ELENA LUGOVAYA  
Deputy Head of Project Approval and Expertise Department, FRECOM

ABSTRACT  
The offshore projects and projects that involve specially protected natural areas are more likely at ecological risks. Special focus on the impact evaluation on environment during the above-mentioned projects realization is based upon ecological vulnerability of natural components at project areas, environmental management active constraints and seasonality. Such projects in particular are subject to two levels of federal expert reviews: state ecological appraisal (Federal Service for Supervision of Natural Resource Usage) and state expert review of project documentation and of engineering survey results (State Expert Evaluation Department). The projects supported by international financial institutes and by first class banks must be evaluated by the level of impact according to the international requirements (ESHIA). For complex ecological support it is necessary to take into consideration local work area qualities, to develop risk reduction measures, to pay special attention to working with the community, to take into consideration the most essential typical questions of state expert commission as early as the project documentation development. Complicated environmental conditions, high ecological vulnerability of natural components and strict environmental management active constraints of different kinds stipulate special focus on the environment. Searching balance between essential technical and economic solutions and supreme minimization of negative impact on environment stipulate ecological support duration time of oil and gas projects. The time frame of public consultations, approvals and expertizes are compared with the design period and can take from 6 to 12 months.

MACHINE LEARNING FOR OPTIMISING TECHNOLOGICAL WORKFLOWS AT EXPLORATION AND PRODUCTION OF HYDROCARBONS

ABSTRACT  
An overview of machine learning and predictive analytics application for oil and gas upstream will be presented. Examples of practical usage of Big Data technologies for tackling real technical challenges of the industry will be shown in the presentation.

In particular, we touch the topics of automation of the workflow for building the geological models of the reservoirs, optimization of electric submersible pumps performance, development of computer-based advisory for directional drilling, and others. Speaker initiates discussion of current issues with extensive implementation of Big Data technologies. Finally we highlight key directions for development of predictive analytics approaches for oil and gas upstream.

SERGEY STISHENKO  
General Director, Geosteering Technologies

SERGEY STISHENKO is in oil and gas technology business since 2007. He graduated from Dostoevsky Omsk State University (Russia) in 2005, where he studied Applied Mathematics and IT, and from Heriot-Watt with honors in Field Development and Petroleum Engineering. After his graduation, Sergey worked for the first Russian LNG project Sakhalin Energy (joint venture Shell, Gazprom, Mitsui, & Mitsubishi).

He joined the well construction team and was responsible for all the petrophysics and geosteering work by the well construction on the fields of Sakhalin Shell. Several years later he co-founded “Geosteering Technologies” (GT) and introduced to the Russian market the first domestic commercial product for the geological well drilling. Sergey is the CEO of “Geosteering Technologies” and the co-author of “Geosteering in Five Clicks” – the first book in Russian on well placement that features a detailed description of all modern geosteering methods used at oil fields all over the world.

ABSTRACT  
Today any industry, whether oil and gas or iron and steel considers the automatization the right path to be on. This approach not only helps industries to reduce production expenditures, to significantly raise their technological efficiency and to mitigate risks, but also gives tools to predict any issues, which being aware of in advance keeps the technological cycle permanent and safe.

Based on best practices and performance analysis we see a huge role of predictive analysis in well construction process. With help of machine learning algorithms these technology provides clients with a detailed history of the well (tied to the certain field and the license area) with the probabilistic risks forecast that may occur during drilling or RIH/P0OH operations.