200 YEARS OF WARSAW UNIVERSITY OF TECHNOLOGY – A HISTORY THAT TEACHES AND INSPIRES

200 LAT POLITECHNIKI WARSZAWSKIEJ – HISTORIA, KTÓRA UCZY I ROZWIJA

In 2026, Warsaw University of Technology is going to celebrate the Jubilee of its bicentennial history. As being one of the oldest and largest technical universities in Poland, it will come back to its beginning during the Jubilee ceremonies and will remind the achievements of the members of its community, including the engineers and professors who – owing to their achievements – have contributed to the development of science and economy of the country.

The ceremonies of celebration have been inaugurated together with the beginning of academic year 2025/2026 and they will last until the end of the calendar year of 2026. The central inauguration of the Jubilee year is planned on 15, January 2026. On the mentioned day, a solemn meeting of the Senate of Warsaw University of Technology will be held; its run will be accompanied by a historical staging of the events of 4 January 1826 and the presentation of the portrait of Stanisław Staszic, the precursor of technical sciences in the Polish Kingdom and the founder of the Preparatory School to the Polytechnic Institute in Warsaw. Few days later, the flowers from the community of Warsaw University of Technology and the members of the Warsaw Scientific Society will be placed on his renewed grave. The plan of the celebrations provides also organization of the Jubilee Gala in the Grand Theatre and the international reunion of the graduates of Warsaw University of Technology. Simultaneously, the 200th anniversary of WUT will gain the exceptional artistic arrangement. The first meaningful music accents appeared in November 2025 when the concerts of the Academic Choir of WUT at the National Warsaw Philharmonic and the performance of "The Engineers Band" Orchestra at the Main Building of WUT had place.

Fig. 1. The main building of Warsaw University of Technology. Photo: Warsaw University of Technology

Fig. 2. The Academic Choir of Warsaw University of Technology during the performance in Warsaw Philharmonics in November 2025 . Photo: Museum of WUT

In January 2026, we will have the opportunity to listen to the recital of Paweł Kowalski, played on a historical Bechstein piano and the preview of cantata composed by Prof. Dariusz Zimnicki for the celebration of WUT and performed by the Academic Choir of Warsaw University of Technology. In few days later, we will see the Gala Premiere of the spectacle "Twelfth Night, or What You Will", based on the grounds of a romantic comedy by Wiliam Shakespeare, in the authorial interpretation of the WUT Theatre. In autumn of 2026, a special concert within the frames of "Great Music in a Small Aula" is anticipated on the occasion of the Day of Warsaw University of Technology; the combined musical assemblies of WUT will perform the symphonic poem, being composed by maestro Dariusz Łapiński and dedicated to Warsaw University of Technology. Moreover, the Jubilee Year will be abundant in the occasional lectures and walks dedicated to the 200th history of the University as well as in opening of permanent exhibition in a new localization of the Museum of Warsaw University of Technology. The program is currently updated and supplemented with the numerous initiatives of the university faculties, or the events having a sport character. The Jubilee undertakings are distinguished also by dedicated plastic framework, designed on the occasion of the 200th anniversary of WUT.

FROM THE PREPARATORY SCHOOL TO WARSAW UNIVERSITY OF TECHNOLOGY (1826–1915)

The attempts to establish Polish technical university had place as early as at the beginning of the 19th century. The initiator of this undertaking was Stanisław Staszic, the member of the Commission for Religion and Public Education, the outstanding scholar and education activist who perceived the need of educating the engineering staff in Poland. Technical progress caused that in February 1816, the authorities of Polish Kingdom decided on setting up the Academic-Mining School in Kielce, the first higher education technical school in Poland. Owing to the efforts of Stanislaw Staszic, the Preparatory School to Polytechnical Institute was founded in 1826.

200 years of Warsaw University of Technology


OGÓLNY PROGRAMMAT
Kursów wykładać się mających
W SZKOLE PRZYGOTOWAWCZEY
DO INSTYTUTU POLITECHNICZNEGO
W ROKU SZKOLNYM 18
Kochaymy przemysł, tego nierozdzielnego towarzysza pomyślności narodów. Pomniymy, że wytrwaniem, pracą, przezorną i gruntowną nauką, zwabić gy na ziemię naszą, i zręcznie przepolszczyć można.
W WARSZAWIE,
DRUKIEM A. GAŁĘZOWSKIEGO I KOMP. PRZY ULICY ZABIÉY N. 472.
STANISŁAW STASZIC.
Kajetan Garbiński
Dyrektor Szkoły Przygotowawczej do Instytutu Politechnicznego w latach 1826 - 1831

Fig. 3. The Founders of the Preparatory School to the Polytechnical Institute: Stanisław Staszic and Kajetan Garbiński and "General program of the courses to be lectured in the Preparatory School to the Polytechnical Institute in the school year 1826/7" – the curriculum, implemented in the Preparatory School to the Polytechnical Institute. Photo: Warsaw University of Technology Museum

On January, 4, 2026 the ceremony of its opening was held in the Kazimierzowski Palace during which Stanisław Staszic, the author of the curriculum had the inauguration speech. The beginnings of technical education in Warsaw are perceived just at this date. The mathematician Kajetan Garbiński became the director of the School. In 1831, the School was closed due to the repressions connected with the November Uprising. In consequence, Poland was missing, for decades, a specialized higher education school which would educate the engineers, and the young Poles left their country with the aim to obtain technical education in foreign universities.

At the end of the 19th century, together with the need of modernizing the industry, a chance for development of the national technical education had appeared. The Russian minister of finances, earl Sergey Witte, initiated founding of three technical universities: in Petersburg, Warsaw and Kiev. The mentioned initiative gained the support of Warsaw economic and intellectual environments, represented by Kazimierz Obrębowicz. As a result, on the autumn of 1898, by the consent of tsar Nicolas II, there was opened the Polytechnical Institute in Warsaw. The education was conducted in Russian language at three faculties: Mechanical, Chemical and Engineering-Constructional. In 1903, it was supplemented by Mining Faculty. The breakdown had place in 1915 when the outburst of the World War I enabled the introduction of the teaching in Polish language and a wider access of the talented young people. Engineer Zygmunt Straszewicz became the first rector. Since the mentioned period, the uninterrupted period of the activities of Warsaw University of Technology has been commenced. The date of the first Polish inauguration, i.e. 15 November, 1915 was established – in 2005 – as the Day of Warsaw University of Technology.

THE ACHIEVEMENTS IN THE SECOND POLISH REPUBLIC

During the inter-war decades, Warsaw University of Technology strengthened its position as the main center for education of engineers in the country. In the developing RP II, the university educated the specialists necessary for the implementation of economic projects, *inter alia*, Central Industrial District, harbour in Gdynia, or development of railway network and electrification of the country. The special merits in this respect were contributed by Prof. Roman Podoski, the author of the first project of railway electrification, and later on, also the initiator of Warsaw underground railway (metro); he contributed to the increase of mobility of Polish society. From among the outstanding representatives of the discussed epoch, we should mention also Prof. Mieczysław Wolfke, expert in physics, developing the ground-breaking concepts of the remote transmission of the image, pioneer of the studies on TV and holography. His discoveries concerning helium properties have been permanently included to the achievements of the world physics.

Fig. 4. Ceremony on the occasion of 30 years of scientific activity of the President of Poland, Ignacy Moscicki.
Source: Warsaw University of Technology Museum

A special place in the technology history belongs to Prof. Jan Czochralski, the internationally recognized expert in chemistry and metallurgy, who developed the method for the measurement of metal crystallization rate, being called the Czochralski method. Its application in production of Si single crystals brought about to the world revolution in electronics and production of semiconductors. The achievements of Professor Czochralski include the development of the so-called metal B – the alloy with the excellent sliding properties. He was honoured in the Pantheon of Polish Inventors and Discoverers and became one of the most frequently cited Polish scholars in the world technical literature. In 2019, "father of the world electronics" was distinguished by IEEE Milestone.

In respect of construction engineering, we should mention Prof. Stefan Bryła, constructor and pioneer of the world welding; his achievements include, *inter alia*, the first-in-the world bridge with the welded construction on the Słudwia river (1929). Professor brought a meaningful contribution to shaping the architecture of Warsaw, when designing, *inter alia*, a famous Prudential building which was one of the highest ones in Europe in that epoch. The group of the scientific authorities, connected with Warsaw University of Technology includes also Prof. Ignacy Mościcki, constructor of Polish chemical industry and the President of Poland and double *doctor honoris causa* of WUT, or Prof. Karol Adamiecki, precursor of contemporary management sciences.

WORLD WAR II AND YEARS OF RECONSTRUCTION AND DEVELOPMENT

During the Second World War, Warsaw University of Technology was forced to suspend its activities. Instead, there was created a National Higher Technical School. In parallel, the conspiration activity within the frames of secret education was commenced. It enabled preserving the continuity of education and implementation of the tests for the needs of the Underground Polish State. About 200 engineers were educated during the difficult conditions. We should distinguish here Prof. Janusz Groszkowski, a specialist in electrical engineering and radiotechnology, creator of electronics foundations and Polish candidate to Novel Prize. During the war, his knowledge contributed to decrypting of steering systems of V-1 and V-2 missiles and development of radar construction. After the war, Prof. Groszkowski became the President of the Polish Academy of Sciences.

The post-war years brought the reconstruction of the destroyed campus of the university. After inclusion of the Wawelberg and S. Rotwand Engineering School to Warsaw University of Technology in 1951, there were already 15 faculties. In the sixties of the 20th c., the graduate of WUT, Prof. Mieczysław Bekker, the creator of a new discipline, terra mechanical engineering (terramechanics) was the head of the studies on the first lunar vehicle in Apollo 15 mission, within the frames of cooperation with NASA. In April

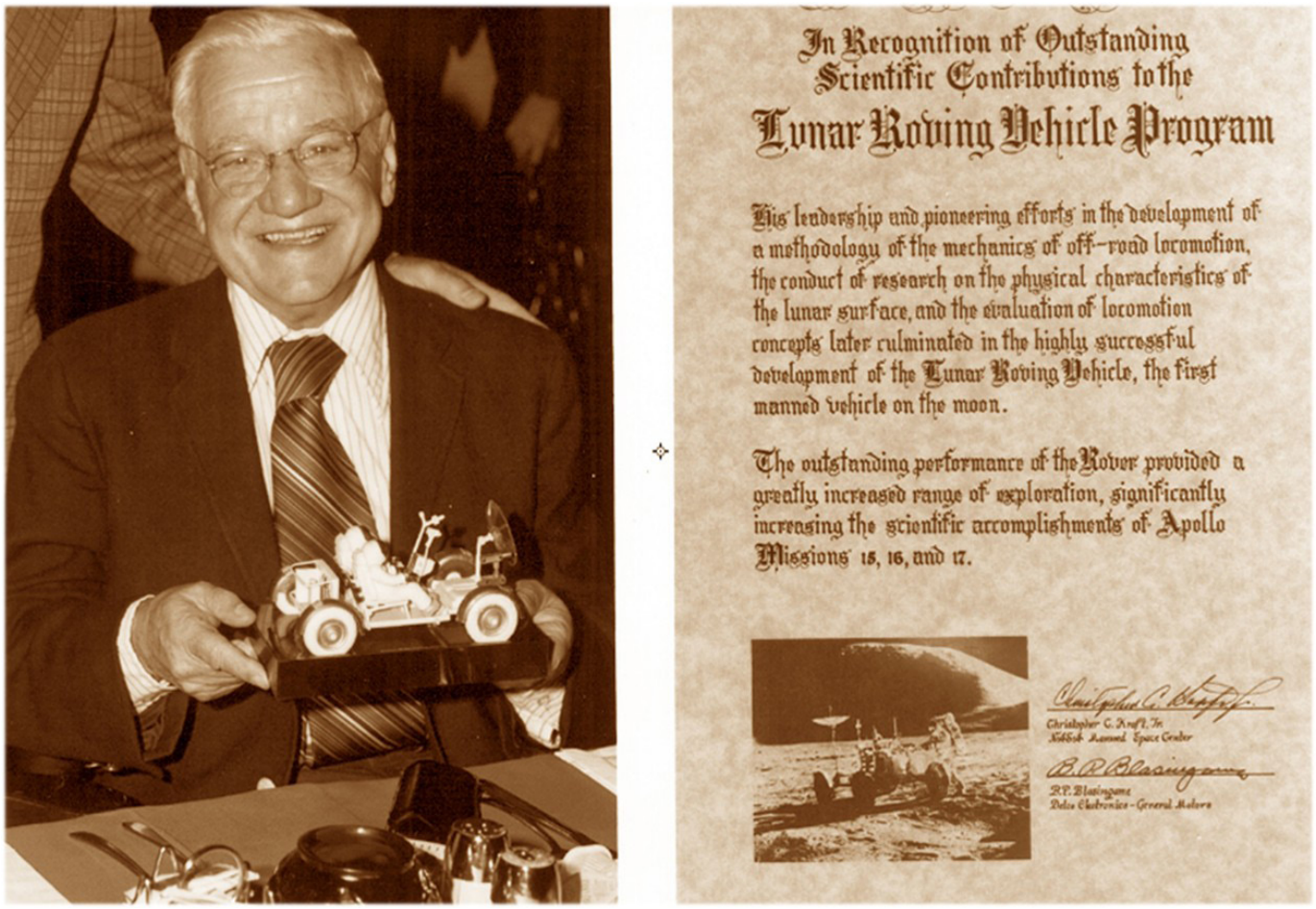

Fig. 5. Prof. Mieczysław Bekker with a model of lunar vehicle and the granted diploma of recognition. Photo from the archives of A. Selenta

1967, Warsaw University of Technology inaugurated the activity of its affiliated unit in Płock. The development of infrastructure and growing research and development (R&D) potential caused that as early as before the transformation of 1989 the university played a role of the key center, supporting the strategic industrial sectors. The knowledge of its workers was utilized, *inter alia*, by automotive industry. In 1975, Warsaw University of Technology signed the agreement of cooperation with the Passenger Car Factory (FSO).

CONTEMPORARY CHALLENGES AND SUCCESSES (1990–2026)

In 1991, Business School of Warsaw University of Technology was founded. It was the common undertaking of three European universities: London Business School, HEC Paris and Norwegian School of Economics. Sending of the first Polish artificial satellite, PW-Sat into space has become a symbol of achievements of Polish Scientific Circles of WUT. The mentioned device was constructed in Students' Astronautic Circle, guided by Prof. Piotr Wolanski – the authority in area of engines, combustion, and aviation and space drives. In 2020, the program "Initiative of Excellence – the Research University" was initiated. Warsaw University of Technology joined the program within the frames of the competition of the Ministry of Science and Higher Education, being found within the group of 10 best Polish research universities. In 2020, WUT joined also the European Universities of Technology Alliance (ENHANCE). Until 2020, few new objects were also founded, including *inter alia*, the Center of Advanced Materials and Technologies (CEZAMAT), acting in the high-tech area.

In 2023, Warsaw University of Technology obtained a positive international assessment of the European University Association – Institutional Evaluation Program (EUA–IEP). The university has also the right to use logo HR Excellence in Research for the activity undertaken in favour of scientific workers. From among the priority research areas, there are photonic technologies, artificial intelligence and robotics, cybersafety and data analysis, biotechnology and biomedical engineering, material technologies, high energy physics and experiment technology and energy conversion and storage. Warsaw University of Technology educates ca. 20 thousand persons in 20 faculties and in more than 170 directions. In the years 2018–2024, the university implemented 1434 grants at the total sum of more than 1 720 000 PLN. In the World's TOP 2% Scientists 2025, more than 80 scientists, affiliated at WUT were found in the summary report, considering the total scientific achievement. After obtaining the diploma, 89% of the graduates find the first employment or practice in such domains as IT, engineering and design, analytics, constriction and geodesy.

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