



ITMO University Strategy – 2027

ITMO UNIVERSITY TODAY

Students, professors, researchers, graduates are:

Leaders in "Information Technology"

- Seven-time world champions in collegiate programming (ACM ICPC)
- Winners of international programming competitions including Google Code Jam, Facebook Hacker Cup and Yandex.Algorithm
- Creators of the new programming language Kotlin
- Russian Federation Government prize award winners for the development of education in the field of translational IT
- Part of the National Center for Cognitive Technologies (artificial intelligence, machine learning)

Leaders in "Cyberphysical systems"

- Three-time champions of the World Robot Olympiad (WRO)
- Winners and finalists of international and national competitions in robotics - Robocup, Robotex, Robofest and computer security - CTF
- A unique International Network Research Center for Cyberphysical systems bringing together scientists from around the world
- Developers for international companies - General Motors, Cisco, Schneider Electric, Intel, LG, Diakont, Thermex and advanced industries in Russia in the fields of nuclear power, space technology and robotics

Leaders in "Photonics":

- Creators of leading Russian centers of excellence in optics and holography, laser technologies, nano- and meta-materials
- Russian leaders in quantum technologies, creators of Russia's first quantum network
- Developers of photonic technologies for infocommunication systems of the future, transport and the space industry
- One of the key Russian participants in the European XFEL project

Leaders in "Biotechnology and Life sciences":

- Developers of the world's first -ever non-invasive blood clot removal system
- Russian leaders in the development of biochemical computers
- Winners of international awards such as Ulrich Award, ERC grant
- Creators of the soft lithography method for "security printing" applications
- Russian leaders in the development of functional food technologies, microbiological preparations for environmentally safe production and storage of fruits and vegetables

Reputation

76th place

Top-100 best IT universities on the planet in THE World University Rankings by Subject: Computer Science

Top-100 in THE World University Rankings: BRICS & Emerging Economies

57th place

Top-400 in THE World University Rankings by Subject: Engineering and Technology

Top-300 in QS World University Rankings by Subject: Computer Science & Information Systems

Top-400 in QS World University Rankings by Subject: Engineering - Electrical & Electronic

Top-100 in QS BRICS University Rankings

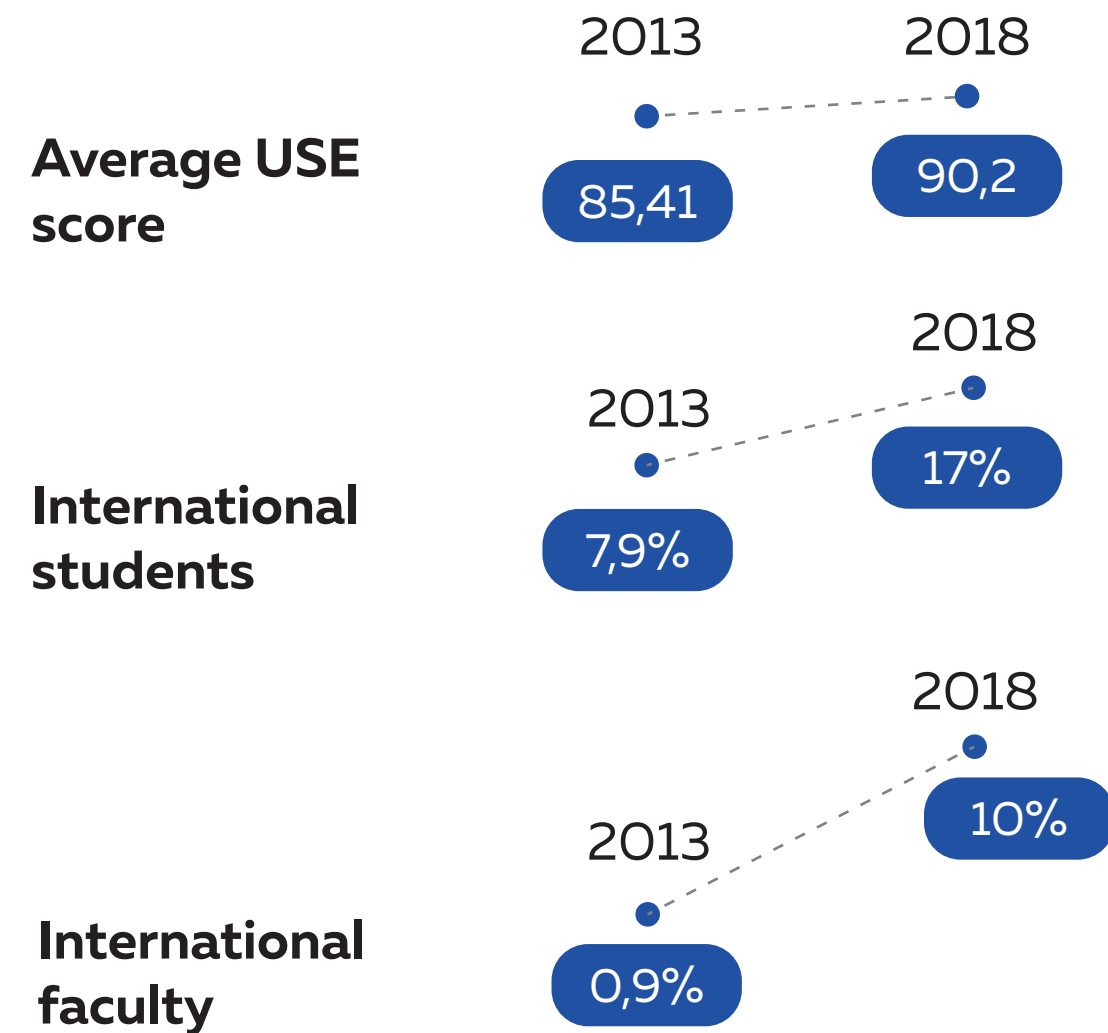
64th place

Top-400 in ARWU Global Ranking of Academic Subjects: Materials Science & Engineering

Top-300 in ARWU Global Ranking of Academic Subjects: Nanoscience & Nanotechnology

ITMO UNIVERSITY TODAY

Environment for attracting and developing talent:



4 200+
enrolled in full-time study annually

Master's students in 2018:

67%
did not study at ITMO previously

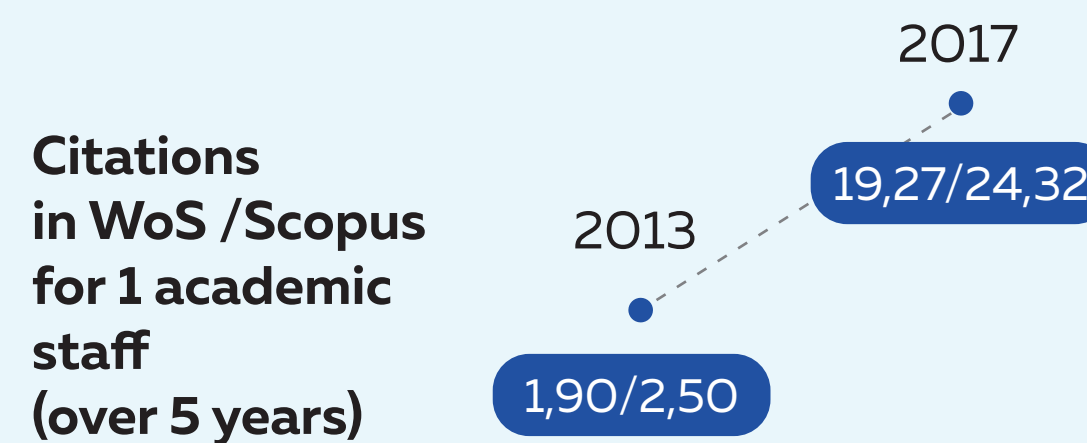
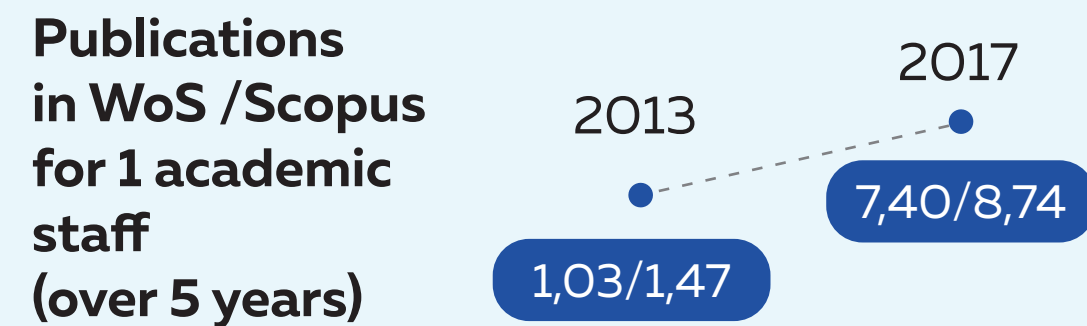
321
universities

83 regions of Russia
35 countries

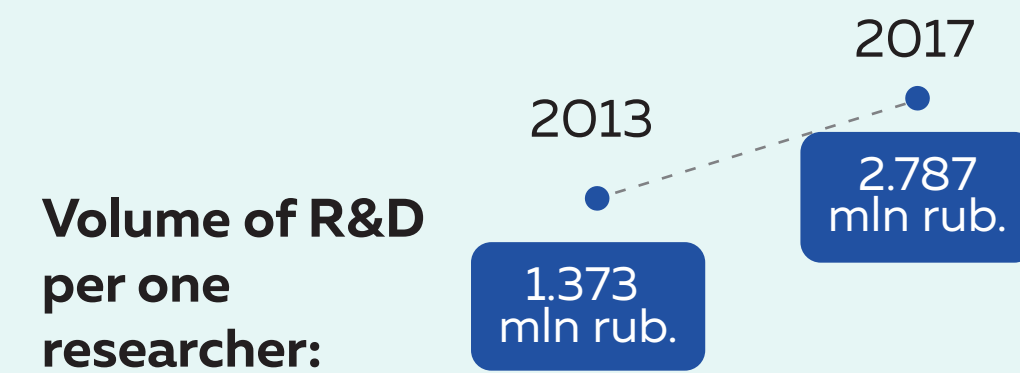
Environment for scientific growth:

30+ international research centers (IRCs)
35% of the heads of IRCs are 45 and younger

2 000+ publications in international scientometric databases annually:



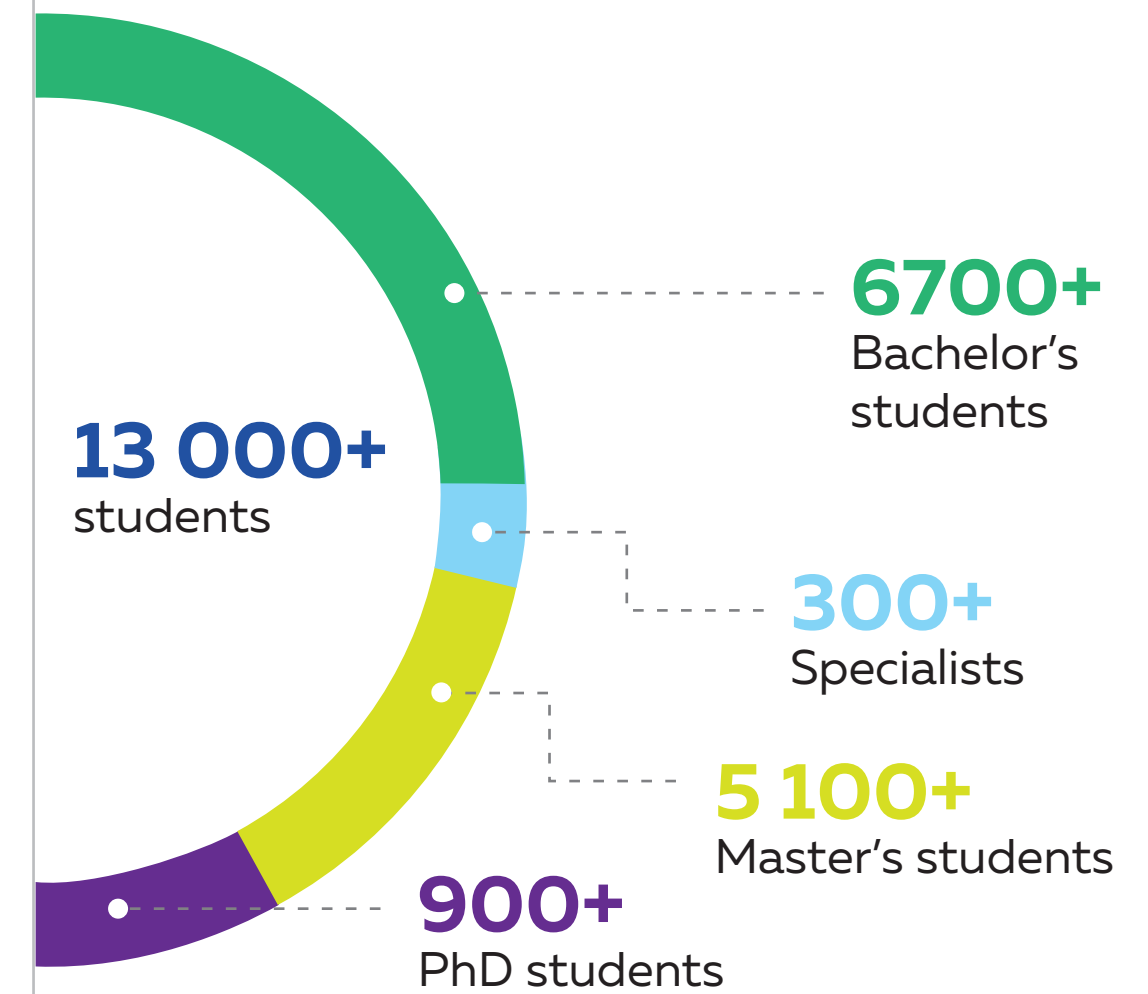
Leader among Project 5-100 universities in terms of volume of income from R&D projects per one researcher



Environment for entrepreneurship development:

- The first Russian university to sell shares in a small innovative enterprise
- Technopark, engineering center, entrepreneurship center, design workshop and lab for students (OLIMP and FabLab), 50+ SIEs
- SumIT and Future Technologies acceleration programs, FundIT fundraising school, Technology Brokering School
- The university organizes hackathons for solving business problems together with IBM, GS Group, Autodesk and others

Student body



Main Schools and Institutes :

- School of Computer Technologies and Control
- School of Translational Information Technologies
- School of Photonics
- School of Biotechnology and Cryogenic Systems
- Institute of Entrepreneurial Technologies, inc. Faculty of Technological Management and Innovations

MISSION AND STRATEGIC GOAL

Our mission

is to provide opportunities for the holistic development of individuals and to inspire them to tackle global challenges

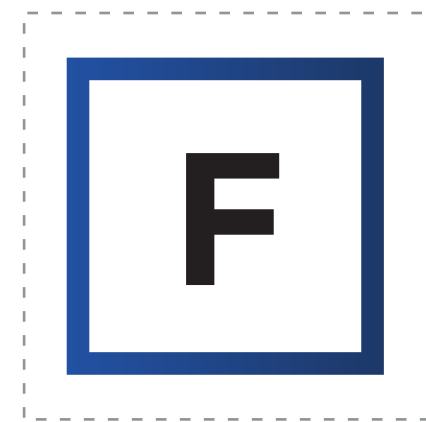
The University's strategic goal

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

ITMO CODE



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V - Values

F - Fundamental Thinking

PS - Professional Skills

SS - Soft Skills

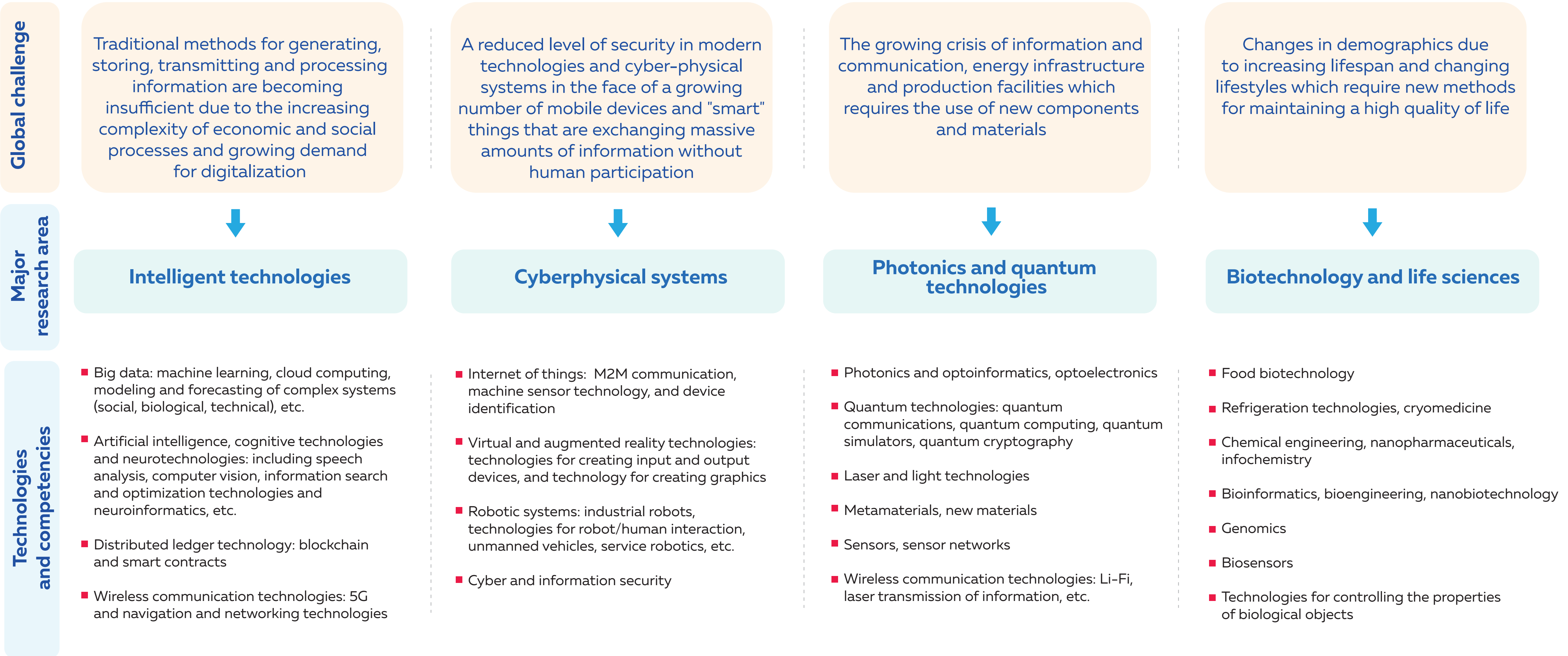
Values -
respect for the individual; integrity;
academic freedom; openness; love

Fundamental Thinking -
systematic, analytical and critical
thinking; digital culture and skills;
entrepreneurial culture and skills;
design thinking

Professional Skills -
quality; professions
of the future; individual tracks

Soft Skills -
creativity; communication;
life skills; emotional intelligence;
team work

ITMO UNIVERSITY'S RESEARCH FOCUS



PROSPECTIVE STUDENT, STUDENT AND GRADUATE IN 2027

Prospective Student

- Dreams
- Thirsts for knowledge
- Creative
- Tolerant

Student

- Values freedom of choice in education and career
- Feels responsible for the quality of their work

V

Graduate

- Able to choose future career path independently
- Ready to work anywhere in the world
- Aware of the consequences of decisions and ready to take responsibility for them

Prospective Student

- Questions, searches, double-checks
- Highly motivated
- Brave, thinks outside the box
- Tech-savvy

F

Student

- Wants to gain in-depth knowledge
- Quickly grasps new information and uses a variety of sources
- Thinks analytically and globally
- Ready to take risks

Graduate

- Looks for creative solutions
- Works in a digital world
- Ready to change their line of work at any point in life
- Thinks entrepreneurial and is not afraid to take risks

Prospective Student

- Looks for opportunities
- Focused on results
- Sees their future in technology, science or entrepreneurship

PS

Graduate

- Is an expert in his professional field, successful in science, business and other fields
- Makes decisions or influences decision making
- is a life-long learner, adapts to changes in the labor market

Student

- Creates their own educational track
- Doesn't confine themselves to one major, looks for additional skills
- Acts as a co-teacher by sharing knowledge
- Flexible and mobile within both virtual and physical spaces

Prospective Student

- Creative and communicative
- Speaks a second language
- Can work in a team

SS

Student

- Develops communicative, management and other competencies
- Studies individually and in groups, able to organize team work

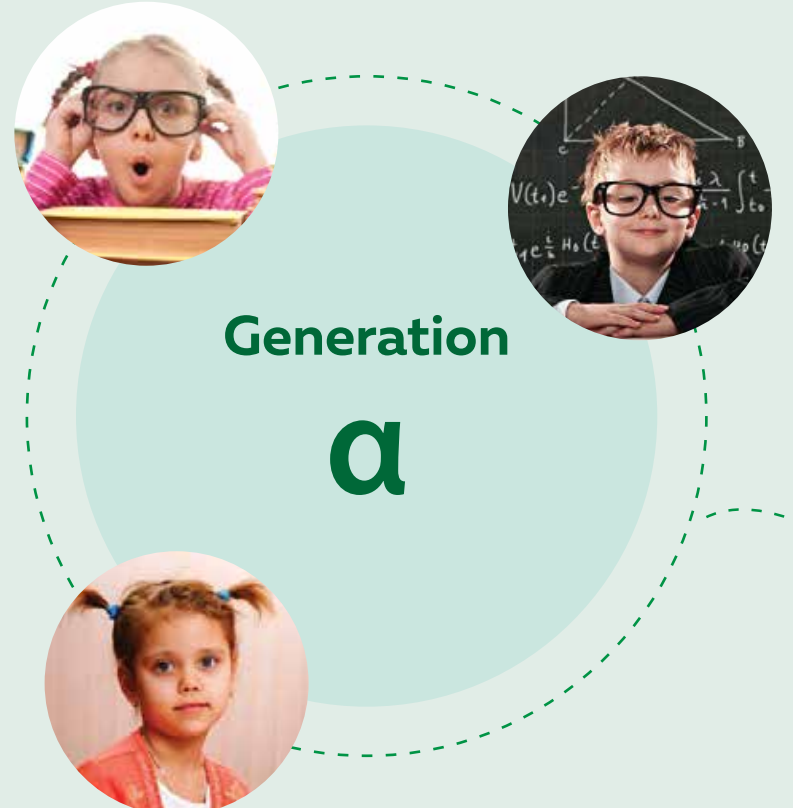
Graduate

- Works in a multilingual and multicultural environment
- Forms teams and communities, sets goals and creates new ones
- Communicative, courteous, with strong intuition and emotional intelligence

PROSPECTIVE STUDENT, STUDENT AND GRADUATE 2027

Alpha, "Google babies"

- Gain knowledge with interest when they understand its benefit
- Appreciate freedom of choice and personalization
- Struggle to concentrate, but can quickly switch between activities or tasks
- Dependent on technology, are mobile, and are always online
- Accustomed to "transparency" of information and lack of privacy



Generation
a

ONLINE EDUCATION

Bachelor's student

Master's student

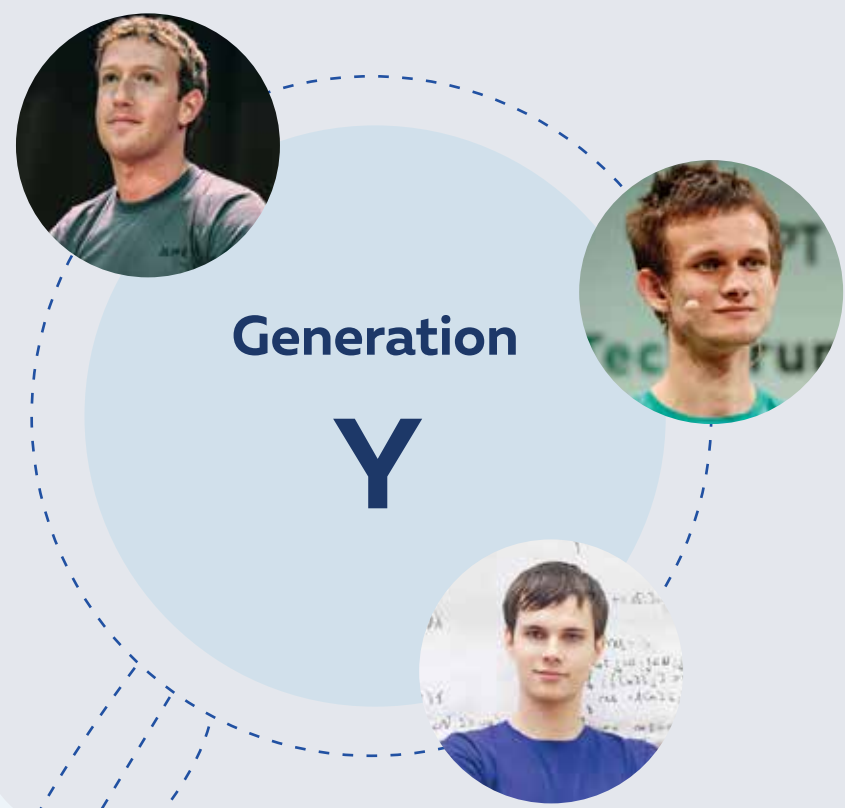
PhD student

Student participating in a continued education program

Student participating in a continued education program for children and adults

Y, "Millennials"

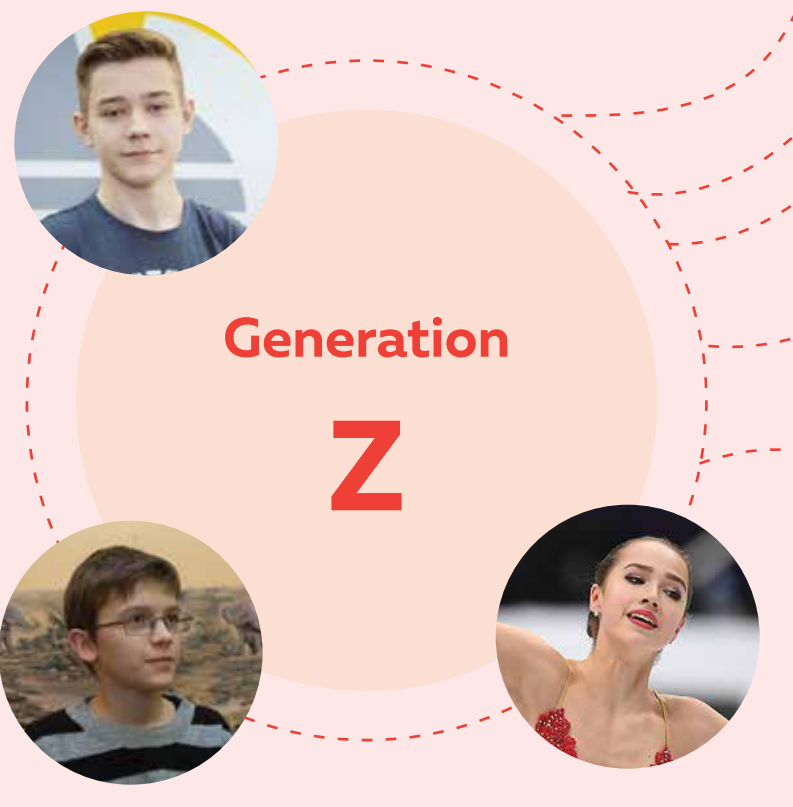
- Have rich professional experiences
- Take into account the opinion of authority figures
- Consciously choose their educational programs
- Deeply involved in digital technology
- Appreciate the possibility of self-expression



Generation
Y

Z, "Digital Generation"

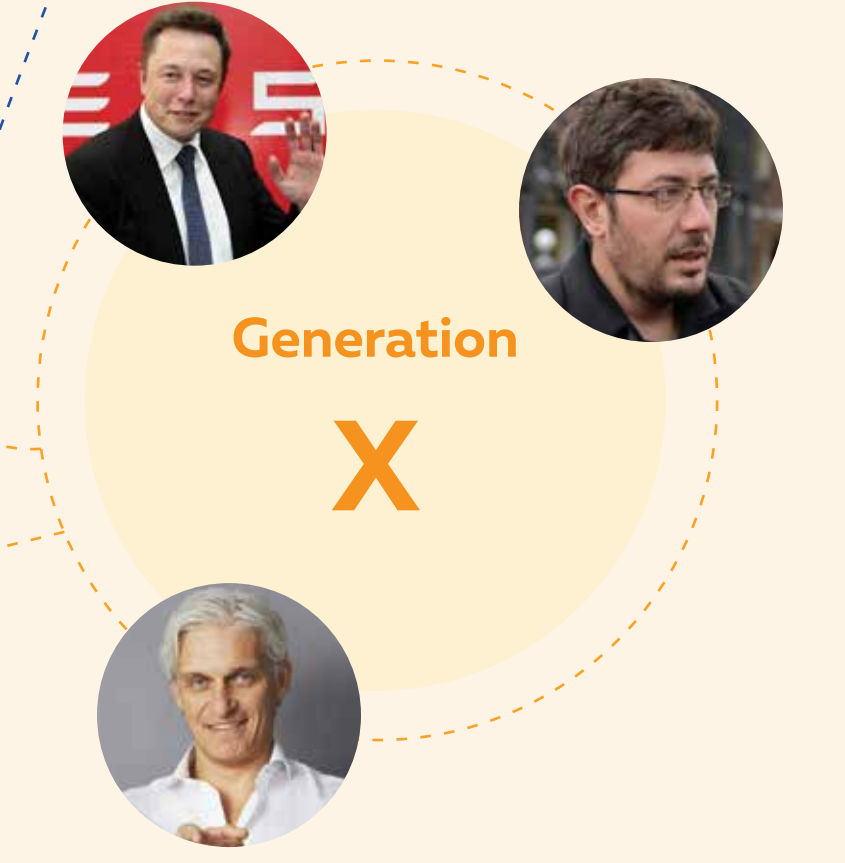
- Easily navigate in the digital world, able to work with a large amount of data
- Form their opinion on forums and social networks, social popularity is a sign of success
- Pragmatic in their choice of educational track
- Have a narrow perception of the world
- Have work experience, already from their school years; choose a job that gives them satisfaction and income and doesn't take up much of their time



Generation
Z

X

- Accomplished in their profession and experts in their field
- Strive to achieve goals and are willing to work hard for the result
- Prefer self-learning and highly value education
- Have developed the ability to think wisely and have a broad outlook

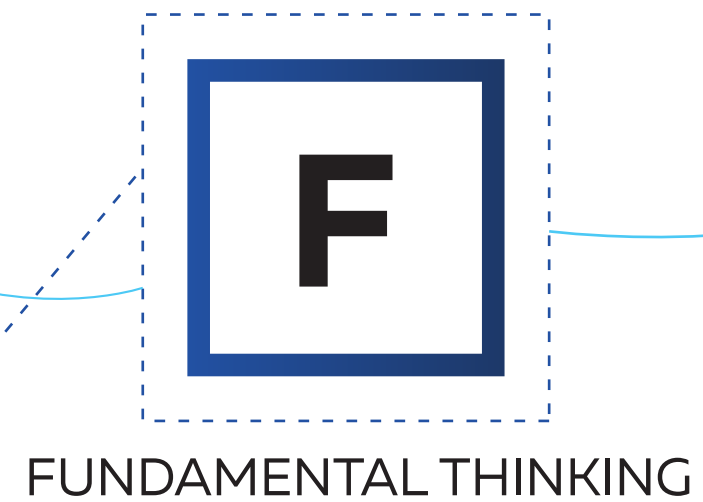
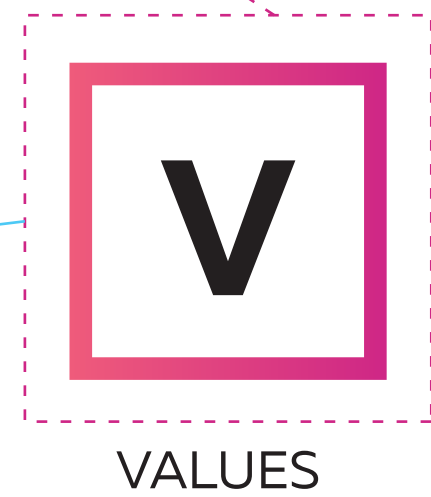


Generation
X

PROFESSOR 2027

Professor

- motivates, inspires, captivates
- observes professional ethics and transmits it to the community
- respects his/her colleagues and students
- acts as an example and an authority for students
- focuses on cooperation and collaboration
- is proud of his/her profession, and the University is proud of him/her



Professor

- has a deep knowledge of the subject
- focuses on current scientific and educational trends, as well as global and current challenges
- actively conducts research and integrates it into teaching



Professor

- is a professional; creates unique content for his/her subject, actively uses current teaching methods and approaches
- assists the students along their path to becoming a professional, supports their interests in learning new things and develops their ability to think
- helps students to design and adjust their educational tracks
- regularly participates in professional development at leading international scientific and educational centers
- participates in the professional community



Professor

- able to work in a multilingual, multicultural environment
- forms a team and a community
- able to set tasks and create new ones
- emotionally stable, able to resolve conflicts and to show empathy

PROFESSOR 2027: ROLES AND RESPONSIBILITIES

Expert practitioner:

A practicing professional with in-demand competencies, skills, knowledge in the professional field, able to organize and transfer his/her professional experience

Student:

Assistant to the lecturer; able to generate knowledge in collaboration with the lecturer or in a team, helps others develop their skills and abilities

Artificial intelligence:

Helps to analyze digital educational footprints and shapes individual educational tracks

Researcher:

Participates in international research, disseminates knowledge about advanced R&D in the field and shapes the students' research skills; integrates research methods and approaches to education

Digital educational platforms:

Blended and online learning, virtual learning environments, interactive environments



Mentor:

Consults and helps students based on their goals and objectives

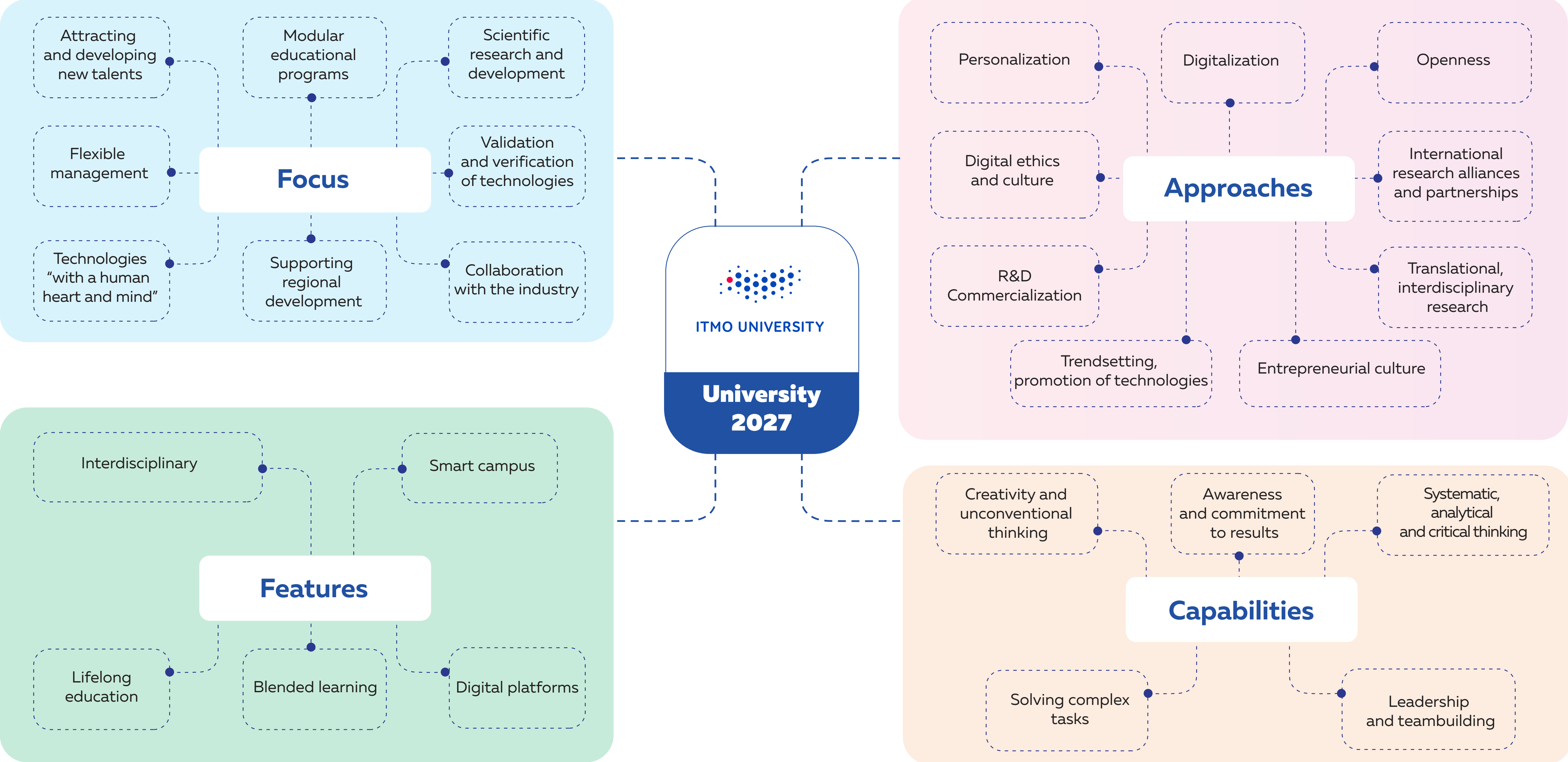
Navigator:

Helps to navigate the digital environment when searching for necessary information and choosing educational modules

Knowledge generator:

Generates new knowledge, both independently and together with students and colleagues

ITMO UNIVERSITY 2027: KEY CHARACTERISTICS



ITMO UNIVERSITY 2027: VISION

ITMO University is the home to talents from around the world

- ✓ Recruiting globally
- ✓ Comfortable environment for education, work and living
- ✓ Collaboration of the university and the city for mutual benefit
- ✓ Global agenda and answers to major challenges
- ✓ World-class educational processes and technologies
- ✓ Unconventional thinking



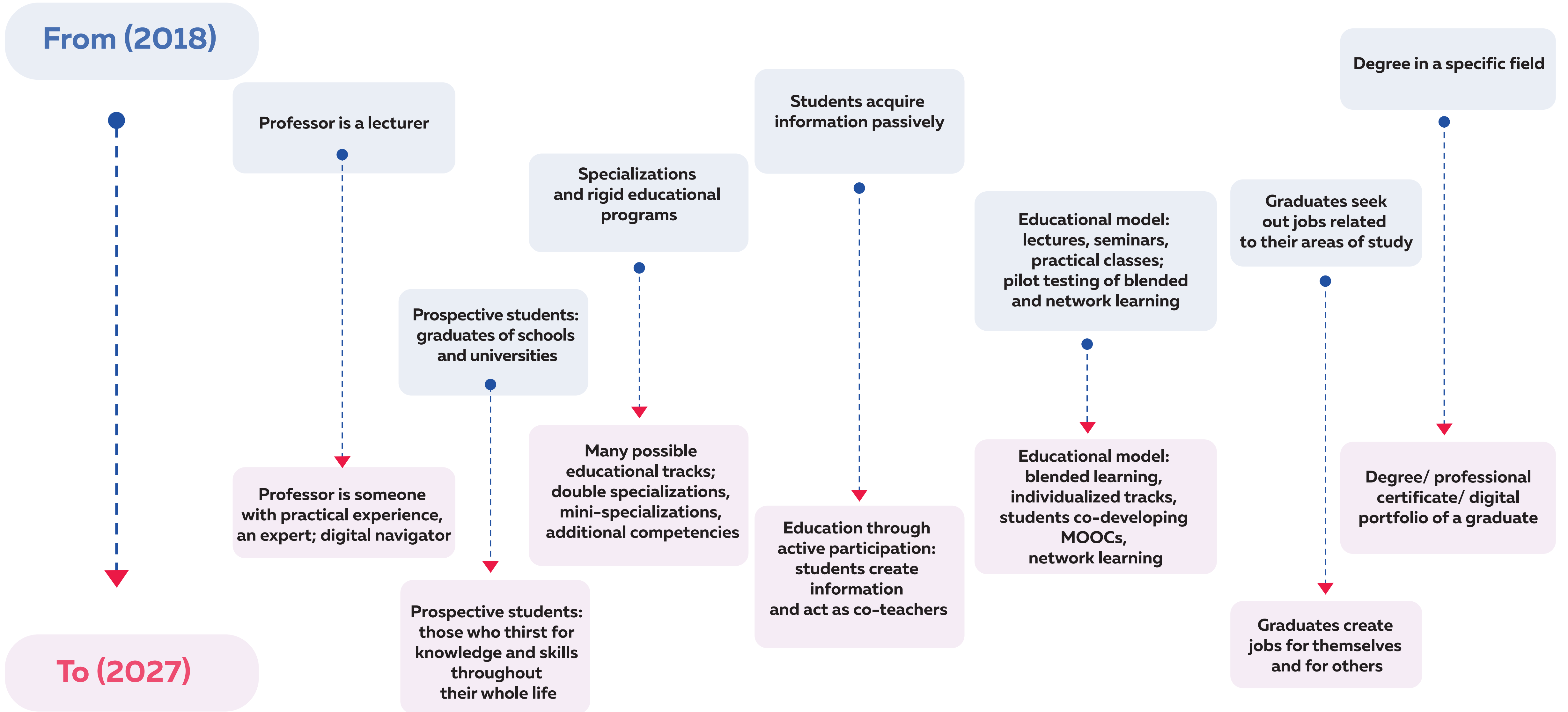
ITMO University is a leader in development and validation of future technologies

- ✓ Cutting-edge research and development
- ✓ Unique infrastructure for research and innovation
- ✓ Development and market integration of new products, commercialization of technology
- ✓ Forming new market segments with industrial partners
- ✓ Expertise in key technologies
- ✓ Forming and participating in professional communities

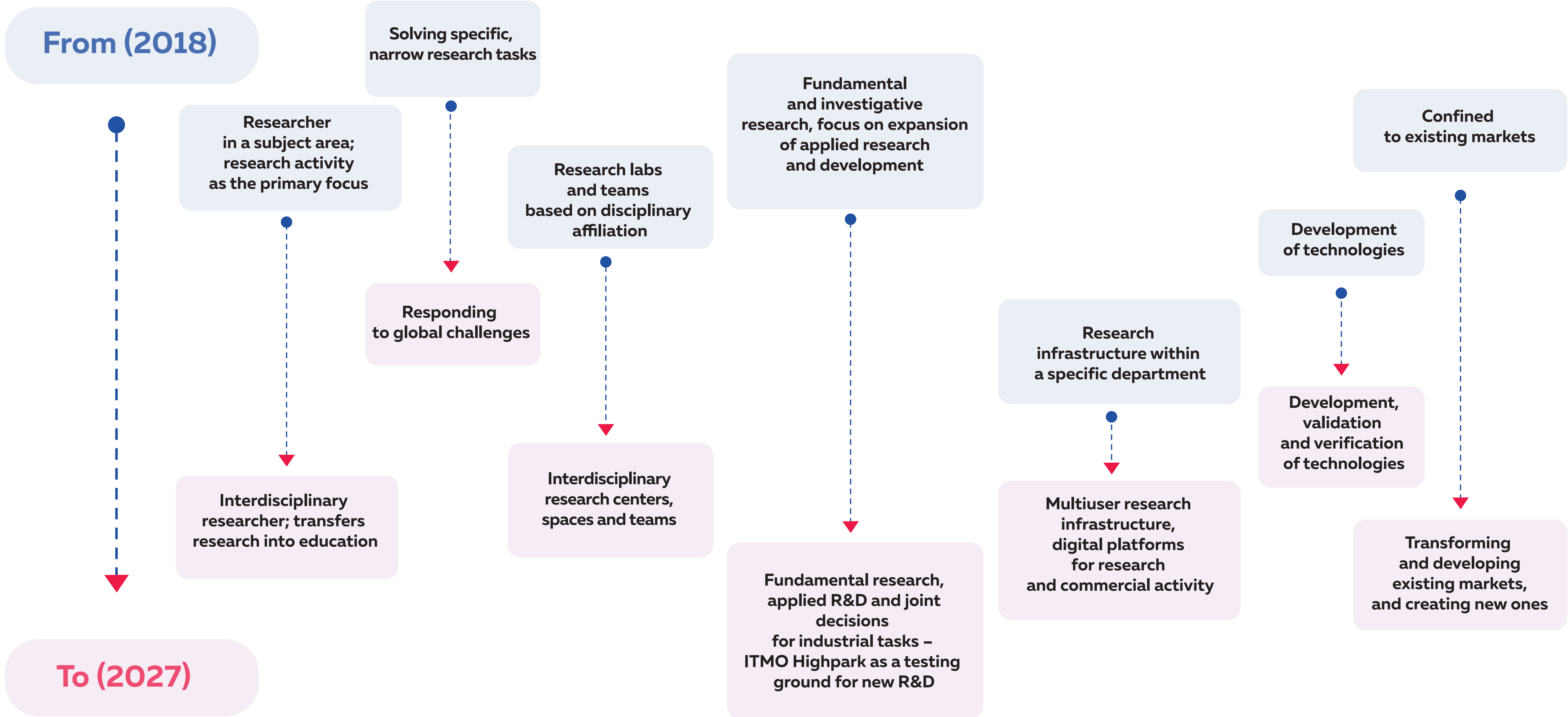
ITMO University is a leader in humanization of technology

- ✓ Development of technologies that "liberate" humans from routine work and solving standardized tasks
- ✓ Development of technologies that ensure an increase in quality of human life and expand human abilities and opportunities
- ✓ Dissemination of trustworthy technologies approved by society

ITMO UNIVERSITY 2027: TRANSFORMING EDUCATION



ITMO UNIVERSITY 2027: TRANSFORMING R&D



STRATEGIC PRIORITIES AND GOALS IN 2018-2027

Priorities

World-class education in the university's priority areas

Leadership in the university's key research and technology fields, focusing on collaboration with priority regions of the world

Building a global ecosystem to support education, research, innovation and technology in a network format

New model of the university in a digital environment: open, progressive and adaptive



Goals

- Developing a system to search for, attract, select and develop talents from around the world
- Creating an environment and new spaces for personal development
- Transforming education with a focus on personalization and choice, individual tracks, and forming competencies for the digital world
- Constant support and encouragement of young research staff through own academic degrees with global recognition
- Paramount changes in educational technologies and approaches
- Internationalization and increasing number of international students, who then return home
- Digitalization of education: digital environment, blended learning, distance learning, digital portfolios for staff and students

- Implementing breakthrough research and technologies to respond to global challenges
- Establishing network partnerships with the world's top research and educational centers in relevant fields
- Becoming leaders in cutting-edge technologies within priority areas and becoming a place of expertise and technology validation in the digital world
- Promoting cutting-edge technologies in focus areas, building trust towards technologies
- Attaining leading expert positions in major programs at national and global levels
- Supporting the economical development of St. Petersburg and the local community

- Forming partnerships with current and future global leaders based on the principles of open networking, intellectual and resource integration, and attention to cutting-edge technologies
- Commercialization and transfer of technologies in Russia, BRICS and developing countries
- Participation in launching hi-tech production with partners from Russia, BRICS and developing countries
- Developing the ITMO Family community and enhancing the university's global reputation
- Supporting and participating in professional communities and associations

- Developing a new model based on the principles of involvement and participation in managing and developing the university (staff, students and members of third parties), digitalization and transparency
- Outsourcing more of the university's functions concerning construction and property management (ITMO University and JSC ITMO Highpark)
- Strategic staff management and forming a team for the university of the future
- Developing a smart environment and university services: digitalized university processes, intelligent technologies in management

STRATEGY 2027: STAGES AND AREAS OF DEVELOPMENT

Stage 1

2018–2020

- Transforming education through ITMO Code and new educational technologies
- AI in education, digital portfolios
- Developing the suitable environment and culture for interdisciplinary research and projects
- Attracting and training research staff using new HR methodologies
- Popularization of science and technology
- Involvement in digitalization of Russia's economic sectors
- Developing National Technological Initiative centers, Research and educational centers
- ITMO Highpark

Stage 2

2021–2024

- Digital platforms and intelligent systems
- Digital certificates for graduates
- Open educational spaces, distance learning, including the use of partners' facilities
- An environment for refining technologies and competencies; startup studios and testing grounds
- Smart campus and virtual environments

Stage 3

2025–2027

- Using augmented reality to develop talents
- New roles and models for students and teaching staff
- An infrastructure for pilot testing, assessment, validation, integration and promotion of technologies in collaboration with partners
- Intelligent digital services offering access to skills and technologies
- Digital platforms designed to involve the public in setting, and achieving goals

STRATEGY 2027: BENEFITS AND PROSPECTS

STUDENTS:

- Get to study in high-quality educational programs (individualized, with cutting-edge educational technologies, modular structure, and more);
- Actively involved in creating educational content and data, serving as (co-)teachers;
- Acquire competencies crucial for employment in the modern global economy;
- Have a broad choice in terms of education and career, all thanks to a new educational model using MOOCs, digital portfolios and certificates;
- Have life-long access to education at the university.

TEACHING STAFF and RESEARCHERS:

- Follow differentiated career tracks (individual tracks and programs for personal and professional development);
- Are experts with practical experience who implement flexible educational modules and world-class research;
- Are connected to the real sector of the economy, research and educational centers, regional, national and international communities through networks.

PARTNERS and EMPLOYERS:

- Have a supply of talented employees, work-ready and equipped with skills required for today's digital economy;
- Have access to the university's data, which includes graduates' digital portfolios, information about their skills, technologies and inventions, allowing them to create effective solutions to industrial challenges and tasks;
- Have the ability to renew and improve their employees' skills using the university's resources.

THE ECONOMY, THE PUBLIC and THE CITY OF ST. PETERSBURG:

- The university assists in digitalization efforts of the Russian economy, increasing innovation activities in business, developing small and medium enterprises in St. Petersburg, the region and the country (ITMO Highpark);
- The Russian real economy is supplied with human resources capable of creating businesses and a new economy, and responding to present-day challenges;
- Results of fundamental, investigative and applied research are translated into the real sector of economy;
- The public receives expert information about developing technologies that improve people's quality of life;
- St. Petersburg, a unique city, becomes home to a new, comfortable university campus; the university is a model of the city, and the city is a laboratory that introduces advanced products and technologies in order to develop and ensure high quality of life for its citizens.