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## EXECUTIVE SUMMARY

### ITMO University's action plan (roadmap) for the competitiveness enhancement program (third stage - 2017)

Taking into account global trends in the development of science, technology and education, ITMO University has been developing a target model based on four characteristics: **Global**, **Research-oriented**, **Entrepreneurial**, **Socially-responsible and Person-focused** since 2013.

As a **global** university, ITMO is growing as an international hub for generating knowledge, implementing innovations and training future experts through close collaboration with foreign universities, world's leading research centers and industry.

As a **research** university, it attracts top scientists and students from around the world, broadens its reach in interdisciplinary research and focuses on such breakthrough areas as IT and Photonics.

As an **entrepreneurial** university, it transforms quality insight and competencies into new products and businesses thanks to its well-developed innovation ecosystem.

At the core of the University's development is its focus on an **individual** - be it a student, professor, researcher or administrator - on the one hand and on **society** and its challenges and values on the other.

The chosen target model has shown its effectiveness. The program resulted in a well-developed system of international research, the University's recognition in international rankings (56th place in THE Computer Science), a unique innovation ecosystem and establishment of the first non-classical university brand. The University has become an attractive hub for world talent.

Implementing the target model and following ITMO's mission called for the reorganization of the scientific and educational structure and the University's management system.

The scientific and educational structure is organized now around five Schools, each with a specific focus aimed at addressing global challenges caused by technological limitations such as: safety of cyber-physical systems, system solutions for complex problems of socially important areas (medicine, urban studies and economics) and the use of metamaterials in photonics and electronics.

Four Schools, three of those in the format of strategic academic units (SAUs), were established in 2016, namely School of Translational Information Technologies (SAU), School of Photonics (SAU) and School of Computer Technologies and Controls (SAU), and School of Biotechnology and Cryogenic Systems. The fifth, School of Innovations will be formed in 2017, completing the process of reorganizing the scientific and educational structure of the University.

Significant qualitative changes and advances in a broad range of areas have created a strong foundation for ITMO University's further development. Key development objectives, described in the third stage of the roadmap, include:

- Large international research projects<sup>1</sup> in collaboration with leading research centers, including those of Megascience scale (European XFEL X-ray project).
- Completing the transformation to a graduate-level university (focused on graduate and postgraduate programs) and changing the educational model towards project-based education and orientation towards industries of the future, expanding educational services through IT, including on-line education.
- Developing new competencies and fields with high competitiveness potential in science and education (new “growth spots” that include food biotechnologies, functional chemistry, nanoengineering, biosensors and bioinformatics).
- Broadening the international talent search with consideration for the University's priority areas, tasks and competences (a proprietary recruiting system for talented youth in Russia and abroad, an open system of international recruiting, “ITMO Fellowship & Professorship” programs).
- Creating ITMO.Family - a united community, integrating prospective and current students, alumni and industrial partners.

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<sup>1</sup>Projects “From metamaterials to metadevices: Novel approaches to control electromagnetic waves on subwavelength scale”); (“Urban Health Decision Support: from BigData to Predictive Modeling”), “Semiconductor and hybrid nanophotonics”), “Highrange and Highspeed quantum communications for cyberphysical systems”).

- Expanding the network of student ambassadors who propagate ITMO's mission and core values thus increasing the University's recognition in the international student community.
- Acting as a venture investor, managing University's own SIEs portfolio including funding, accelerating and exiting companies driven by intellectual assets of ITMO University.
- Developing of University clusters, including the Urban Science Cluster and "Innograd of Science and Technology", a strategic project of ITMO campus that is expected to be built in the town of "Yuzhni".
- Proactive involvement of ITMO University, its' students, research and project teams in the development and implementation of the National Tech Initiative, an instrument of enhancing our country's international success.
- Completing the transformation of the University's management structure based on the concept of an entrepreneurial university (establishing of the School of Innovations, developing Schools' self-governance and implementing shared governance).

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