



# POLYTECH

Graduate School  
of Technology Entrepreneurship

**Master's degree and Executive programs of the Graduate School of Technology Entrepreneurship (GSTE).  
The role of GSTE in the implementation of the state project "Startup as a diploma".  
Areas of cooperation**

# GSTE — BUSINESS SCHOOL BASED ON AES DI SPbPU

## DIRECTIONS OF GSTE ACTIVITY

- Master's programs
- EMBA program
- Executive educational programs
- Summer/Winter school
- Project and consulting activities
- Facilitating the entry of entrepreneurial projects into international markets

The graduate school of technology entrepreneurship (**GSTE**) is a part of the **Advanced Engineering School "Digital Engineering"** (AES DE).



# MASTER'S PROGRAM



# MASTER'S PROGRAMS

Field of study (specialty):

## 27.04.06 Organizing and managing knowledge-intensive production

Technology leadership and entrepreneurship (international educational program)

 2 years

 Full-time

 English

- The program is aimed at training specialists in organizational and managerial activities in the direction of «Entrepreneurship in the field of advanced production technologies» with the development of applied skills for the creation and development of scientific business.
- **Who you will become:** Entrepreneurs in the high-tech sector. Intrapreneurs. The researchers of the processes of entrepreneurship.

Technological Entrepreneurship

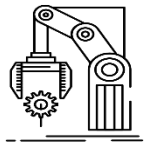
 2 years

 Full-time

 Russian

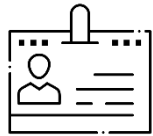
- The program is aimed at training technology entrepreneurs as well as intrapreneurs who are responsible for the development of innovation processes and projects in large companies.
- **Who you will become:** Technology entrepreneurs. Managers of innovative projects. Heads of innovative business development.

# FEATURES OF EDUCATION



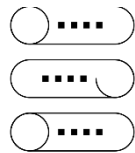
## *Project learning*

During the study students work on their own startup or a research project, including participation in different accelerator programs.



## *Foreign Internship*

Exchange semester with foreign university partners.



## *Cross-cultural environment*

Study with international students. Classes and intensives are conducted by leading foreign teachers, trainers, business angels and venture investors.



## *Individual learning trajectories*

Educational tracks "Technological Entrepreneurship" and "Intrapreneurship".

# DISCIPLINES

## I Semester

- Global business design group project (global entrepreneurship)
- Leadership, communication skills and team building
- Innovation project management
- Organization of high-tech production
- Design thinking and business models
- IP-management
- Entrepreneurial marketing / Marketing of innovation

## II Semester

- High-tech product lifecycle management
- Commercializing advanced technology and venture business planning
- Analytical methods of decision making and entrepreneurship research
- Entrepreneurial competencies development for the organization a technology venture
- Markets and technological trends of future high-tech industries
- Ecosystem of technological entrepreneurship / Innovation management and intrapreneurship

## III Semester

- Managing new venture growth and venture capital / Finance and project evaluation
- Sustainable innovation / Innovation supply chain management
- Value creation and sales / Value creation, sales and intrapreneurship

## IV Semester

- Internship. Preparation and defense of master's thesis

# CROSS-CULTURAL ENVIRONMENT



**Olaf Hauer**, International master coach  
The discipline is "Leadership, communication skills and team building»



# THE STATE PROGRAM «STARTUP AS A DIPLOMA»



# REQUIREMENTS FOR THE FINAL QUALIFICATION WORK

Final qualification work (FQW) must meet the following criteria:

**1. *The presence of a project team (startup team), confirmed by at least one way:***

- The project team members are the founders of a legal entity whose main activity is directly related to the content of the project;
- Project team members are recipients of grant(s) from the Entrepreneurship Development Institutions of the Russian Federation and / or other organizations.
- Project participants are part of a startup team - a company that is a resident of Russian or foreign Technopark or Business Incubator.
- Participants of the project team are participants of an organized project activity at the university.

**2. *There is an MVP (minimum viable product) or prototype developed.***

# REQUIREMENTS FOR THE FINAL QUALIFICATION WORK

Final qualification work (FQW) must meet the following criteria:

**3. *The project has support for the development and promotion of at least one of the following formats:***

- attracted financing;
- the presence of an industrial partner;
- revenue received;
- participation in the acceleration program.

**4. *The project has the potential for scalability.***

Supporting documents: peer review received from development institutions and/or industrial partners and/or representatives of the business community.

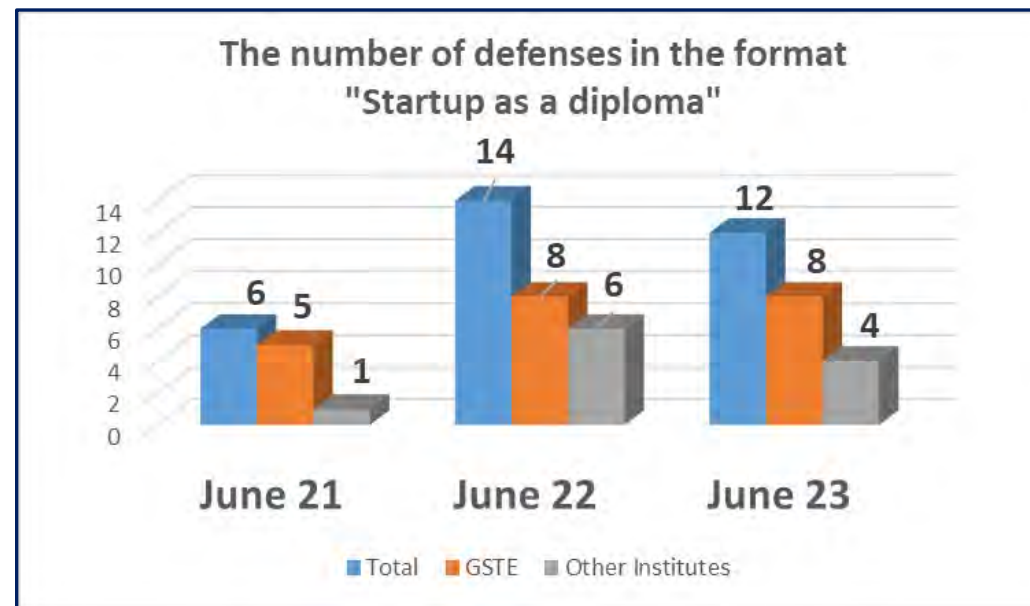
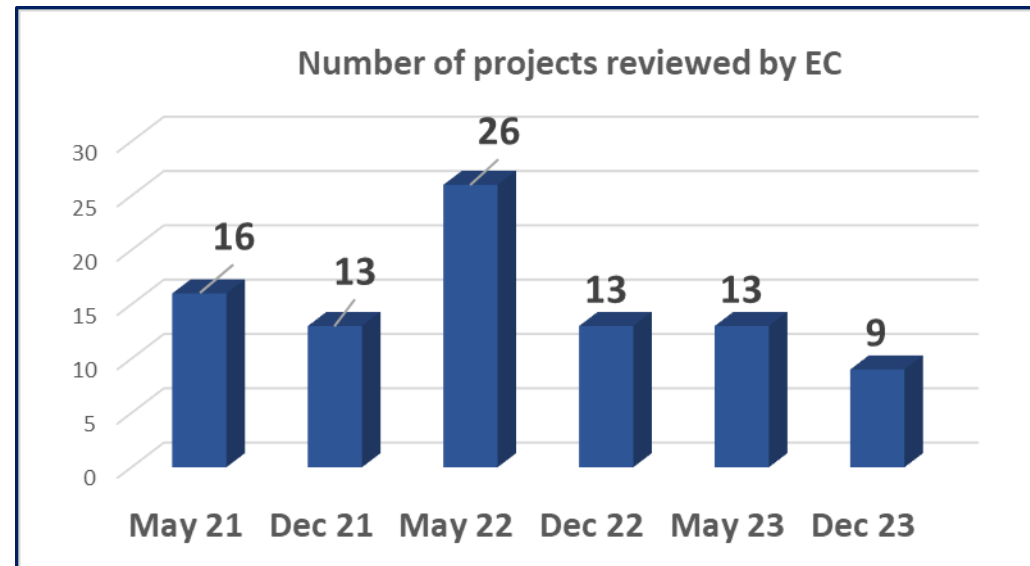
# EXPERT COUNCIL

**GSTE coordinates the work of the interinstitutional Expert Council of SPbPU for assessing the development of student startups and their preparation for the defense in the format «Startup as diploma».**

**The Expert Council of SPbPU (EC) provides assistance and support to students during the preparation of the FQW as a startup.**



Meetings are held 2 times per year: in May and December from 2021



# MEMBERS OF THE EXPERT COUNCIL SPBPU

## Industry representatives



**Soloveychik K.A.,**  
Chairman of the Committee on  
Industrial Policy, Innovation and  
Trade of St. Petersburg,  
Professor, Doctor of Sciences



**Bochtarev O.V.,**  
Director of Innovation



**Ivanov D.S.,**  
Director of Innovative  
Development



**Kiryanov E.L.,**  
Head of the Product  
Development Department of  
Gazpromneft STC LLC



**Fertman A.D.,**  
Director of the  
Department of  
Science and  
Education



**Dun Ge,**  
General Director of the  
Innovation Park of Information  
Technologies and  
Telecommunications Human,  
Professor

## University representatives



- **Borovkov A.I.,** Vice-Rector for Digital Transformation, Professor, PhD
- **Pankova L.V.,** Vice-Rector for Educational Activities, Associate Professor, PhD
- **Kadiev I.G.,** Director of the Center for Intellectual Property and Technology Transfer, Associate Professor, PhD
- **Salkutsan S.V.,** Director of the Center of APE AES "Digital Engineering"
- **Gavrushenko A.N.,** SPbPU Startup Center Director



НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ  
УНИВЕРСИТЕТ  
САНКТ-ПЕТЕРБУРГ

**Shirokova G.V.,** Professor, Doctor of  
Sciences

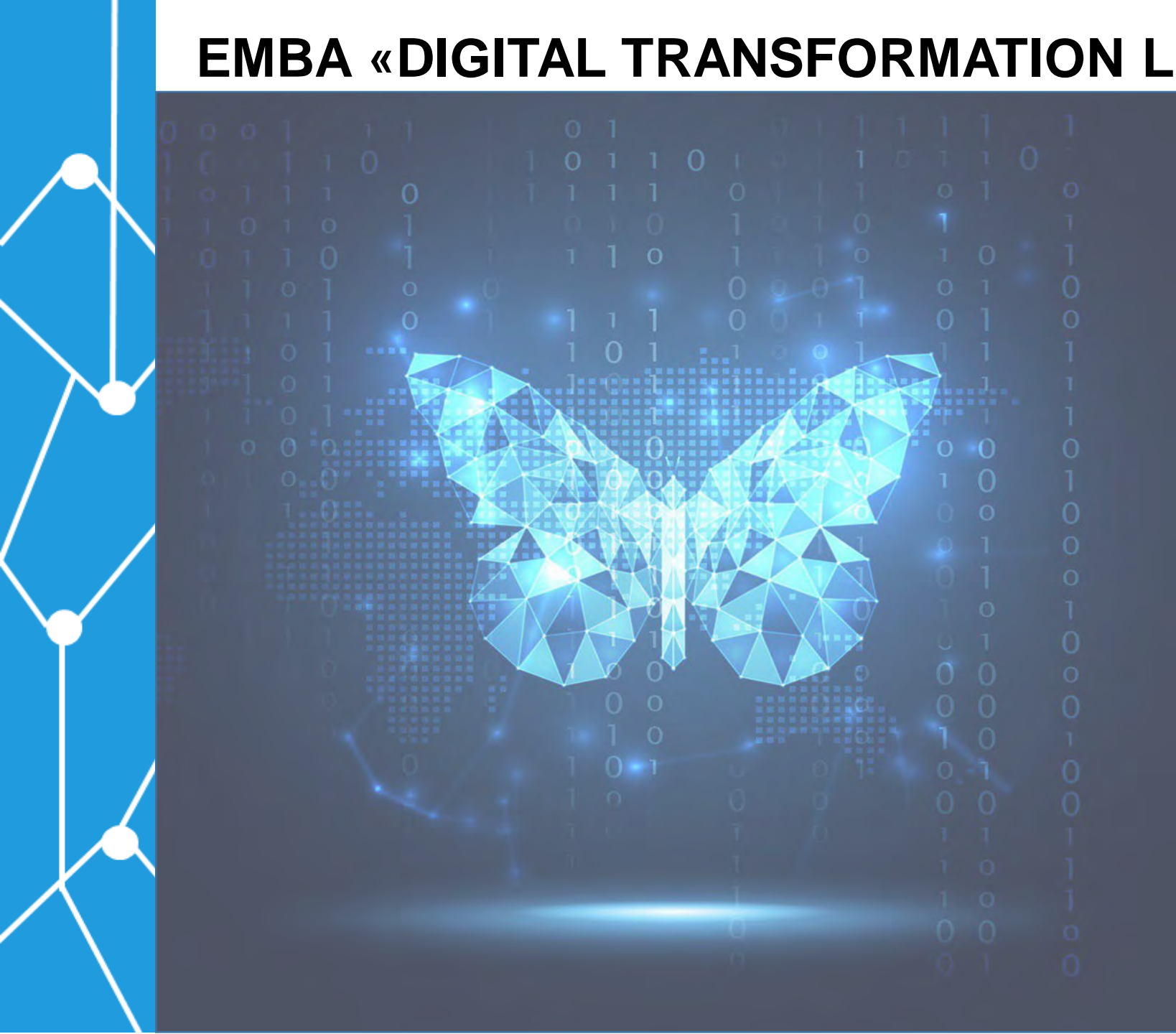
## EXAMPLES OF FCW «STARTUP AS A DIPLOMA»

- Determining a commercialization strategy for dry EEG electrode technology and developing a business model;
- Developing personal motivation platform using blockchain technology;
- Deeptech startup strategy development and IP management on the example of a technology of magnetic levitation in belt conveyor;
- Creating MVP of digital solution for leadership competences development for different types of MNC;
- EdTech: development of a gamified mobile application for teaching soft and life skills;
- Startup for the creation of production and organization of sales of furniture made of eco-friendly and recyclable materials.

# EXECUTIVE MBA PROGRAM



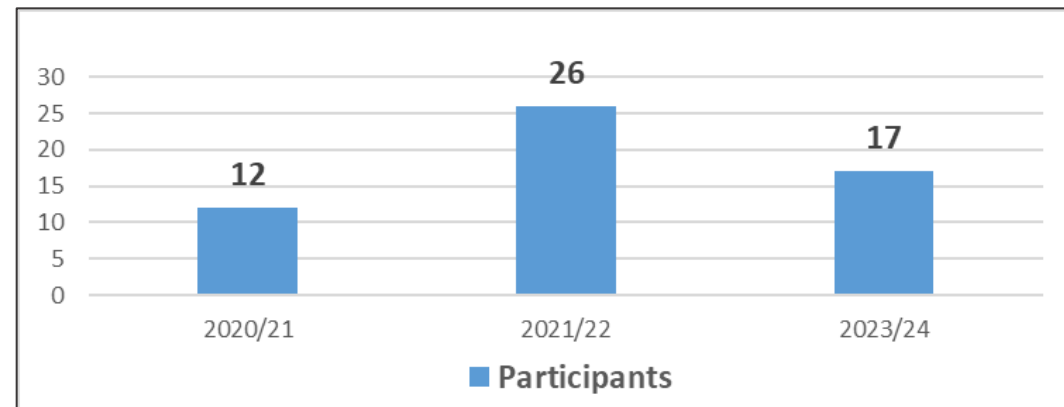
# EMBA «DIGITAL TRANSFORMATION LEADERS»



## **Mission**

Training of highly qualified leaders in the presence of organization transition to the digital economy

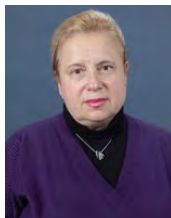
# EMBA «DIGITAL TRANSFORMATION LEADERS»



## Clients and Partners



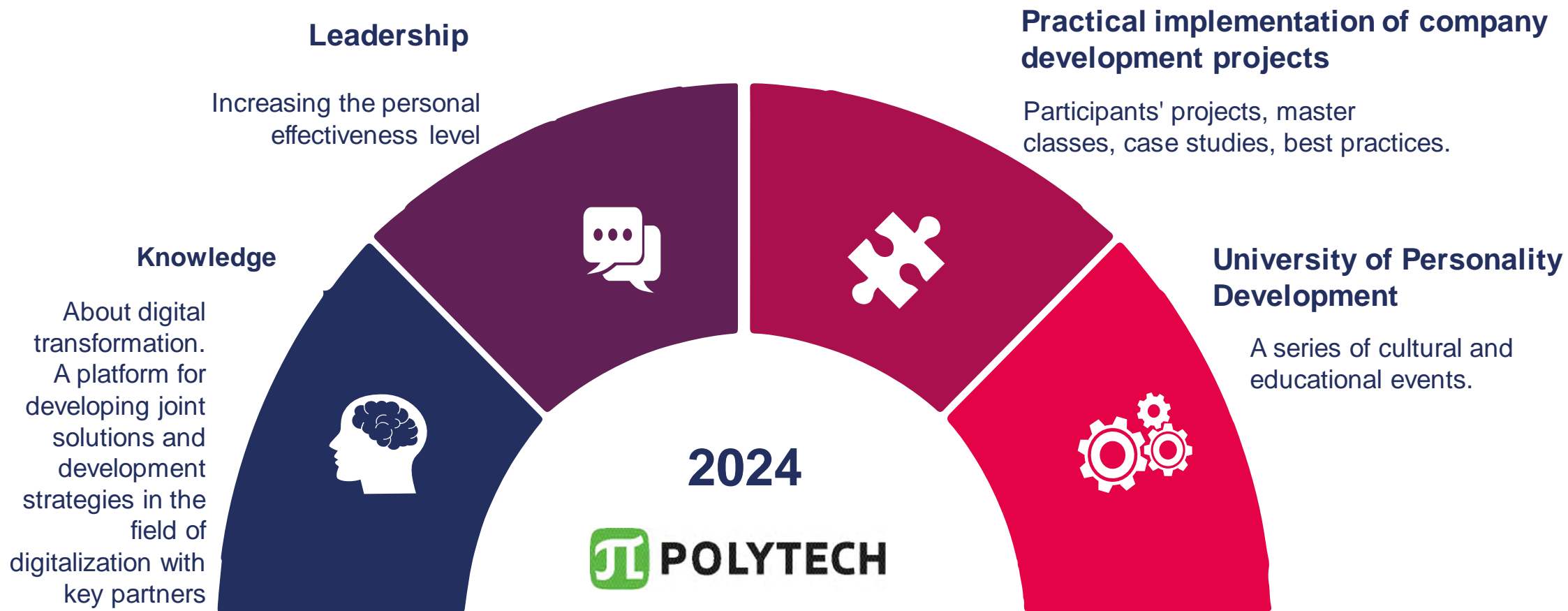
Scientific Adviser:  
Borovkov Alexey  
Vice-Rector for Digital Transformation,  
Professor, PhD



Program Manager:  
Kolossova Olga  
Professor of GSTE, Doctor of  
Technical Sciences.



# ABOUT STRUCTURE OF EXECUTIVE MBA



# ABOUT THE COMPONENTS OF EXECUTIVE MBA



## Modularity

Six academic modules supported by recommended online courses and project work.

Continuous learning process: face-to-face classes during the module and online sessions between modules.

The module includes a lecture part, master classes, work on projects, best practices and reflection.



## Project training

Work on individual projects of participants.

Business simulation, technology-thinking, foresight sessions.

Project stages defense after the end of each module with the involvement of experts.



## Evaluation

Assessment of the participant's personal readiness for digital transformation.

Evaluation result feedback for each participant.



## Mentoring work

Team work on a project with a supervisor and a curator.

Participant's Individual work with a supervisor from SPbPU and a curator from the company.



## Series of events

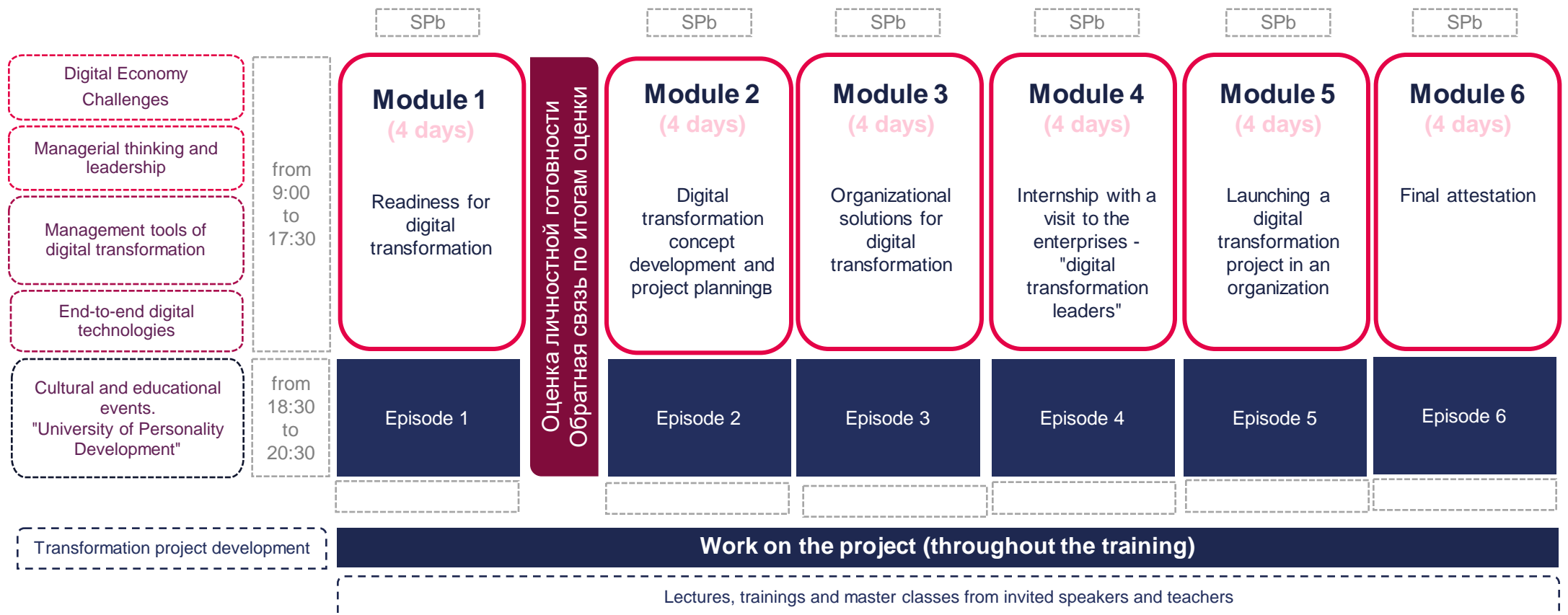
A series of cultural and educational events in addition to academic classes.

Team building through joint informal communication.

Immersion in the environment of the University of Personality Development.

# CURRICULUM OF EMBA

Key program modules cover the full management spectrum under digital economy in 12 months.



# REQUIREMENTS TO PARTICIPANTS

- Senior managers of organizations and large departments;
- University degree;
- Managerial experience at least 5 years;
- Basics knowledge of economics and management.



PARTNERS

# SHORT-TERM EXECUTIVE PROGRAMS OF GSTE AT A GLANCE

**100+**

people per year

**Corporate programs for Industry**

"Lean production management in high-tech companies", etc.

Participation as experts in the International Polytechnic Accelerator (2022), Assistance in selecting and finalizing high-tech projects for commercialization on the markets of China and India. 10 projects.

**300**

students  
**Elective course «Personal effectiveness»**  
Bachelors 1/2 year in academic year 2022/23 & 2023/24

From 10 Institutes of SPbPU

**60+**

people per year

**Programs for university staff (SPbPU, SevSU, PGUPS and etc.)**

- "Interactive teaching methods under education digital transformation"
- "Soft-skills of a tutor of the 21st century: personal effectiveness"

**55**

students

**"Flexible Agile approaches in team management", "Moderation and facilitation"**

Students of SPbPU in academic year 2022/23

Seminar for staff of **Fatih Sultan Mehmet Vakif University**», 2022 and 2023, (Istanbul, Turkey): 20 people.

Using the tools of the inventive problem solving theory (IPST) to increase the level of personal effectiveness of staff of FSMV University

**20**

students

**Program for students «Entrepreneurship in Digital World»**

Students of SPbPU in academic year 2022/23

# INTERNATIONAL SUMMER/WINTER SCHOOLS

329

INTERNATIONAL  
STUDENTS

(China, Italy, Iceland etc..)

6

Programs

Since 2021

Since 2021, 6 short-term international schools in English have been held online:

- 1) «Technology Entrepreneurship» (2 schools): 25 participants.
- 2) «Supply Chain Strategy Development and Deployment» (2 schools): 141 participants.
- 3) «Cross-cultural School on Marketing and Entrepreneurship» (2 schools): 147 participants.

# SUPPLY CHAIN STRATEGY DEVELOPMENT AND DEPLOYMENT





# PROGRAM KEY ELEMENT

## Business Simulator



### Dmitriy Gavrilov

- Operational management coach;
- CPIM, CSCP, CLTD, SCOR-P;
- The Fresh Connection Instructor;
- Former
  - APICS Master CPIM Instructor;
  - APICS Lead CSCP Instructor;
  - APICS Associate CLTD Instructor;
  - APICS Associate Instructor Training;
- Member of APICS.

### The Fresh Connection

the unique role-playing Internet business simulator in the field of Supply Chain & Operations Management.

#### ***The key components for achieving result are:***

- involves participants in the process of making strategic decisions in the company management;
- working in four people teams, participants represent functional roles: sales, procurement, supply chains and operations;
- different situations both in real life and in real time;
- cross-functional collaboration, team work and understanding of the supply chain.

**The Fresh Connection** allows to focus on the following topics:

- Internal interaction and integration;
- Sales and operations planning (S&OP);
- Supply Chain Strategy;
- Supply Chain Risk Management;
- Management of Global and Local Supply Chains;
- Sustainability;
- Supply Chain Finance;
- Supplier Development;
- Lean Production;
- Production layout;
- Capacity Management;
- Demand Management.



# DIGITAL LEAN

# DIGITAL LEAN



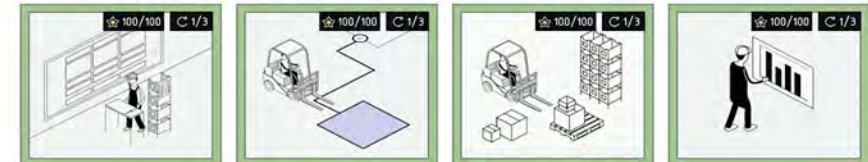
The purpose of the simulator is the optimal business processes organization of an enterprise with a maximum market orientation

## PARAMETERS


- 10 TASKS that will help you deal with the main types of production losses
- 90 TOOLS and SOLUTIONS demonstrating examples of effective solutions in the LEAN implementation process
- 27 ANALYTICAL FORMS to see the benefits of implementing lean manufacturing approaches
- 300 INDICATORS of virtual space



## SIMULATOR TASKS

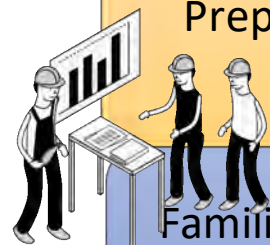


# SIMULATOR TASKS

 Identification of leaders of future transformations

Increasing support for the idea of developing lean manufacturing

Preparation of key workers for the launch of the project



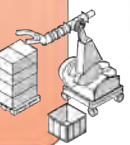
Familiarization with the main tools of lean manufacturing



Demonstrating the Benefits of Lean Manufacturing Practices

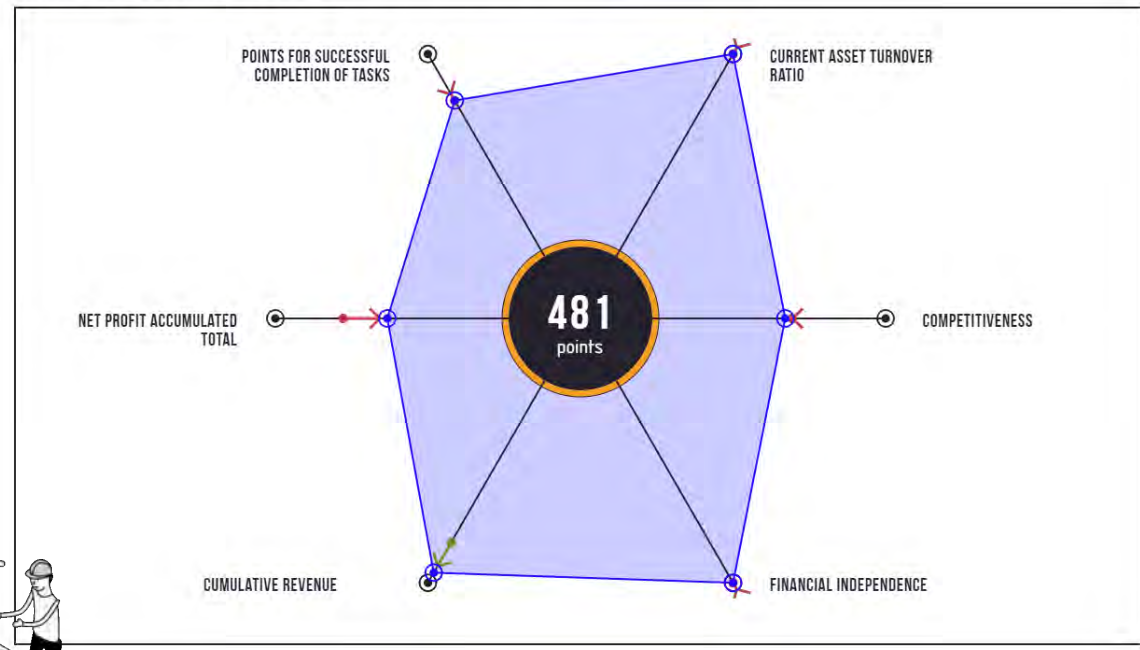


Involvement in the active phase of development of the production system

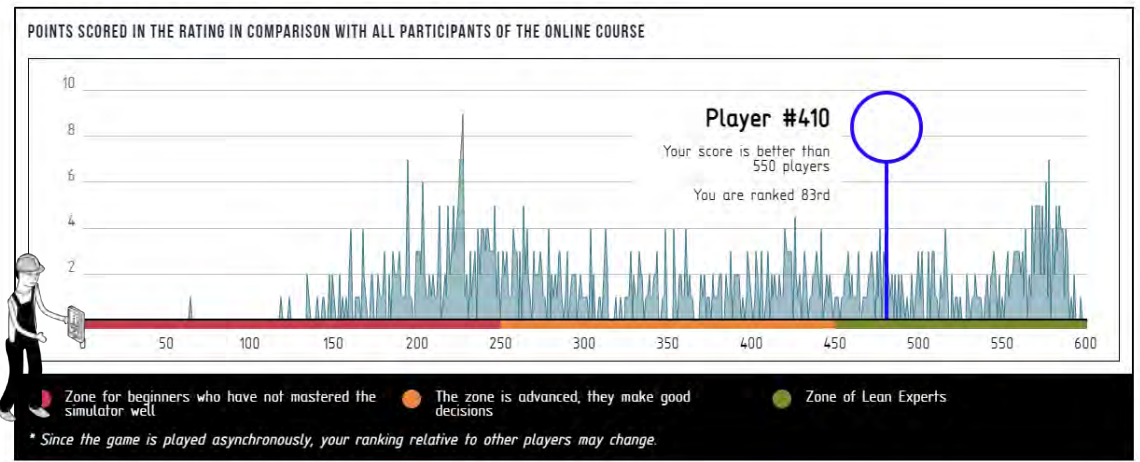


## ANALYSIS OF GAME RESULTS

SHOW THE RESULTS OF THE COMPLETED TASK



## RESULTS ACHIEVED IN COMPARISON WITH OTHER PLAYERS





# LIST OF POTENTIAL SHORT-TERM PROGRAMS

## **Leadership**

- leadership under the digital transformation of industry;
- Team building, negotiations;
- Professional communication moderation technology in project teams of high-tech companies
- Emotional leadership.

## **Management**

- Digital transformation of industry and strategic innovation management;
- Mentoring;
- Project Management.

## **Sales and Marketing**

- Marketing of Innovation Products.



# LIST OF POTENTIAL SHORT-TERM PROGRAMS

## **Digital Transformation and Innovation**

- Practical Tools for a Blue Ocean Strategy Development
- Technomoderators;
- Introduction to Digital Transformation;
- The organizations of the Future;
- From Idea to Product. A Workshop on the Use of Design Thinking Tools
- Design thinking in project development

## **Operation Management and logistics**

- Basic of Lean Production;
- Lean production management in high-tech companies
- Supply Chain Management.

## **Advanced manufacturing technologies for business**

- Future Fabrics (MOOC);
- Big data and Predictive Analytics;
- AR-VR Technology and Gamification;
- Digital Design and Modeling; Additive Technologies.

# PARTNERS

## ACADEMIC



Skolkovo Institute of Science and Technology



The Moscow Institute of Physics and Technology



Kaliningrad State Technical University

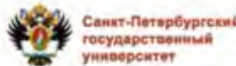
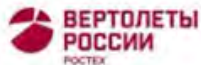


Pskov State University



Fatih Sultan Mehmet Vakif University (Istanbul, Turkey)

## ALSO:



## CORPORATE



SPbPU COMPUTER-AIDED ENGINEERING CENTRE OF EXCELLENCE




## **DIRECTIONS OF INTERNATIONAL COOPERATION**


- **Implementation of individual disciplines of a partner university in a master or long-term executive curricula programs;**
- **Academic Mobility (students and tutors);**
- **Joint educational programs both full-time and distance incl. double degree (MSc, EMBA, Executive Programs);**
- **Conducting joint business events (summer/winter schools, start up competitions, acceleration programs for entrepreneurs, business meetings to establish mutual beneficial contacts between Russian and foreign companies).**



# CONTACTS

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