Wrocław University of Science and Technology

unite! University Network for Innovation, Technology and Engineering

HR EXCELLENCE IN RESEARCH

Evaluated by IEP INSTITUTIONAL EVALUATION PROGRAMME www.iep-qaa.org

WROCŁAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

Wrocław University of Science and Technology

History

Today's Wrocław University of Science and Technology is the heir to the material legacy of the German Königliche Technische Hochschule Breslau and the intellectual and research traditions of the Lviv University of Technology.

The university is using its current name since 1945. It was established and organised by scientists from Lviv and Warsaw. Since the very beginning of its existence, it has been an important centre of technical education.

Today it is one the best technical universities in Poland – 21 046 students study here under the guidance of **2 378** academic teachers, at 14 Faculties in Wroclaw and 3 branches in Jelenia Gora, Legnica, Walbrzych.

Wrocław University of Science and Technology

Wrocław University of Science and Technology

Mission

Through research, teaching, and collaboration we inspire and support the development of individuals who, based on knowledge, ethical standards and displaying sensitivity to the needs of society and global challenges, shape the future with courage and responsibility.

Wrocław University of Science and Technology

Numbers

21 046

students including

758

Phd students

1 401

international students

2 378

permanent academic staff

14

scientific disciplines in

4

fields of science, including all from Engineering & Technology

58

BSc/Eng fields of studies

53

scientists on Stanford TOP 2% list of world's most influential researchers

14

faculties and

3

regional branches

54

MSc/Eng fields of studies

33

programmes in English

Wrocław University of Science and Technology

Doctors Honoris Causa

José Manuel Barroso
Daniel Józef Bem
Horst Berthold
Eckhard Beyer
Georgij Konstantynowicz Boreskow
Andrzej Burghardt
Philippe Busquin
Jerzy Buzek
Gabriel Crean
Eugeniusz Dembicki
Georgij Iwanowicz Denisenko
Karel Dušek
Rafał Dutkiewicz
Kurt Feser
Alfred Forchel
Elbert Kirtley Fretwell
Kardynał Henryk Gulbinowicz
Henryk Hawrylak
Stanisław Hückel
Giennadij Aleksiejewicz Jagodin
Andrzej Jellonek
Bogusława Jeżowska-
-Trzebiatowska
Moisey I. Kaganov
Alan R. Katritzky
Igor Ignacy Kisiel
Joseph Klafter
Jan Kmita
Ferenc Krausz
Stanisław Kulczyński
Krzysztof Kurzydłowski
Philippe Lebrun
Stanisław Lem
Jerzy Leszczyński
Nikołaj Nikołajewicz Malinin
Marja Makarow
Achim Mehlhorn
Jean Meinnel
Angela Merkel
Gérard Mourou
Anatolij Nikołajewicz Minkiewicz
Kazuo Nakamoto
Reimund Neugebauer
Jean Nougaro
Volodymir V. Panasyuk
Zdzisław J. Pręgowski
Ilya Prigogine
Günter Pritschow
Bengt Ranby
Błażej Roga
Jurij Rudawski
Wacław Franciszek Sierpiński
Jerzy Ignacy Skowroński
Dionizy Smoleński
Joachim Klaus Strzodka
Frans Louis H. M. Stumpers
Karol Széchy
Zygmunt Szparkowski
Władysław Ślebodziński
Ryszard Tadeusiewicz
Hamadoun I. Touré
Jan Trojak
Włodzimierz Trzebiatowski
Kazimierz Urbanik
Zenon Wiłun
Andrzej Wiszniewski
Wojciech Witkiewicz
Władysław Karol Włosiński
Michel Virlogeux

2022, **prof. Michel Virlogeux** (École Nationale des Ponts et Chaussées, France) French structural engineer and bridge specialist; designer of Millau Viaduct

2024, **prof. Ferenc Krausz** (Max Planck Institute of Quantum Optics, Germany) Hungarian scientist; Nobel Prize 2023 in physics for: attosecond pulses of light

Wrocław University of Science and Technology

Wrocław Tech in the rankings

Perspektywy University Ranking 2024

- 7th place in the general ranking of universities
- 4th place among Polish technical universities

Shanghai Global Ranking of Academic Subjects 2024

- Mechanical Engineering ranked 101-150

Center for World University Ranking 2024-2025

- 13h place among 41 Polish universities and scientific institutions included in the ranking

QS World University Rankings 2025

- 9th place among Polish universities
- 28th place in QS Europe University Rankings – Eastern Europe

Wrocław University of Science and Technology

Key Strategic Areas

To implement the University's mission and vision and to support and promote its values, this Strategy defines five key strategic areas:

- **Education**
- **Research and Innovation**
- **Cooperation with the Environment**
- **Community**
- **Infrastructure.**

Wrocław
University
of Science
and Technology

EDUCATION

Wrocław University of Science and Technology

Fields

Engineering and technology:

- Architecture and urban planning
- Automation, electronics, electrical engineering and space technologies
- Biomedical engineering
- Chemical engineering
- Civil engineering, geodesy and transport
- Environmental engineering, mining, and energy
- Information and communication technology
- Materials engineering
- Mechanical engineering

Natural sciences:

- Chemical sciences
- Mathematics
- Physical sciences

Social sciences:

- Management and quality studies

Medical and health sciences:

- Medical sciences

Wrocław University of Science and Technology

14 Faculties

- Architecture
- Civil Engineering
- Chemistry
- Information and Communication Technology
- Electrical Engineering
- Geoengineering, Mining and Geology
- Environmental Engineering
- Management
- Mechanical and Power Engineering
- Mechanical Engineering
- Fundamental Problems of Technology
- Electronics, Photonics and Microsystems
- Pure and Applied Mathematics
- Medicine

- Doctoral School
- Academic High School
- > 10 Interdisciplinary Research Centers
- Networking and Supercomputing Center
- Entrepreneurship Incubator, Tech Transfer Centre, Business & Innovation Centre

3 BRANCHES

Wrocław University of Science and Technology

Doctoral school

The Wrocław University of Science and Technology Doctoral School began its operation on October 1, 2019. Candidates can take up education in one of thirteen disciplines:

Field of engineering and technical sciences

- Architecture and Urban Planning
- Automation, Electronics, Electrical Engineering and Space Technologies
- Information and Communication Technology
- Biomedical Engineering
- Chemical Engineering
- Civil Engineering, Geodesy and Transport
- Mechanical Engineering
- Materials Engineering
- Environmental Engineering, Mining and Energy

Field of exact and natural sciences

- Mathematics
- Chemical Sciences
- Physical Sciences

Field of social sciences

- Management and Quality Studies

Wrocław University of Science and Technology

Education quality and accreditation

European Chemistry Thematic Network

- Chemistry Doctorate Eurolabel Certification for studies in Chemical Engineering
- Eurobachelor Certification for studies in Chemistry and Industrial Analytics, Chemical Technology
- Euromaster Certification for studies in Chemistry and Chemical Technology

Science Evaluation Committee (KEN) discipline assessment 2017-2021:

Category A+:

- Physical sciences
- Chemical sciences
- Mathematics
- Chemical engineering

Category A:

- Architecture and urban planning
- Automation, electronics and electrical engineering
- Technical informatics and telecommunications
- Biomedical engineering
- Civil engineering and transportation
- Mechanical engineering
- Material Engineering
- Environmental engineering, mining and energy
- Management and Quality Sciences

European Consortium for Mathematics in Industry

- accreditation for II degree of education studies in Applied Mathematics

Accreditation of Studies with a Future 2024

- Sustainable Biomass and Bioproducts Engineering (SBBE)

European Accreditation of Engineering Programmes

- accreditation for studies in Electotechnics
- accreditation for studies in Civil Engineering
- accreditation for Biotechnology, Chemical and Process Engineering, Chemical Technology

European University Association (EUA-IEP**)**

- accreditation for Wrocław University of Science and Technology

Association of Academic Centers for Teaching Foreign Languages

- Department of Foreign Languages of Wrocław Tech – distinctive grade

IES and ICI international certificate for graduates

- accreditation for studies in Management
- accreditation for studies in Business Engineering

All graduates of the certified educational programs are entitled to receive the IES and ICI international certificates

Wrocław University of Science and Technology

HR Excellence in Research

In June 2016 European Commission granted our University the logo "Human Resources Excellence in Research". The logo is given to those institutions that apply the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

HR EXCELLENCE IN RESEARCH

Logo "HR Excellence in Research" is awarded, among others, in international grant competitions of the European Commission, national grant competitions of the National Center for Science and the National Centre for Research and Development and competitions and funding programs of the Ministry of Science and Higher Education.

Logo "HR Excellence in Research" emphasises the Wrocław University of Science and Technology importance as an institution which creates the best working conditions for scientists, implementing research and scientific development in accordance with the European standards.

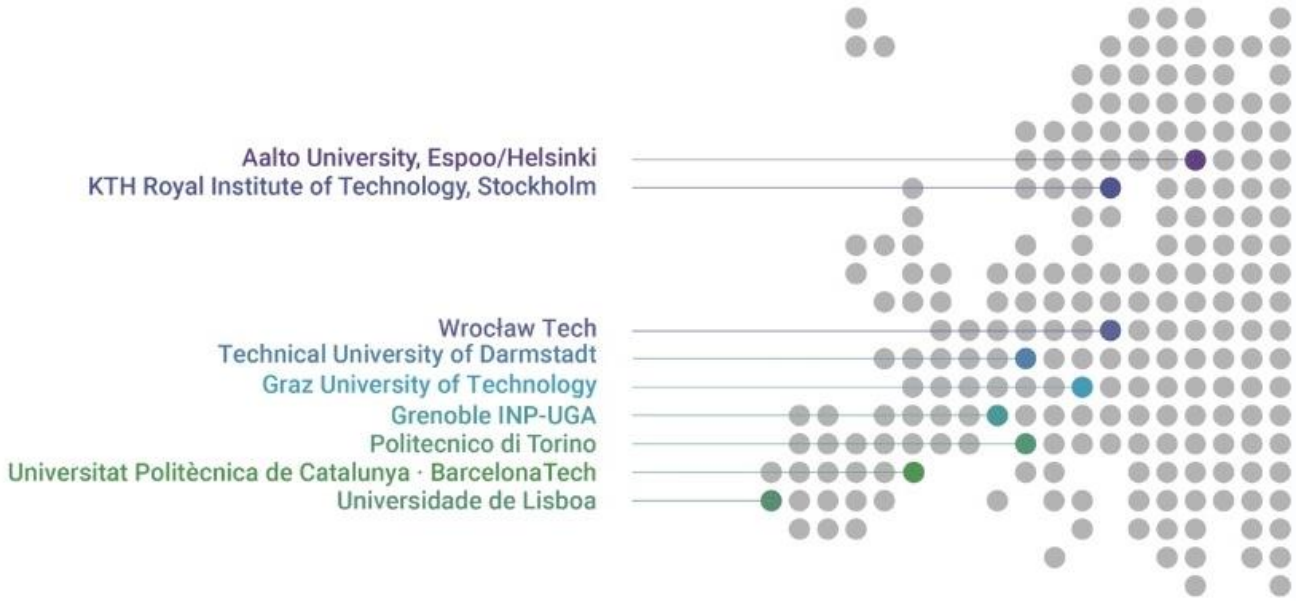
Wrocław University of Science and Technology

Wrocław Tech in „Unite!”

In 2022 Wrocław Tech joined the European university alliance „Unite!” – University Network for Innovation, Technology and Engineering.

The aim of this elite organization, uniting universities from nine EU countries, is to create a model of education that responds to the challenges of the modern world. The member universities focus on continuous improvement of the teaching process, development of joint research projects and a flexible study path, and combining science and humanities in the process of educating students.

unite! | University Network for Innovation, Technology and Engineering



Wrocław
University
of Science
and Technology

INTERNATIONAL COOPERATION

Wroclaw University of Science and Technology

Current international agreements

- **Bilateral cooperation agreements** - inter-university and inter-faculty
  148 partners from **41** countries
- **Bilateral student exchange agreements** (student exchange)
  33 partners from **16** countries
- **Double diploma agreements**
  11 partners from **6** countries
- **Agreements regarding academic mobility in the Erasmus + program**
  700 active European agreements and **200** with partners from other countries of the world.

INTERNATIONALISATION	2024/2025
Foreign students on I study degree	968
Foreign students on II study degree	236
Foreign students in Doctoral School	89
Incoming students including ERASMUS+	259
Students exchange including ERASMUS+	187

Wrocław University of Science and Technology

Program ERASMUS+

Co-funded by the European Union

Participation of the Wrocław Tech students and doctoral students

Program	2024/2025
Erasmus+ studies	134
Erasmus+ student internships	5
Erasmus+ short-term mobility	48
Erasmus+ graduate internships	12
Exchange	8
Double Diploma	14
TOGETHER	**221**

Arrivals of students and doctoral students

Erasmus+ studies	2024/2025
Erasmus+ KA 131	254
Erasmus+ KA 171	5
Visiting Student	0
Exchange	20
Erasmus Mundus	46
Double Diploma	2
TOGETHER	**327**

Wroclaw University of Science and Technology

Program ERASMUS+

Co-funded by the European Union

Staff arrivals

Program	2024/2025
Erasmus+ KA103 (lectures)	6
Erasmus+ KA103 (training arrivals)	38
Erasmus+ KA107 (training arrivals)	3
TOGETHER	**47**

Staff travels

Program	2024/2025
Erasmus+ KA103 (lectures)	25
Erasmus+ KA103 (training)	47
Erasmus+ KA107 (lectures)	3
TOGETHER	**75**

Wrocław
University
of Science
and Technology

WROCŁAW TECH FOR THE YOUTH

Wrocław University of Science and Technology

Wrocław University of Science and Technology for the youth

- Open days
- Team programming contests
- Lower Silesian Festival of Science
- Competition in maths and logic games
- Chemistry contest
- Young Researchers Academy
- Courses for candidates
- Cooperation with secondary schools
- Polilab
- Studium talent
- Robotic Arena

Wrocław University of Science and Technology

Student activities

- **214 Scientific organizations**

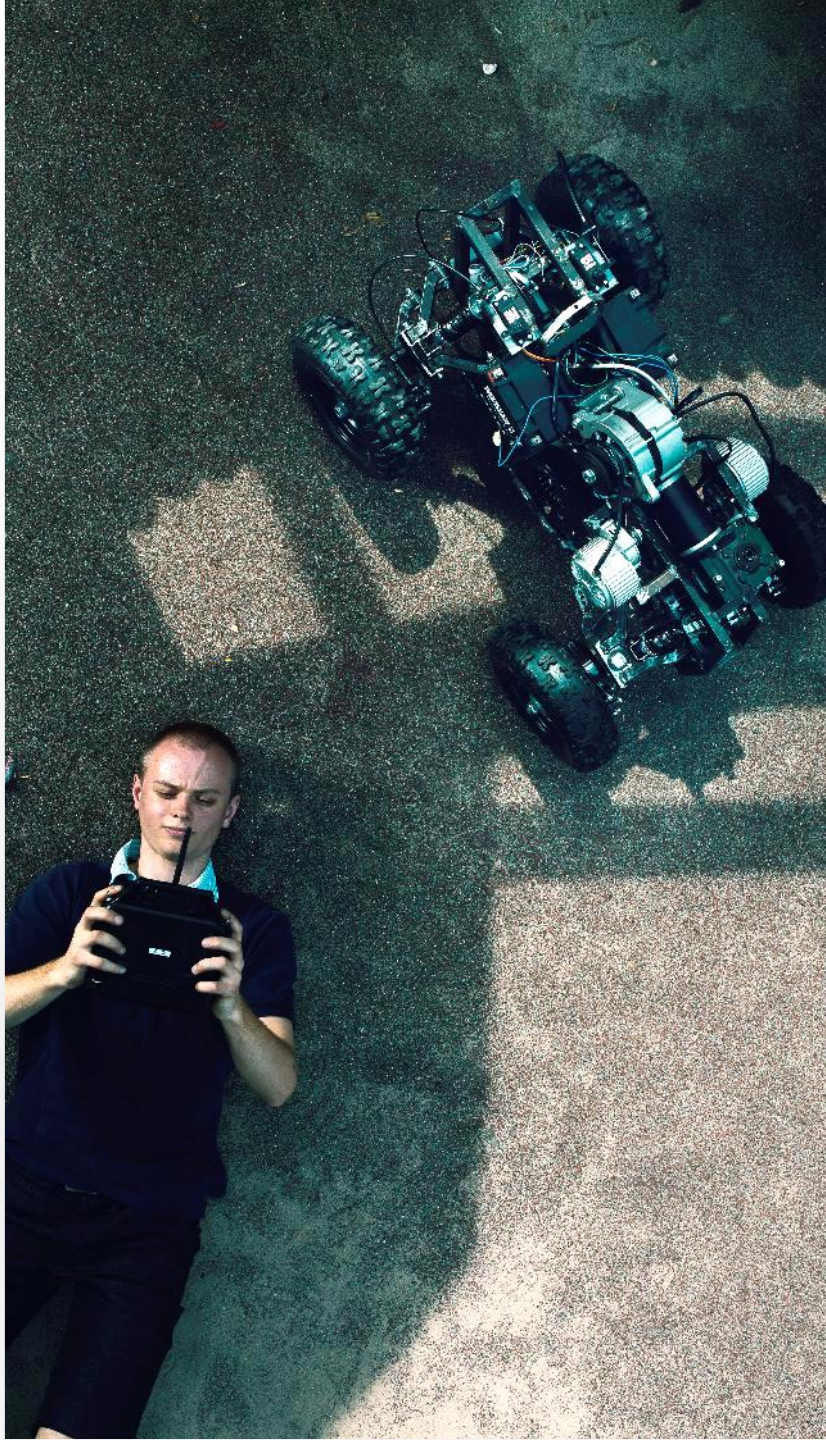
Among others: PWR Racing Team, PIRM Mobile Vehicles and Robots Scientific Circle, Students Scientific Society KoNaR, Academic Aviation Club, Bio-Top, ALLIN, Wireless Group, PWR Solar Boat Team, Energy Loop, Audio Engineering Society AES

- **29 Student associations**

Among students' organizations, the ones with national or international span are the most distingushing and active: BEST Wrocław, AIESEC, NZS, IAESTE, SEP, Erasmus Student Network ESN.

- **21 Student culture centres**

Among others: POLITECHNIKA Film Discussion Club, Wrocław University of Science and Technology Academic Choir, BIG BAND music group, FOSA Academic Filmmakers Club, SpAF Association of Para-artistic Photography, University's Orchestra, STYK Students Television.



Wrocław University of Science and Technology

Modern University

Prospective students:

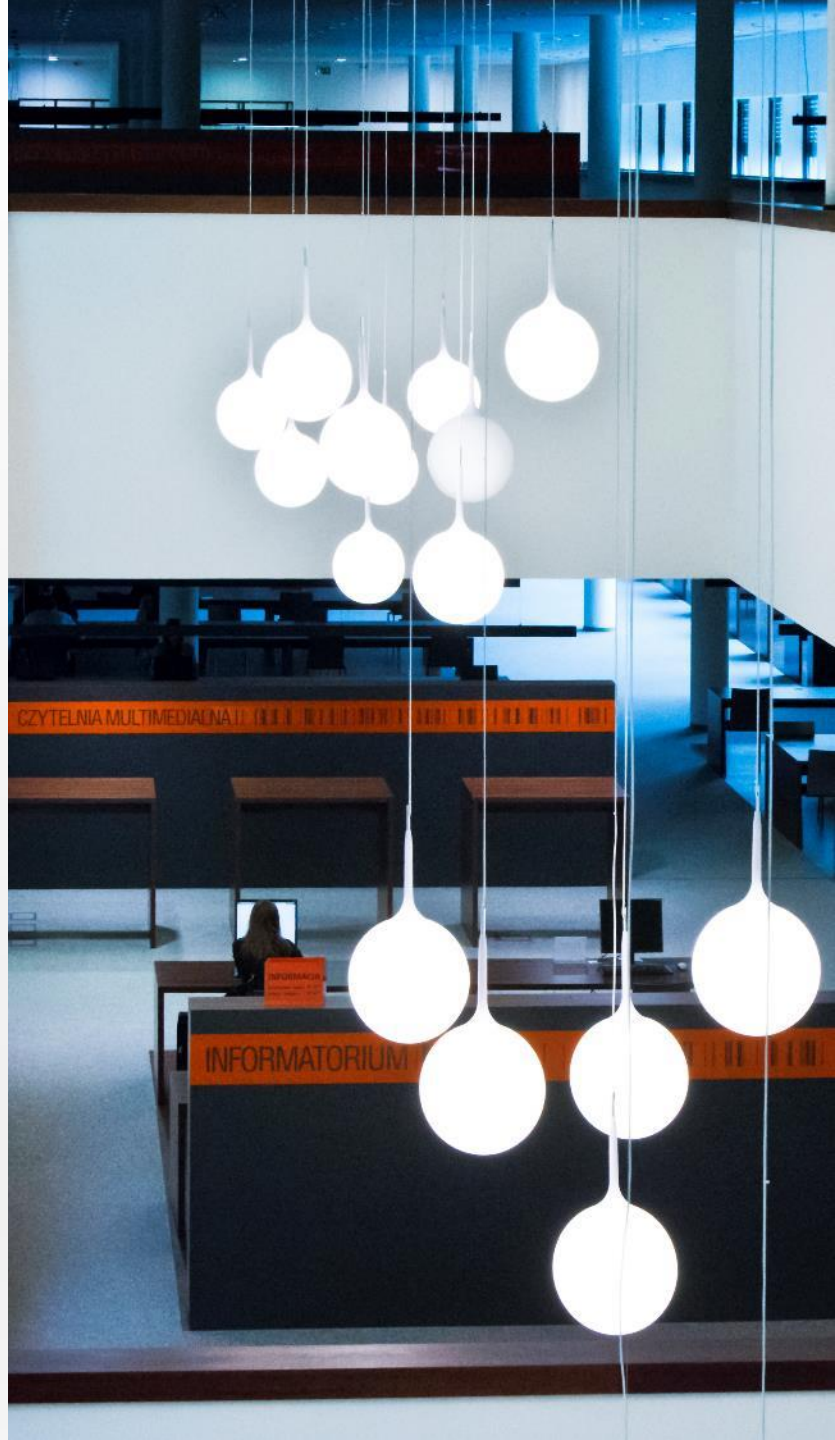
- on-line registration at: **rekrutacja.pwr.edu.pl/en**
- official website: **pwr.edu.pl**

Students:

- electronic student ID
- electronic student record book
- cooperation with companies and institutions, opportunities for internships and trainings **biurokarier.pwr.edu.pl**

Teaching:

- studying in foreign languages



Wroclaw
University
of Science
and Technology

RESEARCH AND INNOVATION

Wrocław University of Science and Technology

Scientific research results

- **24 847** publications in journals on the ISI Master Journal List
- **22 985** publications in JCRI indexed journals
- **6 279** registered inventions, including utility models
- **2 822** patents obtained

Wrocław University of Science and Technology

Cooperation with industry

TRAINING RESEARCH TECHNOLOGY EXPERTISE APPLICATION

Goals

- joint research and implementation work in various industry sectors
- development of new technologies
- cooperation on using research, teaching and training facilities
- opportunities for internships, student stays and diploma theses
- alumni career support
- development of academic entrepreneurship
- commercialization of research results
- preparation and implementation of projects financed from domestic and foreign funding
- promotion of modern technologies

Wrocław University of Science and Technology

Priority Research Areas

1) Information Technology, Data Science and Artificial Intelligence
2) Innovative Materials and Advanced Manufacturing
3) Sustainable Living Environment
4) Smart Cities and Future Society
5) Health and Medical Technologies
6) Extreme Technologies
7) Basic Research for Technology and Innovation

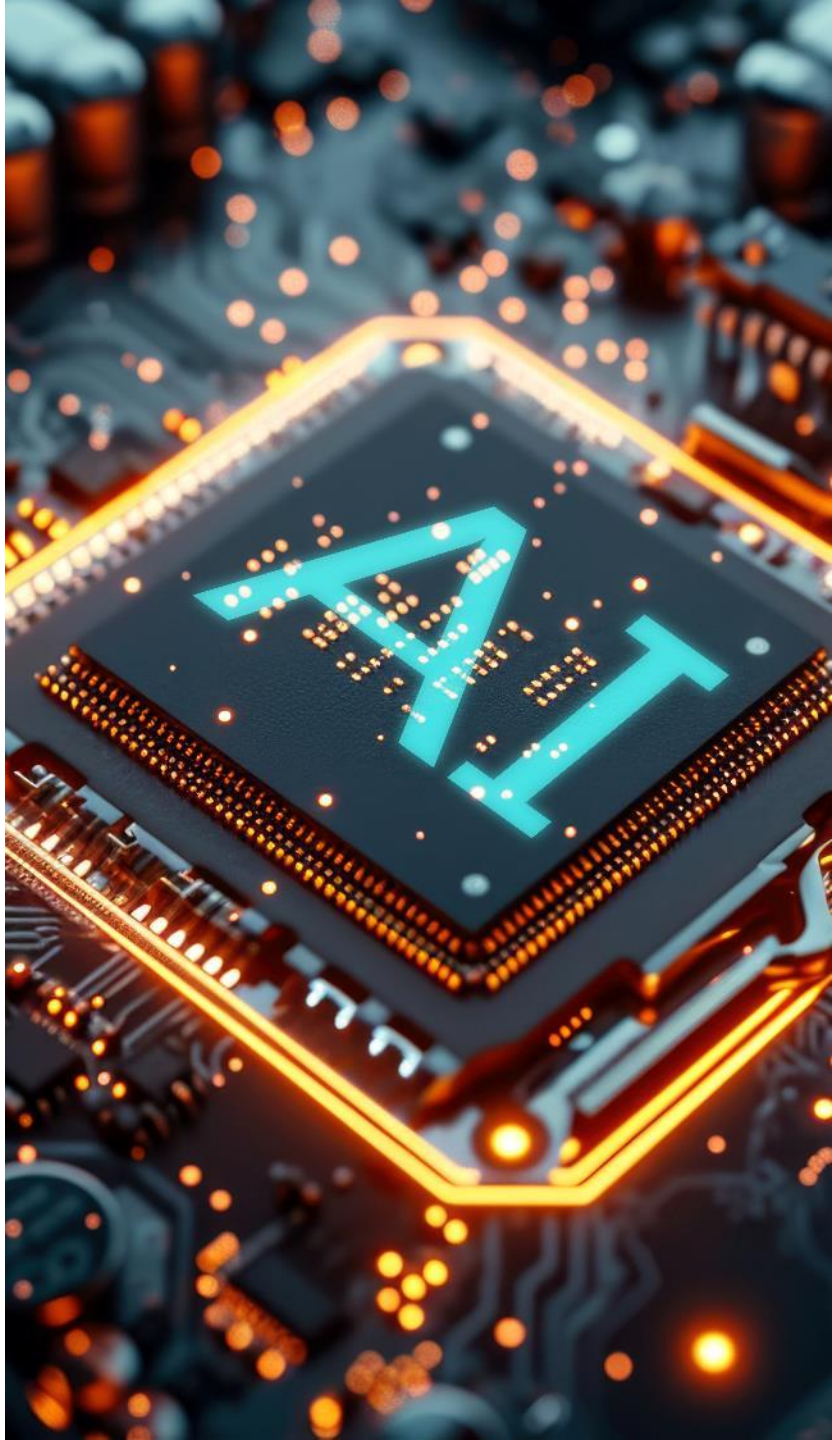
All priority research areas are **interdisciplinary** and **cross the structure of faculties**. They collectively represent every research topic in which Wrocław Tech either currently plays or aims to assume a leading role in Poland and the global impact.

Wrocław University of Science and Technology

Information Technology, Data Science and Artificial Intelligence (1/7)

Computer science, algorithmics and software engineering, artificial intelligence and machine learning, human-computer interaction, methods of data analysis and visualization, mathematical statistics, classification and forecasting, natural language processing, quantum computing, data storage and transmission engineering, information processing and privacy, cybersecurity and cryptography, telecommunication, computer and mobile networks, cyber-cloning and virtualization, augmented and virtual reality, multimedia techniques, medical informatics and neuroinformatics, autonomous systems.

- Centre for Information and Communication Technologies
- Centre for Trusted Information and Telecommunication Systems
- Centre for Defence and Security



Wroclaw University of Science and Technology

Innovative Materials and Advanced Manufacturing (2/7)

Basic research and materials engineering, Industry 4.0 (digitization, automation and hiper-automation, robotization, and intelligent production systems), additive technologies, high--precision technologies, green technologies using a renewable resource base and valorization of waste, sustainable and energy--saving technologies, use of innovative methods and tools, and control systems.

- Centre for Material Engineering and Metal Forming
- Centre for Advanced Materials and Nanotechnology
- Centre for Defence Innovation and Technology

Wrocław University of Science and Technology

Sustainable Living Environment (3/7)

This area includes, among others, resource management, energy sources (conventional, renewable, and nuclear energy), energy system transformation, human- and environment-friendly technologies (e.g., electromobility), protection of climate as well as natural and cultural environment, water management, identification of environmental hazards and response to natural disasters, as well as all aspects of sustainable development, circular economy, and social acceptance of changes.

- Centre for Sustainable Development and Climate Protection
- Centre for Advanced Raw Materials and Energy Technologies
- Research Centre for Sustainable Built Environment

Wrocław University of Science and Technology

Smart Cities and Future Society (4/7)

Holistic design and construction of human-friendly buildings, estates, and cities using modern technologies, application of innovative and safe materials, broadly understood communication and mobility – including intelligent and autonomous transport systems, universal design, prevention and counteraction of social, energy and digital exclusion, research on human-machine interactions, as well as analysis, prediction, and management of social and economic processes.

- Centre for Urban Innovation: Architecture, Engineering, Technology, Mobility

Wroclaw University of Science and Technology

Health and Medical Technologies (5/7)

This area reflects the ongoing process of medical technization and an increasingly close relationship between progress in medicine and technological development.

It includes interdisciplinary research at the intersection of health sciences and basic and technical sciences, as well as strictly medical research. In particular, it includes such areas as biochemistry and biological chemistry, bionics, biomedical engineering, biomechanics, materials mimicking nature and promoting health, medical electronics and sensors, bioinformatics, analysis of images and large sets of medical data, medical diagnostics, personalized and precision medicine, digital technologies for health and medicine, telemedicine, human augmentation, and research on the health effects of environmental factors and social processes.

- Health Tech Synergy Hub
- Centre for Biomedical Engineering

Wrocław University of Science and Technology

Extreme Technologies (6/7)

Nanotechnology, microelectronics and photonics, metrology, megastructures (large buildings, machines, devices, power grids, etc.), quantum technologies, cryogenic, space, marine, and underground technologies, i.e., research on phenomena of extreme scales and engineering of objects with extreme parameters or operating under extreme conditions.

- Research Terahertz Technique Centre
- Aviation Research and Development Centre
- Centre for Micro-/Nanoelectronics, Micro-/Nanosystems, and Micro-/Nanoengineering

Wrocław University of Science and Technology

Basic Research for Technology and Innovation (7/7)

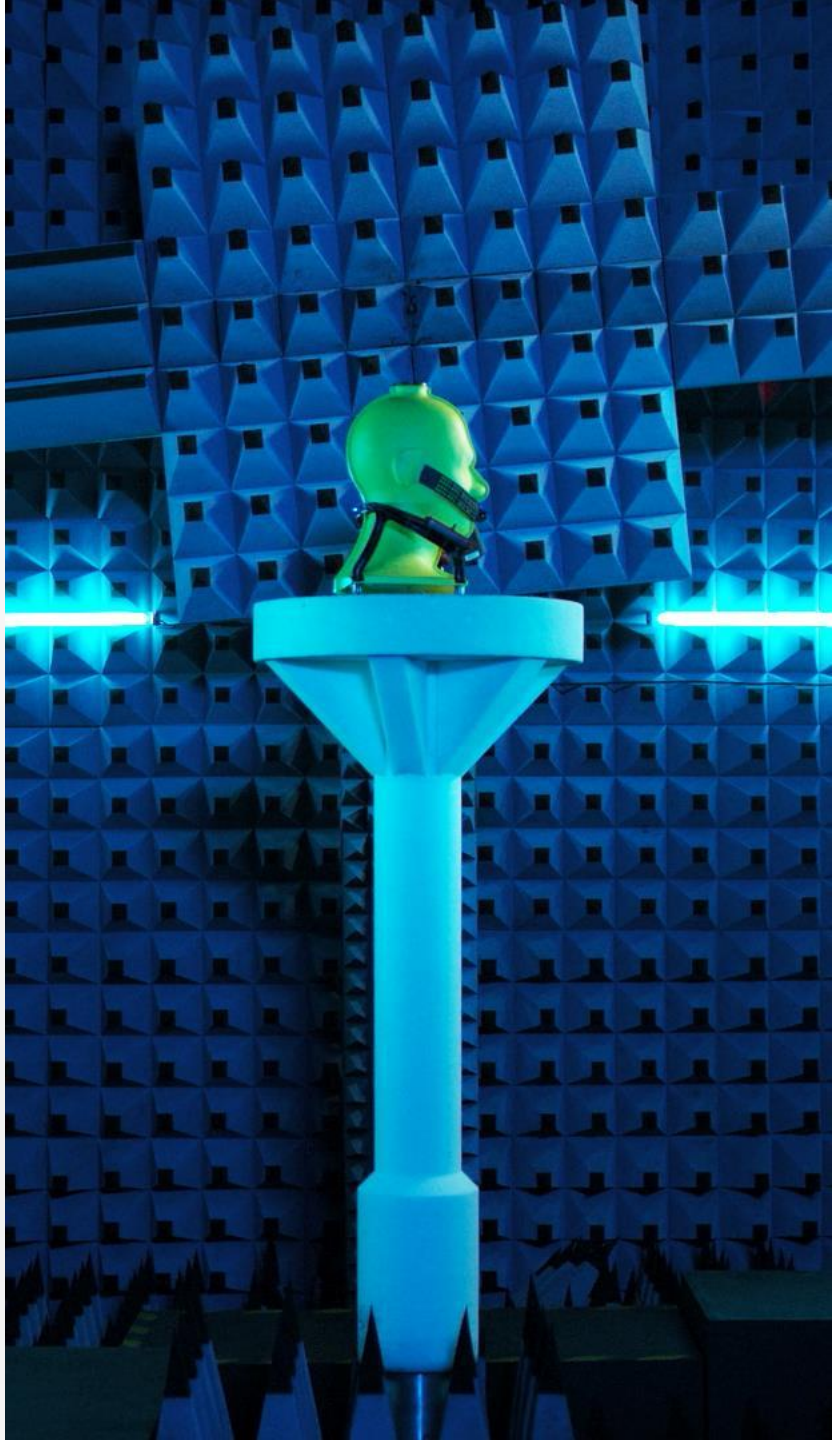
Research on fundamental objects, models, and theories important for understanding complex systems – from materials and processes to biological and social systems. It considers the application of universal concepts and laws to the analysis of real phenomena and supports the development of technology and civilization and the improvement of human life quality and the state of the natural environment. It includes in particular research in the field of natural sciences (including mathematics, physics, and chemistry) as well as social sciences and humanities.

- Hugo Steinhaus Centre
- Ryll-Nardzewski Centre

Wrocław University of Science and Technology

Certified laboratories

- Accredited Laboratory of **Standards and Metrology of the Electromagnetic Field** (research and calibration laboratory),
- Accredited **Acoustics** Testing Laboratory,
- Accredited **Belt Transport** Laboratory,
- Accredited **Work Safety** Laboratory,
- Accredited Testing Laboratory for **Transport Infrastructure Facilities**,
- Accredited Laboratory for **Electromagnetic Compatibility**,
- Accredited Laboratory of **the Department of Machine Design and Testing**,
- Accredited **Chemical Laboratory for Multi-element Analyzes**



Wrocław
University
of Science
and Technology

INFRASTRUCTURE

Wrocław University of Science and Technology

Research and teaching facilities

- **116** buildings with modern laboratories, libraries and multimedia teaching rooms
- sports centre
- computer laboratories and reading rooms with 24h Internet connection

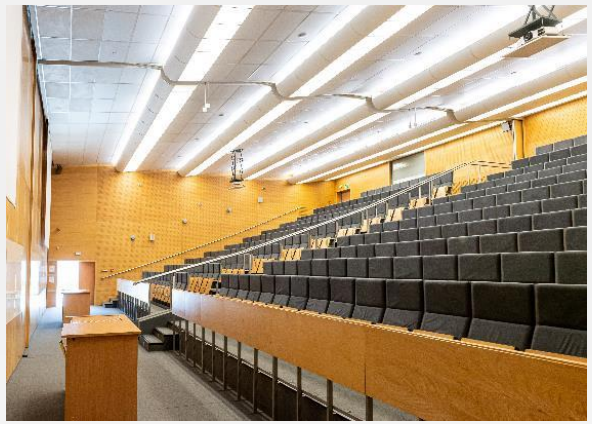
- **581** didactic laboratories
- **407** research laboratories
- **108** research and teaching laboratories
- **472** teaching rooms and lecture halls

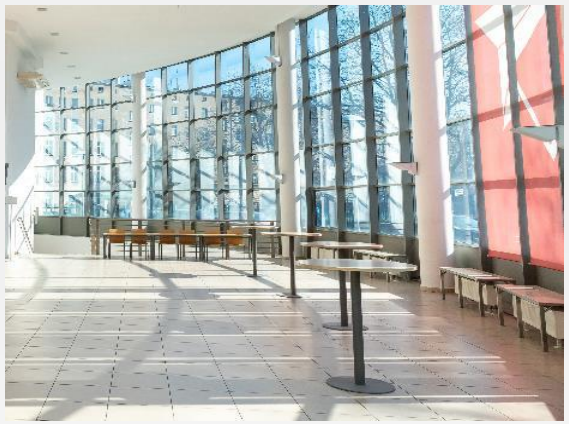
Wrocław University of Science and Technology

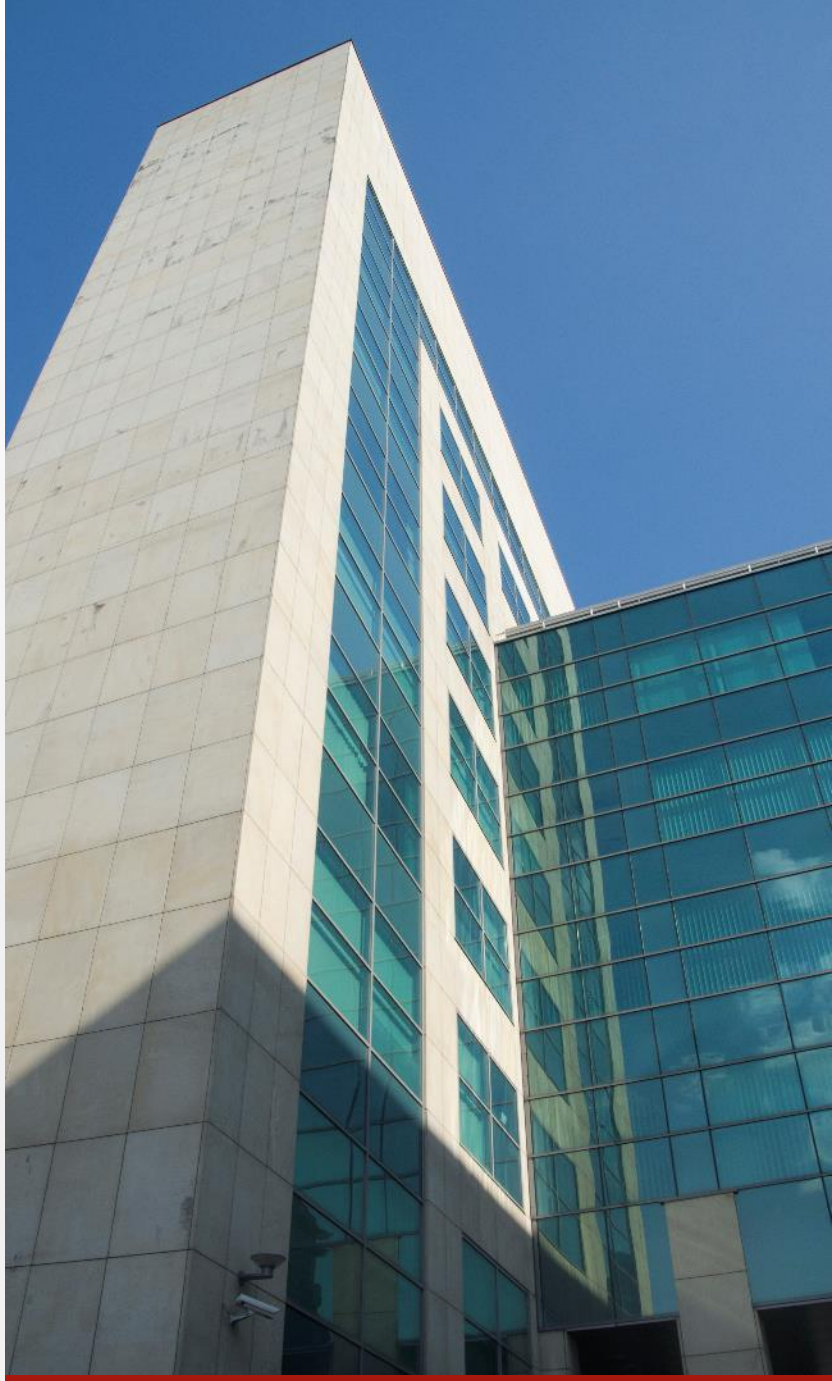
The Wrocław University of Science and Technology Congress Centre

The Congress Centre comprises three conference halls with a total capacity of 620 seats. The centre can be divided into modules in a theatre-style arrangement, in the following ways: one hall with 620 seats, one hall with 320 seats, one hall with 300 seats, hall with 460 seats, 2 halls with 160 seats each.

- 3 conference hall+ 3 smaller seminar rooms
- Professional equipment, including a system for simultaneous translations
- Sound recording of the conference
- Wireless internet
- Variable lighting system
- Exhibition complex
- Professional event service







Wrocław University of Science and Technology

Wrocław Tech Strategy 2023-2030

As a European technical university affirming freedom, truth, curiosity and the joy of learning, we conduct interdisciplinary research and educate to meet the expectations of society and the economy.

The values on which we are founded are:

- **Excellence** – working for progress and sustainability, we foster personal development based on the highest standards in education, research and innovation.
- **Interaction** – nurturing academic, economic and social partnerships, we combine talents and commitment to effectively achieve individual and social goals.
- **Openness** – being open to new ideas and challenges, drawing on the diverse experiences and aspirations of members of the academic community, we respond flexibly to changes, treating them as inspiration and motivation to actively participate in the development of science, economy and society

Wrocław University of Science and Technology

Thank you for your attention

More information:
pwr.edu.pl/en

unite! University Network for Innovation, Technology and Engineering

HR EXCELLENCE IN RESEARCH

T.I.M.E. Top International Managers in Engineering

Academia Europaea
Wrocław Knowledge Hub

Evaluated by IEP Institutional Evaluation Programme
www.iep-qaa.org