

RESEARCH CENTRES AND TECHNOPARKS

SCIENCE AND TECHNOLOGY CENTRE (STC)

The Company's key competencies are concentrated in the Science and Technology Centre (Gazpromneft STC). The main goal of the Science and Technology Centre is to increase oil production and its efficiency through the introduction of new technologies and design solutions at the fields of Gazprom Neft.

In 2017, the staff of the Gazpromneft STC exceeded 900 people. The staff members included 4 professors, 7 doctors of science, and more than 50 candidates of science. The offices of the Gazpromneft STC are located in St. Petersburg and Tyumen.

The STC prepares the scientific and technical foundation based on which specialists from the Gazprom Neft headquarters adopt the most important investment and management decisions: it creates field development models, adjusts them based on field tests, and determines what technologies can be applied to achieve the best result. The Science and Technology Centre's responsibilities include creating and maintaining a corporate database of geological and commercial information, managing the extraction of oil from subsoil resources through the use of permanent geological and technological models as well as planning and organizing pilot projects for the introduction of new technologies in oil production. The Gazpromneft STC also drafts, examines, and protects project documentation for the fulfilment of licensing obligations and trains specialists from Gazprom Neft subsidiaries.

In addition, as part of training on intellectual property management, the STC utilized the format of the 'Intellect-Monetization' business game for the first time for stakeholders during a visiting session in 2017.

CORE ACTIVITIES OF THE STC:

- **planning and supporting geological exploration work;**
- **the technical and economic valuation of assets;**
- **the creation of integrated concepts for field development and planning;**
- **scientific and technical support for drilling and downhole work;**
- **oil and gas production techniques and technologies;**
- **the development of engineering techniques and standards;**
- **IT solutions for engineering;**
- **the organization of research as well as R&D;**
- **the collection, updating, and dissemination of knowledge and best practices.**

Team-based group work on case studies in the sector enabled participants to get a grasp of the basic stages of managing intellectual property in just one day: from identifying protectable assets to preparing presentations on commercializing the results of innovative projects. After the business game, the participants identified several protectable results of intellectual activity (RIA) that were created in the course of their work and studied the mechanism for submitting applications to the Federal Institute of Industrial Property (FIIP). In 2018, the needs of the Upstream Division will be studied in similar sessions and the appropriate decision will be made.

INDUSTRIAL AUTOMATION TECHNOLOGICAL PARK

CORE ACTIVITIES OF THE TECHNOLOGICAL PARK:

- **instrumentation and automation (IA) – pressure and temperature sensors, analysers, etc.;**
- **automated process control systems (APCS) – distributed control systems, emergency protection systems, and software and logic systems;**
- **manufacturing execution systems (MES) for dispatching and scheduling as well as laboratory information management systems;**
- **high-tech solutions (BTP) – modelling and optimization of processes, monitoring and diagnostic systems, and computer training systems.**

The Gazprom Neft Industrial Automation Technopark (Omsk), which was established as part of the import substitution strategy, is a unique platform for research and development, pilot testing, and the development of high-tech solutions for the automation of oil refineries. The technopark includes several functional clusters: training, testing, developments, data processing centre (DPC), co-working and a communications centre, where working meetings as well as scientific and practical conferences are held.

DIGITAL INNOVATIONS CENTRE

In 2017, the Company worked on creating a Digital Innovation Centre that would unite the efforts of Gazprom Neft, start-ups, developers, and the scientific community.¹ Its objective is to develop breakthrough digital products for the development of Gazprom Neft's unified technological platform in logistics, refining, and sales. The centre is working on applying big data and blockchain technologies, predictive management, digital twin enterprises, the industrial Internet of things, and AI-based self-learning systems in the Company's business.

The products will have the opportunity for testing in conditions close to real production at the Industrial Automation Technopark in Omsk or at the Centre. In the future, the Centre also plans to conduct hackathons and expert technological sessions.

CORPORATE INFORMATION TECHNOLOGIES TECHNOLOGICAL PARK

Gazprom Neft founded the Corporate Information Technologies (CIT) Technopark in St. Petersburg, which aims to establish direct interaction between developers and manufacturers of IT solutions in the oil and gas industry. Gazprom Neft provides the participants of CIT Technopark with a platform to evaluate and test promising solutions and innovative technologies. It regularly holds information sessions that are designed to present potential customers with new IT solutions that have proved their effectiveness.

¹ — The Centre opened after the reporting year in April 2018.