TECHNOLOGICAL DEVELOPMENT SYSTEM //

Technological area	Timeframe for effect: 1–2 years	2–5 years	5+ years
Increased oil recovery, production stimulation			
New generation infrastructure at current assets			
Infrastructure development in challenging climatic and geographical conditions			
Electronic development of assets (EDA)			
Development of unconventional reserves			
Development of the Arctic shelf			
Development of carbonate fractured reservoirs			
Development of deposits below the gas cap			
Geological exploration and resource base development technologies			
Well drilling and completion technologies			

Evaluation	Studying the feasibility of utilising technology/R&D
Selection	Acquisition/adaption or development of technology/design development
Designation	Field testing
Implementation	Introduction

One of the priorities for Gazprom Neft's innovative development is technology that ensures the strategic goals of increasing production and enhancing the technological efficiency of oil refining. The Company has introduced a long-term technological planning system that identifies long-term technological challenges and the solutions needed to deal with them. The Company acquires third-party technologies and also develops its own targeted solutions as part of its technological development.

INNOVATIONS IN REFINING AND SALES

Priorities in the oil refining segment include increasing refining depth, releasing new products and improving the environmental friendliness of the production process.

Gazprom Neft is currently the only oil and gas company in the CIS that has its own catalytic cracking catalysts.

HYDROTREATING AND HYDROCRACKING

The widespread use of catalytic hydrotreating and hydrocracking processes in modern oil refining is driven by the growing environmental requirements for the quality of petroleum products manufactured by refineries. Motor fuel-based hydrotreating technology is used to remove sulphur and nitrogen compounds, which ultimately reduces the environmental impact of road transport. The hydrocracking process makes it possible to obtain a wide range of high-quality motor fuels, including from raw materials that had previously been used solely for the production of dark petroleum products.

INNOVATIONS IN REFINING AND SALES IN 2015 //

Area	Results
INCREASING THE REFINING DEPTH AND PRODUCTION MARGIN	The 'Aluminium Oxide-Based Crude Deep Conversion Catalysts' project aims to provide the Russian oil refining industry with modern catalysts that will help to improve the quality of motor fuels and increase the refining depth of crude oil. The Ministry of Energy has assigned national project status to the catalyst production development project at Omsk Oil Refinery. As part of the project, production facilities for cracking and hydrogenation process catalysts are to be built at the Omsk Oil Refinery with total capacity of 21,000 tonnes per year. Gazprom Neft is developing innovative catalyst production technologies in cooperation with the leading Russian scientific research centres that work with catalytic processes. In particular, the Company's partner in the national project is the Boreskov Catalysis Institute of the Siberian Branch of the Russian Academy of Sciences (Novosibirsk), which is developing a technology to manufacture hydrogenation process catalysts. The Institute of Hydrocarbon Processing Problems of the Siberian Branch of the Russian Academy of Sciences (Omsk) is working jointly with the Company to establish new technologies and improve existing technologies for the production of catalytic cracking catalysts. The first Russian-made diesel-based hydrotreating catalyst was developed as part of a general cooperation agreement with the Boreskov Catalysis Institute of the Siberian Branch of the Russian Academy of Sciences concluded in April 2015. Following the completion of industrial testing, the catalyst is to be introduced at the Company's oil refining enterprises.
IMPROVING THE ENVIRONMENTAL FRIENDLINESS OF THE PRODUCTION PROCESS	The Company is building a pilot solid acid alkylation plant jointly with the Topchiyev Institute of Petrochemical Synthesis of the Russian Academy of Sciences.
RELEASE OF NEW PRODUCTS	Grade A needle coke has been produced at the Moscow Oil Refinery for the first time in Russia. Gazpromneft – Lubricants and Gazpromneft – Bitumen Materials have developed and launched a number of new products that meet current government standards and customer needs.

Source: Company data