

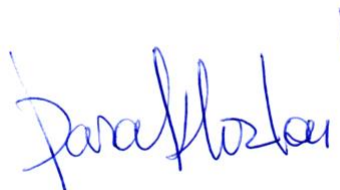
APPROVED

by

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TENDER SPECIFICATIONS
FOR THE OPEN CALL FOR PROJECTS FOCUSED ON CORE TECHNOLOGIES (M-
PLATFORM PROJECTS) AS PART OF
ITMO'S 2030 DEVELOPMENT STRATEGY

St. Petersburg, 2021

Table of contents

ABSTRACT	3
TERMS AND DEFINITIONS	4
INFORMATION ON THE OPEN CALL	7
General terms	7
Goals and expected results of the open call	7
Open call procedure	9
Conditions and requirements for participation	9
APPLICATION FOR THE OPEN CALL	10
Application contents	10
Compiling the application	10
Submitting the application	10
OPEN CALL PROCEDURE	11
Procedure for expert evaluation and approval of results	11
Procedure for signing agreements with open call winners	11
APPLICATION EVALUATION METHODS	12
Evaluation procedure	12
Appendix 1. ITMO's 2030 Development Strategy indicators and results	15
Appendix 2. Project passport template	19

1. ABSTRACT

Open call objectives

This open call focuses on projects run within the framework of **M-platforms** – strategic units that aim to integrate the university’s research and educational activities into its technological and innovative initiatives, as well as develop partnerships with organizations working in the real sector of the economy and other partners. The top priority here is the development of **core technologies** that would allow ITMO to enter prospective high-tech markets by launching science-intensive full-TRL projects and implementing their results by establishing new cooperative chains.

Who can participate

We welcome applications from ITMO University teams and partners of our M-platforms, as well as external collectives interested in joining the work of one of the M-platforms. Applicants must possess significant experience and staff qualified in the subject matter.

Who should participate

First and foremost, we expect applications from teams that plan to add **practical value** to their products and competencies, **find partners** to work on complex projects together, establish close connections with the top companies, become **sought-after** on burgeoning high-tech markets, and receive **benefits from the commercialization** of their work.

What makes this open call special

M-platform-based projects are about a **combination of personal responsibility and teamwork**. Projects that differ in their format and target indicators but are uniformly focused on the M-platforms’ challenges will form a unified system and undergo a final defense as segments of an **integral initiative** within the M-platform program. You can apply with a research project or a comprehensive project that combines research, development, staff training, and commercialization – or any combination of the aforementioned aspects.

As a result of their integral initiatives, each M-platform must produce a significant impact on the development of core technologies. The resulting solutions must **focus on the platform economy approach**, which makes it possible to quickly disseminate new technologies into various industries.

All projects implemented as part of an M-platform follow the **Technology Readiness Level (TRL) scale** as they move from fundamental research to applied development (TRL 5-6), at which point they can transition into developing industry-specific solutions and products for their partners in the consortium or other external customers while bringing the project to TRL 7-8.

Applications will be assessed and evaluated by M-platform partners: experts on industry-specific markets, potential investors, customers, and technology distributors.

In order to support the implementation of chosen projects, their teams are **provided access** to expert, human, and infrastructure resources, as well as the M-platform partners and services designed to assist M-platform projects.

2. TERMS AND DEFINITIONS

TERM	DEFINITION
Priority 2030 strategic academic leadership program	<ul style="list-style-type: none"> - The Priority 2030 strategic academic leadership program aims to support the development strategies of higher education institutions in accordance with the Decree of the Government of Russian Federation dated May 13, 2021 No. 729 (hereinafter the Priority 2030 program).
ITMO University's Development Strategy for 2021-2030	<ul style="list-style-type: none"> - a strategic regulatory and administrative document that defines ITMO University's goals and tasks up to 2030, as well as the indicators for their successful completion. The strategy aims to increase ITMO University's contribution to national development goals until 2030, ensuring the country's balanced development and the availability of high-quality higher education in Russian regions within the Priority 2030 program.
Strategic projects	<ul style="list-style-type: none"> - a system of university's strategic development projects united by a common goal to achieve a unique result within the given timeframe and limited funding. ITMO's 2030 Development Strategy includes four Strategic Projects: ITMO.Impact, Scientific Breakthrough, Highly Personalized Value-Based Education, and Well-Being.
University's policies	<ul style="list-style-type: none"> - a system of priorities, tasks, mechanisms, and institutional changes in the university's key fields: educational policy, research policy and the policy on innovation and R&D commercialization, campus and infrastructure policy, human capital management policy, digital transformation policy, and open data policy.
M-platform	<ul style="list-style-type: none"> - a major functional unit of ITMO University working within the digital economy and serving as a basis for interdisciplinary and cross-sector consortia. M-platforms seek to answer global research, technological, social, and economic challenges. The purpose of M-platforms is to integrate education, research, technology, and innovation at the university, as well as to develop connections with scientific organizations, real economy businesses, development institutes, professional associations, and social organizations.
ITMO 2030 Development Strategy	<ul style="list-style-type: none"> - the indicators reflecting ITMO's development and the effectiveness of the implementation of the 2030 Development Strategy. You can find the indicators

target performance indicators	primarily targeted by this open call in Appendix 1 of the current document.
Project	<ul style="list-style-type: none"> - a system of interconnected events or activities created to reach the goals, tasks, and results of ITMO's 2030 Development Strategy, including the goals, tasks, and results of Strategic Projects or university policies, as well as to reach the strategy's target performance indicators. Projects are meant to produce unique results (products or services) using a specific amount of resources and time.
Project passport	<ul style="list-style-type: none"> - a description of the project and related obligations made in accordance with a specified template and containing information on project goals, tasks, beneficiaries, results, indicators, effect, budget, including co-funding, etc. You can find the project passport template in Appendix 2 of the current document.
Core technology	<ul style="list-style-type: none"> - a technology serving as the basis for a wide spectrum of science-intensive products and staff training that is not specifically connected to one particular industry or social sector.
Open call participant	<ul style="list-style-type: none"> - a student/staff member or a team of students/staff members of ITMO or another organization that is ready to implement a Project in accordance with the Project passport submitted for the contest and adjusted according to the review at the session of the Development Strategy Coordination Council.
Executor / Open call winner	<ul style="list-style-type: none"> - a participant of the open call whose application was approved and recommended for funding by the Development Strategy Coordination Council and who has signed an agreement with ITMO University by which they are obligated to implement the project within the timeframe and budget specified in the Project passport.
Head of the Project	<ul style="list-style-type: none"> - a member of the team that won the open call and signed a project implementation agreement with ITMO University who has the right to allocate resources and manage the Project team based on the principle of division of administrative and functional subordination. The head of the project is responsible for organizing and monitoring the project's implementation, as well as the

	successful compliance with planned results and indicators.
Development Strategy Coordination Council	- the executive body of ITMO's 2030 Development Strategy that develops, monitors, and controls the implementation of the strategy, as well as evaluates open call applications, approves the list of Executors and Project budgets, and evaluates the quality of implemented Projects (hereinafter Coordination Council).
M-platform council	- a representative and consultative body of an M-platform responsible for its strategic management. The Council might consist of academic and industrial co-supervisors; executive, technical, and operational directors; or heads of the research, educational, and innovation fields.
Expert group	- a consultative expert board that includes staff and students of ITMO and other organizations (upon negotiation) and is approved in accordance with the procedure for preliminary evaluation of open call applications and for recommendations on Projects to present to the Coordination Council.
Reviewer	- a researcher/specialist/expert with extensive knowledge and competencies, as well as a unique expertise in a specific research and/or professional field, who evaluates Project passports or their sections.
Development Strategy Management Board	- an executive body of the strategy responsible for organizational, technological, informational, methodological, and analytical support of the open call for projects.
Head of ITMO's 2030 Development Strategy	- an ITMO University representative appointed as the senior managing staff of the Development Strategy.
Strategic project coordinator	- an ITMO University representative responsible for management of a specific strategic project and organization of activities intended to reach its goals, tasks, results, and indicators.
M-platform curator	- an ITMO University representative responsible for curation, communication, and organizing interactions between M-platforms in terms of reaching their goals, tasks, results, and indicators and producing a synergistic effect in their development.

Head of M-platform	- an ITMO University representative responsible for managing a specific M-platform and organization of activities intended to reach its goals, tasks, results, and indicators.
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3. INFORMATION ON THE OPEN CALL

3.1. General terms

3.1.1. The present document contains:

- a) description of goals and expected results of the open call;
- b) requirements for the open call participants;
- c) application requirements;
- d) open call procedure.

3.1.2. This open call is held within ITMO's 2030 Development Strategy, presented in detail at its official webpage <https://2030.itmo.ru/en>. Also present on the webpage is an executive summary of the strategy that briefly describes its goals, tasks, results, strategic projects, policies, M-platforms and their core technologies. This information is also available in the current document.

3.1.3. The main aim of this open call is the selection of projects to be supported within the Development Strategy via funding from the Priority 2030 program in 2021 and consecutive years.

3.1.4. The projects' goals, tasks, results, and indicators have to contribute to the goals, tasks, and results of ITMO's 2030 Development Strategy, including those of its strategic projects and policies, as well as to the strategy's target performance indicators.

3.1.5. The present open call's distinguishing features are as follows:

3.1.5.1. Projects that differ in their format and target indicators but are uniformly focused on the M-platforms' challenges will form a unified system and undergo a final defense as segments of an integral initiative within the M-platform program.

3.1.5.2. Projects are assessed and evaluated by M-platform partners: experts on industry-specific markets, potential investors, customers, and technology distributors.

3.1.5.3. In order to support the implementation of chosen projects, their teams are provided access to expert, human, and infrastructure resources, as well as the M-platform partners and services designed to assist M-platform projects.

3.1.6. Representatives of ITMO or other institutions can participate in the open call on the condition that they fulfill the requirements described in the current document.

3.1.7. The relationships between parties of the open call are regulated by the legislation of the Russian Federation.

3.1.8. The deadline for application submission is set in the open call announcement and cannot be less than 20 calendar days from the date the announcement was published.

3.2. Goals and expected results of the open call

3.2.1. This open call focuses on support for major projects to be implemented within the framework of ITMO University's M-platforms with a focus on the development of the university's core technologies and attainment of tasks and results outlined in the Development Strategy and the results of Strategic projects.

3.2.2. Core technologies at the focus of projects submitted for this open call must fit one of the following subject areas (the list may be amended per a decision of M-platform councils):

3.2.2.1. Cognitive Informatics M-platform:

- digital identity technologies;

- technologies for generative modeling and design;
 - technologies for validation and analysis of proof for ill-defined fields of knowledge;
- 3.2.2.2. Next-Gen Cyberphysical Systems M-platform:
- embodied intelligence technologies;
 - technologies for support of large-scale information connectivity between CPS;
 - quantum internet;
 - smart and distributed sensors;
 - energy-saving and green technologies for development of robotic systems for human-free technical processes;
- 3.2.2.3. Human. Nature. Technology M-platform:
- platforms for genetic engineering-based cell editing and diagnosis of infectious diseases, testing of pharmaceutical effectiveness and safety, and food quality assessment;
 - screening test systems for biological applications;
 - modern convergent technologies for development of new materials for biological applications;
 - digital systems and predictive algorithms for the assembly of molecular sequences;
- 3.2.2.4. Information and Functional Security M-platform:
- cyber-resilience of critical digital technologies;
 - validation and verification of complex technical systems;
- 3.2.2.5. Arts and Sciences M-platform:
- interdisciplinary research at the intersection of technologies and arts/humanities;
 - representation of cultural heritage via digital technologies;
 - development of user experience through gamification and VR/AR.

A detailed summary of the core technologies can be found in the Executive Summary of the 2030 Development Strategy at <https://2030.itmo.ru/en>, as well as the documents associated with the open call.

- 3.2.3. As a result of the Projects' implementation, significant progress must be made in the development of core technologies. It is preferable that each Project reaches a TRL of 5-6, sufficient for launching the development of industry-specific solutions and specific products for consortia partners and other external customers (i.e. attainment of TRL 7-8). In the case that a Project reaches a lower level of technology readiness, research on the corresponding core technology must be moved from the theoretical to the applied stage; participants must find partners for subsequent market entry and propose breakthrough innovative solutions to ensure the technology's growth. Research and development results must not repeat the results of projects financed by other sources.
- 3.2.4. The resulting solutions must focus on the platform economy approach, which makes it possible to quickly disseminate new technologies into various industries
- 3.2.5. Each M-platform must contain a connected system of Projects covering all technology readiness levels. Submitted Projects must include plans and describe the logic of their transition into each TRL stage.
- 3.2.6. As part of their implementation, Projects must provide training to teams of specialists capable of rapidly going from research to technological development and to market entry.
- 3.2.7. Preference will be given to Projects implemented jointly by several teams of different subject- or industry-specific competencies, including those affiliated with different M-platforms.
- 3.2.8. Preference will be given to Projects that contribute to the development of partner relations or are implemented in collaboration with consortia partners. Within the framework of their implementation, Projects must result in an acceleration of interactions with partners and removal of barriers for mutual access to shared infrastructure and knowledge.

3.2.9. As a result of the chosen Projects' implementation, the following results and effects for the university must be achieved:

- increase in the quality of PhD training;
- increase in the quality and reputation of ITMO as a source of professional staff by way of involving students in projects focused on frontier science and competencies chosen in collaboration with M-platform partners;
- substantial increase in the number of continuous professional development (CPD) programs;
- development of educational export;
- establishment of a shared standard on the broadcasting of ITMO's findings, technologies, and models to other universities and organizations across Russia;
- contribution to the digital transformation of top-priority fields of Russian economy and social sphere;
- publication of newly-created intellectual property (IP) in a database accessible to the university's partners;
- increase in revenue from use of IPs;
- publication of research findings in Q1 and Q2 journals indexed by Web of Science and Scopus (with ITMO employees' contributions amounting to at least 0.15 for Q1 and 0.25 for Q2);
- establishment of certification laboratories for the needs of national programs;
- digitalization of urban services and development of services for the city and its inhabitants;
- involvement of ITMO graduates in the university's development;
- compilation of analytical reports on the development of core technologies and technologies at the intersection of tech and art/humanities.

3.3. Open call procedure

3.3.1. The Development Strategy Board is responsible for organizational, technological, informational, methodological, and analytical support of the open call for projects. The address and contact details of the organizer are included in the open call announcement.

3.3.2. A brief description of the open call, as well as all related documents are published on the Development Strategy's official website <https://2030.itmo.ru/en>.

3.4. Conditions and requirements for participation

3.4.1. Applications are accepted from teams made up of representatives of ITMO University and/or other organizations, as well as students of ITMO University and other higher education institutions in Russia and abroad.

3.4.2. At the time the application is submitted, the applicant has to fit the following criteria:

- a) Project team must include a Project head who is (or is obligated to become one in the event of the Project's selection) a member of ITMO University's academic staff and has ITMO University as their primary place of employment.
- b) the team may include a co-head as a representative of one of ITMO University's consortia partners.
- c) in addition to the head and co-head, the team must include at least 3 key executors from among the academic staff of ITMO University or the staff of its partner organizations.
- d) the team must include at least 15 key executors from among the Master's and PhD students of ITMO University who are not already key executors in other projects and whose thesis topics, should the Project be selected for implementation, must be made to focus on the development of the corresponding core technology.
- e) the team must confirm its possession of significant previous experience in the chosen subject field.

4. APPLICATION FOR THE OPEN CALL

4.1. Application contents

4.1.1. The application for the open call must include a Project passport filled out according to the template (Appendix 2) as well as the CVs of the Project's head, co-head (if applicable), and its key executors.

4.2. Compiling the application

4.2.1. A Participant who wishes to take part in the open call must attach the documents (.pdf or .docx format) listed in section 4.1.1. to the application.

4.2.2. Requirements for Project passport formatting:

- Font: Times New Roman, size 14 pts., line spacing 1.5; tables can be filled out in Times New Roman, size 12 pts., line spacing 1.
- Overall volume: no more than 20 pages. Information that would exceed the maximum volume of 20 pages can be attached through appendices to the Project passport.
- The title page of the Project passport must be signed by the Participant chosen as the Project's prospective head.
- The second page of the Project passport must include a numbered table of contents.

4.2.3. Requirements for participants' CVs:

- The CVs of the Project's head, co-head (if applicable) and key executors must be submitted as part of the application as separate files (in the .pdf or .docx format)
- The CVs must include: the subject's full name, date of birth, contact information, educational credentials, work experience, key results and achievements (incl. management and participation in scientific, technological, and educational projects and their outcomes), experience in teaching and supervision of students, key publications, and awards. Additional information may be included if so desired.
- The formatting style of each CV is at the discretion of the respective participant.

4.2.4. All documents attached to the application must be in Russian. Participants are allowed to attach English-language copies of their application and accompanying documents. In the event that an international participant is not proficient in the Russian language, they are allowed to submit their application exclusively in the English language.

4.2.5. Use of various non-primary languages is allowed in titles of publications, inventions, software, technologies, and brands of devices and equipment.

4.2.6. All figures listed in the application for the open call must be in Russian rubles.

4.2.7. The Participant is responsible for the completeness, correctness, and relevance of data stated in the application for the open call.

4.3. Submitting the application

4.3.1. The application is to be filled out on the official website of ITMO's 2030 Development Strategy <https://2030.itmo.ru/en>. All required documents (see section 4.1 and 4.2) should be attached.

4.3.2. The applications must be submitted before the deadline specified in the Open call announcement.

4.3.3. Each application is recorded in the application register by authorized specialists of the Development Strategy Management Board.

5. OPEN CALL PROCEDURE

5.1. Procedure for expert evaluation and approval of results

5.1.1. The Participant submits their application according to section 4.3. of the present document and specifies the M-platform with which their proposed project would be affiliated.

- 5.1.2. The Development Strategy Management Board registers the application and decides if it fits the hereby established requirements. The Development Strategy Management Board has the right to decline the application if it does not fully fit the requirements or contains incorrect information.
- 5.1.3. Applications that fit the formal requirements are presented to the head of the corresponding M-platform. At the M-platform head's discretion, an application may be submitted for preliminary expert assessment by Reviewers in order to produce an evaluation and recommendations for further consideration.
- 5.1.4. Upon the conclusion of the application period, all Projects submitted for the open call take part in an open defense at a session of the corresponding M-platform council. Dates of the defenses and their procedure will be published on the website <http://2030.itmo.ru/en> by each M-platform independently, but no later than three days before the defenses are held. Defenses can be held in a blended format.
- 5.1.5. Based on the results of the defenses, the M-platform council forms a transcript of application assessment and compiles a ranked list of Projects that includes point-based scores as per the methodology described in Section 6 of the present document. The M-platform council decides on whether to include or not include each Project on the M-platform's shortlist and produces a list of remarks and recommendations. The final minutes of the M-platform council's session will be published at ITMO's 2030 Development Strategy website <https://2030.itmo.ru/en> no later than three days after the defense and is submitted to the members of the Development Strategy Coordination Council.
- 5.1.6. Projects that have been recommended for inclusion on the M-platform shortlist are then called for defense at a session of the Development Strategy Coordination Council as part of an integral initiative of the corresponding M-platform. Defense includes showcasing the M-platform's general development program through the implementation of systematically connected Projects from the shortlist, as well as individual presentations of each Project.
- 5.1.7. Projects that have not been recommended for inclusion in the shortlist no longer participate in the open call.
- 5.1.8. As a result of the defenses, a final list of approved projects for each M-platform is approved, along with a list of target indicators and budgets for each project. The final minutes of the Development Strategy Coordination Council session will be published at ITMO's 2030 Development Strategy website <https://2030.itmo.ru/en> no later than three days after the defense and are submitted to the Head and Council of the corresponding M-platform.
- 5.1.9. Based on the results and indicators of the approved Projects, a list of personal responsibilities for Heads of Projects and Heads of M-platforms are compiled in regard to the attainment of target results and indicators of each M-platform's integral initiative.

5.2. Procedure for signing agreements with open call winners

- 5.2.1. Each open call winner must sign an agreement on the implementation of their project in correspondence with the passport of the Project.
- 5.2.2. The passport of the Project is submitted as part of an application that must be clarified and adjusted in correspondence with the Development Strategy Coordination Council's recommendations, as well as approved by the Head of the Project, the Strategic project coordinator or M-platform curator, the head of the M-platform, and the head of ITMO's 2030 Development Strategy.
- 5.2.3. Winning Heads of projects who represent other organizations must be employed at ITMO University within 60 days after the results are announced. If employment doesn't occur within this time without a valid reason, the Coordination Council will deem the project unfeasible to complete.

6. APPLICATION EVALUATION METHODS

6.1. Evaluation procedure

6.1.1. Open call applications are evaluated on a 100-point scale: up to 50 points can be received for expert evaluation of qualitative criteria and up to 50 points can be received for evaluation of a Project's quantitative indicators as per the rules described below.

6.1.1.1. Qualitative criteria:

Qualitative criterion	Criterion description	Maximum points
Relevance and importance	Relevance of the project to the 2030 Development Strategy and focus of the chosen M-platform	10
	Novelty of the described problems and proposed approaches	
	Scale and complexity of set tasks	
	Correspondence of the planned results to the global level	
Resources and experience	Competencies of the project head and team: previously acquired results, experience in management and completion of projects	15
	Presence of knowledge and equipment necessary for completion of the project	
Quality of presentation and achievability	Clearly defined results	10
	Quality of planning	
	Sensibility of suggested financial plan	
	Assessment of likelihood of successful completion of the project and attainment of its planned indicators	
Impact	Understanding of the project's development logic in regards to attainment of high TRL	15
	Degree of M-platform partners' involvement	
	Measurable socioeconomic effects of the integration of the project's results and the prospects of their practical application (technology transfer and commercialization, educational export, CPD development)	
	Understanding of the specifics of specific markets (congruence with market demand and leading companies' R&D projects), availability of customers for integration of product	

6.1.1.2. Assessment of planned quantitative indicators:

Indicator category	Relevant target indicators of the Development Strategy	Maximum points
Educational activities	Number of CPD graduates, incl. online programs	10
	Number of ITMO students who received additional qualifications as part of the project's implementation	
	Number of international Master's and PhD students involved in the implementation of the project	
Research activities	Number of Q1 and Q2 publications in WoS Core Collection	15
	Number of Q1 and Q2 publications in Scopus	
	Number of highly-cited articles and reviews in WoS Core Collection	
	Number of PhD students involved in the implementation of the project on paid basis who have defended their thesis on time	
Transfer and commercialization	Revenue from the sales and usage of results of intellectual activity	15
	Volume of co-funding in the form of funds received for the implementation of research and R&D activities (without taking into account state-provided funds)	
	Revenue from externally-funded activities, including international projects	
Project's own indicators	Other indicators proposed by the project and focused on the achievement of the 2030 Development Strategy's target results and performance indicators as outlined in section 3.2.10 and Appendix 1 of the present document	10

Note: during evaluation of quantitative indicators, the Project's planned indicators are analyzed in relation to the Project's requested budget.

Appendix 1. ITMO's 2030 Development Strategy indicators and results

1.1. Development Strategy indicators relevant to the open call

№	Indicator	Unit	Plan for 2021	Plan for 2022	Plan for 2023	Plan for 2024	Plan for 2030
1	Number of graduates of CPD (continuous professional development) program including online courses (per year)	people	4,300	6,100	7,900	9,700	20,500
2	Ratio of full-time students who have acquired a CPD certificate free of charge	%	30.00	32.50	35.00	37.50	52.50
3	Ratio of international Master's and PhD full-time students	%	21.94	22.27	22.83	23.03	25.06
4	R&D volume (per year)	million rubles	3,200	3,250	3,700	3,800	5,600
5	External R&D funding (per year)	million rubles	2,995	3,045	3,495	3,590	5,370
6	The university's income from income-generating activities (external funding)	million rubles	3,405	3,507	3,612	3,775	5,429
7	Revenue from use of IPs (per year)	million rubles	3	4	5	10	60
8	The number of Q1 and Q2 publications in WoS Core Collection	number	740	775	820	865	1165
9	The number of Q1 and Q2 publications in Scopus	number	940	980	1,030	1,080	1,410
10	Highly-cited articles and reviews in WoS Core Collection during the last five years	number	55	60	68	78	175

1.2. Results of the Development Strategy's strategic projects that are relevant to the open call

Strategic project 1: ITMO.Impact

Quick wins (by 2024):

- A 30% increase in external R&D revenue;
- Development and approval (by the Government of St. Petersburg) of a plan for the development of urban digital social services by 2030;
- Adoption of at least 30 digital services based on the ITMO model by partners;
- Launch of three new certification laboratories;
- Introduction of the RoboForces platform and organization of the international ethical hacking competition CyBRICS;
- Annual addition of two to three projects with a long-term support policy on GitHub;
- Threefold increase in the number of continuing education program graduates;

- Start of the second stage of construction of ITMO Highpark, encompassing new academic (for 3,600 students) and research buildings.

Mid-term effects (by 2027):

- The ITMO Highpark Techno-Valley and Business Park begin operation, providing 12,000 new jobs and housing 40 new laboratories, including joint ones.
- Every year, 100% of the university's market-ready products and at least 10 third-party products are checked for compliance with standards of data and functional safety (ITMO.Approved).
- An IP pool, openly accessible by ITMO partners, has been formed and is updated once every 6 months.

Long-term effects (by 2030):

- A 150% increase in external R&D revenue;
- A 60-time increase in IP usage revenue;
- No less than 10 analytical industry studies every year;
- A five-fold increase in the number of graduates from continuing education programs, including online programs; programs are updated every calendar quarter; 90% of continuing education programs graduates find employment in the most dynamic (technologically advanced) market sectors;
- 300,000 new active members of the alumni community; graduates actively participating in the continuing education program make up 25% of all graduates of full-time educational programs; ITMO graduates make up 70% of all teaching staff of IT-focused professional training courses and 40% of teaching staff on courses dealing with natural and exact sciences.

Strategic Project 2: Scientific Breakthrough

Quick wins (by 2024):

- Reputation: ITMO is no longer just about IT – it's biotechnologies, chemistry, robotics, physics, bioinformatics, art & science.
- Over 50% of ITMO's PhD graduates have publications in Q1 journals.
- ITMO-affiliated publications in journals at the level of Science and Nature make up no less than 5% of Russia's total number of such papers based on ITMO staff members' share index.
- The launch of 3 tech test sites with TRL of 1-7 in collaboration with top global companies in top-priority fields of the national Scientific and Technological Development Strategy.
- 10 commercialized IPs by ITMO scientists each year.
- The launch of at least 5 ITMO partner labs and 10 Frontier labs.
- ITMO scientists as "millionaires" – ensuring the commercialization of IPs and technology transfer to the revenue of 1 million rubles to 1 million USD.
- The digital platforms Digital Avatar, Foresight Configurator, and Digital Verifier are completed and employed by the university's partners; a national quantum network has been established in collaboration with Russian Railways.

Mid-term effects (by 2027):

- ITMO researchers' papers on the covers of Science and Nature;
- A 100% increase in R&D revenue per researcher;

- Two researchers from ITMO.FAMILY are included on the Highly Cited Researchers list;
- An ITMO scientist has been named a recipient of a prestigious scientific award: Wolf Prize, Dirac Medal, Breakthrough Prize, etc;
- A paper by ITMO researchers accrues over 1,000 citations within 5 years;
- 60% graduation rate among PhD students;
- ITMO is in the top-three of the Russian Nature Index;
- The autonomous railway monitoring system Silk Road has been launched.

Long-term effects (by 2030):

- The number of successful defenses by PhD students at ITMO in natural and exact sciences amounts to at least 5% of the overall national number;
- Nobel Prize-level achievements, an actual Nobel Prize, or another scientific honor of the highest level;
- A 150% increase in R&D revenue per researcher;
- Over 60% of scientists are under the age of 39;
- At least 3% of ITMO-affiliated publications are in top-1% journals;
- ITMO is the top Russian university on the Nature Index;
- The KST-3 solar coronagraph telescope has successfully begun operation.

Strategic Project 3. Value-Based Personalized Education

Quick wins (by 2024):

- The creation of a digital teaching lab featuring a free-for-all experimental testing site (ITMO.Edu.Lab);
- 100% of Bachelor's and Master's students possess an individual learning track;
- At least 30% of students are employed at ITMO University concurrent to their studies;
- ITMO Accelerator receives at least 30 international teams every year.

Mid-term effects (by 2027):

- 20% of Bachelor's students enroll at ITMO based on their achievements in project work, entrepreneurship, sports, or creative trades (ITMO.STARS);
- No less than 60% of all graduation theses are prepared within the framework of M-platform projects;
- No less than 25% of all graduates find employment in new and rapidly-changing markets.
- ITMO University's awards its own Bachelor's and Master's diplomas

Long-term effects (by 2030):

- More than 3 million people have completed an ITMO minor or received a micro-degree;
- At least 15% of all graduation theses are done in non-conventional formats;
- At least 50% of all graduates begin employment above entry-level positions thanks to work and project experience they received as students;
- At least 50% of all graduates require zero adaptation time in new positions;
- At least 4% of all graduates have experience with entrepreneurial activity, startups, or their own businesses that was acquired during or after their studies at ITMO.

Strategic Project 4: Well-Being

Quick wins (by 2024):

- A new system for the creation of individual lifestyle, education, and career development tracks allows students and staff to reduce emotional and professional burnout;
- ITMO Highpark is the first campus to be built based on the Green Zoom standard.

Mid-term effects (by 2027):

- Every year, 30% of St. Petersburg residents within ITMO's target audience participate in events organized as part of the Well-Being project.
- The number of students regularly engaged in physical activity and sports at Russian universities has increased by 10% due to the introduction of the KronBars student sports club model.

Long-term effects (by 2030):

- 95% of students, staff, and ITMO.Family members use the digital well-being profile to receive recommendations on improving their productivity;
- Annual rotation of 10% of university staff through involvement of young professionals and increase in the percentage of staff under 39 to 50% (ITMO University is the top employer in Russia in the field of education and science when it comes to unlocking the potential of staff);
- On the international arena, ITMO University is an ambassador of Russia as a country that uses well-being technologies in higher education and academia.

Appendix 2. Project passport template

**The project was reviewed and
is recommended to be implemented by**

the decision of the Managing Council of the
_____ M-platform

Protocol from _____, 2021

the decision of the
Development Strategy Coordination Council

Protocol from _____, 2021

Project passport was specified according to
the Development Strategy Coordination Council's suggestions

PROJECT PASSPORT

TITLE OF THE PROJECT

Project No. _____

Head of the project _____ (full name, position)

APPROVED BY:

Head of the M-platform _____ (full name)

Head of the Development Strategy _____ Daria Kozlova

St. Petersburg, 2021

Short project abstract

Provide a concise abstract of your project. Maximum 1 page long.

1. Relevance to the 2030 Development Strategy

Specify which M-platform this project is affiliated with and which core technology (technologies) it focuses on. What kind of contribution to the Development Strategy's tasks and target results, including those of M-platforms, Strategic Projects, and/or Policies, does the project provide? Maximum 1 page long.

2. Project relevance: challenges, goals, tasks

Which of the university's challenges/ambitions does this project address? What is its goal(s)? Which issues does it solve? Provide a specific explanation. Maximum 1.5 pages long.

3. Project beneficiaries

List the main beneficiaries of the project (at ITMO and outside the university). List the members of the ITMO.Family you are planning to collaborate with. Maximum 0.5 pages long.

4. Key planned results of the project

List the project's key results: their description and timeline of completion. Maximum 2 pages long.

Note separately if your plans include: 1) development of IP that will be subject to legal protection; 2) development of IP that will receive patent protection in Russia and/or abroad and will be licensed to Russian or foreign organizations; 3) development of new educational programs of higher education and continuous professional development in the interest of scientific and technological development of Russia, its regions, economic sectors, and society, as well as educational programs related to the formation of digital competencies and digital technology usage skills; 4) development of software, databases, educational management systems, and other IP intended to support the university's digital transformation; 5) development of funds, crowdsourcing and other socially-minded platforms, including those that involve interactions with staff, students, and graduates of the university; 6) development of programs for academic mobility within Russia and internationally for academic staff and students.

5. Project implementation timeline. Main activities and events as part of the Development Strategy. Checkpoints

Clear and specific description of the planned activities (grouped by nature and key results) related to the project and intended for the development of a core technology and with inclusion of measurable and clear checkpoints that are subject to assessment once every 6 months. A detailed schedule including all activities is not required (however, project approval will necessitate the creation of one). There are typically no more than 10 activities. Describe the connections between activities and results achieved upon completion of each activity. Describe

which groups within the project team will work on which activity (if applicable). Checkpoints must be presented as specific accomplishments/occurrences.

In this section, you will also need to provide detailed information about events related to the project that aim not only to develop the core technology, but also accomplish tasks set by the Strategic Projects/Policies/M-platforms as per the Development Strategy, with expected dates of completion. For instance, events may aim to produce specialist teams, boost development and integration speeds, ensure transparency of processes and public trust (examples: organization of a school for partners, launch of an open course on a relevant subject, launch of a certification laboratory, etc.).

Maximum 5 pages long.

No.	Event/checkpoint	Timeline		Full name of team member responsible for implementation	Short summary
		start date	end date		
1.	Activity: <i>Name</i>				
1.1.	Checkpoint: <i>Name</i>	-		-	
1.2.	Checkpoint: <i>Name</i>	-		-	
2.	Activity: <i>Name</i>				
3.	...				

No.	Name of event	Timeline		Full name of team member responsible for implementation	Description
		start date	end date		
1.	Event: <i>Name</i>				
2.	Event: <i>Name</i>				
3.	...				

6. Project team

Describe the project team, its structure, roles, and responsibilities of each key executor. If the project involves various scientific teams, include a clear description of each team's responsibilities in regards to project activities. Specify key external executors and provide a list of ITMO students involved in the project. Describe the team's existing experience in the chosen subject matter. Maximum 4 pages long.

7. Collaboration with partners

Provide a short description of each partner's role in the project's implementation, how interactions with partners are structured, how these interactions may be accelerated (if applicable), and how mutual access to shared infrastructure and IP will be ensured. Maximum 1 page long.

8. Project performance indicators

Specify which performance indicators of the Development Strategy the project will affect. Specify (if applicable) the project's own performance indicators used to assess the effectiveness of its implementation. Maximum 1 page long.

Performance indicator	Unit	Value		
		2021*	2022*	2023*

** keep the dates that are relevant for the project*

9. Financial and economic grounds

State the total cost of the project with indicated shares of requested subsidy and co-funding through the years of the project's implementation. Indicate suggested co-funding sources. Maximum 2 pages long.

9.1. Total budget of the project

Project budget, in thousands of rubles	2021*	2022*	2023*	Total
Subsidy				
Co-funding				

** keep the dates that are relevant for the project*

9.2. Suggested co-funding sources:

List all planned and/or suggested co-funding sources.

9.3. Planned budget breakdown:

Name of payment	2021*	2022*	2023*	Total	Details
employee salary (with taxes)					XX people / XXX rubles per month * XX months = XXX salary in total
third-party services					<i>What types of services?</i>
equipment and software					<i>What kind of equipment?</i>
materials and components					<i>To be specified every 6 months</i>
travel expenses					<i>To be specified every 6 months</i>
other expenses					<i>To be specified every 6 months</i>

** keep the dates that are relevant for the project*

10. Risks and risk management

Project risks are events or conditions that will have a negative impact on the project if they occur. Indicate the key risks that can significantly influence project results. You can include both strategic and operational risks. Briefly indicate the risk management strategies and specific actions within these strategies. Maximum 1 page long.