



‘Leadership for knowledge exchange’

Gdansk University of Technology¹

Gdansk, 2016

¹ This case study report was prepared by Marcin Forkiewicz for the OECD in collaboration with staff members at the Gdansk University of Technology. The preparation of the case study was co-ordinated by David Halabisky (OECD) and Andrea Cappacioli (OECD) and language-edited by Andrea-Rosalinde Hofer (OECD).

INTRODUCTION

The Gdansk University of Technology² (GUT) was established in 1945 in Gdansk; it succeeded the technical university founded in 1904.³ Gdansk is a port city in northern Poland on the Baltic Sea coast and one of the largest business, economic, cultural and scientific centres in Poland. Named in honour of the 17th and 18th century scientists who lived in Gdansk – Johannes Hevelius and Daniel Gabriel Fahrenheit – GUT considers itself as a technical university with imagination following motto “History is wisdom, future is a challenge”.

GUT offers 33 undergraduate and 29 study programmes across 9 faculties and over 1 200 staff. In the academic year 2015/16 there were more than 25 000 full-time and part-time students. Part-time students accounted for nearly 13% of the student body, and foreign students for more than 2% of the overall number of students. Every year GUT has approximately 5 500 alumni: amongst them CEOs of large companies, persons holding high public offices, entrepreneurs, creators of well-known brands and renowned architects.

Innovative Features:

Leadership and governance

Knowledge exchange and collaboration

LEADERSHIP AND GOVERNANCE

Entrepreneurship is a major part of the HEI's strategy

The mission of Gdansk University of Technology (GUT) is to provide high quality education to meet the needs of the dynamic development of a knowledge-based economy and through scientific research and its commercialisation at the highest global level in order to participate in civilisation changes and enrichment of culture, especially in the area of science and technology.

The strategic objective of GUT is to become a smart university of technology by 2020, defined as:

- S** – strategically determined – raising funds for implementation of strategic tasks, in line with the European Union, Polish and regional, national and priorities and projects.
- M** – maximally innovative – implementation of new mechanisms and utilisation of new technologies to stimulate the development of innovative solutions both for GUT and for the region.
- A** – attractive for all – preparation and implementation of lifelong learning, the use of team design and e-learning curricula, modernisation of teaching and research laboratories and research-oriented practice.
- R** – relying on personality – providing conditions for the development of all students, graduate and staff, especially the best ones, setting them challenging tasks and rewarding outstanding results.
- T** – totally created with passion – gradual elimination of barriers and administrative burdens, preference of best practice, fostering a culture of work and climate for innovation.

The top priorities with regard to the entrepreneurial agenda are:

- Working to achieve consistent objectives in-line with the professional ambitions of staff and aspirations of students;
- Initiation and implementation of various innovative projects and tasks in the area of education, research and “third mission”;
- Educating specialists prepared for a career in enterprises or capable of starting and running new firms.

There is commitment at a high level to implementing the entrepreneurial agenda

The authorities of Gdansk University of Technology (GUT) are aware that a modern technical university, in addition to offering education, should be capable of conducting innovative research and establishing lasting relationships with the business environment. An important advisory body at the strategic level is the Council. Its members include approximately 40 representatives of local authorities, academic institutions, employer organisations and businesses. Regular meetings of the Council involve exchange of experiences and information, discussion and consultations with respect to:

² Gdańsk University of Technology / Politechnika Gdańska, www.pg.edu.pl

³ Gdańsk University of Technology – history, potential, future, www.youtube.com/watch?v=YJWVivC8qNE

- Review of GUT's strategic development directions in general, and with regard to the evolving business environment
- Networking activities with the business environment
- Analysis of current and future needs of specific employers and the labour market
- Guidance for the co-operation with state authorities and the local self-government

Students, despite the many opportunities potentially available to them, show relatively little engagement with GUT's entrepreneurial agenda. More awareness raising is needed to increase the involvement of students and staff.

There is a model in place for coordinating and integrating entrepreneurial activities across the HEI

The co-operation between Gdansk University of Technology (GUT) and businesses takes place across multiple levels. The Centre for Knowledge and Technology Transfer, active for many years, reports directly to the Rector. The unit was established to support innovation activities and the practical application of research results by staff, doctoral students and undergraduate students from all faculties. The Centre for Knowledge and Technology Transfer supports the commercialisation of research results and academic entrepreneurship through:

- Networking activities between entrepreneurs and researchers
- Technology transfer relationships between GUT and businesses
- Partnerships with business support institutions,
- Activities to promote startup activities amongst students and staff

The Centre facilitates co-operation between different university units and the business environment. Via the Centre for Knowledge and Technology Transfer, GUT maintains more than 800 co-operation agreements with businesses. More than 300 inventions emerging from GUT were patented. Since 2015, the Centre for Knowledge and Technology Transfer has been involved in the Poland's Smart Specialisation Agenda and prepared proposals for nearly 200 co-operation research competence areas for the period 2014-20.

The HEI encourages and supports faculties and units to act entrepreneurially

The nine faculties at Gdansk University of Technology (GUT) enjoy considerable freedom in the university structures. Each faculty has its own development strategy, created by adapting the university's strategy to each faculty's area of activities. The deans can decide on many activities undertaken by the researchers and teachers in their respective areas of interest.

The promotion of entrepreneurial activities usually takes place within the faculty structure with the help of specialised organisational units that work transversally across GUT and offer:

- Regular presentations of the research offer at business forums,
- Participation in trade fairs
- Membership in clusters and framework agreements with enterprises and socio-economic institutions
- Support for the development of scientific-industrial consortiums
- Support for the preparation and implementation of projects with external funding
- Commercialisation of R&D outputs

Examples of such units are the Centre for Knowledge and Technology Transfer, and Project Department (see "The HEI is committed to collaboration and knowledge exchange with industry, the public sector and society"). In 2015, special procedures were developed regarding the commercialisation of research results that involve GUT's intellectual property.

The stakeholders who demonstrate most commitment to the entrepreneurial agenda are employees of GUT: the researchers and academic teachers, as well as the top management, whereas not all of the faculty leaders are entrepreneurship-oriented.

The HEI is a driving force for entrepreneurship and innovation in regional, social and community development

Gdansk University of Technology (GUT) plays an active part in promoting entrepreneurship in the region and the regional innovation system and maintains close connections with technology parks and business incubators. GUT was involved in the design of the Pomeranian regional Smart Specialisation Strategy and is a key member of stakeholder partnership that oversees strategy implementation.

GUT, the University of Gdansk, the Medical University of Gdansk, the Pomeranian Province and the Cities of Gdansk and Gdynia established a non-profit company in 2008 - Innobaltica. Innobaltica acts as a technology and innovation broker between the academic and business sphere. Innobaltica co-operates with virtually all business environment entities with respect to technology transfer, such as the Pomeranian Special Economic Zone, top universities, clusters, investment funds etc. Key activities are to:

- Generate information about market trends and directions
- Search business partners for the university
- Evaluate the commercialisation potential of research outputs

KNOWLEDGE EXCHANGE AND COLLABORATION

The HEI is committed to collaboration and knowledge exchange with industry, the public sector and society

Gdansk University of Technology (GUT) has been very successful in the commercialisation of research results, also compared to other universities in Poland. In the period 2010-12, GUT implemented 40 solutions in the industry and achieved the largest income from commercialisation. The statutes of Gdansk University of Technology (GUT) outline the following as the University's core objectives:

- Transfer of know-how and technology
- Supporting the process of commercialisation of research results
- Promotion and supporting entrepreneurial mindset development and start-ups in the surrounding local and regional economies
- Participation in the development of a knowledge-based economy

Several organisational units are responsible for the implementation of these objectives:

- The Centre for Knowledge and Technology Transfer (mentioned above under "There is a model in place for coordinating and integrating entrepreneurial activities across the HEI")
- Excento company
- "Pomerania" Centre for Advanced Technologies

The Centre for Knowledge and Technology Transfer plays an important role for the management of GUT's intellectual property. It assists GUT staff in the choice of commercialisation scenarios and co-ordinates the business and industry collaboration of GUT.

GUT founded Excento in 2013 to help scientists in the commercialisation of their research results. The company creates spin-offs that implement inventions and technologies developed at GUT. Excento provides incubation of spin-off projects, connects projects with investors, and supports spin-offs in business development and growth. By 2016, six spin-off companies were founded with the support of Excento and co-financing from the Pomerania Development Agency.

Gdansk University of Technology (GUT) is actively involved in several clusters, some of which it co-initiated. Key involvement is in:

- Interizon Pomeranian ICT Cluster (administrated by GUT)
- Baltic Eco-Energy Cluster (co-created by GUT)
- Gdansk Construction Cluster (co-created by GUT)
- Pomeranian Bio-Eco Chemical Cluster
- Polish Maritime Cluster
- North-South Logistics and Transport Cluster

The "Pomerania" Centre for Advanced Technologies is a joint initiative of GUT and the University of Gdansk whose mission is to support the development of innovative enterprises through joint initiatives and commissioned research. The Centre offers 10 modern laboratories in information and telecommunication technologies, functional materials and nanotechnology, environmental protection, biotechnology, food chemistry, and medicinal chemistry.

The HEI has strong links with incubators, science parks and other external initiatives

There are two business incubators operating at Gdansk University of Technology (GUT):

- The Academic Enterprise Incubator has a focus on students and graduates and is a collaboration with the Pomeranian Regional Chamber of Commerce
- The GUT incubator supports start-ups amongst academics and doctoral students and offers them training, consulting and referral to business support providers.

GUT has strong links with major business support organisations in the Pomeranian region, amongst them:

- Pomeranian Special Economic Zone
- Gdansk Science and Technology Park
- Pomeranian Science and Technology Park in Gdynia
- Pomerania Development Agency
- Pomeranian Regional Chamber of Commerce
- Gdansk Entrepreneurs' Foundation (Incubator Starter)
- Economic Foundation in Gdynia (Gdynia Enterprise Incubator)

The HEI provides opportunities for staff and students to take part in innovative activities with business / the external environment

Gdansk University of Technology (GUT) principal activities in research, education, innovation rest on the premise that the generation of new knowledge takes into account the latter's transformation potential into new products, services and companies. GUT's leadership encourages and supports teams of employees and staff in the implementation of projects financed by external sources, especially research funds and EU programmes.

In the period 2007–13 GUT signed more than 100 agreements concerning the implementation of projects financed by the European Structural Funds and was among the leading Polish universities with respect to third-party funding for research activities. GUT's projects are financed by Polish and international research and education programmes, as well as European Territorial Co-operation programmes, particularly those for the Baltic Sea region.

GUT has more than 60 interdepartmental student research associations whose members also include students from other universities. Many of them are working on exciting projects together with enterprises, for example the construction of solar boats or flight simulators. Many of the innovative solutions developed also have commercialisation potential.

Lessons Learned

- The leadership of Gdansk University of Technology (GUT) has widened the typical two-mission focus of Polish universities through intensified collaboration and knowledge exchange with business and industry for the aim to create value for the university and society in general.
- GUT's participation in clusters greatly facilitates the formation of science-industry teams and project consortiums.
- The encouragement and support for GUT employees to participate in third-party funded projects, especially research funds and EU programmes, stimulated the formation of interdisciplinary teams.
- Despite the many opportunities potentially available to them, students engage in relatively few entrepreneurship initiatives – this shows that faculties of Gdansk University of Technology should intensify efforts to promote entrepreneurship and innovation among employees and students.

Contact:

dr inż. Marcin Forkiewicz
Gdansk University of Technology
Email: mfork@zie.pg.gda.pl