



## 1st Progress Review Conference of the Universities participating in the “Excellence Initiative – Research University” programme

### PRE-EVENT QUESTIONNAIRE

#### POLITECHNIKA WARSZAWSKA / WARSAW UNIVERSITY OF TECHNOLOGY

- 1) What evidence can be provided for early cultural change within the university, following selection in the first round of IDUB (e.g. acceptance of an enhanced and widely held ambition to perform cutting edge research)? Which measures have been undertaken to date for creating, supporting and maintaining an atmosphere and attitude of change and positive development throughout the institution?

Undoubtedly, the IDUB project has brought a new spirit to Warsaw University of Technology, a spirit of change, which has inspired and moved the academic community. All changes resulting from the implementation of the IDUB project are already discernible and continuously monitored by the management team. The initiated cultural change, occurring within the community of WUT, manifests itself through a number of factors, the most representative of which are:

- a great interest in the calls for IDUB projects announced by POB Research Centers – despite the high scientific requirements, 260 applications were submitted, involving over a thousand employees,
- initiative to hold an additional joint research project competition 'IDUB against COVID-19' as an action to counteract the consequences of the COVID pandemic (38 applications submitted),
- interdisciplinary and intergenerational project management team reflecting gender equality,
- the policy of transparency – the information about the project, including the details of the budget and all legal acts describing project decisions, can be found on the website; in this way a culture of mutual trust and cooperation is promoted,

- a continuous improvement process – the evaluation questionnaires are distributed after every implemented action. They are aimed at gaining the opinions of project participants on its organization and potential for future improvements.

Among the main measures, which have been undertaken so far for creating, supporting and maintaining the atmosphere and attitude of change and positive development, the most important are:

- development of POB Research Centers,
- organization of 8 competitions within POB Research Centers,
- introduction of the employee evaluation system considering the quality of the conducted research as one of the evaluative criteria,
- implementation of the employee reward system, taking into account the employee's level of work commitment and the quality of conducted research.

**2) How is the implementation of the plan proposed by the university being governed? Who are the leaders of the implementation process? What are the measures for internal monitoring of progress in implementation of the plans?**

The implementation of the plan is governed by the management team consisting of 7 persons representing various employee groups (5 professors from different faculties, 2 persons representing administration units supporting the research process at the university). The leader of the management team is Malgorzata Lewandowska – professor of Materials Science (one of the strongest research disciplines at WUT) with an outstanding record as a manager of R&D projects. Each member of the management team is responsible for a set of actions and creates his/her own task force. The task forces include:

- development of POB Research Centres,
- scholarship programmes,
- innovation programmes,
- publication supporting programmes,
- development of competences,
- university transformation,
- improvement of administrative procedures.

The implementation of the plan is monitored by the Steering Committee (SC) headed by the Vice-Rector for Scientific Research. The members of the management team report the progress of their tasks during the SC meeting taking place each month. The management team has its meetings every week to discuss the plans and progress for each task force. In addition, the formal IDUB Office has been established to support the implementation of the plan from the administrative and financial point of view, promote individual actions within the project, and develop the communication strategy of the project, both within Warsaw University of Technology and externally.

**3) What measures has the university undertaken to disseminate and promote the plan among the academic community?**

- Dec. 4th, 2019 – a seminar for the WUT’s community to present the Excellence Initiative and promote the implementation plan (about 300 participants);
- Feb. 10th, 2020 – the official start of the project with the presence of the Minister;
- A series of presentations at meetings of Faculty Councils and the Councils of Scientific Disciplines;
- March 11th, 2020 – the first POB Seminar – 3 POBs were presented: Photonics Technologies, Materials Technologies and Biotechnology and Biomedical Engineering;
- In April, the website of the project ([www.badawcza.pw.edu.pl](http://www.badawcza.pw.edu.pl)) was launched. It contains all information about the plan and its implementation;
- Information about the IDUB actions is systematically announced on the WUT’s website and appears in WUT Bulletin distributed (via e-mails) among the university community every month;
- Direct communication to Faculty communities and the Councils of Scientific Disciplines is routinely performed.

**4) What are the main measures taken by the university to improve the quality of university governance and management, including quality-enhancing organizational changes?**

The process of transformation of every organization of a size and complexity comparable to WUT is always a great challenge. In the case of WUT, it is also complicated, highly demanding and requiring the approach combining the carefulness, determination and courage to some extent. To ensure sustainability, organizational changes are going to be introduced gradually. Using agile approach, they will be tested on a scale of selected units and periodically adjusted to find the optimal solution.

- The main action for improving university governance and management is the introduction of the Management by Objectives (MBO) approach. The team working on the implementation of MBO methodology has prepared a detailed plan for the next three years, which will be consulted with the new Rector of WUT in September 2020. Human resources management system will be adjusted to support the international research at the highest level. The appointed team will regularly analyze the system of recruitment, remuneration as well as procedures of periodic evaluation and progression.
- Communication with university employees is always a critical part of transformation. The main internal communication campaign is planned to be started in autumn 2020. A working group has now emerged to develop a coherent and effective system of communication with employees. The planned novelty is to launch IT solutions enabling multidirectional discussion within the whole community of the university.

- 5) What are the main administrative measures taken by the university in the Priority Research Areas (POBs) including focusing and integration of research teams? What additional sources of research funding dedicated to POBs have been secured to date following success in the IDUB competition?**

7 POB Research Centres were formally established in February 2020. They are interdisciplinary virtual research platforms aiming at integrating university research community around the selected priority research areas. They are headed by POB leaders and supported by the Scientific Councils consisting of renowned scientists from the university and outside the university (e.g. from industry or abroad). In April, calls for projects were launched by all 7 Centres and complemented by one inter-POB call 'IDUB against COVID-19'. The main selection criteria included scientific excellence and novelty of the topic, so that the results could be published in TOP10 journals. The calls gained high interest from the academic community – almost 300 proposals were submitted. After evaluation by the Scientific Councils and external reviewers, 128 projects (including 18 dedicated to COVID-19) have been selected and are now being carried out. The total funding allocated to the 1st call exceeded PLN 23 million.

The research activities within priority research areas are also supported by the university through funding allocated to scientific disciplines related to POBs (they are mostly dedicated to young researchers) and strategic project fund (governed by the Rector). The university is also seeking for external funding mostly dedicated to infrastructure development – a number of proposals have been submitted to the Ministry and Mazovian Voivodship in response to their annual calls.

- 6) What consideration has been given to inter-institutional collaborations within Poland to enhance, for example, research that crosses traditional disciplinary boundaries? What progress has been made regarding establishment of a federation or merging with other institutions from the region, especially in case of universities which received relevant recommendations?**

For decades, WUT has been one of the leading universities in Poland, continuously initiating and inspiring interdisciplinary research and efficiently cooperating with other academic centres and research institutes. The majority of beneficiaries of the Excellence Initiative are the present partners of WUT in various research projects. Furthermore, several institutes of Łukasiewicz Research Network and the Polish Academy of Sciences are deeply involved in joint projects. WUT attaches great importance to inter-institutional collaborations, specifically those which may cross the traditional disciplinary boundaries, as those are considered to have the most innovative potential and may result in significant contribution to state of the art in various fields. This is reflected in the huge number of active scientific partners, exceeding 200.

In 2020, as in previous years, WUT has established research cooperation with many new institutions and research institutes. To give a few examples – the formal inter-institutional cooperation has been established with Łukasiewicz Research Network, “Perspektywy” Education Foundation, NASK – National Research Institute, etc.

Being one of the biggest players on the scientific research market, Warsaw University of Technology has no plans for establishing a federation or merging with other institutions from the region.

**7) What measures have been undertaken to identify, train, and support the next generation of international-quality researchers? How implementation of the IDUB plan contributed to enhancement of doctoral training, including recruitment to doctoral schools?**

WUT is focused on identifying talented students and young researchers and offers them special care and individual development programmes. Some of these programmes are already running and various new programmes are being prepared within the IDUB project to build the next generation of international-quality researchers.

One of the most important stages in the development of young researchers is a doctoral training. WUT offers the highest competences of the research staff together with the unique infrastructural potential, critical for high level research studies, but to increase the attractiveness of scientific career for young people a lot of attention has to be paid also to the financial aspects. Although universities cannot compete in scholarships nor salaries with the industry, WUT has launched a set of programmes dedicated to PhD candidates offering financial support at the beginning of doctoral studies, which should result in attracting best candidates to WUT's doctoral schools. Start PW programme offers €1000 for all of the newly recruited students to provide financial support at the beginning of the studies. Having in mind that living expenses in Warsaw are high, every student of WUT doctoral school will also receive the additional monthly scholarship (Stypendium Plus). Furthermore, students will benefit from a dedicated mobility programme with more than €2000 guaranteed for every doctoral student. A student can decide himself/herself what he/she wants to spend the money on, e.g. on international activities like conferences, workshops, summer schools etc.

WUT is also actively applying for other funds that can be used for the development of international-quality researchers and increasing attractiveness of doctoral training. For example, the mobility of PhD students and internationalization of doctoral schools might be supported within PROM and STER programmes of the Polish National Agency for Academic Exchange (NAWA).

**8) What progress has been made to date in implementing human resources development programmes and in recruitment of researchers (whether Polish citizens or not) from universities outside Poland?**

Warsaw University of Technology is supporting the European Charter of Researchers and implementing the Code of Conduct for the Recruitment of Researchers. An extensive gap analysis has been conducted and the action plan to fill identified gaps has been created. The documents

were sent to the European Commission in the year 2018/2019 and were accepted by the EC, but we are still waiting for the awarding of HR Logo.

Individual development programmes are addressed not only to students but also to young researchers. Some of the programmes are already running and various new programmes are being prepared under the IDUB project, to build the next generation of international-quality researchers. The analysis performed for IDUB application and following the 1st call for POB projects showed the necessity of improving recruitment procedures, especially for international scientists. WUT's Welcome Point, initially addressed to bachelor and master students, is now being transformed to address all requirements and needs of foreign doctoral candidates and foreign staff members. In particular, it will offer multi-language recruitment documents, information about Warsaw, local regulations and habits, support in finding accommodation etc.

WUT planned to launch several mobility programmes and a dedicated WUT International Brand programme which would also affect the recruitment of researchers. However, due to the COVID-19 pandemic, most of these actions are now postponed.

**9) What specific steps have been taken and what progress in implementation of the plan has been made to date to enhance international engagement (e.g. research collaborations with foreign universities or research institutes)?**

A milestone towards enhancing international engagement of WUT is the successful participation in the second competition under the European Commission's European Universities Initiative.

On 9 July 2020, the ENHANCE consortium established on 21 November 2019 consisting of 7 leading European technical universities: Warsaw University of Technology, Technical University of Berlin (Germany), Chalmers University of Technology in Gothenburg (Sweden), Norwegian University of Science and Technology in Trondheim (Norway), University of Technology in Aachen (Germany), Polytechnic University of Milan (Italy) and Polytechnic University of Valencia (Spain) has been selected as one of the 24 winning consortia; over the next 3 years, it will receive €5 million. The strategy, mission and planned activities of the ENHANCE consortium were very highly rated by the international evaluation team, receiving 88 out of 100 points in the evaluation report.

The alliance is committed to socially inclusive and sustainable research and education in science and technology by employing inter- and transdisciplinary approaches and co-creation methods tackling the most pressing global challenges.

As a part of WUT's International Brand programme, some actions are already under way, including increased activity in the CESAER association, active presence in the most recognizable social media and comprehensive on-boarding and student retention activities (Welcome Point).

**10) What kind of changes has the university initiated in the education system on undergraduate and graduate level?**

The innovative methods of teaching and learning preparing students for teamwork and searching for solutions to complex interdisciplinary problems are being introduced progressively, e.g. the project-based learning and correlating topics of students' projects with research. At undergraduate level, two new study programmes related to POBs were launched, i.e. Engineering and Data Analysis and Internet of Things Engineering. At graduate level, a new study programme on big data processing and analysis was introduced. As regards the new teaching methods, different forms of online education as well as the verification of learning outcomes using distance learning platforms were developed. Initial steps have been taken to shape the student population as appropriate for a research-intensive university. An analysis of the number of students of the 1st and the 2nd cycle studies was carried out as the basis for setting new admission limits in subsequent enrolments to WUT.

**11) The worldwide impact of measures and limitations introduced as a consequence of the COVID19 pandemic should be taken into account in the implementation planning, and institutions should be driven by the will to maintain strategic development as planned. The good use of digital means of communication has a crucial role to play. Thus, universities should see to it that they are up to this challenge. What actions have been taken by your university in order to reduce the negative impact of the pandemic on the implementation of the university development strategy?**

The COVID-19 pandemic has a significant and multidimensional impact on practically every field of WUT's activity. In an obvious way, also the development strategy defined within the Excellence Initiative – Research University programme has been influenced by the pandemic. Since the very beginning, the management team has been monitoring and analyzing the situation, systematically reporting the risks and proposing the appropriate mitigation actions to the steering committee and the Rector of WUT. In particular, the following actions have been agreed on and implemented to reduce the negative impact of the COVID-19 pandemic:

- As the majority of the activities requiring interpersonal contacts (especially teaching) have been moved to virtual domain, the systematic meetings of the management team (once a week) and steering committee (once a month) are managed using MS Teams environment.
- Teaching (at all levels, including both students and doctoral candidates) and trainings planned are realized remotely; some new actions are implemented to partially replace the staff exchange programmes – one good example is visiting professor programme, which has been temporarily replaced by e-visiting professor action, which will be focused on providing remote access to lectures and seminars offered by top-class specialists from European and world-wide universities.

- The mobility programmes (supporting internationalization at the level of students, doctoral students, research and administrative staff) have been all postponed until the COVID-19 danger passes.
- The POBs-oriented research programmes have been complemented with the additional joint call of all POB centers 'IDUB against COVID-19', focused on various aspects of fighting against pandemic and its consequences.

The actions related to aspects insensitive to the COVID pandemic (like preparation to introducing MBO system, new appraisal system, incentivizing remuneration scheme etc.) are performed without significant delays.