

Efficiency gains in geological exploration activities (GEA) — expanding the resource base

As part of the Technological Leadership program, the Company has initiated and is implementing the cross-cutting Discovery innovative project.

achieve a production level of more than 15 million tons of oil equivalent (TOE) by 2030 in accordance with the Corporate Strategy of Zarubezhneft.

The goal of the project is to increase the resource base and transform it into commercial reserves in order to

INCREASED EFFICIENCY OF OIL AND GAS EXPLORATION

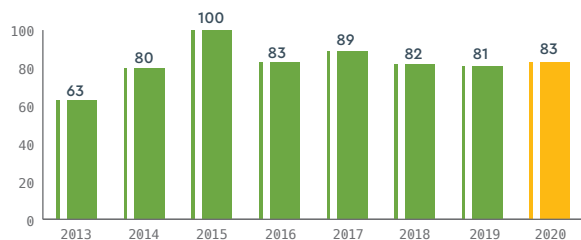
Current situation

- ▶ Work with assets that have a long history of exploration and production
- ▶ Need to incorporate new reserves. Inadmissibility of a decline in drilling success rate



- ▶ New approaches and technologies as well as unconventional solutions

EXPLORATION DRILLING SUCCESS RATE, %



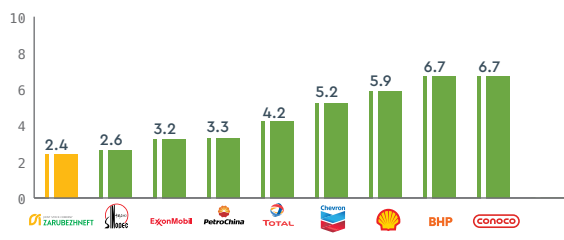
The Company aims to achieve its goal as a result of efficiency gains in prospecting for promising targets at its existing assets, including complex traps, additional exploration, localization, and the incorporation of residual reserves into development using innovative oil and gas exploration methods.

Zarubezhneft's main focus in geology and exploration is to develop and introduce advanced technologies for the complex interpretation of seismic materials and well log survey (WLS) data (neural networks, machine learning, and artificial intelligence) as well as geological and basin modeling, and transition to the automated routine manual work of specialists while improving the quality of the work they perform.

Cross-cutting project

Discovery

COST OF INCREASE IN GEOLOGICAL EXPLORATION RESERVES, USD/bbl



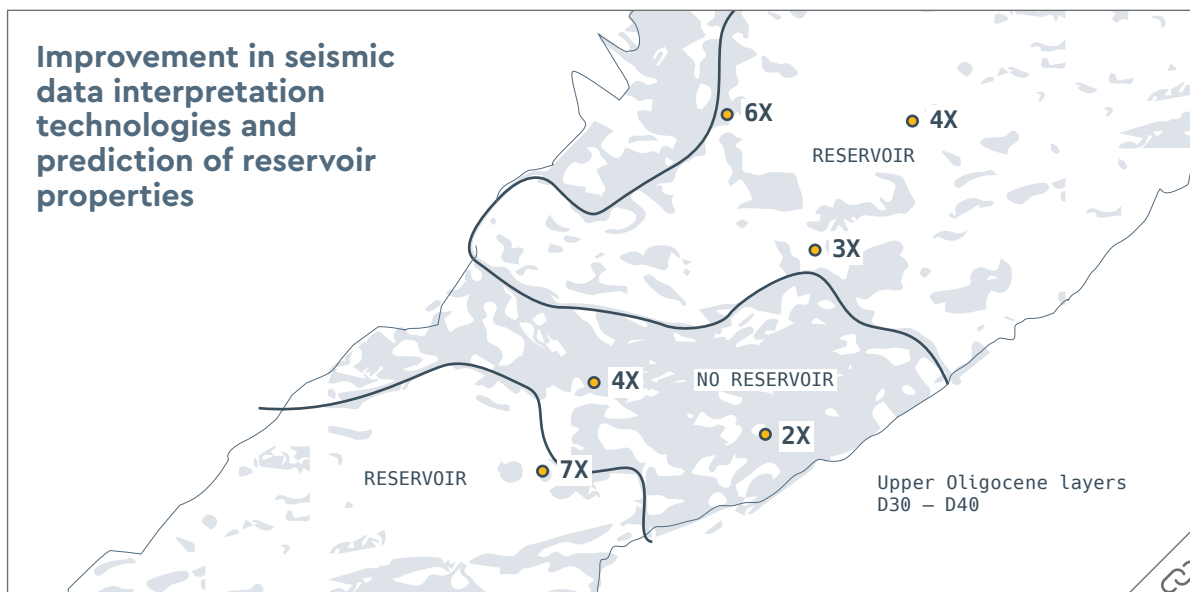
The primary goal of the Discovery project for the period until 2025 is to create and automate an uninterrupted chain from digital core, petrophysics, WLS data, seismic, regional, and basin modeling data to digital geological models, and ensure their automated updating based on new incoming data. The use of Big Data and Data Mining technologies (gaining new knowledge from data – machine learning, artificial intelligence, etc.) will improve planning accuracy and the speed of decision-making.

One example of a way to enhance the information content of seismic data is the experience of 3D/4C seismic work with bottom recording devices on the shelf of Vietnam. This work helped to identify 23 prospective exploration targets, including low-amplitude and nonstructural traps.

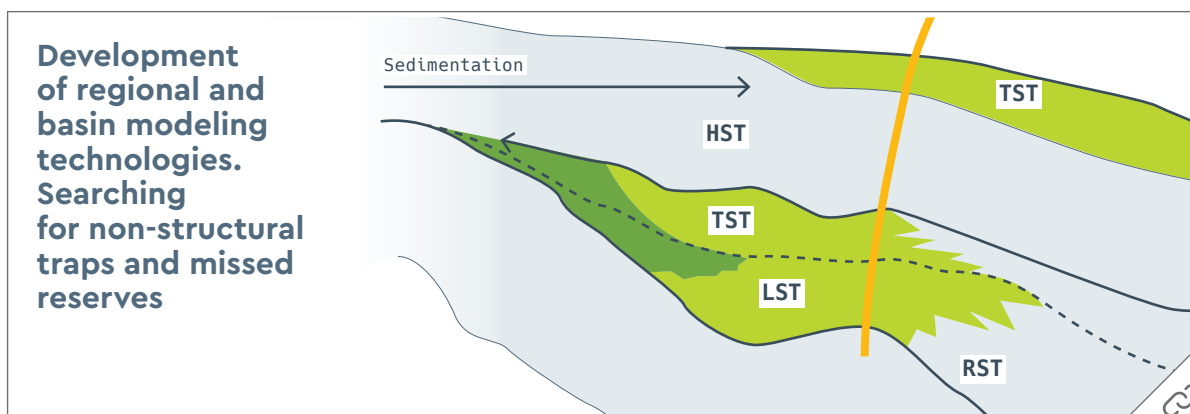
The work performed as part of the cross-cutting Discovery innovation project produced success in 2020.

- ▶ Based on the forecast of the reservoir quality from data on the integrated use of a seismic attribute analysis, well ST-7X was successfully drilled at the Beluga field, which added more than 1.1 million tons of recoverable reserves and showed that the hydrocarbon prospects of the field could be expanded to the southwest
- ▶ More than 1.9 million tons of recoverable oil reserves are expected to be added from an isolated unstructured object of the Oligocene deposits as a result of drilling wells BT-53 and BT-57 at the White Tiger field
- ▶ Preliminary pilot testing results, together with the separation of the litho-facial zones via a seismic attribute analysis, show a possible increase in recoverable reserves by 1.5 million tons at the Lutseyakhskoye field

Improvement in seismic data interpretation technologies and prediction of reservoir properties



Development of regional and basin modeling technologies. Searching for non-structural traps and missed reserves



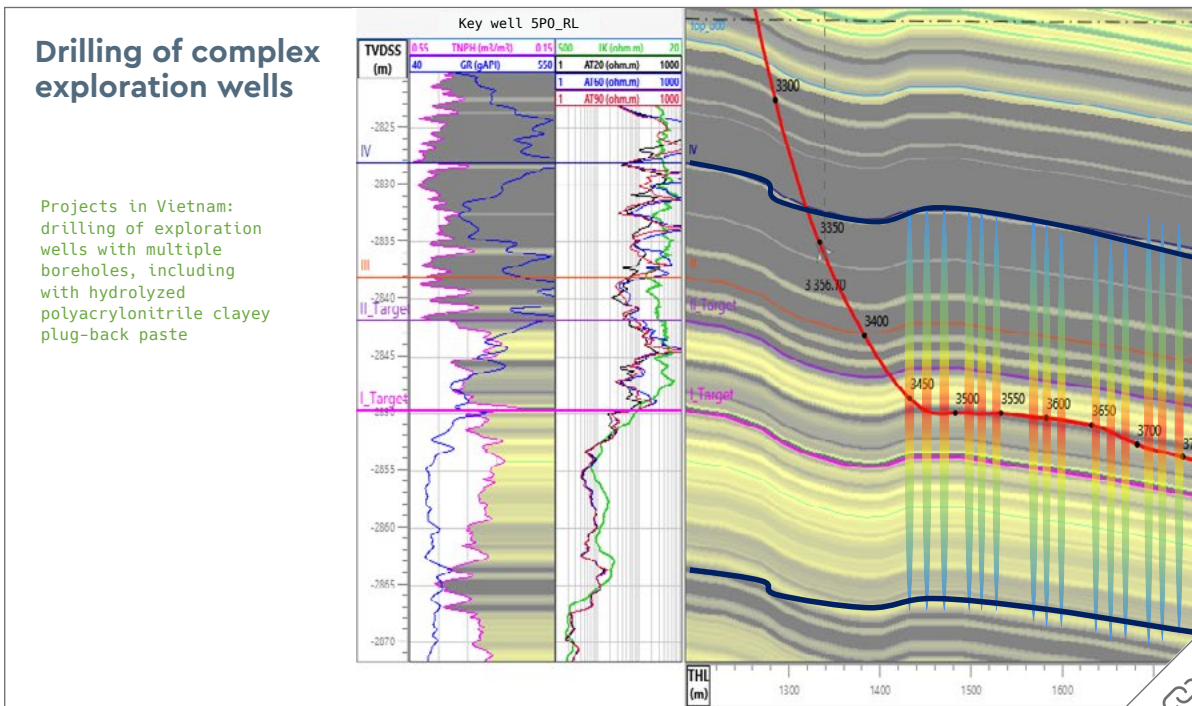
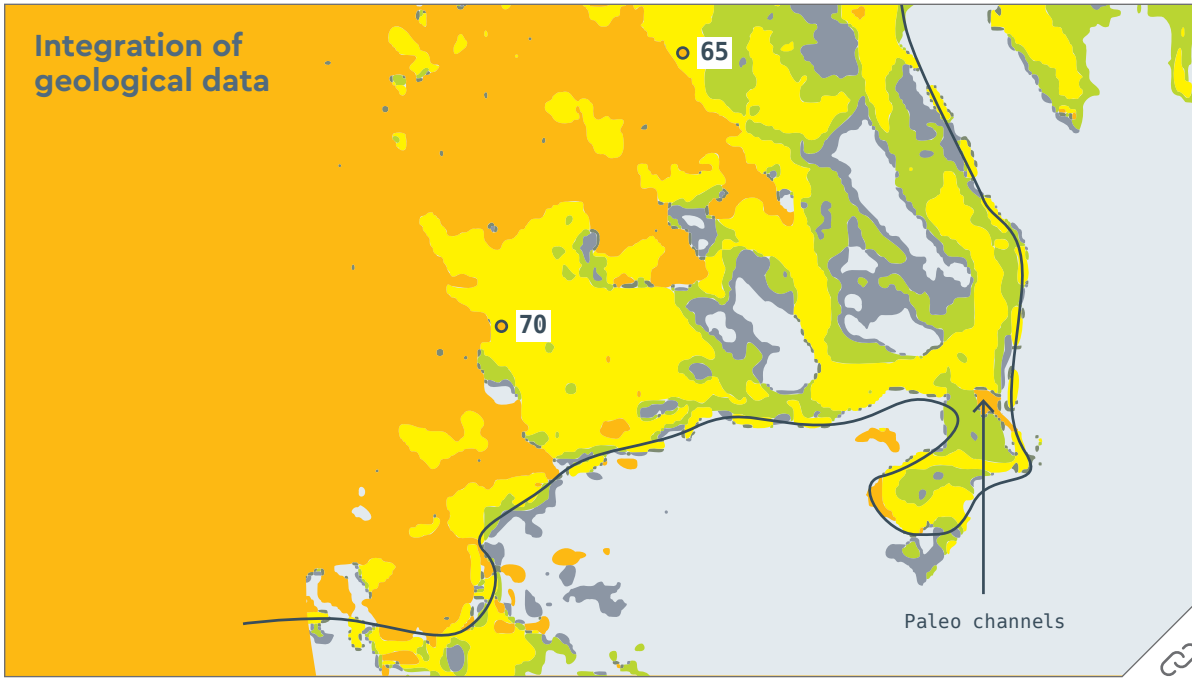
Key results of 2020 and prospects

>1.1 mln t

Growth in recoverable oil resources in the Southwest part of the field (structure) of Beluga Block 09-3/12

>1.9 mln t

Recoverable oil resources expected to growth based on drilling of Well BY-53 and BT-57 of the White Tiger on non-structural sites in Oligocene D



+1.5 mln t

Growth in C1 recoverable oil reserves from the additional exploration of the Lutseyakhskoye field when conducting pilot commercial development