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DEVELOPMENT PLAN OF THE FACULTY OF INFORMATION AND COMMUNICATION TECHNOLOGY AT WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

The Development Plan of the Faculty of Information and Communication Technology at Wrocław University of Science and Technology is hereby defined to ensure effective and efficient functioning of the Faculty in light of the challenges it faces. This approach ensures the Faculty is better prepared for changes and is ready to undertake appropriate measures. This Plan defines the structure of the Faculty and the key areas of its activity, as well as establishes the objectives and actions leading to the realization of the adopted missions and visions of the Faculty by the year 2030. The development process of the Plan was preceded by analyses of the functioning of the Faculty in key areas such as scientific research, education, and cooperation with the socio-economic environment. The document is consistent with the *Strategy of Wrocław University of Science and Technology 2023-2030* and with the Regulations of the Faculty of Information and Communication Technology, Wrocław University of Science and Technology, as approved by the Rector on 7th July 2022. The legal basis is the Statute of Wrocław University of Science and Technology adopted by the Senate on 8th July, 2021 (with subsequent amendments). This document was consulted with the Dean's Management Board, the Faculty Student Union Council, and with the Social Council.

FACULTY STRUCTURE

The Faculty of Information and Communication Technology was established in 2021. The Faculty includes the following departments:

- Department of Control Systems and Mechatronics,
- Department of Computer Science and System Engineering,
- Department of Applied Computer Science,



- Department of Computer Engineering,
- Department of Fundamentals of Computer Science,
- Department of Systems and Computer Networks,
- Department of Artificial Intelligence,
- Department of Telecommunications and ICT.

The Faculty was established on the basis of three foundational assumptions:

- the capital of diversity — a diverse structure facilitates the following of the discipline's development and efficient adaptation to the changing demands of the labour market and grant opportunities;
- the synergy effect — the integration of different departments which share a common conceptual and technical base plays a significant role in enhancing the innovation potential and facilitates the implementation of complex projects in various organizational configurations;
- principle of subsidiarity — decisions on the allocation of tasks and the distribution of resources remain as close as possible to the contractors.

The primary statutory tasks of the Faculty are scientific and educational activity in the broadly understood discipline of computer science and telecommunications. To best fulfil these tasks, the Faculty performs organizational activities in administrative, financial, economic, technical and service-related aspects, and collaborates with the socio-economic environment, with the Doctoral School for the education of doctoral students, and with the Council of the Scientific Discipline of Information and Communication Technology for scientific activities and staff development. The forms of education offered by the Faculty include first and second cycle studies in Polish and English, as well as postgraduate studies.

PRESENT STATE

The analyses showed that the Faculty has strengths, as well as certain limitations. From the perspective of the tasks performed at the Faculty, the most important aspects are:

- high competence of the research and teaching staff;
- support for the development of academic careers at the department level, fostering mentor-apprentice relationships;
- modern laboratories, including some with formal accreditation, that enhance research potential and promote the commercialization of research;
- study programs attractive to candidates not only from Poland but also from abroad;
- numerous research clubs that spark research passions among students and enable the implementation of interdisciplinary, also international projects;



- a wide range of specializations facilitating the adaptation of curricula to the needs of the labour market;
- domestic and international careers of the Faculty graduates which demonstrate the acquired competencies;
- transparent and stability-promoting financial rules described in the Faculty Regulations.

The Faculty must face numerous internal and external challenges, the most important of which are:

- incorporating current trends observed in the development of the discipline and in the labour market dynamics into the students' education profile in accordance with the principle of the unity of science and teaching;
- appropriately using artificial intelligence methods in the educational and research process;
- searching for additional sources of funding for research and teaching activities;
- increasing the competitiveness of the working conditions at the Faculty relative to jobs available in the ICT sector;
- emphasizing the importance of ethical issues in scientific research and student education in accordance with the standards contained in the codes of ethics for employees, doctoral students, and students;
- developing good interpersonal relationships within the Faculty community;
- supporting the scientific activities of the research and teaching staff
- modernizing Faculty infrastructure, particularly by acquiring new rooms and expanding appropriate social facilities.

To meet these challenges, the Faculty should recognize and seize the opportunities that arise in its environment:

- the expansion and development of digital technologies will continue, which should provide arguments for increasing funds for research and education;
- economic development will be based on digitization, which will facilitate cooperation with the socio-economic environment.
- the need for economic entities to leverage knowledge will help make more extensive use of the Faculty's expert potential;
- the demand for ICT specialists may allow new forms of financing for the existing fields of study;
- participation in international academic networks will facilitate the transfer of best practices in scientific, educational, and organizational activities;
- in the public space, graduates and employees can actively promote socio-economic cooperation with the Faculty;



- competent administration can support researchers and educators in organizational and reporting activities.

However, it is important to keep in mind the potential risks that may affect the functioning of the Faculty:

- the demographic decline increasing competition for the best students from prestigious domestic and foreign universities;
- wage disparity in the ICT sector and at universities, discouraging talented young people from an academic career;
- employees devaluating diplomas as an indicator of competence, and thus weakening the link between studies and professional career;
- substituting expert opinions and evaluations with arbitrarily determined set point indicators, and thus negatively affecting academic culture and limiting its creative potential;
- excessive formalism as an obstacle to competition and flexible response in formulating educational programs, commercializing research, and shaping human resources policy;
- year-on-year drop of candidates' interest in second-cycle studies.

VALUES, MISSION AND VISION

The activities of the Faculty will be based on the values adopted by Wrocław University of Science and Technology. They are:

- excellence in scientific research, education, and personal development;
- collaboration understood as actions aimed at achieving common goals by combining individual talents and commitment, mutual support, and cooperation with the socio-economic environment;
- openness to new ideas and challenges, understood as flexibility in responding to changes.

The mission of the Faculty is to:

- expand knowledge and develop technology in the broadly understood discipline of ICT by conducting scientific research, following trends, creating new ideas, and shaping the skills and attitudes of a new generation of researchers;
- provide students with high professional qualifications, creative and practical skills, well-developed social, mobility and entrepreneurship competencies, and with awareness of their responsibility towards the digital world;
- collaboration with the socio-economic environment in the areas of expert analyses, labour market needs, and the popularization of science.



In fulfilling its mission, the Faculty will strive for excellence, collaboration, and openness to meet the expectations of key stakeholders: employees, students, graduates and other collaborators in the field of scientific research, as well as development and implementation works.

Fulfilling this mission requires the right motivation, which should be provided by the vision of the goal we are aiming for. The destination point is the Faculty:

- perceived as a recognized scientific centre, a sought-after partner for development and implementation projects, an efficient research centre, and an incubator of high-class personnel;
- offering ambitious and challenging studies that are attractive, with demanding yet approachable instructors who use modern teaching methods, and that produce graduates who are sought after in the job market but also capable of building their independent careers;
- recognized as an expert environment in the broadly understood field of information and communication technologies, a friendly place for work and study, nurturing academic traditions.

STRATEGIC GOALS AND ACTIONS

Committing to uphold the values, fulfil the mission, and implement the vision of the Faculty requires introducing modifications to existing practices and methods of operation. In the perspective up to 2030, it is possible to outline specific goals and actions grouped into three fundamental areas of the Faculty's operations: research, education, and social affairs.

In the area of scientific research and knowledge transfer, efforts should be made to develop multi-directional and interdisciplinary scientific collaboration, to continuously develop staff competencies, and actively pursue innovative projects. Achieving this set of goals is possible through the following actions:

- conducting pioneering and groundbreaking research in line with global trends in the discipline of technical computer science and telecommunications; strengthening scientific cooperation with leading partners; increasing the quality level of research performed at the Faculty;
- intensification of scientific collaboration between the Faculty departments; creation and development of interdisciplinary research teams, particularly in collaboration with other research centres, and development of international mobility for scientists;
- seeking new forms and methods of long-term collaboration with enterprises of various business profiles, including in the area of implementation doctorates;
- supporting the acquisition and realization of research and expert services, as well as of development and targeted projects for the national economy, in particular for the



innovation-related needs of enterprises with high implementation potential; increasing the competitiveness of accredited services offered by the Faculty;

- developing collaboration with other university units which support the commercialization of research results and knowledge transfer; disseminating the results of research projects in meetings, conferences, and other events;
- supporting efforts aimed at obtaining the rights to confer doctoral and postdoctoral degrees in computer and information sciences within the field of natural sciences.

In the educational domain, efforts should be made to promote interdisciplinary studies and to increase the involvement of the main stakeholders of the Faculty in enhancing the quality of education. To achieve the above objectives, the following actions are defined:

- training specialists and leaders, as well as future academic staff; developing individual abilities and talents; shaping valuable attitudes and skills; academic tutoring; linking diploma theses with the needs of the economy and society; involving the best students in ongoing scientific research; increasing the scope of academic exchange, expanding study-in-English programs, also in the area of double degrees; obtaining certifications from international accreditation institutions;
- increasing the flexibility of study programmes which address challenges related to current ICT development trends, increasing the involvement of external instructors and forms of distance learning, collaborative problem-based learning, project-based learning, and challenge-based learning, also as part of blended learning; building interdisciplinary teams; supporting the development of student research clubs; organising courses, training sessions and programmes which enhance practical knowledge and enable the acquisition of professional skills in collaboration with external partners;
- enhancing the internal System for Assuring the Quality of Education; developing cooperation with the Doctoral School, Social Council, Student Union and other student organizations in the area of introducing changes to study programs and with the Career Office in the area of preparing job offers, internships and work placements, ensuring the relevance of education programs and graduate profiles with the requirements of the labour market; promoting peer tutoring; employing the best doctoral students.

In the social affairs area, efforts should be made to increase social capital, maintain relationships with the environment, ensure efficient management and appropriate infrastructure. To achieve the aforementioned goals, the following actions are defined:

- building bonds and fostering engagement which aid the growth of social capital, particularly among employees, students, doctoral students, and graduates; strengthening their self-identification with the Faculty; promoting good teamwork practices with respect for academic freedom; systematic studies of the professional careers of alumni; developing interpersonal skills through courses and training, taking into account individuals with special needs;



- supporting employee efforts to develop their competencies; evaluating employees based on their contribution to the implementation of this Plan; developing a departmental motivational system with respect for fundamental academic values; collaborating on systems for monitoring and improving processes related to the functioning of the Faculty;
- adapting the organizational structure to the requirements of a changing environment, improved targeting of administrative activities to support academic teachers; simplifying internal procedures and streamlining document flow, as well as effective handling of applications and implemented projects;
- promotion of the Faculty's educational and research offer both domestically and internationally, while effectively competing for the most talented candidates; engaging students and graduates in the Faculty's promotional activities; developing the activities of the Social Council;
- optimizing the Faculty's operational costs through more efficient use of available resources and means; assessing investment needs related to infrastructure; investing in educational, scientific, and social facilities.

PLAN IMPLEMENTATION METHOD

The implementation of the Faculty Development Plan is supervised by the dean. Reports on the implementation of the Plan will be prepared and presented to the Faculty Council by the dean no less than once every two years. In matters not regulated by this Plan, decisions are made by the dean.

FINAL PROVISIONS

This Development Plan of the Faculty shall take effect on the date of approval by the Rector.