

## Polytechnic research groups held talks with the Hyundai Research and Development Division

On March 23 the delegation of the leading Korean car manufacturer Hyundai visited Polytechnic University. The delegation included both specialists from the Russian branch, Hyundai Motor Manufacturing Rus, and colleagues from the parent company, Hyundai Motor Company, located in South Korea. Hyundai R&D Center in Namyang was presented by the Head of Part for Exterior and Powertrain System Plastic Materials Development Team Jong Hyun KIM.



The meeting was entirely devoted to the development of cooperation in the areas of interest to the research group led by Mr. KIM, including lithium-ion batteries, metallic and polymeric materials and technologies, and corrosion resistance.

During the negotiations Russian and foreign colleagues from Hyundai had an opportunity to get acquainted with the main areas of research and key competencies of SPbPU research groups in the field of optimization of vehicle construction, design, component development, materials of car exterior and interior. Daniil ALEXANDROV, an engineer-researcher at the Laboratory of Synthesis of New Materials and Structures, presented the developments of the

IMM&T team in the field of creating lithium-ion batteries for electric vehicles, including electric trucks. These developments are conducted on the basis of the joint research site of SPbPU with ENV and NEMTRI companies located in China. The traction battery developed by the team is already being tested for use in KAMAZ trucks. Polytechnic researchers offered their Korean colleagues to consider a project to develop lithium-ion batteries for Hyundai vehicles.



Another SPbPU project in cooperation with KAMAZ is the first Russian electric car, KAMA-1, which was developed from scratch by the team of the NTI SPbU Competence Center based on digital twin technology and unique CML-platform solutions. Alexei TARASOV, lead engineer of the CompMechLab® at SPbPU, told Hyundai representatives about it in detail. Special interest of the Hyundai representatives was aroused by the CompMechLab® competence in design optimization of the automobile through computer analysis and engineering and the parties agreed to continue the discussion.

Alexey ALKHIMENKO, Director of R&D Complex "New Technologies and Material", presented the main activities of the complex, focusing on the approaches to development and research of materials created in SPbPU laboratories.

*"Hyundai Motor Company is one of the leaders in car production in Russia. The issues of localization, transition to Russian components and materials are particularly acute. We are ready to help our Korean colleagues with this. I am sure*

*that our projects will be the first steps on the way of wide interaction between Polytechnic University and Hyundai Motor Company on different topics,” Alexey ALKHIMENKO emphasized.*



In continuation of the visit, representatives of Hyundai Motor Manufacturing Rus visited the Laboratory of Light Materials and Constructions, where Deputy Director for International Affairs of IMM&T, Associate Professor Anton NAUMOV told about a unique installation for pulsed friction stir welding and the possibilities of creating new functional materials.

The final part of the program of the delegation's visit was a visit to the Polytechttest Center. Its head Mikhail ANTONOV presented the center's key scientific activities and its extensive technical capabilities in the field of mechanical testing, metallographic, and other material research.

*“Polytechnic University performs breakthrough research. Your advantage is that you can implement all stages of research in one place, using the resources of a supercomputer and other advanced technologies. This applies to design, new materials, and control systems. You have great opportunities. For our part, we are interested in cooperation with SPbPU,” said Mr. Jong Hyun KIM.*

Prepared by the SPbPU International Office

**For reference:**

Cooperation between SPbPU and Hyundai Motor Company began in 2012 when a memorandum of understanding was signed to organize and support internships for SPbPU graduate students and graduates at the company's plants. The company donated two Hyundai Solaris cars to SPbPU for educational purposes. In 2018, delegations from SPbPU and Hyundai made reciprocal visits to familiarize themselves with the university's scientific potential.

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