



RESEARCH UNIVERSITY

EXCELLENCE
INITIATIVE

www.pg.edu.pl/en





GDAAŃSK UNIVERSITY
OF TECHNOLOGY



RESEARCH
UNIVERSITY
EXCELLENCE INITIATIVE

Location of GUT

Gdańsk (Danzig)



Berlin	503 km	Bratislava	930 km
Vilnius	571 km	Kiev	1104 km
Stockholm	626 km	Moscow	1444 km
Minsk	743 km	Madrid	2833 km
Prague	755 km	Beijing	6965 km



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

1904 – 1918

Königliche Technische Hochschule zu Danzig

1918 – 1921

Technische Hochschule in Danzig

1921 – 1939

Technische Hochschule der Freien Stadt Danzig

1939 – 1941

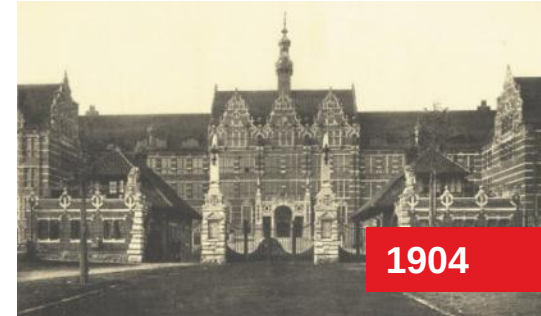
Technische Hochschule Danzig

1941 – 1945

Reichshochschule Danzig

1945 – present

Gdańsk University of Technology





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

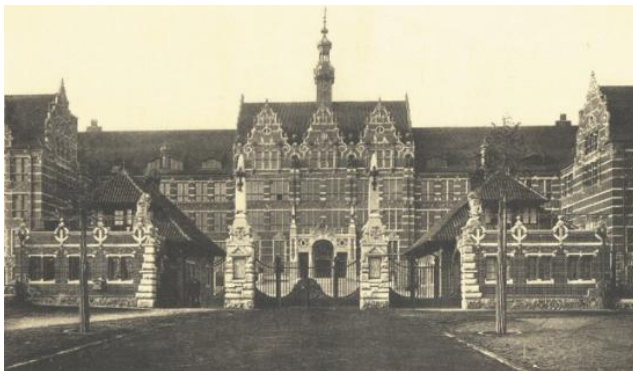
24 May the polytechnic was transformed into a state Polish academic university

2004

100 years of
Gdańsk University of
Technology

2019

GUT 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





GDAŃSK UNIVERSITY
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RESEARCH
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EXCELLENCE INITIATIVE

'Excellence Initiative – Research University' – programme of the Ministry of Science and Higher Education

Gdańsk University of Technology is a RESEARCH UNIVERSITY!
2nd place among the 10 best academic centers in Poland



- | One of the most important initiatives under the new Law on Higher Education and Science – Law 2.0
- | 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



GDAŃSK UNIVERSITY
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RESEARCH
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One of the best universities in Poland

Assessment of the scientific activity of units carried out by the Ministry of Science and Higher Education



Two faculties in category A +

leading level nationwide:

Faculty of Chemistry,
Faculty of Electronics, Telecommunications and
Informatics

Five faculties in category A

very good level of activity

Faculty of Architecture,
Faculty of Electrical and Control Engineering
Faculty of Civil and Environmental Engineering
Faculty of Mechanical Engineering
Faculty of Management and Economics

Two faculties in category B

**satisfactory level of activities:
scientific, research and development
or stimulating innovativeness of the economy:**

Faculty of Applied Physics and Mathematics
Faculty of Ocean Engineering and Ship Technology



GD AŃSK UNIVERSITY
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One of the best universities in Poland

Gdańsk University of Technology in international rankings



Gdańsk University of Technology
is one of **the 1000 best** universities
according to the Academic Ranking
of World Universities

Gdańsk University of Technology
is one of **the 1000 best** universities
according to QS World University
Rankings 2021





**GDAŃSK UNIVERSITY
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One of the best universities in Poland

Gdańsk University of Technology in the national rankings

2nd place in the competition of the Ministry of Science and Higher Education 'Excellence Initiative – Research University'

3rd place in the ranking of the Ministry of Science and Higher Education of the most-chosen public universities in the country 2019/2020

4th place among technical universities according to the Perspektywy University Ranking 2020





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Facts and Figures

About Gdańsk University of Technology



- | 116 years of academic tradition
- | 9 faculties
- | 12 leading disciplines
- | over 15 000 students
- | over 140 000 graduates
- | 37 fields of study, including:
 - | 34 BSc studies
 - | 33 MSc studies
- | 2 doctoral schools
- | MBA studies



**GDAŃSK UNIVERSITY
OF TECHNOLOGY**



The highest quality

International level of education and research

| CESAER

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

| European 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**

| EUA – Institutional Evaluation Programme

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

CESAER

conference of european schools
for advanced engineering education
and research



EVALUATED BY

IEP

EUA-Institutional Evaluation Programme
www.iep-qaa.org



HR EXCELLENCE IN RESEARCH



GD AŃSK UNIVERSITY
OF TECHNOLOGY



RESEARCH
UNIVERSITY
EXCELLENCE INITIATIVE

The highest quality

International level of education

I ECTS LABEL

Certificate of international quality of education awarded to institutions offering high level of education

I CDIO

Member of an international consortium – education of engineers based on the algorithm: Understand – construct – implement – act.

I AMBA

international AMBA certificate for MBA studies

I EUR-ACE

3 international EUR-ACE accreditations for the fields of study: IT, biotechnology and electrical engineering





**GDAŃSK UNIVERSITY
OF TECHNOLOGY**



**RESEARCH
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EXCELLENCE INITIATIVE

Faculties

One campus – 9 faculties

- | Faculty of Architecture**
- | Faculty of Chemistry**
- | Faculty of Electronics, Telecommunications and Informatics**
- | Faculty of Electrical and Control Engineering**
- | Faculty of Applied Physics and Mathematics**
- | Faculty of Civil and Environmental Engineering**
- | Faculty of Mechanical Engineering**
- | Faculty of Ocean Engineering and Ship Technology**
- | Faculty of Management and Economics**





**GDAŃSK UNIVERSITY
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Faculty of Architecture

Scientific activity of the faculty focuses on architecture and urbanism

- | The faculty's educational offer includes Architecture and Spatial Development**
- | The faculty offers undergraduate, graduate, doctoral and postgraduate studies**

- | Faculty of Architecture is a member of**

**European Association for
Architectural Education (EAAE)**



**European Association for
Architectural Education**
Association Européenne pour
l'Enseignement de l'Architecture

**European Network of Heads of
Schools of Architecture (ENHSA)**



**Association of European Schools
Of Planning (AESOP)**





GDAAŃSK UNIVERSITY
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Faculty of Chemistry
with the highest category A +

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

Science

- 167 research workers
- category A + in the parametric assessment
- 85 articles (including 175 from the JCR list)
- 77 national and international grants
- 70 projects (commissioned research)
- 7 didactic projects
- 70 cooperation agreements

Innovation and collaboration

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

Didactics

- 3 levels of study
- 9 fields of study
- 1 526 students (including PhD students)
- studies in English (major in Green Technologies)
- studies with a practical profile (major in Engineering and Technologies of Energy Carriers)



POLSKIE
KONSORCJUM
POLARNE





GDĄŃSK UNIVERSITY
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**Faculty of Electrical and Control
Engineering**
with category A and the best traditions

Research – Innovation – Education

| Studies conducted in the fields of

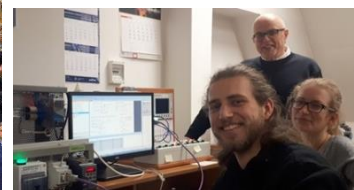
- | automation, robotics and control systems
- | electrical engineering
- | power engineering (including: Energy Technologies)

Advantages

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

| Research projects

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



| 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



GDAAŃSK UNIVERSITY
OF TECHNOLOGY



Faculty of Electronics,
Telecommunications and Informatics
with the highest A + category

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

The Faculty offers the following fields of study:

| **automation, cybernetics and robotics**

first and second cycle studies in Polish



second-cycle studies in English



| **electronics and telecommunications**

first and second cycle studies in Polish



second-cycle studies in English



| **informatics**

first and second cycle studies in Polish



second-cycle studies in English



| **biomedical engineering**

first and second cycle studies in Polish



| **data engineering**

conducted jointly with the Faculty of Management and Economics, first-cycle studies in English



| **space and satellite technologies**

conducted jointly with the Faculty of Mechanical Engineering, second-cycle studies in Polish





GDAAŃSK UNIVERSITY
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Faculty of Applied Physics
and Mathematics

Out of passion for science and education

| Research areas

- | applied mathematics
- | applied physics
- | medical physics
- | nanotechnology
- | material engineering
- | applied informatics

7 international projects and 22 national grants

| Education

- | undergraduate, engineering, graduate studies and PhD in research areas, including financial mathematics, computer graphics, renewable energy sources, computer modeling, nanostructures and functional materials, applied physics or biomedical engineering
- | 6 double international study programs with double qualifications (double diploma)
- | 58 bilateral employee and student exchange agreements with universities from 23 countries
- | popularization of science





GDĄŃSK UNIVERSITY
OF TECHNOLOGY



**Faculty of Civil and Environmental
Engineering**
with the A category and the best traditions

Education – innovation – passion

| Didactic offer

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

| Science

- | 250 academic teachers
- | 32 currently implemented projects (domestic and international)
- | 160 journal articles from the JCR list annually

The field of civil engineering was rated as the best in Poland and was among the 300 best in the world in this year's Shanghai's Global Ranking of Academic Subjects



| Innovation and cooperation

- | expert and advisory activity / accredited laboratories
- | cooperation with the socio-economic environment
- | cooperation with EU countries, the USA, Russia, Jordan, Lebanon, Egypt, Uzbekistan, the Philippines, Indonesia, Democratic republic of Kongo
- | member of the Polish Polar Consortium



**GDAŃSK UNIVERSITY
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Faculty of Mechanical Engineering
with the A category and the best traditions

Education – research – innovation

- | Education of over 1500 students** (including approx. 10% of foreign students) in engineering, MSc and PhD studies, 7 fields of study on offer:
 - | energy**
 - | material engineering**
 - | mechanical and medical engineering**
 - | mechanics and mechanical engineering**
 - | mechatronics**
 - | space and satellite technologies**
 - | management and production engineering**
- | Experienced research and teaching staff as well as engineering and technical staff**
- | Teaching with the CDIO Project Method** (Conceive, Design, Implement, Operate) – 49 modern teaching and research laboratories with the most modern equipment



**Over 90% of graduates find
employment
in their field of education!**



GDAAŃSK UNIVERSITY
OF TECHNOLOGY



Faculty of Ocean Engineering
and Ship Technology

Education – innovation – passion

I Educating students for modern maritime economy in engineering, MSc and doctoral studies

Fields of study:

- I ocean engineering ('Study with the Future' certificate)
- I power engineering
- I transport ('Study with the Future' certificate)
- I design and construction of yachts – **studies with a practical profile since 2021**



I Innovative projects

- I deep-sea system – Morświn
- I anti-mine system – Głuptak
- I ecological water ferry for the waters of the City of Gdańsk
- I hybrid-powered passenger ship

I Development of interests and passions

- I organization of summer sailing camps
- I sailing patents, motorboat helmsman courses
- I STUKNUT Conference 'Achievements of Student Scientific Circles of Technical Universities' on the sailing ship STS Pogoria
- I research clubs: KORAB, PIKSEL

I Cooperation with industry, accredited laboratories, expert opinions for industry



REMONTOWA
HOLDING

ZWIĄZEK PRACODAWCÓW
FORUM OKRETOWE
ASSOCIATION OF POLISH MARITIME INDUSTRIES



POLSKIE JACHTY
POLSKA ZŁOTA PREZENTACJA JACHTOWEGO I SPORTOWEGO WODNIKA



procad



GDAAŃSK UNIVERSITY
OF TECHNOLOGY



Faculty of Management and Economics

Faculty with category A in the assessment of the Ministry of Science and Higher Education

| Full-time and part-time courses

| economic analytics



| economics



| data science



| management



| bachelor in management



| International MBA in Strategy Programme and Project Management



| 34 postgraduate courses





Education – Culture – Popularization of science

I Open University

- I concerts, exhibitions, meetings with authors
- I European Night of Museums
- I #CiekawiNauki – a series of popular science lectures (Interested in Science)
- I It's Good – a series of meetings with famous people, including artists, journalists and athletes

I University for Many Generations

- I first multigenerational university in Pomerania (for children, adolescents, adults and seniors)
- I workshops and lectures in science, socio-economics, new technologies and ecology
- I project is co-financed by European Funds under the 'Knowledge Education' Operational Program Development for 2014-2020
- I partners: the Municipality of the City of Gdańsk – Hevelianum, Kashubian People's University





Education – Culture – Popularization of science

I Baltic Science Festival

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



I The Talented of Pomerania

- I 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
- I the project is carried out by the Pomeranian Provincial Government in partnership with GUT as part of the Regional Operational Program of the Pomeranian Voivodeship for the years 2014-2020





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Campus

One of the most beautiful campuses in Europe according to Times Higher Education



- | **77 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**



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Campus

Modern sports facilities to which every student and employee has access:



- | 2 swimming pools and a sauna
- | full-size soccer field
- | sports hall and a volleyball court
- | tennis courts
- | aerobics room
- | gym
- | rowing machine
- | judo hall
- | climbing wall



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Library

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

- | 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





GDAAŃSK UNIVERSITY
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Library

The library provides access to:

- | 31 scientific subscription databases
- | multiple databases in Open Access
- | 9.5 thousand of electronic journal titles
- | 105 thousand of electronic book titles
- | all current Polish standards in electronic version
- | independent loan and return stations
- | on-line catalog
- | digital Libraries





**GDAŃSK UNIVERSITY
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Library

GUT library is:

- | **Leader of the Tricity Library Complex**
- | **Leader of the Pomeranian Digital Library**
- | **Member of the following projects: MOST Wiedzy, MOST Danych, BE OPEN, Digital Libraries Federation, Europeana, NUKAT, DART Europe**
- | **Member of international organizations and associations, such as:**
 - | 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)
 - | GO FAIR initiative



MOST WIEDZY



MOST DANYCH



pomorska_biblioteka_cyfrowa



International Federation of
Library Associations and Institutions

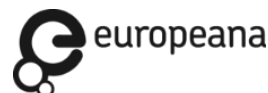


Ligue des Bibliothèques
Européennes de Recherche
Association of European
Research Libraries



Trójmiejski Zespół
Biblioteczny

CESAER





**GDAŃSK UNIVERSITY
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**Gdańsk University of Technology
facilities in the region**

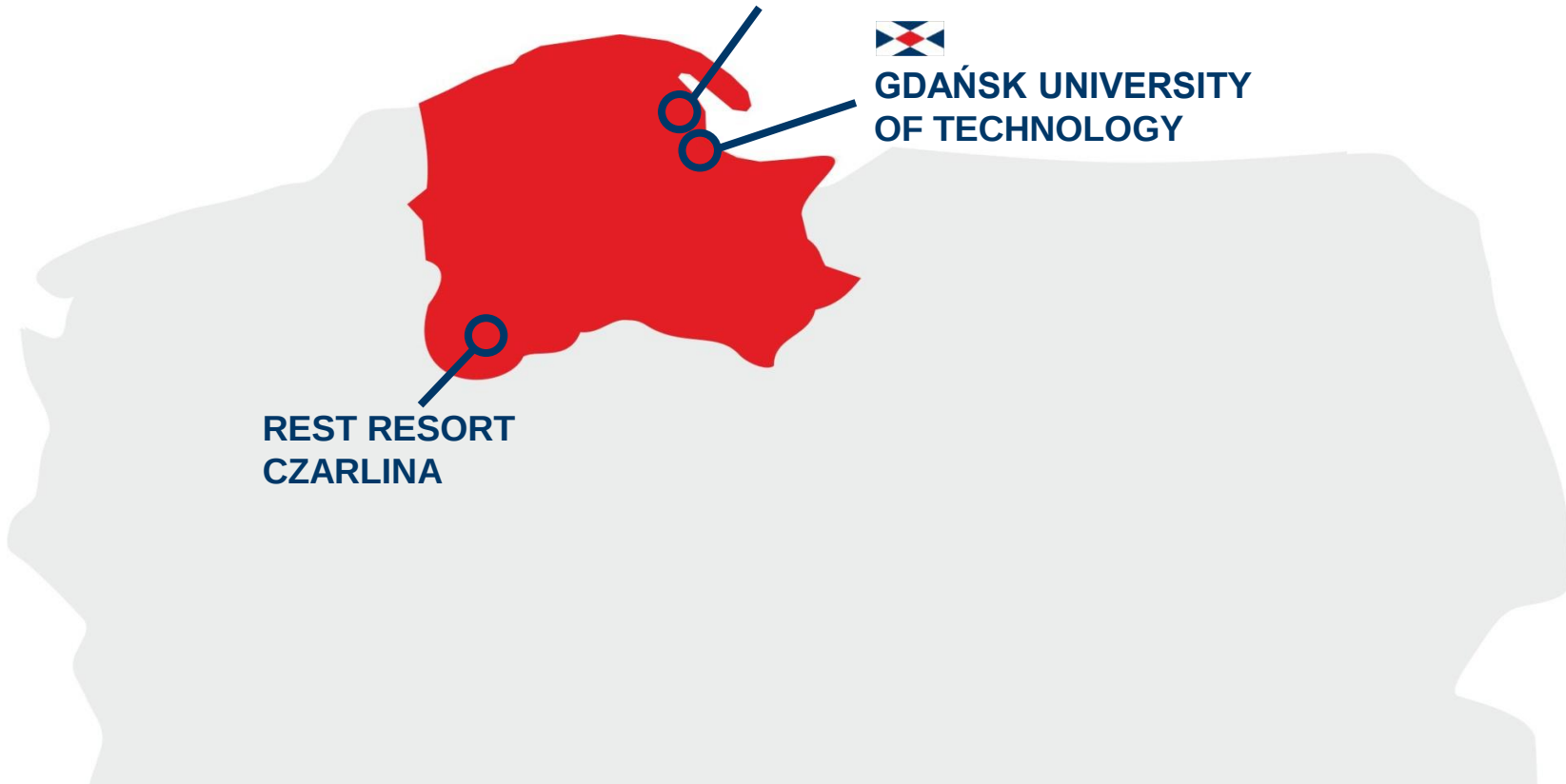
Gdańsk University of Technology facilities in the region

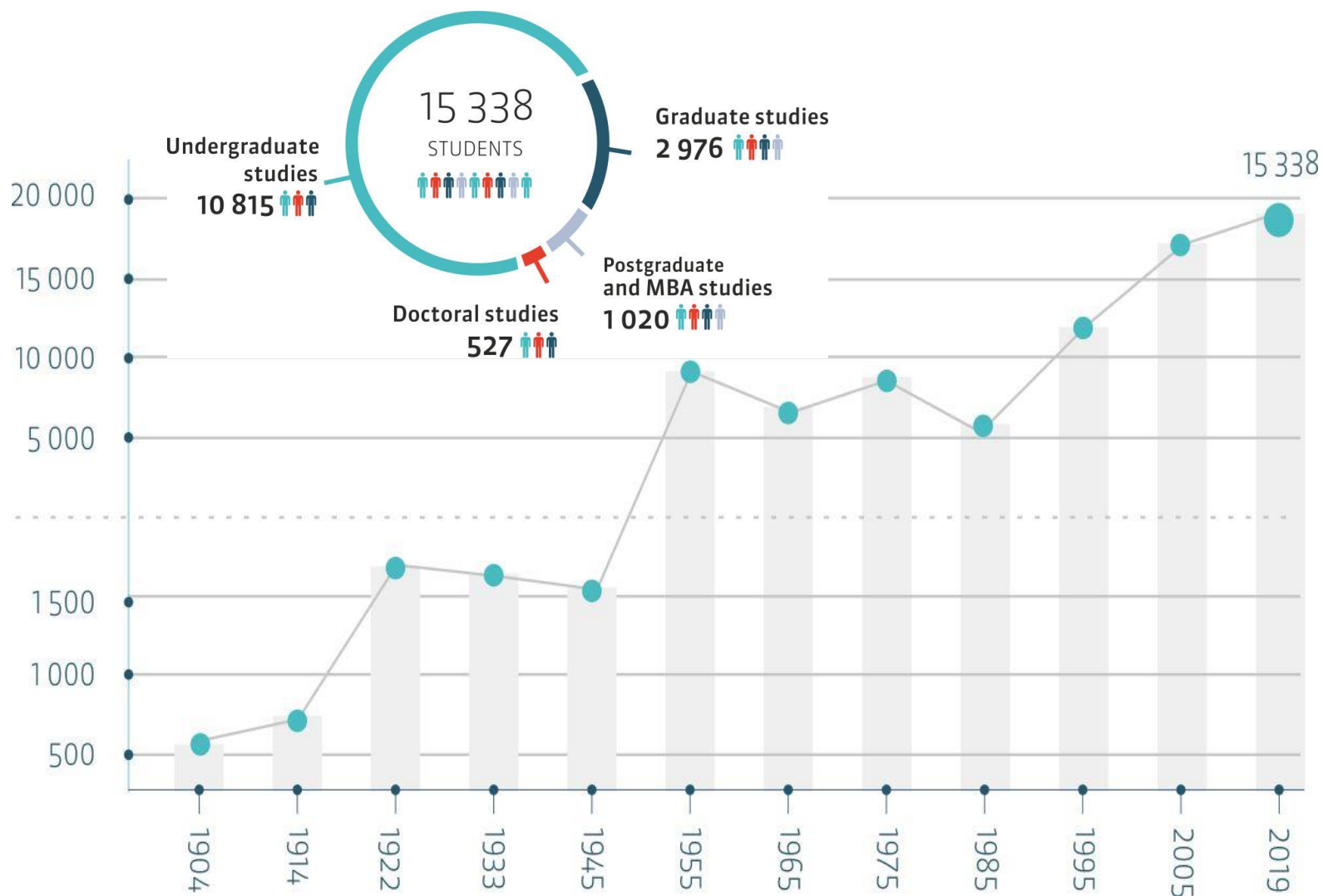
**„EUREKA” TRAINING AND REHABILITATION
CENTER IN SOPOT**



**GDAŃSK UNIVERSITY
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**REST RESORT
CZARLINA**







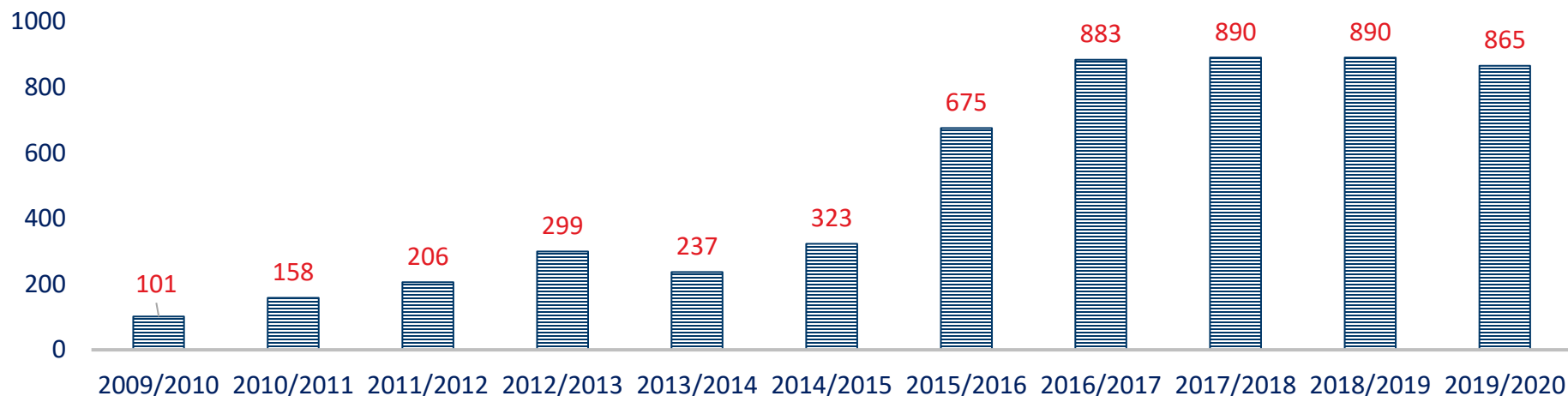
Projects implemented by the International Relations Office

- | Erasmus + Mobility between Program Countries (KA103)**
- | Erasmus + Mobility with Partner Countries (KA107)**
- | POWER Mobility of foreign students with special needs**
- | NAWA Welcome to Poland**
- | NAWA Foreign promotion**
- | IDUB AMERICIUM International Career Development**
- | IDUB EINSTEINIUM Short-term Incoming Visits**
- | IDUB EUROPIUM Short-Therm Outgoing**





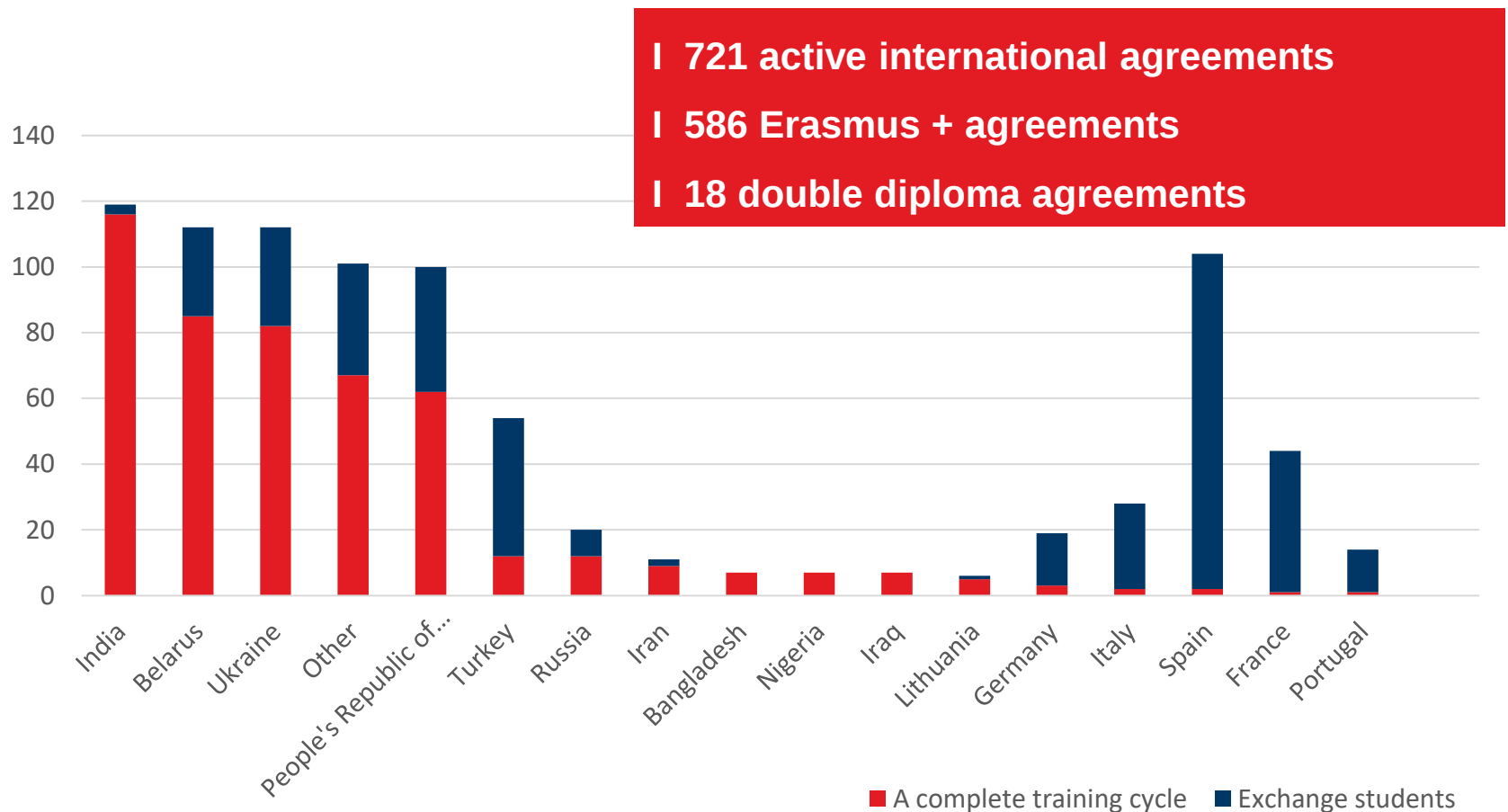
Number of students in the following years





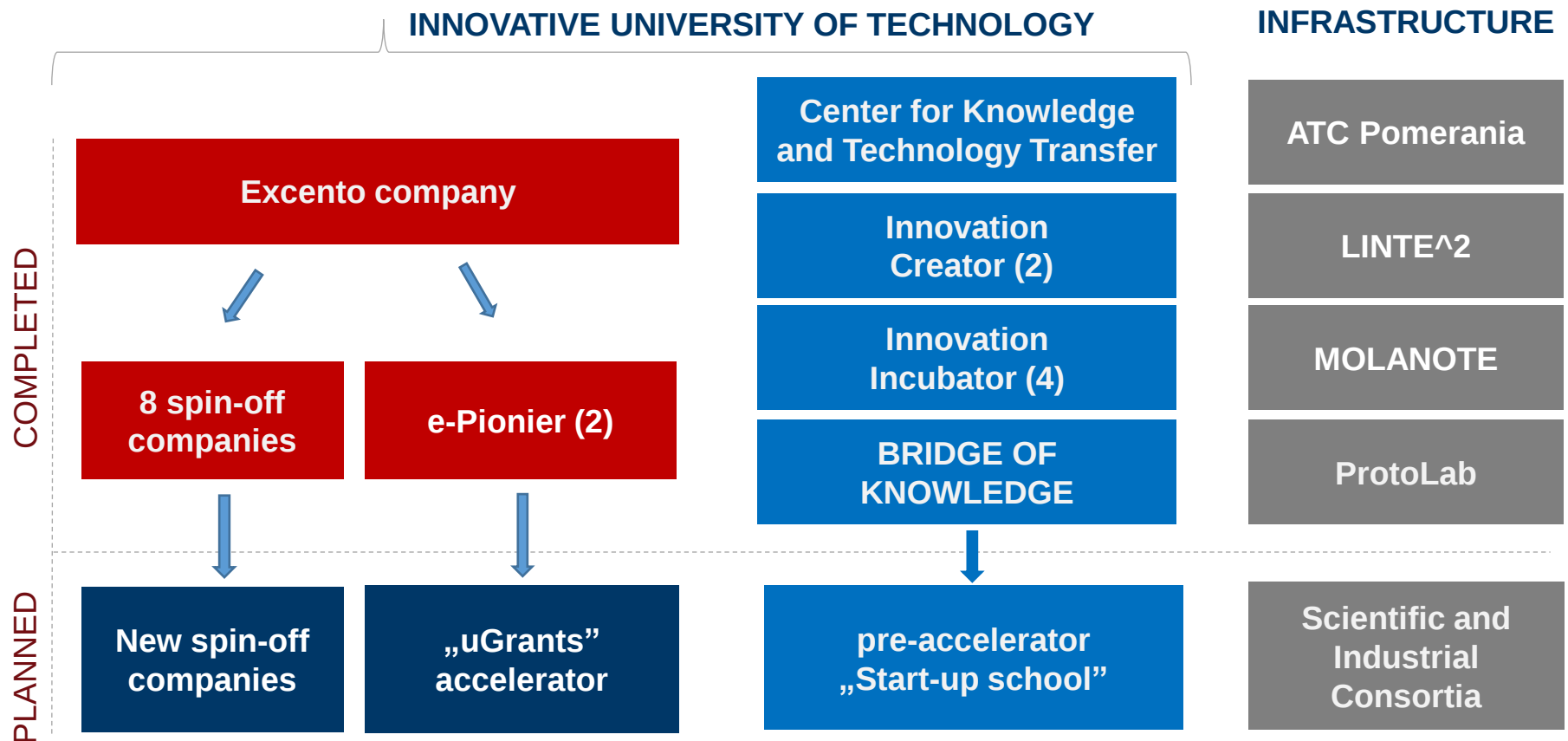
Where do the foreign students come from?

865 students from all over the world





Cooperation with business is coordinated by the Center for Knowledge and Technology Transfer





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Innovation and commercialization

Cooperation with business is coordinated by the Center for Knowledge and Technology Transfer



- | **700 contracts** with entrepreneurs concluded over the past 3 years
- | **500 inventions** ready for implementation
- | **120 licenses**
- | **8 spin-offs** using technology created at GUT
- | **130 entities from the ICT industry** brought together in the Pomeranian INTERIZON Cluster – managed by the Faculty of Electronics, Telecommunications and Informatics

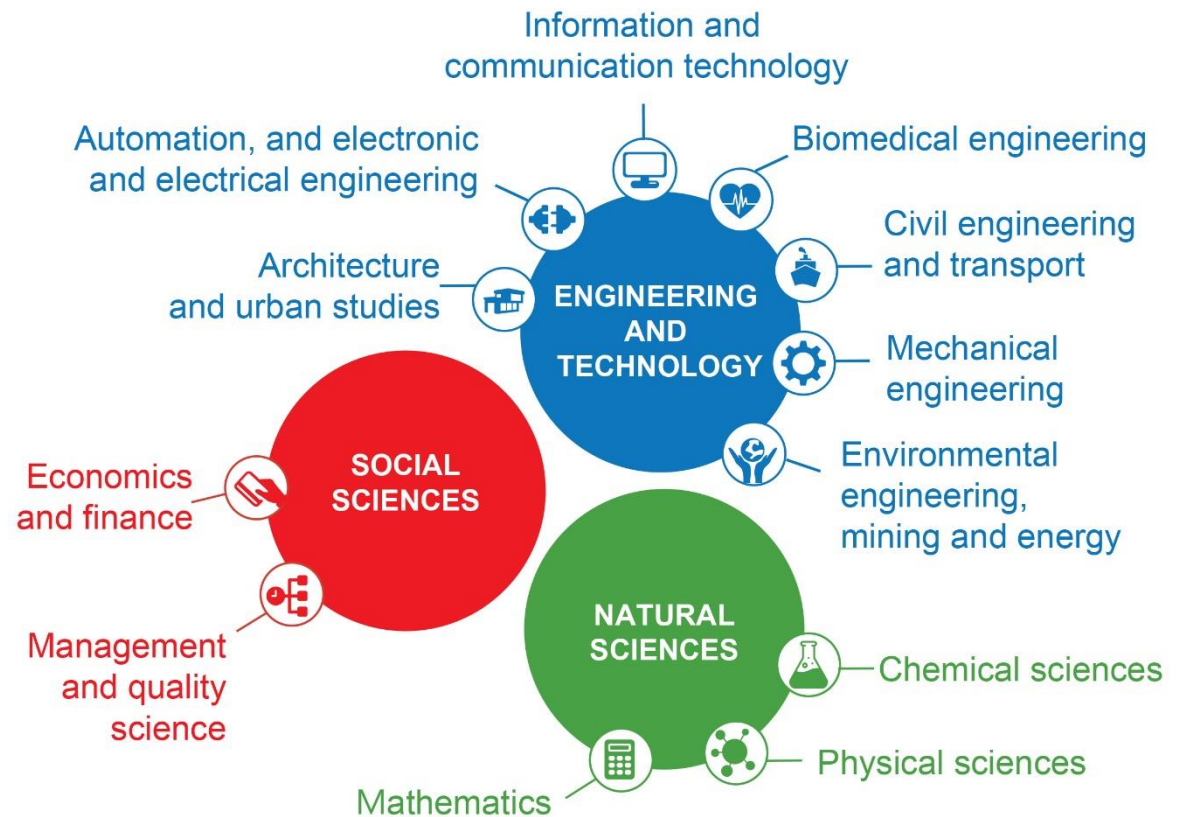


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Research

12 scientific disciplines





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Research – 4 centers

GUT Research Centers

GUT will put even greater emphasis on the development of the most promising areas of scientific research. It will also implement innovative and modern solutions in 4 new Research Centers:

- | BioTechMed Center**
- | EcoTech Center**
- | Materials of the Future Center**
- | Digital Technologies Center**





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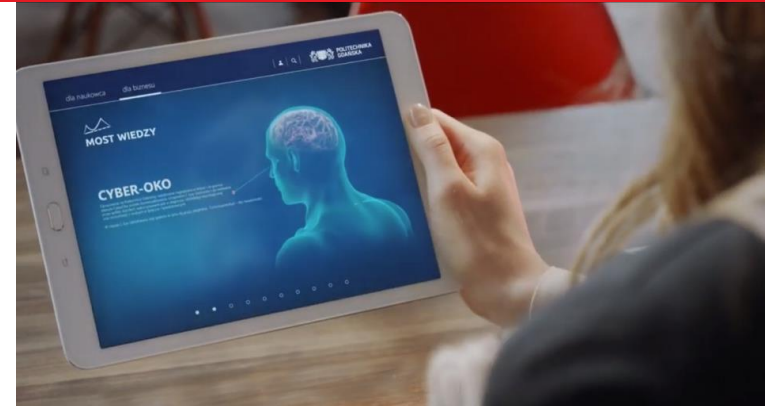
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Research – 4 centers

BioTechMed Center

Activities:

- | biomedical engineering and biotechnology
- | search for new drugs
- | biomedical measurements, patient diagnosis and therapy systems
- | control of medical devices (including exoskeletons)





BioTechMed Center

Results:

- | development of new medical devices and the so-called Biomarkers of human memory (optimization of memory improvement methods)
- | CyberBed – will help counteract digital exclusion of patients with paralysis
- | new strategies to fight bacterial drug resistance
- | new methods of diagnosis and therapy of patients
- | development of healthy, organic food market





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Research – 4 centers

EcoTech Center

Activities:

- | green technologies
- | shaping a harmonious, balanced living space
- | smart pro-eco solutions for urban and extra-urban areas
- | technologies for water and wastewater treatment
- | technologies for electricity and heat production

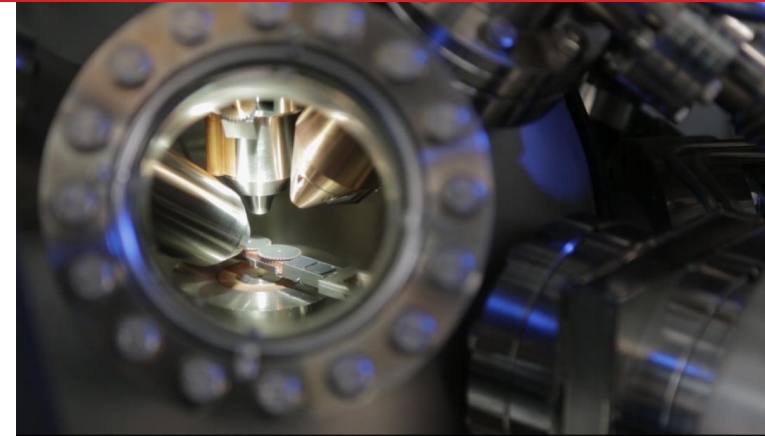




EcoTech Center

Results:

- | 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', that is 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:

- | production and characterization of innovative materials in the field of material engineering**
- | applications in industry and medicine, aeronautics and ocean engineering**
- | technologies for producing and obtaining innovative structures and devices**
- | recycling**

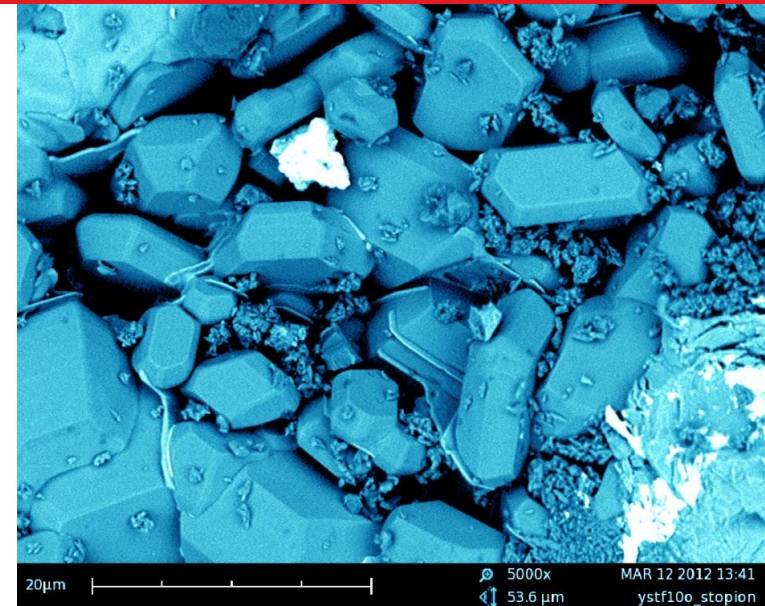




Materials of the Future Center

Results:

- | development of materials for the systems of electricity from renewable energy sources
- | storage and conversion of excess energy in innovative batteries and supercapacitors
- | development of new superconductors and photo-catalysts
- | modification of materials such as road asphalt (better resistance to environmental factors and variable temperature conditions)
- | materials for waste disposal and for regenerative medicine





Digital Technologies Center

Activities:

- | in the field of: electronics, IT, automation, robotics, mechatronics and telecommunications
- | improving the broadly understood safety and comfort of life in society
- | systems for more efficient management of the human environment, but also business management
- | projects in the field of robotization and automation, design and production techniques





Digital Technologies Center

Results:

- | creating 'intelligent' environments surrounding people: at home and on the street
- | automatic adaptation of space for human needs
- | increasing the efficiency of enterprises and institutions
- | new technologies increasing the productivity of port and logistics areas
- | systems for use in autonomous vehicles
- | new methods of wireless communication





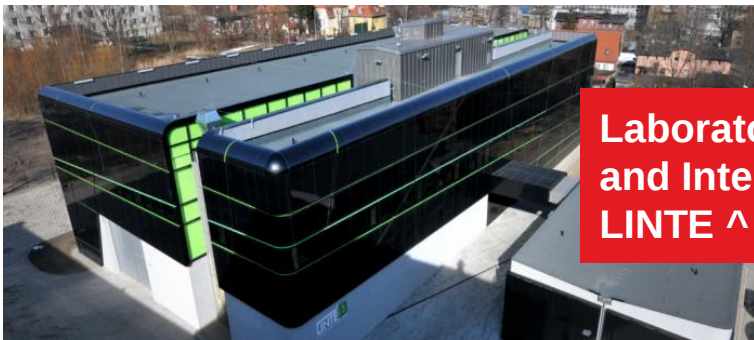
**GDAŃSK UNIVERSITY
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**Cooperation between science
and business**

The biggest investments



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

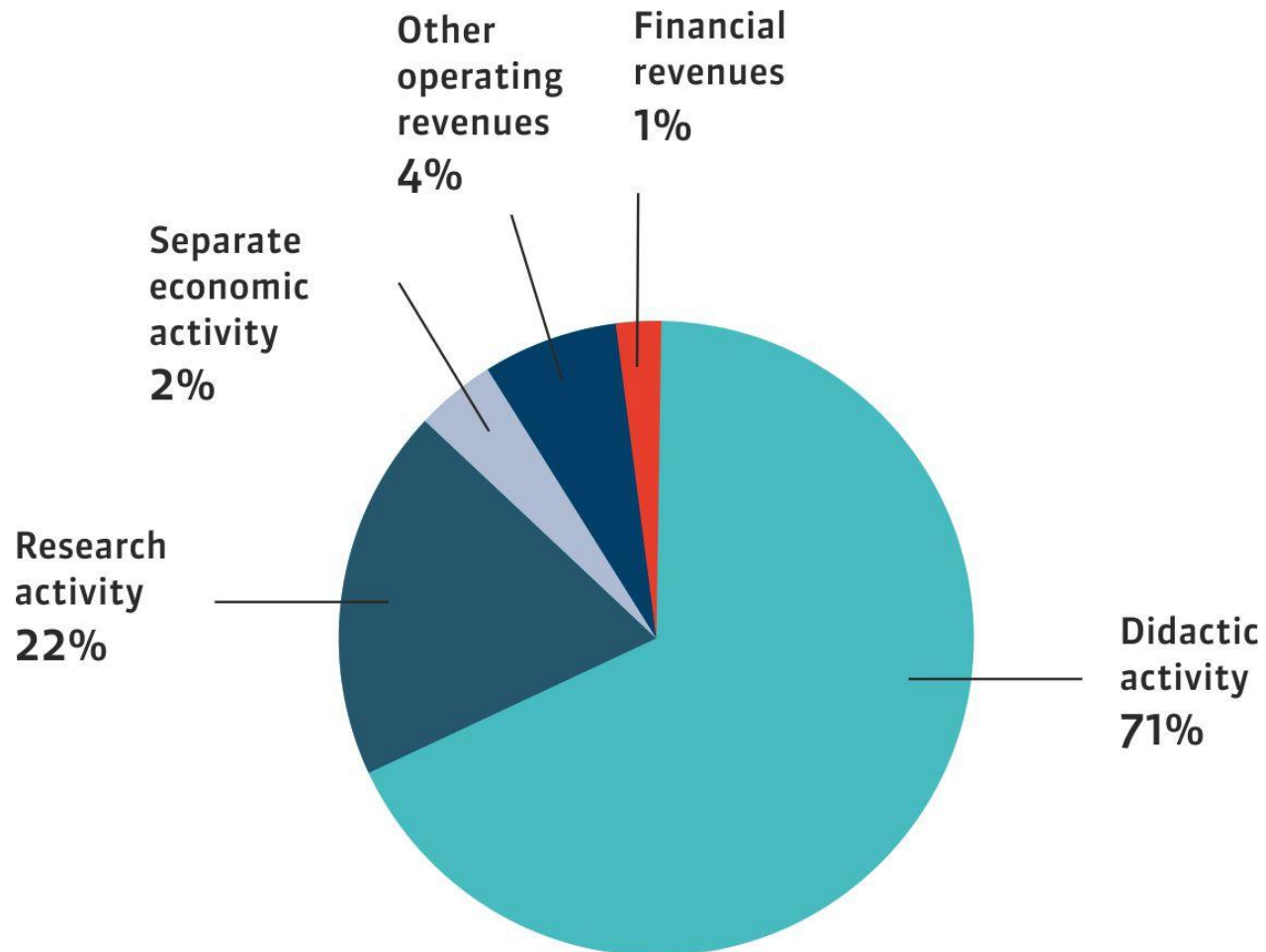
**STOS Competence Center (Smart and
Transdisciplinary knOWledge Services)**



**Eco-innovation Center of Gdańsk University
of Technology**



Revenues of Gdańsk University of Technology in 2019





Change the world with us!



<https://www.youtube.com/watch?v=zS8avTZlCfo>