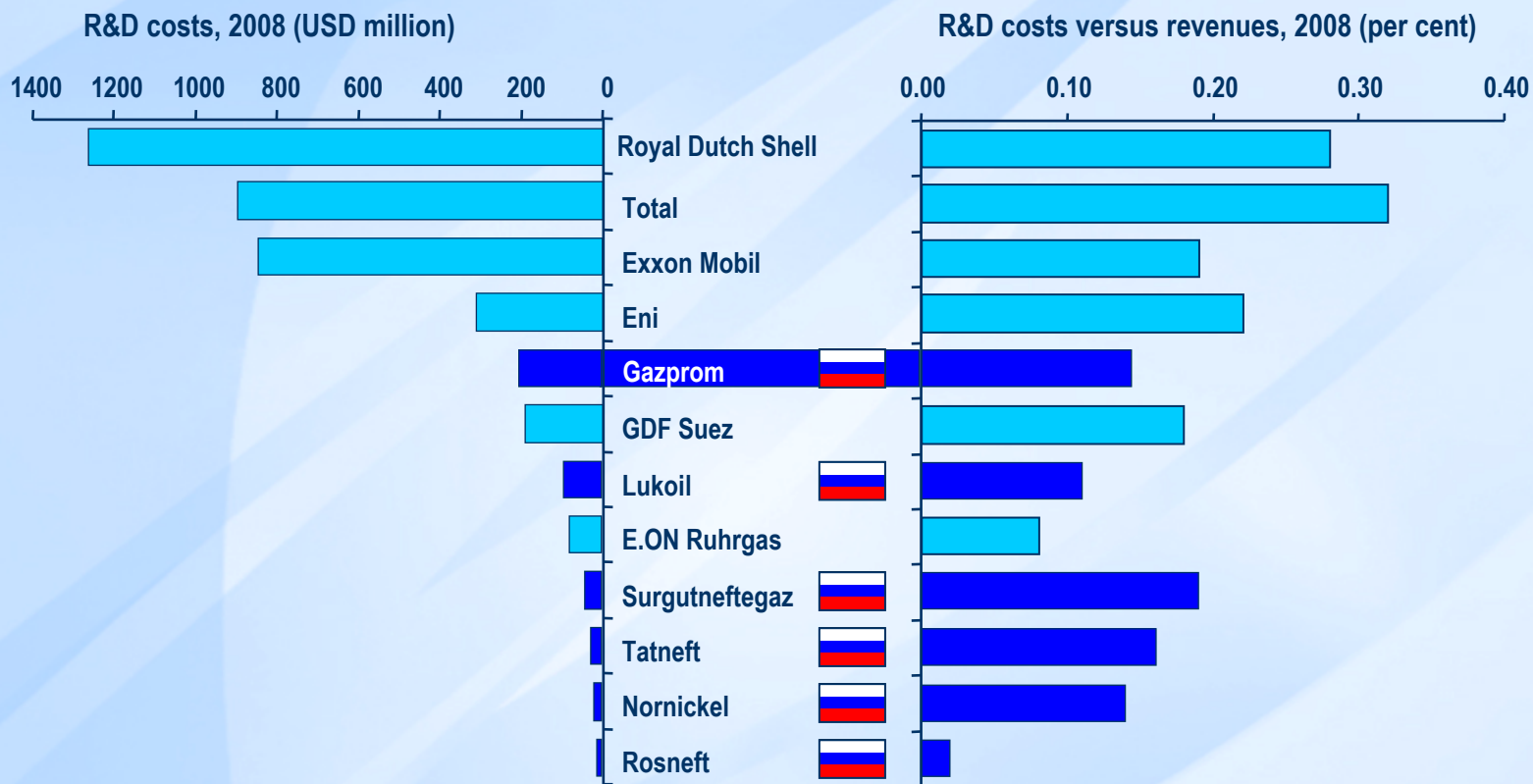




Report for the Commission for Modernization and Technological Development of Russia's Economy under the Russian Federation President

Alexey B. Miller, Chairman of the Gazprom Management Committee

R&D Costs versus Revenues



Gazprom has retained and continues developing the sci-tech potential of the gas industry

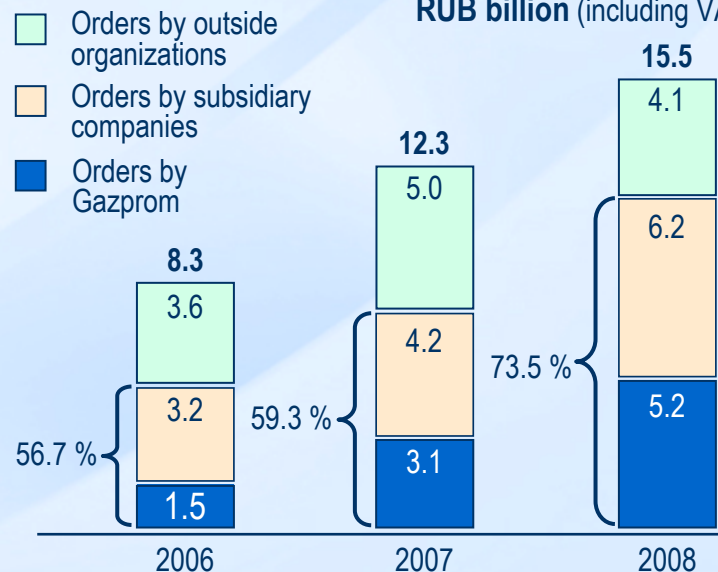
Number of STC personnel – 5,953 employees including 123 Doctors of Science and 529 Candidates of Science

Gazprom's participation in equity capital	STC organizations competency
100% Gazprom VNIIGAZ	Hydrocarbons geology, development, production, processing, transportation and underground storage, corrosion protection, ecology
100% NIIgazeconomika	Forecasting, cost management, investment programs modeling, project management, efficiency
>50% Gazprom promgaz	Regional energy sector, gasification programs, comprehensive development of small fields, coalbed methane
100% TyumenNIIgiprogaз	Raw hydrocarbons geology, development and production in Western Siberia, well construction, water purification, water treatment, ecology
100% Podzemgazprom	Underground hydrocarbon storage technologies and equipment, elimination of underground radioactive raw hydrocarbons storage facilities
>50% SevKavNIPIgaz	Raw hydrocarbons prospecting and development, wells drilling and repair, ecology
>50% TsKBN	Petroleum equipment, for offshore operations inclusive, diagnostics, reliability
100% Podzemhydromineral	Recovery of valuable components from industrial waters, geothermal energy
100% Ecological and Analytical Center	Environmental activities

Gazprom's STC specifics

- 230 hectares of proving grounds and testing sites
- 90.6 thousand square meters of laboratory and production space
- 74 testbeds
- 814 workplaces with specialized production equipment
- 273 units of machinery for pilot production

Scope of work done by Gazprom's STC companies, RUB billion (including VAT)



Innovations across the entire production chain

Bovanenkovo – Ukhta gas trunkline system



Unique combination of technical features:

- annual performance of **115 billion cubic meters**
 - transmission pressure of **11.8 MPa (120 Ata)**
 - length of **1,100 kilometers** (2 strings), **Ø 1,420 mm**
- Underwater crossing via the Baidarata Bay – **71 kilometers.**

Gazprom's investments in innovative solutions within the project – **RUB 1.3 billion.**

Transportation infrastructure creation on the Yamal Peninsula

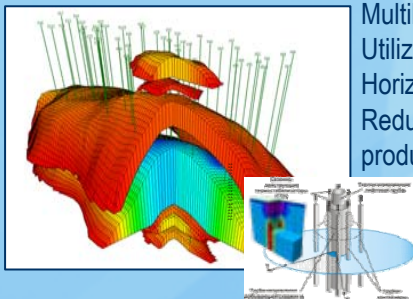


Bridge crossing via the Yuribey River of the Obskaya – Bovanenkovo railroad.



World's longest bridge constructed beyond the Polar Circle.

Fields pre-development



Multilayer reservoir development system.
Utilization of wells with heat-insulated pipes.
Horizontal and multilateral wells drilling.
Reduction of spacing between wellheads of adjacent production wells from 40 to 12 meters to cut down pre-development costs.

High-strength 1,420-mm pipes resisting 11.8-MPa pressure (120 Ata)



Pipes of increased strength and cold-resistance with a high level of metal viscoplasticity.
Absence of risks related to longitudinal fractures in gas pipelines. There is no global practice of applying K65 (X80) pipes for this purpose.



Concrete weight coated pipes with outer reinforced-plastic covering intended for the Baidarata Bay.

Vapor-liquid systems utilization for thermal stabilization of permafrost soils



Reduction of the metal and costs required for foundations construction to 50-60 per cent and 50 per cent respectively.

Twofold-threefold shortening of the construction period. Capability of managing thermal conditions of basements in permafrost soils.

New welding technologies for high-strength thick-wall pipes of up to K65 (X80) steel grade



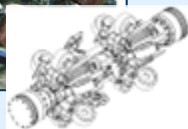
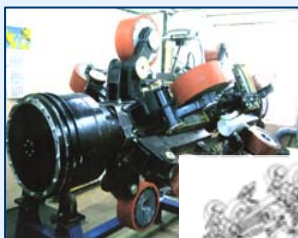
Strength and cold-resistance of welding seams is unparalleled in the world.
The technology is based on the requirements of the international standards.

Magnetic stress-corrosion flaw detector



- Diagnostics and technical state control in gas trunklines
- High precision in defining flaw size
- Maintenance of optimal velocity in flaw detector to facilitate diagnostics, as gas flow reaches 50 kilometers per hour
- Complies with the global standards

In-pipe electromagnetic acoustic flaw detector



- Diagnostics and control of technical state in gas trunklines with interior flow coating
- Confident identification of extensive corrosion damages, particular precision of flaw size defining, thickness measurement of a pipe wall, optimal velocity of a flaw detector
- Complies with the global standards and surpasses them in terms of the propulsion system's autonomy

Remote methods of methane leakage detection and metering



- Remote laser gas analyzer placed on board a helicopter to monitor gas trunklines
- On-board remote passive gas analyzer Tomsk-1 intended for methane metering

External scanning flaw detector



- Detection, positioning and estimation of flaw dimensions in pipes and welding seams during gas pipelines overhaul using reinsurance techniques
- Fault auto-detection in the entire area of a pipe, on-line submission of diagnostic reports
- Reduction in diagnostic costs
- Economic effect of application – RUB 133.2 million

Remotely-operated diagnostic complex



- Detection, positioning and estimation of flaw dimensions in pipes and welding seams during in-tube diagnostics of compressor stations piping
- Equipped with retrievable metering modules
- Has an explosion-proof version to apply at hazardous industrial facilities
- Equipped with a specialized device enabling it to move inside the pipes featuring complex configuration
- Economic effect of application – RUB 968.78 million

Gazprom Clean Water Program

Electric coagulate nanotechnology of potable water treatment – Vodopad



Vodopad-8000,
YaNAO, Tarko-Sale

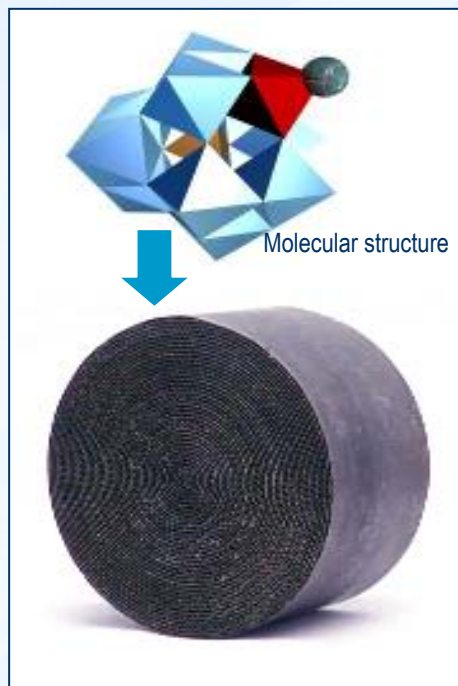


Vodopad-3500,
Surgut 3SK

- Efficient removal of pollutants from water on the atomic-molecular level
- Guaranteed purification of potable water that meets all the applicable standards and norm (SanPiN 2.1.4.1074-01, Potable water)
- Universal automated technology for purification of heavily contaminated water produced from underground and surface sources to separate mineral and organic pollutants on the nanomolecular level
- No domestic or foreign analogues
- Total effect of application – RUB 223 million per annum
- 98 stations installed and put onstream

Purification of exhaust gases at GPUs

Block catalyzers with oxo-complex nanocover



- extent of nitrogen oxides purification in exhaust gases from gas-pumping units amounts to 80 per cent
- costs reduction for exhaust gases purification amounts to 30 per cent
- no global analogues

Gas-to-Liquids

Gas-to-liquids technology (small-scale)



- Wide spectrum of GTL products – high-octane gasolines, diesel fuel, petrochemicals (aromatic hydrocarbons, olefins)
- Developed with the use of nanotechnologies, the unique zeolite catalyzer of domestic origin was applied
- Efficiency of catalytic transformations increased twofold
- The expected economic effect from production of 50 thousand tons of diesel fuel remotely from the oil refinery accounts for RUB 300 million per annum

Standards are a direct and easy way to the new solutions adoption

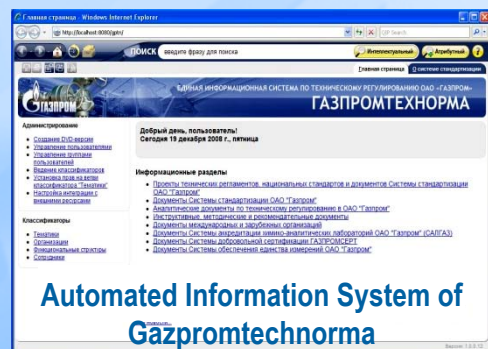
Gazprom Standardization System

(set up in 2005)

- Package of 12 fundamental standards
- 585 regulatory documents developed, approved and adopted as Gazprom's Standards and Recommendations
- Impact of standards application on innovative technologies:
average revenue of RUB 11.4 per RUB 1 of costs

Corporate standards:

- More stringent requirements to reliability and safety
- Speed-up of technical solutions adoption
- Approbation of solutions prior to their establishment as national standards



**Automated Information System of
Gazpromtechnorma**

International standardization

Technical Committee ISO / TC 67

Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries

Membership – 18 states

Gazprom is represented by 9 experts

Targets and priorities: leadership in governing bodies and working groups, harmonization of standards, consideration of national specifics

Intergovernmental standardization

Technical Committee ITC 523

Petroleum production and processing equipment and technologies

Membership – Russia, Kazakhstan, Azerbaijan, Ukraine, Belarus, Kyrgyzstan

63 Russian organizations

Chairmanship and secretarial functions – Gazprom

Targets and priorities: reduction of costs on joint documentation work-out, facilitation of commodity exchange between the CIS and the Customs Union members

National standardization

Technical Committee TC 23

Petroleum production and processing equipment and technologies

Membership – 63 organizations including Lukoil, Transneft, Rosneft, Surgutneftegaz, Russian Union of Industrialists and Entrepreneurs, ministries and agencies

Chairmanship and secretarial functions – Gazprom

2008-2010 – development of 134 national standards

Targets and priorities: Russia's unified technical policy, adjustment of international and foreign standards to Russian conditions

Innovative and technological development

Prospecting R&D

✓ - **yes**

Corporate research institutes

✓ - **yes**

Venture fund

✓ - **yes**

Engagement of profile research groups

✓ - **yes**

Intensive patent and licensing activities

✓ - **yes**



Thank you for your attention!