ethical failures in work behavior and business conduct
- increase the efficiency and expertise of our research teams and support staff
- create opportunities for the development of professional growth, acquisition of soft and language skills
- communicate examples of good practice in research and education
- perform regular evaluations of individual teams according to the internal methodology of R&D excellence evaluation.
- ensure that all employees undergo individual evaluation leading to their professional and professional growth operate a motivation system to support performance

Indicator	Name	Unit	Situation 2019	Target 2025
I17	Number of trainings days	man-days	50	70
I18	Number of incoming and outgoing mobilities in given year	man-days	not monitored	1400
I19	Number of foreign employees	number	14	20
I20	Number of „excellent“ research teams	number	1	4
I21	Number of professors	number	8	9



INFRASTRUCTURE

SITUATION

Since 2008, NTC has been located in the premises of the Science and Technology Park Plzeň, a.s., which is located approximately 1 km west of the university campus. NTC rents four separate buildings here and has a detached workplace in the premises of the Faculty of Education in the city center. NTC has at its disposal premises with a total area of 3200 m². In NTC laboratories, we use instrumentation with a total value of approximately CZK 400 million. For several years now, the existing premises and their fragmentation have ceased to meet the needs of the NTC, not only in terms of the deployment of research teams but above all due to the lack and quality of the premises for our instrumentation.

TARGET

We have solved the location of our headquarters, we state of the art instrumentation and equipment, which we use for scientific and research activities.

We continuously invest in the renewal and development of instrumentation and equipment.

MEASURES

- strive in cooperation with FDULS to build a new multidisciplinary building on the premises of the UWB campus
- keep the share of investment in instrumentation in the total budget for 5 years above 12%
- acquire grant programs that enable investments into the acquisition of new instrumentation and equipment

Indicator	Name	Unit	Situation 2019	Target 2025
122	Resolved NTC location	yes/no	no	yes



BUDGET

SITUATION

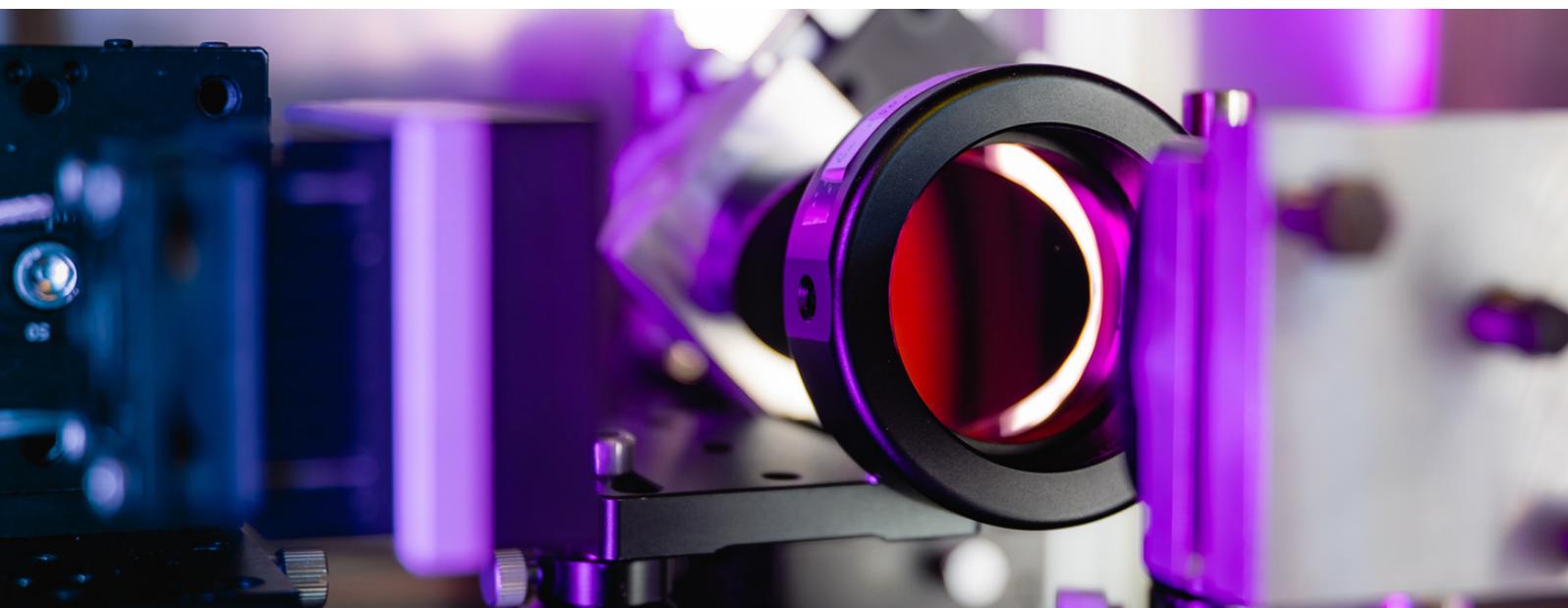
As a university institute, we are financed from several sources. We use public funds from institutional financing, purpose-tied aid programs, and the contribution from the state budget for educational and creative activities. We also obtain non-public resources in the form of contract research, additional activities and knowledge transfer. The annual budget is approximately CZK 140 million.

TARGET

We have secured resources to cover the budget with competitive wages and funds for our development. We use institutional resources mainly to co-finance projects, develop NTC, and motivate employees. Commercialization of research results is a growing source of income.

MEASURES

- obtain purpose-tied funding projects from national and international sources
- cooperate with the commercial sphere
- expand the activities of transfer and commercialization of research results
- obtain financial resources for educational activities and the third role
- obtain financial donations
- motivate employees and teams to obtain resources to finance research activities
- carry out continuous cost optimization



Indicator	Name	Unit	Situation 2019	Target 2025
I25	Amount of income from domestic and international grants	mil. CZK per year	76,8	95
I26	Amount of income from contract research and additional activities	mil. CZK per year	12,2	14
I27	Amount of income from commercialization	mil. CZK per year	0,3	2
I28	Amount of income from Long-term Conceptual Development of Research Organizations	mil. CZK per year	43,2	54



NTC

University of West Bohemia
Univerzitní 8
301 00 Plzeň

tel.: +420 377 634 701
e-mail: ntc@ntc.zcu.cz
www.ntc.zcu.cz