FME TUL

SP FME TUL +2030

Strategic Plan
for Educational and Creative Activities
of the Faculty of Mechanical Engineering,
of the Technical university of Liberec

2026–2030

Education for responsibility toward sustainable social development.
Through education to literacy and civic responsibility.
Through science and research toward education and learning.

The Scientific Council of the FME TUL discussed this on May 6, 2026.
Approved by the Academic Senate of the FME TUL on May 13, 2026.

Mission

The Faculty of Mechanical Engineering is the founding faculty of the Technical University of Liberec and carries on the tradition of technical higher education. It was founded in 1953 as the College of Mechanical Engineering and laid the foundations for the development of higher education in Liberec.

The Faculty of Mechanical Engineering distinguishes itself as an engineering faculty built on university principles, which it develops and strengthens through its activities.

Education, research, and social responsibility are the faculty's mission, and together with the sense of community within the faculty, they form the pillars of the activities that the faculty inherently provides.

Vision

The Faculty of Mechanical Engineering is a recognized and respected faculty with a tradition in technical education.

The Faculty of Mechanical Engineering holds a leading position in the region and a significant position in the national and international spheres, with an interdisciplinary scope of activity.

The Faculty of Mechanical Engineering combines technical education with creative scientific research and actively contributes to industrial development. It fosters an environment based on expertise, openness, responsibility, and respect for academic freedom. It supports the personal development of students and staff.

Operation Principles

The Faculty of Mechanical Engineering adheres to the mission of higher education institutions as defined by the Higher Education Act and bases its activities on:

- Independence, Responsibility, Solidarity
- Partnership and Cooperation
- Global Reach and Internationalization
- Interdisciplinarity and the Convergence of Scientific Fields and Disciplines

Contents

Strategic Areas

Introduction

The Strategic Plan for Educational and Creative Activities of the Faculty of Mechanical Engineering of TUL for the Period 2021–2030 (SZ FME TUL 2030) is a document in which the Faculty of Mechanical Engineering of TUL outlines priority areas, goals, and a set of measures and activities that will lead to the achievement of the 2030 target state.

The Faculty of Mechanical Engineering of TUL aims to build on the results achieved in 2021–2025 during the 2026–2030 period, drawing on evaluation results, and respond to security and technological challenges and risks associated with the international situation, to technological challenges in the field of digitalization, to the rapid rise of artificial intelligence, which raises ethical questions, among other thingsand to strengthen the openness of the environment and the internationalization of activities.

Over the past five years, the faculty, together with the University, successfully managed the 2022 coronavirus pandemic; the transition to o-nline instruction proceeded without major difficulties, and the experience advanced us in the area of methodological and innovative approaches to teaching. Our technology for producing nanofiber materials helped the Liberec Region manage the pandemic.

Over the past five years, the faculty has undergone several evaluation processes, habilitation and professorial accreditations, institutional accreditation in the field of 27 Mechanical Engineering, Technology, and Materials, an evaluation by the International Evaluation Panel in 2018 and in 2023 – the results firmly establish the Faculty of Mechanical Engineering within the educational and scientific-research landscape.

In 2023, the Faculty of Mechanical Engineering of TUL celebrated its 70th anniversary as a founding faculty alongside the Technical University of Liberec. Hundreds of participants – our proud female graduates and graduates – are our greatest recognition, inspiration, and at the same time a commitment to the development of the field of mechanical engineering.

The SZ FME TUL 2030 has been developed in accordance with the Strategic Plan for Educational and Creative Activities and the TUL Internationalization Strategy for the period 2021–2025 with a vision to 2030, and builds upon other disciplinary and conceptual documents.
The strategic areas and goals for 2026–2030 remain the same; the sub-goals are being gradually fulfilled and are shifting slightly to reflect the faculty's new needs and, in particular, to respond to external stimuli.
In all areas of activity, the faculty will support initiatives that lead to the elimination of weaknesses and the strengthening of strengths, the exploitation of opportunities, and the mitigation of threats. At the same time, standard activities will be carried out in individual areas of operation, and established and proven activities will continue.

SZ FME TUL 2030 is a living document that is discussed annually in connection with the Implementation Plan for the SZ FME TUL for the relevant year.
An evaluation and assessment of the fulfillment of objectives was conducted in 2025 in connection with the preparation of measures and activities through 2030.

Guidelines for scientific, research, development, innovation, artistic, and other creative activities for the period 2026–2030

Act No. 111/1998 Coll., on Higher Education Institutions
TUL Strategic Development Plan 2020–2025 with an outlook to 2030
Strategic Plan of the Ministry of Education, Youth and Sports of the Czech Republic for Higher Education for the Period from 2021 Onward
Liberec Region Development Strategy 2021–2027
National RIS3 Strategy
Strategic Framework for European Cooperation in Education and Training ET 2020
National Strategic Documents
Current related documents valid in 2025
FME TUL Research, Development, and Innovation Strategy +2030
Annual Reports on the Activities and Financial Management of the FME TUL
Internal Evaluation Processes and Recommendations of the TUL Research and Development Council
Proceedings on the Granting of Institutional Accreditation to TUL
Evaluation of the 2019–2023 Period by the M2025+ International Evaluation Panel

Process Steps

- The Strategic Plan for Educational and Creative Activities of the FME of TUL for the 2021–2025 Period with a outlook to 2030 was presented on June 9, 2021, to the Academic community of the FME of TUL; on June 16, 2021, it was discussed by the Scientific Council of the FME of TUL and approved by the Academic Senate of the FME TUL.
- The process of drafting and discussing the FME TUL Research Strategy 2021–2025 seamlessly followed the process of discussions, drafting, and deliberation of the FME TUL VVI Strategy +2030, as well as the preparation and evaluation of the faculty and university by the M2017+ International Evaluation Panel in 2020.
- The process of updating and discussing the FME TUL Strategic Plan for 2026–2030 seamlessly followed on the aforementioned steps, evaluation processes, and conclusions: Implementation and evaluation plans for the FME TUL Strategy for the relevant year. Institutional accreditation for the field of education 27 Mechanical Engineering, Technology, and Materials in 2023. The evaluation of the 2019–2023 period by the International Evaluation Panel according to the 2025+ methodology took place in 2024; the conclusions are reflected in the goals and measures for the years 2026–2030. Evaluation of the implementation of the FME TUL Strategic Plan for 2021–2025. The evaluation of the FME TUL Science research programs and the review by external evaluators took place in 2025.

A / Education and Study

Strategic Goal 2030

- The Faculty of Mechanical Engineering ranks among the leading faculties in the field of technical education.
- The Faculty of Mechanical Engineering educates high-quality graduates for industrial practice, professional life and scientific research careers.
- In all its activities, the Faculty of Mechanical Engineering reflects the changing demands of industry, new challenges, and interdisciplinarity.
- The Faculty of Mechanical Engineering offers lifelong learning across a wide range of specializations.
- The Faculty of Mechanical Engineering is part of the international education and research community.

Evaluation of the 2021–2025 Period

In the area of education and study, the faculty's activities focused on preparing an application for TUL institutional accreditation in the field of education 27 Mechanical Engineering, Technology and Materials. Institutional accreditation was granted in 2024 for a period of 10 years. The Faculty of Mechanical Engineering covers the entire spectrum of Education Area 27.

The faculty guarantees instruction in both full-time and blended formats for the bachelor's degree program, in six master's degree programs, and in three doctoral degree programs in Education Area 27: Mechanical Engineering, Technology and Materials. a master's program in Field 7: Energy, has not been launched. All study programs are accredited in English and are university-oriented.

The bachelor's program is supported by a strong theoretical foundation to prepare graduates for further study. Over the past five years, practical and experimental instruction, as well as opportunities for students to specialize through elective courses and bachelor's thesis topics.

In 2023, the faculty successfully defended its accreditation for the doctoral study programs in Technology and Materials and Mechanical Engineering and Equipment for a period of 10 years, until 2033. In the same fields, it received accreditation to conduct habilitation proceedings and proceedings for the appointment of professors until 2033.

In the area of professionally oriented study programs, the faculty participated in the preparation of the professional bachelor's study program in Systems Engineering and Logistics, which is administered by the TUL Faculty of Economics; the Faculty of Mechanical Engineering provides 40% of the instruction. The program was accredited, and instruction began in the 2025/2026 academic year.

In 2024, preparations began for a professionally oriented bachelor's degree program in Sustainable Engineering, overseen by the Faculty of Mechanical Engineering. The program was accredited for full-time study for a period of five years, and classes will begin in the 2026–2027 academic year.

In 2023, the faculty received accreditation for habilitation proceedings and proceedings for appointment as a professor in the fields of Technology and Materials and Mechanical Engineering for a period of 10 years.
Since 2014, the faculty has been providing instruction to self-paying international students and government scholarship recipients in English-language master's and doctoral programs.
Study parameters, over a 5–10 year period, in terms of interest in the program, study progression and completion rates, with slight fluctuations.
Demand for graduates of master's and doctoral programs is high. Funding for educational activities has remained stable over the past 5 years.
Regarding the evaluation of the quality of activities, rules and standards have been established, a system for evaluating the quality of studies by students and a system for feedback from graduates. The Council of Study Program Guarantors at the Faculty of Mechanical Engineering, TUL, has been established to assess and discusses the quality of educational activities. In the coming period, efforts will continue to strengthen study indicators and implement measures resulting from the evaluation of activities and the establishment of activity standards.
In 2020, educational activities were significantly impacted by the coronavirus pandemic. The situation has gradually returned to normal since 2022.
A critical factor is the lower interest among high school graduates in technical fields. According to the updated demographic forecast, the number of potential applicants for university studies is expected to grow relatively, given the size of the prevailing generations in the years 2023–2027. Universities in the Czech Republic could thus see 2023–2031, all other things being equal, an average of about one-fifth more applicants could apply to universities. Other parameters, such as the so-called participation rate in education or in university admissions processes, will remain unchanged.

A / Subareas and Objectives 2021–2025 / 2026–2030

Education

1/ Prepare and defend TUL's institutional accreditation in the field of education 27 Mechanical Engineering, Technology, and Materials.
2021–2025 Completed.
2026–2030 Establish TUL quality assurance standards in accordance with the ESG.

1.1/ Strengthen study parameters and implement measures resulting from the evaluation of activities and established activity standards.
2026–2030 Continue activities.

1.2/ Develop a concept for the study programs of the Faculty of Mechanical Engineering, prepare and defend accreditations. Participate in the university-wide discussion on the principles and vision of TUL's education, and incorporate the results into the vision for the Faculty of Mechanical Engineering's study programs for the 2028+ period.

2/ Prepare and defend the accreditation of doctoral study programs, habilitation and professorial procedures.
2021–2025 Completed for the fields of Machine and Equipment Design, Technology and Materials.
2026–2030 Ongoing for the field of Applied Mechanics.

3/ Subject the content of study programs to discussion with a view to defining the university standard, and graduate profile for technical study programs offered at TUL.
2021–2025 TUL study program standards revised.
2026–2030 Incorporate into the concept of study programs at the FME.

4/ Establish a study program system with greater module variability and flexibility in course selection for students across the university.
2021–2025 The academic focus of the bachelor's program has been strengthened.
2026–2030 The experience will be incorporated into the university-wide discussion on the educational concept.

5/ Define the role and goals of lifelong learning. Enable a more flexible response to societal trends and the educational demands of the labor market.
2025 Establish an institutional framework for the accreditation of micro-certificates.
2026–2030 Discuss the concept and, if appropriate, accredit micro-certified ourses.

6/ Strengthen the competencies of academic staff for educational activities in accordance with the TUL Career Regulations.
2021–2025 Career criteria established and career evaluation processes implemented.
2026–2030 Reduce the workload of faculty members associated with evaluation processes.

Bachelor's and Master's programs

7/ Aim to maintain or slightly increase the number of students and graduates in bachelor's and related master's degree programs.
2026–2030 Continue these activities.

8/ Increase academic success, i.e., optimize student admission criteria, analyze the causes of academic failure, and prevent it by implementing appropriate measures and activities.
2026–2030 Continue activities.

9/ Continuously innovate study programs, optimize the structure and content of study programs by improving the coherence and continuity of courses, continuously update course content in line with scientific research and modern knowledge, and develop teaching methods and formats.
2026–2030 Continue these activities.

10/ Implement the established teaching evaluation system, evaluate and publish the results, and actively respond to the evaluation results.
2026–2030 Continue with the established system.

11/ Develop established forms of cooperation with industry.

2021–2025 The forms and scope of collaboration have been significantly strengthened.
2026–2030 Continue these activities.

12/ Develop new forms of cooperation with secondary schools.
2022–2025 The forms and scope of cooperation have been significantly strengthened
2026–2030 Continue activities.

Doctoral studies

13/ Strengthen and consistently monitor the quality parameters of doctoral studies.
2026–2030 Continue these activities.

14/ Increase the success rate and quality of doctoral studies by strictly adhering to and strengthening established standards for doctoral studies and by improving the financial conditions of study, including incentive components.
2026–2030 Continue these activities.

15/ Aim to increase the number of doctoral students, ideally by recruiting graduates from other domestic and foreign universities.
2026–2030 Continue current activities.

16/ Strengthen the openness of doctoral studies by introducing dual supervision, known as "Cotutelle," consider the possibility of joint accreditations with institutes of the Czech Academy of Sciences, v.v.i., and strengthen the internationalization of doctoral studies.
2021–2025 Legislation has been enacted.
2026–2030 Continue activities to strengthen the internationalization of studies.

17/ Harmonize doctoral studies within TUL in terms of DSP requirements and standards, as well as in the organization of joint seminars, lectures, and activities.
2021–2025 The TUL Doctoral School has been established.
2026–2030 Strengthen the standards of doctoral studies.

18/ Digitize faculty administrative tasks related to the organization and implementation of doctoral studies.
2021–2025 Completed.

Internationalization in Education and Study

19/ Strengthen the international dimension of educational activities by involving students and fakulty in international educational activities and mobility programs. Seize opportunities to strengthen the internationalization of studies through TUL's participation in the RU-EU International Alliance.

20/ Organize short-term study stays and practical internships in combination with preparatory or final combined mobility programs, so-called "mobility windows."

21/ Integrate international students and faculty into the life of the academic community and strengthen the presence of international faculty at the Faculty of Mechanical Engineering.

22/ Maintain and strengthen instruction in English-language study programs, expand instruction to the bachelor's level, incorporate lectures and courses by foreign experts into the curriculum, and internationalize the study environment in all aspects.
23/ Continue negotiations on joint double-degree study programs, or discuss the option of accrediting a single NMSP in Mechanical Engineering exclusively in English.

Learning Environment and Student Creative Activities

24/ Introduce modern teaching methods and digital tools into the classroom, meaningfully incorporate elements of artificial intelligence into teaching. Develop practical and project-based teaching focused on solving real-world problems, including collaboration with the industry.
25/ Leverage experience from online teaching during the pandemic and apply it as a standard supplement to in-person instruction.
26/ Support students' extracurricular creative activities and involve students in the scientific research activities of departments, and support students' technically oriented activities and student clubs.
27/ Organize summer schools for students, encourage student participation in the TUL Student Scientific and Research Competition (SVOČ), as well as in university and non-university competitions, and support student entrepreneurship and student activities.
28/ Continue cooperation with industry, develop new forms of cooperation.

A / Status of Implementation / 19–28 /

2021–2025 A range of activities is documented in the Faculty's Annual Activity Reports.
2026–2030 Continue these activities.

A / Measures and Activities

- Continuously innovate study programs based on the results of scientific research and support the development of study materials.
- Implement the established system for evaluating study programs; incorporate conclusions and recommendations into changes that do not require accreditation.
- Implement measures to increase academic success in the Bachelor's Study Program (BSP), i.e., preparatory courses in mathematics and physics for prospective students, seminars for selected courses to support academic success, etc.
- Support and develop the established tutoring system.
- Offer lifelong learning courses that respond to new scientific and research findings and societal demands and trends.
- Support students' language skills and individual needs.
- Organize summer schools, senior projects for high school students, and other activities.
- Develop forms of cooperation with high schools, including discussions and measures to increase students' chances of successful college studies.
- Introduce new elements and digital tools into teaching using modern teaching methods.
- Continue with the established system of doctoral program activities, specifically by organizing doctoral student colloquia, specialized seminars, skills development

courses, professional seminars, English language courses, and study abroad programs.
- Support students' research activities as part of educational activities.
- Encourage student participation in student grant competition projects, particularly in the role of principal investigators.
- Strictly adhere to the fulfillment of individual study plans in doctoral programs.
- Strengthen students' education to acquire entrepreneurial skills and competencies by offering courses and other activities.
- Develop forms of promotion and presentation of the faculty in the areas of education and academic offerings.
- Continuously modernize classrooms and laboratories, software, enhance security features, etc.
- Strengthen the pedagogical competencies of faculty members and the quality of the educational process.
- Support supplementary pedagogical training for new faculty members and encourage further career development.
- Continue the system of evaluating teaching performance in relation to student learning outcomes through the student course evaluation survey and use the findings to inform educational activities.
- Increase the participation of faculty members and the proportion of foreign instructors in teaching within the Erasmus+ and CEEPUS programs as part of accredited study programs.
- Involve the applied sector in the implementation and evaluation of study programs.

Alignment with the goals and measures of the TUL Strategic Plan 2021–2030

A-1-1, A-1-2, A-1-4, A-1-7, A-1-9, A-1-12, A-2-1, A-2-2, A-2-3, A-3-1, A-3-2, A-3-3, A-3-6, A-3-7, A-3-8, C-1-1, C-1-2, C-1-3, C-1-7, C-1-8, C-2-1, C-2-3, C-4-2, C-4-3, C-4-5, C-4-6, C-5-4, D-1-1.

B / Research, Development, Innovation

Strategic Goal 2030

- The Faculty of Mechanical Engineering is an independent and recognized scientific research organization of European stature that upholds university principles.
- The Faculty of Mechanical Engineering is a financially stable research organization with a strong research base, which ensures the long-term prospects of research, development and innovation activities.
- The Faculty of Mechanical Engineering is a sought-after workplace for doctoral students from both Czech and foreign universities.
- The Faculty of Mechanical Engineering is part of research teams and projects within the university, the Czech Republic, and the international research community.

- The Faculty of Mechanical Engineering is a research institution with a well-developed infrastructure at the standard international level.

Evaluation of the 2021–2025 Period

The backbone of the Faculty of Mechanical Engineering's research is based on the strategic areas defined by the VVI FS TUL+2030 Strategy. The strategic program framework consists of research programs, which serve as the fundamental criteria for the operation or establishment of research teams, a platform for collaboration among departments, and the planning of human and financial resources.

A significant portion of the evaluated period consists of applied collaborative research supported funds from the Technology Agency of the Czech Republic, the Ministry of Industry and Trade of the Czech Republic, and the Ministry of the Interior of the Czech Republic. As part of the M2025+ evaluation (2019–2023), the faculty's research in Module 3 was rated as very good, with broad societal and applied impact, linked to the educational area.

Basic research is supported primarily by institutional funds; a weakness is participation in Czech Science Foundation. Despite insufficient participation in international projects, the total volume of funding has remained stable since 2023.

In 2018–2022, the Faculty of Mechanical Engineering served as the main coordinator and principal investigator of two university-wide interdisciplinary projects in excellent research and excellent pre-application research.

A strength of the faculty is its competitive scientific research infrastructure, which includes laboratory and office spaces, as well as instrumentation and machinery for laboratories and pilot plants. In the coming period, it is necessary to maintain and sensibly innovate the infrastructure, with an emphasis on safety aspects.

An indicator of the quality of scientific research activity is the structure and number of results and outputs. The results for the period in question show a trend toward an increase in the number of high-quality outputs and the number of patents granted abroad. Approximately 90% of the results classified under the Faculty of Mechanical Engineering are generated within Research Area 2. Engineering and Technology. Of these, FORD 2.3 Mechanical Engineering and 2.5 Materials Engineering consistently have the largest representation.

In connection with the implementation of the M2017+ Evaluation Methodology, there has been a change in the structure of scientific research results. Among publication results, the number of articles in journals, particularly those with an impact factor, is increasing, while the number of contributions in conference proceedings is decreasing. Applied results used in practice are generated primarily through collaborative research between the Faculty of Mechanical Engineering and industrial partners.

In the evaluation of results in Modules 1 and 2, the results of authors and those with contributions from Faculty of Mechanical Engineering authors are rated very highly; the quality and number of evaluated publication and applied results are increasing. Results are evaluated primarily based on the criterion of Social Relevance.

For the coming period, it is desirable to focus research efforts on interdisciplinary projects and on stronger engagement with the international scientific research community. For bibliometrically measurable outputs, emphasis will be placed on quality; for applied

results, on applicability and commercialization potential. The coming period will require a change in the organization of scientific research within the departments and, at the same time, will require a strategic shift in mindset across all university units and coordination by the university administration.
Compared to other engineering faculties, the Faculty of Mechanical Engineering is relatively small. The age structure indicates a generational shift among faculty members and is at a good level; the qualification structure shows a positive upward trend in terms of new associate professors. It is desirable to increase the number of promising academics in the position of professor. During the 2021–2025 period, the faculty was not able to strengthen its staff; there was a decrease in the total number of faculty employees by approximately 5%. The largest change in staff numbers occurred year-over-year in 2022/2023, which was caused by generational turnover in professor positions and a decline in researcher positions, resulting from a decrease in project funding due to the completion of major projects.

B / Subareas and Objectives 2021–2025 / 2026–2030

Scientific Research Activities

1/ Evaluate research programs and update the FME TUL R&D&I Strategy +2030.
2/ Strengthen basic and experimental research, coordinate the procedures of the departments of the Faculty of Mechanical Engineering and other university departments to enhance the quality and interdisciplinary nature of research as a key factor for the development of applied research and education.
3/ Strengthen research funding, coherence, and proportionality between basic and applied research.
4/ Develop and implement research programs, conduct regular internal evaluations in two-year cycles according to established criteria, and conduct independent external evaluations in five-year cycles. Subject the results to scientific discussion and conclusions.
5/ Increase the share of basic and experimental pre-application research, and enhance the quality of outputs and relevant publications.
6/ Establish cooperation with research institutes of the Czech Academy of Sciences, v.v.i., and with other research organizations, particularly through sectoral clusters and research centers.
7/ Make a significant contribution to achieving a B rating in the Ford 2000 field group.

International Dimension of RDI

8/ Strengthen the involvement of the faculty's academics in the international scientific community.
9/ Increase the involvement of research teams in international networks, platforms, and strategic partnerships.
10/ Increase participation and success in international grant competitions and participation in international project teams.

Human Resources

11/ Pay attention to the balance of research teams in relation to the evaluation of research programs, the sustainability of research programs, and education.

12/ Strengthen research teams by recruiting young academics, ideally from outside the university or, if necessary, from other departments within the university.

13/ Maintain, or slightly strengthen, the faculty's human resources department.

14/ Base personnel development on positions for doctoral students and postdoctoral positions.

15/ Introduce an individual career planning and succession system with the aim of increasing the proportion associate professors and professors, as recommended in the MEP 2025+ evaluation.

16/ Support young researchers in engaging in international scientific research activities, active participation in conferences, support for invited lectures, etc.

B / Status of Implementation / 1–14 /

2021–2025 A range of activities is documented in the Faculty's Annual Activity Reports.
2026–2030 Continue these activities.

B / Measures and Activities

- Discuss with TUL leadership conceptual and financial tools to support scientific research activities.
- Initiate a university-wide discussion on faculty research programs and subsequently define the outlines of TUL research platforms to strengthen and develop research capacities and the quality of research.
- Involve the faculty in national and international strategic activities aimed toward systemic measures to support the funding of scientific research activities.
- Strengthen excellence in selected areas, particularly in applied research.
- Support and motivate the scientific and research development of young researchers.
- Support the scientific growth and involvement of postdocs in scientific research activities.
- Effectively utilize academic staff and expand collaboration between departments with overlapping disciplines.
- Strengthen international professional engagement in bodies and scientific panels, editorial boards, societies, and scientific platforms.
- Implement and develop the established faculty incentive and support system to improve the quality of publication outcomes.
- Monitor the parameters of the evaluation system for the scientific and research activities of faculty departments, taking into account international projects and significant publications in relation to departmental motivation and the redistribution of funds.
- Support and encourage departments and staff to take responsibility for their publication, mobility, and project activities.
- Provide project, methodological, and publication support to faculty and students.
- Increase the proportion of publications featuring international authors.

- Support staff development and motivation for professional growth through financial instruments.
- Support the mobility of faculty members and doctoral students, with a focus on long-term stays at international institutions.
- Internationalize research activities and strengthen collaboration with international colleagues on research outputs and results with foreign colleagues.
- Promote scientific research activities and the results of scientific work.

Alignment with the goals and measures of the TUL Strategic Plan 2021–2030

B-2-1, B-2-2, B-2-3, B-2-4, B-2-6, B-3-1, B-3-2, B-3-3, B-3-4, C-1-6, C-4-6, C-5-2, C-5-3, D-1-1.

C / SOCIAL RESPONSIBILITY

Strategic Goal 2030

- The Faculty of Mechanical Engineering is a respected authority committed to social responsibility
  for the sustainable development of society.
- The Faculty of Mechanical Engineering supports the economic development of society and considers intellectual diversity to be a driving force for development.
- The Faculty of Mechanical Engineering is an independent institution of international stature in its relations with society and the industrial sector.
- The Faculty of Mechanical Engineering is a sought-after and highly regarded institution for collaborative and contract research, professional services, and activities.
- The Faculty of Mechanical Engineering views its shared responsibility for the region's development as one of the priorities of its work, rooted in tradition and its presence in the region.

Assessment of the 2021–2025 Period

The Faculty of Mechanical Engineering is an engineering faculty that promotes university principles, i.e., education based on science, research, and innovative approaches. In this context, the societal relevance of other activities i.e., their content, volume, and scope must be considered. Compared to other engineering faculties in the Czech Republic, the Faculty is relatively small, yet it offers the full spectrum of fundamental engineering disciplines necessary for the preservation and development of the field of Mechanical Engineering. Its social significance is irreplaceable in this regard.

Building on the tradition of the Technical University in Liberec and in accordance with the European concept of responsible research, the faculty views the third pillar as a service to society in the area of technology, knowledge, and service transfer. The range of activities includes collaborative and contract research, expert services, professional services, and lifelong learning for the industrial sector, which encompasses seminars and courses tailored to partners' requirements.

Collaborative scientific research projects yield a high number of applied results with significant potential for practical use and generate revenue from licensing agreements. Technical, technological, and design solutions lead to economic, social, and environmental benefits. The faculty carries out a significant volume of contract research addressing topics specified by Czech and foreign clients. The volume of contract research has increased slightly each year.
The Faculty is approached by external parties, which is due to tradition, awareness of the Faculty, and the high number of alumni collaborating with the Faculty.
The role of partners from the applied sector is irreplaceable in the Scientific Council of the Faculty of Mechanical Engineering at TUL, the Industrial Council of the Faculty of Mechanical Engineering at TUL, in state final examination committees, thesis consultations, and in other areas of the Faculty of Mechanical Engineering's activities.
The social relevance reflected in the activities and results of the Faculty of Mechanical Engineering was evaluated very positively by the International Evaluation Panel in 2025. In the structure of the final evaluation, a key strength of the faculty is its high-quality applied and contract research, in which the faculty is a technological leader that responds to the needs of the economy, public health and safety, and societal environmental challenges.
The Covid-19 situation in 2020 demonstrated the great potential of academic institutions in addressing societal problems and what the public expects from them. The Faculty of Mechanical Engineering has become a leader in the production of material for protective face masks and has met the protective needs of the Liberec Region. These new themes are reflected in the research activities of the updated Faculty of Mechanical Engineering R&D&I Strategy 2026–2030.

C / Subareas and Objectives 2021–2025 / 2026–2030

Cooperation with the applied sector in the field of scientific research link to Area B/VVI

1/ Maintain the scope, volume, and quality of scientific and research cooperation with the applied sector.
2/ Develop and offer new topics for contract research.
3/ Strengthen indicators of the quality and volume of technology transfer.
4/ Strengthen the range of scientific and research topics, results, services, and other forms of collaboration with the applied sector.

Cooperation with the applied sector in the field of education

5/ Strengthen existing forms of cooperation with the applied sector and involve external experts
in the educational process and in preparing students for their future careers and knowledge through internships and field trips.
6/ Develop forms of continuing education in the field of technical education, including education within the TUL University of the Third Age.

Cooperation with the external environment

7/ Develop interaction between the academic community and the non-university environment and strengthen the faculty's academic community's sense of responsibility for public affairs.
8/ Strengthen the faculty's national and regional roots by participating in the creation of strategic and development documents of the Liberec Region.
9/ Through intensive cooperation with regional and local governments, strengthen the faculty's role as a natural authority in the region.
10/ Stimulate public interest and offer activities for all generations in the fields of knowledge, science, and technology.

C / Status of Implementation / 1–10 /

2021–2025 A range of activities is documented in the Faculty's Annual Activity Reports.
2026–2030 Continue these activities.

C / Measures and Activities

- Continue to link the faculty's activities with the applied sphere in educational and scientific research activities at the current scope and in the current forms, and develop new forms of cooperation.
- Present a range of topics in line with the Faculty of Mechanical Engineering Strategy VVI +2030.
- Organize student internships in industrial companies; define topics for bachelor's, master's, and doctoral theses in collaboration with industrial partners.
- Support graduates' employability in the labor market by incorporating new knowledge into teaching and course innovations.
- Develop cooperation with the Faculty of Mechanical Engineering Industry Council, providing feedback on the faculty's activities.
- Develop new areas of contract research.
- Maintain ties and develop cooperation with the Faculty of Mechanical Engineering graduates working in industry.
- Strengthen the competencies of faculty members in the area of technology, knowledge, and service transfer; provide information and software support.
- Provide information and project support to academics, strengthen management related to pre-project and project activities and the successful transfer of research results, i.e., promotion and offers to establish partnerships, as well as legal and pre-commercialization support.
- Develop the presentation and promotion of the faculty, update offerings of scientific research topics, projects and results, services, collaboration, and education.
- Link offers for the transfer of technology, knowledge, and services to national and, where appropriate, international platforms.
- Involve the faculty in national and international platforms and institutions.

Alignment with the goals and measures of the TUL Strategic Plan 2021–2030

B-1-1, C-2-2, C-5-1, C-5-2, E-1-2, E-1-3, E-1-4, E-1-5, E-1-7.

D / Academic Community, Institutional Environment

Strategic Goal 2030

- The Faculty of Mechanical Engineering and its reputation are shaped and defined by people – students, alumni, faculty members, and other staff – who take pride in their affiliation with the Faculty of Mechanical Engineering.
- The Faculty of Mechanical Engineering is a respected authority and employer.
- From the perspective of students and alumni, the Faculty of Mechanical Engineering is an attractive and inspiring workplace.
- For academic staff, the Faculty of Mechanical Engineering is a workplace where they can exercise academic freedom with a sense of personal responsibility toward the faculty, the university, and society.

Assessment of the 2021–2025 Period

The Faculty of Mechanical Engineering has a stable workforce in terms of both the number of employees and full-time equivalents, and is fully staffed for education in Area 27. Compared to other mechanical engineering faculties, the Faculty of Mechanical Engineering is relatively small.

The key members of the scientific research teams are associate professors and professors; from the perspective of the faculty's sustainability and development, young academic staff in assistant professor positions and doctoral students also play a crucial role.

In terms of categories, academic staff outnumber researchers, and this structure will be maintained in the future. Teaching and education, the guarantee of study programs and courses and creative activities are and will continue to be based on core academic staff.

During the period, there was a decrease in the total number of faculty employees by approximately 5%. The largest change in the staff composition occurred year-over-year between 2022 and 2023, which was caused by generational turnover in professor positions and a decrease in researcher positions.

The number of habilitated staff, including women, increased. The proportion of women in the academic community, including non-academic positions, is 17%. Of the ten department heads in 2025, three departments were led by women. The representation of women in middle management positions at the Faculty of Mechanical Engineeri and in assistant positions in the departments is nearly absolute.

The faculty's organizational structure is based on the tradition of departments, which form the basic scientific and research units responsible for research programs and overseeing study programs.

The faculty is divided into departments and the Dean's Office. Currently, the faculty consists of ten departments. The Dean's Office comprises top-level strategic management represented by the dean and associate deans for relevant areas of activity, the secretary, and the administrative support staff, the Academic Affairs Department and the Department for Development and Projects.

The Faculty of Mechanical Engineering is a faculty with a strong tradition. The mechanical engineering industry in the Czech Republic has been a backbone industry since the time of the Austro-Hungarian Empire. Since its founding in 1953, the Faculty has made and continues to make a significant contribution to this tradition. Over the course of the existence of the College of Mechanical Engineering – College of Mechanical and Textile Engineering – Technical University of Liberec (TUL), more than eleven thousand students have graduated from our faculty.

D / Subareas and Objectives 2021–2025 / 2026–2030

Human Resources

1/ Stabilize the current number of academic staff, or slightly increase it, and strengthen interdisciplinary collaboration among departments.
2/ Strengthen research teams and departments by hiring young academics in the positions of assistant professors and associate professors.
3/ Strengthen the faculty's workforce diversity, ideally by recruiting from outside the university or, if necessary, from other university departments.
4/ Establish and implement an appropriate evaluation system for academic and other staff at the Faculty of Mechanical Engineering, based on the Principles of Personnel Policy of the Faculty of Mechanical Engineering at TUL.
2021–2025 Has been established.
5/ Strengthen the competencies of faculty members in individual areas of activity.

Community Area

6/ Organize community activities and discussion forums within the faculty to promote discussion and the exchange of experiences and opinions.
7/ Support student involvement in the faculty's academic self-governance and in student activities.

Cooperation with alumni

8/ Prepare events for the 75th anniversary of the founding of the Faculty of Mechanical Engineering. Organize diamond and gold graduation ceremonies for alumni.
9/ Continue cooperation in the areas of education, teaching, and scientific research.
10/ Expand forms of cooperation with alumni and hold alumni gatherings.
11/ Share the stories of our graduates.

D / Status of Implementation / 1–11 /

2021–2025 A range of activities is documented in the Faculty's Annual Activity Reports.
2026–2030 Continue these activities.

D / Measures and Activities

- Optimize the evaluation system for academic and other staff, taking into account teaching, scientific research and creative activities, results, and other activities.

- Support and motivate young researchers.
- Support the scientific growth and involvement of postdocs in scientific research activities.
- Implement an open personnel policy toward department chairs and provide feedback to the faculty leadership.
- Strengthen accountability for the implementation of departmental development plans and research directions.
- Provide financial incentives for professional development.
- Improve internal communication, strengthen a sense of belonging and accountability for the faculty's activities.

Alignment with the goals and measures of the TUL Strategic Plan 2021–2030

A-3-4, A-3-5, A-3-9, C-1-4, C-4-3, C-4-4, C-5-3, D-1-5, D-1-6, D-1-10, E-1-1, E-1-2, E-1-4, E-1-6.

E / ACTIVITY MANAGEMENT

Strategic Goal 2030

- The Faculty of Mechanical Engineering is a faculty operating on the principles of professional management of activities and services with functioning information systems.
- The Faculty of Mechanical Engineering has a strategy for managing and coordinating activities, sufficient personnel resources and conducts performance evaluations to establish parameters for its development.

Assessment of the 2021–2025 Period

During the period under review, several fundamental strategic and conceptual steps were implemented that determine the faculty's direction and build on the years 2019–2025.

In January 2019, the process of discussions on the direction of the faculty's scientific and research activities was concluded with the approval of the FME TUL R&D&I Strategy +2030. In the spring of 2020, the process of preparing and approving new accreditations was successfully completed. In the fall of 2024, the preparation of documentation began in accordance with the M2025+ methodology for Module 3, Social Relevance of the FME TUL and documentation for Modules 4 and 5 of TUL. The evaluation by the international evaluation panel took place in June 2025.

At the beginning of 2024, the systems for determining the performance of departments in educational activities, as well as the performance-based allocation system for Institutional Support for Science and Research (DKRVO) within the faculty, were automated.

From an organizational and personnel perspective, the process of establishing faculty management in accordance with the general principles of the functioning of self-governing units was completed. The university's information system, specifically, its information

modules and applications that are not interconnected. The IS STAG (academic affairs) system still exhibits certain shortcomings in relation to activities and required standards.

E / Subareas and Objectives 2021–2025 / 2026–2030

Strategic Management

1/ Continue with the established steps of strategic planning for the faculty's development.
2/ Strengthen the system of strategically oriented management based on planning and organizing activities, leading and coordinating people, and evaluating and monitoring established goals.
3/ Develop the established system for evaluating the quality of the faculty's activities, define and evaluate follow-up measures.
4/ Implement the principles of the European Charter for Researchers.
5/ Initiate discussions on the future direction of the faculty and the university.

Support Activities

6/ Strengthen the functioning of administrative, managerial, and professional support structures including information and legal services.
7/ Improve the quality of management and activities related to project work, including pre-project and follow-up steps and activities.
8/ Continue to maintain established standards for support staff activities at all organizational levels of the faculty.
9/ Continuously analyze the needs of departments and implement systemic measures. Base decision-making on analyses and data evaluation.
10/ Aim to simplify administrative processes by supporting digitization and reducing the burden on faculty members caused by unnecessary tasks.

Faculty Presentation and Promotion

11/ Implement technological and graphic innovations on the Faculty of Mechanical Engineering's website.
2021–2025 Completed.
2026–2030 Implement technological and graphic updates to the websites of the fakulty and departments as part of TUL's unified approach.
12/ Continue with the established steps in the area of faculty presentation and promotion with a focus on the use of digital platforms.
13/ Strengthen promotion and presentation with new forms and elements, including an international dimension.
14/ Promote science, research, and technology to all age groups.

E / Status of Implementation / 1–14 /

2021–2025 A range of activities is documented in the Faculty's Annual Activity Reports.
2026–2030 Continue these activities

E / Measures and Activities

- Improve the functioning of administrative, managerial, and professional support systems, including information and legal support.
- Create and coordinate a platform for faculty staff as a space for sharing and addressing practical issues and real-world experiences across the full spectrum of activities.
- Actively participate in the development of the TUL information system and in the integration of individual activity management modules, including the digitization of processes and document management.
- Collaborate with TUL on changing the system for managing international activities.
- Systematically build the faculty's brand, working to promote and enhance the perception of the Faculty of Mechanical Engineering's brand in the external environment.
- Promote the range of study programs and research topics, and seek new forms of promotion and presentation in the Czech Republic and abroad.
- Introduce educational activities to support management and other administrative activities.
- Enhance the managerial skills of senior staff through specialized courses and seminars.

Alignment with the goals and measures of the TUL Strategic Plan 2021–2030

C-1-4, C-1-5, C-3-1, C-4-1, C-4-4, C-4-5, C-4-6, C-4-7, C-4-8, C-5-5, D-1-1, D-1-3, D-1-5, D-1-8, D-1-9, D-1-10, D-1-12, D-1-13, D-2-1.

F / INFRASTRUCTURE

Strategic Goal 2030

- The Faculty of Mechanical Engineering is a research institution with a well-developed infrastructure at the standard international level.
- The Faculty of Mechanical Engineering is a financially stable research organization capable of ensuring the renewal of its research and development infrastructure.
- The Faculty of Mechanical Engineering has high-quality teaching, laboratory, and research facilities for students at all levels of study.
- In terms of laboratory and experimental equipment, the Faculty of Mechanical Engineering is a sought-after workplace for researchers and doctoral students from the Czech Republic and abroad.

Assessment of the 2021–2025 Period

The Faculty of Mechanical Engineering has state-of-the-art laboratories that meet international standards. The infrastructure is being updated in accordance with financial resources and research topics.

The Faculty of Mechanical Engineering's research infrastructure is organizationally integrated into the individual departments/divisions of the faculty in laboratories according to their research focus. The research infrastructure can be shared by all departments of the Faculty of Mechanical Engineering, as well as other departments at TUL and external entities, provided that the procurement process for the research infrastructure permits it. The acquisition and renewal of the Faculty of Mechanical Engineering's infrastructure occurs on an ongoing basis according to the requirements, needs, and financial capabilities of the departments/units.

Financial resources from structural funds, European projects, research projects, depreciation, and the creation of FRIM are utilized for the acquisition and renewal of infrastructure. Depending on the needs, financial demands, and cost of the equipment, funds are pooled across the faculty.

The faculty makes a significant contribution to innovation activities within the Liberec Region, the Czech Republic, and the international research community, in relation to contract research and research services.

In light of rapid technological advancements, equipment must be continuously and optimally supplemented, upgraded, and adapted to new trends to maximize the benefits from past investments through their development. It is essential to maintain the pace of optimization, renewal, and investment, particularly in the areas of microscopic and analytical techniques, recording equipment, laboratory processing lines, testing equipment, models, industrial robots, and so on.

The faculty has several classrooms equipped for multimedia instruction and online testing. In 2025, a new, state-of-the-art computer lab was installed and put into operation, fully enabling education and research in the fields of virtual reality and artificial intelligence.

F / Subareas and Objectives 2021–2025 / 2026–2030

Structural and Technical Development

1 / Carry out renovations of departments, classrooms, and laboratories in Building F.

2 / Construct a new laboratory for the Department of Energy Equipment in Building K.

3/ In cooperation with TUL, renovate the Vesec laboratory complex for the potential use of the space and facilities for prototype testing of research outputs and results.

4/ Carry out ongoing structural and technical development of laboratories and classrooms, as well as maintenance and repairs.

Laboratory and classroom infrastructure

5/ Ongoing upgrade and renewal of laboratory infrastructure to support the development of research programs.

6/ Investment in the development and modernization of classroom equipment and technologies for new forms and teaching methods.

7/ Support the sharing of laboratories for educational and scientific research activities.

IT infrastructure and resources, software support

8/ Digitization of technological and manufacturing processes, virtual laboratories.

9/ Ongoing upgrades of existing licenses, or additional purchases, of software for educational and research activities.

10/ Implementation and integration of information systems for the management and tracking of projects, publications, contract research, commercialization of outputs, R&D evaluation, staff, etc.
2021–2025 Implemented; the requirement for integration remains.

F / Status / 1–10 /

2021–2025 Implemented 1/ 2/ 3/.
2021–2030 Continue with further activities.

F / Measures and Activities

- Prepare projects from European Structural Funds in the 2021–2027 programming period for infrastructure renewal and development.
- Utilize depreciation funds, positive operating results, institutional funds and FRIM funds for infrastructure renewal.
- Collaborate with other TUL units on the purchase and acquisition of capital-intensive equipment on an equal footing.
- Maintain an overview of the status and requirements for the acquisition of hardware and software for classrooms and laboratories.

Alignment with the goals and measures of the TUL Strategic Plan 2021–2030

A-1-2, D-1-7, D-2-2.

IMPLEMENTATION OF THE FME TUL STRATEGIC PLAN IN THE YEARS 2021 TO 2025

The evaluation was conducted and compiled in a separate document, submitted to the Scientific Council of the Faculty of Mechanical Engineering of TUL for discussion on December 10, 2025, and submitted to the Academic Senate of the Faculty of Mechanical Engineering of TUL for discussion and approval on February 25, 2026.
Published on the website of the Faculty of Mechanical Engineering of TUL.

Financial Resources

- Contribution from the state budget.
- Grants from the state budget.
- Programs of the Ministry of Education, Youth and Sports of the Czech Republic. Institutional development programs of the Ministry of Education, Youth and Sports of the Czech Republic.
- Grant programs of the regions and Prague.
- Programs and calls for proposals from the Czech Science Foundation (GA ČR), the Technology Agency of the Czech Republic (TA ČR), the Ministry of Industry and Trade (MPO ČR), the Ministry of the Interior (MV ČR), the Ministry of Agriculture (MZE ČR), etc.
- OP JAK, OP TAK, and other EU-supported operational programs.
- The Horizon Europe program and other EU programs.
- International research and development cooperation programs.
- Cross-border cooperation programs.
- Programs supporting the mobility of university students and academic staff.
- Programs of the Liberec Region.
- Own resources. Contract research. Supplementary activities.

Indicators

The basic set of indicators is based on the TUL Activity Quality Assessment Methodology:
Adjusted number of the FME of TUL staff from 2021 to 2025
Converted qualification structure of the FME of TUL from 2021 to 2025
Statistics on the FME of TUL students in Bachelor's Programs in the Czech language from 2021 to 2025
Statistics on the FME of TUL students in the Master's Degree Program in the Czech language from 2021 to 2025
Statistics on the FME of TUL students in the Master's DP in English from 2021 to 2025
Statistics on the FME of TUL students in the Doctoral Program in Czech from 2021 to 2025
Statistics on the Fme of TUL students in the Doctoral Program in English from 2021 to 2025
The FME of TUL funding for educational activities from 2021 to 2025

Publications of the FME of TUL from 2021 to 2025
Results of applied research at the FME of TUL from 2021 to 2025
The FME of TUL funding for scientific research activities from 2021 to 2025
Number of student trips by the FME of TUL from 2021 to 2025
Number of student visits to the FME of TUL from 2021 to 2025
Number of outbound trips by the FME of TUL staff from 2021 to 2025
Number of incoming staff visits to the FME of TUL from 2021 to 2025
The FME of TUL funding from 2021 to 2025

SWOT Analysis

Strengths

Tradition of activities and fields of study at the faculty
High level and quality of educational activities
Institutional accreditation granted in Field 27: Mechanical Engineering, Materials, and Technology
Development of new fields and specializations, integration of modern knowledge into education and R&D
High employability of graduates in the labor market, responsiveness to labor market demands
A stable staff composition and a relatively strong qualification profile
Infrastructure comparable to that of foreign universities and R&D&I institutions
Significant ties to the applied and industrial sectors, high proportion of contract research High involvement in applied research projects
Significant results in applied research
Close contacts and collaboration with university departments in the Czech Republic and abroad
Involvement of graduate students in scientific research and professional activities
Experience and ability to commercialize R&D results
Ability to maintain operations even during crisis situations
Good overall evaluation of the faculty within the MEP 2025+ framework, quote from the report: Very good standing of the evaluated unit within the research community in the field of RDI Quantitative and qualitative growth in the results of creative activities with application potential and promising impact on society
The evaluation in this area is excellent; therefore, it is recommended to continue with all steps Excellent evaluation of the area of technology, knowledge, and service transfer
A wide range of outreach activities

Weaknesses

Low participation in international scientific research projects
High administrative burden on both academics and institutions
Low proportion of funding allocated to basic research

Average long-term mobility of faculty and students
Disparities in the quality of research teams and the workload of academic staff
Declining number of doctoral students
Low staff diversity and inbreeding among academic staff
High overhead costs
Inappropriate structure of TUL, internal competition among CXI within TUL

Opportunities

EU membership, support for research and innovation, opportunities for cooperation with foreign institutions
Increase in research volume during the 2021–2027 programming period
The Technical University of Liberec has become a member of the RU-EU International Alliance
Development of internationalization in education and scientific research
Involvement of the younger generation in international projects and activities
Research infrastructure with strong potential for applied research and practical results
Motivation and support for young scientists
Increased professional mobility of academics and staff
Increased interest in and support for basic research from the industrial sector
Favorable conditions for interdisciplinary collaboration due to the structure of the faculty and the structure of TUL faculties
Investment in high-tech technologies and laboratories
Exploitation of further commercialization opportunities through the establishment of spin-offs
Reasonable guidance for the methodology of evaluating technical activities at universities
Increased state support for technical education
Continuation of favorable demographic trends over the next 5–8 years
Development of new research directions and interdisciplinary research
Establishing and seeking forms of scientific and research cooperation with the Czech Academy of Sciences (CAS)

Threats

Loss of the university's reputation
Low number of applicants
Insufficient preparation of students from secondary school
Decline in students' knowledge levels at all levels of the education system
Disparities in the activities and performance of individual units at TUL and faculty departments
Departure of key academics to non-university sectors
Competition among TUL units
Lack of public funding in relation to faculty stability and development planning
Low funding for independent research
Growing administrative burden on all processes related to the university's operations
Threat of sanctions in project management and administration

Expected economic stagnation and decline
Insufficient state support for engineering faculties
Interference in university self-governance through the application of “principles and requirements of equality” in all areas of activity—in violation of Section 1 of the Higher Education Act

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List of Abbreviations

TUL	Technical University of Liberec
FME	Faculty of Mechanical Engineering
CAS	Czech Academy of Sciences
CR	Czech Republic
EU	European Union
ET	Education and Training
GA ČR	Czech Science Foundation
MPO ČR	Ministry of Industry and Trade of the Czech Republic
MŠMT ČR	Ministry of Education, Youth and Sports of the Czech Republic
MV ČR	Ministry of the Interior of the Czech Republic
MZe ČR	Ministry of Agriculture of the Czech Republic
M2025+	Methodology for Evaluating Research Organizations and Targeted Support Programs
OP TAK	Operational Program: Technologies and Applications for the Future
OP R&D&I	Operational Program: Research, Development and Education
RIS	Regional Innovation Strategy
RIS3	National Research and Innovation Strategy for Smart Specialization of the Czech Republic
SVOČ	Student Scientific and Professional Activities
TA CR	Technology Agency of the Czech Republic
RDI	Research, Development, Innovation
DKRVO	Institutional Support for Science and Research
