



Lodz University
of Technology

Lodz University
of Technology
social responsibility report
2021/2022

PRINCIPLE I

Upholding the academic values enshrined, among others, in 'The Code of Ethics for Researchers', in particular conscientiousness, objectivity, autonomy, openness and transparency

THE UNIVERSITY COMMUNICATES THE VALUES IT ADOPTS AND PROVIDES INFORMATION ON THE DOCUMENT REFERENCING THEM, E.G. (CODE, RULES), AS WELL AS THE YEAR OF ITS PUBLICATION AND A LINK TO IT.

I.1

The academic values upheld by Lodz University of Technology are defined in the following documents:

THE STATUTES OF LODZ UNIVERSITY OF TECHNOLOGY

Lodz University of Technology upholds the academic values specified in the Statutes of Lodz University of Technology - Resolution No. 88/2019 of the Senate of Lodz University of Technology of July 10, 2019. The following are recognized in the Statutes to be the most important academic values: fostering a sense of accountability and awareness of civic rights and duties among the University community, as well as encouraging social activism and solidarity. This is achieved by pursuing solutions to major scientific, technical, economic and social problems, supporting local and regional communities and, in particular, stimulating entrepreneurship and innovation. All of these activities seek to advance technology and the progress of human society.

<https://politechnikalodzka.bip.gov.pl/statut-politechniki-lodzkiej/statut-politechniki-lodzkiej.html>

THE CODE 'GOOD PRACTICES IN UNIVERSITIES'

The Code was formulated on the initiative of the Polish Rectors Foundation endorsed by the Conference of Rectors of Academic Schools in Poland. The Senate of Lodz University of Technology adopted the Code by passing Resolution No. 6/2008 of February 27, 2008 on the adoption of The Code 'Good Practices in Universities'. In keeping with the principles of the Code, Lodz University of Technology ensures that its research staff are provided with appropriate conditions for generating, transferring, sharing and disseminating knowledge, as well as supports their professional development. The University leadership, mindful of the challenges of today's world, recognizes the need to provide appropriate conditions for the conduct and promotion of scientific research. Building strong research teams and carrying out world-class research is one of the core tasks determining the strategic direction for the development of the University.

THE CODE 'GOOD PRACTICES IN ORGANIZATION OF COMPETITIONS FOR THE POSITIONS OF ACADEMIC TEACHERS AT LODZ UNIVERSITY OF TECHNOLOGY'

The Code was first adopted at Lodz University of Technology in 2018. It has been amended pursuant to the provisions of the Law on Higher Education and Science and the Statutes of Lodz University of Technology and superseded by Ordinance No. 80/2021 of the Rector of Lodz University of Technology.

<https://p.lodz.pl/sites/default/files/2021-10/kodeks-dobre-praktyki-przy-organizacji-konkursow-na-stanowiska-nauczycieli-akademickich-w-pl.pdf>

OTM-R POLICY – OPEN MERIT-BASED RECRUITMENT – ORDINANCE NO. 80/2021 OF THE RECTOR OF LODZ UNIVERSITY OF TECHNOLOGY OF 17 DECEMBER 2021 ON THE MANNER AND PROCEDURE FOR CONDUCTING COMPETITIONS FOR ACADEMIC STAFF POSITIONS AT LODZ UNIVERSITY OF TECHNOLOGY

The university follows explicit guidelines for calling competitions. These are set out in the OTM-R Policy, which, apart from providing standardized and current rules for the recruitment of academic staff, also includes recommendations for equal treatment of applicants regardless of their gender, race, sexual orientation, political views, etc. Annexed to the Policy are a set of procedures for the recruitment of academic staff, guided by the principles of openness, transparency, and merit. The Ordinance is available on the TUL website in two language versions. A template for the competition call and recruitment flowcharts are also provided, which detail the process of recruitment of academic staff.

<https://p.lodz.pl/pracownicy/hr-excellence-research-w-pl/polityka-otm-r>

In consideration of the above and for the sake of further dynamic growth, Lodz University of Technology takes the following strategic actions arising from the application of the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

<https://p.lodz.pl/pracownicy/hr-excellence-research-w-pl>

APPLICATION OF PRINCIPLES OF PUBLISHING ETHICS

These ethical standards follow the guidelines provided by the Committee on Publication Ethics (COPE) and ethical principles applied by other scholarly publishers. They include such tenets as following fair and ethical procedures for the qualification, selection, and review of manuscripts submitted for publication, open and transparent acceptance/rejection of manuscripts submitted for publication, ensuring authors' compliance with the applicable rules concerning integrity of the sources cited, citation and quoting policies.

<https://wydawnictwo.p.lodz.pl/wydawnictwo/o-wydawnictwie/zasady-etyki-publicacyjne>

PRINCIPLE II

Cultivating social and civic mindsets of future elites which favor community building, creativity, tolerance and open communication, as well as social sensitivity and work ethics

THE UNIVERSITY PROVIDES AT LEAST TWO OR THREE SPECIFIC EXAMPLES OF CULTIVATING CIVIC INVOLVEMENT OF STUDENTS IN THE REPORTING PERIOD

II.1

Lodz University of Technology is committed to cultivating civic attitudes of its students by taking many different actions, of which the following are examples:

PARTICIPATORY BUDGETING 'IDEA BOX'

Once a year since 2016, members of the University's community have been given the opportunity to submit their ideas to IDEA BOX, which itself has been one of the tasks in the University's annual task budget. Students and staff submit their project proposals to improve their work and study conditions as well as the natural environment, foster communication and support academic community building. The following are examples of ideas that have so far been realized under IDEA BOX: flower meadows (sanctuaries for bees and other insects), hedgehog houses, mini apiaries, a student relaxation zone, self-service bicycle repair stations, as well as a better Wi-Fi network on campus.

<https://p.lodz.pl/uczelnia/aktualnosci/6-edycja-projektu-idea-box-w-pl>

<https://www.facebook.com/IdeaBoxPL/>

EUROPEAN UNIVERSITY GAMES

The European Universities Games took place in Łódź in July 17 – 30 2022. Lodz University of Technology was the main organizer of the event which brought together students representing 383 European HEIs. Beyond its sports value, with more than a thousand student volunteers, the Games were a shining example of student engagement in international academic community collaborative efforts and friendly cooperation.

UNIVERSAL DESIGN (PROJECT 'ACCESSIBLE LODZ UNIVERSITY OF TECHNOLOGY')

The university has been implementing the project 'Accessible Lodz University of Technology', co-financed by the European Union from the European Social Fund under the Operational Program Knowledge Education Development 2014-2020, distributed under the NCBiR call. The goal of the project is to improve access to higher education at TUL, to facilitate organizational change, and raise competences of the university staff. One of the project's features was that students could take part in an elective course on Universal Design. The classes were held at the new facilities: electronic, mechanical, ergonomic analysis and simulation laboratory (LabASE), and virtual reality laboratory (LabVR). Each introduced them to and improved their understanding of the special needs that people with reduced mobility may have, e.g., they could wear an age simulator suit, a pregnancy simulator suit, and a Parkinson's simulator suit. The labs are part of the Lodz University of Technology Centre of Excellence for Universal Design [CDPU PL].

<https://dostepnosc.p.lodz.pl/sandbox/o-projekcie/zadanie-1/>

THE UNIVERSITY PROVIDES INFORMATION ON PARTICIPATION IN PROJECTS, E.G., HR EXCELLENCE LABEL, GIVING THE DATE OF THE AWARD AND ACTIVITIES UNDERTAKEN IN THE REPORTING PERIOD

II.2

The HR Excellence in Research label serves as an example of measures to improve work ethic values. Following an external evaluation, the European Commission (EC) decided in May 2016 to award Lodz University of Technology the HR Excellence in Research label. Lodz University of Technology is the first technical university and the third university in Poland to have been awarded the distinction by the EC, which demonstrates the relevance of the strategy adopted by Lodz University of Technology and the HR actions planned, and acknowledges the University's commitment to the implementation of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. In the academic year 2021/2022, Lodz University of Technology was granted an extension of the right to use the HR Excellence in Research label for a further three years, until June 17, 2025. This was achieved by the efforts of the Steering and Monitoring Committees, which comprised the Vice Rectors for Science and Development, Chairs of scientific disciplines, Chair of the Rector's Committee on Good Academic Practice, President of the Doctoral Candidates' Council, and heads of the units responsible for individual HRS4R tasks. A new action plan of HR measures for researchers 2022-2024 was developed and Ordinance No. 80/2021 of the Rector of Lodz University of Technology of December 17, 2021 in the manner and procedure for conducting competitions for academic staff positions at Lodz University of Technology OTM-R Policy was adopted.

<https://p.lodz.pl/pracownicy/hr-excellence-research-w-pl>

THE UNIVERSITY REPORTS THE PERCENTAGE OF INTERNATIONAL STUDENTS**II.3**

The percentage of international students at Lodz University of Technology was 2.91% (in absolute numbers, 329 out of 11290) based on POL-on 2.0 data as of Dec. 31, 2021, whereas as of Dec. 31, 2022, international students accounted for 3.61% of the total number of students at the university (387 out of 11290). This represents a considerable increase which may be attributed, among other things, to the hostilities in Ukraine, as well as to the mobility projects implemented at the University, which were without a doubt facilitated by the decelerating pandemic.

THE UNIVERSITY REPORTS THE PERCENTAGE OF INTERNATIONAL STAFF**II.4**

International staff accounted for 2.08% (57 out of 2734) of the total headcount of the University, and 2.13% in the group of academic staff (27 out of 1220) based on POL-on 2.0 data as of Dec. 31, 2021. As of Dec. 31, 2022 however international staff accounted for 2.17% of the University's total headcount (57 out of 2734) and 3.22% (39 out of 1212) in the group of academic staff. Similarly to section II.3, this increase might have been due, among other things, to a decreasing impact of pandemic-related factors and the ongoing war in Ukraine.

PRINCIPLE III**Disseminating the idea of equality, diversity, and tolerance and respecting and protecting human rights throughout the academic community and its environment**

THE UNIVERSITY PROVIDES AT LEAST TWO OR THREE SPECIFIC EXAMPLES OF THE DISSEMINATION OF THE AFOREMENTIONED IDEAS, COMPLETED IN THE REPORTING PERIOD, SPECIFYING FOR EACH OF THEM AN INDICATOR OF THE SIZE OF THE GROUP (BENEFICIARIES) REACHED IN EACH CASE

III.1

Below are examples of measures taken by Lodz University of Technology with regard to objectives under Principle III:

ACCESSIBLE LODZ UNIVERSITY OF TECHNOLOGY

Since 2021, TUL has been implementing the Accessible Lodz University of Technology project, which aims to improve access to higher education, support organizational change, and raise staff competences in the higher education system. Ten tasks have been completed including the following: launch of the Center of Excellence for Universal Design (CDPU), expanding the range of services and developing competences of the TUL Office for Persons with Disabilities staff, eliminating architectural barriers, development of an Interactive Map of the Lodz University of Technology campus, development of the range of educational support offered at Lodz University of Technology to persons with special needs, etc. The activities completed in the 2021/22 academic year under the project included: the launch of academic and career coaching for students with disabilities, appointment of accessibility coordinators at TUL, audio-description of TUL publicity resources, e.g. YouTube videos, purchase of e.g., portable suitcase/telescopic wheelchair ramps and a Braille printer, staff training (audio-description of visual materials, web content development and auditing in keeping with the WCAG 2.1 standard, training for staff on a coaching game to support people at risk of exclusion). In the academic year 2021/22, 43 training courses were delivered, attended by a total of 430 TUL staff. The MIGAM sign language video call service was also launched to serve TUL. The service can be accessed from the TUL homepage. Calls can be made from any location seven days a week (8am-8pm). In addition, efforts to update the Wikamp website and service were continued, audio-description of materials was carried out, refurbishment of a section of the building of the Faculty of Civil Engineering, Architecture and Environmental Engineering and the entrance to the building of the Faculty of Technical Physics, Information Technology and Applied Mathematics to adapt them to the needs of persons with reduced mobility were completed, and 4 laboratories were provided with special equipment.

GENDER EQUALITY PLAN (GEP)

In December 2021, TUL Rector signed the TUL Gender Equality Plan. The document includes the university's action plan for gender equality, in line with the principles contained in the European Charter for Researchers. The document is the result of the efforts of the university's leadership to raise awareness of the relevance of gender equality. The plan extends to all groups of staff and students, including doctoral candidates, a majority of whom tend to pursue their research careers at TUL. The Plan has two parts: the diagnosis of the current situation based on extensive quantitative data, an analysis of the current regulatory and institutional situation the University operates in, and a set of proposed measures for gender equality by 2024. The document sets out 28 actions grouped into four areas: institutional infrastructure; gender balance in leadership, decision-making and research; gender equality in recruitment and career development; and work-life balance and organizational culture. To operationalize the Plan equality officers were appointed and an Anti-Discrimination, Anti-Harassment and Anti-Mobbing Committee was established. A webpage providing details of the activities undertaken in this area was launched on the TUL website.

<https://p.lodz.pl/pracownicy/rownosc-plci-w-politechnice-lodzkiej>

Actions taken towards implementing the GEP:

- Appointment of 12 Equality Officers (March 11, 2022) - members of TUL staff tasked with providing support to the academic community (staff, doctoral candidates, and students) in resolving conflicts, and mediating and investigating complaints of discrimination, mobbing and harassment.
- Appointment of the Panel for the Implementation and Monitoring of the TUL Gender Equality Plan in March 2022 (12 people) as a consequence of the implementation of the Gender Equality Plan at TUL, which is an expression of the university's commitment to raising awareness of the relevance of equality matters. The group comprises academic lecturers as well as administrative and technical staff.
- Providing a tab on the TUL homepage under which information on TUL equality activities is posted. <https://p.lodz.pl/pracownicy/rownosc-plci-w-politechnice-lodzkiej>
- Engaging in collaborative efforts with other universities and organizations to compare practices and to identify the best ones as regards equality issues with a view to transferring them to TUL (study visit to Wrocław University of Environmental and Life Sciences).
- Formulating recommendations for gender-balanced composition of selection committees conducting recruitment processes.
- Producing a questionnaire for job candidate assessment including an interview script.
- Producing a mandatory template for job recruitment advertisements. <https://p.lodz.pl/sites/default/files/2022-01/plan-rownosci-plci-w-politechnice-lodzkiej.-plan-dzialan-na-lata-2022-2024.pdf>

PRINCIPLE IV

Embedding in the curricula issues in ethics and corporate social responsibility, sustainable development, and social innovation

THE UNIVERSITY PROVIDES A LIST OF COURSES ADDRESSING THE AFOREMENTIONED THEMES (AT LEAST 75% OF THE CONTENT PERTAINING TO THE PRINCIPLE), TAKING INTO CONSIDERATION THE NUMBER OF HOURS AND THE LEVEL OF STUDY (BACHELOR'S, MASTER'S, POST-GRADUATE) IN THE ACADEMIC YEAR UNDER REVIEW

IV.1

Lodz University of Technology includes in its curricula courses that address issues in ethics and corporate social responsibility, sustainable development and social innovation, so that at least one course in each degree program includes them. Examples of courses featuring content related to the social responsibility of the university include Social and economic implications of the Digital Revolution, Ethical and legal aspects of artificial intelligence, Principles of industrial sustainability, Bio-economy and sustainable development, Philosophical roots of sustainable development, as well as the course on the social aspects of smart cities, Smart city - social aspects.

The curricula of all degree programs include mandatory subjects on the protection of property rights, including patent and plagiarism laws, technology transfer and commercialization of research results. The curricula of all degree programs taught in a foreign language include the Civic Knowledge and Engagement course, introduced in cooperation with the International Faculty of Engineering (IFE). Students taking the course are required to complete activities that ensure their personal growth and benefit TUL and the larger community. These range from doing voluntary work for the University or volunteering for public benefit organizations. Students gain, in particular, the ability to apply the knowledge and competences acquired in the course of their studies to other spheres of life beyond their field of study. This is one of the components in the methodical approach towards building student civic awareness and the recognition of the value of social engagement. The University also offers degree programs that include the sustainability themes, e.g., Bioeconomy, Sustainable Bioeconomy, Environmental Engineering, Environmental Engineering in Civil Engineering, Networks and Installations in Environmental Engineering, Information Technology in Environmental Protection, Urban Renewal, as well as Advanced Biobased and Bioinspired Materials, a degree taught in a foreign language.

PRINCIPLE V

Pursuing projects which put into practice the principles of social responsibility, in particular those addressing diversity management in the workplace and employee volunteering programs, advance ethical conduct, intersectoral cooperation, and socially responsible marketing

THE UNIVERSITY PROVIDES AT LEAST TWO OR THREE SPECIFIC EXAMPLES OF PROJECTS WHICH APPLIED THE PRINCIPLES OF SOCIAL RESPONSIBILITY IN THE REPORTING PERIOD

V.1

In the reporting period under review, Lodz University of Technology, in the course of putting into practice the principles of social responsibility, conducted several projects, examples of which are given below.

PROVIDING PSYCHOLOGICAL SUPPORT TO TUL COMMUNITY

Lodz University of Technology hosts the Academic Crisis Service, which liaises with an addiction therapist, a coach, a psychologist, and provides professional academic and mental health support. The service is provided by the Office for Persons with Disabilities, which offers free personal psychological consultations for TUL students, doctoral candidates, and staff. The service provider offers sessions geared towards self-development, psychological short-term support, and crisis support. Consultations with the psychologist are held onsite and online. In the 2021/22 academic year, some 20 consultations were provided on a weekly basis. Psychiatric consultation service was also launched in that period. Students with disabilities took part in coaching sessions (approximately 6 hours per week), and workshops on communication, emotional management, and art therapy.

INTERSECTORAL COOPERATION - ENGAGING EMPLOYERS IN CURRICULUM DEVELOPMENT

TUL works with employers to develop degree program curricula. Employers are involved in course inspections, monitor student academic progress and learning outcomes mastery, but most importantly, they support TUL in adapting degree curricula to the current demands of the Polish industry. There are business councils at individual faculties whose task, as an advisory body, is to evaluate the process of education and provide informed recommendations for its implementation and curriculum development. Having business councils at individual faculties makes it possible to monitor the demands of industry as regards specific competences required of graduates. This provides TUL with insight on how to modify its degree curricula so that they respond to industry trends. An important role in the process of education and curriculum development is also performed by the following clusters of which TUL is a member: Łódzki Klaster ICT, LODZistics and Łódzki Klaster Fala Energii. University representatives hold decision-making positions in the clusters and TUL serves as the clusters' administrative facilitator. The university's engagement in the activities of the clusters and cooperation with the socio-economic environment demonstrate how the university realizes the tenets of its social responsibility. The representatives of participating employers may also propose the scope of student projects, milestone projects, and degree dissertations. Lodz University of Technology is also a member of the Regional Council of the Industry of the Future in Łódź (Łódzka Regionalna Rady Przemysłu Przyszłości). The Council members include economists, scientists and entrepreneurs from the Łódź Voivodeship. It identifies directions for development, supports corporate digital transformation and competitive economy. TUL's task on the Council is to recommend development trends for different industries and train future workforce.

TUL ANTI-CORRUPTION POLICY

Ethical conduct is fundamentally meaningful in the ethos of a higher education worker. For members of the public sector workforce, preventing corruption and processes conducive to corruption takes on special importance. Lodz University of Technology, as a public sector organization, undertakes anti-corruption measures. Wikamp intranet service features a tab where key resources, including e-learning courses 'Social effects of corruption' and 'Corruption in public administration', developed by the Central Anti-Corruption Bureau, can be accessed. TUL has had an anti-corruption policy in place since 2017. In adopting the policy the university pledged to adhere to the standards of objectivity and transparency in its research, educational, and economic activity. Oversight of the policy's implementation is entrusted to the Committee for Good Academic Practice.

UNIVERSITY PROVIDES THE PERCENTAGE OF WOMEN IN MANAGERIAL AND LEADERSHIP ROLES IN THE FOLLOWING EMPLOYEE CATEGORIES: ADMINISTRATIVE STAFF (HEADS OF ADMINISTRATIVE UNITS), RESEARCH AND TEACHING STAFF (HEADS OF INSTITUTES, DEPARTMENTS AND DIVISIONS), RECTORIAL ADMINISTRATION (RECTOR, VICE-RECTORS, DEANS)

V.2

A significant contribution to the scientific achievement of Lodz University of Technology is made by women who account for 37% of research and teaching staff, 33% of the research staff, and 42% of the teaching staff. Women represent 51.3% of all TUL employees (38.5% in the group of academic staff and 61.1% in the group of non-academic staff). As regards the university's leadership, women serve as deans at four out of the nine TUL faculties. The percentage of female deans and vice deans is 55.26%. The percentage of women for all managerial and leadership roles at the University is 43.40%. Women account for 39% of PhD holders and 35% of post-doctoral degree holders at TUL. Only 26% of individuals holding the title of professor are women. In the academic year 2021/22, women accounted for 38.7% of the students, 45.7% of the doctoral candidates, and 45.3% of the graduates.

THE UNIVERSITY REPORTS THE PERCENTAGE OF STAFF EMPLOYED BY THE UNIVERSITY ON A FULL-TIME BASIS WHO HAVE RECEIVED TRAINING ON THE PREVENTION OF MOBBING, SEXUAL HARASSMENT, VIOLENCE, DISCRIMINATION, AND THE PROMOTION OF THE PRINCIPLES OF ETHICS

V.3

'Fighting discrimination and mobbing' is one of the training courses offered to Lodz University of Technology staff under the Accessible Lodz University of Technology project. The workshop is intended to develop in the TUL staff members

who hold managerial positions the skills to identify, prevent, and respond to mobbing, harassment and discrimination. These situations affect work environment and productivity, disintegrate teams, lead to apathy and absence of initiative and activity. All staff should be alert to this type of unacceptable behavior.

Members of the Panel for the Implementation and Monitoring of the TUL Gender Equality Plan as well as Equality Officers completed two training courses on preventing discrimination and mobbing, namely 'Counteracting mobbing and discrimination in the workplace' and 'Counteracting mobbing and discrimination for members of anti-mobbing committees (workshop)'.

THE UNIVERSITY REPORTS TWO OR THREE SPECIFIC EXAMPLES OF ACTIVITIES ENCOURAGING STAFF VOLUNTEERISM, AND THE PROPORTION OF THE STAFF (ACADEMIC AND ADMINISTRATIVE COMBINED) ENGAGING IN VOLUNTEERING INITIATIVES PROVIDED BY THE UNIVERSITY TO THE TOTAL NUMBER OF STAFF EMPLOYED UNDER A CONTRACT OF EMPLOYMENT AT THE END OF THE REPORTING PERIOD

V.4

Examples of activities encouraging Lodz University of Technology staff to engage in volunteering projects

SUPPORT FOR PEOPLE EXPERIENCING HOMELESSNESS

Lodz University of Technology staff participate in many activities geared towards helping people who experience homelessness. They are a group most affected by economic poverty. One example of such efforts is that TUL's Office for Persons with Disabilities cooperates with a street-walker/addiction therapist who delivers donated clothes and personal hygiene items to the homeless. Also, individual TUL units joined the 'Not-Homeless Homeless Box' initiative, the goal of which is to help homeless people out of homelessness, and to provide them with assistance concerning their most immediate needs in the process of achieving stability in life. Collected items are forwarded directly to those in need and respond to their actual needs.

WORKSHOPS FOR CHILDREN ATTENDING COMMUNITY CHILD CENTRES AND IN THE CARE OF FOSTER FAMILIES

A few years ago, the Faculty of Biotechnology and Food Science staff held an open-air 'Fun Science Fair' workshop during a picnic to celebrate Foster Families Day. During the event, which took place on TUL campus, children living in foster homes were also invited to take part in a microbiology workshop. Over time, these one-off meetups evolved into a series of microbiology workshops and field trips called 'Science is cool', offered to children living with foster families and in children's homes. In the 2021/22 academic year, the workshops were held twice: first in March (laboratory workshops for children and youth from Ukraine), and then in May (for children from foster families, during a picnic for people wishing to become foster parents organized by the City Office for Foster Care Administration).

LODZ UNIVERSITY OF TECHNOLOGY FOR CHILDREN'S HOSPICE IN ŁÓDŹ

The Association 'Children's Hospice in Łódź - Łupkowa' was the first organization in Poland to provide palliative home care for terminally ill children living on ventilators. It operates a 24/7 care facility for ventilated patients. The facility would not be able to operate without fully-functional medical equipment, especially ventilators. The benches on which the ventilators rest are paired with stands with plastic clips fastening the tube that delivers the air the patient's lungs. During regular use of the ventilators, plastic clips tend to wear out. To the rescue came TUL's Faculty of Mechanical Engineering, 3Dd-printing the required specialist grips. TUL also participated in the 'Become a Super Twister' action, which is a green project aimed at collecting plastic bottle caps to help make the Hospice patients' dreams come true. Plastic caps collection points are strewn across TUL campus. All of the collected caps are regularly donated to the Hospice.

THE UNIVERSITY REPORTS TWO OR THREE SPECIFIC EXAMPLES OF ACTIVITIES ENCOURAGING STUDENT VOLUNTEERISM, AND THE PROPORTION OF THE STUDENTS ENGAGING IN VOLUNTEERING INITIATIVES PROVIDED BY THE UNIVERSITY TO THE TOTAL NUMBER OF STUDENTS IN THE ACADEMIC YEAR UNDER REVIEW

V.5

Examples of activities encouraging Lodz University of Technology students to engage in volunteering:

SAINT NICOLAS DAY FOR POOR HOUSEHOLDS

Students and staff of the Faculty of Technical Physics, Information Technology and Applied Mathematics for several years have carried out 'Operation St. Nicholas Day'. The event is intended to help a family in need, who, with the help provided, have a chance for relief in their difficult situation and a chance to have a joyful Christmas. An online fundraiser is held. So far the money collected has been used to purchase computers to enable distance learning. Food products, cleaning products, and school supplies for the children are also collected. Every product donated makes a difference to a household in need of assistance.

PROJECT 'WORKCAMP'

July 2022 witnessed the 7th edition of the Workcamp project, carried out since 2015 by the Young Personnel Circle of the Polish Union of Civil Engineers and Technicians in Łódź. These young volunteers from Lodz University of Technology procure sponsors, tools and materials and give their time during the summer break in order to renovate a building in

greatest need of repair. In 2022, this was the communal part of the Children's Home No. 15 in Łódź. In previous years, TUL students renovated four children's homes, a school, and the City Office's Centre for Child and Family Services. Workcamp brings together civil engineering students and all those who wish to give their time to a worthy cause.

<https://p.lodz.pl/uczelnia/aktualnosci/zakonczyła-sie-siodma-edycja-projektu-workcamp>

THE GREAT ORCHESTRA OF CHRISTMAS CHARITY

All members of TUL community, starting with the Rector to TUL Public High School students, have the opportunity to participate in the fundraiser. In the recent 30th Grand Finale, Lodz University of Technology raised a record-breaking amount of 310,000 złoty - 10 000 złoty more than the previous year. In 2022, 310 individuals joined in the efforts of Lodz University of Technology collection center.

The university does not maintain statistical records concerning individuals engaged in volunteering.

PRINCIPLE VI

Conducting research and implementation projects which, performed in partnership with other academic institutes worldwide, the business sector, public administration and NGOs, may contribute to overcoming critical social problems

THE UNIVERSITY PROVIDES A LIST OF THE MOST IMPORTANT (MAX. 5) RESEARCH GRANTS PROCURED, POLISH AND INTERNATIONAL, PERTAINING TO THE ISSUES REFERRED TO ABOVE

VI.1

Examples of research grants acquired by Lodz University of Technology that may contribute to overcoming critical social problems:

SUSTAINABILITY AND PROCUREMENT IN INTERNATIONAL, EUROPEAN AND NATIONAL SYSTEMS

The Sustainability and Procurement in International, European, and National Systems (SAPIENS) is the single most ambitious, interdisciplinary research and training program, bridging sustainability and public procurement topics. SAPIENS' focus is on interdisciplinary research on public procurement which takes into consideration social and environmental challenges of the 21st century. The Sustainability and Procurement in International, European, and National Systems (SAPIENS) is the single most ambitious, interdisciplinary research and training program linking sustainability and public procurement topics. The aim of SAPIENS is to conduct interdisciplinary research on public procurement with a with the social and environmental challenges of the 21st century. The activities carried out during the project will increase knowledge and research capacity in the field of sustainable public procurement integrating topics in law, economics and management.

DIGITAL GMINA

The purpose of the project is to increase the capacity of local government units (JST) and their subordinate entities in the implementation of e-services, cyber-security, teleworking, and e-learning. The project featured competition calls for proposals, addressed to JSTs to obtain funding for, e.g., digitalization of public services and subordinate entities (e.g. schools) to purchase digital equipment and software, extend the use of cloud computing by JSTs, as well as diagnose and enhance cyber security of the IT systems deployed by local governments. Also provided for under the project is aid for children in families affected by closure of State Agricultural Farms (PGR), which JSTs shall be able to provide by purchasing computer devices and Internet connection services required for distance learning. These actions shall improve JSTs capacity to provide e-services to citizens and business entities and streamline their organizational processes. JSTs shall be better able to analyze and plan customized measures to mitigate cyber threats and curb digital exclusion of learners at the time of the COVID-19 pandemic. The project will have a positive influence on customer service times and will also improve the range and efficiency of public e-services, which, in turn, will contribute to mitigate the adverse social and economic impact of the COVID-19 pandemic.

GRYDSEN - INNOVATIVE VR-ENHANCED PSYCHOLOGICAL THERAPY FOR THE ELDERLY

The core objective of the project is to develop and deploy simulation software for VR-enhanced psychological training to improve cognitive and motor functions of the elderly. The project aims to improve the quality of life of people over the age of 60 by increasing the level of their overall fitness due to an increased level of activity. Visual, audio, and kinesthetic VR technologies have been deployed in the software. The target group is defined as individuals over 60 years of age who undergo a normal process of aging and who wish to maintain their cognitive and motor function levels.

DIAMSEC – AN ULTRA-SENSITIVE SENSORY PLATFORM FOR RAPID DETECTION OF EPIDEMIOLOGICAL AND PANDEMIC THREATS

The proposed scope of the project is to develop technology for the synthesis and modification of structures, based on ultra-thin diamond, titanium oxide, ITO, and graphene films that can be used in mid-scale manufacturing of low-cost, ultra-sensitive diagnostic tests to detect viruses and pathogenic bacteria. Among the examples of threats addressed in the project are influenza and Zika viruses, as well as Salmonella and Streptococcus pneumoniae bacteria. These only

serve as examples of how the platform can be used. It is however to intended to be generally applicable, which means that, after minor modification, one will be able to use it to develop tests for the detection of any other pathogens that might pose a threat to public health. DIAMSEC platform has been developed to be easy to use, quick and simple, as it is designed for the patient.

DIGITAL FLEXIBLE INDUSTRIES FOR RELIABLE POWER GRIDS WITH HIGH VARIABLE RENEWABLE ENERGY (VRE) PENETRATION

TUL researchers participate in the European FLEXIndustries consortium, which brings together 36 European institutions. Experts from the Faculty of Mechanical Engineering, TUL, and K-FLEX Łódź - Uniejów are the only Polish partners in the consortium. Financed with a Horizon Europe grant, it will allocate over €17 million towards solutions supporting intelligent energy transformation of large industrial plants. As a result of the project, model installations will be developed at large industrial plants manufacturing insulation materials, steel, cement, paper, biofuels, as well as those in the automotive and pharmaceutical industries. The consortium partners will, over a four-year period, implement intelligent systems to ensure lower energy consumption, use of renewable energy sources, waste heat recovery, and reduction of CO2 emissions. Each of the model plants will be equipped with advanced monitoring systems to enable adaptation to variable operating conditions. It is estimated that the project can save an estimated 154 GWh of electric energy, which means around €6.0 million. The consortium participants are convinced that good practice identified in the course of the project will pave the way for similar transformations at other European industrial sites.

<https://p.lodz.pl/uczelnia/informacje-dla-mediow/politechnika-lodzka-wspoltworzy-zielona-rewolucje-w-europejskim-przemysle>

THE UNIVERSITY PROVIDES A LIST OF THE MOST IMPORTANT (MAX. 20) RESEARCH PUBLICATIONS OF SIGNIFICANT SOCIAL IMPACT PUBLISHED IN THE REPORTING PERIOD

VI.2

The following is a list of the prominent research publications of major societal impact, by discipline:

ARCHITECTURE AND URBAN PLANNING

Hanzl Małgorzata, Rembeza Magdalena. Greenery and Urban Form vs. Health of Residents: Evaluation of Modernist Housing in Lodz and Gdansk, Urban Planning, 2022 7(4), <https://doi.org/10.17645/up.v7i4.5831>.

Pabich Marek, Gajowiak Magda. Universal design - Bluetooth Low Energy-based navigation information systems for people with disabilities, Builder science, 2022, <http://dx.doi.org/10.5604/01.3001.0015.6155>.

AUTOMATION, ELECTRONICS, ELECTRICAL ENGINEERING AND SPACE TECHNOLOGIES

Wasiak Irena, Szypowski Michał, Kelm Paweł, Mieński Rozmysław, Wędzik Andrzej, Pawełek Ryszard, Małaczek Michał, Urbanek Przemysław. Innovative energy management system for low-voltage networks with distributed generation based on prosumers' active participation, Applied Energy, 2022, Vol. 312, 118705, <https://doi.org/10.1016/j.apenergy.2022.118705>

Felczak Mariusz, Rychter Mariusz, Więcek Bogusław. Non-destructive testing of metal archaeological relics on the example of zinc dog tags discovered during the exhumation of people murdered in the Remand Prison at 37 Rakowiecka Street in Warsaw, Journal of Cultural Heritage, Volume 57, 2022, Pages 149-153, ISSN 1296-2074, <https://doi.org/10.1016/j.culher.2022.08.005>

INFORMATION AND COMMUNICATION TECHNOLOGY

Niewiadomski Adam, Kacprowicz Marcin. Type-2 fuzzy logic systems in applications: managing data in selective catalytic reduction for air pollution prevention, Journal of Artificial Intelligence and Soft Computing Research, 11(2), 85–97, <https://doi.org/10.2478/jaiscr-2021-0006>.

Woźniak Mikołaj, Dominiak Julia, Grudzień Krzysztof, Wróbel-Lachowska Magdalena, Niess Jasmin, Woźniak Paweł, Romanowski Andrzej. Gapeau: Enhancing the Sense of Distance to Others with a Head-Mounted Sensor. In Sixteenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '22). Association for Computing Machinery, New York, NY, USA, Article 17, 1–19, <https://doi.org/10.1145/3490149.3501323>

CHEMICAL ENGINEERING

Olak-Kucharczyk Magdalena, Foszpańczyk Magdalena, Żyła Renata, Ledakowicz Stanisław. Photodegradation and ozonation of ibuprofen derivatives in the water environment: Kinetics approach and assessment of mineralization and biodegradability, Chemosphere, 2022, 291, Part 1, 132742, <https://doi.org/10.1016/j.chemosphere.2021.132742>

Bilińska Lucyna, Gmurek Marta. Novel trends in AOPs for textile wastewater treatment. Enhanced dye by-products removal by catalytic and synergistic actions, Water resources and industry, 2021, 100160, <https://doi.org/10.1016/j.wri.2021.100160>.

CIVIL ENGINEERING, GEODESY AND TRANSPORT

Cichowicz Robert, Dobrzański Maciej. 3D spatial dispersion of particulate matter and gaseous pollutants on a university campus in the center of an urban agglomeration, Energy, 2022, 259:125009, <https://doi.org/10.1016/j.energy.2022.125009>.

Cichowicz Robert, Dobrzański Maciej. Analysis of Air Pollution around a CHP Plant: Real Measurements vs. Computer Simulations, *Energies*, 2022, 15:553, <https://doi.org/10.3390/en15020553>.

MATERIALS ENGINEERING

Luo Xiaolei, Li Ziyang, Shen Junyan, Liu Lin, Chen Hao, Hu Ziqiang, Krucinska Izabella, Yao Juming. A facile strategy to achieve efficient flame-retardant cotton fabric with durable and restorable fire resistance, *Chemical Engineering Journal*, 2022, Volume 430, Part 3, 132854, ISSN 1385-8947, <https://doi.org/10.1016/j.cej.2021.132854>.

Han Lian, Zhang Haoyu, Yu Hou-Yong, Ouyang Zhaofeng, Yao Juming, Krucinska Izabella, Kim Daesung, Tam Kam Chiu. Highly sensitive self-healable strain biosensors based on robust transparent conductive nanocellulose nanocomposites: Relationship between percolated network and sensing mechanism, *Biosensors and Bioelectronics*, 2021, Volume 191, 113467, ISSN 0956-5663, <https://doi.org/10.1016/j.bios.2021.113467>.

MECHANICAL ENGINEERING

Gilewicz Paulina, Obidowski Damian, Sobczak Krzysztof, Frydrych Iwona, Cichocka Agnieszka. Analysis of Heat Transfer through a Protective Clothing Package, *Autex Research Journal*, 2021, Vol.0 (Issue 0), pp. -. <https://doi.org/10.2478/aut-2021-0044>.

Reorowicz Piotr, Tyfa Zbigniew, Obidowski Damian, Wiśniewski Karol, Stefańczyk Ludomir, Józwick Krzysztof, Levy Michael Lee. Blood flow through the fusiform aneurysm treated with the Flow Diverter stent, Numerical investigations, *Biocybernetics and Biomedical Engineering*, 2022, Volume 42, Issue 1, Pages 375-390, ISSN 0208-5216, <https://doi.org/10.1016/j.bbe.2022.02.008>.

MATHEMATICS

Gajek Lesław. *Podstawy ubezpieczeń majątkowych*. Księgarnia PWN. Warszawa 2022

Ledzewicz Urszula, Schaettler Heinz. The structure of optimal protocols for a mathematical model of chemotherapy with antiangiogenic effects, *SIAM Journal on Control and Optimization*, 2022, Vol. 60 No. 2, 1092-116, <https://doi.org/10.1137/21M1395326>

CHEMICAL SCIENCES

Katarzyńska Joanna, Zieliński Jacek, Marcinek Andrzej, Gębicki Jerzy. New Approach to Non-Invasive Assessment of Vascular Circulation Based on the Response to Transient Ischemia, *Vascular Health and Risk Management*, 2022, vol. 18, no., p. 113, ISSN: 1176-6344 (INT, -) 100,00/100,00 p., <https://doi.org/10.2147/VHRM.S358983>.

Masek Anna, Plota Angelika, Chrzęstowska Julia, Piotrowska Małgorzata. Novel Hybrid Polymer Composites Based on Anthraquinone and Eco-Friendly Dyes with Potential for Use in Intelligent Packaging Materials, *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES*, 2021, vol. 22, no. 22, p. 1-23, ISSN: 1422-0067 (INT, -) 140,00/140,00 p., <https://doi.org/10.3390/ijms222212524>

PHYSICAL SCIENCES

Skubisz Mikołaj, Torzewska Agnieszka, Mielniczek-Brzóska Ewa, Prywer Jolanta. Consumption of soft drinks rich in phosphoric acid versus struvite crystallization from artificial urine, *Sci Rep.*, 2022, 12, 14332, <https://doi.org/10.1038/s41598-022-18357-8>.

Teale Andrew et al. DFT exchange: sharing perspectives on the workhorse of quantum chemistry and materials science, *Phys. Chem. Chem. Phys.*, 2022, 24, 28700, <https://doi.org/10.1039/D2CP02827A>.

FOOD AND NUTRITION TECHNOLOGY

Korkus Iza, Dąbrowski Grzegorz, Szustak Marcin, Czapliski Sylwester, Madaj Rafał, Chworoś Arkadiusz, Koziółkiewicz Maria, Konopka Iwona, Gendaszewska-Darmach Edyta. Evaluation of the anti-diabetic activity of sea buckthorn pulp oils prepared with different extraction methods in human islet EndoC-betaH1 cells, *NFS Journal*, 2022, Volume 27, 54-66, <https://doi.org/10.1016/j.nfs.2022.05.002>.

Grzelczyk Joanna, Szwaigier Dominik, Baranowska-Wójcik Ewa, Budryn Grażyna, Zakłós-Szyda Małgorzata, Sosnowska Bożena. Bioaccessibility of coffee bean hydroxycinnamic acids during in vitro digestion influenced by the degree of roasting and activity of intestinal probiotic bacteria, and their activity in Caco-2 and HT29 cells, *Food Chem*, 2022, 392:133328, <https://doi.org/10.1016/j.foodchem.2022.133328>.

MANAGEMENT AND QUALITY STUDIES

Staniec Iwona, Kaczorowska-Spychalska Dominika, Kalinska-Kula Magdalena, Szczygieł Nina. The Study of Emotional Effects of Digitalised Work: The Case of Higher Education in the Sustainable Development, *International Journal of Environmental Research and Public Health*, 2022, 19(1), 576, <https://doi.org/10.3390/ijerph19010576>.

Chybalski Filip, Marcinkiewicz Edyta. A multidimensional approach to intergenerational balance measurement: a cross-sectional study for European countries, *Social Justice Research*, 2022, 35(2), 206-241, <https://doi.org/10.1007/s11211-022-00392-5>

THE UNIVERSITY PROVIDES A LIST OF RESEARCH AND/OR IMPLEMENTATION PROJECTS UNDERTAKEN IN THE REPORTING PERIOD IN PARTNERSHIP WITH OTHER POLISH ORGANIZATIONS (INCLUDING NGOS) AIMED AT SEEKING SOLUTIONS TO SIGNIFICANT SOCIAL PROBLEMS

VI.3

The following is a list of representative research projects carried out in partnership with other Polish organizations aimed at seeking solutions to significant social problems:

NEW PRODUCT DEVELOPMENT PRODUCTION LAUNCH PREPARATION - AN ORTHOPEDIC MINI C-ARM FOR INTRAOPERATIVE MEASUREMENTS

In cooperation with Robotic Medical Solutions Sp. z o. o.

A metrology study and medical experiments will be carried out with a view to developing the design of and software for an orthopedic mini C-arm to measure lower limb length discrepancy and offset in hip replacement surgery. Total hip arthroplasty is one of the most common implant surgeries performed worldwide. One ongoing major issue in medicine are intraoperative measurements, here, to determine whether the length of the limb and its offset from the plane of symmetry of the patient is correct. The positioning arm that is being developed and prepared for production would resolve this problem.

SYSTEM OF NON-INVASIVE MONITORING AND DIAGNOSIS OF FUNCTIONAL DISORDERS OF THE LOWER URINARY TRACT WITH THE USE OF ELECTRICAL AND ULTRASOUND TOMOGRAPHY

In cooperation with Netrix S.A. and the Institute of the Polish Mother's Health Center in Łódź

The goal is to develop and put into clinical practice a non-invasive system for monitoring and diagnosing functional urinary tract disorders in children with the aid of electrical impedance tomography (EIT) and ultrasonography (UT). Urinary tract disorders are a common problem in the pediatric population. The system will be introduced into clinical practice to diagnose selected groups of children who suffer from urinary tract disorders.

DEVELOPMENT AND IMPLEMENTATION OF AN INNOVATIVE TECHNOLOGY FOR THE PRODUCTION OF NEW GENERATION FRUIT AND VEGETABLE PRODUCTS ENRICHED WITH DIETARY FIBRE PREPARATION-FROM POTATO STARCH WITH PREBIOTIC PROPERTIES FOR CHILDREN AND ADOLESCENTS

In cooperation with the Children's Memorial Health Institute in Warsaw, Tymbark MWS Sp. z o.o., Sp. K., the Maria Skłodowska-Curie National Research Institute of Oncology, the Faculty of Science and Technology of Jan Długosz University in Częstochowa.

The overall purpose for the project is to develop and implement a technology for the production of non-sweetened fruit and vegetable products enriched with a prebiotic dietary fiber preparation from potato starch with organoleptic qualities acceptable to children and adolescents and appropriate storage stability. A prototype of the final product will be tested and refined in the operational setting.

DEVELOPMENT OF A DEVICE TO AID EARLY DIAGNOSIS OF SKIN LESIONS, INCLUDING MELANOMA, BASED ON MACHINE VISION METHODS, SPATIAL MODELLING, COMPARATIVE ANALYSIS, AND CLASSIFICATION

In cooperation with Skopia Estetic Clinic Sp. z o.o., Kraków

The objective is to develop a high-resolution device for automatic 3D modelling and analysis of the patient's skin surface to identify pigmented lesions (in lay terms called moles) for secondary prevention of skin cancer (in particular, melanoma). The advantage of the new device over the competition is that it enables the detection of new skin lesions and analysis of already existing lesions more accurately, more efficiently and in a shorter time.

INNOVATIVE SYSTEM FOR EVALUATION AND PHYSICAL THERAPY OF MUSCULOSKELETAL DISORDERS

In cooperation with: Department of Medicine, Medical University of Lodz; Platinum Seed Incubator Sp. z o. o., Labo Clinic Sp. z o. o. and Nofer Institute of Occupational Medicine

The principal objective is to develop and implement an innovative system to facilitate the diagnosis and physiotherapy of people with balance disorders. The groundbreaking engineering approach involves the construction of portable electronic device fitted with triaxial MEMS sensors. The system will be useful in assisting and supervising people undergoing physical therapy treatment will help control patients' posture in everyday life situations, alerting them of a risk of losing their balance..

DEVELOPMENT OF A MONITORING, EARLY-WARNING AND SUSTAINABLE MANAGEMENT SYSTEM FOR WASTEWATER TREATMENT PLANTS, MINIMIZING DISCHARGE OF POLLUTANTS FROM URBAN AREAS TO THE AQUATIC ENVIRONMENT

In cooperation with the Group Wastewater Treatment Plant in Łódź

The goal is to develop a monitoring, early-warning, and sustainable management system for wastewater treatment

plants to reduce the discharge of pollutants from urbanized areas into the aquatic environment. With this system in place, the wastewater treatment plant will be given an early warning of a possible sudden influx of toxic substances into the biological treatment process and hydraulic overload at times of precipitation. The project will lead to significant technological innovation in the wastewater collection and treatment system facilitating considerable progress towards its fully sustainable operation and serving to protect the environment while optimizing costs.

COMPETENCE DEVELOPMENT CENTRE

In cooperation with Regional Association of Private Employers in the Łódź region

A number of free upskilling courses, as well as training for seniors, have been planned in the project. The goal is to raise training participants' competences to prevent social exclusion by increasing their social and professional activity. More than 30 training courses have been planned: industry-specific, IT, entrepreneurship, as well as training aimed at preventing social exclusion of seniors, and courses for Ukrainian nationals.

UCZELNIA PRZEDSTAWIA LISTĘ PROJEKTÓW BADAWCZYCH LUB PRAC WDROŻENIOWYCH PODJĘTYCH Z ORGANIZACJAMI Z INNYCH KRAJÓW W DANYM OKRESIE SPRAWOZDAWCZYM, NAKIEROWANYCH NA POSZUKIWANIE ROZWIĄZAŃ ISTOTNYCH PROBLEMÓW SPOŁECZNYCH

VI.4

The following is a list of selected research projects conducted in partnership with international organizations, aimed at seeking solutions to significant social problems:

ANTIOXIDANT, ELECTROACTIVE, AND BIOCIDAL SELF-ADHESIVE WOUND DRESSING MATERIALS

In partnership with the Medical University of Lublin, Ulm University and Max Planck Institute for Polymer Research

Chronic wounds are caused by persistent inflammation phase in the healing process, thereby preventing skin regeneration. Researchers from the Faculty of Chemistry, TUL, are taking part in an international research project whose goal is to develop wound dressings that promote the healing process. The developed material has opened up new avenues for research on new-generation dressing materials, and thus for new approaches to therapies that significantly improve wound healing.

<https://p.lodz.pl/uczelnia/informacje-dla-mediow/inteligentne-opatrunki-na-przewlekle-rany>

DESIGN AND IMPLEMENTATION OF SUSTAINABLE SOLUTIONS FOR BIOPLASTIC PRODUCTION AND USE TO PROTECT THE TERRESTRIAL AND MARINE ECOSYSTEMS IN EUROPE

In partnership with Upm (Spain), Natureplast Sas (France), Heng Hiap Industries Sdn Bhd (Malaysia), Cnr (Italy), IVI (Sweden), Prospex Institute (Belgium), The Manchester Metropolitan University (UK), Awi (Germany), Haw Hamburg (Germany), Hwwi (Germany), Taltech (Estonia), Uribo (Italy), Assobioplastiche Servizi (Italy), Turku University of Applied Sciences Ltd Tuas (Finland), Abm (Finland), T.i.c.a.s.s. (Italy), Kaunas University of Technology (Lithuania), Tuhh (Germany), Fraunhofer (Germany), Acib Gmbh (Austria), Ecoembes (Spain)

The main purpose of the BIO-PLASTICS EUROPE is to contribute sustainable strategies and solutions for biodegradable plastics to support the EU plastics strategy and promote a closed loop economy. Over the course of the project, researchers will address innovative product design, development of health and safety standards, product end-of-life options, and environmental and economic assessment of product life cycle, as well as the development of business models for efficient reuse and recycling of biodegradable plastics, ensuring that the recycled materials are safe both for the environment and the society.

VRXANNY

In partnership with the University of Lodz, the University of Vigo (Spain), and the University of Tartu (Estonia)

Chronic and high intensity stress negatively affects the immune system and is the cause of both mental and physical health problems. The WHO has called stress 'the health epidemic of the 21st century'. Recent research shows that VR can redefine psychological treatment, conjuring up virtual environments to help patients cope with the experiences that lie at the bottom of psychological crises. The intended outcome is the construction of special relaxation zones, dubbed 'chill spots', on the campuses of all partner universities. These chill spots will be equipped with VR systems to heighten a sense of wellbeing in students suffering from acute episodic and chronic stress and anxiety, as well as from the effects of depression.

<https://www.zycieuczelnip.lodz.pl/vr-i-redukcja-stresu>

PRINCIPLE VII

Fostering interuniversity, national, and international relations to facilitate adaptation and reinforcement of best practice in university social responsibility

UTHE UNIVERSITY REPORTS ITS AFFILIATION AND MEMBERSHIP IN POLISH AND INTERNATIONAL ORGANIZATIONS WHOSE MISSION IS ALIGNED WITH USR, AND PROVIDES LINKS TO THEIR PROFILES

VII.1

Lodz University of Technology is a member of the following organizations whose mission is aligned with or falls within the scope of USR:

- Deklaracja Społecznej Odpowiedzialności Uczelni <https://www.gov.pl/web/edukacja-i-nauka/grupa-robocza-do-spraw-spoecznej-odpowiedzialnosci-uczelni>
- Łódzkie Partnerstwo Akademickie <https://p.lodz.pl/uczelnia/aktualnosci/rektorzy-lodzkich-uczelni-podpisali-deklaracje-zaciesniania-wspolpracy>
- European Consortium of Innovative Universities <https://www.eciu.p.lodz.pl/pl>
- European University Association <https://eua.eu>
- Europejski Instytut Innowacji i Technologii Zdrowie (EIT Health) oraz Żywność (EIT Food) <https://eithealth.eu> <https://eit.europa.eu/our-communities/eit-food>
- Accreditation Council for Entrepreneurial and Engaged Universities (ACEEU) <https://www.aceeu.org>
- Baltic University Programme <https://www.balticuniv.uu.se>
- European School of Sustainability Science and Research <https://esssr.eu>
- Program Race to Zero <https://www.educationracetozero.org>
- Platforma Przemysłu Przyszłości <https://przemyslprzyszlosci.gov.pl>
- Porozumienia Akademickich Centrów Transferów Technologii (PACTT) <https://pactt.pl>
- Erasmus+ <https://erasmusplus.org.pl>
- Łódzki Klaster ICT <https://www.ictcluster.pl>
- Klaster LODZistics <https://lodzistics.pl>

THE UNIVERSITY PROVIDES AT LEAST TWO OR THREE SPECIFIC EXAMPLES OF BEST PRACTICE IMPLEMENTATION IN THE FIELD REFERRED TO ABOVE, ACHIEVED IN COLLABORATION WITH OTHER NATIONAL AND INTERNATIONAL HIGHER EDUCATION INSTITUTIONS

VII.2

Below are examples of best practice implementation carried out in collaboration with partner universities:

SUMMER SCHOOL ORGANIZED IN PORTO BY LODZ UNIVERSITY OF TECHNOLOGY UNDER THE PROJECT MR UD

Five days of concentrated, creative effort from 20 students from Poland, Portugal, and Estonia; a collaborative endeavor to identify problems faced by people with disabilities.

<https://www.zu.p.lodz.pl/mr-ud-czyli-lepiej-zrozumiec-potrzeby-innych>

SUPPORT FOR BALKAN UNIVERSITIES

Researchers in the Faculty of Electrical, Electronic, Computer and Control Engineering, TUL, are engaged in the international Erasmus+ project 'VTECH - Accelerating Western Balkans University Modernization by Incorporating Virtual Technologies'. The project is intended to support Balkan universities in deployment of advanced technologies, including virtual reality (VR) and augmented reality (AR). By incorporating virtual technology into the academic culture of universities, this project hopes to improve the quality of teaching and thereby contribute to skill-building and strengthening a digital society in Western Balkan countries. In March 2022, TUL received the partners involved in the project. During the visit, workshops were held on designing virtual and augmented reality environments, user interfaces, interaction scenarios, and user experience testing. There are 11 partners in the project consortium, 8 of which are Balkan universities. The required knowledge base and know-how in the field of modern forms of education are provided by TUL and the two, Estonian (University of Tartu) and Slovenian (University of Ljubljana), partners.

<https://vtech-project.eu>

BALTIC UNIVERSITY PROGRAMME (BUP)

One of BUP's annual events is a training course for doctoral candidates. In the 2021/22 academic year, it was hosted by Lodz University of Technology. Doctoral candidates are provided with an opportunity to discuss research topics giving priority to issues in sustainability from an interdisciplinary, international, multicultural and regional perspectives. The training allows the participants to exchange information about their research and reflect on their own work through the eyes of the other participants, who may be their peers as well as invited experts. The training hosted by TUL produced a Book of Abstracts, featuring 14 presentations from the event.

https://balticuniv.uu.se/digitalAssets/882/c_882808-1-1-k_book-of-abstracts-2021-phd-training.pdf

THE UNIVERSITY REPORTS THE PROPORTION OF HEIS WITH WHICH COOPERATION IN THE FIELD REFERRED TO ABOVE WAS LAUNCHED TO THE TOTAL NUMBER OF PARTNER HEIS AT THE END OF THE REPORTING PERIOD

VII.3

Lodz University of Technology cooperates with Polish and international universities on a broad range of issues based on institutional cooperation agreements, as well as project specific and unit specific agreements, e.g. International Faculty of Engineering.

<https://www.ife.p.lodz.pl/pl/file/mobilnosc-wyjazdy-uczelnie-lista-03-2015-plpdf>

Up until now, TUL has not kept track of its cooperation with universities as regards USR.

PRINCIPLE VIII

Upholding institutional governance while anchoring university's management in the principles of social responsibility, both in strategic policy papers as well as in the ensuing actions that serve to ensure universal development of the academic community and effective fulfillment of the university's mission

THE UNIVERSITY REPORTS ON ADOPTED POLICY PAPERS WHICH HIGHLIGHT THE ROLE OF USR, STATING THE DATE OF THEIR PUBLICATION AND PROVIDING A LINK TO ACCESS THEM

VIII.1a

Below is a list of the strategic papers of TUL which highlight the role of USR:

STATUTES OF LODZ UNIVERSITY OF TECHNOLOGY

Resolution No. 88/2019 of the Senate of Lodz University of Technology of July 10, 2019 defines regard for equality with the following provision: Lodz University of Technology takes measures to support the advancement of science, economy, and culture, forming a new image of Lodz and Poland. Lodz University of Technology is a common good of its employees, students, and doctoral candidates, and adheres to the principles of respect for their dignity and their rights. It also fully recognizes their equal rights and obligations in keeping with the Constitution of the Republic of Poland.

<https://politechnikalodzka.bip.gov.pl/statut-politechniki-lodzkiej/statut-politechniki-lodzkiej.html>

LODZ UNIVERSITY OF TECHNOLOGY STRATEGIC DEVELOPMENT PLAN 2020 - 2025

Lodz University of Technology development strategy is based on incremental and consistent implementation of the SAIL concept, which outlines the four priority areas for the university and the twelve strategic action areas assigned to them. Each of the twelve designated areas have specific strategic objectives, the achievement of which will earn Lodz University of Technology a high international standing as an innovative research university. The provisions contained in the Plan include sections on the development of social responsibility of the university, dissemination of ethical standards and ethical conduct at the university, inspiring research and innovation in liaison with the economic and social environment, as well as the development of cooperation with business organizations and public administration agencies. Objective. 2.3 Accountability - Lodz University of Technology seeks to be a socially responsible university, i.e. one that cares for the environment, sustainable development, is responsive to social needs, fosters civic attitudes, promotes philanthropy, and remains engaged in public dialogue with its stakeholders while maintaining the highest ethical standards in university governance.

<https://p.lodz.pl/uczelnia/strategia-uczelni>

DECLARATION OF UNIVERSITY SOCIAL RESPONSIBILITY

The Declaration puts a strong emphasis on the university as the place where new knowledge is produced and imparted, as well as on the need to nurture academic values. Also underlined is the importance of the principles of ethics principles and the imperative to disseminate the ideals of equality, diversity, tolerance, and respect for and protection of human rights across the academic community and its environment. The declaration specifies twelve principles concerning different

aspects of university operations, education, scientific research, internal organization, and dialogue with stakeholders. For each principle, a set of expectations have been formulated with respect to universities - signatories to develop specific areas of university operation in keeping with the principles of environmental ethics and social solidarity. The participation of TUL in this initiative is an expression of its commitment to the third mission of the university: to cultivate and nurture academic values and to take action to benefit the society and the environment.

HR STRATEGY FOR RESEARCHERS

<https://p.lodz.pl/pracownicy/hr-excellence-research-w-pl/strategia-hr-dla-naukowcow-w-politechnice-lodzkiej>

LODZ UNIVERSITY OF TECHNOLOGY GENDER EQUALITY PLAN

<https://p.lodz.pl/sites/default/files/2022-01/plan-rownosci-plci-w-politechnice-lodzkiej.-plan-dzialan-na-lata-2022-2024.pdf>

LABOR CODE AND TUL WORK RULES AND REGULATIONS

The Labor Code regulates gender equality in Article 113: discrimination in employment, direct or indirect, in particular due to sex, age, disability, race, religion, nationality, political beliefs, trade union membership, ethnic origin, religion, sexual orientation, employment for a fixed or indefinite period, full-time or part-time employment - is unacceptable. This provision is reflected in TUL Work Rules and Regulations Chapter VIII, Section 94 Protection against discrimination and mobbing: discrimination in employment shall be construed as unequal treatment, in particular based on sex, subject to the provisions of the Labor Code.

VIII.1b

Actions taken:

NON-PUBLIC KINDERGARTEN OF LODZ UNIVERSITY OF TECHNOLOGY

Ordinance No. 27/2022 of the Rector of Lodz University of Technology of April 22, 2022 on the establishment of the Non-Public Kindergarten of Lodz University of Technology in Łódź. In September 2022, TUL's kindergarten was opened. Staff, students, and doctoral candidates can now trust their little ones are under professional pedagogical care. A two-story building on Campus A had been allotted to house the kindergarten. The kindergarten provides activities designed to ensure integrated child development and a varied and enjoyable experience for each kid. They include English, music and rhythm, speech therapy, environmental education for kids, the Little Chef's Corner and the Little Chemist's Corner.

<https://p.lodz.pl/uczelnia/aktualnosci/niepubliczne-przedszkole-pl-oficjalnie-otwarte>

HELP FOR UKRAINE

Lodz University of Technology community has been deeply distressed by the war in Ukraine. The university has taken a number of measures to provide adequate support to Ukrainian students and academics. To better coordinate its efforts, TUL launched a webpage where information on the initiatives to support those affected by the war is provided. TUL also established a welcome point for students, doctoral candidates, academic and administrative staff arriving from Ukrainian universities, as well as Ukrainian students and staff already studying/working at TUL before the outbreak of war. TUL Academic Crisis Service provided free psychological counseling. The university also organized intensive Polish courses for those wishing to proceed to study in Polish [STRONA 16], as well as adaptation training and workshops to facilitate integration into the Polish higher education system. Furthermore, the university joined the donation drive organized by the Office of the City of Łódź, donating items such as painkillers and first aid kits, thermal bottles, batteries, power banks, non-perishable foodstuffs and other items (a full list available on the Office of the City of Łódź website). Donations for Ukraine were collected at designated points on the university campus and delivered to the City in bulk.

<https://p.lodz.pl/uczelnia/lodzka-politechnika-dlya-ukraini-pl-dla-ukrainy>

CHILDREN'S UNIVERSITY OF ŁÓDŹ (ŁUD)

ŁUD is a unit of TUL founded to give children opportunities to explore, discover and engage with the world of engineering in an accessible and playful way. Since 2008, ŁUD has been offering its students workshops, seminars, and lectures. They are held at TUL facilities and are primarily conducted by the university's lecturers but also by invited guests - usually renowned, national and foreign experts in their different fields of specialization. In 2021, ŁUD provided 256 distance workshops, including 16 in the series called 'From a different perspective', 130 in-person workshops, five workshops for parents, and workshops for adolescents from 13 to 16 years old. 700 children and 250 parents attended. The 26 workshops provided during the Winter Break with ŁUD program were attended by 170 participants.

PUBLIC GENERAL SECONDARY SCHOOL OF LODZ UNIVERSITY OF TECHNOLOGY

The Public General Secondary School was the first secondary school in Łódź to be founded and operated by a university. The school is an important stage in the process of education of future professionals who have mastered engineering skills and competences to meet the demands of the economy. The curriculum for science and technology subjects (mathematics, physics, chemistry, biology, computer science) as well as foreign languages (mainly English) has been enriched with more advanced topics and extended coursework. A lot is required both of the teachers and students of the school, which has quickly resulted in the school becoming one of the best in Poland. In 2021/2022 school year, the school had 429 students, and 110 students graduated from it.

UNIVERSITY OF THE THIRD AGE OF LODZ UNIVERSITY OF TECHNOLOGY (UTW)

UTW was established in 2006 to address educational demands of older learners. UTW is an integral part of TUL and its objective is to provide seniors with activities that are conducive to their psychological, physical, and social well-being. Classes are organized into an academic year that spans two terms. Students attend lectures on a variety of topics in science and technology, staying healthy, and legal proceedings. They are also encouraged to develop their IT and new technology skills, learn foreign languages, learn about art history, bridge (card game), traveling, as well as enjoy a range of fitness options and the indoor swimming pool at TUL's Zatoka Sportu. In 2021/22 1376 class hours were provided, attended by 880 third-age learners (including 602 regular students and 278 local community members who took part in open university lectures and classes).

FOUNDATION OF LODZ UNIVERSITY OF TECHNOLOGY

Among the projects conducted by the Foundation of TUL there are those supporting students with disabilities. They are intended to improve student participation in the life of the academic community, provide favorable conditions facilitating their independence, development of their interpersonal skills, and help overcome stereotypes. The Foundation also works to provide healthcare services to TUL employees.

THE UNIVERSITY REPORTS ON AWARDED ACCREDITATION AND LABELS WHICH TAKE INTO ACCOUNT ALL OR PARTS OF USR, EFFECTIVE IN THE REPORTING PERIOD

VIII.2

The following is a list of the awarded accreditation and labels which take USR into consideration:

ABET ACCREDITATION

Two degree programs taught in English in collaboration with the Faculty of International Engineering, namely Computer Science (the Faculty of Electrical, Electronic, Computer and Automatic Control Engineering) and Information Technology (the Faculty of Technical Physics, Informatics and Applied Mathematics) received in August 2022 the prestigious accreditation of the American Accreditation Board for Engineering and Technology (ABET).

<https://www.zu.p.lodz.pl/prestizowa-akredytacja-abet-dla-dwoch-kierunkow-na-pl>

KAUT CERTIFICATION

Since November 19, 2014, KAUT has been competent to award the European quality certificate EUR-ACE Label (the label enjoys the status of international accreditation). Institutions that are accredited by KAUT are simultaneously awarded the EUR-ACE Label for their first and second degree programs run by the accredited faculty. In September 2022, the chairperson of KAUT presented the documents certifying the award of the EUR-ACE Label to five new fields of study at TUL, which is equivalent to the award of the European accreditation EUR-ACE® Label.

<https://p.lodz.pl/ksztalcenie/polityka-jakosci/akredytacje>

<https://www.zu.p.lodz.pl/uroczystosc-wreczenia-certyfikatow-kaut>

EUA - INSTITUTIONAL EVALUATION PROGRAM

Lodz University of Technology is one of only three Polish universities to have undergone the EUA Institutional Evaluation Program, and has been granted the right to use the EUA quality label - IEP, recognized throughout Europe. Holding the label strengthens the university's standing in the European Research Area.

HCERES

In 2020, TUL was the first university in Poland to be awarded the French international accreditation HCERES, for five years. A panel from the French Supreme Council for the Evaluation of Scientific Research and Higher Education highly appreciated the comprehensive offer of education provided at TUL, geared towards meeting the demands of the job market, as well as the university's efforts towards refining its curricula.

ACCREDITATIONS OF THE POLISH ACCREDITATION COMMITTEE (PKA)

One of the aspects assessed during the degree program evaluation is cooperation with social and economic stakeholders. A list of degree programs evaluated by PKA in recent years is to be found under the link below:

<https://p.lodz.pl/ksztalcenie/polityka-jakosci/akredytacje>

EDUCATION EXCELLENCE CERTIFICATE IN THE CATEGORY 'PARTNER FOR DEVELOPMENT - EXCELLENCE IN COOPERATION WITH SOCIAL AND ECONOMIC STAKEHOLDERS'

The Polish Accreditation Committee (PKA) gave a positive assessment to the degree programs in computer science taught at the Faculty of Electrical, Electronic, Computer and Automatic Control (WEEIA). The positive assessment for the first- and second-cycle degree programs in computer science, general academic profile, was awarded for five years.

<https://p.lodz.pl/uczelnia/aktualnosci/informatyka-na-pl-z-certyfikatem-doskonalosci-ksztalcenia>

HR EXCELLENCE IN RESEARCH

Following an external evaluation, the European Commission (EC) decided in May 2016 to award Lodz University of Technology the HR Excellence in Research label. Lodz University of Technology is the first technical university and the third in Poland to be granted the distinction by the EC, which confirms the relevance of the strategy adopted by Lodz University of Technology and of the measures intended in the field of HR, and the university's commitment to the implementation of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers. In the academic year 2021/2022, Lodz University of Technology was granted an extension for a further three years, until June 17, 2025, of the right to use the European Commission's HR Excellence in Research label.

PRINCIPLE IX

Ensuring transparency in the activities carried out by the university by, inter alia, measuring results, promoting and disseminating achievements, as well as naming the individual or the body responsible for the coordination of these activities

THE UNIVERSITY COMMUNICATES WHETHER IT HAS PRODUCED A CSR REPORT IN THE REPORTING PERIOD, AND IF IT HAS, IT PROVIDES THE YEAR OF ITS PUBLICATION AND A LINK TO ACCESS IT

IX.1

TUL does not produce a report that deals strictly with CSR, but accounts for such activities in the following reports published annually:

Annual report of the Rector <https://p.lodz.pl/sites/default/files/2022-07/sprawozdanie-z-dzialalnosci-politechniki-lodzkiej-w-2021-r.pdf>

Lodz University of Technology towards sustainable development. Report for 2020-2021 https://p.lodz.pl/sites/default/files/2022-02/raport-zrownowazonego-rozwoju_0.pdf

Lodz University of Technology towards sustainable development. Report for 2021-22 https://p.lodz.pl/sites/default/files/2022-11/RaportZrownowazonegoRozwoju21_22.pdf

THE UNIVERSITY STATES WHETHER IT HAS PRODUCED A REPORT ON CSR FOR AN INTERNATIONAL ORGANIZATION

IX.2

Lodz University of Technology seeks accreditation for 'engaged universities' of the Accreditation Council for Entrepreneurial and Engaged Universities (ACEEU). At present, this is the only comprehensive international accreditation that concentrates on the Third Mission. It was originated in consideration of those universities that are able to claim a significant contribution to economic and social development of their environment or would like to strengthen their influence on their environment. According to the accreditation framework, an engaged university is oriented towards acting for the benefit of its environment and carrying out a range of projects that have a social, economic, and cultural impact on it. It educates and conducts research aligned with the needs of its social and business environment. Its research and projects are collaborative and mutually beneficial. Also of paramount importance as far as the third mission is concerned is the staff and student participation and it is in this direction that the university develops its organizational capacity, support structures, and cooperation with the environment. An engaged university is an influential organization within the broader ecosystem, placing value on systematic improvement and generation of greater social and cultural impact for the city and region. In November 2020, TUL successfully completed the eligibility review and is now a member of the ACEEU association. In 2021, measures were taken to meet the ACEEU assessment criteria, and in 2022, TUL worked on its self-assessment report. The report was submitted to ACEEU in November 2022. Information concerning the efforts to achieve this accreditation and progress made in this regard are published on CWM webpage.

<https://cwm.p.lodz.pl/pl/rankingi-i-akredytacje/akredytacje-miedzynarodowe/accreditation-council-entrepreneurial-and-engaged>

THE UNIVERSITY PROVIDES A DESCRIPTION OF THE TOOLS USED TO MEASURE RESULTS, PROMOTE AND DISSEMINATE CSR

IX.3

To monitor the implementation of SDGs, in the absence of its own indicators, the university used the indicators included in the initial THE Impact ranking methodology, which provided a framework for planning sustainable development, setting goals, and measuring performance. It also marked a starting point for the drafting of the first report on the implementation of SDGs by TUL. The Sustainability Workgroup is currently working on a set of indicators to monitor TUL progress in this area in subsequent reports, which would facilitate a shift towards a more quantitative approach in future (currently a descriptive approach prevails).

THE UNIVERSITY PROVIDES DETAILS OF AND CONTACT INFORMATION FOR THE PERSON OR BODY AT THE UNIVERSITY RESPONSIBLE FOR THE COORDINATION OF THE ACTIVITIES IN THE AREAS REFERRED TO ABOVE

IX.4

The information is provided under the sustainable development tab on TUL website.

<https://p.lodz.pl/uczelnia/zrownowazony-rozwoj/zespol-ds-zrownowazonego-rozwoju-pl>

PRINCIPLE X

Conducting operations in such a way as to reduce the negative impact of the activities carried out by the academic community and its stakeholders on the natural environment in all its aspects

THE UNIVERSITY PROVIDES AT LEAST TWO OR THREE SPECIFIC EXAMPLES OF PROJECTS/INVESTMENTS COMPLETED IN THE REPORTING PERIOD WHICH LED TO A REDUCTION OF THE NEGATIVE IMPACT ON THE ENVIRONMENT, EACH TIME SPECIFYING THE RESULT INDICATORS USED

X.1

Below are examples of completed projects/investments where the negative impact on the environment was reduced:

PASSIVE HOUSE OFFICE BUILDING

A passive house office building was completed in 2021 to serve the needs of the administration and students. The facility with a total area of 1,600 sq. m, is powered by solar energy, which significantly reduces operating costs. The building has been retrofitted based on the latest technology. PV panels were mounted in the windows, on the roof and the building facade. Heat pumps were installed, which helps reduce the consumption of energy required for day-to-day operation, which translates into correspondingly lower emissions of harmful substances into the atmosphere.

<https://p.lodz.pl/uczelnia/zrownowazony-rozwoj/zielony-kampus-pl/budowa-pasywnego-budynku-biurowego-na-potrze-by-administracji-i-studentow-pl-wraz-z-wymiana-oswietlenia>

THERMOMODERNIZATION OF UNIVERSITY BUILDINGS

The Ministry of Funds and Regional Policy has provided 11.5 million złoty to TUL for the thermomodernization of the university's two buildings. The funds are provided under the EU Infrastructure and Environment 2014-2020 program. The first of the modernized buildings is the future headquarters of the Centre of Excellence for Universal Design (a training center for professionals designing new solutions for social accessibility). [STRONA 19] The second building provides facilities for the recently opened kindergarten for children of TUL staff, doctoral candidates, and students. Thus, two old buildings located on Campus A will be brought to current technical standards and specifications. The thermomodernization of the buildings will contribute to a reduction in energy consumption and carbon dioxide emissions. Once the work is completed, the facilities will be up to standard and energy-efficient.

<https://p.lodz.pl/uczelnia/aktualnosci/miliony-na-termomodernizacje-budynkow-pl>

DEEP THERMOMODERNIZATION OF THE BUILDING OF THE FACULTY OF ORGANIZATION AND MANAGEMENT (B-17)

A reduction in the heating demand of the B-17 building was achieved as a result of modernization works involving: retrofitting the heating system, replacement of the hot water and circulation system, comprehensive modernization of the ventilation system, installation of the Building Management System (BMS), modernization of the built-in lighting system installation and fitting it with LED luminaires, PV installation, construction works prerequisite for the thermomodernization and energy efficiency of the building. The project also included modernization works that were necessary to ensure that all of the issues were addressed, as well as tasks related to project management, promotion and information. The objectives of the project are in line with the objectives of the environmental and energy policy implemented at EU, national, regional, and local levels. The project has contributed to building a competitive low-carbon economy in the Łódzkie region, where resources are used in an efficient and sustainable manner, greenhouse gas emissions are reduced, and energy poverty in the region is relieved.

<https://woiz.p.lodz.pl/projekty/gleboka-termomodernizacja-budynku-wydzialu-zarzadzania-i-inzynierii-produkcji-b-17>

NEW LIGHTING ON TUL CAMPUS

From the beginning of September 2022, a new lighting system has been operational at Lodz University of Technology campus A, which means a significant reduction in electricity demand. The investment was made possible by the European Union funds provided under the ROP for Łódź Voivodeship.

<https://www.zu.p.lodz.pl/nowe-oswietlenie-w-kampusie-pl>

ELECTRONIC RECORDS MANAGEMENT

In 2021 Lodz University of Technology signed a licensing agreement with the State Treasury - Podlaskie Voivodeship Office in Bialystok and the Warsaw School of Economics. The agreement grants TUL the right to use the Electronic Records Management (EZD PUW) system without charge. A test version of the system was launched. The system is expected to allow TUL offices to go paperless. Elimination of paper is expected to streamline communication and process management, reduce the university operating costs and, above all, contribute to protecting the forest. Whether this project is successful depends to a large extent on the team coordinating the efforts at TUL units. They have been the first line of support in organizing and conducting training courses since the project started.

THE UNIVERSITY PROVIDES TWO OR THREE EXAMPLES OF ENVIRONMENTAL ACTIVITIES/CAMPAIGNS UNDERTAKEN WITH NGOS AND THE STUDENT COMMUNITY, OR AT THEIR REQUEST, IN THE REPORTING PERIOD

X.2

Examples of environmental activities/campaigns undertaken with NGOs and the student community, or at their request:

INTERNATIONAL EARTH DAY

As a community of individuals, TUL engages in environmental initiatives. This year, as in the previous years, the university took part in Earth Day. Lodz University of Technology students and staff celebrated the occasion by cleaning up the area adjacent to the campus. By doing so, they once again proved their concern for the environment. The action 'Clean Up the World' was organized by the Department of Ecology and Climate of the Office of the City of Łódź. Representatives of more than a dozen different companies and institutions seated in the area of Łódź took part.

<https://www.zu.p.lodz.pl/wielkie-sprzatanie>

ON-CAMPUS ELECTRIC CAR CHARGING STATIONS

Two electric vehicle charging stations were set up on the premises of Lodz University of Technology. All who wish to use them need to download a mobile app first.

<https://p.lodz.pl/uczelnia/zrownowazony-rozwoj/zespole-ds-zrownowazonego-rozwoju-pl>

EDUCATION

TUL runs degree programs in Architecture, where students follow such courses as Ecological Architecture and Landscape Architecture (first-cycle programs), and Landscape and Environment (second-cycle programs). These courses aim to provide relevant training to students who in the future will be accountable for the planning, design, and realization of such elements of landscape architecture as gardens, parks, boulevards.

STUDENT SCIENCE GROUPS: TUL LODZ SOLAR TEAM AND IRON WARRIORS

TUL student science groups regularly excel in projects and competitions related to e-mobility. The competition iLumen European Solar Challenge in Belgium at the Circuit Zolder once again proved lucky for students on the TUL Lodz Solar Team. Their Eagle Two vehicle circled the track 140 times on a single charge and ranked second for the distance traveled. This is yet another argument in favor of harnessing solar energy for automotive propulsion. The students of the Iron Warriors Team, on the other hand, for many years now have been breaking new records in energy efficiency competitions.

<https://p.lodz.pl/uczelnia/aktualnosci/studenci-z-lodz-solar-team-pl-mistrzami-europy>

<https://ironwarriors.p.lodz.pl>

PRINCIPLE XI

Engaging in dialogue with the stakeholders on the priorities of the university social responsibility policy and reporting on its results

THE UNIVERSITY PRESENTS TWO OR THREE SPECIFIC EXAMPLES OF DIALOGUE WITH STAKEHOLDERS ON THE USR POLICY, EACH TIME GIVING THE NUMBER OF INDIVIDUALS INVOLVED FROM WITHIN AND OUTSIDE THE UNIVERSITY COMMUNITY.

XI.1

Below are examples of dialogue with stakeholders on the USR policy:

PARTICIPATORY BUDGETING 'IDEA BOX'

For the past six years, members of the university's community have been given the opportunity to submit their ideas to IDEA BOX. Each year, proposals are submitted by students and staff to improve their working and studying conditions, but also to implement environmental initiatives or initiatives that foster communication and integration of the academic community.

DEMOCRATIC REPRESENTATION AT THE UNIVERSITY

Every four years, the university electoral college elects the next rector of Lodz University of Technology. The college is composed of 112 electors who represent all groups of TUL staff, students, and doctoral candidates. As for the right to nominate candidates for the rector to the University Electoral Committee it belongs to Lodz University of Technology Council as well as to all members of the university community holding a passive right to vote. An inclusive, participatory, and representative decision-making process is also guaranteed by the University Senate, composed of representatives of all groups of the academic community, namely academic staff, non-academic staff, students, and doctoral candidates.

UNIVERSITY COUNCIL

The Council, composed in half of individuals not affiliated with Lodz University of Technology, including representatives of business, has the following duties: issuing opinions on drafts of the statutes and university development strategy, overseeing the university financial management and governance, nominating candidates for the rector upon approval by the university Senate.

<https://p.lodz.pl/uczelnia/wladze/rada-politechniki-lodzkiej>

STUDENT PARTICIPATION IN UNIVERSITY MANAGEMENT

Student governments in Poland are given a considerable range of rights under the provisions of the Law on Higher Education and Science. These include participation in the distribution of funds for student affairs, exercising legislative power at the university, curriculum design and development, and conducting activities in the area of social, welfare, and cultural affairs. Student governments are the sole and exclusive representative of the student body. Similar powers are vested in doctoral candidates' councils. Their activities and powers apply, however, to matters concerning doctoral candidates. The University, for its part, provides the necessary facilities for the functioning of the student government, including infrastructure and financial resources at the disposal of the student government. At Lodz University of Technology, apart from the University Student Government, there are Faculty Student Councils of the TUL Student Government. Representatives of students and doctoral candidates are members of all collegiate bodies of the university, which means that no major decision is taken at TUL without consulting students and doctoral candidates. Student and doctoral candidates' representatives sit on the Senate, faculty councils, and the various faculty committees. The President of the Student Government, by default, is also a member of the University Council, which is the university's collegiate body. The voice of the students is important in the design and development of curricula, but also in the planning, implementation, and evaluation of the process of education. At some faculties, student representatives are invited to participate in academic teacher evaluation panels. The Student Government of TUL has a strong representation at the national level, not least as experts on student affairs at PKA, where they visit other HEIs, observe good practice and interesting formal and legal arrangements, which they can then share at their home university.

<https://samorzad.p.lodz.pl>

<http://dokt.p.lodz.pl>

ANNUAL REPORT OF THE RECTOR

<https://p.lodz.pl/sites/default/files/2022-07/sprawozdanie-z-dzialalnosci-politechniki-lodzkiej-w-2021-r.pdf>

Q&A SESSIONS WITH THE RECTOR

Debate is one of the fundamental academic principles and dialogue with the academic community lays the foundation for successful communication, which, in turn, facilitates effective operation of the university. On February 4, 2022, one of the Q&A sessions with the rector was held online. As always, the entire academic community were welcome to participate.

COOPERATION WITH LOCAL AND REGIONAL GOVERNMENT

An expression of mutual understanding and cooperation between the university administration and the city authorities is the activity of the Council for Higher Education and Science at the Office of the Mayor of the City of Łódź. All higher education institutions in Łódź are represented in the Council by their rectors or vice-rectors. Also represented are the Łódź Branch of the Polish Academy of Sciences, Łódź Science Society (Łódzkie Towarzystwo Naukowe), non-state institutions of higher education in Łódź, and the local government. Cooperation with the Łódź Voivodeship agencies, on the other hand, proceeds via the Office for Education and Educational Projects at the Department of Education and Spor.

COOPERATION WITH BUSINESS WITHIN CLUSTERS

Lodz University of Technology is a member or a coordinator of four clusters (Łódzki Klaster ICT, LODZistics, Łódzki Klaster Fala Energii, and Stowarzyszenie Klaster Biogospodarki). The clusters are a platform where the university engages with representatives of business, business environment institutions, and the local government to contribute to the social and economic growth of the city and the region. The university is perceived as an attractive partner for initiatives aimed at improving living and working conditions of the local community, e.g. by promoting the city as a good place to study, and, in the longer term, to work in the ICT sector („Join IT in Łódź” project).

THE UNIVERSITY PROVIDES TWO OR THREE EXAMPLES OF PUBLIC INFORMATION RELEASED BY THE UNIVERSITY TO THE MEDIA (INCLUDING SOCIAL MEDIA) REPORTING THE EFFECTS OF ITS DIALOGUE WITH STAKEHOLDERS ON USR

XI.2

Below are examples of public information released to the media, reporting the effects of the university's dialogue with its stakeholders on USR:

'WOKÓŁ UCZELNI' VIDEO REPORT SERIES

Every two months videos are released that provide a recap of and commentary on the most important events that have taken place at the university.

https://www.youtube.com/playlist?list=PL5cLMwt9kzv48Tb4S5aGfC5nho3RR4i_Z

LODZ UNIVERSITY OF TECHNOLOGY JOINS THE GREEN INDUSTRIAL REVOLUTION

Lodz University of Technology researchers will build a prototype of the installation that enables capturing waste heat and using it to generate energy. The university is one of the partners in a €17-million grant for innovative solutions for net-zero industry. The European FLEXIndustries consortium brings together 36 European institutions, among which Lodz University of Technology and its partner K-Flex are the only Polish representatives.

<https://www.wnp.pl/energetyka/politechnika-lodzka-czescia-projektu-zielonej-rewolucji-w-przemysle.525248.html>

LOGISTICS WORKSHOP ,PROSPECTS FOR THE DEVELOPMENT OF AIR TRANSPORT AND LOGISTICS IN ŁÓDŹ AGGLOMERATION'

Lodz University of Technology, by co-hosting the workshop, provided a comprehensive platform for the exchange of ideas, views, experience and knowledge on topics relevant to the economy and important for the residents of the region.

<https://www.zycieuczelni.p.lodz.pl/warsztaty-logistyczne>

SCHOLARSHIP GRANTS FUNDED BY THE FOUNDATION OF LODZ UNIVERSITY OF TECHNOLOGY

The call for applications for the 10th edition of the Scholarship Program of the Foundation of Lodz University of Technology for outstanding Lodz University of Technology students was opened in September 2022. Applicants were assessed based on their participation in student organizations and science groups, research publications, participation in research and/or art projects, traineeships, internships, awards and prizes in individual and team competitions, certifications, cooperation with business, and other criteria related to scientific, artistic, and professional development.

<https://p.lodz.pl/uczelnia/aktualnosci/stypendia-do-potegi-rozpoznal-sie-nabor-do-programu-stypendialnego>

<https://fundacja.p.lodz.pl/stypendia/>

<https://fundacja.p.lodz.pl/stypendia/dla-mediow/>

EUROPEAN ACADEMIC GAMES

From 17 to 30 July 2022, the European Academic Games were held in Łódź, with Lodz University of Technology as the main organizer.

<https://p.lodz.pl/uczelnia/informacje-dla-mediow/eug-2022-w-polsce-w-lodzi>

<https://p.lodz.pl/uczelnia/aktualnosci/europejskie-igrzyska-akademickie-eug-2022-otwarte>

<https://p.lodz.pl/uczelnia/aktualnosci/politechnika-lodzka-na-podium-podsumowanie-eug-2022>

ACADEMIC COMMUNITY GETS INVOLVED IN THE PARTICIPATORY BUDGET FOR ŁÓDŹ

For the third time, a proposal put forward by the staff and students of Lodz University of Technology had been successful in the participatory budget for Łódź. December 2021 witnessed the completion of further redevelopment of Stefanowskiego Street, which connects campus A and B of Lodz University of Technology. This time it was the stretch from Skorupki to Potza that got the makeover. It would not have been possible, had the TUL staff and students not submitted their project 'Play green - II phase of the revitalization of Stefanowskiego Street' to the Participatory Budget for Łódź (ŁBO) in 2020. In the next, 2022/2023, edition of the budget, another project was submitted. This time to redevelop Skorupki Street. Like the previous two, this one too was successful.

<https://p.lodz.pl/uczelnia/aktualnosci/ruszyly-prace-remontowe-na-ul-stefanowskiego>

PRINCIPLE XII**Adhering to the principles of ethics and accountability in teaching and research to ensure optimal conditions for stakeholders to benefit from the knowledge, intellectual capital, and achievement of the university**

THE UNIVERSITY PROVIDES AT LEAST TWO OR THREE SPECIFIC EXAMPLES WHERE ADHERENCE TO THIS PRINCIPLE HAS BEEN DEMONSTRATED IN THE REPORTING PERIOD

XII.1

Below are examples demonstrating adherence to this principle:

SCIENCE FOR THE PUBLIC

Lodz University of Technology lecturers carry out many interdisciplinary projects that address current societal concerns. In the confines of their laboratories, they explore the extraordinary and fascinating world of science all day every day. They also explain the methods, purposes, and outcomes of the long months of lab work in an approachable way, so that everyone can benefit and better understand the world they live in and its phenomena, e.g. by learning about the science behind photovoltaic panels.

<https://p.lodz.pl/uczelnia/pl-dla-spolecznosci/nauka-dla-spoleczenstwa>

EDUCATION FOR DIVERSITY AND HUMAN RIGHTS

TUL is aware of the imperative to protect fundamental freedoms in keeping with international agreements and to promote non-discrimination. Its curricula integrate themes that serve to heighten students' awareness in this regard. Project courses in Diversity Management offered by the Interdisciplinary Doctoral School involve social aspects of diversity as one of the key challenges for today's organizations. They allow doctoral candidates to learn how to solve problems arising in organizations that stem from diversity. Mindsets free of stereotypes, racial, ethnic, national, religious, and gender bias are also developed within the Intercultural Management and Diversity Management modules which are part of the curriculum of the second-cycle degree in Management. Human Rights and Technology project course, part of the doctoral training at the Interdisciplinary Doctoral School, as well as the Management and Human Rights as part of the Ethical and Social Aspects of Management in a Digital World course, included in the curriculum of the second-cycle degree in Management, present and raise awareness of issues related to human rights in today's world and the perception of these rights in the different contexts of today's world. The courses provide an overview of the legal framework for international human rights, with reference to fundamental principles such as equality, non-discrimination, freedom, equity and dignity as provided for by international agreements and conventions.

THE EUROPEAN CHARTER FOR RESEARCHERS

The Charter defines the rights and obligations applicable to researchers, the institutions that employ them, and organizations providing funding for research. Among them are appropriate working conditions, opportunities for career development (including research mentorship for early-stage researchers), and greater researcher mobility. The Code of Conduct for the recruitment of researchers describes the principles for the recruitment of researchers, compliance with which ensures equal treatment of all researchers, transparency, communication of calls for competition procedures, and non-discrimination (including on grounds of belief, age, origin, gender or language, etc.). The Code also addresses opportunities for professional development at all stages of career, and outlines the recruitment process.

THE UNIVERSITY PROVIDES DETAILS OF THE INDIVIDUAL OR BODY RESPONSIBLE FOR COMPLIANCE WITH THE PRINCIPLES OF ETHICS IN RESEARCH AND TEACHING

XII.2

Compliance with the principles of ethics in research and teaching at Lodz University of Technology remains the responsibility of the Rector's Committee for Good Academic Practice. The Committee is tasked with formulating opinions and motions in matters concerning infringements of good academic practice. These include in particular: willful neglect of the duties of an academic teacher, nepotism, abuse of power, pursuit of competitive activities, failure to respect intellectual property, failure to apply objective criteria in evaluating teacher and student performance, discrimination, undermining the authority and professional competences, mobbing, incidents of corruption, conflict of interest, and mediation when there is conflict between academic staff.

TUL SOCIAL RESPONSIBILITY REPORT **2021/2022**



Lodz University
of Technology

ul. Żeromskiego 116
90-924 Łódź
NIP: 727 002 18 95
www.p.lodz.pl