Foreword

Gennady Kamyshnikov
CIS Energy & Resources Leader,
Deloitte CIS

We are pleased to present you with the full version of our analytical report. This report is produced annually. This year the format has been redesigned and the report now comes with deeper insights. The report offers an updated picture for 2017, expert opinions and hot technology trends, as well as the recent developments identified and the findings concerning the state of the industry. The key findings from this report will be published by Russia’s leading media outlets.

First published in 2014, the report provides a comprehensive analysis of the oilfield services market.

If you have any questions regarding the report and professional services offered by Deloitte CIS, please contact us.

Andrey Kolpakov
Senior Researcher at the Institute for Scientific Forecasting of the Russian Academy of Sciences

Russian oilfield service companies operate in one of the world’s largest oil markets. This inevitably requires additional focus on external drivers, i.e., on how customers impact the nature of the oilfield services market.

Such factors are many: from the pricing environment and geopolitics, to technological capacities in the upstream. This often results in a two-pronged effect. Increasingly tougher conditions with regard to oil production call for constant operational excellence while creating a greater potential demand for oilfield services. Making use of these opportunities requires an appropriate and balanced response to the emerging challenges.
Key findings

+18% The previous year saw a growth trend in oil prices, with an average increase of 18 percent since 2016.

+12% In 2017, production drilling was 27.6 million m, up by 12 percent versus 2016.

+9% In 2017, exploration drilling was up by 9 percent, reaching 990,000 m after a slight drop in 2015/16, as compared with 2014.

+3% Vertical drilling increased by 3 percent to 16.4 million m, reaching the pre-crisis level of 2013.

+27% Horizontal drilling increased by 27 percent (2.4 million m).

+2x RN-Burenie, a drilling arm of Rosneft, saw its share in the overall market supply grow by 5 percent to reach 25 percent in an almost two-fold growth since 2014.

-1% Well maintenance costs are slightly down by 1 percent versus 2016.

-32% A decrease by 32 percent in well workover costs is due to the fact that 28 percent of overall maintenance costs in 2016 were related to workover activities by Gazprom Neft in Yamal.

+26% 2D seismic exploration has grown by 26 percent versus 2016 in physical units.

+3% 3D seismic exploration is slightly down by 3 percent versus 2016 in physical units.

Old brownfield sites in Western Siberia account for additional growth in horizontal drilling at mature deposits.

Lagging technological development is a key barrier for oilfield services in Russia.
Oil prices

Weighted average* oil prices, USD/bbls

* The weighted average price is a combination of prices for Brent and WTI, each with a weight corresponding to market share.

Oil prices saw an upward trend over 2017, with an average growth of 18 percent from 2016.

The OPEC deal to cut down oil production has balanced the supply and demand, resulting in stabilized prices. Oil prices remain within a corridor of USD 60–70 per barrel due to:
- Non-OPEC countries ramping up their output;
- Countries that produce shale oil.

Oil price forecast, USD/bbls

According to our Oil and Gas Industry Barometer – 2018, most oil companies believe that oil prices will continue at the level of late 2017 or early 2018.

<table>
<thead>
<tr>
<th>Source</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
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</thead>
<tbody>
<tr>
<td>Institute for Scientific Forecasting of the Russian Academy of Sciences</td>
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<td>61</td>
<td>63</td>
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<tr>
<td>EIU</td>
<td>68</td>
<td>60</td>
<td>61</td>
</tr>
<tr>
<td>World Bank</td>
<td>56</td>
<td>59</td>
<td>60</td>
</tr>
</tbody>
</table>

Average annual oil price and drilling meterage

In 2017, overall drilling volumes up by 12 percent and an average price up by 20 percent.

Today, companies are focused on strategies that maximize their short-term profits, which explains increased drilling volumes, while long-term investment in exploration continues to decrease.

Amount of operations based on license obligations

“Oil companies benefit from pumping as much oil out of mature deposits as possible.”

Mikhail Krutikhin
Partner, RusEnergy

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, EIU, World Bank, Investing
The production growth of 4 percent over 2014–17 was achieved with an increase of 39 percent in exploration drilling. Achieving the same oil output in 2017 required a 12-percent boost in exploration drilling, indicating that Russia increasingly needs more drilling per tonne of oil.

In Russia, the OPEC+ agreement remains a key force limiting the short-term growth in oil output. In the longer term, the competitiveness of Russian oil, especially in the context of low prices, suggests that Russia has the potential to retain, or even strengthen its position in the global market place, which will have a positive impact on oil production volumes and production drilling.
Generally, oil companies take cost reduction and optimization measures as their first response to price deterioration. The exploration segment knows it all too well. Prices rebounding gradually over 2015–2017 have made the industry better positioned for investment in production capacities, which amounts to increased exploration drilling.

- In 2017, exploration drilling was up by 9 percent, reaching 990,000 m after a slight drop in 2015/16, as compared with 2014.
- Rosneft is leading the segment after increasing its exploration drilling by 80,000 m (40 percent) for the last year.
- Other companies continue at the same level as in 2016, without any significant growth or decline in exploration drilling.
- Bashneft has suffered a significant decrease, with exploration drilling down by almost 45 percent.

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data
Vertical drilling volumes, million m

- In 2017, vertical drilling increased by 3 percent to 16.4 million m, reaching the pre-crisis level of 2013.
- Rosneft has demonstrated the highest growth (18 percent), more than twofold increase since 2014. In 2017, Rosneft accounted for 43 percent (7.1 million m) in the vertical drilling segment.
- Surgutneftegaz and Lukoil have also contributed to growth in vertical drilling, achieving an increase of 2 percent and 18 percent, respectively.

Horizontal drilling volumes, million m

- Horizontal drilling has demonstrated significant growth rates over the last five years. The year 2017 alone saw horizontal drilling grow by 27 percent (2.4 million m) with Rosneft acting as a major booster, posting a growth rate of 42 percent. Surgutneftegaz, Lukoil, and Gazprom Neft have also recorded growth in horizontal drilling at 25 percent, 43 percent, and 13 percent, respectively.
- At the same time, Slavneft has suffered a slight decrease of 8 percent over the last five years.

Horizontal drilling is the fastest growing segment. The period 2010–2017 saw the share of horizontal drilling grow from 11 percent to 41 percent in the exploration drilling segment. Horizontal drilling is expanding generally due to the US’ advancements in horizontal technology making it more affordable. Russian companies are actively adopting advanced technological solutions that unlock better production performance.

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data
Oilfield services market overview in Russia – 2018

Meterage distribution of exploration and production drilling across the oil and gas provinces (OGP)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
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<td>Eastern Siberia OGP</td>
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<td>Western Siberia OGP</td>
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<td>81.3</td>
<td>Western Siberia OGP</td>
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<tr>
<td>Okhotsk OGP</td>
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<td>0.7</td>
<td>0.3</td>
<td>58.9</td>
<td>Okhotsk OGP</td>
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<tr>
<td>Timan-Pechora OGP</td>
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<td>0.0</td>
<td>0.0</td>
<td>58.9</td>
<td>Timan-Pechora OGP</td>
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<tr>
<td>Northern Caucasus OGP</td>
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<td>0.0</td>
<td>0.0</td>
<td>51.3</td>
<td>Northern Caucasus OGP</td>
</tr>
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</table>

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data, Deloitte analysis
Supply in the drilling market (based on meterage)

- Eurasia Drilling Company, the largest independent drilling provider, has retained its market share of one-fifth.
- RN-Burenie, a drilling arm of Rosneft, has seen its share in the overall market supply grow by 5 percent, to reach 25 percent, in an almost twofold increase since 2014.

Production drilling meterage shows that Western Siberia is a place where companies are busy actively tapping into reserves. This province is also a “hub” for horizontal drilling that has enabled higher outputs from mature deposits.

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data
Demand in the drilling market (based on meterage)

- Rosneft, Surgutneftegas, Lukoil and Gazprom Neft, the four largest Russian companies, continue to generate the largest demand in the drilling market totaling 78 percent.

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data
## Well maintenance

### Well maintenance costs, RUB billion

<table>
<thead>
<tr>
<th>Company</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<tr>
<td>Surgutneftegas</td>
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<td>8.4</td>
<td>8.8</td>
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<tr>
<td>Lukoil</td>
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<td>9.1</td>
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<td>Gazprom Neft</td>
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<td>1.1</td>
<td>1.1</td>
<td>1.6</td>
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<td>Slavneft</td>
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<td>Tatneft</td>
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<tr>
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<td>2.1</td>
<td>2.6</td>
</tr>
<tr>
<td>Bashneft</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Workover costs, RUB billion

<table>
<thead>
<tr>
<th>Company</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
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<td>Rosneft</td>
<td>28.8</td>
<td>30.8</td>
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<td>Surgutneftegas</td>
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<td>Lukoil</td>
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<tr>
<td>Gazprom Neft</td>
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<td>4.6</td>
<td>4.8</td>
<td>6.0</td>
</tr>
<tr>
<td>Slavneft</td>
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<td>3.4</td>
<td>4.1</td>
<td>8.2</td>
</tr>
<tr>
<td>Tatneft</td>
<td>5.5</td>
<td>5.5</td>
<td>4.3</td>
<td>3.2</td>
</tr>
<tr>
<td>RussNeft</td>
<td>5.5</td>
<td>4.6</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Bashneft</td>
<td>8.7</td>
<td>16.1</td>
<td>16.3</td>
<td>16.3</td>
</tr>
<tr>
<td>Others</td>
<td>6.2</td>
<td>6.0</td>
<td>7.7</td>
<td>5.9</td>
</tr>
</tbody>
</table>

### Notes:

- The 10-percent growth in maintenance costs from 2016 has reversed, decreasing by 1 percent.
- The 32-percent decrease in well workover costs is due to the fact that 28 percent of overall maintenance costs in 2016 were related to workover activities by Gazprom Neft on Yamal. Workover costs have increased by RUB 29 million on 2015.

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data
Distribution of maintenance and workover costs across the oil and gas provinces (OGP)

<table>
<thead>
<tr>
<th>OGP</th>
<th>Well maintenance costs, %</th>
<th>Workover costs, %</th>
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<tbody>
<tr>
<td>Volga-Urals OGP</td>
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<td>75 1 1 1 4</td>
</tr>
<tr>
<td>Eastern Siberia OGP</td>
<td>23 1 1 4</td>
<td>70 1 1 1 4</td>
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<tr>
<td>Western Siberia OGP</td>
<td>23 2 1 5</td>
<td>68 1 1 1 5</td>
</tr>
<tr>
<td>Leno-Tungusskaya OGP</td>
<td>13 4 1 14</td>
<td>66 1 1 1 14</td>
</tr>
<tr>
<td>Okhotsk OGP</td>
<td>20 0 0 3</td>
<td>75 0 0 1 3</td>
</tr>
<tr>
<td>Northern Caucasus OGP</td>
<td>17 0 0 4</td>
<td>75 0 3 1 4</td>
</tr>
<tr>
<td>Timan-Pechora OGP</td>
<td>11 0 1 3</td>
<td>83 0 1 1 3</td>
</tr>
</tbody>
</table>

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data
Efficiency in oil recovery (hydraulic fracturing)

- In 2017, hydraulic fracturing generated 6.9 million tonnes, falling by 4 percent compared with 2016, and continuing a downward trend from 2016.
- The decline in yield began in 2016, in the wake of decreasing hydraulic fracturing operations.
- Despite the overall decline, Rosneft and Surgutneftegaz, the two leaders in hydraulic fracturing, have managed to increase their hydraulic fracturing yield to 10 percent and 6 percent, respectively.
- The year 2017 saw more than 6,000 hydraulic fracturing operations, a slight 2 percent increase versus 2016. Rosneft and Surgutneftegaz are the most frequent users of hydraulic fracturing, each accounting for 26 percent.
- In the post-crisis period of 2015/16, these companies generally managed to retain the level of their hydraulic fracturing operations, with Surgutneftegaz managing to achieve an increase of 33 percent since 2014.
- Overall, hydraulic fracturing has only seen a partial recovery since the boom in 2014.

Source: Institute for Scientific Forecasting of the Russian Academy of Sciences, company data
Russian scientists are planning to release a hydraulic fracturing simulator (version 1.0) in late 2018. This simulator will enable a hydraulic fracturing procedure to be modeled based on well geology and the rheological properties of gel. In hydraulic fracturing, gel is pumped into a wellbore to induce fractures in the formation. Next, a proppant (sand) is added into a fracture. When the hydraulic pressure is removed from the well, fractures shrink over a highly permeable proppant layer to form a flow channel for oil. The simulator enables monitoring across all stages: cracking, fracture opening under the pressure from fracking fluid, proppant propagation, etc. The scientists are planning to complete the scientific research and begin coding in June 2018.

As reported by the press service of Lukoil, Lukoil-Western Siberia has become the first company in Russia to successfully implement a multistage hydraulic technique in the horizontal sidetrack of a well finished with a cemented liner. For this purpose, the company employed AbrasiFRAC, a unique abrasive perforating and fracturing technology developed by Schlumberger. Multistage hydraulic fracturing uses jet perforation via flexible coil tubing, followed then by hydrofracturing that is completed in one run. AbrasiFRAC eliminates the need for packers and a hydrofracturing column while reducing the average time for well development, shortening the pre-commissioning period, and stimulating the extraction of hydrocarbons from the formation.

Gazpromneft-Yamal, a subsidiary of Gazprom Neft, has successfully completed a 20-stage hydraulic fracturing technique based on the Plug-and-Perf process at the Novoport field. This is the first time that this technology is being introduced to the Yamal Peninsula. The process employs reusable sliding sleeves that allow specific ports to be activated. This allows specific fractures to be sealed off, preventing an influx of water or gas, or all fractures simultaneously, so as to re-run a multistage hydraulic fracturing operations.

“Following the sanctions and the exit of foreign providers, the market for hydraulic fracturing has seen its efficiency weaken. Unlike in 2013, when each hydraulic fracturing operation generated 1.43 thousand tonnes of oil, 2017 saw each operation generate only 1.12 thousand tonnes. This is probably due to the technological gap that Russian providers face.”

Andrey Kolpakov
ISF RAS
Geophysical explorations

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**2D seismic exploration, km**

- 2014: 67,198
- 2015: 54,189
- 2016: 45,353
- 2017: 57,378

2D seismic exploration has grown by 26 percent from 2016 in physical units.

**3D seismic exploration, sq. m**

- 2014: 49,668
- 2015: 40,813
- 2016: 48,109
- 2017: 46,552

3D seismic exploration is slightly down by 3 percent from 2016 in physical units.

**Amount of operations based on license obligations**

With smaller regional players unable to secure a sufficient amount of business, the geoinformation and seismic exploration market continues to consolidate around Rosgeologia, a federal state-owned company, and regional leading providers.

In the coming years, this market expects to see a more pronounced investment shift from 2D technology towards 3D (4D), as well as an increase in investment in more complex and eco-friendly systems.

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Gazprom Neft R&D Center has partnered with Yandex, Terra (Seismotech LLC), Pangea, and the Moscow Institute of Physics and Technology (MIPT) to develop Russia’s first integrated data platform to process and interpret seismic data. The aim is to design a universal tool with which users can obtain comprehensive insights into deposits.

TNG-Group is about to start seismic explorations based on wireless telemetry and real-time quality monitoring. In the case of seismic explorations, heavy vehicles requiring a wide clearance to maneuver are used to deliver equipment, such vehicles need a wide clearance to move. The new technology allows for greener seismic exploration while minimizing the impact of field operations on the environment.

Gazprom Neft is ready to deploy its Green Seismic Technology (GST) across its subsidiaries in Russia. Based on advanced technical and organizational solutions, GST helps to save trees during seismic explorations.

In addition to greater environmental protection, minimizing the need for forest clearing will provide better industrial safety because key work safety risks occur at the seismic profiling stage.

The expected annual economic impact of this new seismic method is about RUB 250 million.

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Source: The Federal Agency for Subsoil Use, company data
Taxation in the oilfield services industry

Oilfield service providers are subject to general taxation, without any special taxes. This is partly due to the industry still remaining outside government regulation as there are no common rules that would define the components and the boundaries of the industry. There is also a lack of consistency as to what the key services provided by the industry are. Another concern is that the oilfield services industry is largely dependent on developments in the oil sector. Changes in the taxation of oil companies inevitably affect oilfield service providers. In addition, Russian companies operate without government support, but it is quite the opposite for their international competitors. For oilfield services companies, the major tax burden comes from MET (mineral extraction tax) and export duties.

The Russian oilfield services market is a relatively new industry that emerged in the late 1990s as oilfield companies exited their non-core assets. The financial crisis of 2008–2009 hampered industry development because oilfield companies had to reduce their operations, triggering a significant drop in oilfield service prices. The sectoral sanctions from the West further hindered the industry by limiting access to technology. As a result, the Russian oilfield services sector is facing both economic and legal barriers.

The added income tax expected to come into force on 1 January 2019 is another important milestone for the oil and gas industry, and it applies to four categories of deposits:

**Category 1:** New deposits in Eastern Siberia with a depletion of 5 percent.

**Category 2:** Deposits eligible for export duty benefits.

**Category 3:** Active deposits in Western Siberia with a depletion of 10 to 80 percent (a taxable limit has been set to 15 million tonnes per annum, subject to submission of an application by a company).

**Category 4:** New deposits in Western Siberia with a maximum depletion of 5 percent and total reserves not exceeding 50 million tonnes per annum.

The tax rate is set to 50 percent. Unlike with the MET, the added income tax will be applied not to extracted resources, but to income on sales of resources, net of export duties, reduced MET, and production and transportation costs. The added income tax could have a significantly negative impact on oilfield service providers causing producers reduce their investment in the development of potential deposits as a result of the proposed changes.

The sector’s current profitability is 5 percent for the services segment and 2 percent for the well maintenance segment. According to expert estimates, Russian oilfield service companies charge 5 to 7 times less than their counterparts in other countries. Lower prices force experienced Russian providers out of the market, making way for poorly qualified contractors that tend to avoid paying taxes.

Source: Kommersant, Vedomosti, Central Dispatching Department of the Fuel and Energy Complex
International oilfield service providers in Russia

Key projects by international oilfield service provider

Schlumberger
1. In 2018, OOO Technology Company Schlumberger entered into a contract with PAO ANK Bashneft to provide technical support services for managing drilling fluids.
2. In 2017, OOO Schlumberger Vostok entered into a lease and maintenance contract for electrical submersible pumps with RN-SakhalinMorNefteGaz.
3. OOO REDALIT Schlumberger is a resident in the Lipetsk Industrial Special Economic Zone, with investments totaling almost RUB 4 million.
4. Radius-Service produces positive displacement motors and other oil equipment in Perm Krai.

Weatherford
1. In 2018, OOO Weatherford entered into a contract with Rosneft to provide directional drilling services.
2. OOO STU entered into a contract with Bashneft to provide well cementing services in 2018.

Saipem, a subsidiary of Eni
1. The company along with Rosneft is part of the project aimed at drilling the first exploration well in the Western section of the Black Sea. On 21 March 2018, the companies completed drilling operations at a wildcat well (Maria-1), discovering a unique carbonate formation with a thickness of more than 300 meters.\(^{(2)}\)
2. Rosneft has appointed Saipem to develop a feasibility study and provide services to manage the Eastern Petrochemical Complex project. It is expected to be completed by late August 2018.

Source: Central Dispatching Department of the Fuel and Energy Complex, Vedomosti, neftegaz.ru, Oil&Capital, Kommersant, Spark-Interfax, Rosneft
One of the issues facing Russian oilfield services companies is the technological lag when compared with their foreign counterparts. International companies use advanced technology, invest in R&D, and have access to highly qualified talent. In the mid-run, Russian oilfield service providers cannot be expected to meet the standards required for offshore projects and operations in permanently frozen regions.

The sanctions have benefited producers from China and Southeast Asia. China has emerged as a notable player in the Russian market for oilfield service equipment. The share of equipment from China, South Korea, and Singapore is expected to grow in Russia within the next three years. Jereh, a Chinese producer of gas compression units for LNG plants, equipment for drilling, cementing, and improved oil recovery, has taken timely steps to deploy an extensive Russian network providing warranty repair services, as well as a warehouse for spare parts.

In July 2017, Schlumberger and the Russian Direct Investment Fund, with the support of investors from China and Middle East, announced their plans to acquire stakes in EDC – 51 percent and 16.1 percent, respectively. However, while negotiating the deal with Schlumberger, the Federal Antimonopoly Service (FAS) set forth the condition that the company agree to either transfer its stake in EDC for operational management or sell it to a Russian entity should the US impose more sanctions against the Russian oil and gas industry. Schlumberger agreed and started working on the legal aspects transferring control. On 8 February 2018, the company submitted the second application to FAS with suggestions made based on the regulator’s commentaries on certain terms and conditions of the deal.

In summer 2017, Baker Hughes launched a new facility in the Tyumen region to produce well completion equipment. The new plant will work to supply Russian drilling and oil and gas companies with advanced equipment. Its primary focus is on localizing production and technologies, optimizing the supply chain, and shortening the delivery cycle for end customers.

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**Halliburton**
1. OOO Burservis is a drilling provider.

**Baker Hughes**
1. In 2017, ООО Neftepromyslovoye Oborudovaniye (Oilfield Service Equipment, Tyumen) entered into a contract to supply submersible pump cable to RN-YuganskNefteGaz.
2. ООО OrenburgNefteGeoFizika provides exploration, geophysical, and geochemical services.
3. The company entered into an equipment service and maintenance agreement with RN-YuganskNefteGaz.
4. Also, Baker Hughes entered into a contract with RN-Vankor to provide comprehensive maintenance services for electrical submersible pumps.

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**ZPEC**
1. Zhongman Petroleum and Natural Gas Group (ZPEC, Shanghai) have entered into a contract with Rosneft to provide drilling and casing liner installation services as part of the construction of production wells in the Kharampur field by 2019.
2. The company and ZPEC are also in negotiations concerning their participation in a project by Gazprom Neft to develop the Chonsky fields in Siberia.

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**COSL**
1. China Oilfield Services Limited (COSL) has leased Nanhai-8, a semi-submersible drilling floater, to GazpromNeft Geologorazvedka for the purpose of constructing the Rusanovskaya No.6 exploration well in the Kara Sea.

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[1] Key projects are large investment R&D and manufacturing projects, including contracts with a value of at least RUB 500 million

[2] Project has been frozen in March 2018
Oil and gas drilling and servicing operations are the most capital intensive part of the industry. The persistent low oil prices, unstable geopolitical climate, limited access to global technology, output cuts under OPEC+, stricter environmental requirements, and rising shale technology bring cost saving to the forefront. The oil production and oil servicing segments can achieve cost optimization by gradual digitalization. In this context, bringing together multiple technologies is increasingly important. To accelerate this integration, there is a need for industry-wide standards with regard to digital technology.

Estimates and practical experience have shown that digital technology has the potential for wide adoption with both new and aging wells and deposits. Digital solutions can significantly boost the performance of these assets while delivering cost savings and making available additional financial sources.

“"The demand for digitalization solutions from both oil producers and service providers persists at a low level. The shrinking international oilfield service market has put some projects on hold due to the lack of high-quality solutions and technology readily available from Russian oilfield service providers, both independent and vertically integrated. As a result, it is the situation itself that drives the need for technology, including digital solutions, rather than competition. Most importantly, smaller specialist companies do offer ready-made solutions. However, our current estimates are that the market’s readiness for digital transformation is rather low.”

Dmitry Egorov
Chief Engineer, Automation Projects
Argosy Group
Sliding flushing tool
OOO Paker, an R&D and production company, has developed a sliding flushing tool (SFT) that enables more efficient and more economical circulation for wells with higher fluid loss. The SFT uses normal circulation via a jet nozzle. The SFT sliding down the drill string provides flushing for both a wellbore and bottom hole while removing floating debris. Compared with traditional solutions, this tool can reduce fluid loss by four to ten times for wells with higher fluid loss rates.

FLEXPump Series pumps get updated impellers
Baker Hughes has introduced tungsten carbide mounting groups for FLEXPump wheels, improving the durability of EPS systems and shifting from the use of a fabric-to-fabric frictional couple to a tungsten carbide couple. This technology enables stronger drawdown while delivering increased uptime, greater equipment reliability, shorter cyclic shutdowns and lower operational costs.

Gazpromneft-NoyabrskNefteGas introduces new well workover technology
Replacing traditional cement with advanced bridging materials enables simplified isolation for lost circulation formations, as well as a guaranteed removal of the barrier with water-based agents when formation productivity needs recovering. The new workover technology offers a much easier transition to a lower formation during a workover. The practical use of the bridging agent has demonstrated that costs and workover time are generally lower by 15 percent, compared to the traditional workover process.

TransCoil
TransCoil is an electrical submersible pumping (ESP) system that cuts ESP installation time by 50 percent and reduces operational costs (e.g., tripping costs) while improving the ESP system’s reliability, eliminating the need to kill the well. TransCoil can be used for fields where rig availability is a concern, as well as for mature fields involving high workover costs at hard-to-reach locations and new offshore deposits with high workover and lifting costs.

Gazprom Neft secures six patents for non-contact pipeline diagnostics
Gazprom Neft has secured six patents for a proprietary non-contact pipeline diagnostic solution. At the time the equipment for this solution was in development, there were no similar technologies in the oil industry. The new technology has made it possible for Gazprom Neft to develop a state-of-art diagnostic solution. The solution can remotely measure the magnetic field of an asset, allowing critical failure points to be identified proactively as a means of focused preventive treatment. As part of the testing, the developers modeled optimal running conditions for the solution and developed prototypes that underwent relevant testing and certification procedures.

CENesis Curve
The CENesis Curve system is designed for horizontal, vertical, and directional wells with higher buildup rates. Unlike traditional solutions, CENesis Curve allows the pump to pass through critical zones. It reduces the running-in time by 40 percent and allows the ESP system to be situated as close to the pay zone as possible while offering bending resistance that is four times higher. CENesis Curve has a successful track record, increasing the oil flow rate by 80 percent due to the ESP being located close to the pay zone and lower costs per unit.

Source: glavteh.ru, neftegaz.ru
Challenges and opportunities

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Number of licenses for exploration and exploration & production issued in Russia

Source: Federal Agency for Subsoil Use; Oil and Gas Industry Barometer – 2018 (Deloitte)