



Plan for the Implementation of the Strategic Plan of Educational and Scientific, Research, Development and Innovation, Artistic or Other Creative Activities of the University of Chemistry and Technology Prague for the year 2021

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Introduction

In accordance with Act No. 111/1998 Coll., on Higher Education and on Amendments and Additions to Other Acts (hereinafter referred to as the "Higher Education Act"), **the University of Chemical Technology Prague** (hereinafter referred to as „UCT Prague“) submits the strategic document **Implementation Plan of the Strategic Plan of Educational and Scientific and Research, Development and Innovation, Artistic or Other Creative Activities of the University of Chemical Technology in Prague for the year 2021** (hereinafter referred to as the "2021 IPSI").

In 2021, UCT Prague will build on the measures implemented in the long-term plan of UCT Prague for the period 2016-2020 and will start the development and implementation of the measures formulated in the Strategic Plan of Educational and Scientific and Research, Development and Innovation, Artistic or Other Creative Activities of the University of Chemical Technology in Prague for the period from 2021 (hereinafter referred to as "SI 2021+"). The IPSI 2021 is based on the structure of the SI 2021+ and within the individual priority objectives it lists the measures and activities that UCT Prague will focus on in fulfilling its mission in 2021. The IPSI 2021 also includes selected measures and activities of UCT Prague to meet the priority objectives in the field of internationalisation.

A compulsory annex to the SI 2021+ is the Plan of Investment Activities of UCT Prague for 2021, the outline of which is set out by the Ministry of Education in the Plan for the Implementation of the Strategic Plan for Higher Education for 2021.

Priority objective 1: Develop competencies directly relevant to life and practice in the 21st century

Operational objective: Support for the development of staff competencies for teaching and curriculum development (MoE SI2021+: 1A)

Measure: Development of pedagogical and other competencies for teaching and curriculum development (O_01)

- Educational courses for **the development of pedagogical skills** for PhD students and academic staff will be prepared and implemented to support initial and continuing teacher education, with a focus on the use of interactive and innovative educational methods. The aim of these courses is to develop the didactic competencies and practical skills of the participants in the fields of pedagogy, psychology and IT. The content and format of the courses will take into account the use of distance, online and hybrid forms of learning.
- Competency development, especially for novice teachers, will be supported through completing **field placements** at domestic and foreign partner institutions to **enhance** their **teaching competencies**. The internships will contribute to the motivation of teachers to apply the new experience gained to bring innovation to teaching at UCT Prague and, in the case of foreign internships, will also enable the development of their language competencies to strengthen the international aspect of the school.
- Motivation for the acquisition, strengthening and development of practical pedagogical skills and experience of doctoral students will be facilitated through a **school-wide pedagogical project** within an internal grant competition. The project will involve full-time students of doctoral studies who are actively involved in teaching and whose training workplaces are the institutes of UCT Prague and UCT Prague itself.
- To support the **increase of language competencies** and the internationalisation of the university environment, **internal language courses for PhD students and staff** will be organised by the Institute of Languages. Specialised, intensive English courses will be offered to PhD students, focusing mainly on professional and academic language, including the presentation and communication skills necessary to join international research teams, as well as semester-long courses for learning other foreign languages. For the development of language competencies of employees who use foreign languages in their work, teaching of English and other foreign languages will be provided in the form of semester-long courses; *synergy with the operational objective "Support for language and intercultural training of students and staff of universities"*.

Funding sources: IP, Erasmus+, DKRVO, own resources.

Measure: Sharing good practice and innovation in educational activities (O_03)

Innovative pedagogical projects that have been supported within the internal grant competition for innovative pedagogical projects will be publicly evaluated in the form of a **Pedagogical Conference**. The aim of this new event is to share experiences with different forms of education, in particular with the use of distance learning elements (blended learning), the inclusion of multimedia in teaching, project-based learning or workshops with experts in the given field. Sharing of project outputs, experiences and open discussion of the participants of the Pedagogical Conference will also be a source of suggestions for improving the quality of teaching.

Funding sources: IP.

Operational objective: Development of methods for quality assurance of education and verification of learning outcomes (MoE SI2021+: 1B)

Measure: Optimization of the process of quality assurance of educational activities (O_04)

- Within the framework of **improving the quality assurance of education and the development of study programmes**, an analysis of the benefits of the set model of the common basis of bachelor study programmes at UCT Prague for the quality of education will be prepared. The input for the analysis will be feedback from students and the identified interest in studying at UCT Prague and will also take into account international standards for the fields of education and study programmes taught at UCT Prague (chemistry, biochemistry, chemical technology, chemical engineering, applied economics, food science). Processing of statistics and other documents from data available in internal IS or other information sources will be ensured. The output will be background material for study programme guarantors for regular evaluation of study programmes.
- In cooperation with other cooperating public universities, the current experience with distance learning forms (staffing, technical equipment, teaching methodology, knowledge verification) will be analysed. It will target mainly education in the fields of chemistry, food science and economics. On the basis of a comparative analysis of forms of teaching and evaluation of the quality of teaching at European technical universities, analysis of internal documents of UCT Prague and experience with the process of internal accreditation, **standards of educational activities for individual forms of teaching** at VŠCHT Prague will be proposed and internal documents will be adequately modified.
- On the basis of the evaluation of the outputs of the internal quality assessment of study programmes at all three levels of study and feedback from students / graduates / employers / representatives of professional associations, the **content and structure of study programmes** accredited at UCT Prague will be continuously **optimised**. In the development of new study programmes and modifications of existing ones, good practice from domestic and foreign universities of similar focus as well as European standards will be taken into account.

Sources of funding: own resources, EU funds, CDP.

Operational objective: Strengthening the link between studies and practice and preparation for future employment (MoE SI2021+: 1C)

Measure: Incorporation of the development of general competencies required by practice into the curriculum (O_05)

A comparative analysis of the need for and quality of teaching transferable skills in the study programmes offered at UCT Prague will be carried out. For the analysis, data obtained from the Alumni Club and selected employers of our graduates will be used, the outputs of the national Alumni Survey will be taken into account and a comparison with study programmes of other Czech and foreign technical universities will be made. Based on the analysis, appropriate courses and seminars will be prepared and implemented for students **to develop transferable skills** within the optional course offerings.

Funding sources: IP, own sources.

Measure: Supporting student entrepreneurship (O_06)

At the central level, students' entrepreneurship (**student ideas**) will be supported by offering training courses, professional consultations or providing office space for launching their own projects, especially in the pre-startup phase.

Sources of funding: own resources.

Measure: Development of targeted cooperation with practice in education, involvement of industry experts in teaching (O_07)

- In cooperation with experts from the application sphere, the **transfer of general knowledge and practices into teaching** will continue. This is in the form of lectures by experts from the given fields, professional workshops, new trends and information technologies integrated into teaching or project-based learning with the solutions of real problems from practice. The aim will also be to maintain a high proportion of final student theses and projects directly linked to cooperation with companies or to ongoing research projects. The priority is to ensure the implementation of student internships and work experience in companies. Theoretical technical teaching will continue to be effectively combined with practical knowledge and skills within specialised laboratory training. Interdisciplinarity in teaching will be promoted in existing accredited study programmes by offering courses from related and similar disciplines, with the aim of increasing the flexibility and employability of graduates in the labour market.

Sources of funding: own resources, OP RDE.

- Intensive **cooperation with secondary schools** will be continued to **facilitate the transition between secondary and higher education by** supporting the teaching of chemistry and other subjects from technical and natural sciences.
 - Applicants to study at UCT Prague will be offered on-line preparatory courses "Prepare yourself" for profiled subjects - mathematics, chemistry and English to verify their sufficient level of knowledge from high school and their readiness for a smooth transition to further university studies. For students enrolled before the first year, preparatory courses in laboratory techniques will be offered to learn the basics of laboratory work.
 - The very popular Summer and Autumn Schools for secondary school teachers and students will continue to be organized, with the aim of sharing new trends and knowledge in different areas of chemistry, which in turn will serve to motivate secondary school teachers to enrich their chemistry lessons and motivate gifted students to study chemistry.
 - The successful and proven methodological and professional support of secondary school students in the preparation of their professional work within the framework of secondary school vocational activities (SSVA) will continue.
 - UCT Prague will help (co-)organize the National Chemistry Olympiad and support the participation of the national team in the International Chemistry Olympiad.
 - Support will be provided to patron secondary schools in various regions of the country. Practical laboratory instruction will be provided for secondary schools that do not have their own laboratory facilities.
 - Online interactive platforms will be created to reach the target group of potential applicants for education at UCT Prague (*Open Days, Chemistry content incubator*), using modern communication tools that respond to the changing characteristics and attitudes of contemporary applicants to study at the university.
 - To introduce the study of chemistry as an attractive and promising discipline to primary and secondary school pupils, proven interactive projects (Lessons of Modern Chemistry, Chemistry Club) will be used.

Funding sources: IP, own resources, subsidies from MoE.

- **Regional activities of UCT Prague in the Ústí nad Labem Region and activities supporting the retention of qualified persons in structurally disadvantaged regions:** In cooperation with experts from ORLEN Unipetrol, ORLEN UniCRE and the CTU Faculty of Science and on the basis of consultations with industrial partners in the Ústí nad Labem region, a new study programme "Industrial Technology and Materials Engineering" will be prepared and taught at the University Centre in Litvínov. The study programme should be focused on training specialists in new chemical and food technologies, biotechnology, along with process and chemical engineering. Education will be complementary to the ongoing changes in the industrial and social profile of the Ústí nad Labem and Karlovy Vary regions from coal-based energy to new directions respecting the principles of decarbonisation technologies with the support of new forms of management and IT resources. The study programme will include existing forms of teaching and effective modern teaching trends in technical, industry-oriented education - project-based learning, workshops in an industrial environment, modern distance learning and active guided excursions and practice combined with efforts to involve students also in research and development projects implemented in the region concerned, including cross-border cooperation.
Funding sources: IP, own resources, EU funds (OP RDE, FST).

Measure: Support for active involvement of learners in the teaching/life of the university (O_08)

To support social integration and the development of students' competencies to increase their employability on the labour market, UCT Prague also plans to support **the student grant competition for social projects**. The Student Grant Competition supports the creation of cultural, social, educational or sporting activities that positively influence relations within the academic community. In view of the current situation, the grant competition will now also support online projects. Familiarisation, integration and sports courses will be organised at all levels of study. The tutoring programme for undergraduate students will continue to be developed, and a new one will be prepared for PhD students.

Sources of funding: own resources.

Measure: Methodological and organizational provision of student internships and work experience placements in the framework of teaching (O_11)

An **internal directive** will be created that **methodically unifies the management of internships and work experience placements** at UCT Prague, providing guidance for their contractual arrangement, enabling credit evaluation of internships, dealing with learner support, ensuring quality standards, determining the verification of learning outcomes, describing methods of reflection of the experience gained by learners and defining other relevant areas. The implementation of practical internships of students abroad will also be intensively supported.

Sources of funding: own resources.

Measure: Motivational support for students (O_12)

Gifted students will be **motivated** by receiving scholarships for achieving outstanding academic results or representation of the school in extracurricular activities.

Funding sources: IP, own sources.

Measure: Promotion of the offering from LLE through career guidance (O_13)

In cooperation with other public universities, UCT Prague will focus on **setting up effective communication to support and increase the quality of services provided by career and counselling centres**. The aim will be to propose a common strategy for the development of career counselling at

universities in the Czech Republic and to set basic standards for the quality of its services. In order to increase the quality of services and the availability of career guidance, support material for graduates will be prepared based on a survey of the needs of students and employers (Association of the Chemical Industry, Federation of the Food and Drink Industries of the Czech Republic). UCT Prague will participate in the preparation of a programme for the annual job fair with a focus on all years of study. Preparations will begin for the launch of a multi-purpose Portal of Opportunities for University Students, which will cover mobility opportunities, internships and work experience placements, job offers, mentoring offers, training courses, etc.

Sources of funding: own resources.

Operational objective: **Developing the professional profile of study and strengthening its prestige (MoE SI2021+: 1D)**

Measure: **Development of cooperation with HVs (Higher Vocational Schools) (O_14)**

UCT Prague will continue to cooperate with higher vocational schools in the development of the study programme Conservation - Restoration of Arts and Crafts. It will use the **cooperation with HVs** in the creation of educational videos to introduce basic and key chemical and technological processes from industry practice within practice-oriented teaching.

Sources of funding: own resources, EU funds (OP RDE).

Operational objective: **Support for building infrastructure for interactive methods of education and integration of learners (MoE SI2021+: 1E)**

Measure: **Modernisation and renewal of infrastructure for education (O_15)**

- In accordance with the strategic document General Infrastructure Renewal of UCT Prague, which represents a detailed plan for the construction renewal and development of all parts of the university, the general reconstruction and modernisation of buildings on the Dejvice Campus will continue. In Building B (Technical Building 1903), the **premises** released from the long-term lease will be **comprehensively reconstructed** to create a modern and safe environment **for the implementation of teaching (lecture halls) and research (top-class laboratories) and for activities supporting the professional-administrative departments.**
- The **preparation of the design documentation for the courtyard extension** into the courtyard of Building B (Technical Building 1903) will continue.
- **Reconstruction works** will be carried out in Prague 4 - Kunratic in the area of student dormitories **to modernize the service infrastructure of the dormitories.**
- The next stage of the **reconstruction of teaching, leisure and accommodation facilities** will be implemented at the **Běstvína Student Learning Centre**.
- For the spatial provision of teaching space for students in the new economics study programmes, a suitable location in the capital city will be used. This will see the **purchase of a suitable building, including basic reconstruction works** in Prague.
- Gradual **renewal and modernisation of the machinery and equipment of teaching spaces and laboratories** at all units of the university used for teaching in accredited study programmes at all levels of study will be carried out with the aim of further strengthening the quality and competitiveness of the educational process at UCT Prague.

For more detailed information, see the Plan of Investment Activities of UCT Prague for 2021, which is an

integral annex to this document (Annex 1).

Sources of funding: own resources, programme funding from the Ministry of Education, EU funds (OP RDE, OP EIC).

Priority objective 2: Improve the availability and relevance of flexible forms of education

Operational objective: Increasing the use of distance learning methods in full-time study programmes (MoE SI2021+: 2A)

Measure: Innovative solutions for increasing the efficiency and quality of education in the form of distance learning and assessment (O_17)

- Through the implementation of **innovative pedagogical projects** supported in the internal competition for the support of innovative pedagogically focused projects of students and academic staff (PIGA - internal pedagogical grant agency), elements of blended learning will be implemented into teaching. Projects introducing innovations to existing curricula or courses will be supported, e.g. by incorporating forms of distance learning, workshops or project-based learning. Furthermore, projects for the creation and innovation of study guides and other study materials of a multimedia character for students and academic staff of UCT Prague and students and teachers of primary and secondary schools will be supported, while the study guides should also support the teaching of combined forms of study. Innovative pedagogical projects aimed at the creation and innovation of LLE courses will also be supported.
- The **technical facilities for on-line teaching** in buildings A and B at the Dejvice campus will be strengthened by equipping two rooms of sufficient capacity with a conference system for the possibility of organizing on-line teaching, on-line conferences and also for the possibility of holding final state examinations remotely; *complementarity with OP RDE*.

Funding sources: IP, EU funds (OP RDE), own resources.

- An analysis of the current state of the facilities for the **purpose of distance learning and blended learning as a tool for the development of education at UCT Prague** will be conducted. On the basis of consultations with domestic and foreign experts and shared experience from other public universities, a strategic document focused on the development of distance education and blended learning at UCT Prague and methodological material to support the implementation of distance education and blended learning, including sample methodological material for laboratory teaching, will be prepared.
- To **innovate and share pedagogical competencies and modern teaching trends in distance education** using shared experiences in the field with collaborating universities. To follow up on the analysis of modern IT methods for teaching science subjects from CRP2020, to acquire relevant IT technology (3D-I, VR+AR) and to prepare sample teaching material on a selected chemistry topic using these new technologies.
- Based on the analysis of existing experiences and identified risks from the increased use of online **distance education and assessment** methods in public universities, steps will be proposed to **strengthen the academic integrity of university students**. Using examples of good practice from universities at home and abroad, methodological materials and educational workshops will be prepared to lay a solid foundation for building awareness among students and academic staff of academic integrity based on ethical values and respect for copyright and other rights related to non-text resources, including the use of public licenses.

Funding sources: CDP, own resources.

Operational objective: Development of the range and innovativeness of methods of flexible forms of education, including online education (MoE SI2021+: 2B)

Measure: Developing flexible forms of education (O_19)

The development of the LLE (Lifelong Education) department at UCT Prague will be supported and steps will be taken to improve external and internal promotion and popularization of LLE. **The LLE offering will be expanded to include new corporate, commercial and pedagogical courses**, including courses offered in English, the organisation of summer schools and the production of popularisation and educational videos for U3A participants. A unified record of the educational courses offered in the framework of LLE will be established and LLE will be integrated into the Student Information System (SIS). In order to increase the informational value of evidence of the results achieved in lifelong education for trainees or their employers, standardised certificates will be issued to graduates of courses.

Sources of funding: own resources, IP.

Operational objective: Improving the recognition of prior learning in further education (MoE SI2021+: 2E)

Measure: Developing an internal system for the recognition of prior learning (O_20)

The process of **assessing previous foreign education** for the purpose of studying at UCT Prague will be optimised within the framework of the granted institutional accreditation with the support of the Quality Assessment Department. In close cooperation with the Quality Assessment Department, the Pedagogical Department, the Foreign Department and the faculty deaneries, internal procedures will be created to improve the system of recognition of previous education at UCT Prague, whether it concerns secondary or higher education of applicants. The internal document will anchor the clear rules of the process of recognition of prior learning at UCT Prague.

Sources of funding: own resources

Priority objective 3: Increase the efficiency and quality of doctoral studies

Operational objective: Strengthening the quality, openness and internationalisation of doctoral studies (MoE SI2021+: 3C)

Measure: Strengthening external and international elements in the assessment of learning outcomes and scientific activities of PhD students (O_21)

- Within the IGRA@UCTP project from the OP RDE call, an **internal grant competition** will be implemented **at UCT Prague** with the aim to support internationalisation, mobility, and interdisciplinarity of research, along with development of professional and linguistic competencies and skills of PhD students. Project documentation (application, reports) will be prepared in English in accordance with the principles of the competition, to ensure the evaluation of submitted project applications by external evaluators. An obligatory part of a successful student project is for the researchers to complete a research or educational activity abroad,

support thematic training to strengthen global competencies and mentoring.

- In accordance with the accreditations granted, **minimum requirements for publication activity of DSP students** will be set, i.e. before the defence of the dissertation, the obligation to prove authorship of at least one scientific paper published in a relevant journal registered in the Web of Science / Scopus database (as first or corresponding author) and co-authorship of at least one other valuable R&D&I result during the doctoral studies.

Sources of funding: EU funds (OP RDE), own resources.

Measure: Supporting and facilitating the transition of DSP graduates into subsequent careers(O_24)

- Within the internal grant competition of UCT Prague (VIGA), **scientific projects of DSP students** will be supported. As part of the services of the Counselling and Career Centre of UCT Prague, doctoral students will be offered **mentoring** as a tool for shaping their future career path. DSP graduates will be offered jobs in industry and research spheres.
- The range of optional courses/seminars/workshops will **support the teaching of transferable skills to PhD students under Module C** to strengthen transferable skills, knowledge and awareness, especially in the areas of dissemination of results, application and protection of results of scientific and research activities and R&D management, which do not in themselves have a direct impact on the professional profile of the graduate, but contribute to the development of competencies related to the subsequent employability of graduates in the academic or applied sphere.
- The **development of communication skills of PhD students** will be supported in order to acquire theoretical knowledge and practical skills in presenting their research work in a popularizing form intended for the general public through the production of media outputs to various communication channels of UCT Prague.

Funding sources: IP, own resources, JRC, DKRVO, EU funds.

Operational objective: Improving conditions for successful studies, including support for balancing studies and family life, and strengthening the social integration of PhD students (MoE SI2021+: 3D)

Measure: Balancing doctoral studies and work with family life in the early stages of an academic career (O_26)

UCT Prague will **enable PhD students to use the services of the Children's Crèche Zkumavka**, and if necessary, it will provide an extension of similar services for PhD students who are also parents so that they can best balance their studies and the beginnings of their academic career with their family life. It will support the retrofitting of the Zkumavka Children's Crèche. CCC's individualised support services aimed at PhD students will continue to be supported.

Sources of funding: own resources, IP.

Measure: Space, social facilities, equipment and services for PhD students (O_27)

- **Information, education and support services** will be provided to PhD students through the servicing rectorate workplaces in relation to appropriate grant schemes. The functionality and quality of the IS for evaluation of results and outputs of PhD students (e-Doctorand) will be continuously improved.
- Doctoral students will be supported **in writing and publishing their dissertations** in accordance

with the rules for internal structuring, uniform formats and graphic design (setting up uniform templates). DSP students will be financially supported in commissioning the printing and binding of their dissertations. In a formal way these measures significantly strengthen the prestige of dissertations published at UCT Prague.

- In accordance with the strategic document **Infrastructure renewal Master Plan of UCT Prague**, which presents a detailed plan for the construction renovation and development of all parts of the university, the general reconstruction and modernization of buildings on the Dejvice Campus (reconstruction in Building B - Zikova Street, courtyard extension), on the campus of the student halls of residences in Prague 4, in the Běstvína Student Learning Centre, and the purchase of a new building will be implemented; *synergy with the operational objective "Support for building infrastructure for interactive methods of education and integration of learners"*.
- The **technical and instrumental equipment of teaching spaces and laboratories** at all units of the university used for teaching in accredited doctoral study programmes will be gradually **renewed and modernized in** order to further strengthen the quality and competitiveness of the educational process at VŠCHT Prague; *synergy with the operational objective "Support for building infrastructure for interactive methods of education and integration of learners"*.

For more detailed information, see the Plan of Investment Activities of UCT Prague for 2021, which is an integral annex to this document (Annex 1).

Funding sources: IP, own resources, DKRVO, other grants, programme funding of the Ministry of Education.

Priority objective 4: Strengthen strategic management and effective use of R&D capacity in universities

Operational objective: Completion of a comprehensive transformation of the environment and setting up of R&D&I processes at UCT Prague (MoE SI2021+: 4A)

Measure: Implementation of MEP recommendations (O_28)

- **Systematic support of Open Science at UCT Prague** according to European standards is a necessary step towards the promotion of superior research and the internationalisation of the research and innovation environment. The implementation of Open Science principles will bring about a complete transformation and adjustment of internal processes that will affect education, the research environment and the innovation potential of research results.
 - An analysis of the current state of implementation of Open Science at UCT Prague will be prepared, key areas and priorities for systematic support of Open Science at UCT Prague will be determined on the basis of the analysis and international standards and practices with regard to future developments, and the "UCT Prague - Open Science Strategy" for the medium term will be prepared and approved.
 - The introduction of the international persistent identifier for scientists ORCID (Open Research and Contributor iD) at UCT Prague and the subsequent integration of ORCID into the internal OBD system will enable the automatic import and export of records and management of user profiles at UCT Prague.
 - Pilot testing of research data management at UCT Prague according to FAIR principles (Findable, Accessible, Interoperable and Reusable) for organic chemistry - preparation of metadata schemes, implementation of online tool Data Stewardship Wizard (DSW) for scientific data management and testing of data model implementation in the institutional

repository of UCT Prague.

- In cooperation with the Institute of Economics and Management of UCT Prague, an analysis of the functioning of intellectual property protection and technology transfer at UCT Prague will be prepared, including a comparative analysis with transfer departments at other universities.

Funding sources: DKRVO, own resources, EU funds (OP RDE, Horizon 2020).

Operational objective: Promoting excellence and societal relevance in research (MoE SI2021+: 4C)

Measure: Taking into account societal needs at both national and global levels in the research priorities of UCT Prague (O_30)

- **Long-term cooperation with partners from industry**, but also other sectors, **on research topics of high societal relevance**, such as environmental protection, recycling, nuclear waste disposal, hydrogen technologies, energy storage, waste recycling (European Green Deal), health, protection of cultural heritage, etc., leading to high added value for society, will be supported. Cooperation should lead not only to high-quality applied research, but also to the educational development of top young scientists. This includes the implementation of successful cooperation projects with the application sphere, such as collaborations with Lafarge Cement in Čížkovice on testing a new environmentally friendly cement-metallurgical technology developed at UCT Prague, The Parc Centre for Applied Pharmaceutical Research, which successfully links research cooperation between the University of Applied Sciences in Prague, the Faculty of Science of Charles University and the Institute of Applied Sciences of the Academy of Sciences with the company Zentiva to accelerate the process of innovation in the field of research and development of pharmaceuticals, and cooperation within the Unipetrol Research and Education Centre UniCRE dealing with the development of inorganic technologies. We will continue to establish promising cooperation with small and medium-sized enterprises in Prague and other regions, making maximum use of the potential of the Kralupy Technopark and the know-how of the faculties.
- The **services of the Research and Technology Transfer office will be developed**, including the strengthening of its staffing, to ensure the protection of intellectual property of R&D&I results generated at UCT Prague and their commercialization. To systematically search for partners in the application sphere and to develop a system of active support to increase the success of the commercial use of applied research results at UCT Prague.
- A form of **internal competition for Junior Rector's Grants** (JIGA), will assist promising junior academic and scientific staff who will be financially supported in the implementation of their own innovative research, independent publishing activities and establishment of active foreign cooperation to increase their success in obtaining domestic and foreign grants.
- The creation of sufficient spatial capacity and the gradual **modernisation of instrumentation and technological equipment for science and research** will continue in accordance with the Infrastructure Renewal Master Plan of UCT Prague in all units of the University, with the aim of further strengthening the competitiveness and excellence in the areas of basic and applied research carried out at UCT Prague.

For more detailed information, see the Plan of Investment Activities of UCT Prague for 2021, which is an integral annex to this document (Annex 1).

Sources of funding: own resources, EU funds (OP RDE, OP EIC), subsidies from other domestic and foreign providers, DKRVO, programme funding of the Ministry of Education.

Operational objective: Development of international cooperation in the field of R&D&I (MoE SI2021+: 4D)

Measure: Organisational support for international mobility of academic and non-academic staff - consultancy, administration (O_31)

The staffing capacity of the service workplaces (Science and Research Department, International Department), which provide advisory, **organisational and administrative support for international mobility of** academic and non-academic staff, will be strengthened.

Sources of funding: own resources.

Measure: Increase the proportion of academic and non-academic staff with foreign experience (O_32)

The **initiation grants** from the Dagmar Procházková Fund will support two scientific projects of academics with international experience who are expected to connect their future professional careers with UCT Prague.

Sources of funding: own resources, DKRVO.

Measure: Obtaining special-purpose R&D&I support from international sources (O_33)

Support for researchers applying for grants from international sources will continue in the form of providing information and consultation services and training activities, especially for the Horizon Europe Framework Programme - using the outputs of the Kompas project (Anlupa application). Support for researchers in the preparation of international R&D&I projects will be further provided within the newly established Project Centre, and an **incentive scheme will be used to support applicants in joining international programmes.**

Sources of funding: own resources, DKRVO, OP RDE, grants from other providers.

Operational objective: Popularization of natural sciences and results of creative activities of UCT Prague (MoE SI2021+: other priority objectives II10)

Measure: Popularization of science with emphasis on chemistry (O_34)

The **results of the creative activities of UCT Prague will be popularized regarding** the general public, with an emphasis on the target group of potential applicants to study at UCT Prague, through active participation in projects and events popularizing science (Night of Scientists, Photo Competition; The World (is) Chemistry, ChemQuest, Youth Academy, Science Festival, etc.). It will use not only proven face-to-face events, but also alternative online methods responding to the current social situation and changing communication habits of the current population. UCT Prague will support both staff and students in developing teaching and communication skills with a focus on communicating current knowledge of science and research to the general public in a popular form. The appearance of academic and scientific staff from UCT Prague in the media will be supported, and the results of their work will also be presented through various communication channels.

Funding sources: IP(*funding implemented within the framework of the so-called Other Priority Objectives of University's Strategic Plan*), own resources, sponsor donations, CDP.

Priority objective 5: Capacity building for strategic management of higher education

Operational objective: Strengthening of strategic management at UCT Prague (MoE SI2021+: 5B)

Measure: Developing internal capacity for strategic management (O_36)

The University will provide a quality basis for international university rankings (QS, THE) in order to maintain and strengthen its position in the selected world rankings, both general (ranking among the world's top 500 universities) and disciplinary.

Sources of funding: own resources.

Measures: Development of internal mechanisms for the distribution of funds and remuneration of academic staff (O_38)

On the basis of an analysis of the existing **internal mechanism for the distribution of funds** among the units of the university (agreement between the Rector and the Deans), possible modifications will be proposed and an internal document will be created that describes this mechanism in a transparent manner.

Sources of funding: own resources.

Measures: Development of cooperation, coordination and common identity within UCT Prague (O_40)

- In order to support the development of cooperation, strengthen the common identity and coordinate the implementation of the planned process changes at the level of the institution and individual units of UCT Prague, opportunities will be created for **meetings of staff from different departments** across the university.
- A thorough **analysis of the current internal communication channels** will be carried out in comparison with the needs of the strategic management of the university. To achieve maximum efficiency, each existing internal communication channel will be assigned a clear role and associated type and form of appropriate content, including the newly used channels of the SPIN magazine and the Yammer network. As part of the internationalization of the environment of UCT Prague, emphasis will be placed on the **development of English versions of internal communication channels**.

Sources of funding: own resources, IP.

Operational objective: Promoting cooperation and exchange of experience between universities and capacity development for strategic management at national level (MoE SI2021+: 5C)

Measure: Strengthening cooperation and sharing of good practice between universities (O_41)

It will exploit the potential of cooperation and sharing of good practices of public universities in supporting the implementation of the concept of **strategic management of public development projects of strategic nature** related to the preparation for the OP JAK, especially in terms of supporting the creation of strategic projects at universities and the development of staff capacity, conditions and digital tools for the implementation of grant projects. Thanks to the cooperation of the co-hosting universities, a handbook of **crisis management of the university** will be prepared as a comprehensive manual including not only necessary or appropriate adjustments in the field of standards and regulations, but also practical issues of crisis communication rules, operational actions or ensuring and availability of the necessary IT infrastructure, etc. The manual comprehensively covers all those who could be connected to crisis scenarios and who are involved in activities at the college.

Funding sources: CDP, own resources.

Operational objective: Strengthening of strategic human resources management at UCT Prague (MoE SI2021+: 5D)

Measure: Remuneration of academic staff in relation to results and quality of activities undertaken for universities (O_44)

Within the framework of employee remuneration, the extraordinary **contribution** of specific **employees** to the work results and development of UCT Prague in **various areas of their professional life** will be **recognised** by receiving the Prof. Jitka Moravcová Prize for outstanding pedagogical activity and the Julia Hamáčková Prize for taking gender aspects into account in professional activities at UCT Prague. Students are awarded the Julia Hamáčková Prize for incorporating gender

and/or gender identification analysis into their studies.

Funding sources: IP.

Measure: Implementation of HRS4R principles - obtaining and maintaining the HR Award (O_45)

The evaluation process towards the HR Award, which is awarded by the European Commission to research institutions that implement HRS4R (The Human Resources Strategy for Researchers), will be completed. The European Commission's comments on the submissions made in preparation for the award will be addressed. Subsequently, the **implementation** of the measures of the approved two-year **HRS4R Action Plan** to eliminate non-compliance with the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers will be initiated.

Funding sources: IP, own resources.

Priority objective 6: Reduce the administrative burden on university staff so that they can focus on their vocation

Operational objective: Simplifying the transfer of information to public administration and improving the availability and circulation of information through the continued digitisation of agendas (MoE SI2021+: 6A)

Measure: Development of information systems, digitisation of agendas (O_46)

- A **new identity management system (IDM)** will be acquired. In line with legislative requirements, existing internal information systems will be further developed to reduce the administrative burden and improve functionality and user-friendliness. The **Personnel Information System (PIS)** will be expanded with two modules enabling the electronic circulation of documents in the area of personnel administration and payroll and the entry of multiple sources of funding via a web client). Renovation of the **Grants and Projects (GaP)** system will be carried out, which will enable modification and expansion of the application according to user requirements, increase the security of the application and facilitate the user comfort when working with the application. Within the **Financial Information System (FIS)**, the Invoices application will be extended to include previews of other FIS modules. UCT Prague will also be involved with other public universities as a co-leader in the optimization and development of the economic information system. It will focus, for example, on optimising the procedure for the settlement of small expenditures and implementing electronic circulation of contracts and extending software support for the publication of contracts. Within the development of the **Student Information System (SIS)**, UCT Prague will focus on the possibilities of digitization of other documents in the SIS, the needs of digitization of LLE associated with quality assurance of education, further development of the needs of the application in the field of accreditation, especially changes in approved accreditations, and the possibilities of development of other SIS modules in terms of the needs of optimization of processes at UCT Prague.
- In collaboration with other public universities, the state of cybersecurity in the university environment will be analyzed. To ensure all the requirements arising from the legislation are met, a special team will be created to **increase the level of cybersecurity** at UCT Prague. An analysis of important information systems of UCT Prague will be carried out and adequate education of

employees in cyber security will be ensured. Training courses and recommendations for the safe deployment of distance learning tools and university operations will be developed in collaboration with the co-hosting public universities.

Funding sources: CDP, IP, own sources.

Operational objective: Support for the development of professional apparatuses providing support services for academic staff and school operations (MoE SI2021+: 6C)

Measure: Creation of new centralised supporting workplaces (O_47)

A centralized **Project Centre** will be established at UCT Prague as a service workplace focused on project support for project workers. The new workplace will be anchored in the organisational structure and internal documents of UCT Prague. The Project Centre will provide support for all types of projects at UCT Prague - R&D projects, mobility projects, international and educational projects, projects from operational programmes, etc., which are still administratively supported from several different departments. During the year, the Project Centre will be staffed, workplace equipment will be purchased and staff will undergo adequate training and internships.

Funding sources : IP, own resources.

Internationalisation strategy

Prioritní cíl I1: Developing global competencies of students and staff in universities

Operational objective: Support for language and intercultural training of students and staff of higher education institutions (MoE SI2021+: I1A)

Measure: Foreign Language as an Integral Part of Study and Work at UCT Prague (O_49)

- The **hosting of foreign experts** from partner institutions at UCT Prague will be financially and organizationally supported. Thanks to the support of teaching residencies, students and employees have a unique opportunity to participate in teaching led by foreign educators without having to leave the campus of UCT Prague, drawing on the disciplinary and pedagogical knowledge and skills of renowned foreign experts. Another benefit of this activity is the development of existing and the creation of new contacts for future cooperation in various areas of pedagogical and scientific research activities.
- In order to **promote the interest of students of Czech-language study programmes in taking courses offered in English**, rules will be proposed for the provision of a bonus on successful completion of **English-taught** courses in selection procedures for students' mobility abroad.

Funding sources: IP, own resources.

Operational objective: Development of international mobility of students and staff (MoE SI2021+: I1B)

Measure: Targeted offer of international mobility for students and staff (O_51)

- The **two-way mobility of students and staff will be supported**, primarily within the Erasmus+ programme, but also outside the framework of this programme, with the aim of gaining international experience and contacts for the future involvement of students, academic and non-academic staff in international projects, designing and adapting study programmes, teaching in a foreign language or providing support for the activities of the institution at various levels. Short and long-term stays will be supported. A quality information service will be provided to students and staff. The mobility offer will be adequately promoted among students and staff.
- For better orientation of students in the range of mobility opportunities, a **web application for mobility search** will be created, which will recommend the student, after entering the basic preferred mobility parameters, the appropriate type of trip and the grant programme in which he/she can apply for it.

Funding sources: Erasmus+, IP, earmarked funding from MoE, own resources, OP RDE.

Measure: Improving the quality of activities related to the organisation and digitisation of mobility (O_53)

- The **potential of virtual mobility** at UCT Prague will **be analysed** in terms of the current state of use of virtual mobility, a proposal of the necessary internal documents for virtual mobility will be made and a survey of students of UCT Prague's interest in virtual mobility will be conducted. In cooperation with the co-hosting public universities, attention will be paid to the analysis of jointly identified problem areas in the use of virtual mobility. On the basis of shared examples of good practice from foreign institutions, a **proposal for measures for the development of virtual mobility at universities** will be formulated.
- The **current status of the implementation of the Erasmus Without Paper (EWP) system** at UCT Prague will **be analysed** and a study of the application program interface of EWP with existing university information systems, especially the Student Information System (SIS), will be carried out. A feasibility study of effective incorporation of the EWP API into the IT solutions used at UCT Prague will be prepared. A communication plan for the transition to EWP will be developed, including a manual for the administration of Erasmus+ mobility processes using EWP tools. The issue will be addressed by sharing experiences and examples of good practice in EWP implementation with co-hosting public universities.

Sources of funding: own resources, CDP.

Operational objective: Development of professional competences of UCT Prague staff in the field of internationalisation (MoE SI2021+: I1C)

Measure: Systematic development of employees' competences in the field of internationalisation and their motivation to participate in mobility (O_54)

Awareness among employees of the opportunities of various types and forms of mobility will be strengthened using internal communication tools - the internationalisation window in the SPIN magazine, the website of the Foreign Department, etc. Information workshops will be organised for potential candidates for international mobility among academic and scientific staff and other employees.

Sources of funding: own resources.

Prioritní cíl I2: Internationalisation of university study programmes

Operational objective: Increasing the number and quality of study programmes offered in foreign languages and joint study programmes (MoE SI2021+: I2A)

Measure: Quality assurance of study programmes and courses taught in English (O_56)

The **promotion of subject surveys among students will be strengthened**, including for subjects taught in English. For **selected courses taught in English**, **feedback forms** will be used to focus on quality verification of English courses in comparison with their Czech equivalents.

Sources of funding: own resources.

Operational objective: Inclusion of the international dimension in the structure of study programmes, including mobility windows (MoE SI2021+: I2B)

Measure: Incorporating international student mobility as an integral part of the curriculum (O_57)

An analysis will be made of the possibilities of organizing and financially ensuring the **fulfilment of the obligation to complete some form of foreign cooperation**, with a preference for outgoing mobility, within doctoral study programmes, in accordance with their accreditation; *synergy with the operational objective "Strengthening the quality, openness and internationalization of doctoral studies", PC3*. For Master's degree programmes, the organisation of semester-long study stays at partner universities with an appropriate choice of subjects to guarantee the recognition of learning outcomes achieved during the stay will be preferred.

Sources of funding: own resources, (MOBI programme), Erasmus+, EU funds (OP RDE).

Prioritní cíl I3: Simplifying the process of recognition of foreign education

Operational objective: Implementation of automatic recognition of education and study results abroad (MoE SI2021+: I3A)

Measure: Unification of the Process and Criteria for Automatic Mutual Recognition of Results from Study Abroad at UCT Prague (O_58)

At VŠCHT Prague, the **process of unifying the recognition of education from abroad** will be initiated; *synergy with the operational objective "Improving the recognition of the results of prior learning in further studies", PC2*.

Sources of funding: own resources.

Prioritní cíl I4: Creating an international environment at universities and their promotion abroad

Operational objective: Support for the development of international marketing of universities and the Czech Republic (MoE SI2021+: I4A)

Measure: Institutional Scholarship Programme for International Students (O_60)

Motivationally, in the form of scholarships, the **recruitment of talented foreign students** to English study programmes will be **supported** and their **excellent academic** achievements will also be rewarded. The scholarships will support the voluntary initiative of students beyond the basic study obligations and their participation in **improving the study conditions for foreign students** at UCT Prague **and their integration** into the life of the school.

Funding sources: IP, own resources.

Measure: Presentation of UCT Prague abroad using joint national initiatives (O_61)

Marketing activities will be carried out to **promote UCT Prague abroad to attract students** to English study programmes and **academics, scientists and other staff** to fill vacant positions. This is done through proven marketing tools such as participation in higher education fairs abroad, the use of agencies providing recruitment of foreign students, the promotion of study programmes on portals aggregating study offers, as well as through active participation in social media networks and the use of other forms of online promotion of study and job opportunities at UCT Prague, reaching out to specific target groups. Including the production of printed materials and other promotional items. The **Study in Prague** platform established on the basis of the previous successful cooperation of Prague public universities will continue to be used and the Study in Prague website, which will now include information on research profiles of Prague universities and on opportunities for doctoral studies in Prague will be continuously updated.

Funding sources: IP, own resources.

Operational objective: Development of services offered to international students and staff (MoE SI2021+: I4B)

Measure: UCTP Welcome Centre (O_62)

As part of the establishment of the **UCT Prague Welcome Centre**, a website will be created with practical information for foreign people potentially interested in working or studying at UCT Prague. It will consist of practical and specific information necessary for successful relocation to the Czech Republic and working at UCT Prague. Infrastructure will be provided for effective remote communication and fast advice for foreign applicants. In difficult situations, the Centre will provide assistance to foreigners. If necessary, relevant adjustments to the internal MOBIS information system will be made on the basis of practical experience. The effective functioning of the UCT Prague Welcome Centre will be supported by the participation of UCT Prague employees in training courses and visits to similar departments at other Czech universities.

Funding sources: IP, own resources.

Operational objective: Working with foreign students and graduates (MoE SI2021+: I4C)

Measure: Setting up a system of cooperation with foreign students and graduates (O_64)

Various forms of cooperation with foreign students and graduates will be encouraged and developed to promote outward mobility to their home countries. We will strive to involve more foreign graduates in the Alumni Club of UCT Prague and to use their ties to their "alma mater" to promote higher education studies at UCT Prague among potential applicants for study, in the form of various communication and promotional activities and other activities strengthening the internationalization within UCT Prague.

Sources of funding: own resources.

Prioritní cíl I5: Strengthening the strategic management of internationalisation

Operational objective: Support for comprehensive internationalisation at institutional level (MoE SI2021+: I5A)

Measure: External quality assessment of activities (O_66)

An **external advisory panel** will be assembled consisting of renowned foreign experts involved in the evaluation of UCT Prague according to the Methodology 2017+ and supplemented by other experts from among foreign and domestic employers of our graduates (representatives of the CAS, the Association of the Chemical Industry of the Czech Republic, The Federation of the Food and Drink Industries of the Czech Republic, etc.) who can professionally assess the quality of activities implemented at UCT Prague. In the following period, this panel will be used for external evaluation of the quality of activities and assessment of strategies developed for individual areas of activities of UCT Prague; *synergy with the operational objective "Building capacity for strategic management at UCT Prague", PC5).*

Sources of funding: own resources.

Conclusion

In the Plan of Implementation of the Strategic Plan of Educational and Creative Activities for 2021, UCT Prague lists a number of measures whose implementation will contribute to the fulfilment of its mission, i.e. the education of high quality university-educated professionals for industrial practice, public and state administration, as well as top researchers and scientists contributing to the increase of the country's competitiveness and the development of an economy based on knowledge and innovation. An integral part of the mission of UCT Prague is also the active public promotion and popularization of technical and natural science disciplines, including their latest trends. All planned activities implemented within the framework of the 6 priority objectives of the Strategic Plan of UCT Prague and 5 priority objectives in the field of internationalization are aimed at strengthening the leading position of UCT Prague as a top educational and research institution in the field of basic and applied research with a significant social impact within the Czech Republic and the entire Central European region.

In 2021, the implementation of projects funded by EU operational programmes for the period 2014-2020 will continue, including strategic school-wide projects within the framework of the OP RDE, the solution and administration of which involves all parts of the university, including the rectorate departments. In parallel, support applications will be prepared for the newly announced relevant calls for domestic and foreign providers of special-purpose (grant) support and the preparation of strategic projects for the announced calls from the 2021-2027 programming period (OP JAK, OP TAC, Horizon Europe) will be initiated in order to obtain funds for the development and improvement of the main and supporting activities of the university in the following period.

In 2021, the preparation and gradual implementation of investment projects related to the general renovation and reconstruction of premises for the provision of teaching, scientific research and other activities of UCT Prague will continue.

In order to effectively finance the planned activities of the PISI 2021, UCT Prague will use all available public financial resources, both institutional and special-purpose, as well as its own resources obtained from cooperation with industry.

Abbreviations used:

API	Application programming interface
CDP	Centralised development programme
LLE	Life-long education
DKRVO	Long-term conceptual development of the research organisation
DSP	Doctoral study programme
EU	European Union
EWP	Erasmus Without Paper
FST	Fair Transformation Fund
HRS4R	Human Resources Strategy for Researchers
IP	Institutional programme
IT	Information Technology
JIGA	Junior Internal Grant Agency of VŠCHT Prague
MoE	Ministry of Education, Youth and Sports
PBD	Personal bibliographic database
OP	Operational programmes
OP JAK	Operational Programme Jan Amos Komenský
OP EIC	Operational Programme Enterprise and Innovation for Competitiveness
OP TAC	Operational Programme Technologies and Applications for Competitiveness
OP RDE	Operational Programme Research, Development and Education
PIGA	Pedagogical internal grant agency of VŠCHT Prague
CCC	Counselling and Career Centre
IPSI	Implementation plan of the Strategic Plan
SIS	Student Information System
SI	Strategic Plan
SIGA	Scientific internal grant agency of UCT Prague
HVS	Higher vocational school
UCT Prague	The University of Chemistry and Technology, Prague

Annex 1: Plan of investment activities of UCT Prague for 2021

1. Summary of investment activities for 2021

In accordance with the Strategic Plan of UCT Prague for the period from 2021 onwards, UCT Prague plans to implement investment actions in 2021 to ensure the development and renewal of construction, mechanical, instrumental and IT infrastructure associated with the implementation of the planned measures presented in the Implementation Plan of the Strategic Plan of UCT Prague for 2021.

In accordance with the Development Master Plan of UCT Prague, the university plans to implement several construction and investment projects in 2021 related to the construction modification of buildings A and B in Dejvice, the reconstruction of halls of residences in the Prague 4 - Kunratice campus and the reconstruction of the Běština Student Learning Centre. Due to delays in the preparatory work or to secure funding for the construction, the implementation of some steps has been postponed from the originally planned previous years to 2021.

The planned construction modifications in Buildings A and B are mainly connected with optimizing the use of space capacity and also take into account the development requirements of individual departments of the faculties and the Rector's Office for the next period. In 2021, construction work will continue on the vacated space in Building B. In 2021 it is planned to complete the renovations of the office space for the dean's office, the rector's office and part of the school's management, started in autumn 2020 (Zikova Street). Design documentation for the reconstruction of laboratories in Building B (Studentská Street, Šolínova Street) will be prepared.

In accordance with the Development Master Plan of UCT Prague in 2021, the implementation of measures resulting from the fire safety solution will be started in connection with the planned reconstruction of buildings A and B. Preparation of design documentation for the construction in the courtyard of Building B is also planned. In order to ensure the teaching of students in the newly taught economics study programmes, it is planned to acquire a suitable new building with acceptable transport accessibility from the Dejvice campus.

As part of the reconstruction of the student learning centre Běština (Chrudim district) construction of accommodation facilities (log cabins) are planned in 2021.

In 2021, preparatory and implementation work is also planned for construction works at the halls of residences in Prague 4 - Kunratice aimed at improving the service infrastructure (reconstruction of the boiler room) and the purchase of land under the halls of residences from the Prague City Hall.

In total, 7 partial investment projects related to teaching (Dejvice Campus, Běština Teaching Centre, purchase of a new building) and 2 partial investment projects in the university halls of residence (Prague 4 - Kunratice) are planned at UCT Prague for 2021. **However, the planned implementation of the capital construction in 2021 depends on the amount of financial resources that UCT Prague will be able to obtain under institutional or earmarked funding.**

In addition to the construction works, the development and renewal of the mechanical and instrumental infrastructure for the educational and research activities of UCT Prague within the individual units of the university is also planned for 2021.

2. List of individual investment steps to be implemented in 2021

1. Reconstruction of the premises vacated from the lease in building no. p. 1903 (building B), Zikova Street, Prague 6 - office part

Brief Description: Comprehensive reconstruction of parts of Building B (Zikova Street), which were leased long-term to the Czech Technical University until the end of 2017, due to the completely unsatisfactory and dilapidated technical condition of these premises. The aim of the reconstruction is not only to adapt them to modern premises for the needs of UCT Prague, but also to meet the

existing safety and hygiene regulations and standards. Reconstruction of office space (including media distribution and building of new IT infrastructure) will be carried out, newly equipped with audio-visual equipment and furniture for the needs of deaneries, rectorate departments and also departments that do not implement practical laboratory teaching. This project will also include a general reconstruction of the sanitary facilities, communication areas and entrance areas to the building, including the installation of turnstiles at the entrances. A total of 9,600 m² of usable area will be reconstructed, of which the net usable area is 5,400 m². No building permit is required for the reconstruction of these premises.

Estimated cost of the project excluding VAT: CZK 173 million without VAT (CZK 2 million for design documentation, CZK 138 million for construction works, CZK 13 million AV equipment, CZK 20 million for interior equipment), of which the subsidy from the Ministry of Education amounts to CZK 147 million. and own resources CZK 26 million

Framework timetable of the project: 2018 - 2021 (preparation of construction documentation 2018 - 2020, 09/2020 - 12/2021 construction implementation including AV equipment and furniture).

Justification of the project - link to priorities SI2021+ and SIIP:2021: This project is part of the Development Master Plan of VŠCHT Prague. Its implementation will enable further follow-up stages of the university's development (reconstruction of the vacant space around the administrative offices in other buildings on the Campus, building into the courtyard of Building B), operational optimization of the buildings, expansion of teaching and research spaces, solving the unsatisfactory level of fire safety, increasing the level of occupational health and safety and meeting current hygiene regulations; *PC1 - measure Modernization and renewal of educational infrastructure (O_15); PC3 - measures for Space, social facilities, instrumentation and services for PhD students (O_27); PC4 - measures taking into account societal needs at national and global level in research priorities and resource allocation within the institution (O_30).*

Synergistic links to other investment projects: Direct continuity of the reconstruction of other parts of buildings A and B in the framework of investment projects II and IV.

Description of the current status of the investment project in 2021: Construction implementation (09/2020 - 12/2021)

Planned work for 2021: Implementation of construction including interior equipment (AV, furniture), expected completion by 12/2021.

Estimated expenditure in 2021 and sources of funding: CZK 168 million without VAT; programme financing (Programme 133 220), own resources.

II. Reconstruction of the excellent laboratories in building no. 1903 (building B), Zikova Street, Prague 6

Brief Description: Reconstruction of part of Building B (Zikova Street), the premises of the former printers, into a type of universal chemical laboratory (analytical, inorganic, organic), which will be available for top scientists and their teams for time-limited solutions of exceptional projects. When the project is over, another research team will occupy the laboratories with their project. There will be 450 m² of newly built laboratory space with the necessary office and sanitary facilities.

Estimated cost of the project excluding VAT: CZK 35 million without VAT (CZK 20 million for construction works, CZK 15 million for interior equipment), of which the subsidy from the Ministry of Education amounts to CZK 30 million. and own resources CZK 5 million.

Framework timetable of the project: 2021 (preparation of construction documentation 2020, 05/2021 - 10/2021 implementation of construction including interior equipment).

Justification of the project - link to priorities SI2021+ and IPSI:2021: This project is part of the Development Master Plan of UCT Prague. Its implementation will increase the prestige of UCT Prague as a quality research university and strengthen the international dimension of scientific research

activities; *PC3 - measures for space, social facilities, equipment and services for PhD students (O_27), PC4 - measures taking into account societal needs at national and global level in research priorities and allocation of resources within the institution (O_30).*

Synergistic links to other investment projects: Follow-up to reconstructions under Investment project I.

Description of the current status of the investment project in 2021: Construction implementation (05/2021 - 10/2021)

Planned work for 2021: Construction implementation including interior fittings.

Estimated expenditure in 2021 and sources of funding: CZK 35 million without VAT; programme financing (Programme 133 220), own resources.

III. Purchase of a suitable building and its renovation for teaching and research purposes

Brief Description: Purchase of a suitable property with a net usable area of 3,500 - 4,000 m² within reasonable distance from the Dejvice Campus with the possibility of internal structural renovations for the needs of theoretical teaching (classrooms, offices; 2,000 m² of space) and experimental work (laboratories; 1,000 - 1,500 m² of space). The property to be acquired must be in overall very good structural and technical condition, with a suitable internal layout and ceiling clearance so that it does not require radical structural alterations. The reconstruction will therefore mainly concern HVAC, fire safety, sanitary and hygienic facilities and IT network infrastructure.

Estimated cost of the project excluding VAT: CZK 255 million (purchase of real estate CZK 205 million , building reconstruction and internal equipment CZK 50 million.

Framework timetable of the project: 2021 -2023 (purchase of property 2021, gradual reconstruction 2022 - 2023).

Justification of the project - link to priorities SI2021+ and IPSI:2021: As part of its strategic development plan for the period 2021+, UCT Prague has agreed to strengthen and improve the quality of teaching and research in applied economics focused on chemistry, food science and the environment. At the end of June 2020, UCT Prague received accreditation for a period of 5 years for Bachelor's and two follow-up Master's degree programmes with the possibility to start teaching as early as September 2020. It can be realistically assumed that by 2025 the number of students will gradually increase to 800 - 1000 people. Ensuring quality teaching of the expected number of students in the new economics study programmes will require the employment of 70-80 educators. Accommodating the above numbers of students and academic staff while meeting basic hygiene and safety (OHS, Fire safety) standards requires approximately 2,000 m² net usable area of teaching and office space. The necessary space in the existing campus of UCT Prague at Prague 6 -Dejvice is not currently available and will not be available in the long term (until 2030). Long-term commercial leasing (more than 10 years) proved to be less advantageous from a utility, technical and economic point of view than the purchase of a suitable property owned by UCT Prague. In addition, it is possible that the building itself could be gradually adapted for teaching of economics study programmes, as well as it being possible that part of the premises could be adapted for experimental (laboratory) teaching; *PC1 - measure for modernization and renewal of infrastructure for education (O_15), PC3 - measure for space, sanitary facilities, instrumentation and services for PhD students (O_27), PC4 - measure Taking into account societal needs at national and global level in research priorities and allocation of resources within the institution (O_30).*

Synergistic links to other investment projects: Without direct connection to other investment projects.

Description of the current status of the investment project in 2021: Selection and purchase of a suitable property meeting the requirements of UCT Prague.

Planned work for 2021: Implementation of the purchase of the building and the start of the

renovation and furnishing of the interiors.

Estimated expenditure in 2021 and sources of funding: CZK 215 million without VAT; own resources.

IV. Comprehensive reconstruction of the premises vacated from the lease in building no. p. 1903 (building B), Studentská Street and Šolínova Street, Prague 6 - laboratory part

Brief Description: Comprehensive reconstruction of parts of the building of UCT Prague (1903, Prague 6 - Dejvice), situated in Šolínova and Studentská streets, which were long-term used by the Czech Technical University until the end of 2017 (in the form of a lease) and are now in a completely unsatisfactory technical state. The aim is not only to adapt them to modern premises for the needs of UCT Prague, but also to meet all fire-technical, safety and hygiene regulations and standards.

The project will include a general reconstruction and conversion of unusable and non-functional office space into modern chemical laboratories designed for practical teaching of students in all types of study programmes (bachelor, master, doctoral), as well as for high-quality basic and applied research. In total, 960 m² of new laboratory space will be built, meeting all OHS and fire safety requirements, equipped with efficient HVAC, new distribution media and new IT infrastructure. The reconstruction of the laboratory space is synergistically connected with the reconstruction of the office space - workspaces for academic staff and students (approximately 1,270 m²). In total, this will create 2,230 m² of quality space for the needs of faculty institutes, Central Laboratories and other research facilities across the whole university. Within the framework of the project, the office space will also be adapted for the needs of the central rectorate workplaces (320m²). In addition, 510m² of space for student lecture halls and rooms will be reconstructed. The project will also include a general reconstruction of sanitary facilities (120 m²) and communication areas (1,820 m²) while a small part of the premises will be adapted for IT needs (15 m²). A building permit will be required for the reconstruction of these premises with a total usable area of 4,700 m² (or a net usable area of 2,870 m²), as part of the premises are being changed from office to laboratory use.)

Estimated date of the implementation: 2019 -2023 (preparation of design documentation 2019 - 2021, construction implementation 2022 - 2023).

Estimated cost of the project excluding VAT: CZK 238 million excluding VAT (of which CZK 188 million for construction works and design documentation, CZK 50 million for interior equipment), programme financing, EU funds (OP JAK), National Investment Plan, own resources (note: the scale of the planned investment project is so large that it cannot be implemented only from UCT Prague's own resources).

Link to SI 2021+ and SIIP:2021: Due to the long-term critical shortage of suitable premises for university teaching and scientific research activities, in particular quality laboratory space and also adequate administrative facilities in the buildings owned by UCT Prague, the reconstruction of the vacated premises is necessary to remedy the current critical situation in terms of space. This project is part of the overall Development Master Plan of the University of UCT Prague. Its implementation will enable further follow-up stages of the school's development (reconstruction of the vacated space after the administrative offices in other buildings of the university campus, building into the courtyard of Building B), operational optimization of the buildings, expansion of teaching and research spaces, solving the unsatisfactory level of fire safety, increasing the level of OHS and meeting current hygiene regulations, especially in laboratories (e.g. efficient HVAC). The implementation of this project will significantly improve the spatial, working and teaching conditions at 8 institutes and also at two university-wide workplaces of UCT Prague at the Dejvice Campus. Selected departments from Building A and Building B (part of Technical Street) will be relocated to the newly renovated premises; *PC1 - measures for modernization and renewal of educational infrastructure (O_15)*, *PC3 - measures for space, social facilities, instrumentation and services for PhD students (O_27)*, *PC4 - measures for taking into account societal needs at national and global level in research priorities and allocation of resources within the institution (O_30)*.

Synergistic links to other investment projects: direct link to investment projects I and II; this project is followed by investment project IV.

Description of the current status of the investment project in 2021: conceptual intent, basic division of space between individual departments.

Work plan for 2021: commencement of construction documentation.

Estimated expenditure in 2021 and sources of funding: 0 CZK, the first payment will be made in 2022.

V. Implementation of fire-safety solutions within the reconstruction of buildings no. 1903 and 1905 (buildings A and B), Prague 6

Brief Description: The following fire safety system measures will be implemented as part of the planned extensive renovations in Buildings A and B:

- installation of electrical fire alarm detectors in all areas of both buildings with the potential for the escape of gases and vapours that may endanger the health and life of persons. In logical continuity with the electrical fire alarm system, the installation also includes a gas detection element;
- the construction of protected escape routes with forced ventilation can be conducted in stages, where resistant elements of the building structure must be added first and the replacement of existing doors with fire-resistant doors can be implemented later on;
- installing central gas storage tanks and removing pressure vessels from buildings wherever possible.

Estimated date of the implementation: 2021 -2024 (continuous implementation of the fire safety measures within the framework of the ongoing reconstruction works in buildings A and B, see investment projects I, II, IV).

Estimated cost of the project excluding VAT: CZK 70 million excluding VAT

Link to SI 2021+ and IPSI:2021: This project is a very important part of the Master Development Plan of UCT Prague. Its implementation will allow to solve the unsatisfactory level of fire safety and significantly increase the standard of OSH; *PC1 - measures for modernization and renewal of infrastructure for education (O_15)*, *PC3 - measures for space, social facilities, instrumentation and services for PhD students (O_27)*, *PC4 - measures taking into account societal needs at national and global level in research priorities and allocation of resources within the institution (O_30)*.

Synergistic links to other investment projects: Direct continuity with investment projects I, II and IV.

Description of the current status of the investment project in 2021: Analysis of the current state of the buildings in the Dejvice campus, elaborated technical solutions for investment projects I and II.

Planned work for 2021: Close connection with the implementation of investment projects I and II and the preparation of construction documentation for project IV.

Estimated expenditure in 2021 and sources of funding: CZK 25 million excluding VAT; programme financing (Programme 133 220), own resources.

VI. Courtyard extension in building no. 1903 (building B), Prague 6

Brief Description: An additional in the courtyard of Building B will connect the spaces on the side of Studentska, Zikova and Technicka streets. The project envisages the construction of technology halls, a social centre with quality refreshment facilities and a number of new modern laboratories located over five floors. The area of laboratories and technical premises is planned to be 5,500 m², office space should occupy an area of 750 m². An area of 2,690 m² will be set aside for social, welfare and catering purposes. The building will also include an underground car park with a capacity of about 300 parking spaces. For the construction of the new premises with a total useful area of 17,700

m², or a net useful area of 14,900 m², it will be necessary to prepare relatively extensive construction documentation.

Estimated date of the implementation: 2021 - 2025 (2021 - 2023 design documentation, 2023 - 2025 construction implementation).

Estimated cost: CZK 895 million excluding VAT (CZK 45 million excluding VAT for design documentation, CZK 800 million excluding VAT construction, CZK 50 million excluding VAT interior equipment)

Link to SI 2021+ and IPSI:2021: This project is part of the Development Master Plan of UCT Prague. The construction of a modern courtyard technology building in the courtyard of Building B will lead to a significant increase in available space capacity with a positive impact on the increase in the space needs satisfaction index identified in the Master Plan by 15-20% to 85%; *PC1 - measures for modernisation and renewal of infrastructure for education (O_15)*, *PC3 - measures for space, social facilities, instrumentation and services for PhD students (O_27)*, *PC4 - measures for taking into account societal needs at national and global level in research priorities and resource allocation within the institution (O_30)*.

Synergistic links to other investment projects: Follow-up to Investment Projects I, II and IV.

Description of the current status of the investment project in 2021: Basic architectural study.

Planned work for 2021: Implementation of the tender for the design documentation for the planning decision.

Estimated expenditure in 2021 and sources of funding: 0 CZK, the first payment will be made in 2022.

VII. Reconstruction of the Běstvína Student Learning Centre - teaching facilities (laboratory), accommodation facilities (log cabins, year-round building)

Brief Description: Construction of modern premises for the provision of theoretical and practical teaching and, above all, sufficiently spacious accommodation facilities of a log-cabin/cottage character for seasonal operation and an insulated accommodation building for year-round use. The planned total accommodation capacity is 180 persons.

Estimated date of the implementation: 2020 - 2023 (2020 with 2022 preparation of design documentation, 2021 - 2023 actual implementation of the construction).

Estimated cost: CZK 39 million excluding VAT (of which CZK 3 million excluding VAT for design documentation, CZK 36 million excluding VAT for construction work)

Link to SI 2021+ and IPSI:2021: This project is part of the Development Master Plan of UCT Prague. Modernization of the infrastructure of the student learning centre will allow to significantly improve the quality of practical field teaching, increase the standard of familiarization courses for the first year of undergraduate studies, sports courses, popularization events for primary and secondary school students and preparatory courses for the Chemistry Olympiad; *PC1 - measures for modernization and renewal of infrastructure for education (O_15)*.

Synergistic links to other investment projects: No direct link to other investment projects.

Description of the current status of the investment project in 2021: Elaborate documentation for the construction of the log cabins.

Planned work for 2021: Commencement of implementation of the construction of the log cabins

Estimated expenditure in 2021 and sources of funding: CZK 6 million excluding VAT; own resources.

VIII. Reconstruction of the boiler room for student halls of residences, Prague 4 - Kunratice

Brief Description: Reconstruction of the gas boiler room located on the Volha block.

Estimated date of the implementation: 2021

Estimated cost: CZK 11 million Excluding VAT.

Link to SI 2021+ and IPSI:2021: This project is part of the overall Development Master Plan of UCT Prague. Its implementation will enable further follow-up stages of improving accommodation and catering options for students on the campus of the Prague 4 - Kunratice halls of residence; *PC1 - measures for building infrastructure for education, PC3 - measures for spatial, social facilities, instrumentation and services for doctoral students.*

Synergistic links to other investment projects: No direct link to other investment projects.

Description of the current status of the investment project in 2021: Design documentation has been prepared.

Planned work for 2021: Implementation of the boiler room reconstruction.

Estimated expenditure in 2021 and sources of funding: CZK 11 million excluding VAT; own resources.

IX. Purchase of land under the halls of residence buildings in Prague 4 - Kunratice from the Prague City Hall to be taken into the ownership of UCT Prague

Brief Description: Purchase of land (6,000 m²) under the halls of residence in Prague 4 - Kunratice from the City of Prague to the ownership of UCT Prague or partial exchange for other land owned by UCT Prague.

Estimated date of the implementation: 2021.

Estimated cost: Max. CZK 15 million Excluding VAT.

Link to SI 2021+ and IPSI:2021: This project is part of the overall Development Master Plan of UCT Prague.

Synergistic links to other investment projects: No direct link to other investment projects.

Description of the current status of the investment project in 2021: Negotiations with the City of Prague are underway.

Planned work for 2021: Land purchase/exchange.

Estimated expenditure in 2021 and sources of funding: CZK 15 million excluding VAT; own resources.

X. Acquisition of machinery and equipment for the renovation and modernisation of workplaces

Within the faculties and central departments of UCT Prague, it is planned to purchase instrumentation with a total value of CZK 247.3 million. excluding VAT and within the Technopark Kralupy, which focuses on applied marketable research, then another CZK 3.1 million. excluding VAT.

The following text gives an overview of the plans for the acquisition of machinery and instrumentation for individual units of UCT Prague:

Faculty of Chemical Technology (FCT)

Instrumentation and technological equipment will be acquired to ensure teaching and research in the fields of the faculty's competence (inorganic chemistry and inorganic technology, metallic materials and corrosion engineering, chemistry of solids, organic chemistry and organic technology, polymers and chemical technologies of monument restoration).

Estimated INV funds: CZK 15.7 million excluding VAT.

Sources of funding: EU funds (OP RDE) and other public sources, own resources.

The most expensive purchased devices (> CZK 2 million excluding VAT):

- detector for single crystal diffractometer & upgrade of measuring computer (CZK 2.8 Million excluding VAT),
- mass spectrometer with combined input (CZK 3.4 million excluding VAT).

Faculty of Environmental Protection Technology (FEPT)

Instrumentation and technological equipment will be acquired to ensure teaching and research in the fields of the faculty's competence (petroleum and alternative fuels technology, gaseous and solid fuels and air quality protection, water and environmental technology, energy and environmental chemistry).

Estimated INV funds: CZK 10.9 million excluding VAT.

Sources of funding: EU funds (OP RDE) and other public sources, own resources.

The most expensive purchased devices (> CZK 2 million excluding VAT):

- ion chromatograph (CZK 2.2 million excluding VAT).

Faculty of Food and Biochemical Technology (FFBT)

Instrumentation and technological equipment will be acquired to support teaching and research in the faculty's fields of competence (biotechnology, biochemistry and microbiology, carbohydrates and cereals, milk, fats and cosmetics, food and nutrition analysis and food preservation).

Estimated INV funds: CZK 29 million excluding VAT.

Sources of funding: EU funds (OP RDE) and other public sources, own resources.

The most expensive purchased devices (> CZK 2 million excluding VAT):

- basic 150 kV transmission electron microscope with EDS (CZK 15 million excluding VAT),
- Q-TOF mass spectrometer (CZK 4 million excluding VAT).

Faculty of Chemical Engineering (FCE)

Instrumentation and technological equipment will be acquired to ensure teaching and research in the fields of the Faculty's competence (analytical chemistry, physical chemistry, chemical engineering, mathematics, physics and measurement technology, computer and control technology).

Estimated INV funds: CZK 114 million excluding VAT.

Sources of funding: EU funds (OP RDE) and other public sources, own resources.

The most expensive purchased devices (> CZK 2 million incl. VAT):

- multifunctional confocal microscope Raman Imaging Microscope System (multiple excitation wavelengths, 3D technology, with the possibility of additional expansion (CZK 6.9 million excluding VAT),
- liquid chromatograph with triple quadrupole mass spectrometer (LC-MS) (CZK 12 million excluding VAT),
- fluorescence spectrometer in combination with CD - modular system (CZK 5 million excluding VAT),
- microwave reactor (CZK 8 million excluding VAT),
- TA instruments TAM IV multi-purpose calorimeter with equipment (CZK 6.1 million excluding VAT),
- ultrasensitive differential scanning calorimeter with autosampler (CZK 5.7 million excluding VAT),
- Surface Energy Analyzer (SEA) with accessories (CZK 4,8 million excluding VAT),
- Diffuse Reflectance Infrared Fourier Transform Spectroscopy Analyzer (DRIFTS) (CZK 2.1 million excluding VAT),
- mask Aligner lithography equipment (CZK 5 million excluding VAT),

- differential scanning calorimeter (CZK 3.3 million excluding VAT),
- extruder (CZK 2.3 million excluding VAT).

Technopark Kralupy

Instrumentation and technological equipment will be purchased to provide facilities for scientific research workplaces operating in the Technopark in the fields of construction chemistry and related material fields and equipment for the experimental workplace in the Cement Works Čížkovice.

Estimated INV funds: CZK 3.1 million excluding VAT.

Sources of funding: own resources, EU funds (OP EIC) and other public sources.

The most expensive purchased devices (> CZK 2 million excluding VAT):

- semi-operational equipment for the study of high-temperature processes in the processing of inorganic materials (CZK 40 million excluding VAT).
- high performance gas chromatograph (CZK 3 million excluding VAT).

Within the framework of joint **rectorate workplaces**, UCT Prague plans to invest approximately CZK 64.8 million in 2021. excluding VAT. Funding will be provided mainly from own resources or from the programme funding of the Ministry of Education.

Central laboratories of UCT Prague

Testing, measuring and laboratory instruments for the analysis of chemicals and materials will be renewed to a value of CZK 28.3 million excluding VAT. The most expensive purchased devices (> CZK 2 million excluding VAT):

- FT Raman spectrometer with temperature measurement cell (CZK 3 million excluding VAT),
- chambers for measurements from -190° to 1600°C in vacuum, air, inert to powder diffractometer (CZK 2.7 million excluding VAT),
- High Performance Liquid Chromatograph with High Resolution Mass Spectrometry (HPLC-HRMS) (CZK 19 million excluding VAT).

Computer Centre of UCT Prague

It plans to acquire, expand or renew software and licenses and upgrade the basic IT infrastructure. The most costly investments (> CZK 2 million excluding VAT):

- renewal of VDI desktop virtualization (CZK 21 million excluding VAT),
- modernization of the wireless Wi-Fi network controller at the Dejvice campus (CZK 5 million excluding VAT).