

BRICS Smart Cities+: SPbPU identifies the best youth projects in the world at a competition in India

Peter the Great St. Petersburg Polytechnic University visited Lovely Professional University (LPU, India). The visit was multitasking and included the organization of a large-scale international competition, participation in key scientific forums and the launch of new joint educational initiatives. Olga Ergunova, Associate Professor of the IIMET Graduate School of Production Management, presented Polytechnic University.



The central event of the visit was the organization of the finals and the award ceremony of the II International Competition of Projects for Students and Young Scientists «SMART CITY 2030: Managing Sustainable Development of BRICS Cities», which took place on November 28, 2025 at the Lovely Professional University campus.

The competition is organized by a consortium of leading universities: SPbPU (Russia), LPU (India), Tsinghua University (China) and the Federal University of Rio de Janeiro (Brazil). Its mission is to support youth initiatives in the field of sustainable urban development, the introduction of smart city technologies, the formation of a comfortable urban environment and the modernization of urban

infrastructure.

This year, the competition was held in India for the first time and brought together talented young researchers from the BRICS+ countries (Brazil, Russia, India, China, South Africa, Iran, Indonesia, Belarus, Kazakhstan, Malaysia and Vietnam). The event was held in a hybrid format, and the participants presented projects in four key areas:

- Development of the intellectual and creative potential of cities.
- Creating a safe and environmentally friendly urban environment.
- Implementation of digital services and technologies.
- Development of the energy and transport infrastructure of the future.

The Expert Council noted the high level of elaboration of the analytical part, innovative solutions and focus on sustainable development.



The Grand Prix of the competition was won by five teams, whose projects were recognized as the most promising:

- The SPbPU (Russia) team consisting of Daria Gunbina, Nikita Gavrilchik, Stanislav Konovalov and Santoso Muhamad Qohhar Dwi — for the project of an intelligent waste monitoring and management system based on smart containers, using sensor technologies and data analytics to optimize the

collection of recyclables.

- The Tsinghua University team (China) is responsible for the SpecAI AI platform based on LLM for accelerating and verifying construction specifications, ensuring transparency and efficiency in the implementation of urban infrastructure projects.
- Lovely Professional University Team (India) — for the project of comprehensive modernization of the urban infrastructure of Delhi, combining energy, water and transport management for the sustainable development of the metropolis by 2030.
- The team of the Federal University of Paraíba (Brazil) — for the concept of «Energy Urbanism», which uses environmental and tax mechanisms to promote energy efficiency and sustainable urban policies in Natal.
- The Universitas Indonesia team (Indonesia) — for the project «Dukuh Atas TOD Towards Seamless Mobility», which forms a model of seamless mobility and integrated urban transport in Jakarta.

The top spots were taken by the ten strongest projects, which included:

- Green Shield (Serendipity MBA School, Shenzhen University, China) is an AI-based digital ecosystem to reduce the effect of heat islands.
- Autonomous Intelligent Waste Containers (Universidade Federal do Rio Grande do Sul, Brazil & SPbPU, Russia) — autonomous AI containers for optimizing waste collection.
- Smart Parking (ITMO University & SPbPU, Russia) is an intelligent parking system with predictive analytics.
- SIPANTAU (University of Brawijaya, Indonesia) is a regional inflation forecasting system using the Random Forest algorithm.
- Digital Twin Mobility (University of Da Nang, Vietnam) is a platform that combines IoT data and AI to optimize transportation.

Olga Ergunova spoke at the plenary session of the AICGS-2025 Global Summit dedicated to international scientific cooperation, academic mobility and sustainable development, and also participated in the expert sessions of the 4th Annual International Conference «Rethinking Internationalization: Shaping the Future of Higher Education Together», as well as delivered an open lecture for students.



The visit included a visit to the campus of Chaudhary Charan Singh University (Meerut), one of the largest public universities in Uttar Pradesh. During the meeting, they discussed expanding cooperation and launching student mobility programs, including short-term schools, internships, and joint research projects for graduate students and young scientists. Special attention was paid to the opportunities for Indian students to participate in international competitions and projects of SPbPU, including initiatives in the field of smart urban development.

The final of the competition and the working visit of the SPbPU delegation clearly demonstrated that the university is one of the key drivers of international scientific and educational cooperation within the framework of BRICS+, creating an environment where innovations for the cities of the future are born and supported.

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