**Executive Summary of "The Roadmap" for the Implementation
of the Program for Enhancing the Competitiveness of ITMO University amongst
the Leading World Research and Educational Centers
(Stage 4 - 2018–2020)**

Since 2013, ITMO University has been developing a target model, based on four characteristics: **global, research-led, entrepreneurial and person-focused**.

The chosen target model has proven its effectiveness. **The 2013 – 2017 results** included:

- A new system of international research (30 international research centers, 4-fold increase in the number of publications in international bibliographic databases and 10-fold increase in the number of citations [1]; large research projects, such as MegaScience);
- Recruitment system (from 2013 to 2017, the percentage of international staff members grew from 0.9% to 5.9%, the percentage of international students grew from 7.9% to 14.3%, the Unified State Exam entrance score from 80.5 in 2013 to 86.7 in 2017, the number of other universities' alumni entering ITMO U's graduate programs – from 29% in 2013 to 60% in 2017).
- The image of the first non-classical university (rebranding, the number of media mentions went from 3,000 in 2013 to over 15,000 in 2017).
- A unique innovations ecosystem (including the best business incubator in Russia and fifth among university startup accelerators globally [2]; growth of the University innovations community from 300 people in 2013 to over 13,000 in 2017; first in Russia sale of university shares in startups);
- Comprehensive structural reorganization, management model improvement and shift towards shared governance (reorganization of departments into four Schools; introduction of Supervisory and International Councils, launch of two representative offices overseas; the structure of the Academic Council was changed to include at least ¼ student representatives, collegiate University management bodies were formed to include students and staff; a system of open tenders and effective contracts was formed for staff; the amount of University revenue grew from 2.3 billion rubles in 2013 to 5.7 billion rubles in 2017.

In the target model of the 4th stage of the Roadmap (2018-2020), the characterization of the University as a person-focused one comes to the forefront and sets the development vector for the entire university.

ITMO University's mission is to provide opportunities for holistic development of individuals and **to inspire** them to tackle global challenges.

The University's strategic goal is to generate new knowledge, markets and businesses, to navigate individuals in the world of information while preserving the balance between physical and virtual reality.

The development strategy is aimed at building **the image of ITMO University in 2027**:

- the University is the environment for the development of a well-rounded, creative, marketable individual. It is an environment, that is built on the principles of multi-disciplinarity, continuity of education, integration of artificial intelligence technologies and machine learning;

---

[1] Publications in Scopus - 502 works in 2013, over 2,100 works in 2017; citation of scientific publications in Scopus - 840 for 2009-2013, over 10,000 for 2013-2017)
[2] UBI Global Rankings

- The University attracts creative, critically thinking people regardless of age, status or achievements and helps them follow their unique, personal learning and development trajectory (the number of trajectories equals the number of students).
- the University operates based on new educational principles, it responds with agility and speed to the changing environment and the speed of information;
- the University offers approaches to solving existing and forecasted global challenges;
- the University is an open ecosystem that attracts resources and intellectual potential from the outside and provides a platform solution for socially important programs[3] as well as the University's capitalization increase.

ITMO University's 2027 image is based on **"ITMO Code = V+F+PS+SS,"** which determines the University's unique profile and is equally important for students and staff:
- V for Values
- F for Fundamental and Unique
- PS and SS for Professional Skills and Soft Skills

ITMO University Values (V)

Respect for the individual, integrity, academic freedom, openness, and love set the rules and standards for students and staff, determine the system of interrelations between the University and external environment and are the foundation principles for the models of University's core activities, including education, research and innovation.

Fundamental and unique education, which includes systematic, analytical, creative and critical thinking, is formed on the basis of ITMO University's leading scientific schools. It lays the foundation for solving global challenges. The University's unique profile (Information Technologies and Photonics and their convergence) allows expanding opportunities for the development of a fundamental and unique education in the digital age.

This **foundation**, provided by ITMO University, is augmented by new elements necessary for the development of a well-rounded individual able to keep up in the changing world: **digital culture and skills** (rules of engagement in the digital world), **entrepreneurial culture and skills** (search for new solutions, readiness to take risks, openness to making mistakes), **design thinking** (solution-focused decision-making drawing upon logic, imagination, intuition and systemic reasoning).

Professional Skills (PS) and Soft Skills (SS) in the ITMO code are important for both students and staff of the University. PS and SS of students are formed as part of the education: professional - in the framework of individual trajectories and with consideration for educational and scientific specifics of the Schools, and soft skills through the core set of ITMO disciplines. These skills together with the fundamental and unique way of thinking provide the foundation for a well-rounded ITMO University graduate in the marketplace.

The skills and competences of staff are regularly assessed and improved and are part of the requirements when hiring lecturers, researchers, scientists and management staff. The 2027 University team will be formed taking into consideration the staff's characteristics that fit the requirements for PS and SS.

The gradual achievement of the 2027 image is facilitated by the implementation of key **strategic initiatives** (SI) and activities planned in the Roadmap for 2018-2020:

1. Transformation of educational activities to help develop well-rounded students competitive in the marketplace (SI1)
   - ITMO Talent Search System: recruiting students from around the world, reaching the target audience of 5 million by 2020.

---

[3] The platform as an association of organizations, people with the necessary competencies, technologies, resources, etc., for solving large tasks.

- Forming an environment and introducing the tools to help develop a well-rounded person, boosting soft-skill competencies, including English, integrating a system of continuing education, outbound academic student mobility (15% of Bachelor degree students and 12% of Master degree students in 2020), extra-curricular activities and students' individual portfolio;
- Personalization of education: differentiation of Master's programs (research, entrepreneurial, emerging fields, corporate), individual educational trajectories, digital "portraits" of students;
- Implementation of Liberal Arts & Sciences Education principles: electives, development of creative potential and fundamental thinking - introduction of a core set of disciplines on the formation of digital, entrepreneurial culture, design thinking;
- Implementation of international standards for quality of education, active use of IT (AI) in education.

2. World-class scientific research and development based on information and photonic technology (SI 2):
- Reorganization of existing international research centers through consolidation and creation of 6-8 international research centers focused on solving global challenges related to processing and transmission of information considering its rapid growth, to security of information and cyber-physical systems, as well as to the quality of life;
- Diversification of scientific research areas and expansion of application fields of ITMO University scientific competencies to socially important areas new to the University; creation and development of a chemistry and biology cluster, Institute of Financial Cyber Technologies; participation in the creation and operation of the International Quantum Center;
- Establishing a digital platform that supports the network form of research and a distributed register of results of intellectual activity; improvement of foresight mechanisms and identification of breakthrough fields for future scientific development;
- Transformation of a training system for highly qualified personnel, independent awarding of PhD degrees; individual training track for PhD students, joint educational PhD programs

3. Formation of the University's global ecosystem that ensures the sustainable development of the University and its community through addressing socially important tasks, implementing technologies and launching new businesses (SI 3).
- Creating ITMO University's community - ITMO.FAMILY (the number of ITMO U's alumni in the new sense of the term to reach 1.8 million by 2020);
- University's participation in shaping the markets of the future through creating new businesses and cutting-edge[4] technologies together with strategic partners;
- Network educational programs and modules with leading academic and business partners;
- Development of network market-driven design lab, joint university-industry technology-push pilot projects - 12 in 2020;
- Growth of University's intellectual capitalization and access to international R&D markets and engineering (the share of funds from IP management is at least 5% of

---

[4] Cutting-edge technologies - technologies vital to the development of new markets

the volume of R&D, partnership with at least 5 global industry leaders[5]), including through ITMO University's representative offices;

- Implementation of multidisciplinary breakthrough projects in priority areas of the university's development in collaboration with industry leaders (at least 10 projects);

4. Establishing new models and tools in the University management system to ensure the dynamics of the University development and effective solutions for the tasks in the Road Map (SI 4):

- Development of a new management model on the principles of shared governance, information openness, feedback from internal and external stakeholders, outsourcing certain managerial functions (new models of the "Art & Science" Cluster management, and of the second campus);
- Strengthening of the University team, including team renewal (up to 7-10% annually until 2020), attracting young and promising instructors, scientists and managers through ITMO Fellowship & Professorship Program, ITMO PostDoc, and forming an environment of motivation and growth, active engagement with the team;
- Development of a "smart" environment and services of the global University, including digitalization of University processes, development of decision-making support system in University management, digital personalization of the target audience engagement.

Events scheduled for 2018-2020 will form the environment and the team needed to achieve the image of 2027.

---

[5] The global leaders of industries, among others, are the companies identified in the top-100 rating of Fortune Global 500, The Boston Consulting Group of the world's most innovative companies rankings, Fast Company rankings, Top 100 Global Innovators