



RESEARCH UNIVERSITY

Excellence Initiative

www.pg.edu.pl/en

Location of Gdańsk University of Technology



Berlin		570 km	Stockholm	1343 km
Vilnius		620 km	Paris	1591 km
Prague		747 km	Madrid	2865 km
Bratislava		887 km	Ankara	2870 km
Kyiv		1117 km	Beijing	6951 km

Gdańsk – the city of freedom and "Solidarity"



SOLIDARNOŚĆ

"Solidarity" – a social movement that started the process of overthrowing communism in Poland and Europe in the late 1980s

Lech Wałęsa – resident of Gdańsk, former president of the Republic of Poland and leader of the shipyard strike

European values especially close to the residents of Gdańsk:

- Freedom
- Human dignity
- Equality
- Human rights
- Democracy
- Rule of law



Johannes Hevelius and Daniel Gabriel Fahrenheit

In **2010**, the Senate of Gdańsk University of Technology adopted a resolution giving its courtyards the names of eminent Gdańsk residents. Today reliefs with their portraits can be found there.



Johannes Hevelius

(born in 1611 in Gdańsk)
a great citizen of Gdańsk,
inventor of the periscope
and micrometer screw

Daniel Gabriel Fahrenheit

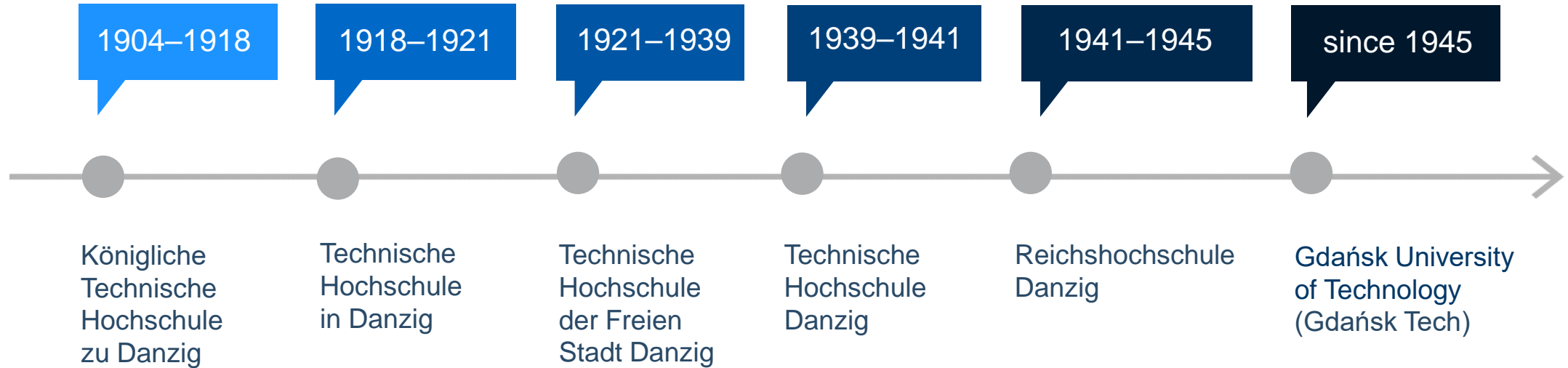
(born in 1688 in Gdańsk)
world-known physicist
and inventor of the
mercury thermometer



Gdańsk Societas Physicae Experimentalis (Nature Society)

One of the first scientific societies on the territory of the Polish Crown. In 1904 it contributed to the creation of the Technical University in Gdańsk, to which it donated its scientific collections.

The story begins in 1904



The story begins in 1904



1904

On 6 October, the inauguration of the first academic year at the Polytechnic, at that time the Royal-Prussian Higher Technical School, took place



1945

24 May the polytechnic was transformed into a state Polish academic university



2004

100 years of Gdańsk Tech



2019

Gdańsk Tech obtained the status of a Research University in the first competition of the Ministry of Science and Higher Education under the 'Research University – Excellence Initiative' programme



2021

Appointing the Daniel Fahrenheit Union of Universities in Gdańsk at the joint request of the rectors of the Medical University of Gdańsk, Gdańsk University of Technology and the University of Gdańsk

Gdańsk Tech is a RESEARCH UNIVERSITY

Initiative under the Act on Science
and Higher Education – Act 2.0
of 2019

2nd place among the 10 best academic
centers in Poland and the highest
ranked among technical universities

Purpose of the competition: selecting
universities that will be able to
effectively compete with the best
academic centers in Europe and in the
world

Only 20 universities were admitted to the
competition and presented their action
plans for the coming years

The universities were assessed by an
international team of experts from
the science and higher education
sector

Only 10 universities have
obtained the **RESEARCH
UNIVERSITY** status



Fahrenheit Union of Universities in Gdańsk

The union was established at the joint motion of the rectors of: Gdańsk Tech, University of Gdańsk, Medical University of Gdańsk



Main goal:
**to establish a federation
of three universities**

Union goals

development of solutions supporting joint research and development work

recommendations for the consolidation or establishment of new inter-university doctoral schools

conducting a common promotion and ranking policy, especially on the international arena

representing common interests towards state and self-government administration and legislative initiatives

deepening cooperation and creating one of the strongest academic centers in Poland in the Pomerania region

paced in the **first 500 in international rankings**



Fahrenheit Universities. Together we can do more!



Fahrenheit parade opening
the academic year



Joint march with the local authorities
of Gdańsk and Pomerania

Attended by **13 additional Pomeranian**
higher education institutions

Results of the evaluation of scientific activity for the years 2017–2021 of the Ministry of Education and Science

Category A+

was received in the following disciplines:

in the field of engineering
and technical sciences:

- **architecture and urban planning**
- **automation, electronics and electrical engineering**
- **chemical engineering**
- **environmental engineering, mining and power engineering**
- **civil engineering and transportation**

in the field of exact and natural sciences:

- **chemical sciences**

Category A

was received in the following disciplines:

in the field of engineering and technical sciences:

- **biomedical engineering**
- **materials engineering**
- **mechanical engineering**

in the field of social sciences:

- **economics and finance**
- **management and quality science**

in the field of exact and natural sciences:

- **mathematics**

Category B+

was received in the following disciplines:

in the field of engineering and technical
sciences:

- **technical informatics
and telecommunications**

in the field of exact and natural sciences:

- **physical sciences**

Gdańsk Tech in international rankings

Gdańsk Tech is one of the **900 best** universities according to the Academic Ranking of World Universities




Academic Ranking of
World Universities



Gdańsk Tech is one of the **1000 best** universities according to QS World University Rankings 2022

Gdańsk Tech in the **137th place** in the pro-ecological GreenMetric ranking



Gdańsk Tech is in the range of **1001–1200 of the best** universities according to the Times Higher Education Ranking 2024

5th place among 37 Polish universities

Gdańsk Tech in national rankings

2nd place

in the competition of the Ministry of Science and Higher Education (today Ministry of Education and Science) '**Excellence Initiative – Research University**'

2nd place

in the ranking of the Ministry of Education and Science of the **most-chosen public** universities in the country 2022/2023

3rd place

among technical universities according to the Perspektywy University Ranking 2022

Facts and Figures

120 years of academic
tradition

8 faculties

14 leading disciplines



37 fields of study, including:

- 34 BSc studies
- 33 MSc studies

2 doctoral schools

over 14 000 students
over 140 000 graduates
postgraduate courses
and MBA studies

**About Gdańsk University
of Technology**



Over 4 thousand publications
309 research projects
297 patents



International level of education and research

CESAER

conference of european schools
for advanced engineering education
and research

Confirmation of quality and scientific excellence in the field of engineering and research, and close cooperation with industry



International institutional assessment awarded by the European University Association (EUA)



HR EXCELLENCE IN RESEARCH

Quality mark awarded by the European Commission, confirming the implementation and application of the highest standards in research and employment of staff



International Quality Accreditation for the Faculty of Management and Economics at Gdańsk

International level of education and research



Member of an international consortium – educating engineers based on the algorithm:
understand – construct - implement – act



4 EUR-ACE accreditation for fields of study:
architecture, automation, robotics and control systems,
biotechnology and transport



International AMBA certificate for MBA studies and for the field of International Management (MSc studies)



3 international certificates: ECTN
Chemistry Eurobachelor, ECTN Chemistry
Euromaster and ECTN Chemistry
Doctorate Eurolabel

The Climate Plan of Gdańsk Tech

for the years 2022–2030 determines how we intend to face current and future challenges in order to become a sustainable institution and play a significant role in creating a sustainable world.

Gdańsk Tech Sustainable Development Report

the presented report is an outline of the University's activities in particular areas of Sustainable Development.

Social Responsibility Report of Gdańsk Tech for the years 2018 – 2021

in the report we have shared our experiences and good practices within the scope of building an engaged and socially responsible society at Gdańsk Tech.



One of the most important values cultivated by Gdańsk University of Technology is **care for the conditions** and **quality of life** of the present and future generations.

The **university actively participates** in the implementation of the UN Sustainable Development Goals and the European Green Deal of the European Commission. It is also a signatory of the Universities' Declaration of Social Responsibility and an active subject of activities aimed at shaping social attitudes conducive to the implementation of the declaration's postulates.

One campus – 8 faculties



FACULTY OF
ARCHITECTURE



FACULTY OF ELECTRONICS,
TELECOMMUNICATIONS
AND INFORMATICS



FACULTY OF APPLIED
PHYSICS AND MATHEMATICS



FACULTY OF MECHANICAL
AND OCEAN ENGINEERING



FACULTY OF
CHEMISTRY



FACULTY OF ELECTRICAL
AND CONTROL ENGINEERING



FACULTY OF CIVIL
AND ENVIRONMENTAL
ENGINEERING

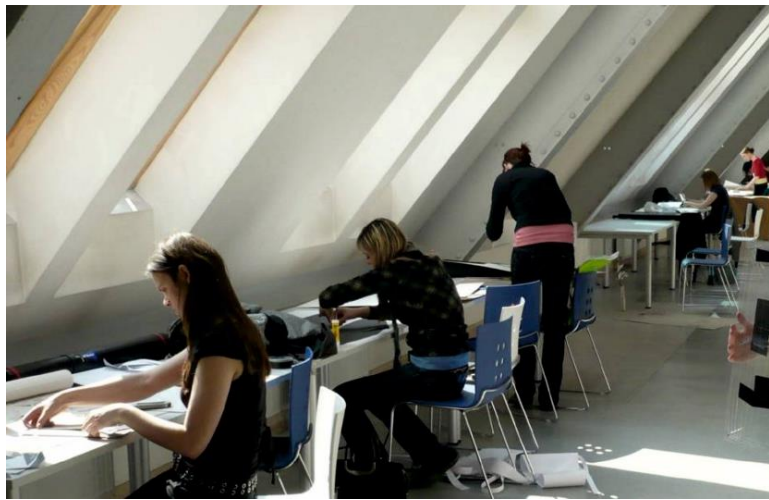


FACULTY OF
MANAGEMENT
AND ECONOMICS

Scientific activity of the faculty focuses on architecture and urbanism



The faculty offers undergraduate, graduate, and postgraduate studies as well as scientific discipline Architecture and Urbanism within framework of Doctoral School

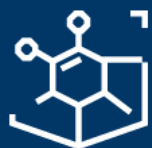


Faculty of Architecture is a member of:

- European Association for Architectural Education (EAAE)
- European Network of Heads of Schools of Architecture (ENHSA)
- Association of European Schools Of Planning (AESOP)



Internationally acknowledged scientific activity, high quality didactics and innovative cooperation with the industry



FACULTY OF
CHEMISTRY

Science

- | 170 research workers
- | category A+ in the parametric assessment
- | 370 (including 358 from the JCR list)
- | 20 national and international grants
- | 93 projects (commissioned research)
- | 12 teaching projects
- | 141 cooperation agreements (70 - research, 72 - teaching)



Innovation and collaboration

- | 12 obtained patents PL
- | 2 international patents
- | 20 new patent applications
- | participation in consortia, including:
Gdańsk Academic, Chemistry, EMQAL,
Polish Polar Consortium



Didactics

- | 3 study levels
- | 9 fields of study
- | 1079 students (including PhD students)
- | studies in English (Green Technologies)
- | studies with a practical profile (major in Engineering and Technologies of Energy Carriers)

Research – Innovation – Education

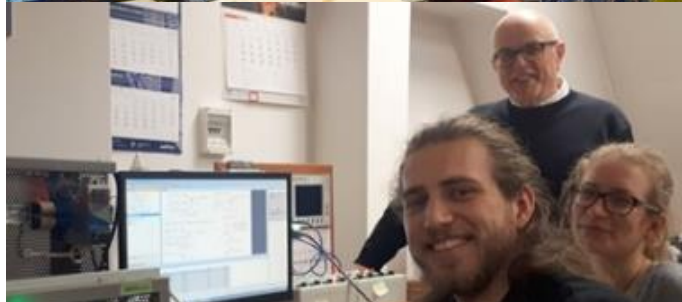


The most important achievements

- | RES and smart grid at LINTE ^ 2 Laboratory (# 1 in Poland)
- | First Polish-French doctorates from the Grenoble Institute of Technology
- | Cooperation with the national Energy and maritime sectors

Research projects

- | Infrastructure for e-mobility and low-carbon transport
- | AI and deep neural networks in 2D images recognition
- | Test stand for the FAIR accelerator in Darmstadt
- | Electric drives with multi-phase induction and PMSM motors
- | Hybrid distribution transformers in smart grid systems



FACULTY OF ELECTRICAL
AND CONTROL ENGINEERING

Studies conducted in the fields of

- | automation, robotics and control systems
- | electrical engineering
- | power engineering (including: Energy Technologies)
- | hydrogen technologies and electromobility

Advantages

- | IEUR-ACE Bachelor and EUR-ACE Master Certificates
- | # 3 in Poland in the Electrotechnics ranking
- | Employment of graduates > 97%

Faculty of Electronics, Telecommunications and Informatics

A+, A and B+ category



Education at full-time and
part-time BSc and MSc
studies, doctoral studies
and postgraduate studies

The Faculty offers the following full-time
studies:

| **automation, cybernetics and robotics**

BSc and MSc studies in Polish



MSc studies in English



| **electronics and telecommunications**

BSc and MSc studies in Polish



MSc studies in English



| **informatics**

BSc and MSc studies in Polish



MSc studies in English



| **biomedical engineering**

interfaculty field of study



BSc and MSc studies in Polish

| **data engineering** – interfaculty
field of study BSc and MSc studies
in English



| **space and satellite technologies**

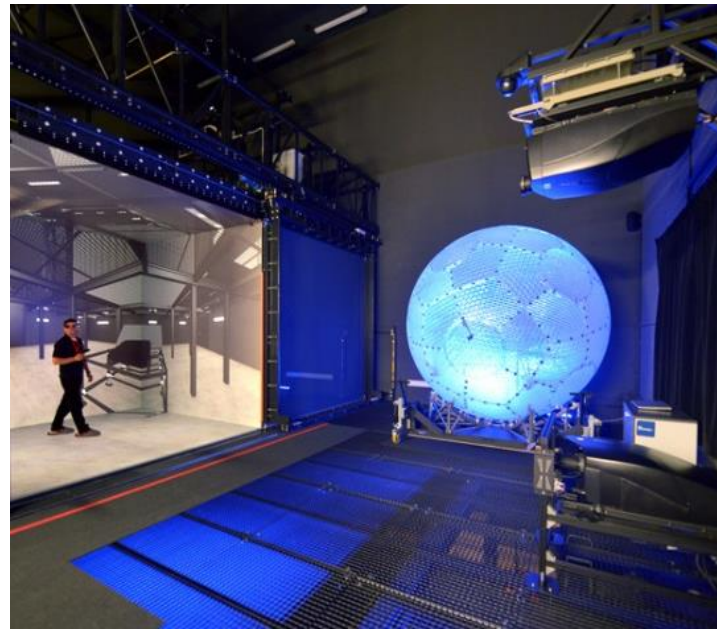
inter-university field of study



MSc studies in Polish



FACULTY OF ELECTRONICS,
TELECOMMUNICATIONS
AND INFORMATICS



Faculty of Applied Physics and Mathematics the A category for two disciplines and the B+ category

Research areas

- | Applied Mathematics
- | Applied Physics
- | Medical Physics
- | Nanotechnology
- | Materials Science
- | Applied Informatics

3 ongoing international projects and 18 national grants



Education

- | **undergraduate, Master's and doctoral studies**
in all research areas, including Financial Mathematics, Computer Graphics, Renewable Energy Sources, Computer Modeling, Nanostructures and Functional Materials, Applied Physics, and Biomedical Engineering
- | **6 double-degree joint international Master's programs**
- | **65 bilateral staff and student exchange agreements with universities from 23 countries**
- | **popularization of science**



FACULTY OF APPLIED
PHYSICS AND MATHEMATICS



**Out of passion for
science and education**

Education innovation passion









FACULTY OF CIVIL
AND ENVIRONMENTAL
ENGINEERING

The best **Environmental Engineering** in the country
according to the **Perspektywy Ranking 2022**

Civil Engineering in **Shanghai's Global
Ranking of Academic Subjects 2022**

Didactic offer

- | civil engineering  
- | geodesy and cartography 
- | environmental engineering  
- | transport 

Science

- | **26 domestic and international projects**
- | **more than 180 journal articles** from the JCR list in 2022
- | 7 of our scientists among the **Top 2%** of the most influential in the world

Innovation and cooperation

- | **expert and consulting activity** in the industry environment
- | **close cooperation** with the socio-economic environment
- | **cooperation** with EU countries, as well with the USA, Jordan, Lebanon, Egypt, Uzbekistan, the Philippines, Indonesia, Democratic Republic of Kongo etc.
- | **active member of the Polish Polar Consortium and in other scientific societies**





Didactics

- | over 200 academic teachers
- | over 2100 students
- | 9 BSc study programs (including 2 in English)
- | 9 fields of MSc studies (including 3 in English)
- | international academic exchange



Education – research – innovation



FACULTY OF MECHANICAL
AND OCEAN ENGINEERING

Cooperation with the industry

- | implementation projects
- | paid student internships

Modern infrastructure

- | TriboLab
- | M&T Lab
- | MechMatLab

Interdisciplinary research

- | Institute of Energy
- | Institute of Mechanics and Machine Design
- | Institute of Ocean Engineering and Ship Technology
- | Institute of Machines and Materials Technology

Research projects, including international ones

- | Underwater mine defense systems
- | allCute | 2LIPP | NEPTUN and many others

Passion development

- | activities of student research clubs
- | Formula Student, Rocket / Balloon Experiments
- | student conferences and camps, sailing patents, motorboat helmsman courses
- | Job fairs: Offshore Career Day, PSEZ Day, TargOiOwisko

Educating leaders and creating solutions for business



Full-time and part-time courses

economic analytics



economics



data science



management



engineering management



over 30 fields of postgraduate courses



The third mission of the university



Baltic Science Festival

- | one of **the largest science festivals** in the country
- | **around 150 events** each year, including demonstrations, scientific picnics, presentations of experiments, workshops and lectures
- | over **15 000 visitors**
- | event for the local community of all ages



The Talented of Pomerania

- | **support for talented students** from grades VII and VIII of primary and secondary schools in the fields of physics, computer science, mathematics, biology and chemistry
- | the project is carried out by the Pomeranian Provincial Government in partnership with Gdańsk University of Technology as part of the Regional Operational Program of the Pomeranian Voivodeship for the years 2014–2020



Talent University at Gdańsk Tech

- | **first edition** of Gdańsk Tech summer school – September 2023
- | **over 200** students from the best Pomeranian high schools
- | **two days of research** and entertainment attractions on the campus
- | **great reception** and comments from the participants



80 hectares of campus area

**modern and
environmentally friendly
buildings**

**charming and majestic
buildings from
the 20th century**



modern lecture halls

**highly specialized
laboratories**

friendly places to rest

The university is located in the heart of Gdańsk Wrzeszcz

Academic Sports Center



aerobics room
gym
rowing machine
judo hall
climbing wall



2 swimming pools and
a sauna

full-size soccer field

sports hall and tennis hall

beach volleyball court

3x3 basketball court

tennis courts



Gdańsk Tech is the Academic Champion of Poland for the fourth time in a row (2019/2020, 2020/2021, 2021/2022, 2022/2023)



The largest and oldest, but also the most modern technical library in Pomerania

The library provides access to:

- | 9 branches at faculties
- | 440 reading room places
- | over 100 computers available to readers
- | over 500 000 printed collections
- | about 13 000 active users of the Virtua library system annually



- | 82 scientific subscription databases
- | multiple databases in **Open Access**
- | nearly 11 000 of electronic journal titles
- | nearly 270 000 of electronic books titles
- | all current **Polish standards** in electronic version
- | independent loan and return stations
- | **on-line** catalog
- | Pomeranian Digital Library



Gdańsk Tech Library



Trójmiejski Zespół
Biblioteczny



Gdańsk Tech Library activities:

leader: Tricity Library Complex, Pomeranian Digital Library

participation in projects and initiatives: MOST Wiedzy, MOST DANYCH, BE OPEN, Digital Libraries Federation, Europeana, NUKAT

cooperation with international organisations and associations:

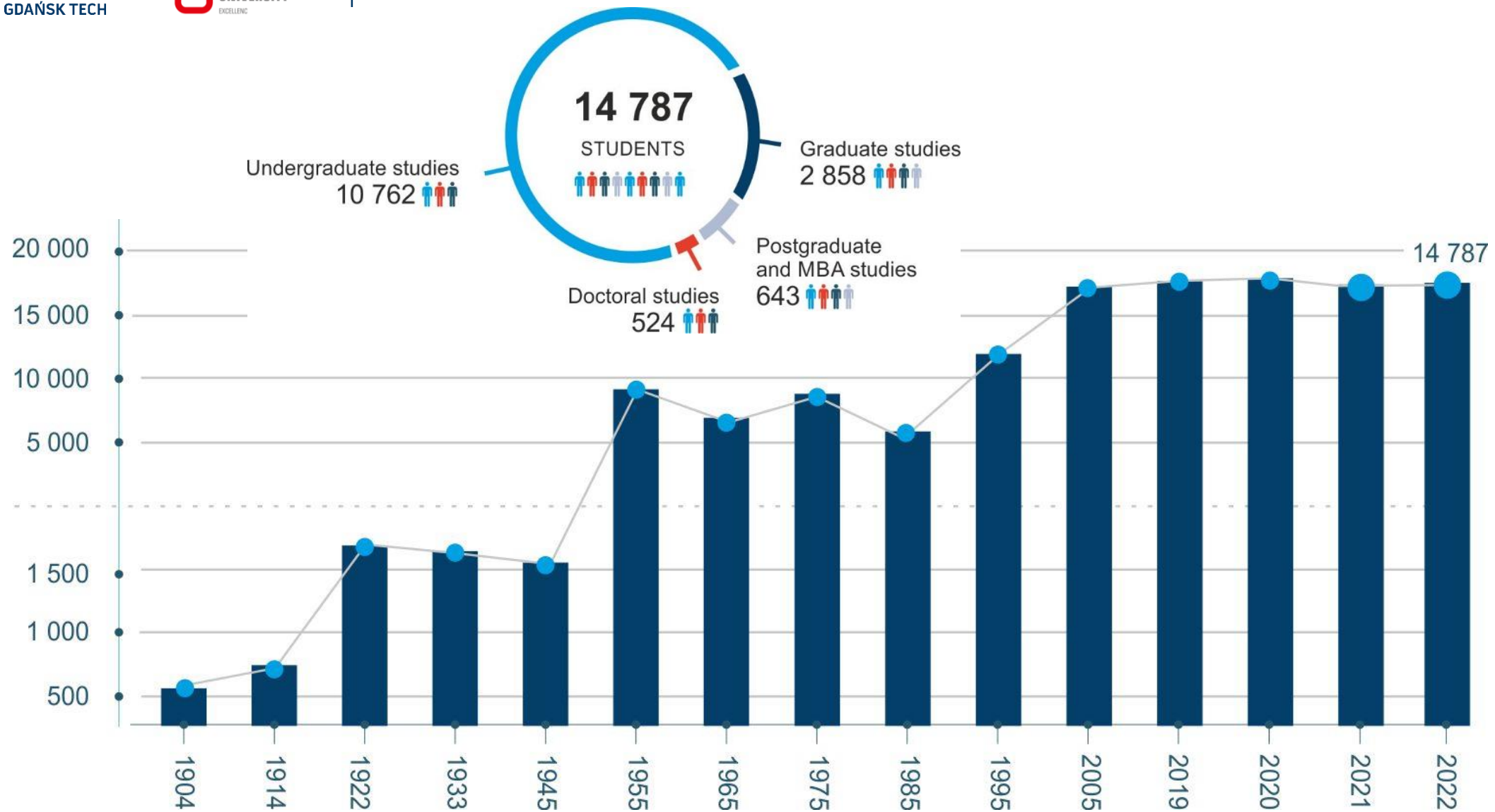
- | IATUL (International Association of University Libraries)
- | LIBER Europe (Ligue des Bibliothèques Européennes de Recherche – Association of European Research Libraries)
- | SPARC Europe (Scholarly Publishing and Academic Resources Coalition)
- | CESAER (Conference of European Schools for Advanced Engineering Education and Research)
- | RDA (The Research Data Alliance)
- | OpenAIRE
- | GO FAIR initiative
- | EOSC Association




Gdańsk University of Technology facilities in the region




Students



Projects run by the International Relations Office



Erasmus + Mobility
between Program
Countries (KA103,
K131)



Erasmus + Mobility
with Partner Countries
(KA107, KA171)



NAWA Solidarity with
Ukraine




NAWA Welcome
to Poland



EEA The Education
Program



IDUB AMERICIUM
International Career
Development



IDUB EINSTEINIUM
Short-Therm
Incoming Visits



IDUB EUROPIUM
Short-Therm
Outgoing

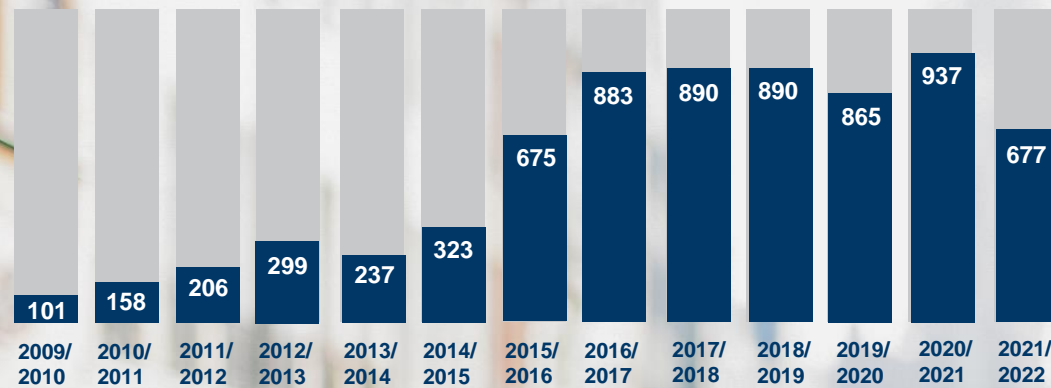
879 active international agreements

630 Erasmus + agreements

29 multiple qualification contracts

Foreign students

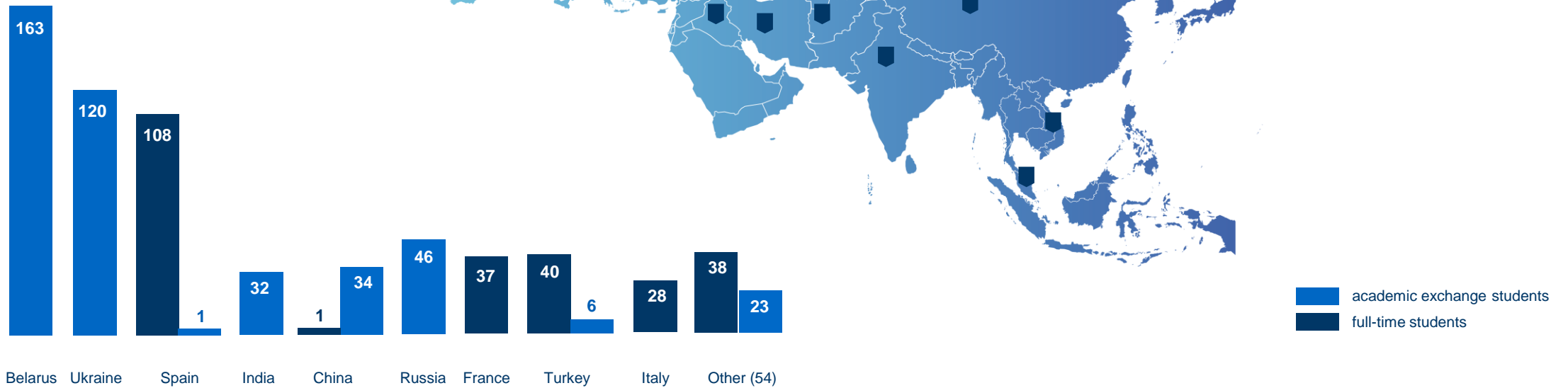
Number of foreign students in a given academic year



Where do the foreign students come from?

Nearly 700 foreign students from over 60 countries around the world

Number of foreign students at Gdańsk Tech in 2021, by citizenship



Doctoral school of an academic-scientific nature



- in English
- possibilities of scientific cooperation in research teams, also on an international scale
- providing opportunities for doctoral students to prepare scientific publications and participate in projects (STER, PROM, IDUB, Welcome to Poland)

3 Research Areas – 14 Disciplines

*) as of AY. 2023/2024

doctoral scholarships for all PhD students

additional scholarship offer for the best PhD students

no tuition fees for doctoral students

Education under the Industrial Doctorate program of the Ministry of Science and Higher Education (today Ministry of Education and Science)



scientific and industrial supervision:

educating a doctoral student in cooperation with the company employing them

financial resources:

financial support in the form of a doctoral scholarship (up to 4 years),
co-financing the costs of using research infrastructure to carry out scientific research

education:

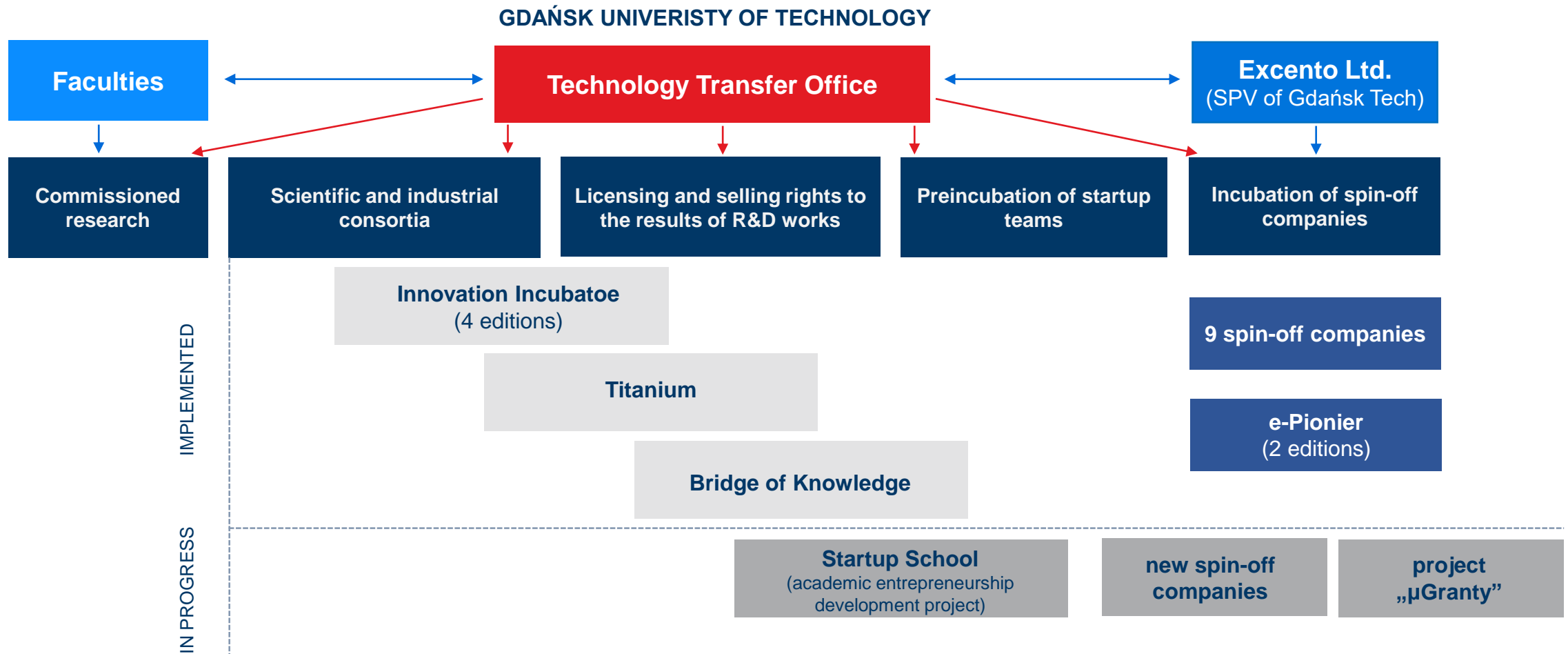
conducted in 14 disciplines: economics and finance; management and quality studies; chemical sciences; physical sciences; mathematics; civil engineering, geodesy and transport; architecture and urban planning, environmental engineering, mining and energy; materials engineering; mechanical engineering; biomedical engineering; automation, electronics, electrical engineering and space technologies; information and communication technology, chemical engineering

no tuition fees for doctoral students
education of doctoral students in Polish

*) as of AY. 2023/2024

**The aim of the program
is to create conditions
for the development
of cooperation between
science and the
socio-economic
environment**

Cooperation with business is coordinated by the Technology Transfer Office



Innovation and commercialization

over 3 000 projects
worth over
PLN 196 million,
commissioned by
industry realized
together with SPV
Excento over the
last 10 years

over 1000
inventions
reported at
Gdańsk
University of
Technology

about 200
licenses
granted*

* Since 2006

9 spin-off
companies using
technologies
developed
at Gdańsk Tech

130 entities from the
ICT industry are
gathered by
the Pomeranian
INTERIZON Cluster
(established at
the Faculty of
Electronics,
Telecommunications
and Informatics)

Cooperation with business is
coordinated by the Technology
Transfer Office



ProtoLab as part of the project E-pionier



places of meetings, work and exchange of knowledge and experience of the startup environment of Gdańsk University of Technology

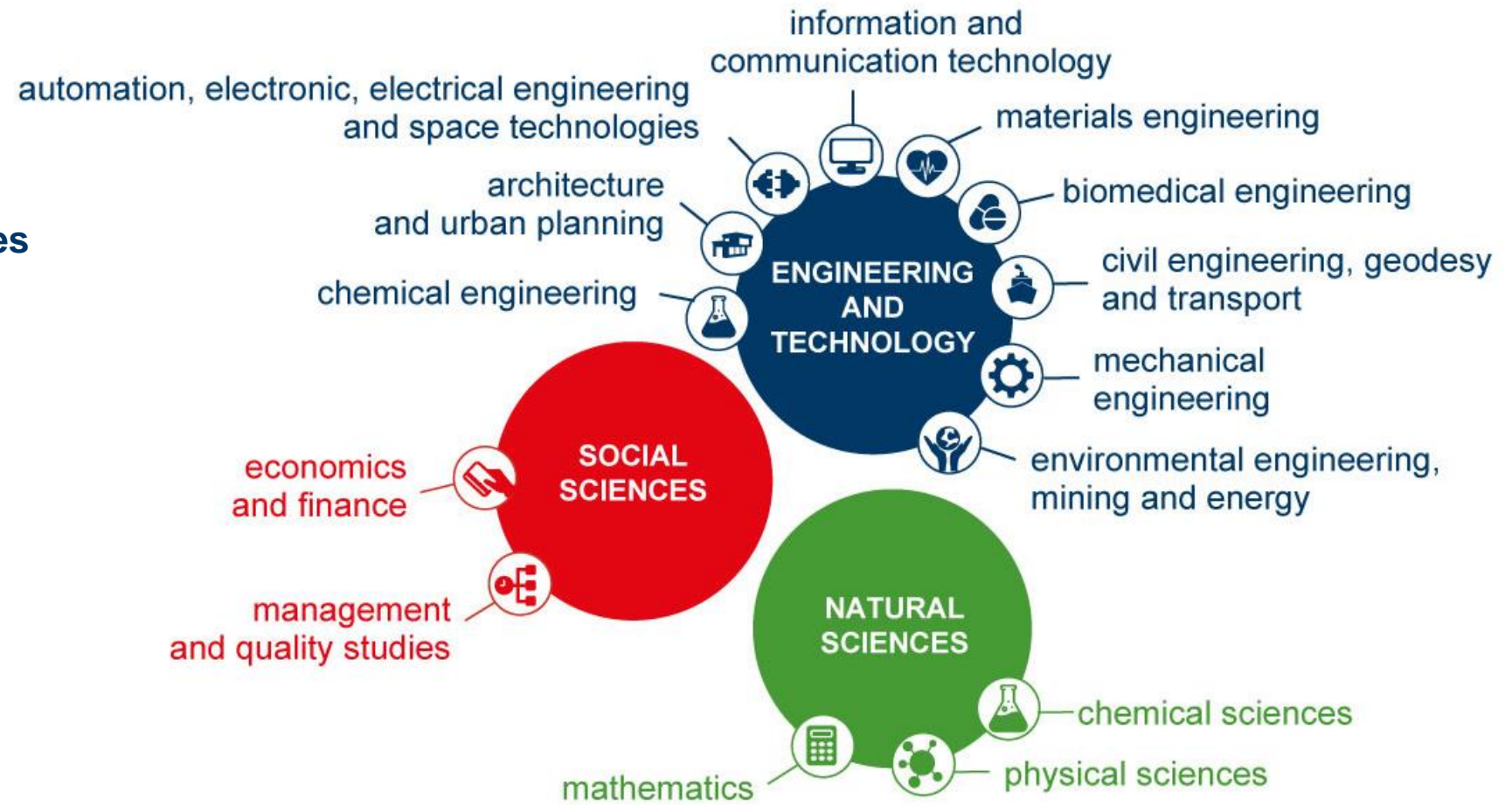
laboratories where everyone has a chance to work efficiently in a modern environment.

possibility **to rent** equipment for up to 7 days.

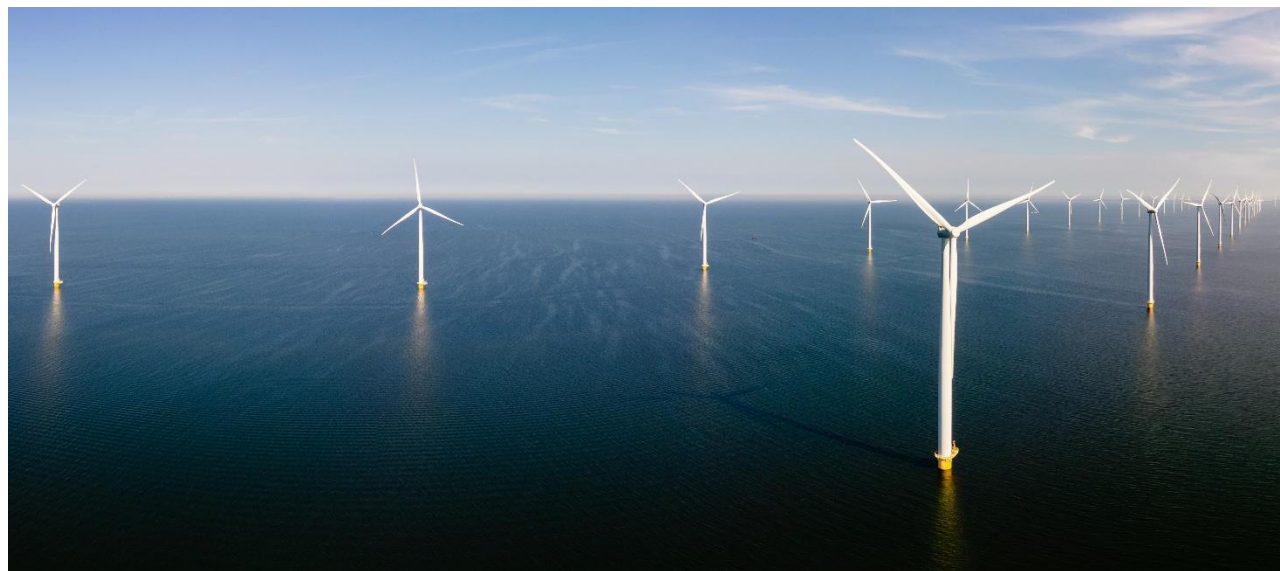
guaranteed free trainings on 3D printing, soldering, lathe and plotter operation.

More can be found: excento.pl/e-pionier/protolab

14 scientific disciplines



Scientific, Research and Implementation Centers of Gdańsk University of Technology



Science Centers

established under the "Excellence Initiative – Research University" program

BioTechMed Center

EkoTech Center

Materials of the Future Center

Digital Technologies Center

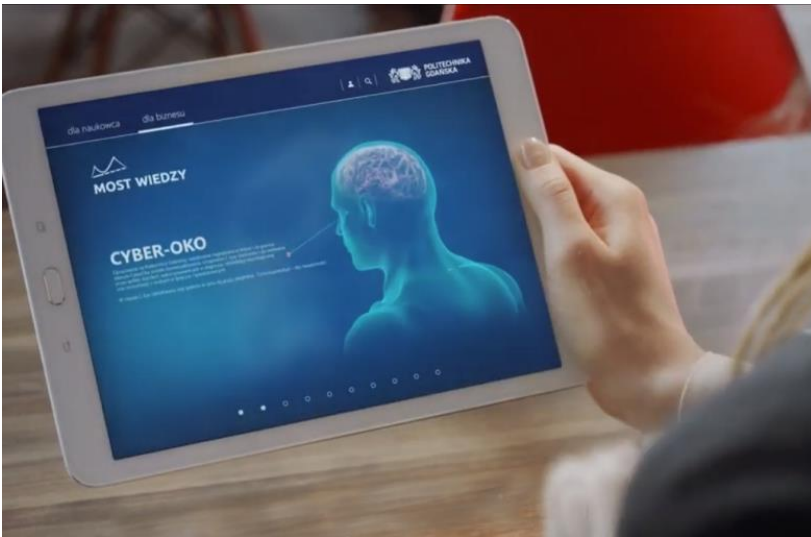
Research and Implementation Centers

established in cooperation with the social and economic environment

Center for Offshore Wind Energy

Center for Hydrogen Technologies

Center for Nuclear Power



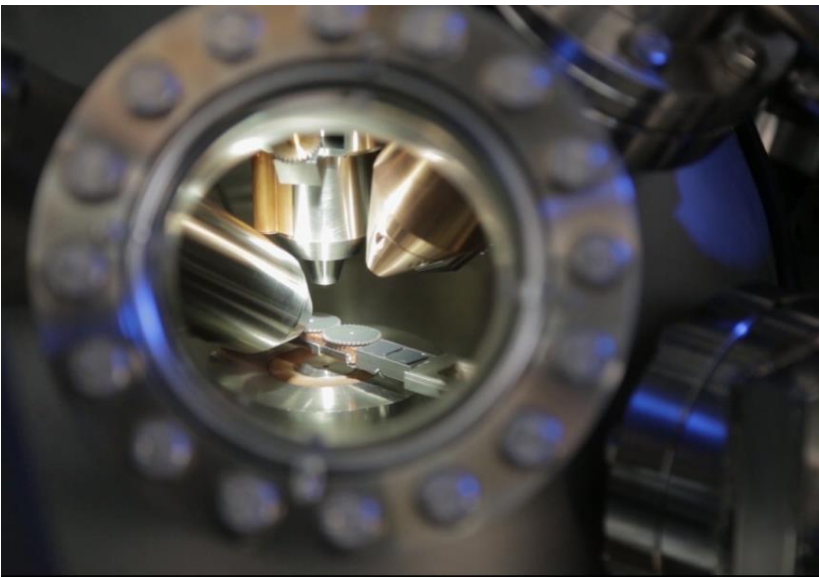
BioTechMed Center

Activities

- | biomedical engineering
- | molecular and pharmaceutical biotechnology
- | searching for new drugs
- | biomaterials
- | artificial intelligence in medicine
- | biomedical measurements, patient diagnosis and therapy systems
- | control of medical devices (including exoskeletons)

Effects

- | development of new medical instruments and devices
- | human memory biomarkers – will enable a better understanding and optimization of methods of improving memory
- | CyberBed – will help to counteract digital exclusion of patients with paralysis
- | new strategies to fight bacterial drug resistance
- | new methods of diagnosis and therapy of patients
- | development of the healthy, ecological food market



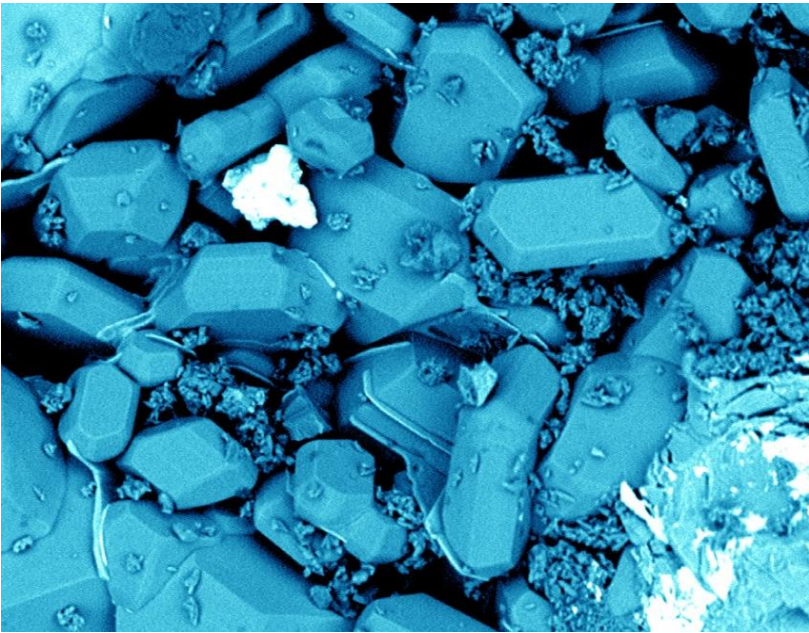
EcoTech Center

Activities

- | shaping a harmonious, balanced space of human life
- | smart green solutions for urban and extra-urban areas
- | searching for new methods of environmental and infrastructure monitoring
- | water and wastewater treatment technologies
- | electricity and heat production technologies

Effects

- | solutions for monitoring the environment and infrastructure
- | counteracting the so-called anthropopression, i.e. human influence on the natural environment
- | supporting spatial planning "Eco-town of the future 2050", i.e. cities resistant to climate change and ensuring a high quality of life
- | reduction of the carbon footprint, limitation of the so-called "Light smog"



Materials of the Future Center

Activities

- | manufacturing and characterization of innovative materials in the field of materials engineering
- | application of materials in industry, medicine, aeronautics and ocean engineering
- | technologies of manufacturing and obtaining innovative structures and device
- | recycling and metrology

Effects

- | development of materials for the storage of electricity from renewable energy sources
- | storage and conversion of surplus energy in innovative batteries and supercapacitors
- | discovery of new superconductors and development of photo-catalysts that enable the oxidation of pharmaceuticals not susceptible to biodegradation
- | development of the so-called polymer-asphalt binders having better resistance to environmental factors and changing temperature conditions
- | materials for the disposal of pollutants and materials for regenerative medicine



Digital Technologies Center

Activities

- | in the areas of: electronics, computer science, automation, robotics and mechatronics as well as telecommunications
- | work on improving the safety and comfort of society
- | preparation of systems for more efficient management of enterprise structures
- | projects in the field of robotization and automation, design and production techniques



Effects

- | creating “smart” environments at home and on the street
- | miniature electronics that will enable automatic
- | adapting space to human needs
- | increase the efficiency of enterprises and institutions
- | new technologies that increase the productivity of port and logistics areas
- | systems for use in autonomous vehicles
- | new methods of wireless communication



Offshore Wind Energy Center

Research areas

- | Digitalisation and Industry 4.0
- | Digital Twins
- | Multi-scale testing of a material, component, structure or system
- | Destructive and non-destructive testing
- | Static, dynamic and fatigue testing
- | Damage detection, evaluation and monitoring
- | Numerical modelling and computer simulations
- | Floating wind turbine structures
- | Clean Energy Transition



Cooperation with industry

- | staff training and management in offshore wind energy
- | outstanding specialists in all areas of knowledge related to offshore wind energy
- | highly specialized laboratory base
- | numerical and experimental research
- | scientific support in the field of Operation & Maintenance of wind farms



Center for Hydrogen Technologies

Research areas

- | fuel cells diagnostics
- | hydrogen storage and production
- | energy production and processing
- | modeling of hydrogen processes



Cooperation with industry

- | the first unit of this type in Poland
- | interdisciplinary research services related to the subject of hydrogen
- | assistance in developing the concept and description of the R&D proces in terms of the requirements of NCBR and EU committees
- | expertise with the use of modern diagnostic and measurement equipment
- | comprehensive implementation of tasks in the research and development area related to the production, storage and processing of hydrogen
- | organization of training courses for employees of enterprises in the field of hydrogen technologies



Center for Nuclear Power

Tasks of the center

- | supporting innovation and providing information in the area of nuclear power,
- | extending the research and industrial offer of Gdańsk University of Technology within the scope of nuclear power,
- | cooperation with the domestic industry, European Union and worldwide industries within the scope of nuclear power,
- | developing and extending the training equipment offer related to nuclear power,

Cooperation with the business

- | cooperation with the organizational units of Gdańsk University of Technology, other universities, as well as national and international research and development institutions, in favor of nuclear power,
- | creation of interdisciplinary national and international research teams for issues related to nuclear power,
- | participation in competitions and other procedures, in order to obtain grants for research from authorized institutions (international programs, Ministry of Education and Science, National Center for Research and Development, etc.),

The biggest investments



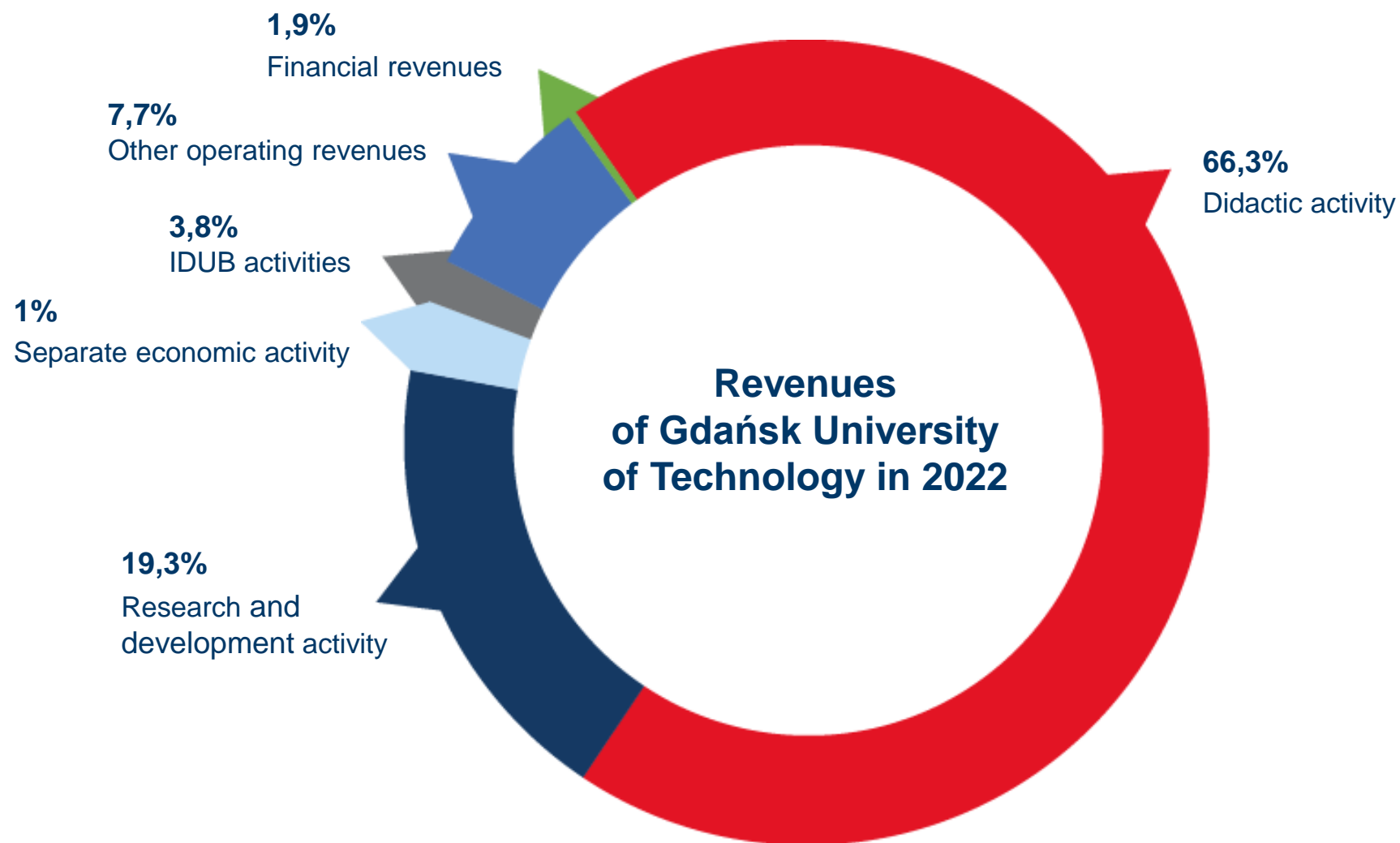
**Laboratory of Innovative Power Technologies and Integration of Renewable Energy Sources
LINTE ^ 2**



STOS Competence Center (Smart and Transdisciplinary knOWledge Services) and supercomputer „**Kraken**”



Eco-innovation Center of Gdańsk University of Technology





A beautiful, modern university with character



<https://youtu.be/1q6CMT01xJI>