

A Unique New Center of Excellence in New Manufacturing Technologies Established in Russia



A Centre of Excellence in New Manufacturing Technologies of the National Technology Initiative (NTI) has been established at the Institute of Advanced Manufacturing Technologies of the Peter the Great St. Petersburg Polytechnic University (SPbPU), an institution participating in the [5-100 project](#).

On February 9, Alexey Borovkov, vice rector for advanced projects of SPbPU, co-leader of the Technet working group of the National Technological Initiative (NTI), said at a press conference at TASS that the key task of the Center would be to "quickly assemble project consortia to respond to the challenges of the high-tech market." "Interaction of teams with unique scientific, educational and business competencies leads to a synergistic effect that can ensure the global competitiveness of the Russian industry," he said.

Experts note that such tasks fully correspond to the key goals of the Scientific and Technological Development Strategy of the Russian Federation. In particular, among the Center's main activities are digital design and modeling, development of "digital twins" of products and production processes, additive technologies, application of new materials, robotics, big data and the industrial Internet.



The decision to establish the center at SPbPU was made following the results of an All-Russian competition held by the Russian Ministry of Education in December 2017. The competition involved 70 national universities and scientific organizations that were selected as a Center for one of the 10 "cross-cutting technologies" whose development will enhance the global competitiveness of leading Russian high-tech companies and contribute to the formation of the NTI new markets.

To implement the NTI Center of Excellence program, a Project Consortium has been established at the SPbPU Institute of Advanced Manufacturing Technologies and includes 34 participants: 12 universities (MSU, St. Petersburg State University, etc.), large industrial high-tech enterprises (Rostec, UAZ, etc.) as well as relevant scientific organizations (China Automotive Technology and Research Center, All-Russian Scientific Research Institute of Experimental Physics, etc.), small innovative companies and development institutions.

According to Sergei Matveev, director of the Department of Science and Technology of the Russian Ministry of Education and Science, such NTI Centers of Excellence and the consortia formed by them "should become a comfortable and convenient Business Entry Point to help find up-to-date relevant services, competencies and technological solutions for the development and testing of innovative products."

SPbPU is participating in Project 5-100 aimed at improving the competitiveness of the leading universities of the Russian Federation among the world's leading research and education centers. As part of this Academic Excellence Initiative, multidisciplinary scientific research, world class

technology and knowledge are created.



The University actively develops conceptual framework for the mapping of management and organization of business processes for the entire lifecycle of a product in all industries, dramatically increasing the efficiency of design, preproduction and production stages, including the solutions for highly customized products. SPbPU's task is to advance on domestic and foreign markets.

While participating in the Project 5-100, a university-type testbed was established at SPbPU to demonstrate the use of advanced technologies, operation of Digital, Smart and Virtual Factories of the Future, as well as the implementation of the University 4.0 educational model to solve science-intensive challenges of the modern high-tech industry.