

# **DRIVERS AND PITFALLS TO INNOVATION IN THE RUSSIAN OIL AND GAS INDUSTRY**

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## **Overview**

*Throughout its history, the oil and gas industry has been driven forward by innovation and technology. Despite the strong case for technology the level of R&D investment in the oil and gas industry remains quite low relative other sectors [GEA, 2102]. The industry has a reputation for being slow to develop and adopt innovations [Perrons, 2014]. R&D activities in the industry can be characterized by the dominance of existing technologies, the preference for risk-averse behaviour, and the prevalence of incremental innovations [Costa-Campi, 2014]. These features may explain the influence of specific factors on the decision to innovate. This study investigated recent R&D investment undertaken by Russian oil and gas companies. Over the past decade, they have stated ambitious goals to reduce the technological gap and foster endogenous innovation. Today major Russian companies are facing substantial challenges when unlocking lower margin, hard to recover resources such as the Bazhenov formation in the Western Siberia, remotely located upstream projects in Eastern Siberia, and offshore fields in the Arctic. The research sets out to analyse the main drivers and pitfalls to innovation in the Russian oil and gas industry during the period 2005–2018.*

## **Methods**

*The research adopts an integrative approach. The quantitative analysis was carried in order to assess both the input (R&D expenditures) and the output side (patents) of the innovation process in the Russian oil and gas industry. The conceptual discussion of the drivers and pitfalls to investment in R&D was based upon using the empirical case studies.*

## **Results**

*The research showed that over the recent years largest Russian companies Rosneft and Gazprom have been rapidly increasing R&D expenditures. Starting 2011 the government has obliged state-owned companies to elaborate and implement corporate innovation development programmes in order to accelerate innovations. The attempt to catch up with the world's major companies has led to a significant increase in R&D intensity [Silkin, 2014]. Although the R&D productivity of the Russian companies measured by the ratio between patents and R&D expenditures is still lower than of the world's leading companies, the analysis of their innovation development programmes results revealed that the input (R&D expenditures) has been gradually leading to an increase of the output (patent activity) in the Russian energy sector. The empirical results suggest that the main obstacle slowing down innovation activities in the Russian oil and gas industry is the lack of competition within the sector. The dominance of state-owned companies which control the whole technological supply chain does not encourage innovations. Moreover, from 2014 international R&D collaborative projects have been hampered by sanctions imposed on the Russian energy industry. In this situation, Russian companies are trying to move away from a strategy based on the assimilation of existent worldwide technical expertise towards a pro-active, non-dependable on import stance.*

## **Conclusions**

*The practical implications of these findings for policymakers suggest proposing adequate instruments that can reduce the influence of political and economic shocks on the industry's development. The new regulatory framework should enable long-term stability and comprehensive support of Russian oil and gas companies' innovation efforts.*

## **References**

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