



TECHNICAL UNIVERSITY IN ZVOLEN
Development Department

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Material for the Meeting
of the Scientific Board of the TUZVO

Interim Report on Implementation
of the Long-term Plan of TUZVO for 2017 - 2023
in 2021

Submitted by:

Dr. h. c. prof. Ing. Rudolf Kropil, PhD., Rector

Elaborated by:

Dr. h. c. prof. Ing. Rudolf Kropil, PhD., Rector

prof. RNDr. Danica Kačíková, MSc., PhD., Vice-Rector for Development

prof. Dr. Ing. Jaroslav Šálka, Vice-Rector for Science and Research

RNDr. Andrej Jankech, PhD., Vice-Rector for Education

doc. Ing. Branislav Olah, PhD., Vice-Rector for International Relationships

doc. Ing. Josef Drábek, CSc., Bursar

Ing. Tibor Weis, Director of CIT

Ing. Alena Poláčiková, Director of SLDK

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Introduction

The Long-Term Plan of the Technical University in Zvolen for 2017 - 2023 (hereinafter referred to as the "LTP") is the main planning and development document with strategic objectives, instruments, and indicators of the main areas of activities of the Technical University in Zvolen (hereinafter referred to as the "TUZVO").

The interim information on the implementation of the LTP for 2021 contains detailed information on the progress of the measures in the different areas of the University's activities. In addition to a verbal description of the implementation of individual tasks and its appropriate supplementation with tables and graphs, the document also provides indicators of the implementation of measures and tasks in 2017-2021.

The above-mentioned report also shows the progress regarding compliance with the TUZVO's strategic goals and the progress towards achieving the ambitious vision by 2030 - to be an internationally recognised, research-oriented university, to be one of the Slovak leaders in its scientific and research focus, to provide modern education as a systematic transfer of knowledge, and to fulfil the concept of a "green university" by consistently adhering to the principles of sustainable living.

At the outset, it should be noted that all activities of the University in 2021 were also largely affected by the constraints related to the COVID-19 pandemic and their impact on the university, economic and societal environment.

Area 1 Pedagogical activities

Strategic objective

Quality of education comparable to international standards, considering the needs of the labour market.

Measures

1.1 Preservation of the traditional areas of education at the University with a varied offer and regular innovation of study programmes in which the state-of-the-art knowledge from science and research is applied.

Indicator: Number of newly accredited or re-accredited study programmes in all three levels of higher education in each research area at the faculties (organizational parts) of the University.

		2017	2018	2019	2020	2021	2022	2023
Number of newly accredited or re-accredited study programmes in all three levels of higher education in each research area at the faculties (organizational parts) of the University	%	5	25	24	0	0		

Task 1.1a) Optimization of the number of study programmes in the framework of the compliance of study programmes with the new accreditation standards.

Deadline: continuously, in 2021; **Responsibility:** Vice-Rector for Education, Deans of faculties, Vice-Deans of faculties

As part of the process of compliance of study programmes with the accreditation standards in 2021 and the continuation of activities in 2022, there will be a significant reduction in the number of accredited study programmes to be implemented from the beginning of the academic year 2022/2023. Study programmes that are not complied will have to be cancelled until 31. 08. 2022. From the original 135 accredited study programmes (until 31. 08. 2021) at TUZVO, there will be 57 study programmes will be cancelled, and 78 study programmes will be complied with the new standards until 31. 08. 2022. In the evaluated academic year, discussions were held at the faculties on the number and selection procedure of study programmes to be complied with the new accreditation standards. For these reasons, no reaccreditations and accreditations of new study programmes were submitted to the Slovak Accreditation Agency for Higher Education in the evaluated academic year.

Task completed; it is scheduled to continue in 2022.

1.2 Optimisation of the numbers of applicants and students at the university through consistent, proactive marketing and improved cooperation with secondary high schools.

Indicator: Number of students enrolled, admitted, and enrolled. Proportion of the number of enrolled students to the total number of admitted students.

		2017	2018	2019	2020	2021	2022	2023
Proportion of enrolled students to total enrolments	%	75.00	75.11	76.54	76.22	64.00		

Task 1.2a) *Increasing of marketing activities with emphasis on the presentation of study opportunities at the University to applicants and the wider public to minimize the impact of demographic trends in the number of TUZVO students.*

Deadline: continuously, in 2021; **Responsibility:** Vice-Rector for Education, Deans of faculties

TUZVO has actively participated in education exhibitions every year, which have been transferred to the online space. We were involved in broadcasting within the online space "Gaudemus 2021", Roadshow "Kam na vysokú 2020", where we had 5 broadcasting days in the period September 2020 - February 2021. The University also promoted its activities in the form of Virtual Open Day, which took place in December 2020 and January 2021. The offer of studies was also promoted in the form of print media by advertising in the newspaper "Sme" in the annex of the booklet Vysoké školy and in the weekly published regional journal "MY" in the annexes "Kam na vysokú". The cooperation with an agency providing studies for foreign students at Slovak universities, especially from Ukraine, is also active. TUZVO, its faculties and study programmes, were promoted at the exhibitions. The exhibitions are annually organised by the Pedagogical Department, and information materials are prepared by individual faculties to attract visitors best and most effectively - potential students. Complete study materials have been prepared for study counsellors. The students of individual faculties actively participated in the presentation of the TUZVO at these events and managed them to reach out to secondary high school students with their approach. In addition, the faculties used digital media, social networks, mobile promotion of study programmes, visits to selected secondary high schools, especially in the localities of northern and eastern Slovakia, organisation of open days, promotion in weekly published journals and magazines, or promotion in the form of large posters for marketing. The area of marketing should not be underestimated, and these activities need to be increased to stop the declining number of students in recent years. The coefficients of the decrease in the number of students in the evaluated academic year compared to the previous academic year are as follows at the faculties of TUZVO and UŠP (hereinafter referred to as the "UŠP"): Faculty of Forestry (hereinafter referred to as the "LF") 0.942; Faculty of Wood Sciences and Technology (hereinafter referred to as the "DF") 0.931; Faculty of Ecology and Environmental Sciences (hereinafter referred to as the "FEE") 0.993; Faculty of Technology ((hereinafter referred to as the "FT") 0.852 and UŠP 0.753 (TUZVO: 0.923). The average annual decline coefficients for the other 5 academic years are LF: 0.946, DF: 0.909, FEE: 0.945, FT: 0.893 and UŠP: 0.785 (TUZVO: 0.910).

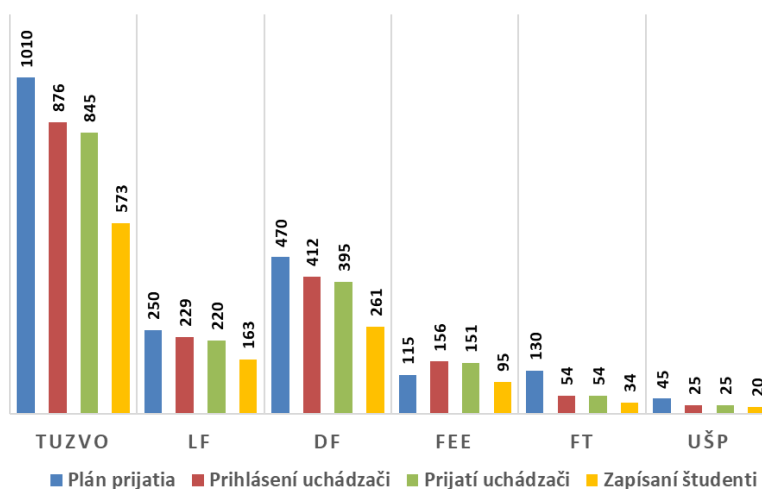


Fig. 1.2.1 Comparison of the number of planned, submitted, admitted and enrolled students

Figure 1.2.1 illustrates the differences between the admission plan, admitted and enrolled students in the bachelor's degree programmes for the start of the 2021/2022 academic year. It could be argued that in the period between admission and the applicant's enrolment deadline, faculties should work hard to consolidate the applicant's interest in the faculty and convince him/her that it is worth enrolling in the faculty as well. Of all admitted applicants, 74 % of admitted applicants enrolled in the Faculty of Forestry (the difference between admitted and enrolled applicants is 57), 66 % of admitted applicants enrolled in the Faculty of Wood Sciences and Technology (difference 134), 63 % of admitted applicants enrolled in the Faculty of Ecology and Environmental Sciences (difference 56), 63 % of admitted applicants enrolled in the Faculty of Technology (difference 20) and 80 % of admitted applicants enrolled in the University study programmes (difference 5). These recurring differences make it necessary to carry out a second round of admissions in several study programmes.

Based on the information requested from admitted applicants as to whether they will enrol the results of the admission procedure, further applicants may be admitted in turn. However, this procedure makes the whole process administratively longer and is not conducive to attracting quality students. For many study programmes, applicants are admitted without interviews, only based on academic results from secondary schools. Therefore, weaker applicants are often admitted.

The task is being carried out on an ongoing basis and it is scheduled to continue in 2022.

1.3 *Increasing the quality of education provided through systematic processes - introduce criteria for measuring the quality of education provided.*

Indicator: *Student satisfaction with the quality of teaching provided. Ratio of the number of successfully completed students to the number of enrolled students in the study programmes at each level of higher education.*

		2017	2018	2019	2020	2021	2022	2023
Proportion of studies duly completed to the total number of studies started in a given academic year	%	1 st level 50 2nd level 90	62.72	61.75	61.83	56.00		

Task 1.3a) *Consistently to monitor the quality of the educational process, emphasizing the use of the state-of-the-art knowledge of research and practice in all areas of higher education at TUZVO.*

Deadline: *continuously, in 2021; Responsibility: Vice-Rector for Education, Vice-Deans of faculties*

TUZVO has developed, implemented, and used an internal quality system, which was also evaluated as part of a comprehensive accreditation. The Quality Council of TUZVO has been established, the basic materials have been laid down: the Quality Policy, the Quality Objectives, the Statute of the Board for the Internal Quality Assurance System at TUZVO and the Principles of the Internal Quality Assurance System at TUZVO. The evaluation of the quality of the teaching process at TUZVO was carried out in accordance with these materials. The analysis of pedagogical activity is annually dealt with by the faculties, evaluated, approved at the level of the Dean's College and the Faculty Scientific Board. Several processes are established at the University to measure and evaluate the quality of the education provided. The University Information System is already used as a standard to evaluate the quality of the pedagogical process. Regularly twice per academic year, an

evaluation of the pedagogical process in each subject is carried out in the form of questionnaires in lectures and exercises, and a survey is also carried out in the general evaluation of the quality of the pedagogical process. The information obtained is used to identify facts and then any findings can be addressed through further procedures.

Task completed but remains scheduled to continue in 2022.

1.4 Internationalisation of studies - to increase the proportion of foreign students studying at TUZVO and to increase student mobility.

Indicator: Proportion of international students at the University. Number of students mobilities. Number of study programmes in a foreign language.

		2017	2018	2019	2020	2021	2022	2023
First level study programmes in a foreign language	number	-	-	-	-	-		
Second level study programmes in a foreign language	number	2	2	2	2	2		
Third level study programmes in a foreign language	number	4	4	4	6	6		
Student mobilities	number	124	76	70	31	4		
Proportion of international students at the University	%	5.14	3.55	4.21	4.70	5.29		

Task 1.4a) Implementation of promotional activities to increase the number of students mobilities.

Deadline: continuously, in 2021; **Responsibility:** Vice-Rector for Education, Vice-Rector for Science and Research

In the academic year 2020/2021, 110 foreign students studied at TUZVO in all levels and forms of higher education, including 31 full-time and 79 part-time students. Foreign students in the part-time form study mainly at the Faculty of Wood Sciences and Technology of TUZVO, which has accredited study programmes also outside the TUZVO seat. The study programmes are Timber and Wood Structures and Furniture Design and Construction with the place of study in Volyn, Czech Republic. There are introduced the countries and numbers of foreign students at TUZVO: Czech Republic 81, Ukraine 21, Croatia 2, and Netherlands, Kazakhstan, Romania, Germany, Morocco, and Russia - one student per each country. There are currently 8 foreign language study programmes accredited at TUZVO (at LF 5: 3 at the second level of higher education and 2 at the third level of higher education and at DF 3: 2 at the second level and 1 at the third level of higher education). No students were enrolled in these study programmes in the academic year 2020/2021.

Task completed but remains scheduled to continue in 2022.

1.5 The product of the university must be a quality graduate able of assuming responsible and managerial functions in economic and social practice with sufficient acquired theoretical knowledge and practical skills and with a high level of communication and social competences.

Indicator: Proportion of unemployed graduates to the total number of graduates of the university. Number of educational partnerships and collaborations with employers and with the needs for employees in the practice.

		2017	2018	2019	2020	2021	2022	2023
Proportion of unemployed graduates to the total number of university graduates	%	4	11.62	7.09	10.29	14.91		
Number of contractual partnerships and training cooperation with employers and with the needs for employees in the practice	number	26	15	12	3	10		

1.6 Development of lifelong learning through the Centre for Continuing Education.

Indicator: Number of courses provided in lifelong learning . Number of participants and graduates in lifelong learning courses.

		2017	2018	2019	2020	2021	2022	2023
Number of courses held in lifelong learning	number	8	14	14	9	35		
Number of participants and graduates of lifelong learning courses	number	605	643	690	639	493		

In 2021, the development and lifelong learning plan for TUZVO employees was implemented in accordance with the concept of continuing lifelong learning as systematic professional education in all categories. The mandatory professional training and retraining in 2021, which was completed by 130 employees, resulted from the relevant legislation and standards. The cost of this type of training amounted to EUR 1 274,40. The TUZVO organised training focussing the fire protection and occupational health and safety issues for 43 employees by own personnel and on own costs. The costs of staff training activities related to participation conferences, seminars, training both at home or abroad amounted to EUR 27 804,28. Of the total of 379 participants, 229 were teachers. In the field of staff training, a system of individual training was also applied, through participation in webinars, videoconferences, the study of literature, foreign languages, and online learning events.

At the University of the Third Age in the academic year 2020/2021, a total of 423 students in 23 fields of study were enrolled in all fields of study. There were no graduates in that academic year - studies were discontinued due to the COVID-19 pandemics.

Among other activities of the Centre for Continuing Education, the following should be mentioned:

- English language course for TUZVO employees and students (27 participants)
- Accredited Safety Technician Course (16 participants)
- Refresher Training for Safety Technicians (17 participants)

TUZVO has been granted accreditation of supplementary pedagogical studies until 2023 in accordance with Act No. 317/2009 Coll. on pedagogical employees and professional staff. In the academic year 2020/2021, the study was not provided due to the epidemiological situation in Slovakia with the COVID-19 disease, as part of the education is also the completion of pedagogical

practice in vocational secondary high schools, in which teaching took place online and it was not possible to provide this practice for the students of the supplementary pedagogical studies.

The tasks are being implemented on an ongoing basis and remain scheduled to continue in 2022.

1.7 Improvement of cooperation with university graduates and introduction of regular evaluation of graduates by traditional employers in the region.

Indicator: Number of contacts or meetings with university graduates, employers, and their associations.

		2017	2018	2019	2020	2021	2022	2023
Number of meetings held with university graduates, employers, and their associations	number	35	23	17	5	5		

Cooperation with domestic partners is an important part of the University's teaching and scientific and research activities at the national level. In 2021, several meetings of TUZVO faculties, according to possibilities significantly affected by the COVID-19 pandemics, were held between faculty representatives and representatives of companies, enterprises, or organisations from different ministries online. In education, cooperation is mainly carried out through main and practical exercises, invited lectures by practitioners or the implementation of students' theses directly in the production companies. The overview and number of enterprises and institutions of long-term cooperation with the faculties of TUZVO is processed in the faculty regular evaluation reports. The proportion of unemployed to all graduates of TUZVO in the long term is approximately at the level of 5%.

The measure is being implemented on an ongoing basis and remains scheduled to continue in 2022.

1.8 Establishment of a transparent system for measuring and evaluating the quality of education services.

Indicator: Regular evaluation of the quality of education provided.

		2017	2018	2019	2020	2021	2022	2023
Regular evaluation of the quality of education provided	yes/no	yes	yes	yes	yes	yes		

1.9 Gathering the feedback from students at all levels of higher education and from graduates through questionnaires and surveys and implementation of actions based on findings to improve the quality of education.

Indicator: Evaluating student feedback. Number of measures based on student feedback.

		2017	2018	2019	2020	2021	2022	2023
Evaluating students' feedback - number of actions based on feedback	number	2	2	2	2	3		

Task 1.9a) Conducting a survey on the employability of TUZVO graduates

Deadline: august 2021; **Responsibility:** Vice-Rector for Education

The analysis of pedagogical activities is provided by the faculties annually, evaluated and approved at the level of the Dean's College and the Faculty Scientific Council. Several processes are established at the University to measure and evaluate the quality of the education provided. The University Information System is already used by default to evaluate the quality of the educational process. Periodically, twice per academic year, an evaluation of the educational process in each subject is carried out in the form of questionnaires in lectures and tutorials, and a survey is also carried out in the general evaluation of the quality of the educational process. The information obtained is used to identify facts and then any findings can be addressed through further procedures. The evaluation of the general satisfaction with the provision of educational activities at the TUZVO for the AR 2020/2021 is discussed in detail in the report on the evaluation of teaching activities for the AR 2020/2021. 290 questionnaires were evaluated over the period (after the faculties of LF: 71, DF: 82, FEE: 74, FT: 51 and UŠP: 12). From the findings, it was possible to evaluate that 95% of students are satisfied with their choice of faculty (1% increase compared to the previous AR) or university, 91% of students are satisfied with the choice of the programme they are studying (same as the previous AR). 95% of the students who answered this question are satisfied with the information at the university (an increase of 2% compared to the previous AR). 88% of students are satisfied with the provision of didactic and computer technology for education and almost all respondents (98%) expressed their satisfaction with the services of the study department. Compared to the previous academic year, the percentage of students who feel that they can express their opinion on the quality of the educational content of the faculty or university has increased by 2%. 84% of respondents were positive about this question (82% in AR 19/20, 85% in AR 18/19, 74% in AR 14/15 and only 58% in AR 12/13). Every student has these options (being informed via email communication). Despite this, 14% still think they do not have these options and 1% of respondents said they were not interested in expressing an opinion. One of the tasks of the university management and faculties will be to continue to deal with informing students about these options. The questionnaire for the evaluation of teachers' educational activities by subject is part of the UIS. Subject teachers, subject guarantors, heads of departments and faculty or university management have access to the evaluation questionnaires. Completion of the questionnaires is fully anonymous for students. From the results it can be concluded that those students who expressed their opinion overwhelmingly evaluated the teachers in a positive sense. However, there are also statements to a lesser extent (up to 10%) in which they expressed their dissatisfaction. The questionnaires can also be evaluated at other levels such as departments or individual teaching staff. It is in this way that possible shortcomings can be identified more precisely, and appropriate measures can be taken through the heads of departments.

The task is being carried out on an ongoing basis and remains scheduled to continue in 2022.

Evaluation of the implementation of the measures of the LTP in 2021 in area 1 - Educational activities

From the above-mentioned report on the implementation of measures and their elaboration into individual tasks, it can be concluded based on indicators (measurable indicators) that, despite the unfavourable influences from the external and internal environment, the tasks were continuously fulfilled in 2021 and remain to be fulfilled for the following year as well.

Area 2 Scientific, creative and artistic activities

Strategic objective

Internationally accepted results in research and artistic activities and the transfer of knowledge into economic and social practice.

Measures

2.1 Publish the results of research, creative and artistic activities in the international environment, especially in indexed renowned international scientific journals.

Indicator: Number of publications registered in CCC, Web of Science and SCOPUS per one creative employee. Number of the highest quality outputs in artistic creation per one creative employee of artistic activity.

In 2021, the indicator "Best cited publications (% of total publications)" has been added. The indicator informs about the % of scientific publications out of the total number of publications of the University that, compared to other publications in a given field each year, belong to the top 10% of most cited publications (worldwide). Source: WoS "Highly cited papers". The indicator is also included in the U-Multirank assessment.

		2017	2018	2019	2020	2021	2022	2023
Number of publications registered in CCC, Web of Science and SCOPUS per creative employee	%	1.42	1.14	1.11	1.29	1.28		
Top cited publications (% of total publications)	%	0.35	0.39	0.38	1.54	1.06		

Table 2.1.1 Statistics of selected publication and artistic activity per creative employee (data to 15 February 2022)

Faculty	Publications in CCC, WoS or SCOPUS					Artistic activities (category Z)				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
LF	1.35	0.99	1.08	1.42	1.08					
DF	1.89	1.22	1.23	1.29	1.58	0.31	0.20	0.33	0.40	0.25
FEE	0.86	1.23	0.98	1.10	1.16					
FT	1.10	1.14	0.96	1.11	1.19					
OOS	1.33	1.40	1.27	1.29	1.46					
Total	1.42	1.14	1.11	1.29	1.29	0.31	0.20	0.33	0.40	0.25

From Table 2.1.1, we can conclude that overall, there is a slight year-on-year decline in publications in the WoS and SCOPUS databases per creative employee. When analysing individual faculties, the trend is ambiguous but corresponds to the overall average. However, the distribution of these publications by quartile is also important, where the trend is positive. In artistic activity, for the highest quality outputs (Z), the trend is also ambiguous, but oscillates around 0.30 publications per employee in the Department of Furniture Design and Interior, where artistic activity is reported.

However, we also note that the outputs are reported after the end of the recording of the 2021 reporting period and have not yet been verified by the Expert Evaluation Authority of the CTI SR.

The measure is being met on an ongoing basis and remains scheduled to continue in 2022.

Task 2.1a) *Participate in the redevelopment of the CREPČ2 and CREUČ databases and link with the evaluation module in the UIS TUZVO.*

Deadline: *continuously in 2021; Responsibility:* *Vice-Rector for Science and Research, Director of SLDK, Director of CIT*

In 2021, even in difficult conditions in communication with authors of publications, the SLDK continuously systematically processed publication activity dually in the library-information system ARL and CREPČ. The reasons for dual processing have not changed since 2020. In 2021, in the Central Register of Publication Activity (hereinafter referred to as the "CREPČ"), data imports from the CREPČ 1 database to the CREPČ 2 database were carried out in several stages. All import phases were preceded by a thorough cleaning of records, their deduplication, and the creation of new records (mainly authoritative). All these activities were delegated by the CVTI SR to academic libraries, which had to manage the editing of records in CREPČ only within their limited staff capacities. The reporting year 2021 was the last year of processing according to the old legislation (Decree of the Ministry of Education, Science, Research and Sport of the Slovak Republic 456/2012 Coll.). The library had to focus its activities also on the creation of EPCA data analyses for the necessary preparation of the smooth implementation of the new Decree 397/2020 Coll. on the Central Register of Publications and the Central Register of Artistic Activities into the library system.

The preparation of changes in the ARL library information system also influenced the task of linking the EUCA module with the UIS. The implementation of the new decree brought many fundamental changes in the processing of EPCA and EUCA. The new legislation will also affect the existing web service for importing records from ARL to UIS and will require major changes in the setup of this service. EUCA processing in CREUČ is undergoing with the new legislation to a different platform, which will be identical to the CREPČ 2 system. In 2021, no information and technical documentation was available to prepare the implementation of EUCA in the ARL system. For this reason, it was not efficient to spend limited work capacity in 2021 to address a task that will require radical changes in the following year.

The implementation of this task will continue in 2022.

Task 2.1b) *Introduce new indicators for the evaluation of publication activity according to quartiles and percentiles from the WoS database and evaluate them for the period since the start of the long-term plan.*

Deadline: *continuously in 2021; Responsibility:* *Vice-Rector for Science and Research, Director of SLDK, Director of CIT*

The quartile of a journal is one of the indicators of its importance. The quartile value is verified in the Journal Citation Index (JCR) database as follows: Q1 - high value, Q2 - medium-high value, Q3 - medium-low value, Q4 - low value.

In the following, we present statistics on quartiles of TUZVO publication activity by faculty for the years 2017 to 2021. Scientometric data for journals with the year 2021 were used from the data for the most recent year available.

Table 2.1.2 Evaluation of publication activity by quartiles from the WoS database for each faculty (data to 17 March 2022)

2017	LF		DF		FEE		FT		OOS		Total	
	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR
Q1	25	40	3	10	6	11	0	3	0	0	34	64
Q2	17	18	33	32	9	10	6	14	2	5	67	79
Q3	12	17	12	46	6	8	5	5	0	5	35	81
Q4	10	4	2	7	6	2	1	4	2	6	21	23
Total	64	79	50	95	27	31	12	26	4	16	157	247
2018	LF		DF		FEE		FT		OOS		Total	
	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR
Q1	23	38	12	13	7	12	0	0	1	1	43	64
Q2	22	25	33	44	6	10	4	14	4	8	69	101
Q3	16	16	10	38	7	13	1	5	3	2	37	74
Q4	7	7	3	3	9	5	3	1	1	1	23	17
Total	68	86	58	98	29	40	8	20	9	12	172	256
2019	LF		DF		FEE		FT		OOS		Total	
	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR
Q1	31	41	15	17	9	12	0	1	1	0	56	71
Q2	16	27	31	35	4	13	7	12	5	12	63	99
Q3	15	24	10	41	6	6	5	8	3	6	39	85
Q4	10	2	3	1	4	4	2	1	0	0	19	8
Total	72	94	59	94	23	35	14	22	9	18	177	263
2020	LF		DF		FEE		FT		OOS		Total	
	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR
Q1	45	66	20	22	13	28	3	2	2	3	83	121
Q2	27	24	25	24	16	7	4	10	2	6	74	71
Q3	10	23	8	43	2	3	4	16	1	4	25	89
Q4	13	2	4	7	1	3	3	1	2	1	23	14
Total	95	115	57	96	32	41	14	29	7	14	205	295
2021	LF		DF		FEE		FT		OOS		Total	
	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR	JCR	SJR
Q1	49	61	51	45	22	28	6	5	5	6	133	145
Q2	24	13	28	41	14	9	13	10	2	1	81	74
Q3	7	20	8	38	3	5	1	11	0	4	19	78
Q4	6	1	2	0	4	2	0	1	2	1	14	5
Total	86	95	89	124	43	44	20	27	9	12	247	302

2.2 Strengthen the position of the University in scientific research projects of national and international cooperation.

Indicator: Number of grants from international sources, including the amount of financial support per creative employee. Number of grants from domestic sources, including the amount of financial support per creative employee.

		2017	2018	2019	2020	2021	2022	2023
Number of grants from domestic sources	number	96	104	117	100	105		
Amount of financial support from domestic grants per creative employee	EUR	5475.57	6086.23	6997.42	6318.82	6910.76		
Number of grants from international sources	number	5	6	2	6	5		
Amount of financial support from international grants per creative staff member	EUR	429.13	452.04	76.50	1467.80	1286.28		

Table 2.2.1 Overview of domestic funding allocations 2017-2021 in euros per faculty per creative employee (data to 15 February 2022)

Faculty	Number of domestic grants					Financial support per creative employee				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
LF	42	41	55	47	44	10 421.62	10 000.97	11 489.44	9 778.79	9 904.17
DF	29	36	34	25	29	3 737.93	5 181.77	6 336.15	5 784.06	6 712.55
FEE	13	12	14	13	15	2 275.23	2 781.83	2 367.34	2 084.29	2 699.86
FT	10	13	10	10	11	3 375.43	4 358.17	5 354.50	5 548.56	5 559.23
OOS	2	2	4	5	6	909.53	700.20	951.27	1 479.21	2 301.46
Total	96	104	117	100	105	5 475.57	6 086.23	6 997.42	6 318.82	6 910.76

Table 2.2.2.2 Statistics of allocated funds from international sources in EUR per faculty per creative employee (data to 15 February 2022)

Faculty	Number of international grants					Financial support per creative employee				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
LF	3	4	2	4	4	1 033.26	935.34	239.94	729.86	1 029.27
DF	1	1			1	29.91	31.07			2 569.78
FEE	1	1		2		579.07	933.75		8 350.49	
Total	5	6	2	6	5	429.13	452.04	76.50	1 467.80	1 286.28

In 2021, the university received funding by solving 105 domestic and 5 foreign projects. Domestic grants consisted of VEGA, KEGA and APVV. The foreign projects were mainly at LF from the Horizon programme as a co-financing of the Alterfor project, the new HoliSoils project, at DF the Silvanus project, two foreign projects with Forests of the Czech Republic and ForHeal Finland. A negative aspect is the unbalanced structure among the faculties, as documented by the conversion of funds per creative employee. LF dominates in obtaining funds for research activities.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

2.3 Identifying and supporting cutting-edge and excellent research and activities at individual faculties.

Indicator: Number of top expert and excellent research teams.

		2017	2018	2019	2020	2021	2022	2023
Number of top teams (AC)	number	2	2	2	2	2		
Centres of Excellence (VA)	number	2	2	2	2	2		
Research components with excellent results (sharing of the endowment)	number	-	-	-	-	2		
Research teams with excellent results (Council of the Slovak Government)	number	14	14	14	14	14		

The Accreditation Commission (hereinafter referred to as the "AC"), an advisory body of the Slovak Government, supports the results of the pilot project "Identification of top scientific teams of universities in Slovakia" at TUZVO. At TUZVO 2 **excellent teams** are financially supported.

A top expert team called *Structure and Properties of Lignocellulosic Materials (WOODMAT)* is working under the leadership of prof. Kačík. The excellent team continued inter-faculty and interdepartmental cooperation in solving APVV (2) and VEGA (3) projects, which responsible researchers are individual members of the top expert team. These projects financially cover the needs of the research activities; therefore, the allocated funds were used to motivate the members of the top expert team. The team's activities have resulted in publications in reputable impacted journals. In 2021, the members of the top expert team published 14 articles in foreign peer-reviewed journals in the Current Contents Connect - CCC database (ADC category) and 3 articles in journals included in the Web of Science - WOS database (ADM and ADN categories), as well as other articles in scientific journals, scripts in foreign publishing house. The publication of an article in *Applied Materials Today* (IF = 10.041) can be considered a significant success. In collaboration with a world-class facility from Oak Ridge National Laboratory, TN, USA. In 2021, another manuscript was developed with this team and is currently under review. The team leader, prof. Kačík, successfully defended his doctoral dissertation thesis before the permanent committee for the defence of doctoral dissertations in the field of Science of Nonmetallic Materials and Building Materials - 020424 and before the Scientific Council of the Slovak University of Technology in Bratislava and was awarded the scientific rank of "DrSc."

A top expert team called *Biological Basis of Silviculture (SylviBio)* works under the leadership of prof. Gömöry. Due to pandemic constraints, it has not been possible to make greater use of the funds to support working trips. The subsidy was primarily used for remuneration of the members of the top expert team and for the support of postdoctoral fellows who were previously affiliated to the team as PhD students (Dr. Konôpková, Dr. Hrivnák). The scientific output of this broader team includes 9 WoS entries for 2021, in addition to several other publications. Support in the form of a grant greatly expands the opportunities for team members to work on these outputs.

The Research Agency, as the intermediary body for the Operational Programme Research and Innovation, has announced a call for applications for the provision of non-repayable financial contribution to support centres of excellence of transnational importance. The term centre of excellence refers to a team of research and development experts involved in international scientific

and technological cooperation with added value for the European Research Area. The results of the research and development of a centre of excellence are intended for economic and social practice in the Slovak Republic and are reflected in the training of new researchers. Two centres of excellence are established at TUZVO:

- Centre of Excellence: Adaptive Forest Ecosystems, under the leadership of Dr. h.c. prof. Ing. R. Kropil, PhD.
- Centre of Excellence for Decision Support in Forest and Landscape, under the leadership of prof. Ing. J. Tuček, CSc.

Based on the request of the Government Plenipotentiary for Research and Innovation, prof. RNDr. J. Pastorek, DrSc., TUZVO identified scientific teams that achieve excellent results and contributed to the ranking in the SCIMAGO ranking. In addition to the two accredited top teams mentioned above, 11 teams with an H-index greater than 10 and 3 teams for applied research were identified:

1. Diversity and ecology of forest vertebrates (Vertesilva), leader: dr.h.c. prof. Ing. R. Kropil, PhD.,
2. Natural hazards and forest ecosystems under changing climate conditions (ClimForHazard), leader: prof. Ing. J. Škvarenina, CSc.,
3. Ecology of inland waters (HydroBio), leader: Ing. M. Svitok, PhD.,
4. Dynamics, diversity and disturbance processes of natural and nature-close forest ecosystems /Silva/, leader: prof. Ing. M. Saniga, DrSc.,
5. Inventory, modelling, and planning of forest resources using hi-tech (hi-tech), leader: doc. Ing. M. Fabrika, PhD.,
6. BioEconomics - Forest Ecosystem Services (BioEkoSlu), leader: prof. Ing. J. Holécy, CSc.,
7. Progressive methods of economic-management and logging-harvesting process (ProManHar), leader: doc. Ing. J. Merganič, PhD.,
8. Fire Protection and Rescue Services (FireRes), leader: prof. RNDr. D. Kačíková, PhD., MSc.,
9. Wood-based composite materials (WoodCom), leader: prof. Ing. L. Reinprecht, CSc.,
10. Woodworking and Production Technology (Woodworking and Production Technology), leader: prof. Ing. Š. Barčík, CSc.,
11. Bioeconomy and Sustainable Development of Wood Processing and Utilization Sector (BioEkoWood), leader: doc. Ing. M. Potkány, PhD.,
12. Industrial research of new types of forestry techniques and technologies based on new energy sources and patented solutions, leader: doc. Ing. V. Štollmann, CSc. PhD.,
13. Man, Space, Element and Design (DesignLab), leader: prof. Ing. J. Veselovský, CSc.,
14. Environmental Technologies (EnviTech), leader: doc. Ing. M. Schwarz, CSc.

In the framework of the distribution of state budget subsidies to public universities for 2022, a criterion derived from the results of the evaluation of the quality of research activities of the university was applied to support excellent research components. The following were identified as excellent components, belonging to the top 25% of departments in the Slovak Republic: the DF in technical sciences, the LF in agricultural sciences and selected DF and LF departments for social sciences.

Indicators point to the measure being met; it remains scheduled to continue in 2022.

Task 2.3a) *Reviewing top and excellent research activities and activities at individual faculties, including in the context of prioritising investment in research infrastructure.*

Deadline: December 2021; **Responsibility:** Vice-Rector for Science and Research, Director of SLDK, Vice-Deans for Science and Research

In the framework of the distribution of state budget subsidies to public universities for 2022, a criterion derived from the results of the evaluation of the quality of research activities of the university was applied to support excellent research components. DF in technical sciences, LF in agricultural sciences, and the departments of DF and LF for social sciences were identified as excellent components. The Ministry of Education, Science, Research and Sport of the Slovak Republic is preparing a new periodic evaluation of research, development, artistic and other creative activities in 2022.

The task remains scheduled to continue in 2022.

2.4 Building research infrastructure, including skilled staff.

Indicator: Financial value and outputs of research infrastructure. Number of creative staff and students using research infrastructure units.

		2017	2018	2019	2020	2021	2022	2023
Financial value of research infrastructure	EUR	2,324,405	1,391,864	1,057,655	840,987	878,692		
Number of creative staff and students using research infrastructure units	number	425	413	367	377	382		

Table 2.4.1 Financial increments of research infrastructure at TUZVO in EUR (data toto 31.12.2021)

Research infrastructure increment		2017	2018	2019	2020	2021
	from current expenditures		91,685	107,007	260,268	248,939
from capital expenditures		84,475	305,519	155,407	96,452	260,801

In the evaluated years, research infrastructure was procured at the Technical University from current and capital funds. Mostly operating machines, special machines, instruments, equipment, technology, and special tools were purchased, e.g., for laboratories, testing rooms, research purposes, etc.

The task remains scheduled to continue in 2022.

Task 2.4a) Reconstruction of research infrastructure, especially for top and excellent teams, with a view to linking them into a science park or research centre.

Deadline: continuously in 2022; **Responsibility:** Bursar, Vice-Rector for Science and Research

In 2021, laboratories with an area of 302 m² were renovated not only for the top and excellent teams, but also classrooms with an area of 1,202 m² for the pedagogical process, as well as other technical rooms with an area of 222 m². The above-mentioned premises create conditions for the growth of the performance of the departments as well as for the improvement of the working and

study environment in the buildings of TUZVO. The reconstructed premises extend the premises of the upcoming science park of TUZVO.

The task remains scheduled to continue in 2022.

2.5 To deepen the involvement of PhD students in research, creative and artistic activities with the condition of publishing in indexed renowned international scientific journals.

Indicator: Number of publications registered in CCC, Web of Science and SCOPUS per doctoral graduate.

		2017	2018	2019	2020	2021	2022	2023
Number of publications registered in CCC, Web of Science and SCOPUS per PhD graduate	%	1.78	1.69	0.85	1.04	1.21		

Table 2.5.1 Statistics of publishing and artistic activity in the years 2017-2021 calculated per graduate of the third level of study (data to 13 February 2022)

Faculty	Publications in CCC, WOS or SCOPUS					Artistic activity				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
LF	2.13	2.50	0.40	1.57	1.09					
DF	1.93	1.38	1.38	0.17	1.14	1.67	2.50	0.00	0.00	0.00
FEE	1.33	1.20	1.25	0.67	1.33					
FT	1.00	1.67	0.50	1.80	1.67					
UŠP					2.00					
Total	1.78	1.69	0.85	1.04	1.21	1.67	2.50	0.00	0.00	0.00

Based on Table 2.5.1, we can conclude that overall, there is a decrease in the CCC database per graduate of the third level of higher education in the evaluated period compared to 2017. The largest decrease was in 2019, which depended on the number of graduates. However, the distribution of these publications by quartile is also important, especially in the WoS database, where the trend is positive. Decline in artistic outputs is because in the evaluated last three years, there were no graduates in the Department of Furniture Design and Interior, which is the only one providing artistic activity at the TUZVO.

The task remains scheduled to continue in 2022.

Task 2.5b) Providing information seminars and individual consultations for PhD students in the framework of information education focused on information support for scientific and research activities.

Deadline: continuously in 2021; **Responsibility:** Director of SLDK

SLDK provided webinars, targeted electronic or telephone consultations for PhD students during 2021. Information seminars were provided for students of the third level of higher education in the field of electronic information resources and new search tools in the form of webinars by external experts from Clarivate Analytics, Albertina icome and Suweco. On an ongoing basis, during the year 2021, SLDK provided individual face-to-face and electronic consultations on the EPCA methodology for third-level students.

This task remains scheduled to continue in 2022.

2.6 Building and ensuring the efficient operation of a technology transfer centre with an emphasis on the commercialisation of research results.

Indicator: Number of research contracts and financial value of income from research and development projects per creative employee. Number of patents, utility models and designs per creative employee.

		2017	2018	2019	2020	2021	2022	2023
Number of contracts and orders	number	2	5	9	8	14		
Financial value of revenue per creative employee	EUR	13.12	52.55	500.16	179.07	563.78		
Number of patents, utility models and designs per creative employee		0.03	0.06	0.05	0.01	0.08		

Table 2.6.1 Overview of allocated funds from contracts and orders for scientific research activities in EUR per faculty per creative employee

Faculty	Number of contracts and orders					Number of contracts and orders per creative employee				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
LF	0	1	3	3	6	-	5.58	942.24	387.76	645.97
DF	0	1	2	0	4	-	58.25	304.40	-	62.90
FEE	2	3	4	4	4	87.56	202.50	572.44	345.17	2 074.02
FT	0	0	0	1	0	-	-	-	5.00	-
Total	2	5	9	8	14	13.12	52.55	500.16	179.07	563.78

In addition to the national and international cooperation grant projects mentioned in section 2.2, TUZVO staff were also involved in research activities carried out through contracts and commissions. These are part of the documents necessary for the preparation of the allocation of state budget subsidies to public universities and their scientific and research focus is verified by the Ministry of Education, Science, Research and Sport of the Slovak Republic. In recent years, we have seen an increase in these activities not only in the public but also in the private sphere.

Table 2.6.2 Numbers of industrial property objects in 2017-2021

Type of PPV	Number of PPV certificates obtained					Number of applications submitted to the ÚPV SR				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
Patent	1	1		2	1		3		1	
Utility model	5	8	5	1	4	6	5	2	4	3
Design	3	7	9	1	18	1	14	6	17	2
Trademark			1			1		1		

Table 2.6.2 shows the number of certificates issued in specific years by the Industrial Property Office of the Slovak Republic and the number of applications filed with the Office. However, it should be noted that a period of 3 years may elapse between the submitting of a patent application with the Industrial Property Office and the issuance of a patent document. In the case of designs and utility

models, it is generally 1 year. However, the fact is that only those industrial property items that have a certificate issued by the Office can be commercialised.

The task remains scheduled to continue in 2022.

Task 2.6f) *Participating in the implementation of the NCTT project "National Infrastructure for the Promotion of Technology Transfer in Slovakia - NITT SK II".*

Deadline: *continuously in 2021; Responsibility: Vice-Rector for Science and Research*

The Department for Technology Transfer cooperates in the project National Infrastructure for Technology Transfer in Slovakia - NITT SK II (2016-2023). Also in 2021, support for the local technology transfer centre continued through the implementation of the NITT SK II project. Within the framework of Activity 1: Building and development of the National System of Technology Transfer Support, the second part of the survey was carried out at the University to identify the hindering and supporting factors that result from the process of knowledge transfer into practice at the Technical University of Zvolen. With the support of the NITT SK II project, a seminar on "*How to commercialize intellectual property? And how to establish innovative enterprises in the environment of the Technical University of Zvolen?*". The University was the main partner of the COINTT 2021 conference, where the Vice-Rector for Scientific Research, as a member of the Content Board of the COINTT Conference Commission, also took part in the panel discussion entitled "Presentation of scientific results and competences - a new challenge for technology transfer centres".

This task remains scheduled to continue in 2022.

Task 2.6g) *Holding a competition of innovative business projects to identify potential start-ups and spin-offs.*

Deadline: *continuously in 2021; Responsibility: Vice-Rector for Science and Research*

The Technology Transfer Department in cooperation with the initiative *Start up!* organized the Incubation programme *Start up!* at TUZVO, the aim of which was to validate creative ideas of students and employees of the university as well as to support the establishment of innovative businesses. A total of 15 individuals and teams applied. The incubation programme *Start up!* at TUZVO, the 9 best ideas that were directly or indirectly related to the focus of TUZVO (wood processing industry, ecology, or forestry) were selected. Currently, we have one participant who, thanks to the cooperation of with *Start up!* has validated its idea and is receiving the first orders for its products. More info can be found on the "We burn" website: <https://palime.wixsite.com/my-site>

This task will continue in 2022.

Task 2.6h) *Providing advice for setting up innovative business projects.*

Deadline: *continuously in 2021; Responsibility: Vice-Rector for Science and Research*

On 18 November 2021, an expert seminar was held on the topic "How to commercialize intellectual property rights? How to join a university incubator? How to turn your innovative idea into a business?". The seminar was intended for all employees and students at the university who were interested in learning about this issue. It was held online in the MS Teams environment. Employees of the Technology Transfer Department informed about the current activities of their

department, how to commercialize industrial property rights or set up innovative enterprises in the TUZVO environment. Participants also had the opportunity to learn about the current directives related to this issue, as well as where to find the full text of the directives. The seminar ended with a discussion.

The task remains scheduled to continue in 2022.

Task 2.6i) Conducting a follow-up survey on the transfer of knowledge into practice at TUZVO.

Deadline: continuously in 2021; **Responsibility:** Vice-Rector for Science and Research

A second part of the survey was conducted at the university to identify the inhibiting and supporting factors that result on the process of knowledge transfer into practice at the TUZVO. The analysis and results of the survey are presented in the Evaluation of the Scientific Research Activities of TUZVO for the year 2021.

The task remains scheduled to continue in 2022.

2.7 To popularize and make visible the results of scientific research and other creative activities of the University to the professional public.

Indicator: Number of international and national scientific and professional events organised.

		2017	2018	2019	2020	2021	2022	2023
Number of international scientific and professional conferences and other events of this kind (e.g. symposia, workshops)	number	33	34	33	36	37		
Number of organised national scientific and professional conferences and other events of this kind (e.g., symposia, workshops)	number	59	55	58	46	39		

Table 2.7.1 Number of international and national scientific and professional events organised

Faculty	2017		2018		2019		2020		2021	
	international	national	international	national	international	national	international	national	international	national
LF	9	8	9	4	5	6	2	4	1	3
DF	12	11	15	7	12	9	14	11	19	10
FT	2	8	5	11	2	5	4	5	3	2
FEE	3	8	3	5	2	5	3	6	6	1
OOS	7	24	2	28	12	33	13	20	8	23
Total	33	59	34	55	33	58	36	46	37	39

In addition to the participation of our staff in conferences, the faculty hosts or co-hosts several scientific and professional events each year. In 2020 -2021, many scientific and professional events have been organized in the online space due to current government restrictions and the ongoing pandemic situation. These events are an important form of presenting research results to the professional public, but also of confronting one's own results with those of other authors. There is room for personal scientific contact, lively scientific discussion, presentation, comparison and

confrontation about scientific achievements and future intentions. At the same time, they are of cultural and educational importance.

Traditionally, the Student Scientific Activity (ŠVOČ) is an integral part of the support of students' scientific and professional activities at the University. In 2021, the ŠVOČ was organized in an online space due to the limitations imposed by the COVID-19 disease, and students and faculty from abroad participated. The ŠVOČ is an important support to the overall scientific research work at TUZVO and is also of great benefit to the students themselves, as it develops their scientific creativity and professional self-confidence based on positive experiences.

The task remains scheduled to continue in 2022.

Task 2.7a) Participating in the implementation of the NCPVaT project "Support to the national system for popularization of research and development - PopVaT II".

Deadline: continuously in 2021; **Responsibility:** Vice-Rector for Science and Research

The Centre for Scientific and Technical Information of the Slovak Republic (hereinafter referred to as the "CVTI SR"), section National Centre for Popularization of Science and Technology in Society (hereinafter referred to as the "NCP VaT") announced a competition for contact points for the national popularization network in 2021. The contact points were to operate in individual regions of the Slovak Republic and were helping in activities related to building a positive perception of the importance of science and raising awareness of science and technology through the implementation of selected popularisation activities of the NCP VaT. Due to the present epidemiological situation, these posts have not been occupied. Nevertheless, work was carried out to build a network and support other popularisation activities developed not only through the CVTI SR, but also in the individual regions of the SR.

The task remains scheduled to continue in 2022.

Evaluation of the implementation of the LTP measures in 2021 in Area 2 - Scientific, creative, and artistic activities

From the above-mentioned report on the implementation of the measures and their elaboration into individual tasks, progress in the implementation of individual tasks can be established based on indicators (measurable indicators). The implementation of some of the measures will continue in 2022 according to the new activities in progress.

Area 3 Public relations, national and international cooperation

Strategic objective

Building a positive image of the University, strengthening national and international cooperation.

Measures

3.1 To popularize the results of scientific research, pedagogical and other activities of the University to the public.

Indicator: Number of TUZVO outputs and events and number of participants.

		2017	2018	2019	2020	2021	2022	2023
Number of University events	number	92	54	65	57	21		
Number of participants at University events	number		6,933	27,197	7,180	-		

Task 3.1a) Promotion of the University, its faculties, and organizational parts in an attractive and comprehensible form towards the professional and public.

Deadline: permanently; **Responsibility:** Vice-Rector for International Relationships, Vice-Deans for International Relationships

In the period 2021, 3 press releases were published regarding TUZVO during the COVID-19 pandemic (TUZVO is prepared for every scenario, TUZVO laboratories are waiting for students, TUZVO - how are university students during the pandemic) and 3 other press releases (TUZVO has a new Vice-Rector, TUZVO has extended the application deadline, and What to watch out for when applying to TUZVO).

Media monitoring recorded a total of 304 mentions of TUZVO in the media. Of the total, 64.5% (196 articles) were in online media, 28.3% (86 articles) in print media, 1.3% (4 articles) in television, 2% (6 articles) in radio and 3.9% (12 articles) in agency news.

The most frequently reported about the TUZVO the following media: Zvolen.dnes24.sk, Zvonline.sk, RTVS, SME, TASR. To support communication TUZVO has chosen strong media partners who focus on the target group of young people (emefka.sk, refresher, startitup).

The most important outputs are:

- On 22 January 2021, the Ministry of Education, Science, Research and Sport of the Slovak Republic registered a new Association of Ten Slovak Universities called the Consortium of Slovak Universities, abbreviated as U10+, in the register of universities. This completes the process of establishing the first consortium of universities in Slovakia, which started about two years ago.
- On 11 February 2021, TUZVO commemorated the Day of Women in Science and introduced new Vice-Rector for Development, prof. RNDr. Danica Kačíková, MSc., PhD.
- On April 22, 2021, the President of the Slovak Republic Zuzana Čaputová appointed 27 new professors at a ceremony in the Presidential Palace in Bratislava. Among the newly appointed professors was prof. Ing. R. Réh, CSc., from the Department of Wood Technology, Faculty of Wood Sciences and Technology, TUZVO, who was awarded by title professor in the field of Technology of Wood Processing.

- On 29 April 2021, the President of the Slovak Republic Zuzana Čaputová appointed 26 new professors in the Presidential Palace in Bratislava. Among the newly appointed professors were prof. Ing. M. Sedliačiková, PhD., awarded title of professor in the field of Business Economics and Management and prof. Ing. M. Hitka, PhD., as awarded title of professor in Management. Both newly appointed professors are from the Department of Economics, Management and Business of the Faculty of Wood Sciences and Technology.
- On 7 May 2021, the Minister of Agriculture and Rural Development of the Slovak Republic, Ján Mičovský, attended the awarding of the Prof. Štefan Korpel, which has been awarded since 2018 by the Faculty of Forestry of TUZVO. The winner of this year's prize was Pavol Dendys, a graduate of the Faculty of Forestry.
- On 28-30 May 2021, the traditional event for the public "Rhododendron Days" took place in the Borová hora Arboretum.
- The public favourite event "Days of Roses" organised by the staff of the Borová hora Arboretum was held on 18-20 June 2021.
- The 10th anniversary edition of the International Sports Olympiad for students at the Universities of the Third Age took place on the premises of TUZVO from 17-19 September 2021. After the "pandemic year", despite the problems and measures adopted in several countries, TUZVO was visited by traditional guests from Ukraine and the Czech Republic. Home students were represented by UTV Bratislava, UTV Martin and the home UTV Zvolen.
- On 5 - 7 October 2021, selected films were screened in the premises of TUZVO - Atrium Relax as a part of the International Film Festival Agrofilm 2021. Due to pandemic measures, the films were screened only for TUZVO staff and students.
- The Rector of TUZVO, Professor Rudolf Kropil, welcomed the Ambassador of the Republic of Kazakhstan to Slovakia, Roman Vassilenko, at TUZVO on 21 September 2021.
- The staff of the Arboretum Borová hora prepared in the days 8. -9. October 2021 event called Autumn in Borová hora Arboretum.
- On 11 November 2021, a memorial plaque to Ján Kuciak and Martina Kušnírová was unveiled in the park in front of TUZVO.
- On 17 November 2021, TUZVO commemorated two historic events - International Student Day and the Day of the Struggle for Freedom and Democracy, which is regularly associated with the awarding of the Rector's Prize to the best students of the University, as an expression of special recognition to students during their studies for outstanding academic achievements, for work in scientific research, artistic and professional activities, for exemplary civic attitude, for giving an exceptional sports performance, or for other significant contribution to the University. In the current academic year 2021/2022 the Rector of TUZVO prof. Kropil awarded 17 students on this occasion.
- The Faculty of Wood Sciences and Technology of TUZVO organized the 17th year of the international competition Award of prof. Jindřich Halabala 2021. Design students submitted 60 works from 6 universities in the Slovak Republic and the Czech Republic. They are output projects of works separately for furniture and interior. For the first time, there was also a 5th category: results of PhD students' works. The selected works were placed on the exhibition in the Slovak National Gallery in Zvolen Castle from 11 November 2021 to 3 December 2021. The Department of Furniture Design and Interior of the Faculty of Wood Sciences and Technology of the Technical University in Zvolen took over the professional guarantee. The students of TUZVO won awards in

the category Final Thesis of the 1st and 2nd level Interior Design and in the Doctoral Thesis Category Furniture and Interior Design. Due to the pandemic, the official announcement of awards and honourable mentions in the competition for the best student projects in the field of furniture and interior design in the academic year 2020/21 was took only online as part of the conference "Creativity in Design - V."

- The virtual online international scientific conference Financing 2021 Forests-Timber took place at the Technical University of Zvolen on 25 November 2021. Participants of the conference tried to answer the questions of production and use of timber raw material to achieve the maximum effect for the national economy. Nearly 100 participants were present at the conference, including more than 20 foreign participants.
- As part of the implementation of the development project supported by the Ministry of Education, Science, Research and Sport of the Slovak Republic entitled "Preparation of a feasibility study on the integration of universities", an online workshop of the Consortium of Slovak U10+ Universities was held on 2 December 2021, where the results of the project to date were presented and the next steps towards the successful completion of the project and the start of its implementation were agreed.

The task is being carried out on an ongoing basis and remains on track for 2022.

3.2 Strengthening communications with the media and the public and promotion/marketing of the University.

Indicator: Number of media outputs and responses to the activities of TUZVO, placement in rankings of universities and scientific research institutions.

		2017	2018	2019	2020	2021	2022	2023
Number of media outputs and responses to the University's activities	number	77	98	91	78	304		
Number of rankings of universities and research institutions	number	1	1	2	2	2		

Task 3.2a) Implementation of communication and marketing strategy.

Deadline: permanently; **Responsibility:** Vice-Rector for International Relationships

The management and implementation of public relations is crucial to the existence and progress of academic institutions. TUZVO promotes processes and tools for the purposeful development of public relations with an emphasis on increasing the quality and volume of these activities, systematicity, modernisation of the tools used, flexibility of communication channels and timeliness of information.

In 2021, TUZVO continued its cooperation with the PR agency SKPR STRATEGIES, s.r.o. in comprehensive communication services. The main objective of the cooperation was to develop an effective communication strategy and timeline to strengthen the thematic positioning and executive visibility of the university. Another objective was to reach out to all stakeholder groups and thus contribute as much as possible to consolidate and improve the position of the university in all levels of higher education, events, and activities within its educational and research process. The implementation of the different parts of the strategy was to achieve a unified vision of the University with a strong and distinctive identity. The main objectives in 2021 were:

- to improve the positioning of TUZVO in the higher education institutions in Slovakia,
- to increase spontaneous awareness of the University outside the region among target groups,
- set up relevant media partnerships and collaborations,
- to establish TUZVO and its disciplines as an attractive choice for study even in times of pandemics.

These objectives were achieved despite the difficult social situation affected by the COVID-19 pandemics. The main communication tools were press releases, executive visibility, media relations and media collaborations.

All university and faculty events were promoted and publicized on Facebook and Instagram social media accounts in the form of public sharing. On the social network Facebook TUZVO reached almost 5,400 followers, on the social network Instagram TUZVO has already reached more than 1,100 followers.

The task is being carried out on an ongoing basis and remains scheduled to continue in 2022.

3.3 Strengthen collaborations with economic and social practice - from private industry to public institutions.

Indicator: Number of cooperation contracts and countdown of their implementation. Participation of TUZVO staff in expert committees and boards.

		2017	2018	2019	2020	2021	2022	2023
Number of cooperation agreements - foreign	number	51	55	56	62	59		
Number of cooperation agreements - domestic	number	42	45	51	56	64		
Number of Erasmus+ agreements	number	98	97	112	117	116		
Number of international trade union memberships by research area	number	108	111	111	129	129		
Numbers of personal memberships of university staff in international organisations	number	172	161	176	189	136		

Task 3.3a) To initiate cooperation with practice in connection with direct involvement of students during the work on semester projects or bachelor's and diploma's theses. Subsequently, ensure media coverage, presentation, or exhibition of joint outputs.

Deadline: continuously, in 2021; **Responsibility:** Deans of Faculties, Vice-Deans for International Relationships

TUZVO has long been cooperating with enterprises, companies, as well as the state administration in assigning students' professional practice. The aim of the cooperation is to verify the student's theoretical knowledge in practice, their application in specific practical conditions, to achieve the necessary level and readiness of the student for the future profession in the field of practical knowledge under the supervision and professional guidance of workers in practice.

Among the most significant activities of cooperation with practice at TUZVO can be considered the signing of the Memorandum of Cooperation between TUZVO and the State Nature Conservation

of the Slovak Republic on 24 June 2021, when the Rector of TUZVO Rudolf Kropil welcomed the General Director of the State Nature Conservation of the Slovak Republic Dusan Karaska at the University.

Cooperation with practice at the Faculty of Wood Sciences and Technology takes place at several levels. Either directly in the form of a cooperation agreement or in the framework of work on semester assignments, workshops, bachelor's, and diploma's theses in cooperation with specific partner companies and the departments of the faculty.

The Faculty of Technology developed intensive cooperation with the Continental Automotive Systems Slovakia s.r.o. Zvolen in 2021, the aim of which was to strengthen the contractual partnership and promote each other. Significant in this area were the professional lectures (online and face-to-face) held for students and FT employees, which contributed to a closer connection of education with the requirements of practice and shifted the teaching at the faculty to practical applications and solutions. Despite limited mobility and reduced opportunities for contact meetings due to Covid-19 pandemic preventive measures, it was possible to shift some activities to the virtual space and thus stay in touch with our strategic partners. In addition, the faculty managed to establish new cooperation with BRC Slovakia s.r.o., Vrútky; mraas s.r.o., Zvolen; Diago SF s.r.o., Brezno; SITTRANS s.r.o., Banská Štiavnica and Carpathian Foundation, Košice, which subsequently resulted in the signing of a Cooperation Agreement. The faculty continues its successful cooperation with the digital marketing agency Invelity, s.r.o., which ensures the implementation of a marketing campaign for the promotion of studies provided by the Faculty of Technology. The campaign ran in February and March 2021 and will continue in 2022. In 2021, Faculty of Technology concluded five new bilateral cooperation agreements with business entities in the Slovak Republic: BRC Slovakia s.r.o., Vrútky; mraas s.r.o., Zvolen; Diago SF s.r.o., Brezno; SITTRANS s.r.o., Banská Štiavnica; Carpathian Foundation, Košice.

The task remains scheduled to continue.

3.4 Strengthen cooperation with the region and the Zvolen town.

Indicator: Number of joint activities and projects.

		2017	2018	2019	2020	2021	2022	2023
Number of events	number	7	18	10	6	1		
Number of projects	number	3	2	1	0	0		

Task 3.4a) Organisation and provision of scientific and professional events in cooperation with the region and Zvolen town.

Deadline: continuously; **Responsibility:** Vice-Rector for International Relationships, Vice-Deans for International Relationships, Director of SLDK

The planned scientific and professional events of the Slovak Forestry and Wood Sciences Library for 2021, which are regularly organized annually as for students as for residents of the town of Zvolen and the nearby region, were held in a limited scope in 2021, due to pandemic preventive measures. The Information Day on the European Landscape Convention (EDoK) 2021, 13th edition, organised in cooperation with the Faculty of Ecology and Environmental Science of the TUZVO and the Slovak Environmental Agency in Banská Bystrica with the participation of the Ministry of the Environment

of the Slovak Republic, was held on an alternative date, 22 July 2021, in the Congress Centre of the TUZVO, with strict epidemiological measures being observed.

The graft exchange of old and regional varieties of fruit trees (FEE TUZVO, OZ GenoFond) - 6th edition, was not held in 2021. The planned lecture and discussion - Ecotourism - KAZAKHSTAN - the land of not only endless steppes (lecturer doc. Ing. Margita Jančová, CSc.), which was to take place in October 2021, was postponed to 2022.

The task remains scheduled to continue.

***Task 3.4b)** Organisation and provision of events in SLDK in cooperation with TUZVO regarding secondary school/primary school students.*

***Deadline:** continuously, year 2021; **Responsibility:** Director of SLDK in cooperation with TUZVO*

The planned information meetings and SAIA seminars aimed at students at secondary high schools in Zvolen and creative workshops for primary school pupils were not implemented in 2021, due to the guidelines and compliance with preventive epidemiological measures in relation to the COVID-19 pandemics.

The task remains scheduled to continue.

***Task 3.4c)** To develop cooperation with professional institutions in Zvolen town and in the region - expanding acquisition activities and making library and information services of the SLDK more accessible.*

***Deadline:** continuously, year 2021; **Responsibility:** Director of SLDK in cooperation with TUZVO*

Cooperation with the National Forestry Centre Zvolen, the Forest Research Institute and the Slovak Forestry and Wood Sciences Library, the Slovak Environmental Agency, Matej Bel University in Banská Bystrica and other institutions in Zvolen and in the region in the field of acquisition activities, acquisition of specialized publications for the SLDK fund in the form of an exchange / donation, was also implemented in 2021.

The task remains scheduled to continue.

***Task 3.4d)** Monitoring of activities and cooperation with the Volunteering Centre of the Banská Bystrica Region, promotion of TUZVO and SLDK.*

***Deadline:** continuously, year 2021; **Responsibility:** Director of SLDK*

The cooperation of the Slovak Forestry and Wood Sciences Library with the Centre for Volunteering continued in 2021, the activities of the Volunteering Centre of the Banská Bystrica Region were continuously monitored.

The task remains scheduled to continue.

***Task 3.4e)** Expansion of cooperation with cultural institutions within the city and region, co-organization, promotion and participation in cultural events, marketing communication.*

***Deadline:** continuously, year 2021; **Responsibility:** Director of SLDK in cooperation with TUZVO*

Cooperation with professional associations like the Slovak Library Association, Association of Slovak Librarians and Libraries, public and academic libraries, and heritage institutions in Zvolen and in the region, i. e., Ľudovít Štúr Regional Library in Zvolen, Forestry and Wood Museum in Zvolen,

Forestry of the Slovak Republic, Slovak National Gallery Zvolen Castle, and other institutions, continued in 2021, in the online space.

Activities during the Slovak Libraries Week 2021, Science and Technology Week 2021, expert seminars and webinars were held online.

The task remains scheduled to continue.

3.5 *To activate the activities of the Association of Alumni and Friends of the University.*

Indicator: *The number of members of the association and the number of activities and outputs.*

Task 3.5a) *Identification of the most successful TUZVO alumni and creation of a database of contacts.*

Deadline: *permanently; Responsibility: Vice-Rector for International Relationships, Vice-Deans for International Relationships, Vice-Rector for Education*

An Alumni Club area has been created on the University's website to inform alumni (graduates) about the activities of the University and its faculties. In addition to the website, it is planned to present the club on social networks. As part of its tasks, the Department for Pedagogical Activities communicates with alumni and conducts a survey of their applicability in practice. Graduates comment on their level of satisfaction with their studies and their contribution to practice. Based on their work experience, they express their views on the teaching process, suggestions, and recommendations for the study. A part of the questionnaires includes also the evaluation of the subjects of individual study programmes and their relationship with practice.

The Faculty of Forestry is expanding its permanent exhibition of successful graduates in the faculty premises and at the same time regularly involves them in the teaching process at the faculty and practical demonstrations for students in individual forest operations in Slovakia. This way, the faculty retains the contact and the continuity of the relationship with the graduates of the faculty.

The Faculty of Wood Sciences and Technology has an alumni club of DF ALUMNI on the professional network LinkedIn. Within this professional social network, it actively communicates with alumni and informs them about various job offers, graduate internships and activities that take place at the faculty and might be of interest for their graduates. The club currently has 87 members, a large part of which represent the graduates from the Czech Republic.

A section has been created on the Faculty of Ecology and Environmental Science website dedicated to interviewing their graduates and showcasing what positions they are employed in. Information is available at: <https://fee.tuzvo.sk/sk/absolventi-0>. The Faculty of Ecology and Environmental Science has created a contact database of alumni and organises meetings between students and alumni of the faculty, where they could discuss and hear about the experiences of their studies as well as the working environment of the invited alumni. The students of the faculty meet the alumni of the faculty continuously during their studies (main exercises, professional practice, thesis consultations).

The task remains scheduled to continue.

3.6 *Promoting student and staff mobility.*

Indicator: *Proportion of students and staff undertaking student and staff mobility or work experience abroad.*

		2017	2018	2019	2020	2021	2022	2023
Student mobility	number	124	76	70	31	4		
Mobility of academic staff	number	95	82	93	28	37		

Task 3.6a) *Organising information seminars on mobility programmes and consultations aimed at supporting the mobility of students and staff of TUZVO.*

Deadline: permanently; **Responsibility:** Vice-Rector for International Relationships

The Department of International Relationships regularly organises Erasmus+ information days for students, provides consultations, publishes information materials on the Erasmus+ programme and cooperates with faculties to promote the programme among students, teachers, and staff of TUZVO. It publishes information about its activities on the TUZVO website and sends invitations and information to students electronically via UIS. The Erasmus+ Information Day was held online on 29. 09. 2021 on the topic of Erasmus+ mobility and internships for students to EU countries [Erasmus+ info seminár pre študentov - YouTube](#).

SLDK, in cooperation with the Slovak Academic Information Agency in Banská Bystrica, has been organizing information seminars of SAIA for a long time and continuously mediates individual consultations for students of TUZVO, focused on the offer of international mobility programmes and study stays within the approved plan of scientific and professional events.

When the contact form of teaching at TUZVO, due to the Covid-19 pandemics, was transferred to distance learning form in 2021, in the summer semester of AR 2020/2021, the online SAIA webinars were made available to TUZVO students and were provided by a lecturer from SAIA Žilina. In the winter semester of AR 2021/2022, the SAIA online webinars on mobility and foreign stays were also provided in cooperation with SAIA in Banská Bystrica.

The task remains scheduled to continue.

3.7 Strengthening world language skills for students and staff.

Indicator: *Evaluation of the world language level of staff and students.*

The evaluation of the language competence of applicants/candidates in the admittance/tendering proceedings in connection with the Common European Framework of Reference (CEFR), this task is provided and carried out by competent teachers at the Institute of Foreign Languages of TUZVO. In the framework of the language competence evaluation, selected renowned language certificates at B2 and C1/C2 level according to the CEFR are recognised. In the selection procedure, the assessment is limited to the applicants'/candidates' coherent written expression.

Through academically and professionally oriented language courses in the accredited study programmes of the faculties, the Institute for Foreign Languages (hereinafter referred as the "ÚCJ") ensures the improvement of the level of language competence of students.

Task 3.7a) *Offering English and German language courses at B1 and B2 level for university staff.*

Deadline: September 2021; **Responsibility:** Head of the ÚCJ

ÚCJ lecturers provide English courses for university staff through the Centre for Continuing Education and the University of the Third Age. Other courses were not provided due to the pandemic's preventive measures.

The task remains scheduled to continue.

Task 3.7b) Encouraging the teaching of the French language and its promotion to the students of TUZVO.

Deadline: September 2021; **Responsibility:** Head of the ÚCI

French courses were not provided due to the pandemic and the combined form of education.

The task remains scheduled to continue.

3.8 Strengthen cooperation with V4 and EU universities and international organisations.

Indicator: Number of joint scientific publications registered in CCC, Web of Science, joint projects, participation in the COST segment.

		2017	2018	2019	2020	2021	2022	2023
Number of joint scientific publications	%		46.12	51.15	49.03	44.36		
Number of joint projects	number	8		3	4	5		
Number of participations in COST	number	8	11	8	10	11		

Task 3.8a) Implementation of joint activities with partner universities and international organisations.

Deadline: continuously, year 2021; **Responsibility:** Vice-Rector for International Relationships, Vice-Deans for International Relationships, TUZVO staff

TUZVO actively cooperates with universities of the V4 countries, EU, and international organisations. Cooperation with universities in the Czech Republic, Poland, Ukraine, and Russia is predominant. A deduction of joint publications and projects is made regularly for the annual report for scientific research activities.

COST projects to be addressed in 2021:

- COST Action CA 20132 - Urban Tree Guard - Safeguarding European urban trees and forests through improved biosecurity, (UB3GUARD), principal investigator: Mgr. JUDr. Z. Dobšínská, PhD., 2021-2025;
- COST Action CA 20123 - Intergovernmental Coordination from Local to European Governance, (IGCOORD), prof. Dr. Ing. J. Šálka, 2021-2025;
- COST Action CA15206 - Payments for Ecosystem Services (Forests for Water), (PESFOR-W), principal investigator for TUZVO: prof. Dr. Ing. J. Šálka, 2016-2021;
- COST Action CA 19128 – Pan-European Network for Climate Adaptive Forest Restoration and Reforestation (PEN-CAFoRR), principal investigator for TUZVO: prof. Ing. D. Gömöry, DrSc., 2020-2024;
- COST Action CA18237 – European Soil-Biology Data Warehouse for Soil Protection (EUdaphobase), doc. Ing. E. Gömöryová, CSc., 2019-2023;
- COST Action CA15226 – Climate-smart Forestry in Mountain Regions (CLIMO), principal investigator for TUZVO: doc. Ing. K. Střelcová, PhD., 2017-2021;
- COST Action CA 18207 - Biodiversity of Temperate forest Taxa Orienting Management Sustainability by Unifying Perspectives, principal investigator for TUZVO: Ing. M. Ujházyová, PhD, 2019-2023;

- COST Action CA16229 – European Network for Environmental Citizenship (ENEC), principal investigators for TUZVO: Ing. V. Kaputa, PhD., Ing. H. Mařová, PhD., 2018-2021;
- COST Action CA18135 – Fire in the Earth System: Science & Society, principal investigator for TUZVO: doc. Ing. A. Majlingová, PhD., MSc., 2019-2023;
- COST Action CA18236 - Multi-disciplinary Innovation for Social Change, principal investigator for TUZVO: Ing. V. Kaputa, PhD., 2019-2023;
- COST Action CA18226 - New approaches in detection of pathogens and aeroallergens, principal investigator for TUZVO: doc. Ing. B. Slobodník, PhD., 2019-2023.

In 2021, 5 joint programmes were addressed at TUZVO:

- Horizon2020-MSCA-ITN-2019: RISE-WELL (Critical Solutions for Elderly Well-being) research project under the Marie Skłodowska-Curie call. The consortium consists of 5 universities and 7 organisations representing practice in the Innovative Training Network. The project coordinator at TUZVO is Ing. M. Pichlerová, PhD. from FEE;
- FEE is a partner in the HORIZONT 2020 project PRISAR2 (Proactive monitoring of cancer as an alternative to surgery) as one of 24 partners from 8 countries;
- SILVANUS - funded by the EU Horizon 2020 Green Deal and coordinated by Università Telematica Pegaso (Italy). It involves 49 partners from the European Union, Brazil, Indonesia, and Australia, with a budget of €23 million over 42 months. The project coordinator for TUZVO is doc. Ing. A. Majlingová, PhD., MSc.;
- HolySoils - Holistic management, modelling, and monitoring for European forest soils, funded by the EU Horizon 2020 programme. The coordinator of the programme at TUZVO is Ing. M. Bořeřa, PhD.;
- LIFE16 NAT/SI/000634 Preventing the extinction of Dinario-SE Alpine lynx population through reinforcement and long-term conservation. The project coordinator at TUZVO is Dr. h. c. prof. Ing. R. Kropil, PhD., 2017-2024.

The task remains scheduled to continue.

Evaluation of the implementation of the LTP measures in 2021 in area 3 - Public relations, national and international cooperation

From the above-mentioned report on the implementation of the measures and their elaboration into individual tasks, it can be concluded based on indicators (measurable indicators) that despite the limitations caused by the COVID-19 pandemics, some tasks were implemented in 2021. The implementation of the measures will continue in 2022.

Area 4 Human resources

Strategic objective

High-quality qualification structure and modern services for employees.

Measures

4.1 Improving staff selection criteria and support staff career development.

Indicator: Coefficient of the qualification structure of departments at TUZVO. Number of publications registered in CCC, H-index of creative employee, workplace at TUZVO. Value of the evaluation score of a creative employee, workplace at TUZVO.

		2017	2018	2019	2020	2021	2022	2023
Proportion of academic staff to non-academic staff (e.g.: administrative, professional, technical, operational)	proportion	0.9666	0.9553	0.9485	0.9423	1.0073		
Proportion of university staff to total number of students	proportion	4.53	4.39	4.14	3.79	3.81		
H index of the university *from WoS Core Collection	value	35	37	42	47	54		

Task 4.1a) To update the principles of the selection procedure for occupying the posts of university teachers, posts of researchers, posts of professors and associate professors and posts of senior staff of TUZVO in accordance with legislative changes, in particular the amendment to the Higher Education Act, updating the selection procedures in the online environment.

Deadline: by the end of 2021; **Responsibility:** Deans of Faculties, Heads of Institutes and OOS, Head of ORLZ

The criteria for the selection of staff, especially teachers and researchers, are constantly increasing, especially in the field of quality of published outputs registered in the CCC, H-index, etc., international cooperation and project success. The demanding nature of the staff selection criteria creates space for a competitive environment and the possibility to employ top creative staff also from abroad, or postdoctoral fellows, and to stabilise them in the university environment and support them in their career development.

The principles of the selection procedure for occupying the posts of university teachers, research staff, professors and associate professors and senior staff of the TUZVO have not been updated. The selection procedures were carried out continuously, in the online environment, they were carried out exceptionally, without complications in times of strict pandemic measures.

The task remains scheduled to continue in 2022.

Task 4.1b) To continue to improve the coefficient of the qualification structure of the workplaces regarding the ratio of teaching to non-teaching posts.

Deadline: continuously, until 31 December 2021; **Responsibility:** Deans of Faculties, Heads of Institutes and OOS, Head of ORLZ

The improvement of the coefficient of the qualification structure of the workplaces, regarding the ratio of teaching or creative staff to non-teaching posts, continues to improve. New posts created for national and international projects are also contributing to this ratio. The ratio of 273 creative staff to other non-academic staff was 1.0073.

The coefficient of the qualification structure of departments improved by 3 professors, 9 associate professors and 1 DrSc.

The task remains scheduled to continue in 2022.

Task 4.1c) *When conducting selection procedures for teachers and researchers, special consideration should be given to the quality of publications, especially publications registered in the CCC, the H-index of the creative employee and the value of the creative employee's evaluation score.*

Actively and rigorously seek qualified staff also when occupying key management positions and specialists in the relevant field.

Deadline: *continuously, until 31 December 2021; Responsibility:* *Deans of Faculties, Heads of Institutes and OOS, Head of ORLZ*

When implementing selection procedures for teachers and researchers, special consideration shall be given to the quality of publications, in particular publications registered in the CCC, the H-index of the creative staff member and the value of the creative staff member's evaluation score. The above criteria are part of the qualification and requirements for the launching and announcement of selection procedures for creative staff posts.

The faculties of TUZVO have developed a database of staff evaluation scores considering, in addition to teaching performance and total number of publications, publications registered in CCC, H-index, number of citations and their categories, participation in projects, as well as activities not included in the evaluation scores (mobility, membership in editorial boards, organizing conferences, etc.), this database also serves to record the fulfilment of habilitation and inauguration criteria by creative staff members, who are encouraged to continue their career development.

The task of actively and rigorously searching for qualified staff, including for key management positions and specialists in the relevant field, is being continuously fulfilled.

The task remains to be completed in 2022.

4.2 To promote excellence in teaching, research, and the arts.

Indicator: *Share of incentive pay per creative employee.*

		2017	2018	2019	2020	2021	2022	2023
Share of incentive pay per creative employee (personal allowances and bonuses)	%	19.23	20.25	24.62	23.80	26.46		
Number of academic staff	number	293	282	277	271	273		
Wages paid (academic staff)	EUR	4,531,767	4,612,873	5,312,612	5,761,044	6,145,700		
Incentive pays (personal allowances and bonuses)	EUR	871,615	934,081	1,307,752	1,371,053	1,626,122		

Task 4.2a) *Motivational instruments, both financial and non-financial, to encourage the achievement of excellence in teaching, research, and artistic activities.*

To continue to grant incentive pay, create conditions for employee mobility, improve the working environment and working conditions, especially for top and creative employees.

Deadline: continuously, until 31 December 2021; **Responsibility:** Vice-Rectors, Deans of Faculties, Bursar

For achieving top results in teaching, scientific research, and artistic activities, TUZVO has been implementing a system of "university-wide motivational personal bonuses" for many years for creative staff of the University with systematic annual evaluation. Payment of the personal allowance as a separate component of the employee's salary, paid from the University's "incentive fund", in accordance with the approved and published Criteria for the award of the personal allowance.

Criteria for awarding personal allowances to motivate staff according to performance parameters have been developed and are also applied in the faculties. The share of incentive component of salary per creative employee is 26.46%.

The task remains scheduled to continue in 2022.

4.3 Creation of attractive working environment.

Indicator: Extent of modernised premises and their quality.

		2017	2018	2019	2020	2021	2022	2023
Extent of reconstructed premises	m ²	500	940	950	720	1 727		

Task 4.3a) To continue projects in progress related to work environment improvement and innovation throughout the year, modernisation.

Deadline: continuously, in 2021; **Responsibility:** Vice-Rector for Development, Bursar

In 2021, the renovations of laboratories, studios, lecture rooms, offices, as well as other premises at the faculties and OOS have contributed significantly to the improvement of the working environment with a total value of approximately EUR 580,000. The most significant investments include the comprehensive reconstruction of studios for the Design study programme, the improvement of the working environment in the SLDK premises, the Borová hora Arboretum, as well as the reconstruction of the premises in the lobby of the main building - the construction of a Co-working centre to serve students and staff for the purposes of the pedagogical process, as well as for the organisation of various lectures and workshops. In that space conditions are created for student Startups, where it will be possible to develop creative and innovative activity.

Task completed.

4.4 Promoting the provision of quality counselling services in the areas of personal and social well-being.

Indicator: Number of employees who used the services.

		2017	2018	2019	2020	2021	2022	2023
Number of counselling services for employees on their personal and social situation	number	51	53	55	65	69		

Task 4.4a) *Providing high quality employee welfare counselling services.*

Deadline: *continuously, in 2021; Responsibility:* *Vice-Rector for Development, Head of ORLZ*

Personal and social counselling services were more frequently provided, particularly in relation to COVID-19 pandemic measures, claiming pandemic sickness absence and quarantine treatment of family members. Furthermore, services and counselling were provided in the field of labour law, counselling with claims for social fund contributions and supplementary pension savings, among others. 69 employees benefited from the counselling services.

The task remains scheduled to continue in 2022.

Evaluation of the implementation of the LTP measures in 2021 in area 4 - Human Resources

The above-mentioned report on the implementation of the measures and their elaboration into individual tasks from the indicators (measurable indicators) shows their planned implementation in 2021. All tasks are permanent, and their implementation will continue in 2022.

Area 5 Student support

Strategic objective

Effective motivation of students, more attractive spaces for student activities and provision of social needs also for students with specific needs.

Measures

5.1 *To encourage and motivate students by awarding incentive and special scholarships for outstanding academic performance and significant awards, achievements, and activities for the benefit of the University.*

Indicator: *Number of students who have been awarded incentive and exceptional scholarships. Number of students involved in student organizations.*

		2017	2018	2019	2020	2021	2022	2023
Number of students awarded an incentive scholarship	number	190	211	239	211	167		
Number of students involved in student organisations	number	-	1,155	1,034	915	-		

Task 5.1a) *Supporting students who achieve excellent academic results and represent the University in student scientific, artistic, professional and sports competitions.*

Deadline: *continuously, in 2021; Responsibility: Vice-Rector for Education, Vice-Deans*

The system of student support is also provided in the form of various types of scholarships in accordance with the applicable legislation and internal regulations of TUZVO. Students have the possibility to receive scholarships from the funds provided for this purpose from the state budget and from the University's own resources through the scholarship fund. From the funds of the state budget, students are provided with social, motivational and trade union scholarships. At TUZVO, the incentive scholarship is provided as a benefit or extraordinary scholarship. From its own resources, an extraordinary scholarship is granted to students. All students at TUZVO who have achieved outstanding results in the field of studies (Rector's Award, Dean's Award), in professional, scientific, research or sporting activities, or who have successfully represented the University or the Faculty at important national or international events, may apply for an incentive and extraordinary scholarship. The number of students and the amount of funding for scholarships paid in the academic year 2020/2021 are shown in Table 5.1.1.

Task completed, remains scheduled to continue in 2022.

Table 5.1.1 Scholarships at TUZVO in AY 2020/2021

Type of scholarship													
Faculty	State budget subsidy						Non-purpose subsidy - own resources				Total		
	Social		Motivational		Trade Union/Pregnancy		Scholarships for PhD students		Extraordinary				
	PŠ	VČ	PŠ	VČ	PŠ	VČ	PŠ	VČ	PŠ	VČ	PŠ	VČ	
UŠP	3	5,885	4	4,150			9	91,067	10	2,250	26	103,352	
LF	19	33,205	21	12,300			25	261,934	16	4,110	81	311,549	
DF	31	54,100	51	26,800	91/1	32,942/1,000	18	188,784	31	6,100	223	309,726	
FEE	15	24,160	13	7,250	92/1	34,132/1,000	12	118,304	7	1,360	140	186,207	
FT	5	9,250	9	5,300	47	20,520	6	61,332	5	1,050	72	97,452	
TUZVO	73	126,600	98	55,800	230/2	87,594/2,000	70	721,421	69	14,870	542	1,008,286	

Note. PŠ – number of students, VČ – amount paid in EUR

5.2 To improve the basic social conditions of students in accommodation and catering services, to create relaxation zones on the university campus and to support cultural, social, and sporting activities of students at the university.

Indicator: Number of measures based on feedback from surveys. Number of students involved in cultural, professional, social, and sporting activities at the university.

		2017	2018	2019	2020	2021	2022	2023
Evaluating student feedback - number of actions based on feedback	number	-	2	2	2	1		

There are options for students at the University, since the new 2019 and 2020 spaces have been built, where they can spend their free time, either during breaks between timetabled events or as part of leisure activities. The Relax Zone in the lobby of the main building as well as the spaces created in the locations used for faculty training serve this purpose. The cultural and social activities of the students take place mainly in the premises of the Congress centre or in the outdoor areas of the university campus. Student clubs at the faculties as well as interest groups play a significant role in these activities. After the renovation of the sports facilities, students as well as university staff have modern facilities for sports activities. Among the latest activities, mention can be made of the newly built gym in the premises of the Institute of Physical Education and Sport. However, it should be mentioned that due to the pandemic's restrictions, these facilities have been fully used.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

5.3 To develop taking care for students with specific needs without reducing the demands on their academic performance.

Indicator: Number of measures based on feedback from surveys of students with specific needs in creating conditions for study.

		2017	2018	2019	2020	2021	2022	2023
Number of students with specific needs	number	23	25	21	25	17		

5.4 Promoting the provision of quality counselling services in the study, career, personal and social situation.

Indicator: Number of graduates employed in the graduated field in relation to the total number of students.

		2017	2018	2019	2020	2021	2022	2023
Number of graduates employed in their field of study in relation to the total number of students	%	58	58	50	50	53		

Collaboration with former graduates is used in every faculty, whether visiting companies as part of practical exercises or through invitations to lectures. By their lectures and discussions with students, they show positive examples of the application of acquired knowledge and skills in the practice. At the same time, they also significantly contribute to the promotion of studies at the faculties of TU Zvolen. Many graduates successfully lead their own companies, with which the university or the faculties cooperate actively within the framework of existing cooperation agreements, implementation, consultation, and supervision of final theses and semester projects. According to recent surveys, the proportion of employed graduates to the total number of employed graduates is close to 60 %.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Evaluation of the implementation of the LTP measures in 2021 in area 5 - Student support

Based on the indicators (measurable indicators), it can be concluded, from the above-mentioned report on the implementation of the measures and their individual tasks, that the tasks were continuously implemented in 2021 and will continue to be implemented in 2022.

Area 6 Management, financing, and economic management

Strategic objective

Efficient financing and economic management of the University.

Measures

6.1 To maintain a positive economic result of the University, or to increase the financial performance of the individual organisational parts of the University.

Indicator: Management results of workplaces (revenue, profit, cash flow) and their motivational comparison.

		2017	2018	2019	2020	2021	2022	2023
Main non-subsidy activity - economic result	EUR	257,977	293,794	269,179	249,881	272,097		
Business activity - economic result	EUR	451,326	361,964	314,343	247,646	517,664		
Total economic result (profit after tax)	EUR	709,303	655,758	583,522	497,527	789,701		

The economic result for 2021 was planned at EUR 306,856 and was well exceeded, amounting to EUR 789,701. This result can be considered excellent even though in 2021 the revenues in all three areas were significantly affected by the COVID-19 pandemic restrictions. Again, there were no revenues from European Structural and Investment Funds projects during the year, which is because no calls were evaluated during the year. The project for the reconstruction of the Borová hora Arboretum building started in May 2021 and the approval procedure will be completed in March 2022.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Table 6.1 - Economic results of TUZVO for the years 2019 - 2021 (in EUR)

Year	Main non-subsidy activity			Business activity			Total		
	Revenue	Cost	HV	Revenue	Cost	HV	Revenue	Cost	HV
2019	1,677,691	1,408,512	269,179	3,745,568	3,431,225	314,343	5,423,259	4,839,737	581,973
2020	1,255,554	1,005,673	249,881	2,399,280	2,151,634	247,646	3,654,834	3,157,307	497,527
2021	918,189	646,151	272,038	2,597,275	2,079,612	517,663	3,515,464	2,725,763	789,701

Note: EU project costs of EUR 59 are deducted from the total HV (HV = Economy Result)

6.2 Establishing a model of effective financial planning (consistency between long-term and short-term financial plans) with the aim of increasing the profitability of the university.

Indicator: CASH FLOW optimization, profitability coefficient of TUZVO and comparison with selected universities.

		2017	2018	2019	2020	2021	2022	2023
University CASH FLOW	EUR	2,924,796	2,574,036	2,215,850	1,916,720	2,185,105		

Also in 2021, attention has been given to efficiency gains, considering the impact of the global pandemics caused by COVID-19. The measures formulated correspond to measure 6.4. The model of effective financial planning follows the „Methodology for the allocation of state budget subsidies to public universities“, and the „Methodology for the allocation of subsidies and budgeting of the Technical University in Zvolen“, which changes annually, which affects the impossibility of unambiguous quantification of the target indicators and their year-on-year comparison. The model will be possible to develop only in 2022, when the methodology of the Ministry of Education, Science, Research and Sport of the Slovak Republic should be elaborated, and its validity should be for at least 3 years.

The development of the CASH FLOW (CF) of the University [CF = net profit (NP) + depreciation (DY)] can be assessed as highly positive. Also, the development of profitability [DP / investment capital (IC)]. Comparison with selected universities has not yet been evaluated. An evaluation is expected in 2023 during the final evaluation of the Long-term Plan of the Technical University in Zvolen for 2017-2023 (if a comparable basis can be established).

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

6.3 Maximize the opportunities to obtain EU funding for infrastructure development, further development of centres of excellence in the following areas: forest - timber - natural resources - ecology - environment - ecotechnics - economics and business - rescue services - furniture and interior design.

Indicator: Number and structure of EU funding received for infrastructure.

		2017	2018	2019	2020	2021	2022	2023
Infrastructure funding received from the ESIF	EUR	0	1,256,832	0	2,494,596	58,600		

In 2021, EU funding was obtained for the development of university infrastructure under the project „Reduction of energy consumption of the building of the Centre of Professional Practice – Arboretum“ in the total amount of EUR 156,215, of which capital expenditure was EUR 155,644.47. For the development of the research infrastructure, financial resources of EUR 58,599.80 were obtained within the framework of the implemented project „Research and development of non-contact methods for geospatial data acquisition for forest monitoring for more efficient forest management and increased forest protection“(FOMON).

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

6.4 Establish a model of capital resource generation for major capital development projects of the University.

Indicator: The number and structure of annual and total capital resources.

		2017	2018	2019	2020	2021	2022	2023
Amount of annual and total capital resources	EUR	2,647,558	3,486,710	3,424,831	1,049,039	1,547,054		

The model of capital resources generation for the implementation of investment-intensive projects was expected to be completed in 2021, due to the fact that the Ministry of Education,

Science, Research and Sport of the Slovak Republic was to develop a new Methodology for the allocation of subsidies from the state budget to public universities, as well as the rules for drawing resources from the Recovery and Resilience Plan of the Slovak Republic were to be known (follow-up to the stack of investment projects of the TUZVO for 2022-2027). The 2022-2027 stack of TUZVO investment projects contains 11 projects and all projects are planned from three sources, namely the SR Recovery and Resilience Plan, the resources of the Ministry of Education, Science, Research and Sport of the Slovak Republic and from own resources.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

6.5 Evaluate the available opportunities to use the University's assets for the development of its business activities, especially in the organisational parts and faculties where their performance is very low.

Indicator: Number of financial resources raised from the business activities of the Institutes.

		2017	2018	2019	2020	2021	2022	2023
Business activities - economic result	EUR	451,326	361,964	314,343	247,646	517,663		

From the results of the economic management in the business activities of the faculties and other organisational parts in 2021, the current state and structure of the assets is not optimally utilised - there are significant reserves for commercial use. If departments are to increase the asset utilisation rate for business activities, it is essential to answer a fundamental question: „What is our fault for not being able to use the available assets to grow the performance of the university? “. The answer is probably to be found in the human factor and its motivation.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

6.6 *Optimisation of the organisational structure to improve the level of management, the quality of planning and the economic management results.*

Indicator: Number of changes in organisational structure and financial contribution to the University.

		2017	2018	2019	2020	2021	2022	2023
Number of changes in the organisational structure of the University	number	61	5	2	42	43		
Financial benefits of organisational changes for the University	EUR	79,300	6,500	2,600	57,750	318,500		

The project „Optimization of the organizational structure of TUZVO for 2021 “was implemented in the organizational structure of TUZVO in 2021, which corresponded with the number of financial resources obtained in the form of a subsidy and the expected results of business activities. The number of employees to 31.12.2021 was reduced by 42.8 full-time positions with a saving of EUR 318,500 in financial resources. Further changes will be implemented in 2022 following the budget of TUZVO as well as the measures of the Ministry of Education and Science in the „Revision of employment expenditure and remuneration in the Ministry of Education.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

6.7 Effective use of the economic information system (application of new appropriate modules for management and financing of TUZVO - controlling and managerial extension).

Indicator: Number of modules.

In 2021, the process of implementing the UNIKAN cost quantification module continued for each area. All the required information has been entered into the individual modules and the results, as well as the changes, will be implemented in 2022.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

6.8 Development of the evaluation and quality assurance system in the strategic management of TUZVO.

Indicator: Number and proportion of university staff to total number of students. Percentage of funds received from the subsidy schedule to previous years.

		2017	2018	2019	2020	2021	2022	2023
Number of university staff (physical number)	number	590	570	568	573	545		
Proportion of university staff to total number of students	proportion	4.53	4.39	4.14	3.79	3.74		
Percentage of funds received from the subsidy schedule compared to previous years	proportion	0.99	1.13	1.05	1.15	1.03		

The changes implemented to optimise staff number in 2021 (43 employees) have put the University in a good position to reduce salary costs in 2022, however the current staffing level of 545 employees is still high and does not correspond with the decline in student number in 2021. The long-term decline in students' number and the corresponding reduction in staff number is a key factor in the growth of the University's efficiency in 2022.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Evaluation of the implementation of the 2021 LTP measures in area 6 - Governance, financing, and management

From the above-mentioned performance report, the indicators (measurable indicators) show that the expected tasks in the areas of management and economic management will be met in 2021. Some of the measures will continue to be implemented in 2022.

Area 7 Technical and investment development

Strategic objective

High level of technical and technological infrastructure.

Measures

7.1 *To revitalize and modernize the university premises for the development of teaching and scientific research departments at TUZVO, or to create spatial conditions for the growth of the university's performance.*

Indicator: *Area of reconstructed premises (in m²).*

		2017	2018	2019	2020	2021	2022	2023
Area of reconstructed premises	m ²	500	940	950	960	1,727		

* Identical to 4.3

In 2021, the premises for the teaching and research process were revitalised at the university level, with a total extent of 1,727 m² and a total value of over EUR 562,000. These premises (mainly laboratories) will be a part of the complex „University Science Park ENVIROTECH of the Technical University in Zvolen “.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Table 7.1.1 Structure of investment of TUZVO in 2021

Line number	Investment	EUR
1	Purchase of land and intangible assets	5,321
2	- of which: purchase of software	4,729
3	Purchase of buildings and structures	3,897
4	Purchase of machinery, apparatus, equipment, techniques, and tools	386,559
5	- of which: interior equipment	24,066
6	- telecommunications equipment	0
7	- computer equipment	71,692
8	- operating machinery, apparatus, equipment, techniques, and tools	260,801
9	- special machinery, apparatus, equipment, techniques, tools, and materials	0
10	- communication infrastructure	0
11	Purchase of means of transport	32,639
12	Preparatory and project documentation	0
13	Implementation of buildings and their technical improvement	1,118,638
14	Reconstruction and modernisation of machinery and equipment	0
15	Purchase of other fixed assets	0
16	Expenditure on the acquisition and technical improvement of assets Total:	1,547,054

Table 7.1.2 Development in 2016-2021

Development of TUZVO investments in 2016-2021					
2016	2017	2018	2019	2020	2021
1 905,995 EUR	2 647,558 EUR	3,501,422 EUR	3,424,831 EUR	1 049,039 EUR	1,547,054 EUR

7.2 Improving the energy efficiency of the operation of the objects and build an energy source of heating for selected objects.

Indicator: Energy operating costs.

		2017	2018	2019	2020	2021	2022	2023
Energy operating costs	EUR	951,725	821,151	835,472	738,469	779,946		

In 2021, renovation and modernisation work continued in the boiler house of TUZVO to reduce the overall energy costs for the operation of the University as a whole. The works were completed on the modernisation of systems for automatic control and regulation of heating in the University buildings (Lecture rooms B1 - B10).

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

7.3 Ensure the construction of a research park using centres of excellence, with intensive links to other research entities as well as to economic practice.

Indicator: Number of financial resources invested.

		2017	2018	2019	2020	2021	2022	2023
Number of financial resources invested in infrastructure from all sources	EUR	2,647,558	3,501,422	3,424,831	1,049,039	1,547,054		

The task in question was not solved in 2021 with the Ministry of Education, Science, Research and Sport of the Slovak Republic. „The University Science Park ENVIROTECH of the Technical University in Zvolen “is being built in the buildings of TUZVO by modernising the current and existing laboratories. Building a science park by reconstructing the “Lanice” sports hall is unrealistic in the current economic environment.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

7.4 Ensure optimisation of the use of available premises for main and business activities.

Indicator: Operating costs and capacity utilisation factor.

		2017	2018	2019	2020	2021	2022	2023
Operating costs and capacity utilisation factor	EUR	10,387,454	10,770,620	11,586,411	11,071,594	12,592,481		
Coefficient of capacity utilisation	%	75	73	65	58	42		

In 2021, preparatory project work continued for the use of available space, especially in the premises of the Institute of Physical Education and Sport and the Student dormitory, Student Street 17. The projects implemented in the Institute of Physical Education and Sport will increase the performance in business activities. Preparatory work has been carried out in the students` dormitory for the revitalisation of the boiler room - construction of a gymnastic gym.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

7.5 Establishing a model for the gradual reconstruction of TUZVO buildings and the optimal combination of financial resources.

Indicator: Number and structure of projects ready for implementation.

		2017	2018	2019	2020	2021	2022	2023
Number of projects ready for implementation	EUR	2,647,558	3,501,422	3,424,831	1,049,039	1,547,054		

In 2021, the premises of the faculties' workplaces and other organisational units were renovated. The extent of the modernised premises was 1,727 m² with a total volume of funds EUR 562 000. These premises create conditions for increasing the quality of pedagogical and scientific work of the University as a whole.

The indicator points to the fulfilment of the measure, it remains on track for 2022.

7.6 To ensure the modernisation of the accommodation and catering capacities of TUZVO.

Indicator: Number of projects implemented.

		2017	2018	2019	2020	2021	2022	2023
Number of projects implemented	number	16	18	23	18	16		

No major projects were undertaken at the students` dormitory in 2021. Necessary repairs were made in accordance with the requirements of the Institute of Occupational Health and Safety and Fire Protection. The existing accommodation capacity in the students` dormitory, Student Street 17, and the possibilities of their reconstruction (A-block and B-block - currently prepared project of conversion to cellular system, but not implemented due to lack of financial resources from the Ministry of Education, Science, Research and Sport of the Slovak Republic).

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

7.7 To implement the building of a new data infrastructure of TUZVO (server room), including the storage of students' work in accordance with the requirement for their archiving.

Indicator: Phased transfer of the server room between 2017 and 2023.

		2017	2018	2019	2020	2021	2022	2023
Phased transfer of the server room in years	Stage I - construction completed, 80 000 EUR		0	0	0	0		

This task has not been solved even in 2021 because no call from the European Structural and Investment Funds has been registered. High financial resources (approx. EUR 4.5 - 5.0 million) must be assigned in 2024 at the latest due to the condition and technical level of the existing server room.

The indicator points to the fulfilment of the measure, it remains on track for 2022.

7.8 Implement the technical and technological modernisation of VDL workplaces and build technology centres.

Indicator: Number and structure of upcoming projects.

		2017	2018	2019	2020	2021	2022	2023
The volume and structure of upcoming projects.	EUR	2,647,558	3,501,422	3,424,831	1,049,039	1,547,054		
	number	16	18	23	18	16		

No major investments were made in the Developmental Workshops and Laboratories in 2021. The funds were allocated to the purchase of tools to ensure the pedagogical and scientific research process. Work was started to remove unused and non-functional machinery and equipment, namely in the Carpentry and Mechanical Engineering workshops. Significant investments are foreseen in 2022 (project of the Faculty of Wood Sciences and Technology and the Banská Bystrica Self-Governing Region).

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

7.9 Modernisation of TUZVO's means of transport.

Indicator: Number of means of transport, cost-effectiveness, and their efficient use.

		2017	2018	2019	2020	2021	2022	2023
Number of means of transport, cost-effectiveness, and their efficient use	number	78	78	84	84	81		
Purchase of means of transport	EUR	457,486	75,149	65,412	0	32,639		

In 2021 TUZVO procured only two passenger cars for the needs of its departments.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

7.10 Building purpose-built demonstration facilities to improve the quality of educational processes and research activities of TUZVO departments.

Indicator: Number of demonstration objects.

		2017	2018	2019	2020	2021	2022	2023
VŠLP demonstration objects	number	139	140	140	142	143		
ABH demonstration objects	number	1	1	1	1	1		

In 2021, 1 building was constructed in the premises of the VŠLP. The total number of 143 demonstration buildings is sufficient for the current needs of the educational process. In 2021, necessary repairs and maintenance were carried out on selected objects to ensure their functionality.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Evaluation of the implementation of the LTP measures in 2021 in area 7 - Technical and investment development

From the above-mentioned countdown of the implementation of the measures, it can be concluded, based on indicators (measurable indicators), that most of the measures have been continuously implemented as planned in 2021 but the implementation of some of them will be carried out in 2022, due to unfavourable external economic influences, mostly in relation to the COVID-19 pandemics restrictions.

Area 8 Information Systems and Technology (IST), Library and Information Services (LIS)

Strategic objective

IST: Modern ICT infrastructure for education, science, research, and management.

LIS: The academic library as an information centre for the academic community.

Measures

Information systems and technology

8.1 To ensure modernisation of ICT infrastructure.

Indicator: Number of active network elements. Number of new servers. Number of computers with the latest operating systems. Internet access speed.

		2017	2018	2019	2020	2021	2022	2023
Number of new servers	number	3	5	4	5	3		
Number of computers with the latest operating systems	number	698	745	889	1,023	982		
Internet access speed	Gbps	10	10	10	10	10		

In 2021, 3 new servers, 20 new wifi access points, 40 new network elements were added.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Task 8.1b) Development of data backup plan for servers and their OS.

Deadline: June 2021; **Responsibility:** Head of Communication Networks Department

The task was completed in November 2021.

8.2 Development and modernization of university information systems.

Indicator: Number of changes implemented in the structure of information systems. Number of security incidents. Number of upgrades of information systems.

		2017	2018	2019	2020	2021	2022	2023
Number of changes implemented in the structure of information systems	number	57	27	49	61	40		
Number of security incidents	number	0	0	0	0	0		
Number of upgrades of information systems	number	19	19	27	26	21		

40 changes have been made to the IS structure. The number of security incidents was 0.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Task 8.2c) Enhancement of the security of the user credentials repository.

Deadline: June 2021; **Responsibility:** Head of the Communication Networks Department, Head of the University Information System Department

The task has been completed.

8.3 Improvement of the quality of ICT services.

Indicator: User feedback evaluated once a year. Number of new IT services.

		2017	2018	2019	2020	2021	2022	2023
Number of new IT services	number	6	3	4	2	2		

In 2021, 2 new IT services were added.

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Task 8.3b) Implementation of Office365 services at TUZVO.

Deadline: continuously, in 2021; **Responsibility:** Head of User Service Department

The task has been completed.

8.4 Build a modern, flexible, and interactive website.

Indicator: Number of web services and number of views.

		2017	2018	2019	2020	2021	2022	2023
Number of web services and number of views	number	8/-	9/926,390	10/997,116	10/1,147,501	10/1,370,113		

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Task 8.4a) Modernization of the website.

Deadline: continuously, in 2022; **Responsibility:** Webmaster

10 new web services were added and the number of views of the website increased to 1,370,113 compared to 2020.

The task is carried out on an ongoing basis.

8.5 To optimise supporting information systems to improve the quality of own activities.

Indicator: Number of interconnections of information and communication systems.

		2017	2018	2019	2020	2021	2022	2023
Number of interconnections of information and communication systems	number	31	33	35	34	34		

The indicator points to the fulfilment of the measure, it remains scheduled to continue in 2022.

Library and information services

8.6 To develop information support for the educational process (information needs, information literacy of TU Zvolen students and library users).

Indicator: Number and range of outputs of information seminars.

		2017	2018	2019	2020	2021	2022	2023
Number and reach of outputs of information seminars	number	17 seminars 266 students 2 introductory instructional lectures / enrolments - 1st year students	25 seminars 350 students 2 introductory instructional lectures / enrolments - 1st year students	22 seminars 400 students 2 introductory instructional lectures / enrolments - 1st year students	15 seminars and webinars - access to the EIZ - webinars and online training	6 seminars and webinars - access to the EIZ - webinars and online training		

Task 8.6a) Identifying and meeting the information needs and requirements of the educational process.

Deadline: permanently; **Responsibility:** Director of SLDK

Information support for study programmes at TUZVO, continuous communication with teaching and research staff, meeting the information requirements and needs of the educational and research process.

The implementation of this task is scheduled to continue.

Task 8.6b) Providing information education for students and PhD. students at TUZVO and other library users - information seminars according to target groups.

Deadline: permanently; **Responsibility:** Director of SLDK

The Slovak Forestry and Wood Sciences Library within the framework of information education continuously implements information seminars for students and PhD students at TUZVO aimed at acquiring information competences and skills.

In 2021, due to the ongoing pandemic situation in Slovakia and the measures taken in connection with the COVID-19 disease, providing distance learning at all levels of higher education at TUZVO, information education took place in the online space in the form of online consultations and accessible webinars on the use of electronic information resources.

At the beginning of the winter semester of the academic year 2021/2022, a nationwide survey of information literacy was carried out, which involved students at Slovak faculties and universities, including students at TUZVO. The questionnaire survey was conducted online, it was carried out within the project of the Slovak Association of Libraries, the results of the survey are available on the website of the Slovak Association of Libraries.

The implementation of this task is scheduled to continue.

Task 8.6c) Continuous training of SLDK staff providing information education to users.

Deadline: permanently; **Responsibility:** Director of SLDK

In 2021, SLDK staff involved in information education of users participated in educational and professional events, seminars and webinars organized by professional and educational institutions - the Centre for Scientific and Technical Information, the Slovak National Library, expert professional library associations - the Slovak Library Association, the Slovak Academic Information Agency, etc., they also participated in information webinars focused on working with electronic information resources.

Within the nationwide project of the Slovak Association of Libraries, focused on information education, one of the main activities of which was an online questionnaire survey of university students and also involved students at TUZVO, were the online seminars Let's talk about information education I., and Let's talk about information education II., which included expert lectures by lecturers of information education also with foreign participation.

Current tasks in publication processing and tasks related to information education were solved by electronic communication.

The implementation of this task is scheduled to continue.

8.7 To provide information support for scientific research, creative and artistic activities.

Indicator: Number of library units purchased, and electronic resources made available.

		2017	2018	2019	2020	2021	2022	2023
Number of library units purchased, and electronic resources made available	number	1,076 kn.j 36 EIZ 15 testing approaches	839 lib. units 35 EIZ testing approaches	975 lib. units 36 EIZ testing approaches	726 lib. units 36 EIZ testing approaches	639 lib. units 36 EIZ testing approaches		

Task 8.7a) Acquisition of library collection and electronic information resources with a view to effective support of educational and scientific research activities.

Deadline: continuously, in 2021; **Responsibility:** Director of SLDK

In 2021, SLDK ensured the acquisition of professional periodical and standardization literature and electronic information resources for students and staff of TU Zvolen. 289 library units (lib. units) in the total number of 5 259,59 were purchased to the library collection of SLDK from the subsidy funds, with emphasis on supplementing the current study literature. The acquisition of professional periodical literature and electronic information resources amounted to EUR 24,652,71.

Traditionally, the exhibition of foreign professional book literature under the title *LITERATURE-EXPLORATION-KNOWLEDGE-SCIENCE* Slovart-GTG, 9th year, which took place online during the Week of Science and Technology 2021, was also aimed at supporting the acquisition activities. The Slovak Forestry and Wood Sciences Library also provided accesses to electronic information resources acquired within the framework of national projects, accesses to the Gale database, the national licence and the JSTOR database, paid for from the funds of the TUZVO.

The STN-online service and the provision of remote access to the EIZ via EZproxy (subscription for the year 2022 in the value of EUR 2,627.40 paid from the SLDK funds for Goods and Services) were also made available to the users of TUZVO and SLDK.

The implementation of this task is scheduled to continue.

Task 8.7b) *Raising funds to support library and acquisition activities also from extra-budgetary sources.*

Deadline: continuously, in 2021; **Responsibility:** Director of SLDK

From extra-budgetary sources, from the Fund for the Support of the Arts, the SLDK received a grant for the expansion of the library's collection in the total amount of EUR 3,500 in 2020 under the sub-programme Acquisition of libraries. The funds from the project for the purchase of book literature were drawn in 2021, the project was completed in May 2021. A total of 201 lib. units were purchased under the project.

In 2021, the Slovak Forestry and Wood Sciences Library received grant funds worth EUR 6 000 from the project of the Fund for the Support of Arts; the project will be completed by 30 June 2022.

SLDK also provided the acquisition of professional books, periodicals, and standardization literature from the grant funds of TUZVO in the total value of 9 500,10 EUR. From the grant funds of TUZVO, professional book literature was purchased for the sub-libraries in the value of EUR 7,322,22, 149 lib. units, the purchase of periodical and standardisation literature was in the value of EUR 2,177,88.

The implementation of this task is scheduled to continue.

Task 8.7c) *Information support for scientific research activities, access to library collections and electronic information resources, expansion, and use of access to EIZ also through projects.*

Deadline: permanently; **Responsibility:** Director of SLDK

The SLDK provided access to external electronic information resources (EIZ) and made available temporary trial access to databases. On an ongoing basis during 2021, it provided access to electronic information resources freely available on the Internet, access to webinars and online training aimed at presenting new search options and tools, supporting the effective use of EIZ, and supporting the use of information management and management tools. Accesses to electronic licensed information resources were provided within the framework of the national project *Research and Development Information System - Accesses to databases for the needs of research institutions* (NISPEZ IV) until 2022 and to electronic information resources funded by the Ministry of Education, Science, Research and Sport of the Slovak Republic with the financial participation of universities allocated under the 2021 subsidy for the EIZ.

The implementation of this task is scheduled to continue.

8.8 Record and register publication activity.

Indicator: Number of outputs in the database of publications and reviews of TUZVO staff.

		2017	2018	2019	2020	2021	2022	2023
Number of records in the database of publications and reports of TUZVO staff (EPCA)	number	36,008	37,089	38,566	39,335	39,951		
Number of responses in the database (EPCA) of which WOS, Scopus (in foreign and domestic indexes)	number	34,207/ 11,049	38,194/ 14,015	44,033/ 18,678	49,032/ 23,125	54,070/ 27,296		

Indicator: Number of outputs in the database of publications and reviews of TUZVO staff.

		2017	2018	2019	2020	2021	2022	2023
Number of outputs in the database of publications and reviews of TUZVO staff	number	723 outputs 22,000 records	750 outputs 22,600 records	780 outputs 23,000 records	1,248 outputs 647 publishing activity 601 reviews 30,000 records	1,250 outputs 650 publishing activity 600 reviews 35,000 records		

Task 8.8a) Registration of publication activities of TUZVO staff in the nationwide online database of the Central Register of Publications and Citations (CREPČ 2).

Deadline: permanently; **Responsibility:** Director of SLDK

In 2021, even in difficult conditions in communication with authors of publications, the SLDK continuously systematically processed publication activity, dually, in the ARL library-information system and in the Central Register of Publication Activity (CREPČ). The reasons for the dual processing have not changed since 2020 (maintaining the continuous possibility of generating outputs according to various criteria for the needs of evaluation of authors and departments of TUZVO, accreditation, annual reports, etc.). In the reporting period 2021 (from 01.02.2021 - 31.01.2022) 754 records were processed in the online database CREPČ.

In 2021, in the Central Register of Publication Activity, data imports from the CREPČ 1 database to the online CREPČ 2 databases, which were carried out in several stages - a nationwide task in accordance with the requirements of the Department for Science Evaluation of the Centre for Scientific and Technical Information of the Slovak Republic. The aim of the import was to transfer all records from CREP1 to CREPČ 2, while maintaining the correct record keeping. By merging the content of the records of both registers CREPČ 1 and CREPČ 2, a better usability and completeness of the records of publication activity in CREPČ with retrospective from 2007 is achieved. All import phases were preceded by thorough editing of the records, their deduplication, and the creation of new records (mainly authoritative). All these activities were delegated by the CVTI SR to academic libraries, which had to manage the editing of records in CREPČ within their limited staff capacities. The aim of editing the CREPČ register was to ensure correct matching of persons, institutions, editions, source documents and to ensure import into the correct forms. In 2021, up to 4,350 records were revised in the CREPČ system in accordance with the above requirements (corrections and modifications were carried out by the SLDK staff responsible for the publication register).

The reporting year 2021 was the last year of processing according to the Decree of the Ministry of Education, Science, Research and Sport of the Slovak Republic No. 456/2012 Coll. The SLDK also had to focus its activities on the creation of EPCA data analyses for the necessary preparation of the continuous implementation of the new Decree of the Ministry of Education, Science, Research and Sport of the Slovak Republic No. 397/2020 Coll. on the Central Register of Publication Activity and the Central Register of Artistic Activity into the library system.

The implementation of this task is scheduled to continue.

Task 8.8b) *Management of the staff entities and departments of the TUZVO in the CREPČ 2 system.*
Deadline: permanently; **Responsibility:** Director of SLDK

The task continued in 2021 - management of entities of TU Zvolen staff and departments in the CREPČ 2 system - due to changes at the university in connection with renaming, cancelling, or merging of departments, it requires continuous updating of data in CREPČ 2. The management of TUZVO departments in CREPČ 2 is handled on an ongoing basis.

Streamlining the process of processing and managing the entities of TUZVO employees in CREPČ 2 requires the delivery of continuous updated lists to the SLDK, at least twice a year (at the beginning of the academic year and at the beginning of the calendar year), namely: full-time positions, changed positions, update of titles of creative staff of TUZVO; update of workplaces within TUZVO; current lists of PhD students (internal and external; year of birth - mandatory data in CREPČ, start and end of PhD studies, workplace of TUZVO). For registration in the CREPČ 2 system, it is important to update the working hours and work assignments of the creative staff within TUZVO - the update is necessary in the national register of CREPČ 2, to meet the conditions for obtaining state subsidies, but also in the ARL library and information system.

The implementation of this task is scheduled to continue.

Task 8.8c) *Building a Database of publications and reviews of TUZVO staff, comprehensively supplemented with reviews taken from the WoS and Scopus citation databases and sources available in the SLDK.*

Deadline: permanently; **Responsibility:** Director of SLDK

Pursuant to § 8 of Decree No.397/2020 of the Ministry of Education, Science, Research and Sport of the Slovak Republic on the central register of publication activity and the central register of artistic activity, effective from 1 January 2021, the registration and categorisation of publication activity outputs, artistic activity outputs, responses to publication activity outputs and artistic activity outputs shall be carried out by 31 January 2021, with the deadline of 31 January 2021. The registration of publication activity in the 2021 reporting period was governed by Decree No. 456/2012 Coll. of the Ministry of Education, Science, Research and Sport of the Slovak Republic No. 456/2012 Coll. The registration, categorisation and verification of publication activity remain unaffected by the legislation in force to 1 February 2022. In 2021, the database of publications and reviews of TUZVO employees (EPCA) was continuously updated and supplemented by the publishing and review processors with the latest processed records and reviews from the WoS and Scopus citation databases through the special functionality of the EPCA module. EPCA SLDK database (to 17. 01. 2022) 39,951 records; database increase in 2021 for the mentioned period was 616 records. Number of citations in EPCA database (to 17. 01. 2022) total of 54,070 records, database increase in 2021 was of 5,038 records, of which: WOS, SCOPUS citations - category (1,2) total of 27,296 records; increase of citations category (1,2) in EPCA database for 2021: 4,171 records. 6,500 citations were modified in the EPCA SLDK database (updating bibliographic data, citation metrics).

For the creative staff of TUZVO, there were processed and completed documents of publications and responses to habilitation and inauguration proceedings during the year.

SLDK continuously processed documents for the needs of comprehensive accreditation - registration of publishing activities, updating of reports from citation databases Web of Science, Scopus, and other sources to the EPCA SLDK database.

The implementation of this task is scheduled to continue.

8.9 Develop library and information services and marketing communications.

Indicator: Number of outputs and new services.

		2017	2018	2019	2020	2021	2022	2023
Number of outputs and new services	number	1	2	3	3	4		
Total number of searches (EIZ, databases)	number	1,045	1,881	1,918	2,448	2,472		

Indicator: Number of scientific and professional events

		2017	2018	2019	2020	2021	2022	2023
Number of scientific and professional events	number	48 events 1,300 participants	51 events more than 1,300 participants	44 events 1,500 participants	20 events including online	18 events including online		

Task 8.9a) Provision of library and information services to students, postgraduate students, and staff of TUZVO and other users of SLDK.

Deadline: continuously, in 2021; **Responsibility:** Director of SLDK

Library and information services of the SLDK - due to the continuation of distance learning in all levels of higher education at the TUZVO in the summer semester 2020/2021, due to the COVID-19 pandemics and ongoing reconstruction works - replacement of windows in the entire building of the SLDK, were provided mostly through electronic services for TUZVO students and staff TUZVO during the year 2021

The STN-online service was also available to students and staff of TU Zvolen in 2021 - access to all Slovak technical standards and technical standardization information introduced into the STN system. SLDK makes the STN-online service available in accordance with the current legislation, Act No. 60/2018 Coll. on Technical Standardization and Decree No. 76/2019 of the Slovak Office for Standardization, Metrology and Testing. The STN-online service was made available based on a service contract for a period of one year, i. e., from 01.02.2021 to 31.01.2022.

In the summer semester of the academic year 2020/2021, during the period with distance learning, because of the measures adopted in relation to the COVID-19 pandemics at TUZVO, the students and staff of TUZVO was also provided by the Office for Standardization, Metrology and Testing of the Slovak Republic, at the request of TUZVO and SLDK, with available remote access to the STN-online service.

SLDK continued to provide students of TUZVO with access to the citation manager Citace PRO - a tool for automatic generation and management of citations, which supports more than 8,000 citations styles: the possibilities of using the citation manager when elaborating the final theses.

Continuous expansion of the offer of information services - electronic information resources for the second level students, PhD students and staff of TUZVO, as well as freely accessible electronic information resources.

Virtual reading rooms provide access to study and professional literature, university coursebooks and university textbooks in digitized form and serve to support the education of students at Slovak faculties and universities. The Virtual Reading Room of digitized documents of TUZVO - a new service for students, included study literature and scripts published in the Publishing House of TUZVO in the MediaINFO environment, which provides secure access to publications. The digital full-text content is accessible to students of TUZVO in the computer network - in the SLDK study rooms and remote access to the Virtual Reading Room is possible via the **Virtual Private Network** (VPN) of TUZVO. Access to the Virtual Reading Room: <https://digitalnakniznica.cvtisr.sk/page/tuzvo>. Information is also available on the SLDK website: <https://sldk.tuzvo.sk/sk/virtualna-studovna-tuzvo-0>.

During 2021, TUZVO students were also able to use a new self-service return box for the return of borrowed literature, located in the exterior of the library - thanks to the acquisition of university-wide resources.

The implementation of this task is scheduled to continue.

***Task 8.9b)** Organisation of scientific and professional events for SLDK users and the public, use of marketing communication.*

***Deadline:** permanently; **Responsibility:** Director of SLDK*

Educational and professional events - planned professional and educational events within the approved Plan of Scientific and Professional Events (VOP plan) for 2021 were implemented in a limited scope, mainly in the online environment. On 22 July 2021, the 13th edition of the Information Day on the European Landscape Convention (EDoC) 2021 was held in cooperation with FEE and Slovak Environment Agency with the keeping of the preventive epidemiological measures in the Congress Centre of TUZVO. The SLOVART *Literature-Research-Knowledge-Science* exhibition of foreign language literature, 9th edition, organized during the Week of Science and Technology in Slovakia and other professional events - SAIA seminars, webinars, EIZ information seminars, were held in the online space.

Professional events were promoted on the website of the library and the university, as well as on social networks (Facebook); the library's website was updated continuously.

The implementation of this task is scheduled to continue.

***Task 8.9c)** Updating the internal documents of the SLDK.*

***Deadline:** continuously, in 2021; **Responsibility:** Director of SLDK*

Granting permission to cite a part of a Slovak technical standard (STN) or technical standardization information (TNI) according to Act No. 60/2018 Coll. on Technical Standardization for Students and Employees of TUZVO.

The Slovak Office for Standardization, Metrology and Testing has granted consent to TUZVO for gratuitous citation of essential/non-essential parts of STN or TNI pursuant to § 14 (6) (a, b) of Act No. 60/2018 Coll. on Technical Standardization. General consent for citation of standards for students

and staff of TUZVO was also granted in 2021, valid for one year until 18 June 2022, the agenda is provided by SLDK.

Consent is granted for the purposes of:

- a) Education within the framework of an accredited study programme at a higher education institution or continuing education and attestation of teaching staff and non-commercial professional staff.
- b) Final thesis in the framework of higher education or the final thesis in the framework of continuing education of teaching staff and professional staff of a non-commercial nature and the attestation thesis of a teaching staff member and a professional staff member.

The general consent granted does not serve for the purpose of publication.

Guideline for the staff of TUZVO - registration of publication activity in the CREPČ for the reporting period 2022 in accordance with the Decree of the Ministry of Education, Science, Research and Sport of the Slovak Republic No. 397/2020 Coll. on the Central Register of Publication Activity and the Central Register of Artistic Activity (CREPČ), updated EPCA SLDK form - preparation of documents.

Update of internal regulations - ODs TUZVO according to valid legislation - Decree of the Ministry of Education, Science, Research and Sport of the Slovak Republic No. 397/2020 Coll. (CREPČ) - OD No. 3/2015 Principles of Editorial Activities - proposal for updating - basis - preparation of Amendment No. 2 to OS No. 3/2015 Principles of editorial activities at TUZVO.

OD No. 7/2013 on Bibliographic Registration and Categorization of Publications, Artistic activities, and Reviews at TUZVO - preparation of documents; update of OS - currently in progress.

The implementation of this task is scheduled to continue.

8.10 *Ensure the development of the ARL library and information system.*

Indicator: *Number of outputs and their impact.*

		2017	2018	2019	2020	2021	2022	2023
Number of outputs and their impact	number	4	5	4	4	4		

Task 8.10a) *Implementation of regular upgrade of LIS ARL in the client part.*

Deadline: *permanent; Responsibility:* *Director of SLDK, ARL LIS Administrator*

The annual upgrade of the ARL library and information system was carried out in June 2021, mainly in the server and online catalogue (IPAC). In the online catalogue, new user options for various notifications, payment overview, and administrative appearance settings have been completed. Changes in the client part were related to several modules, especially in the Loan module, there were made easier sending messages to users, setting and display of user activities, new options for making payments from the account, etc. In the EPCA module, the selection criteria, e. g., Quartile JCR and Quartile SJR, for the creation of outputs have been completed. For the registration of records in licensed resources, functionality for simplified linking of records with ARL has been added.

After the general upgrade on the ARL server, some new settings had to be made for the SLDK due to the library's specific workflows. In September, the regular annual import of the latest scientometric data into the EPCA database were provided.

In 2021, ARL administration activities were more focused on preparing changes to the EPCA module. This involved the preparation of new EPCA processing forms for each type of document separately, the definition of new (at least basic) display formats, new criteria, and limits for EPCA outputs. These activities will continue intensively in 2022.

SLDK users continued to be able to access electronic licensed resources by remote access through the library's online catalogue via the new EZproxy license, extended to 2022 at the end of 2021.

The implementation of this task is scheduled to continue.

Task 8.10b) *Launch of the new ARL module for EUCA processing in routine operation.*

Deadline: continuously, in 2021; **Responsibility:** Director of SLDK, ARL LIS Administrator

The preparation of changes in the ARL library-information system related to the implementation of the new Decree of the Ministry of Education, Science, Research and Sport of the Slovak Republic No. 397/2020 Coll. on the central register of the record of publishing activity and the central register of the record of artistic activity also influenced the performance of the task of linking the EUCA module with the UIS. The implementation brought many fundamental changes in the processing of EPCA and EUCA. The new legislation will also affect the existing web service for importing records from the ARL to the UIS and will require major changes in the setup of this service. The processing of EUCA in the CREPČ will also be migrated to a different platform with the new legislation, which will be identical to the CREPČ 2 system. In 2021, no information and technical documentation was available that would have allowed a thorough preparation of the implementation of EUCA in the ARL system. For this reason, it was not efficient to spend limited work capacity in 2021 on a task that will require radical changes in the following year.

The implementation of this task is scheduled to continue in 2022.

Task 8.10c) *Ensure the implementation of communication between LIS ARL and CREPČ 2 systems in the SLDK environment.*

Deadline: permanent; **Responsibility:** Director of SLDK, ARL LIS Administrator

The Slovak Forestry and Wood Sciences Library actively cooperated with Cosmotron during the year, and the regular activities included also preparatory activities related to the implementation of the new legislation - Decree of the Ministry of Education, Science, Research and Sport of the Slovak Republic No. 397/2020 Coll. on the Central Register of Publication Activity and the Central Register of Artistic Activity. The activities were focused on the analysis and testing of the new XML schema, which reflects the changes in the EPCA legislation. Testing of the functionality of the import from ARL to CREPČ was carried out repeatedly until any initial problems were resolved. The implementation process will continue in 2022. The implementation of the changes and modifications under the new decree also requires securing the financial requirements for the modification of the library and information system.

The implementation of this task is scheduled to continue.

Task 8.10d) *Ensure the implementation of the new ARL functionality for archiving and accessing full-text documents - Content server.*

Deadline: continuously, until 2023; **Responsibility:** Director of SLDK, ARL LIS Administrator

New ARL functionality for archiving and accessing full texts of documents Content server - due to the financial complexity of the task and the reduction of the subsidy from the Ministry of Education, Science, Research and Sport of the Slovak Republic in 2022, it will be problematic to ensure the solution of the task.

The implementation of this task is scheduled to continue.

Task 8.10e) *Ensure seamless integration of LIS ARL and UIS (Science and Research module).*

Deadline: permanent; **Responsibility:** Director of SLDK, ARL LIS Administrator

Communication and cooperation between SLDK and CIT regarding solving problems related to publishing in the university information system continued in 2021.

Ongoing implementation of the task.

Evaluation of the implementation of the LTP measures in 2021 in area 8 - Information systems and technology, library, and information services

From the above-mentioned countdown of the fulfilment of measures and their elaboration into individual tasks from the indicators (measurable indicators), some tasks in the field of IST have been completed, the completion of others will continue in 2022 as well.

Conclusions

The year 2021 was the fifth year of implementation of the Long-Term Plan of TUZVO for 2017-2023. Measurable indicators show that despite the adverse effects of the economic and social situation, in particular because of the ongoing COVID-19 pandemic, planned progress has been made on almost all measures and tasks.

Some of the tasks will continue in the upcoming year. Some tasks have been updated and will form part of the plan to ensure the delivery of the LTP in 2022. It is realistic to assume that this update will enable the strategic objectives of all the main areas of the University's activities to be achieved and ultimately the strategic objective of the TUZVO will be met.