

2018 was a strong year for fee and commission income, which increased by 11.5%. Fee and commission growth accelerated year-on-year and outpaced the rolling four-year CAGR. The fastest-growing business segments were Equities (+20.0%), Derivatives (+15.3%) and the Money Market (13.1%). Fees and commissions accounted for 59.3% of operating income in 2018.

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# *Performance Review*

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# Financial results review

In 2018, the Exchange reported record fee and commission income. Fees and commissions accounted for 59% of total operating income, the highest share ever in the Exchange's history as a public company. Net interest and other finance income<sup>1</sup> slightly decreased on the back of lower realized gains/losses from investment portfolio revaluation. As a result, MOEX's operating income rose 3.5% YoY.

The Exchange maintained its focus on cost control. Operating expenses (net of other operating expenses) increased 7.6% YoY, primarily on the back of rising amortization and amortization expenses. In early 2018, the company revised amortization schedules and reduced useful lives of certain intangible assets. As a result, the amortization expense for the year increased. Excluding this impact, operating expenses added just 5.1% YoY.

Changes in the cost<sup>2</sup> and revenue structure led to a further reduction in the cost-to-income ratio, underscoring that greater operating efficiency was the key driver of higher fee income, not that fee growth outstripped cost growth.

EBITDA grew by 2.6% YoY. The EBITDA margin remained strong at 72.1%. Net profit declined 2.6% YoY.

## Financial highlights, RUB mln

	2014	2015	2016	2017	2018	Change 2018/2017
<b>Operating expenses</b>	<b>30,394.0</b>	<b>45,990.0</b>	<b>43,567.2</b>	<b>38,538.9</b>	<b>39,901.4</b>	<b>3.5%</b>
Fee and commission income	15,586.0	17,784.0	19,797.6	21,207.6	<b>23,647.1</b>	11.5%
Net interest and other finance income	14,279.4	28,084.9	23,695.0	17,285.3	<b>16,061.0</b>	-7.1%
Other operating income	528.7	121.1	74.6	46.0	<b>193.3</b>	320.2%
Operating Expenses (excl. other operating expenses)	-10,373.3	-11,271.9	-12,259.4	-13,431.8	<b>-14,453.7</b>	7.6%
<b>Operating Profit (before other operating expenses)</b>	<b>20,020.8</b>	<b>34,718.1</b>	<b>31,307.8</b>	<b>25,107.1</b>	<b>25,447.7</b>	<b>1.4%</b>
EBITDA (before other operating expenses)	21,616.1	36,519.0	33,602.1	28,059.6	<b>28,787.2</b>	2.6%
EBITDA margin, %	71.1	79.4	77.1	72.8	<b>72.1</b>	-0.7 p.p.
Other operating expenses	-	-	-	-	<b>-1,075.2</b>	-
<b>Net Profit</b>	<b>15,993.2</b>	<b>27,852.1</b>	<b>25,182.6</b>	<b>20,255.2</b>	<b>19,720.3</b>	<b>-2.6%</b>
Basic earnings per share, RUB	7.21	12.51	11.22	9.02	<b>8.76</b>	-2.8%

1. Calculated as the sum of interest and other finance income, gains/losses on FVTOCI, gains/losses on AFS and foreign exchange gains less losses less interest expense.

2. Operating expenses (net of other operating expenses) excluding amortization and depreciation expenses.

## ***Fee and Commission Income***

In 2018, all major fee and commission income lines grew. Fee and commission income remained well diversified; the Money Market, MOEX's largest market business, accounted for 27% of total fee and commission income. The growth leaders were the Equities, Derivatives and Money Markets.

**Fee and commission income structure, RUB mln**

	2017	2018	Change 2018/2017	Change 2018/2017
Money Market	5,650.0	6,389.8	739.8	13.1%
Depository and Settlement Services	4,183.9	4,530.7	346.8	8.3%
FX Market	3,827.0	3,990.0	163.0	4.3%
Derivatives Market	2,012.0	2,318.9	306.9	15.3%
IT services, listing fees and other fees and commissions <sup>1</sup>	1,942.0	2,312.0	370.0	19.1%
Bond Market	1,982.5	2,173.5	191.0	9.6%
Equity Market	1,610.2	1,932.2	322.0	20.0%

### **MONEY MARKET**

Fees and commissions from the Money Market grew 13.1% YoY to a record RUB 6.39 bln. Trading volumes declined 3.4% YoY to RUB 364.22 trln due to lower volumes of repo with the CBR (-97.7% YoY) and interdealer repo (-31.4% YoY). The decrease was partially offset by GCC repo, where volumes were up 7.6x YoY. The shift towards value-added GCC repo along with extension of repo terms supported the effective fee on the Money Market.

### **DEPOSITORY AND SETTLEMENT SERVICES**

Fees totaled RUB 4.53 bln, up 8.3% YoY. The growth was driven by higher depository income (as average assets on deposits were up 16.4% YoY to RUB 42.8 trln). At the same time, volumes of repo transactions with collateral management through NSD decreased by 58.8% YoY, which had an adverse effect on total income of the depository.

### **FX MARKET**

Fee & commission income from the FX Market increased 4.3% YoY to RUB 3.99 bln. Trading volumes remained nearly flat (+0.2% YoY) at RUB 348.37 trln. Spot trading volumes increased 10.6% YoY, while swap and forward trading volumes were down 2.8% YoY. A shift in demand to higher fee spot instruments supported the effective rate.

### **DERIVATIVES MARKET**

Derivatives trading volumes increased by 5.6% YoY, due to double-digit growth of trading volumes of commodity and single-stock contracts (+29.0% YoY and +30.6% YoY, respectively). Trading volumes of index contracts grew by 2.9% YoY. A shift of interest towards commodity and single-stock contracts helped achieve an increase of fee and commission income, outpacing trading volumes: fees and commissions grew 15.3% YoY to RUB 2.32 bln.

### **BOND MARKET**

Fee income from the Bond Market increased 9.6% YoY to RUB 2.17 bln. Trading volumes of bonds (excluding overnight bonds) grew by 28.1% YoY to RUB 21.22 trln. The effective fee in the Bond Market declined due to the shorter average maturity of bonds placed. In particular, this was due to a higher proportion of CBR bonds in the primary market.

### **EQUITY MARKET**

Fee and commission income from the Equity Market grew by 20.0% YoY to RUB 1.93 bln. Trading volumes in the market in 2018 totaled RUB 10.83 trln versus RUB 9.19 trln in 2017. The total market capitalization of companies listed on MOEX was RUB 40.2 trln (USD 600.2 bln) as of 31 December 2018.

1. Other fees and commissions include sale of software and technical services, information services and other fee income.

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## **IT SERVICES, LISTING AND OTHER FEES AND COMMISSIONS**

Fees from IT services, listing and other services were RUB 2.31 bln, up 19.1% YoY. Sales of information services contributed RUB 792.4 mln, up 2.9% YoY. Income from sales of software and technical services grew by 10.3% YoY to RUB 695.9 mln. Listing and other service fees from the Equity and Bond Market decreased by 13.8% YoY. Other fee and commission income increased twofold to RUB 485.4 mln, thanks to income from the Commodities Market.

## ***Net interest and other finance income***

Net interest and other finance income declined 7.1% YoY and amounted to RUB 16.06 bln. The decrease was mainly caused by a smaller effect from revaluation of the investment portfolio<sup>1</sup>. Excluding that impact, net interest and other finance income was down just 2.9% YoY. The average size of the investment portfolio for 2018 was RUB 670.06 bln (2017: RUB 748.59 bln).

## ***Other operating income***

Other operating income in 2018 was RUB 193.3 mln, of which RUB 117.5 mln was the result of an adjustment to a provision for expected credit losses on the securities portfolio. The provision was made in early 2018 following adoption of the IFRS 9 standard.

## ***Cash and cash equivalents***

The cash position<sup>2</sup> at year-end 2018 amounted to RUB 89.73 bln. The company had no debt as of 31 December 2018.

## ***Operating expenses<sup>3</sup>***

Operating expenses grew by 7.6% YoY in 2018 to RUB 14.45 bln. Personnel expenses increased by 5.8% YoY to RUB 6.51 bln. General and administrative expenses grew by 9.1% YoY to RUB 7.94 bln on the back of higher amortization expenses (up 34.1% YoY) and spending on services of grain elevators intended to grow the Grain Market and included into professional services costs (+34.3% YoY). Excluding those two expense items, general and administrative expenses grew just 0.2% YoY.

## ***Other operating expenses***

In 2018, the Exchange recognized other operating expenses of RUB 1.08 bln. They consisted of two components: 1) a provision of RUB 856.4 mln made in Q1 2018 due to an unprecedented operating error that occurred during the default management process with respect to a clearing member. The provision was written off throughout 2018, and 2) a RUB 218.3 mln (25% of the claim amount) provision with respect of a claim against the Exchange. The latter provision was made in Q2 2018 to cover 100% of the amount claimed by the plaintiff and then 75% reversed in Q4 2018 following a judgment in the Exchange's favor in the cassation court.

## ***Capital expenditures***

Capex amounted to RUB 2.01 bln. The majority of capex went toward software development and enhancement, as well as purchases of equipment and software.

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1. Net gain/(loss) on financial assets available-for-sale.

2. Cash position is calculated as the sum of cash and cash equivalents, financial assets at fair value through profit and loss, due from financial institutions, investments available for sale less balances of market participants, distributions payable to holders of securities and margin account.

3. Net of other operating expenses.

## Expense structure, RUB million

	2017	2018	Change 2018/2017	Change 2018/2017
<b>General and administrative expenses</b>	<b>7,278.9</b>	<b>7,941.4</b>	<b>662.5</b>	<b>9.1%</b>
Depreciation of property and equipment	1,464.3	1,343.9	-120.4	-8.2%
Amortization of intangible assets	1,488.2	1,995.6	507.4	34.1%
Equipment and intangible assets maintenance	1,120.1	1,205.5	85.4	7.6%
Professional services	426.3	572.6	146.3	34.3%
Taxes (other than income tax)	540.0	554.3	14.3	2.6%
Market maker fees	522.2	517.0	-5.2	-1.0%
Other administrative and other expenses	308.5	257.2	-51.3	-16.6%
Registrar and foreign depository services	292.2	292.3	0.1	0.0%
Rent and office maintenance	475.3	484.6	9.3	2.0%
Communication services	123.3	104.7	-18.6	-15.1%
Information services	187.7	237.6	49.9	26.6%
Advertising costs	330.8	376.1	45.3	13.7%
<b>Personnel expenses</b>	<b>6,152.9</b>	<b>6,512.3</b>	<b>359.4</b>	<b>5.8%</b>
Employees benefits except for share-based payments	4,932.7	5,250.8	318.1	6.4%
Payroll related taxes	952.3	975.7	23.4	2.5%
Share-based payment expense on equity settled instruments	242.2	273.3	31.1	12.8%
Share-based payment expense on cash settled instruments	25.7	12.5	-13.2	-51.4%

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# *Moscow Exchange's markets*

In 2018, the implementation of a large-scale cross-market Unified Collateral Pool project, aimed at creating a single clearing procedure across the Group, was completed. In particular, market participants were given the opportunity of cross-margining (the ability to transfer margin between different positions in contracts with the same underlying asset) between markets, allowing for more effective use of collateral and full netting of settlements between the Equity & Bond Market, FX Market and Derivatives Market. As part of this project, the risk management system of the Derivatives Market was improved in terms of calculating risk parameters and margining calendar spreads. Advantages of the unified collateral pool are:

- ▶ single trade account for the participant's collateral across all MOEX markets;
- ▶ unification of assets accepted as collateral;
- ▶ reduced volumes of cash in settlements as a result of netting of liabilities and claims across all markets with the Central Counterparty (CCP);
- ▶ cross-margining to help reduce collateral requirements and costs for participants.

The project enables market participants to fully benefit from MOEX's unique position and from the ability to use a single platform to trade in a variety of asset classes. Participants are also able to enjoy a major reduction in their costs and release significant funds.

At the end of 2018, 20% of total volumes of stock trading was performed using the single pool accounts; 41 companies began using the new service.

## EQUITY AND BOND MARKET

The Equity and Bond Market is a liquidity center for operations with Russian securities and the main platform for Russian companies to raise capital. MOEX is the venue for placements and trading of shares and depositary receipts; government, regional and corporate bonds; bonds of the Bank of Russia; sovereign and corporate Eurobonds; shares of mutual funds (PIF) and exchange-traded fund shares of mutual funds (BPIF); mortgage participation certificates; and shares of exchange-traded funds (ETF).

### Equity Market

	2016	2017	2018	Change 2018/2017
<b>Equity Market trading volumes, RUB billion</b>	<b>9,277</b>	<b>9,185</b>	<b>10,830</b>	<b>17.9%</b>

### Bond Market

	2016	2017	2018	Change 2018/2017
<b>Bond Market trading volumes, RUB billion</b>	<b>14,616</b>	<b>26,228</b>	<b>29,841</b>	<b>13.8%</b>
<b>Secondary trading, RUB billion</b>	<b>9,589</b>	<b>10,979</b>	<b>10,219</b>	<b>-6.9%</b>
Sovereign bonds (OFZ)	4,961	6,470	6,538	1.1%
Bank of Russia bonds (OBR)		101	537	434.2%
Municipal bonds	398	337	274	-18.6%
Corporate bonds	4,135	3,928	2,767	-29.6%
Other	95	143	102	-28.7%
<b>Primary market and bond redemptions, RUB billion</b>	<b>5,027</b>	<b>15,250</b>	<b>19,622</b>	<b>28.7%</b>
Sovereign bonds (OFZ)	1,123	1,715	1,034	-39.7%
Bank of Russia bonds (OBR)		502	7,017	1298.1%
Municipal bonds	159	214	86	-59.8%
Corporate bonds	2,342	3,148	2,850	-9.5%
One-day bonds	1,401	9,665	8,625	-10.8%
Other	2	6	10	68.3%

	December 2016	December 2017	December 2018	Change 2018/2017
<b>Number of private investors with brokerage accounts</b>	<b>1,102,966</b>	<b>1,310,296</b>	<b>1,955,118</b>	<b>49.2%</b>



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## ***Trading Results***

In 2018, total trading volumes on the Equity and Bond Market increased by 14.8% to RUB 40.7 trln. Trading volumes on the Equities Market increased by 17.9% to RUB 10.8 trln, surpassing the RUB 10 trln mark for the first time since 2014. On the Bond Market, total trading volumes amounted to RUB 29.84 trln, a 13.8% decrease versus 2017.

In 2018, the volume of bond placements increased by 28.7% to RUB 19.6 trln. Of this, RUB 8.1 trln was accounted for by quasi-sovereign bonds and bonds of the Bank of Russia, RUB 2.85 trln by corporate bonds, and RUB 8.6 trln by one-day corporate bonds.

In 2018, 38 new corporate bond issuers entered the Equity and Bond Market, placing 50 issues for a total of RUB 62 bln.

## ***Attracting Retail Investors***

2018 saw an active inflow of retail investors to the Equity and Bond Market. At the end of 2018, the number of unique individual clients stood at just shy of 2 mln, an increase of 50% from the end of 2017.

Increased interest in investment services among Russian retail investors is being driven by tax incentives, as well as the development of digital technologies and remote identification services that allow individuals to open a brokerage account from home. The online client registration technology implemented by MOEX allows users to start trading in just a few minutes after opening an account on the broker's or bank's website.

Individual investment accounts (IIA), which offer tax incentives designed to stimulate investments in the Russian Equity and Bond market, constitute a significant share of accounts held by individuals at MOEX. At the end of 2018, MOEX registered almost 600,000 IIAs, with more than 55% being opened by new private investors who had never previously had brokerage accounts.

## ***Expanding the Range of Instruments***

Development of the product line and the launch of specialist instruments aimed at retail investors supported an active inflow of private investors to the Russian on-exchange market.

In 2018, infrastructure and regulatory framework were put in place for the launch of trading in exchange-traded investment funds (BPIF) – the equivalent of ETFs under Russian law. The market maker control system was also significantly improved to meet regulatory requirements. Exchange-traded funds are designed primarily for individual investors; they greatly facilitate portfolio investment by strictly following the structure of stock indices, allowing investors to purchase the whole market or individual sectors with “just one click” and at minimal cost. As of the end of 2018, total trading volumes of exchange-traded funds (BPIFs and ETFs) increased 2.5 times and amounted to RUB 23.5 bln.

In 2018, shares of the first two mutual funds (BPIF) – on the MOEX total return index and shares of global technology companies, respectively – were placed on MOEX. The range of foreign exchange-traded funds was also expanded, with trading launched in ETF shares on the RTS index, Russian Eurobonds, and the Kazakhstan companies share index of the Kazakhstan Stock Exchange (KASE). At the end of 2018, shares of 15 ETFs and fund shares of two exchange-traded funds issued under Russian law were traded on MOEX. The underlying assets of the funds are stock indices, shares, bonds and commodities.

## ***Technological Development***

MOEX is constantly working to improve technologies and provide modern and convenient services to its participants and clients. In 2018, online registration of clients on the Equity and Bond Market was introduced, giving private investors access to trading almost instantly after opening a brokerage account. In April 2018, trading members were provided with an online registration service through file exchange within the Electronic Document Interchange system (EDI system); in October, a project for registering new clients via API connection of trading members to MOEX systems was implemented.

In 2018, the Sponsored Market Access (SMA) service, available since the end of 2017, was improved. SMA enables clients of trading members to participate directly in trading on MOEX's Equity and Bond Market. As part of the improved SMA functionality, clients are given the ability to act as market makers. At the end of 2018, more than 50 clients from 10 brokerage companies used this service.

The methodology for determining tick sizes for shares, depositary receipts and exchange funds was developed and implemented in line with global best practice. The new methodology ensures compatibility of European and Russian regulations on tick sizes, reduces possible regulatory barriers for European companies when working in the Russian market due to the introduction of MiFID II requirements, and draws on best international practices to improve the quality of the stock market.

In the debt market, income transfer in Eurobond sales from sellers to the buyers after the date of ownership listing was implemented; and admission of bonds for redemption on the offer dates was automated, which accelerated admission of securities for redemption.

In addition, labeling of bonds with inaccurate parameters was launched to give investors better information about and draw attention to the parameters of such securities.

To increase transparency of bond data, MOEX continued to develop the debt portal on its website. New pages were added with interactive content including a list of suspensions on bond trading and key facts, with the ability to search for bonds and select time intervals, and a search widget with advanced filtering and display of bond information. It also became possible to build an interactive curve of zero-coupon yield, which is a key indicator for the bond market; and a new calculator was added to identify yield value by duration.

## Liquidity

MOEX actively works with the professional community under a number of market-maker programs to boost liquidity in the Equity and Bond Market. At the end of 2018, more than 100 contracts with 35 market makers were in force on the Bond Market with about 60 contracts concluded in 2018. At the end of 2018, 75 contracts with 26 market makers were in force on the Equities Market. During the year, 39 new market-maker contracts were signed, and some of them began to be executed in 2019.

Due to increasing requirements for the liquidity of shares in the first and second level quotation lists effective 1 January 2019, MOEX worked to expand the number of issuers that attract market makers to maintain quotations of securities. As a result, 13 new market-maker agreements on shares were concluded in January 2019.

## Attracting SMEs

In 2018, 24 new issuers of small-cap bonds with issue sizes of less than RUB 500 mln – representing industries including IT, finance (leasing companies, micro-finance institutions, pawnshops) and construction and development – made their debuts on MOEX. The number of regional issuers with high growth potential increased (from seven to 22).

To encourage SMEs to tap the public markets, the Growth Sector has been functioning since 2017 on MOEX. The Growth Sector is intended to attract additional funds to high potential companies in the real sector of the economy, to expand the range of traded instruments on the financial market and to diversify investments.

MOEX's regional subsidiaries in St. Petersburg, Rostov-on-Don, Nizhny Novgorod, Novosibirsk, Ekaterinburg and Samara work with prospective issuers and investors. In 2018, 36 regional companies were given direct access to the MOEX FX and Money Markets and 18 regional issuers placed bonds.

Information cooperation agreements were signed with financial market participants and noncommercial organizations from Samara, Saratov and Ulyanovsk regions and Tatarstan, as well as with the Novosibirsk-based Interregional Association of Enterprise Leaders, to help businesses enter the debt market.

The agreements aim to support our joint efforts to inform potential issuers and investors about capital-raising opportunities including borrowing through corporate bond issuance, as well as to arrange forums, workshops and thematic events to highlight and promote the financial market.

The Growth Sector is supported by the SME Corporation, Industry Development Fund (IDF), Russian Direct Investment Fund (RDIF), Russian Export Centre (REC), the Ministry of Economic Development and the Ministry of Industry and Trade. The main partner in this project is the Bank of Russia. The requirements relating to free float were relaxed for the Sector's issuers: for the second level of listing, RUB 500 mln instead of RUB 1 bln for ordinary shares, and RUB 250 mln instead of RUB 500 mln for preferred shares. At the end of 2018, 15 securities – three stocks and 12 bonds – were traded in the Growth Sector. Total securities trading volumes amounted to RUB 11.57 bln.

Development of the infrastructure of the Growth Sector, primarily in terms of support tools, continued throughout 2018. In April, legislative changes came into force giving bond issuers in the Growth Sector the right to receive subsidies from the government for paying coupon income (up to 70% of the basic indicator) from the Ministry of Industry and Trade.

Together with the SME Corporation, draft rules were developed to establish the procedure for granting guarantees by the Corporation for bond issues by SMEs, which will help reduce the rate on bonds placed and improve their credit quality from the point of view of potential investors.

Implementation of the national SME project began. One of the most important goals of the project, which is planned to run through 2024, is to expand access of SMEs to financial resources, including by encouraging SMEs to enter the on-exchange market. The project includes measures to support Growth Sector issuers including:

- ▶ subsidizing the coupon rate on bonds;
- ▶ subsidizing the costs of companies' entry to the Equity and Bond Market;
- ▶ participation of development institutions in facilitating SMEs' access to the Equity and Bond Market, including the provision of anchor investments and guarantees;
- ▶ providing tax incentives to investors;
- ▶ involvement of regional infrastructure in the process of searching for companies to enter the Equity and Bond Market and informing potential issuers.

In the future, it is planned to expand the range of support tools for issuers of bonds of the Growth Sector.

In 2018, bonds of three SMEs totaling RUB 730 mln were placed in the Growth Sector; and exchange-registered bonds of a number of issuers were traded. For example, an SME bank's pilot trade involving securitization of a RUB 7 bln portfolio of loans granted to SMEs was executed.

The Innovation and Investment Market (IIM) has successfully operated on MOEX since 2009. The IIM was created in conjunction with RUSNANO to promote investment in the innovation sector of the Russian economy. One of the support measures for the sector is tax incentives for investors: investment income from securities of issuers with a market capitalization of up to RUB 10 bln (RUB 25 bln from 1 January 2019) is not taxable, provided that the investor holds them for at least one year.

In 2018, total securities trading volumes in the IIM Sector increased by 90% YoY to RUB 48.2 bln. At the end of 2018, 24 securities were traded in the Sector. In particular, RUSNANO placed a total of RUB 10 bln worth of bonds. At the end of 2018, the capitalization of the Sector stood at RUB 379.2 bln.

To support growing technology companies, MOEX and the Ministry of Economic Development held a competition in 2018 with 14 innovative companies being selected for subsequent public market entry in the IIM Sector. The companies may receive advisory support, including access to pre-IPO financing from funds, and access to a pool of "anchor" investors. They are also provided with information support, including support in interaction with public authorities and development institutions.

## ***Listing of Securities***

MOEX is constantly working to increase the quality of securities included in its quotation lists by improving issuing procedures and encouraging issuers to follow best practices of corporate governance. This work is aimed at increasing the transparency and attractiveness of the Russian Equity and Bond Market and protecting the interests of private and institutional investors.

In 2018, a new version of the listing rules came into force that introduces additional requirements for securities and issuers whose shares are included in MOEX's quotation lists. In particular, it establishes requirements for information disclosure, including five years of dividend payments, dividend policy and contact information for investors. In addition, MOEX developed recommendations on disclosure of the annual report and IFRS statements, material facts, and the investor's schedule of planned events. When holding General Meetings of Shareholders, MOEX recommends that issuers use electronic voting, to broadcast the General Meeting of Shareholders on the website, and to give shareholders the opportunity to send questions on the agenda in advance.

To improve corporate governance at public companies, MOEX updated methodological recommendations for assessing the compliance of Directors with independence criteria and for recognizing Directors as independent despite not meeting all of the formal requirements. If a candidate for or a member of the Board of Directors is recognized as independent for listing purposes, the issuer is also recommended to ensure that the candidate or Board member signs the Independent Director Declaration, and that information about the signing is published on the issuer's website.

To improve the quality of traded securities in the quotation lists, MOEX introduced requirements for the minimum daily median volume for shares included in the second level listing, and increased the requirements from RUB 1 mln to RUB 3 mln for shares included in the first level listing.

As part of its work to improve the dividend policies of public companies, MOEX developed a checklist that allows issuers to evaluate whether or not their dividend policy or draft dividend policy complies with the Exchange's Methodological Recommendations. The Methodological Recommendations were developed by MOEX in 2017 to assist Russian issuers in complying with the Listing Rules, and to provide issuers with the tools they need to set out a clear and understandable approach to determining dividend payments in their dividend policies.

MOEX continued to implement its strategy to digitalize listing services for issuers. In 2018, MOEX switched to electronic interaction with issuers, including through electronic digital signatures, and introduced electronic document management during the registration of issue documents of exchange-registered bonds. The use of electronic signatures reduces costs for issues by eliminating paper document management, increases the speed of interaction with MOEX and improves the reliability of document management. At the end of 2018, 167 issuers (26%) used electronic signatures for listing purposes, while 33 issuers submitted 347 issue documents for registration using an electronic signature.

New tariffs for listing services were introduced, almost halving the burden on MOEX infrastructure for small bond loans in Q4 2018 alone.

In October 2018, the listing course (an educational project for issuers, organizers and consultants) was launched to improve the level of listing knowledge of MOEX's clients and to familiarize new clients with the public debt market. The course is held in the form of face-to-face lectures and webinars with internal and external speakers. During the course, issuers can learn about how to enter the public market, listing procedures and corporate governance requirements.

At the end of 2018, 1,872 securities of 642 issuers, including 278 shares of 225 issuers and 1,460 bonds of 408 issuers, were admitted to on-exchange trading. MOEX's quotation lists included 802 securities of 248 issuers.

#### Basic requirements for inclusion of ordinary shares in quotation lists

Criteria	First level listing	Second level listing
Free float	≥ 10% of the issuer's capitalization > RUB 60 bln and market value of the free float ≥ RUB 3 bln determined by the formula with capitalization < RUB 60 bln and market value of the free float ≥ RUB 3 bln	≥ 10% of shares Market value of the free float ≥ RUB 1 bln
Length of issuer's existence	≥ 3 years	≥ 1 year
Preparation and disclosure of IFRS statements	3 years	1 year
Corporate governance	<ul style="list-style-type: none"> <li>▶ At least 1/5 of members of the Board of Directors, but not less than three independent directors</li> <li>▶ Audit, Remuneration, and HR Committees</li> <li>▶ Corporate Secretary and approved Regulations on the Corporate Secretary.</li> </ul>	<ul style="list-style-type: none"> <li>▶ At least two independent members of the Board of Directors</li> <li>▶ Audit Committee</li> <li>▶ Corporate Secretary</li> </ul>
	<ul style="list-style-type: none"> <li>▶ Approved dividend policy</li> <li>▶ Internal Audit Unit and approved internal audit policy</li> </ul>	

## DERIVATIVES MARKET

Moscow Exchange's Derivatives Market is Russia's largest and one of the world's leading venues for derivatives trading. The market brings together deep liquidity, a broad product offering, performance guarantees from the Central Counterparty and state-of-the-art technologies for the trading of futures and options. Derivatives Market participants can trade derivative financial instruments on indices, Russian and foreign shares, Russian government bonds (OFZ), foreign currencies, interest rates and commodities (oil, precious metals and industrial metals).

	2016	2017	2018	Change 2018/2017
<b>Derivatives Market trading volumes, RUB billion</b>	<b>115,271</b>	<b>84,497</b>	<b>89,263</b>	<b>5.6%</b>
<b>Futures, RUB billion</b>	<b>109,489</b>	<b>77,624</b>	<b>82,397</b>	<b>6.1%</b>
FX	64,561	39,460	37,868	-4.0%
Interest	27	17	10	-38.7%
Single stock	3,529	3,383	4,439	31.2%
Indices	26,138	18,486	19,161	3.7%
Commodities	15,234	16,278	20,918	28.5%
<b>Options, RUB billion</b>	<b>5,782</b>	<b>6,873</b>	<b>6,866</b>	<b>-0.1%</b>
FX	2,119	2,184	2,047	-6.3%
Single stock	87	35	25	-28.7%
Indices	3,434	4,440	4,438	-0.1%
Commodities	142	213	356	67.4%

### Trading Volumes

In 2018, total trading volumes on the Derivatives Market increased by 5.6% YoY, reaching RUB 89.26 trln. Futures trading volumes increased by 6.15% YoY to RUB 82.4 trln, while options trading volumes remained approximately at the level of 2017 and amounted to RUB 6.87 trln.

The modest rate of trading volume growth was due to low volatility of currency exchange rates and indices, i.e. the underlying assets of the most heavily traded Derivatives Market instruments. At the same time, trading volumes in the commodities section showed steady growth: in 2018, commodity futures trading volumes increased by 33.5% YoY, and commodity options trading volumes increased by 67.4% YoY. Open interest in commodity futures in December 2018 increased by 30.5% YoY, reaching RUB 50.6 bln. Trading volumes in Brent oil futures posted the strongest growth, increasing by 19.5% YoY for a total of RUB 17.25 trln. MOEX was one of the leading global exchanges for trading of Brent futures, according to the Futures Industry Association (FIA).

### New Instruments

In 2018, the Derivatives Market saw the launch of a number of new contracts. Notably, Russian market participants and their clients were offered more opportunities to invest in global financial market instruments. The new contracts allow investors to carry out transactions with foreign instruments in the Russian jurisdiction using clear mechanisms with the advantages of the on-exchange market: transparent pricing, liquidity and a reliable infrastructure.

US500 index futures contracts began trading in June 2018. Their underlying asset is the Solactive US Large Cap Index calculated on the basis of stock prices of the 500 largest publicly traded American companies. Since the contract began trading Derivatives Market participants have executed more than 2,000 transactions totaling RUB 93 bln. Open interest at the end of 2018 amounted to RUB 530 mln.

In the context of strong growth of commodity derivatives in 2018, MOEX launched a number of new instruments in this segment. Futures on Light Sweet Crude Oil, one of the most popular grades of crude oil in the world, and margined options on them began trading in April 2018. Since the start of trading, more than 820 market participants have made transactions totaling RUB 50 bln in futures and RUB 5.7 bln in options.

Futures contracts on non-ferrous metals (aluminum, nickel, zinc and copper) began trading at the end of October. Deliverable gold futures contracts also began trading in October, linking the Precious Metals Market with the Derivatives Market. Gold is supplied to the Precious Metals Market, and positions are credited to the precious metal accounts of the market participants opened with the NCC.

Due to the growing interest amongst market participants and their clients in emerging markets currencies, MOEX launched trading in USD/INR FX futures contracts. As per the FIA's global rating, USD/INR FX futures contracts occupy leading positions and are amongst the top three instruments in terms of FX futures contracts trading.

## ***Technology***

In November, MOEX made Sponsored Market Access (SMA) technology available to clients of market participants, allowing them to trade directly on the Derivatives Market. Previously, investors had access to the Derivatives Market only through infrastructure solutions of brokerage companies and banks. New preliminary checks were developed as part of this service, specifically: for price deviation in bids, maximum amount in the order and for the trading day, maximum position and additional broker control functionality.

## ***Liquidity***

To support liquidity and improve order book quality, a number of significant changes were introduced to the programs aimed at incentivizing derivatives market makers over the course of 2018. During the year, more than 60% of instruments were supported by market makers, including index, commodity and FX futures contracts launched in 2018.

The launch of the Indicative Quote System (IQS), a new service that solves the problem of interest income lost by diverting the margin requirement at quotation, allowed trading of less liquid derivatives using their unrealized potential in the market. The provisions for maintaining liquidity in less liquid futures and options series were added to the market maker programs.

## ***Standardized Derivatives Market***

MOEX's Standardized Derivatives Market was created in 2013 in response to a G20 resolution on strengthening the role of the Central Counterparty in financial markets and the need to transfer trading in standardized derivative financial instruments to on-exchange marketplaces.

In 2018, the Standardized Derivatives Market showed impressive results and strong financial performance. For the year, total trading volumes in the Standardized Derivatives Market were RUB 883 bln, which was eight times higher than in 2017. FX swaps, interest rate swaps and FX interest rate swaps were the most heavily traded instruments.

In 2018, six new banks joined the Standardized Derivatives Market, and the number of market participants reached 45.

At the same time, the terms of transactions significantly increased: while in previous years market participants preferred transactions with a term of up to one year, in 2018, transactions with a term of five years became more common.

## FX MARKET

Moscow Exchange is the oldest regulated trading venue in Russia, and has offered FX trading since 1992. The FX Market is the primary liquidity center for the ruble, and as such is a crucial element in Russia's national financial system. The Bank of Russia relies on the FX Market to implement monetary policy and sets the official USD/RUB rate using results of trading on the FX Market. In 2018, operations on MOEX accounted for 65.5% of USD/RUB conversions in Russia and 76% of EUR/RUB conversions in Russia.

The MOEX daily fixing family calculates FX rates for USD/RUB, EUR/RUB, CNY/RUB and EUR/USD necessary for settlement and execution of currency derivatives, and fixings for trades with currency swaps for USD/RUB transactions ranging from one week to one year. The price of execution of futures contracts on the Derivatives Market is calculated based on fixings.

	2016	2017	2018	Change 2018/2017
<b>FX Market trading volumes, RUB billion</b>	<b>329,954</b>	<b>347,671</b>	<b>348,368</b>	<b>0.2%</b>
Spot	107,169	78,380	86,682	10.6%
Swaps and forwards	222,785	269,291	261,686	-2.8%
<b>Currency pairs, RUB billion</b>				
USD – RUB	278,334	285,962	277,751	-2.9%
EUR – RUB	43,065	48,231	59,243	22.8%
EUR – USD	7,669	12,869	10,084	-21.6%
CNY – USD	776	492	1,081	119.9%
Other	110	117	209	79.4%



## ***Trading Volumes***

In 2018, FX Market trading volumes grew by 0.2% YoY to RUB 348.4 trln. Spot trading volumes increased by 11% YoY to RUB 86.7 trln, and trading volumes in the swap and forward segment (lending transactions under pledge of currency) decreased by 2.8% YoY to RUB 261.7 trln.

In 2018, one notable trend was a decrease in USD/RUB trading and an increase in EUR/RUB trading: the share of trading accounted for by the USD/RUB pair decreased from 82% to 80% and the share of trading accounted for by the EUR/RUB pair increased from 14% to 17%. In 2018, the remaining currencies accounted for 3% (versus 4% in 2017), with the most rapid growth in the following pairs: CHF/RUB (growth of nearly six times), CNY/RUB (growth of more than two times), GBP/RUB (51% growth) and KZT/RUB (50% growth).

## ***Expansion of the Client Base***

In 2018, MOEX actively expanded its client base by attracting new categories of market participants. In December, Russia's Federal Treasury received direct access to trading on MOEX's FX Market. This became possible after issuance of a Regulation by the Government of the Russian Federation setting the rules for management of remaining budgetary funds by the Federal Treasury and following introduction of relevant amendments to the statutory regulations of MOEX and NCC.

The project that commenced in 2017 to provide direct access to the on-exchange FX Market for Russian legal entities that are not credit institutions or professional securities market participants continued in 2018. In 2018, 18 major Russian companies from various sectors of the economy were granted access to trade on the FX Market. At year-end 2018, 35 companies traded on the market, and their aggregate trading volume for the year was approximately twice that of 2017 at RUB 538 bln.

More and more brokerage companies started providing their clients with direct access to MOEX's FX Market during the year. The volume of FX transactions by individuals amounted to RUB 14.4 trln, up 47% YoY, and their share of spot transactions was 8.2% (compared to 6.2% in 2017).

## ***Attracting Non-Residents***

In 2018, MOEX continued to develop services and implement projects to encourage non-residents to access the FX Market. These initiatives included Direct Market Access (DMA), Sponsored Market Access (SMA) and International Clearing Membership (ICM).

As at the end of 2018, the FX Market's client base included approximately 12,000 registered non-resident clients from 114 countries. Non-residents still account for approximately 40% of spot turnover.

In 2018, as part of development of the integrated FX Market of the Eurasian Economic Union (EAEU), access to the FX Market was provided to Kaspi Bank (Republic of Kazakhstan), Moscow-Minsk Bank (Republic of Belarus), and VTB Bank (Armenia). As at the end of 2018, direct access to MOEX's FX Market was provided to 14 banks from five Eurasian Economic Union countries, including two international financial institutions: the Interstate Bank and the Eurasian Development Bank (EDB). For 2018, total trading volumes generated by participants of the integrated FX Market almost tripled versus 2017, and amounted to RUB 1.9 trln.

MOEX was the first Russian financial institution to join the FX Global Code, confirming its commitment to global principles of good practice in the foreign exchange market. By signing and publishing the Statement of Commitment to the FX Global Code, the Exchange agreed to adhere to a common set of guidelines to promote the integrity and effective functioning of the wholesale foreign exchange market.

## ***New Product Offering***

As part of its efforts to streamline its product offering and provide participants with additional arbitrage opportunities, MOEX launched trading in new RUB pairs, namely JPY/RUB and TRY/RUB, and new USD pairs: GBP/USD, USD/CHF, USD/CNY, USD/KZT and USD/TRY.

As for the TRY/RUB pair, in January, trades with TOD ("today") settlement and 100% depositing were launched, TOM products and one-day swaps were added in September. As for USD currency pairs, transactions are made with TOD, TOM, SPT (day after tomorrow) products, and swaps. Moreover, the product offering for some traded currency pairs was expanded: for the EUR/USD pair, SPT products and TOMSPT swaps became available; and for KZT/RUB, TOM, SPT and swaps. For the year, the total volume of trades with new products amounted to RUB 825 mln.

New product offerings provide participants with additional possibilities to diversify FX transactions and promote liquidity of MOEX's FX Market. Increased opportunities to trade national currencies of EAEU, BRICS and other countries promote their use in foreign economic activity.

In 2018, two half-year marketing programs for USDRUB\_TOM were launched. To stimulate liquidity, MOEX has 16 market maker programs for RUB pairs in place, under which market makers execute transactions to enhance trade parameters.



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## MONEY MARKET

Moscow Exchange's Money Market is one of the most important segments of the Russian financial market. The Bank of Russia implements monetary policy via the Money Market, and market participants rely on it for day-to-day cash liquidity management.

The key segment of the Money Market is repo transactions with the Central Counterparty (CCP), performed by NCC, which guarantees fulfillment of obligations before all participants.

Repo with the CCP is now the most widely traded key segment on the MOEX Money Market. Since 2016, the Exchange has offered CCP-cleared repo in general collateral certificates (GCC), and since 2017, provided direct access to GCC repo for Russian companies following the launch of deposits with the CCP.

### *Trading Volumes*

In 2018, total Money Market trading volumes amounted to RUB 364.2 trln, which was 3.4% lower than in 2017. Repo trading volumes for 2018 totaled RUB 309.9 trln, accounting for 85% of total Money Market trading volumes; trading volumes of deposit and credit transactions for 2018 totaled RUB 54.3 trln.

The decrease in total Money Market trading volumes was the result of a reduction of direct repo transactions by the Bank of Russia in the context of the liquidity surplus and by the extension of repo transactions with the CCP. Total trading volumes of repos with the CCP (including GCC repos with the CCP) in 2018 increased by 12% YoY to RUB 259.4 tn, accounting for 84% of repo trading volumes at MOEX. The average daily open interest in repos with the CCP (including GCC repos with the CCP) in 2018 grew by one third, amounting to RUB 2.6 trln, and the average duration of repos with the CCP (including GCC repos with the CCP) increased to 3.5 days from 3.2 days in 2017.

GCC repo with the CCP was the fastest-growing repo product: trading volumes in that segment totaled RUB 46.9 trln, 7.6 times higher than in 2017. The average daily open interest in GCC repos in 2018 increased ten-fold to RUB 336 bln.

GCC is a non-issue security provided by NCC in exchange for assets contributed by a clearing member to the property pool. The market participant retains title to the securities contributed to the pool, including the right to receive profits and take part in corporate actions, while at the same time gaining the right to replace those assets with others, or to use them for fulfillment of obligations related to transactions on the Equity & Bond Market and for repos with the CCP.

Trading volumes of deposits with the CCP in 2018 increased 7.7 times to RUB 19.5 trln, accounting for 26% of total volumes of deposit and credit transactions. Average daily open interest in 2018 increased 3.8 times to RUB 107 bln.

The number of participants on the Deposit Market with the CCP tripled in 2018 to more than 100, including industrial corporates, insurance and asset management companies and international financial organizations. Settlement in USD and Euro became available for participants of the Deposit Market with the CCP.

	2016	2017	2018	Change 2018/2017
<b>Money Market trading volumes, RUB billion</b>	<b>333,883</b>	<b>377,141</b>	<b>364,216</b>	<b>-3.4%</b>
<b>On-exchange repo</b>	<b>296,226</b>	<b>339,509</b>	<b>309,913</b>	<b>-8.7%</b>
Direct repo with the Bank of Russia	54,662	35,575	829	-97.7%
Interdealer repo	65,393	72,397	49,663	-31.4%
CCP-cleared repo	176,171	231,537	259,421	12.0%
including GCC-repo	324	6,170	46,888	659.9%
Credit market	<b>37,657</b>	<b>37,631</b>	<b>54,303</b>	<b>44.3%</b>

#### Average repo term, number of days

	2016	2017	2018
Direct repo with the Bank of Russia	7.0	2.7	1.5
Interdealer repo	3.3	2.9	2.5
CCP-cleared repo	2.3	3.2	3.5
including GCC-repo	1.6	2.0	3.1

### *Expanding the Range of Instruments*

As part of continual efforts to strengthen the Money Market and provide additional opportunities for participants seeking liquidity management when using GCC repos, in 2018 two new property pools were created: GCC GC Expanded, which covers all bonds admitted for repo with the CCP, including bonds that are not accepted by NCC as collateral; and GCC OFZ which covers only OFZs denominated in Russian rubles. Thus, there are now four property pools available to participants: GCC GC Expanded, GCC OFZ, GCC GC Bonds (which cover all bonds that are accepted by NCC as the collateral and cash) and GCC GC Shares (all shares that are accepted by NCC as collateral and cash).

In 2018, the possibility of settlements in USD and Euro for all GCC materialized. The new settlement modes in foreign currency were only available to banks with the use of proprietary accounts. At the beginning of 2019, settlements in foreign currency became available for all participants of the GCC repo market.

In 2018, over 300 securities were admitted for repo transactions, including 250 securities for repo with the CCP and more than 60 foreign securities for inter-dealer repo. The most liquid securities for repos with the CCP were GCC GC Bonds, which represented 12.6% of total repo trading volumes.

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## COMMODITIES MARKETS

MOEX promotes commodities trading through two key commodities markets: precious metals and agricultural. Precious metals are traded on the MOEX FX Market platform, while trading in agricultural products is operated by the National Mercantile Exchange (NAMEX), part of Moscow Exchange Group.

### *On-exchange Trading of Agricultural Products*

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Since 2015, MOEX has promoted regulated commodities market trading in agricultural products (deliverable forward contracts for grain). Currently, there is a full line of exchange instruments (forward and swap contracts) for trading in derivatives on cereals (wheat, barley and corn), grain legumes (soy), oil-bearing crops (sunflower) and sugar. Soy and sunflower trading commenced in 2018.

Agricultural products are traded on the Urozhai trading and clearing platform, which enables functionality and specifications to be adapted to industry trade and logistics standards, and allows swift launching of trade with a wide range of underlying assets. The technology provides direct market access for brokers, as well as partners and end clients.

The main advantages of exchange-based trading are transparent pricing and guaranteed fulfillment of awarded contracts. For every buyer or seller, the Central Counterparty represented by NCC acts as a counterparty under the transaction and a guarantor that the transaction will be fulfilled. It also acts as a Commodity Delivery Facility (CDF) and grain keeper, maintains the participants' commodity accounts, and keeps records of cash and guaranteed funds.

As of the end of 2018, total trading volumes in agricultural products increased by seven times year-on-year and reached RUB 38.1 bln. On the grain market, trading volumes in swap instruments increased by seven times and amounted to RUB 34.8 bln, while the forward transactions increased by 24 times and amounted to RUB 1.4 bln (119,000 tons). Since the beginning of operations in May 2018, trading volumes in soy reached RUB 2.3 bln on one accredited base. By the end of 2018, 12 accredited elevators were offered for use in soy trading. In 2018, the sugar market increased by more than eight times and reached RUB 1.9 bln (58,200 tons). As of the end of 2018, 12 brokers, five agricultural holdings and over 280 clients (twice as many as in 2017) traded on the market.

Partners of MOEX's agricultural commodity trading program include Russia's largest agricultural holdings, processing firms, grain traders and exporters. In 2018, 13 grain elevators and 11 sugar storage facilities were accredited. At the end of 2018, the delivery bases included 56 elevators and 20 sugar storage facilities in three federal districts of Russia.

In 2018, NAMEX was again recognized as the winner in an open tender among exchanges for government procurement and commodity interventions. In 2018, the sales volumes from the government intervention fund reached 1,025,300 tons of grain and amounted of RUB 9.94 bln. In total, since 2002, 31.7 mln tons of grain were sold totaling RUB 180.1 bln by way of government interventions, and the total number of trading participants reached over 9,000 producers.

## ***Precious Metals Market***

MOEX has offered on-exchange trading in precious metals (gold and silver) since 2013. Gold and silver are traded on the FX Market platform using a unified system of margining and risk management. NCC acts as the Central Counterparty and provides clearing and settlement services on the market. Metals are delivered to clearing members' precious metal accounts opened with CCP NCC. Post-trade services include dealing with bullion at NCC's depository in Moscow, and an option to use precious metals held on members' accounts with correspondent banks in London and Zurich as collateral.

As of the end of 2018, MOEX total turnover in spot and swap instruments on the precious metals market amounted to RUB 102.3 bln (compared to RUB 121.9 bln in 2017). The spot market also increased by four times year-on-year and reached RUB 17.0 bln.

Forty-five banks, including the Bank of Russia, and 13 brokerage firms now trade on the market.

	2016	2017	2018	Change 2018/2017
<b>Precious Metals Market trading volumes, RUB billion</b>	<b>124.9</b>	<b>121.9</b>	<b>102.3</b>	<b>-16.1%</b>
<b>Grain and Sugar Market trading volumes, RUB billion</b>	<b>12.5</b>	<b>5.7</b>	<b>50.0</b>	<b>771.9%</b>
Grain	12.5	5.3	46.1	773.7%
Sugar		0.5	3.9	751.5%

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# Post-trade services

## CLEARING

Since 2007, the NCC (part of Moscow Exchange Group) has acted as a Clearing House and a Central Counterparty (CCP) for the Russian financial market. Its primary goal is to provide clearing services to market participants and to maintain stability across the Exchange's market by operating an advanced risk management system that meets the highest international standards. The NCC enjoys the status of a qualifying Central Counterparty and is recognized as a systemically important CCP by the Bank of Russia. The NCC is a member of the Global Association of Central Counterparties (GACCP) and the European Association of Central Counterparty Clearing Houses (EACCH).

### Ratings

In 2018, Fitch Ratings affirmed the NCC's ratings. The long-term local currency Issuer Default Rating (IDR) was affirmed at BBB with a Stable outlook (one notch higher than Russia's sovereign rating), while its foreign currency IDR was affirmed at BBB- with a Positive outlook (on par with Russia's sovereign rating).

The Analytical Credit Rating Agency (ACRA) affirmed the NCC's national scale rating at AAA(RU) with a Stable outlook. According to the ACRA, the NCC's credit rating and outlook are due to its strong and stable business profile, exceptional liquidity and capital adequacy position. The rating is additionally supported by the systemic importance status that the NCC enjoys in the Russian financial market.

### Central Counterparty Safeguard Structure

In 2018, the CCP safeguard structure was further improved by unifying the size of clearing members' contribution to the Default Fund in all markets. The contribution of clearing members on the Standardized Derivatives Market was increased to RUB 10 mln.

Alignment of CCP safeguard structures across MOEX's markets is aimed at boosting the reliability and viability of the Central Counterparty and ensuring that the NCC remains financially robust irrespective of market conditions. The safeguard structure put in place meets the highest international CCP standards and the requirements of the Bank of Russia.

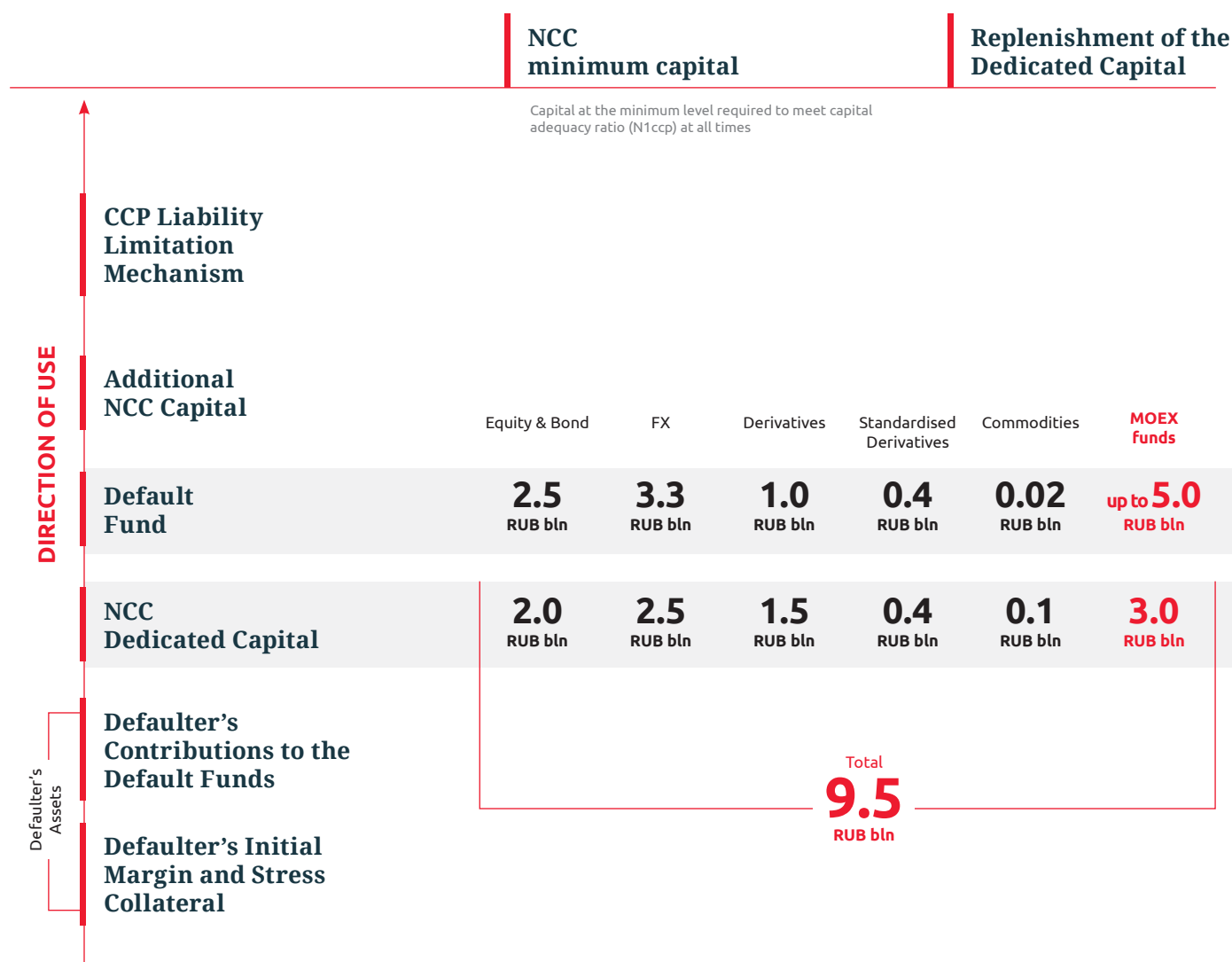
### Reporting and Audit

The NCC Reporting project won the annual 'Project of the Year - Selection of IT Directors in Russia' contest in the Best Solution in the Sector category. The project aims to develop a more effective solution to creating the NCC's mandatory banking and tax reports. The project provided for a systematic restructuring of the procedure for creating mandatory banking and tax reports, as well as reports sent to Rosfinmonitoring. As a result, the reporting process became at least three times faster. Following project implementation, the system needs about 120 minutes to calculate complex interconnected forms on about 60 million transactions per day. The daily report package is created in 10-15 minutes instead of an hour.

In 2018, the NCC successfully passed an operational audit by Deloitte & Touche CIS in accordance with the requirements of the Bank of Russia's Regulation on the Procedure for the Central Counterparty Operational Audit, covering elements of the CCP activities including risk management, model accuracy assessment, stress testing of risks, dedicated capital determination and financial stability restoration.

The international registrar companies Det Norske Veritas and Germanischer Lloyd confirmed the compliance of the NCC quality management system with the international standards of management systems. The certificate of conformity is valid until 10 December 2021 for clearing services, including the function of the Central Counterparty.

## CCP SAFEGUARD STRUCTURE



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## NATIONAL SETTLEMENT DEPOSITORY

The National Settlement Depository (NSD) is Russia's central securities depository, offering its clients a wide range of services, including depository services, settlement and cash services, registration of OTC trades, information services, collateral management services and technology services.

The NSD is recognized by the Bank of Russia as a systemically important central securities depository, settlement depository and repository. The NSD payment system is of systemic and national importance. The NSD has accounts in central securities depositories and international settlement and clearing houses in seven countries, as well as correspondent accounts in several top-tier foreign and Russian banks. At present, the NSD is servicing securities of issuers from over 40 countries.

In 2018, the value of assets deposited at the NSD increased by 12% YoY to RUB 43.9 trln. In 2018, the NSD handled 20,100 corporate actions involving Russian securities, up 30% YoY. The number of corporate actions involving foreign securities grew by 48% YoY, to 12,600.

The value of OFZ balances in foreign nominee accounts totaled RUB 1.7 trln, compared to RUB 2.2 trln in 2017.

### *Central Securities Depository*

In 2018, the NSD continued to develop the centralized system for record keeping of mutual fund units (Mutual Fund Platform), aimed at unifying interactions between brokers, asset management companies and specialized depositories/registrars in the collective investment market. The integration of the Mutual Fund Platform with the QUIK software package was successfully completed, which allowed brokers' clients (nominees) to enter the collective investment market. This integration stimulated brokers, asset management companies and investors to conduct transactions with mutual fund units on the primary market. In 2018, eight new clients, including four asset management companies, joined the Mutual Fund Platform.

In 2018, the NSD continued to develop expertise on the use of blockchain technology. For the first time in Russia, bonds were placed using the NSD's blockchain-based smart contracts. In addition, a pilot ICO was performed together with Sberbank and the Bank of Russia. When regulatory changes in this area come into force, a further decision will be made in relation to the development of this service.

The NSD continuously develops services focused on operations with foreign assets and international markets. In 2018, the NSD provided its clients with an opportunity to open individual accounts for settlements at International Central Securities Depositories (ICSDs). At the end of the year, 10 segregated accounts were opened in Euroclear Bank, allowing for the separate accounting of depositors' securities. The main advantage here is the ability to make payments in the "back-to-back" mode, when funding for a trade is carried out using the difference between the receipt and delivery of securities. Further advantages are additional services used by the ICSDs (technical netting, linked transactions, prioritization of instructions), which increase liquidity and allow a trade to be funded immediately prior to settlement rather than in advance.

### *Collateral Management*

In 2018, the value of repo transactions serviced by the NSD's collateral management system (CMS) totaled RUB 17.6 trln, compared to RUB 42.6 trln in 2017. This included Federal Treasury repo transactions with the CMS totaling RUB 17.3 trln. The average open position of repo transactions with the Federal Treasury's quasi-sovereign bonds with the CMS totaled RUB 300 bln, while the average period of repo transactions increased from 2.89 days in 2017 to 6.17 days in 2018.

In April, participants were given access to repo transactions with a floating rate calculated using monetary indicators developed jointly with the Federal Treasury. The new monetary indicators are linked to the RUONIA ruble money market benchmark and take into account banks' contributions to the mandatory reserve fund. This tool allows participants to raise funds for longer periods and makes borrowing cheaper and more attractive. In 2018, MOEX began connecting Federal Treasury repo transactions to its OTC terminal.

In 2018, the world's first trilateral repo transaction was executed with the use of blockchain-based smart contracts. For settlements, the NSD's collateral management services were used, which allow the parties of repo transactions to automate the performance of mark-to-market margins and report on the OTC trade to the repository.

## ***Repository***

In 2018, the number of trades registered with the NSD's Repository increased by 10.6% YoY to RUB 12.5 mln. The volume of registered trades amounted to RUB 434.8 trln (compared to RUB 472.3 trln in 2017).

The format and logic verification (FLV) service launched in 2017 helped to significantly improve the quality of information provided by clients to the repository. FLV plays an important role in minimizing the number of inaccurate trade parameters and curbing the submission of information that does not meet reporting deadlines specified by applicable legislation.

## ***Corporate Actions Center***

In 2018, 3,969 meetings of securities holders were organized through e-voting technology, 338 corporate actions on the repurchase of securities totaling RUB 65 bln and 40 corporate actions related to the exercise of preemptive rights, which resulted in RUB 6.3 bln worth of securities being purchased.

In 2018, 13 shareholder meetings were held using e-voting technology; the e-voting systems and the registrar's system were used simultaneously at several meetings, providing investors and issuers with the widest possible opportunity to use the e-voting service.

## ***Settlement and Payment System***

In 2018, the value of money transfers in Russian rubles decreased by 18% YoY to RUB 288.8 trln, while the value of transfers in foreign currency increased by 20% YoY to RUB 46.9 trln. In 2018, the total value of operations in Russian rubles and foreign currency on clients' bank accounts totaled RUB 335.7 trln.

In 2018, the NSD improved communication channels with clients via an API (a banking webservice). The system now enables the connection of clients' software packages to the NSD's payment services in real time.

## ***Identification of Market Participants***

In January 2018, the NSD was the first company in the Russia and CIS region to obtain local operating unit (LOU) status, having passed all stages of the accreditation process by the Global Legal Entity Identifier Foundation (GLEIF). In addition to the Russian Federation, the NSD as LOU serves other jurisdictions, including the CIS, Western and Eastern European countries, and other countries of the world, whose market participants may apply to the NSD for the assignment and service of legal entity identifiers (LEI).

The NSD also acts as the National Numbering Agency for Russia and the Substitute Numbering Agency for the CIS countries that assigns international security code numbers, such as ISIN, CFI and FISN. In 2018, the NSD, as the National Numbering Agency, assigned 1,754 ISIN, CFI and FISN codes to Russian financial instruments, and 34 codes as the Substitute Numbering Agency.

The NSD, as the Numbering Agency and LOU, ensures the implementation of international codification standards in the Russian and CIS markets, which increases market transparency, promotes the markets' integration into the international market infrastructure and simplifies and optimizes operations in the financial market.

## ***Technology Services***

In 2018, 13 new users were granted technical access to SWIFT services, bringing the total number of users to 69. The average monthly traffic of Service Bureau clients rose 43% YoY, amounting to 332,000 messages per month. In 2018, the Bank of Asia became the first client of the NSD's SWIFT Service Bureau in the Kyrgyz Republic.

The Transit 2.0 project, a new system for the exchange of financial messages between corporations and banks, created by the NSD based on the previous version of Transit, continued to be actively developed. Until now, its main user base has been professional securities market participants who exchanged electronic documents during depository activities and cash settlements. The updated version of the project significantly expands the user base and capability of users. The system can now be used by corporations and banks for automatic exchange of payment and documentation, including messages in the ISO 20022 international format.



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# Information products

## INDICES

The MOEX Russia Index and RTS Index are the key benchmarks for the Russian equity market. They are calculated based on the most liquid shares of major Russian issuers. The MOEX index family includes the Blue Chip Index comprising 15 shares of the most liquid and largest capitalization issuers, the Mid- and Small-Cap Stock Index consisting of liquid shares of mid- and small-cap companies, and the Broad Market Stock Index that includes the top 100 Russian companies based on their liquidity and capitalization. The shares covered by the Broad Market Index are used to form baskets of industry indices by dividing its calculation base by sector profiles. MOEX also calculates several industry-specific indices, namely the indicators of a certain market segment not included in the basic line: public sector indices, innovations indices and the MOEX 10 Index. The MOEX bond index family includes the indices of corporate, government and municipal bonds segmented by their duration and credit quality.

### Index Rebranding

MOEX completed the rebranding of its entire index offering. At the first stage, in late 2017, MOEX changed the name of the main stock market benchmark: the MICEX Index was renamed the MOEX Russia Index (with a new trading code of IMOEX). The second stage came to fruition on 21 January 2019, when an additional 19 indices were renamed to reflect the MOEX Russia Index brand. The name of the RTS Index remained unchanged. The MOEX Russia Index and RTS Index have identical constituents with identical weightings, but are calculated in different currencies (MOEX Russia in RUB, RTS in USD).

The rebranded suite of indices helps to raise the awareness and value of the Group's brand and contributes to a more cohesive perception of MOEX and the Russian financial market among domestic and international professional and retail investors.

The trading codes of indices are used on the MOEX website, in newsletters, in the trading systems of stock and forward markets, on the statistical server, in information products and in FAST threads.

### New Indicators

MOEX started calculating and publishing a new index tracking performance of the Money Market, the MOEXREPO GCC Index, which is determined based on CCP-cleared repo transactions using general collateral certificates (GCC).

The new index reflects the value of secured money as free of any counterparty risk or the specifics of certain securities issues, and provides for rapid comparison between the rates across different segments of the highly liquid CCP repo market. The MOEXREPO GCC Index has become another gauge in the line of repo rate indicators with CCP with bonds and shares.

In 2018, MOEX developed a new service for calculating the indicative Net Asset Value (iNAV) for asset managers and participants engaged in the roll out and support of structured financial products. This service became especially relevant in 2018 in view of newly introduced regulation of exchange-traded investment funds.

Late in 2018, MOEX launched a new benchmark, the MOEX Russia Index of Russian Liquid Eurobonds, which is the market indicator of sovereign and corporate Eurobonds issued by or for the benefit of Russian issuers. The Index includes the 10 most liquid Eurobond issues of high credit quality maturing in one to ten years, and is calculated based on total return.

MOEX calculates indices at clients' request. Indices may cover various segments, such as shares or bonds traded both on MOEX and on other foreign platforms. Such indices are widespread globally and are used to implement trading and investment strategies.

## ***International Recognition of Indices***

The results of an annual external audit by Ernst & Young confirmed that the Index Management Division complies with the 19 principles of the International Organisation of Securities Commissions (IOSCO).

The audit covered FX fixings, equity indices, government and corporate bonds indices, pension indices and repo and swap rate indicators.

The report confirms the transparency of MOEX's index management procedures; the high quality of the Exchange's index generation, calculation, and disclosure process; and the effectiveness of MOEX's internal controls over the development, calculation and release of financial indices and market benchmarks.

## **MARKET DATA**

The primary focus of Moscow Exchange's information services is providing market data containing value, quantity and volume parameters for bids and transactions made on its markets, as well as aggregated indicators used in its financial and investment activities: market prices and recognized quotations. Information services related to the provision of market data include real-time quotation flows, official trade results for each trade session on each market, and archival data accumulated by MOEX over a long period. Information about quotations provided by MOEX is used extensively by traders in their risk management and automatic trade systems, and is posted on public websites of media vendors and traders to attract new clients and create new derivative indicators reflecting the condition of the Russian financial market.

To deliver information about trading, MOEX uses both the infrastructure of partners who include leading Russian and international media vendors (currently more than 20), and the interfaces of its own corporate website and those of special programs developed by MOEX. As part of the development of its information business to provide quotation flows and historical data, MOEX has concluded over 450 information agreements, including almost 400 with Russian counterparties.

In 2018, MOEX launched a new information service for traders that provides prompt reports on non-standard transactions in order to improve the internal control over compliance with legal requirements and the requirements of the financial markets regulator on the traders' side. This service makes it possible for market participants to receive and respond on a daily basis to information about their own non-standard bids and transactions, and to respond to non-standard bids and transactions by clients. Besides higher efficiency, traders are able to evenly distribute their month's work in terms of analyzing non-standard bids and transactions and preparing monthly reporting to the regulator.

MOEX introduced new principles of defining Non-Display Usage of its market data for its traders and information clients. This step helped to further align the terms of using the Exchange's market data for traders and other clients who benefit from MOEX's information services. In 2018, more than 200 contracts were signed with new partners.

All necessary technologies have been prepared to launch a service giving access to historical trading data on the bonds market, which will help to increase interest among new potential players and investors to this segment of the on-exchange equity & bond market, including by enabling deeper analysis of historical data on fixed income instruments. The product is planned to launch in the first quarter of 2019.

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## VALUATION CENTER

The NSD's Valuation Centre is being further developed. Every day it calculates the value of about 800 exchange-traded ruble-denominated and mortgage-backed bonds and publishes reference pricing data for over 1,500 instruments.

In 2018, the Valuation Center's Expert Council approved the Fair Value Measurement methodology for Russian bonds placed by the Finance Ministry on the global capital market. The methodology is based on IFRS 13 and measures fair prices of eurobonds taking into account data about the Russian and foreign OTC markets, quotations, price behaviors of issues with different maturity dates, and interest rates. Publication of Eurobond prices using the new methodology started in December 2018.

In 2018, MOEX and the Interfax news agency launched RU Data Price, a service intended to measure the value and risks of bonds using data from the Price Centre and Thomson Reuters. MOEX also launched its new product, a "single window" for corporate information disclosure.

## ANALYTICAL PRODUCTS

MOEX has implemented new analytical products for funds, algorithmic and high-frequency traders. Developed using market data, they enable investors to improve the efficiency of their existing strategies and create new ones.

- ▶ The Aggregated Net Volume 2 product is calculated for the ten most liquid shares traded on MOEX and is primarily intended for algorithmic traders.
- ▶ The Timestamps Analysis product makes it possible for HFTs to measure the timestamps for their own bids on various sections of the exchange infrastructure as compared to other bids.

MOEX also calculates the Aggregated Net Volume 1, which is the net volume of trades as of the day end by groups of clients, defined based on numbers of transactions and daily average trading volumes. The product is provided for Sberbank and Gazprom shares in the USD/RUB currency pair, as well as for RTS Index futures and the USD/RUB pair.

# Client services

In 2018, Moscow Exchange continued improving its services to ensure effective cooperation with clients and customers, reduce costs incurred by them and optimizing document flow.

In addition to professional financial market participants (Russian banks and brokerage companies) and non-residents, who historically have been the main customer groups of MOEX, since 2017 our customer base expanded to include non-financial and insurance companies, who were granted direct access to the Exchange's FX and Money Markets.

To improve the quality of client service by the client support department, in 2018 six key areas were identified: work with corporate customers, cooperation with foreign participants, commodities market operations, improvement of internal processes, market-making and clearing. By developing their expertise in these areas, personal managers will be able to respond to customers' requests faster and with higher quality.

As a part of the ongoing expansion of communication channels with customers, we added more functionality to the Trading Participant Online Account service, which is now used to provide trading and clearing reports on all markets, information on market admission statuses and financial information.

The single registration service for clients of trading members was improved. In April 2018, trading members were provided with an online registration service through file exchange within the Electronic Document Interchange system (EDI system). In October, a project to register new clients via trading members' API connections to MOEX systems was implemented. This allowed private investors to gain access to trading almost instantly after opening a brokerage account.

To cut costs and optimize document flow by implementing procedures for obtaining information from publicly available sources (Federal Tax Service and Rosstat websites), the list of documents to be submitted by customers for admission to trading was reduced by 50%. Work on transition of the Money Market to the unified scheme has been completed, with uniform admission regulations, a uniform participation agreement and depersonification of traders. This allowed a further 30% reduction in document flow for Money Market participants.

Restructuring of the departments in charge of customer relations increased the efficiency of client service and the transparency of procedures, and allowed for more diversified and qualified support to be provided to customers. To speed up admission procedures and support regional customers, some of the functionalities were delegated to MOEX regional offices.

In 2019, it is planned to reduce the quantity of paper documents received from customers, with key interactions taking place by submission of electronic documents through an online account. At the beginning of 2019, a large project will start to simplify and automate acceptance for servicing, which will significantly reduce the waiting time for admission to trading and clearing, as well as the volume of document flow and the resources used by these processes by the Exchange and by customers.

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# Information technology

Moscow Exchange is both a diversified venue for trading of financial instruments and a company with a sophisticated informational technology infrastructure including unique proprietary solutions across trading, clearing and risk management. The Group places a major emphasis on strengthening its IT systems and providing clients with highly reliable infrastructure and best-in-class services. MOEX's technologies for trading and settlements are based on state-of-the-art IT platforms on the level of the world's most sophisticated trading venues.

## INFRASTRUCTURE

MOEX's computing capacities are placed in two cutting-edge data processing centers (Data Centers), namely DataSpace (primary) and M1 (standby). DataSpace is the first commercial data processing center in continental Europe and Russia to be awarded Tier III Certification of Operational Sustainability-Gold, designations for the highest reliability and security.

On its platforms, MOEX operates the most advanced server and networking equipment offered by major global manufacturers.

## TECHNOLOGICAL ACCESS TO TRADING

Moscow Exchange Group offers a complete range of solutions to allow clients to begin trading, with options to select the most appropriate operational efficiency, including remote connections through networks of authorized operators, global financial networks, dedicated channels, Internet, and international points of presence in key financial centers, such as London, Chicago, New York and Frankfurt. In 2018, MOEX increased its presence in Asia and the Middle East, making it possible to connect in Singapore, Hong Kong, Shanghai, Dubai and Mumbai, and it opened a new connection point in Chicago Data Centre in Aurora, Illinois that is home to the core CME GLOBEX.

Clients can access trading on the Group's markets and distribution of stock-ticker data through standardized protocols FAST and FIX as well as proprietary protocols TWIME and Plaza II. In 2018, MOEX released an updated version of the FAST protocol and rolled out the auxiliary FAST service Full\_orders\_log Online, the fastest way to receive real-time information about all on-exchange trades and orders on the Derivatives Market with nanosecond breakdown. The new service was launched in the first quarter of 2019.

The colocation area located in the primary Data Center (DataSpace) provides the highest level of reliability, accessibility and security of connectivity for high-frequency trading customers operating on MOEX's markets. At present, approximately 40 professional market participants use the colocation services. In 2018, under the development process of a range of the colocation services, MOEX put into operation several new services, including, but not limited to, the possibility of allocation of extra electricity supply above the standard offering, booking stands for up to three months without feed supply with the possibility of assembly and commutation of customer's equipment and connection of intake units of global positioning systems (GPS, GLONASS, etc.) for customer use.

In 2018, MOEX switched to a new model of by-login billing that reduces paperwork and operational expenses for business continuity. Under the project, MOEX performed a fundamental update of its information systems and business processes that allowed for a uniform model of technical access across all markets, a uniform system of control and monitoring of identifier issuance and a uniform billing system for technical access services.

In 2018, the Group put into operation MOEX Dealing, an expanded version of an electronic chat with participants of the interbank market being able both to hold negotiations and agree upon terms of bilateral transactions related to interbank financing and trades with FX spot and swap and to fix and save the achieved arrangement in special data retention modules for their back offices. The first customers were connected to this system in 2018.

## RELIABILITY MANAGEMENT AND INFORMATION SECURITY

MOEX places great emphasis on reliability of its trading and settlement infrastructure. It completes the year with an availability indicator of 99.99%.

Uninterrupted functioning and fault tolerance is supported by "hot" and "warm" booking technologies that ensure quick recovery of trading and clearing systems.

MOEX's technical policy relating to IT infrastructure provides for reliability of the hardware systems: the server equipment servicing crucial trading and clearing transactions is under three years old, and networking equipment is under five years old. MOEX conducts regular information security audits, including tests for intrusion, regular anti-fishing tests and continues to improve the security systems.

In 2018, following the results of Lloyd's Register Quality Assurance, the Group received certificates of conformity with international standards ISO 27001:2013 (Information Security Management) and ISO 22301:2012 (Business Continuity Management) for organizers of on-exchange trading, clearing and provision of services at stock, derivatives, FX and money markets. The certification is voluntary, and it presupposes that MOEX and NCC completely comply with over 100 technical and administrative measures designed to ensure information security and business continuity.

In 2018, to improve safety, MOEX created a mobile standby office designed to ensure availability of services in case of emergency.

## MODERNIZATION OF TRADING AND CLEARING SYSTEMS

MOEX's markets are based on two trading and clearing systems, ASTS (Equity, Money, FX and Precious Metals Markets) and SPECTRA (Derivatives Market). The software systems have a modular architecture that provides for both operational efficiency and fault tolerance of exchange infrastructure. The operational efficiency of MOEX's trading systems is in line with those of other major global trading venues. In the aggregate, the systems are capable of processing up to 200,000 transactions per second.

In 2018, the Group implemented a version of the trading and clearing system of the FX Market with independent hardware cores for trading and clearing. This was the most significant technological update in the history of the FX Market's trading and clearing system. In addition to a new architectural solution with integration of physically divided trading and clearing components through the high-speed data bus Confinity Low Latency Messaging, the hardware platform underwent a fundamental upgrade. Now, all servers interact under a high-speed network built with the use of Infiniband cards. As a result of these updates, the total operational efficiency of the system grew 1.5 times.

In the trading and clearing system of the Derivatives Market, risk module functioning algorithms were completely revised to extend integration between the FX, Equity and Derivatives markets and to develop functionality of a single pool. The module operation is supported by AVX vector processors in the hardware platform that allowed 2.5-3 times acceleration of the necessary computations.

The Group implemented a system of preparation of compulsory regulatory reporting created with the use of the technological stack Apache HADOOP and Oracle Application Express/ExaData. This system reduces the time required for preparation of reporting forms by 3-6 times. The use of free distributed software reduced the cost of ownership approximately 2 times. Under of this project, the Group built a data repository in the data-lake architecture to accumulate and work with large heterogeneous arrays of historical data.

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# Outlook for 2019

Moscow Exchange will continue delivering on its strategy aimed at expanding the customer base, including attracting new categories of investors, and upgrading technologies in order to provide the most modern and reliable services to market participants and customers.

## GROWING THE RETAIL INVESTOR BASE

As part the program to attract retail investors to the regulated market, Moscow Exchange plans to launch the online financial supermarket “Marketplace”. The technological capability of the electronic platform to open bank deposits remotely was ensured in February 2019. Access to the platform will be opened for consumers after the adoption of the necessary legislative changes. Initially, customers will be able to open deposits with banks that are participants of the project. By the end of 2019, the “supermarket” range of financial products may be expanded to include credit, insurance and investment products.

Access to the platform will be provided through the Unified System of Identification and Authentication (USIA, also known as the State Services portal) and the primary customer identification completed through a unified biometric system. The platform will ensure all stages in the conclusion of an agreement with the bank, secure transfer of funds to open a deposit, access to up-to-date account information and additional operations such as depositing, withdrawing or closing a deposit.

The Exchange will also continue the development of the MOEX Marketplace website, created to promote exchange-traded instruments among private investors. Any novice investor can find information about the most popular exchange-traded instruments on the Internet portal [place.moex.com](http://place.moex.com). In 2019, the Exchange plans to introduce remote opening of accounts with partner brokers through user account. At present, nine companies are partners of the project.

In March 2019, the Exchange introduced a new facility for retail investors – Trust Management Marketplace. The service publishes the investment performance of Russia’s leading asset management firms. This marketplace helps customer’s achieve financial goals through solutions offered by the professional investment community. The service will be further developed to offer customers the option of buying/selling shares of various asset management companies by using the customer’s online account and monitoring their unified positions.

It is planned to further expand the FINFAIR Financial Solutions Fair, which will be held in the autumn of 2019. In addition, the Exchange will hold annual competitions for private investors, namely Invest Trial and Best Private Investor contests, as well as events under the auspices of the Moscow Exchange School.

## BONDISATION

One of the Exchange's most important projects is "bondisation", i.e. development of the Bond Market in order to reduce borrowing costs for companies hailing from the real sectors of the economy, attract long-term money into Russia and expand opportunities for small businesses to tap the fixed income market. Despite the high level of liquidity in the banking system, small companies remain cut off from the debt market due to the increased pressure of such loans on banks' capital. Under these conditions, the Equity and Bond Market becomes an important resource for business development, especially given the arrival of retail investors, who consider bonds as an alternative to bank deposits.

To encourage new issuers to enter the market and to help companies that implement environmental and social projects to raise financing, in 2019 the Exchange plans to create a Sustainable Development Sector that will include "green" and "social" bonds. The Sector will allow for the correct positioning of these issuers, establish criteria that will allow these issuers to seek government support and provide investors with more complete information regarding sustainable financial instruments.

In 2019, boosting Bond Market liquidity will be a key area of emphasis as the Exchange continues to develop the market infrastructure. The focus will be on improving market-making programs and exploring new opportunities for auctions.

The Exchange will also continue to grow the Eurobond market. In particular, MOEX is considering granting admission to the OTC system of the Bond Market, which launched in 2018. This would significantly expand the list of products and services of the Bond Market.

MOEX seeks ways to expand a number of post-trading services and introduce some elements of an OTC book-building service.

The Exchange is considering reforming the listing levels of bonds, including the abolition of the second-level quotation list, as well as modernization of requirements and the segmentation of instruments. In addition, in 2019 the Listing Rules will be aligned with the amendments to the law On the Securities Market, simplifying issuance of securities. Those changes will then come into force in 2020.

As part of the modernization of bond indices, MOEX plans to launch a new index that will serve as the basis for creating fixed income exchange-traded funds, including the most liquid issues of Russian bonds with strong credit ratings.

Furthermore, the Exchange intends to begin using credit ratings assigned by Russian rating agencies to assess the credit quality of the issues when included in index calculation bases, which will increase the representativeness of various segments of the exchange-traded bond index family and allow market participants to assess market risks more accurately.



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## TECHNOLOGICAL DEVELOPMENT

The need to keep up with the latest trends in the global financial market, meet the technical needs of market participants and the importance of having services and technological products similar to leading international trading platforms, make technological development a priority when planning for the coming years. In short, maintaining cutting edge technology will allow the Exchange to remain competitive in the global market.

On the Equity and Bond Market, MOEX plans to introduce direct clearing membership for foreign members, i.e. International Clearing Membership (ICM), which was launched on the FX Market in 2014 and on the Derivatives Market in early 2019. The initiative aims to delineate “trading member” from “clearing member” status and provide clearing services first of all to non-resident clearing members.

In 2019, the Standardized Derivatives Market will be included in the Unified Collateral Pool project, which will allow the members to use euro and securities as the collateral (for now, the members can only use rubles and dollars as the collateral). The Exchange also plans to develop API services, which will provide participants of the Standardized Derivatives Market the opportunity to trade through external trading systems, for example, Bloomberg.

In 2019, under the development of a new model of by-login billing for technical access services, the Exchange plans to ensure integration with NCC services. In addition, MOEX will provide market participants with online services for full control of orders for information and technology services, thus minimizing the time required to gain access to trading.

In 2019, the Exchange will continue to expand its co-location area in the data processing center and develop new co-location IT services.

To enhance its service offering, the Exchange plans to roll out a collateral assessment service as part of the Unified Collateral Pool project. It is designed to help participants evaluate the collateral required for a certain portfolio, extra stress collateral and collateral for buying complex financial instruments when expanding an existing portfolio, as well as give guidance on how best to transfer assets to minimize total collateral requirements.

## EXPANDING THE PRODUCT OFFERING

Moscow Exchange's product offering is one of the most diversified among the world's large trading platforms. Nonetheless, the Group constantly works to continue to expand its offerings.

In 2019, the Exchange plans to create a new Money Market benchmark calculated on the basis of GCC repo trades with the CCP, which will contribute to the formation of the interest rate curve. Futures contracts in the Derivatives Market and interest swaps in the Standardized Derivatives Market will be launched for the new Money Market benchmark. This will provide market participants with additional trading strategies.

Together with Sberbank, the Exchange plans to implement a project to launch a futures on real estate index, the basic asset of which will be the index of the cost per square meter of residential real estate in Moscow based on a database of mortgages issued.

The futures product line will be expanded with the addition of contracts on commodities, including Russian benchmarks. In particular, in cooperation with St. Petersburg International Mercantile Exchange (SPIMEX), MOEX plans the launch of commodity futures on energy assets. This will expand trading opportunities for market participants and allow them to simplify hedging of their price risks.

In the Standardized Derivatives Market, trading will begin on interest rate swaps for the rate of return on a currency swap for a period from three days to one year, as well as interest rate derivatives for the key rate of the Bank of Russia. The plans also include the modification of exchange-traded instruments, i.e. interest rate and interest rate currency swap in terms of extending the contract term from five to ten years.

The Equity and Bond Market will offer new exchange-traded funds (ETFs) – both foreign and domestic ETFs – to provide investors with more options to diversify their investments.

The Exchange will further streamline its FX offering by strengthening the USD/RUB Fixing Electronic Matching Service. Matching at the weighted average USD/RUB FX rate set by MOEX at 11:30 am MSK as the official Bank of Russia rate will be made available to give new opportunities to banks, brokers, their clients and companies involved in cross-border trade to make currency exchange transactions and sell foreign currency earned.

The Exchange will continue to expand the instruments on currency pairs on the FX Market. In particular, the end time of trading in CNY, CHF, KZT, BYN and TRY on TOD instruments and TODTOM swaps will be extended from 11.00 am to 12.00 noon.

Moscow Exchange is considering expanding the list of agricultural assets traded on the Commodities Market with the potential addition of oil-bearing crops, soybean meal, sunflower meal and sunflower oil. The Exchange also plans to launch cash-settled futures for Russian sugar and grain.

As part of the development of information services, in 2019 the Exchange intends to prepare a new separate information product with data on trading in the Money Market, including information on repo transactions and deposits. A service with information products of NSD and MOEX will be introduced on the unified platform via the Exchange's website to allow customers to use all information services of the Group via a single interface with a simplified document interchange process.

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## LIQUIDITY

To stimulate liquidity, expand different matching techniques and assess the impact thereof on liquidity, the Exchange will launch a pilot USD/RUB order book with a minimum lot of one million US dollars, simulated random delay for order entry and prioritized cancel transactions. A similar technique is employed by a number of international FX platforms; it eliminates arbitrage between technical access of different trading members and allows them to trade large lots.

The Exchange also intends to introduce a cross-market market-maker program, implying the simultaneous maintenance of the liquidity of “mirror” exchange-traded instruments in various markets of the Exchange. It will provide market makers with the opportunity to reimburse the commission paid for making transactions using instruments of each of the markets, as well as additional remuneration in case of fulfillment of market-maker obligations for the “mirror” instruments simultaneously in each of the markets. The new program will allow the use of the synergy effect of simultaneous quoting by large participants of related instruments, as well as to activate existing market makers.

## EXPANDING THE CUSTOMER BASE

In 2019, Moscow Exchange plans to implement a new model of connecting foreign clients through international points of presence (in the UK, Germany, the US, Asia and the Middle East) and international telecommunication networks (ESP/NSP) specializing in the delivery of financial data. This will allow clients to access the Exchange’s data and trading services through communication channels with ESP/NSP networks without having to establish a physical connection directly to the exchange infrastructure in Moscow. Foreign clients will benefit from quicker access to the Russian financial market and correspondingly lower costs for network and other technological services.

Extending MOEX’s international presence facilitates access to the Exchange’s markets for international clients. In 2019, six new points of presence (PoP) will be added – in Hong Kong, Singapore, Shanghai, Dubai and Mumbai along with the PoP at the Aurora data center in Illinois which hosts the CME Globex matching engine. Existing PoPs are in London, Frankfurt, Chicago and New York.

As part of the Exchange’s efforts to attract Russian non-financial companies and non-residents to trade on its markets, the company will continue to streamline connectivity procedures for new customers. Connectivity mechanisms and plans will be designed for every new participant individually; the Exchange will hold workshops and special webinars, including events designed for English-speaking customers, to provide insight into issues on connectivity and on-exchange trading. Thanks to expansion of partnerships with technology providers, international participants will be given the opportunity to connect to the Exchange and trade on its markets using their usual software developed by the market leaders and certified by the Exchange.

It will become possible for new Derivatives Market clients to complete their registration online (since 2018, the Equity and FX Markets have had this functionality), which will allow new clients to begin trading almost instantly after opening an account on the broker’s or bank’s website.

The Exchange plans to provide non-financial companies with direct access to the Standardized OTC Derivatives Market.

MOEX will continue to actively develop its OTC systems. In the FX Market, MOEX plans to organize a special trading mode for clearing members by attracting foreign currency liquidity in G10 currency pairs from large international banks under the Links With Foreign Liquidity Providers project. The development of the project involves an increase in the number of liquidity providers and the addition of new currency pairs, namely USD/CNY and USD/TRY.

Together with the China Foreign Exchange Trade System (CFETS) and the Shanghai Clearing House (SHCH), the Exchange is designing a joint infrastructure solution to create a single trading pool in the CNY/RUB currency pair through a joint link with CFETS.

The Exchange also plans to expand new customized mechanisms for liquidity takers/makers that are recognized globally among OTC FX platforms: Request for Streams (RFS), ESP (Executable Streaming Prices) and liquidity aggregation.

# Human resources

## HUMAN RESOURCES POLICY

Moscow Exchange aims to be a first-choice employer, offering its employees equal opportunities to harness their skills, talents and potential regardless of age, race, gender or social background.

The Exchange's human resources policy has three main objectives:

- ▶ to attract, incentivize and retain highly qualified professionals and managers;
- ▶ to facilitate continuous professional development of employees;
- ▶ to create an atmosphere that allows each employee to achieve his or her full potential and contribute to the success of MOEX and the achievement of MOEX's strategic goals.

In accordance with applicable laws and Moscow Exchange's Code of Business Ethics, the Exchange does not tolerate labor discrimination. The Code of Business Ethics, amended in 2016, calls for all employees to adhere to principles of equality with respect to labor rights, to not discriminate towards personnel and customers on the basis of gender, race, skin color, nationality, language, origin, property, marital status, social or occupational position, age, residency, religious beliefs, personal opinions and affiliation or non-affiliation with non-governmental associations or social groups. MOEX shall also respect each employee's culture, personal views and lifestyle and refrain from any action that would promote the creation an atmosphere of intimidation, hostility, offence or violation of human dignity in the workplace.

The Code of Business Ethics is published on MOEX's intranet portal and incorporated in all job descriptions and employment contracts. As part of the on-boarding program, all new employees are provided with a New Employee Handbook that includes a section on business ethics. In addition, a course on business ethics is included in the Group's compulsory training program. Newcomers are also briefed on matters related to business ethics, conflicts of interest and the use of insider and confidential information by the Internal Control Department as part of the on-boarding program.

In 2018, MOEX LAB was launched. Under this program, any employee may propose a project, assume responsibility for its implementation and receive resources for its development. The program is aimed at identifying new opportunities for growth or diversification of the Group's business, improving the experience of users of MOEX products and services, enhancing customer loyalty, training employees and increasing the attractiveness of MOEX's HR brand among young professionals.

MOEX continuously improves its HR management processes and employee training programs. In 2018, the HR Strategy focused on the well-being and comfort of employees, and implementation of initiatives to give employees greater flexibility in terms of their workplace, schedule and hours on the job. The Exchange continues to develop its HR Digital platform, an HR environment intended to underpin policy implementation with advanced HR technologies.

In addition to the continuing automation of different areas of HR, in December of 2018 the Group introduced MOEX FeedBack to replace Net Promoter Score (NPS), with the aim of enhancing efficiency of cross-functional cooperation and activity of employees, boosting the level of employee engagement and strengthen internal processes. This service allows each employee to provide and receive feedback continuously (365 days a year) with respect to any event/project or cooperation of employees.

### Personnel structure by category<sup>1</sup>

Employees excl. those with a second job in the Group (incl. maternity leaves).	2016		2017		2018	
	Male	Female	Male	Female	Male	Female
Senior executives	17	4	17	4	14	5
Heads of functional units	243	176	256	176	239	161
Specialists	533	609	564	589	610	629
Laborers	31	0	31	0	31	0
<b>Total</b>	<b>824</b>	<b>789</b>	<b>868</b>	<b>769</b>	<b>894</b>	<b>795</b>
	<b>1 613</b>		<b>1 637</b>		<b>1 689</b>	

### Personnel structure by age<sup>1</sup>

Employees excl. those with a second job in the Group (incl. maternity leaves).	2016		2017		2018	
	Male	Female	Male	Female	Male	Female
Under 25	42	29	56	32	45	37
26-35	278	283	304	274	297	269
36-55	392	421	395	411	426	426
Over 56	112	56	113	52	126	63
<b>Total</b>	<b>824</b>	<b>789</b>	<b>868</b>	<b>769</b>	<b>894</b>	<b>795</b>
	<b>1,613</b>		<b>1,637</b>		<b>1,689</b>	

1. As at the end of the period.

## Staff turnover

	2016		2017		2018	
	Male	Female	Male	Female	Male	Female
Under 25	5.6%	2.7%	16.1%	15.6%	22.2%	13.5%
26-35	13.8%	6.2%	10.9%	10.6%	15.2%	10.8%
36-55	7.9%	3.3%	7.1%	4.6%	7.5%	4.0%
Over 56	3.0%	9.2%	7.1%	9.6%	8.7%	4.8%
<b>Total</b>	<b>9.2%</b>	<b>4.7%</b>	<b>9.0%</b>	<b>7.5%</b>	<b>11.0%</b>	<b>6.8%</b>
	<b>7.0%</b>		<b>8.3%</b>		<b>9.0%</b>	

## Average number of training hours

### Corporate training

			Total training hours					
	Average annual number of training hours per employee	Corporate (skills) training	Training breakdown by gender		Training breakdown by employee category			
			Male	Female	Senior executives	Heads of functional units	Specialists	Laborers
2016	10.18	16,418	9,051	7,367	658	7,829	7,931	-
2017	10.51	17,208	7,280	9,928	1,176	5,336	10,696	-
2018	6.52	11,014	6,687	4,327	596	6,184	4,234	-

## Professional training

			Total training hours					
	Average annual number of training hours per employee	Professional training	Training breakdown by gender		Training breakdown by employee category			
			Male	Female	Senior executives	Heads of functional units	Specialists	Laborers
2016	15.58	25,124	13,638	11,486	568	8,240	16,316	-
2017	11.20	18,337	9,773	8,564	754	6,431	11,152	-
2018	12.52	21,147	10,541	10,606	445	6,897	13,373	432

## Professional and corporate (skills) training

	Total training hours	Average annual number of training hours per employee
2016	41,542	25.75
2017	35,545	21.71
2018	32,161	19.04

## Assessment of performance and career progress

	Employees assessed by category				Employees assessed by gender	
	Senior executives	Heads of functional units	Specialists	Laborers	Men	Women
2015	-	97%	95%	97%	93%	93%
2016	-	97%	93%	96%	97%	90%
2017	-	96%	93%	93%	94%	97%
2018	-	99%	91%	100%	90%	95%

<b>Mandatory occupational safety activities in the Group</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Occupational safety training for heads of units (number of heads)	64	120	9
Operational control (number of workplaces)	19	820	900
Pre-employment and scheduled medical examinations (number of people)	66	8	108
Special evaluation of working conditions (workplace declaration), number of workplaces	145	19	1101
Psychiatric examinations	-	16	-
First aid training	-	45	136

## ORGANIZATIONAL STRUCTURE

MOEX pays close attention to continually improving efficiency of its business processes and management systems.

In 2018, two key areas – sales and product development – were separated as part of an effort to ensure standard market division structures. To promote the Exchange's products and services for designated segments of customers and to facilitate cross-market activities, as well as to organize complex cross-market work with key customers and issuers, new business units were established. These changes were aimed at enhancing the efficiency of each market, optimizing business processes and unifying the customer engagement process, including with the aim of improving customer satisfaction and the total volume of services. This transformation was designed to introduce a flatter management structure within business units, which is in line with the goals of implementing MOEX's cross-market strategic initiatives, and growing career opportunities for employees. In 2018, a new business unit was established to create a financial product Marketplace platform.

The organizational chart is shown in Appendix .

At the end of the reporting year, the membership of the MOEX's Executive Board decreased from six to five members as Sergey Polyakov, Managing Director for IT, left for another company. Since December, Dmitry Shcheglov, Managing Director for Operations, a member of the Executive Board, has overseen the IT business units. Igor Marich, Managing Director of the Money and Derivatives Markets took responsibility for project management and process optimization.

## REMUNERATION POLICY

Moscow Exchange pays a competitive level of remuneration to attract, retain and incentivize employees. MOEX's remuneration principles set out the fixed (base salary) and variable (annual bonus) components of remuneration. The fixed portion of remuneration and targeted size of the variable portion is determined based on the applicable system of basic salaries (grades) and data of the salary market. The variable portion of remuneration correlates with the performance of the Group and individual results of each employee, both of which are evaluated as part of the performance management process.

The Supervisory Board of Moscow Exchange approved corporate targets for 2018, including financial performance, progress on key projects as well as development of the MOEX's business and technologies.

Corporate targets of NCC and NSD differ from those of Moscow Exchange due to the specific nature of NCC and NSD's businesses (as a central counterparty and a central securities depository, respectively) and different legal requirements for credit institutions. As a result, the corporate targets for NCC and NSD are reviewed on a standalone basis and approved by their respective supervisory boards.

The Supervisory Board of the Exchange also approved the principles and parameters of a stock-based long-term remuneration program intended to help the Group retain key personnel and motivate them to contribute to the long-term sustainable growth of the Group.



In addition, the Group put in place a system of benefits, including several types of insurance and financial assistance plans.

MOEX consistently strengthens the competitiveness of its compensation packages for recruitment and retention of professionals. In the reporting year, MOEX strived to increase the interdependence of the variable portion of remuneration, especially bonuses for employees of market business units, with financial targets and implementation of strategic projects through a goal-setting system.

## CORPORATE CULTURE

Fostering a strong corporate culture is one of Moscow Exchange Group's strategic priorities. Specifically, the Exchange aims to:

- ▶ Develop highly efficient employee behavior models to address business challenges;
- ▶ Strengthen employee engagement in the implementation of the Group's strategy;
- ▶ Enhance effective staff interaction (vertical, horizontal and cross-functional).

A strong corporate culture is built on the Exchange's values:

- ▶ We are responsible for the future of the Company;
- ▶ We strive for excellence and are open to change;
- ▶ We work in partnership with our clients;
- ▶ We value transparency and integrity.

To integrate these values into its everyday business, the Group incorporated them into all key processes and communication tools:

- ▶ Values and competences feedback;
- ▶ Internal communications;
- ▶ Top management as a role model for embracing the company's values;
- ▶ Audit of regular business processes to ensure compliance with the values;
- ▶ Employee training;
- ▶ Assessment of new employees based on the refined values;
- ▶ Non-financial incentives for employees;
- ▶ Talent management;
- ▶ HR brand development;
- ▶ Recognition programs with values-based categories;
- ▶ Corporate clubs.

Moscow Exchange strives to ensure a uniform approach to develop the company's corporate culture. With this in mind, 2019 was declared the year of a dialogue between Senior Management and employees, between internal customers and performers, as well as between colleagues.

To better understand the corporate culture, the Group conducted a survey to assess the level of engagement of employees, with 88% of the Group's employees participating. Following the results of this survey the Group identified key areas for development that it specifically plans to focus on in 2019.

## TRAINING AND DEVELOPMENT

MOEX's training and development systems consist of educational programs, tools for growth in the work place and self-education. MOEX encourages employees to take charge of their own education, providing them with advanced technology and the necessary resources and opportunities. Starting from 2017, MOEX adhered to the 70-20-10 education concept that calls for shifting the educational focus to self-education and workplace development (70% of efforts), alongside with learning from others' experience (20%) and hands-on training sessions (10%).

692 employees took part in various educational programs and trainings.

Professional and compulsory training is the priority. MOEX also focuses on the development of employee competences along with the leadership and project management skills necessary to deliver on strategic projects. These educational initiatives account for up to 30% of time. In 2018, the third educational stream began, pursuant to the Management Faculty program with 40 Group employees expanding their leadership competences. Under the Project Faculty program, 30 employees developed their project management and design thinking skills.

The Professional Faculty launched an Internal Coaches project, under which the Group's employees hold master classes, trainings and workshops to share unique knowledge with their colleagues. In 2018, ten MOEX employees were elevated to the status of internal coaches, and held 16 trainings on various topics attended by 135 employees.

Every year the company holds a Week of Knowledge for Group employees to familiarize themselves with educational trends. In 2018, over 400 employees attended master classes dedicated to development of the critical thinking and emotional intelligence.

Educational programs for senior executives include both individual and group trainings. To ensure continuous development of the company's management, a leading European business school developed and implemented a program to develop strategic management and leadership skills.

Special attention was given to performance management, particularly the feedback component of performance management. The working instruments of the company's leadership in this regard were the results obtained from MOEX FeedBack and the updated 360-degree survey. Plans for 2019 consist of launch of Dialogue Workshop, a specialized training course for senior managers of all levels.

In 2018, MOEX upgraded its talent management program, seeking to put in place a consistent performance and capabilities assessment process to establish long-term individual plans for professional and career development. The program places particular emphasis on discussions around succession planning and building a pool of potential successors to key positions. The Group runs a succession planning program for members of executive bodies, including at the subsidiaries, to define a pool of successors to key positions and put in place individual succession development plans.

## SOCIAL SUPPORT

Providing social support above and beyond the mandatory minimums prescribed by law is a part of the Group's social policy and is designed to ensure a sense of security for employees and to improve workforce performance and loyalty. Corporate social support is provided as per the Regulations on Corporate Social Support to Employees of Moscow Exchange approved by the Group's executive bodies in 2016. Healthcare, maternity leave and childcare are the key elements of the social support policy. All Group companies provide voluntary health insurance (VHI),

international health insurance, medical insurance for travellers as well as personal accident and disease insurance plans for all employees. Insurance programs are subject to annual audits, including following the results of employee surveys assessing the quality of medical insurance coverage. Employees can have family members covered under VHI programs at the expense of the Group (subject to the predefined individual limit).

The Group has a standing Support Committee to handle such issues as providing financial assistance (and determining the size thereof) to employees who suffered an accident or emergency not covered by existing insurance plans.

Employees with work experience of six months or more are entitled to additional temporary incapacity payments if they fall ill or need to care for an ailing family member; while those with a track record of at least two years can also claim additional maternity leave payments.

The Group also promotes a healthy lifestyle among its employees, and offers influenza and viral respiratory infection vaccinations. A Health Days campaign was launched. Employees are entitled to special corporate discounts at leading fitness centers and can join a number of sports clubs (for running, triathlon, mini football, hockey, basketball, volleyball, yachting and chess), they can also use a small gym and showers, and for those who ride a bike to work, bicycle storage facilities are available. Employees can access special rates at leading fitness centers.

The Group established and successfully runs corporate clubs for entertainment and intellectual development, including: intellectual club MOEX Smart Club, scientific club MOEX Data Science, educational club MOEX Walk, culinary club MOEX Kitchen and dancing club MOEX Dance. These initiatives serve to strengthen the corporate culture and create a favorable environment for employees, including by promoting a healthy lifestyle.

The Group strictly adheres to labor laws providing social guarantees to certain categories of employees (including those with a family) and granting additional days off to parents taking care of disabled children and additional unpaid leave to employees taking care of babies.

## HEALTHCARE AND OCCUPATIONAL SAFETY

Ensuring personal security and occupational safety with no negative impact on performance are among the Group's priorities.

Assuming full responsibility for protecting the lives and health of employees, the management of the Group adheres to high standards in the area of personal security and occupational safety and undertakes to:

- ▶ comply with the labor laws of the Russian Federation and state regulations on occupational safety;
- ▶ ensure safe working conditions and protect the lives and health of all employees by taking consistent and continuous steps (actions) to prevent accidents, cases of deterioration of health and occupational injuries and diseases, including through labor risk management;
- ▶ inform every employee about dangers, threats and professional risks identified in the workplace;
- ▶ provide for high-quality and timely training to maintain excellence in occupational safety and continuously improve employees' competencies in this area;
- ▶ implement an economic policy encouraging the creation of working conditions meeting the requirements of the state occupational safety regulations;
- ▶ provide employees with modern collective and individual protection equipment;
- ▶ ensure comprehensive control over compliance with state occupational safety regulations both in the individual workplace and across business units;
- ▶ provide the necessary resources and incentives to engage employees (or their authorized representative bodies) in occupational safety management and encourage them to bring working conditions into line with occupational safety requirements;
- ▶ provide personal motivation for every employee to participate in the creation of safe (to the fullest extent possible) working conditions by enforcing strict safety discipline;
- ▶ perform special working conditions assessments and workplace inspections of progress on sanitary and anti-epidemic (prevention) initiatives in a timely manner;
- ▶ ensure the availability of complete and accurate information on working conditions and the wider occupational safety situation in the Group both from the employer to the employee and from the employee to the employer (or its representative);
- ▶ constantly improve the occupational safety management system to ensure it meets the current needs of the Group.

The management assumes responsibility for the implementation of occupational safety initiatives by setting relevant targets and goals, planning and financing their achievement and undertaking to respect the aforementioned values – and setting the expectation that every employee do the same.

To provide the best working and recreational conditions for employees, MOEX and the Group carry out special working condition assessments and evaluate the implementation of and compliance with sanitary and anti-epidemic (prevention) initiatives in the workplace in a timely manner. This helps maintain employee productivity at a sustainably high level.

In 2018, a special assessment of working conditions was conducted at 1,101 working places. Following the results of these special assessments, no harmful or hazardous occupational conditions were detected; conditions were deemed acceptable.

To keep employees updated on working conditions and exposure to professional risks, the Group put in place the following communication toolkit:

- ▶ inclusion of relevant provisions in employment contracts;
- ▶ ensuring the results of special working conditions assessments are made available to employees;
- ▶ posting of special working conditions assessment summaries in relevant work spaces;
- ▶ use of online information resources and websites of legal entities that are part of the Moscow Exchange Group;
- ▶ posting of relevant information in public areas for employees.

The Group organizes an extensive range of briefings on occupational, electrical and fire safety, civil defense and emergencies. In 2018, induction occupational safety briefings were attended by 327 new employees.

An occupational safety training is arranged for executives in a specialized training center on a regular basis as required by applicable laws. In 2018, nine persons underwent such training and assessment of their knowledge of occupational safety regulations.

In 2018, 136 employees completed a first aid course.

All safety-related instructions and regulations are available on the corporate intranet portal, where employees can also find articles on occupational health and e-learning courses on safety.

To organize occupational health monitoring, MOEX approved:

- ▶ a procedure for mandatory (in line with the applicable regulations) and voluntary medical examinations and mental health assessments.
- ▶ a list of jobs (positions) subject to medical examinations and mental health assessments.

The Group arranges annual influenza vaccinations for employees. Employees are provided with antiseptics and medical face masks during outbreaks of influenza and viral respiratory infections. Germicidal air purifiers were purchased.

Should an employee feel unwell or require immediate medical assistance, he or she can visit one of the corporate doctors based in the Moscow offices.

To ensure and maintain safe working conditions and prevent occupational injuries and diseases, the Group put in place an accident prevention framework with response procedures including the approved and developed accident response and management plans, and also adopted procedures for investigating and reporting on any such occupational injuries and diseases, and executing reporting documents.

In 2013-2018, only one accident was reported at the Exchange (it occurred in 2017). The state labor inspector investigating the accident found no fault on the part of the Exchange.

In 2018, the Exchange launched new and upgraded e-courses on occupational and electrical safety.

# Moscow Exchange and the community

## COMMUNICATION WITH PROFESSIONAL COMMUNITY

Moscow Exchange is actively engaged in a constructive dialogue with existing and potential investors and market participants in the form of direct communication through its advisory bodies and working groups, as well as investment conferences, forums and specialized trainings. These activities assist in attracting new investors to MOEX's markets, expanding the client base, increasing liquidity on the markets and boosting investment into the Russian economy.

### *Moscow Exchange Council*

MOEX actively maintains ongoing communication with market participants through its advisory bodies, with a view to receiving feedback from clients regarding new products and services, ways to improve the Exchange's infrastructure and proposed changes to financial market regulations.

MOEX's principle advisory body is the Moscow Exchange Council, whose primary objective is to put forward strategic proposals to further develop the Russian financial market, as well as to represent traders and consumers of the Exchange's services in order to ensure full and comprehensive recognition of their needs when addressing any issues related to the organization and development of the financial market infrastructure. The Moscow Exchange Council is comprised of representatives from the largest market participants, self-regulatory organizations, asset management companies, investment banks and the Bank of Russia.

In 2018, the Moscow Exchange Council consisted of 25 members; its membership was approved by the Supervisory Board of the Moscow Exchange at the end of 2017. The Chairman of the Council is Andrey Zvezdochkin, Chief Executive Officer of ATON investment company.



**Andrey  
ZVYOZDOCHKIN,**  
Chairman of the Exchange  
Council and Chief Executive  
Officer of Aton

A stylized handwritten signature in black ink, consisting of a large 'A' followed by several loops and a final vertical stroke.

*The Exchange Council consists of senior executives representing the largest Russian market participants, including banks, brokerages, asset managers and self-regulatory organizations. There is no other body in Russia that acts as a forum to discuss issues related to the entire financial industry.*

*The Council's main focus is on development of the exchange infrastructure and the market as a whole. Topics that the Council engages with include legislative initiatives aimed at improving the financial market and protecting investors' interests, measures to boost the size of the market and liquidity and the introduction of new products and technologies. These are all things that help the financial sector to evolve and thrive.*

*2018 was another successful year for the investment sector. Russia's securities market continues to demonstrate strong growth potential. The Exchange Council's work in addressing the most important issues facilitates the unlocking of that potential.*

In 2018, the Moscow Exchange Council held five meetings, where the following issues were considered:

- ▶ the decentralized depository for digital assets project;
- ▶ interaction with companies issuing securities;
- ▶ regulatory initiatives;
- ▶ methods of listing bonds;
- ▶ the financial products Marketplace project;
- ▶ status of the Unified Collateral Pool project;
- ▶ legislative initiatives to develop the financial market;
- ▶ introduction of a system of active monitoring of trading through filing/withdrawal of applications;
- ▶ feasibility for Russian investors to access global financial market products via MOEX.

## ***User Committees***

Nineteen user committees (based on financial market participant groups and issuers) operate under the auspices of Moscow Exchange and NSD.

Most of the committees are formed on an annual basis and composed of representatives of professional market participants, including banks, brokers, asset management companies, issuers and non-financial companies. They are mainly tasked with the preparation of proposals to amend legislation and regulations; the consideration of regulatory matters associated with public trading and issuance of securities, disclosure of information on the securities market and corporate governance. In addition, they develop proposals for managing securities trading, improving clearing and settlement technologies, as well as expanding the range of available tools and services. Matters put forth for review by the Moscow Exchange Council are often preliminarily debated in the user committees.

For the convenience of committee members, clients and market participants, MOEX publishes a monthly digest containing information on discussions and decisions taken at Exchange Council and user committees meetings.

Information on the activities of the committees and the Exchange Council is publicly available and can be accessed on the website of MOEX and NSD.

## ***Expert Council on Listing***

In order to deepen analysis and improve the quality of listed securities, the Expert Council on Listing was established. Its main function is to develop recommendations for MOEX on listing, delisting, changes in the level of listings of securities and the strengthening of listing requirements. The Expert Council is an advisory body and its recommendations are intended to augment the expertise of the Exchange.

In 2018, a new membership of the Expert Council on Listing was elected, consisting of 42 members, including appraisers, auditors, bankers, lawyers, analysts, investors and methodologists. Meetings of the Expert Council are held in the form of working groups made up of seven to ten experts, appointed by the Chairman of the Expert Council to consider certain agenda items.

In 2018, the Expert Council on Listing held 15 meetings, 37 issues were considered, including the development of recommendations and criteria for the inclusion of shares, bonds and collective investment instruments in the securities sector of uncertain investment risk; development of recommendations on the disclosure of information by issuers of shares from the first and second level quotation lists; development of recommendations on changes in the level of listing or delisting of securities of certain issuers.

## ***IR Academy***

Since 2016 the IR Academy has operated at Moscow Exchange. The IR Academy is a discussion platform for investor relations (IR) specialists and a center for the development of professional IR principles and standards.

The IR Academy holds seminars for investor relations professionals at public companies aimed at helping them strengthen their IR function, improve communications with the investment community and elevate disclosure of information and corporate governance standards. The seminars assist IROs in adopting best practices of interaction with investors.

In 2018, the second phase of the IR Academy project was launched. Since the launch of the IR Academy in September 2016, 15 seminars have been held, hosting about 100 speakers.



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## ***Development of Corporate Governance in Russia***

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The annual report competition organized by Moscow Exchange together with the RCB Media Group is one of the most important events in the sphere of corporate governance and investor communication in Russia. The Competition celebrates transparency of public companies and excellence in disclosure of information for the benefit of investors and clients. In 2018, the 21st Annual Report Competition was held: 122 companies participated, including five companies for the first time.

MOEX convened the Corporate Governance in Russia 2018 conference, an event dedicated to discussion of Russian and international trends in corporate legislation and regulation, as well as the role of information technologies in improving corporate governance. At the conference, the Bank of Russia presented its digest "On Corporate Governance Practices in Russian Public Companies."

Maria Gordon and Bella Zlatkis, members of the Supervisory Board of the Moscow Exchange, became winners of the 13th Director of the Year National Award held in the framework of the 8th All-Russian Corporate Governance Forum. Maria Gordon won in the Independent Director nomination, Bella Zlatkis received an award for her contribution to the development of the institute of independent directors.

## ***Interaction with the Investment Community***

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For many years, MOEX has convened its own events and supported the largest professional conferences of financial market participants. Since 2009, the Exchange has organized Exchange Forums across the world's major investment centers, such as London, New York, Shanghai and Moscow, annually drawing over 2,000 representatives of global institutional investors and banks, heads of trading divisions and portfolio managers. The Forums provide a unique platform for dialogue among government officials, representatives of investment funds and banks and CEOs of Russian issuers while marketing the Russian financial market to domestic and international investor. In 2018, the Moscow Exchange Forum was held in two cities in China, Shanghai and Beijing.

The Exchange also held the Annual Money Market Forum, the On-Exchange Derivatives Market: Looking Forward conference and the Retail Investor conference, which was the opening event of the Financial Solutions Fair 2018. The Exchange was a business program partner of the St. Petersburg International Economic Forum (SPIEF), the International Financial Congress held annually by the Bank of Russia in St. Petersburg and the Finopolis innovative financial technologies forum in Sochi. In addition, the Exchange supported the events of self-regulatory organizations, i.e. conferences organized by the National Association of Equity and Bond Market Participants (NAUFOR), namely the Russian Equity and Bond Market conference and the Russian Structural Products Market conference as well as sponsoring the Repo-Forum organized by the National Financial Association (NFA).

In 2018, agreements for information cooperation related to the promotion of enterprises on the debt market were signed with financial market participants and public organizations from the Samara, Saratov and Ulyanovsk Regions, the Republic of Tatarstan and the Novosibirsk public organization Interregional Association of Business Leaders. The cooperation agreements are aimed at providing potential issuers and investors with information on financing opportunities, including through the issue of corporate bonds and the organization of scientific, practical and thematic events focused on the coverage and development of the financial market.

## ***International Cooperation***

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Moscow Exchange places great emphasis on cooperation with international financial organizations, with a view to exchanging experience and embracing global best practices. In 2018, this work focused on expanding cooperation with Chinese companies, banks and exchanges, including hosting joint events and signing cooperation agreements.

In September, MOEX hosted the first Russian-Chinese Investment Conference in Moscow and St. Petersburg jointly with the Shanghai Stock Exchange to discuss the future development of the capital markets of the two countries. The events were attended by the heads of Chinese brokerage and asset management companies, representatives of the corporate sector, representatives of the Bank of Russia and the Russian Ministry of Finance, leading Russian banks and brokerage companies and major Russian and Chinese investment funds.

In November, the traditional Exchange Forums on the Russian capital market were held for Chinese investors in Beijing and Shanghai. They were attended by representatives of MOEX and major Russian issuers, Chinese financial and infrastructure institutions as well as institutional investors. Forums and seminars were aimed at developing cooperation in the financial sector and creating joint projects in the public capital market.

In October, during a visit of a delegation from the Shenzhen Stock Exchange to Moscow, MOEX signed a memorandum of understanding committing to conduct joint marketing activities for Russian and Chinese investors and to implement projects ensuring mutual access to the markets of both countries, including potentially establishing a trading and clearing link between Moscow and Shenzhen, as well as cross-listing of ETFs on Russian and Chinese stock indices.

In November, in China, MOEX signed a memorandum of understanding with the Shanghai Clearing House (SHCH). Under this memorandum, the parties shall work out the possibility of building clearing and settlement links between the central counterparties of the Russian and Chinese markets, the NCC and the SHCH. The link will establish the settlement and clearing infrastructure necessary for allowing Chinese banks and investors to access MOEX FX Market and Bond Market instruments, and to allow Russian market participants to access the Chinese market.

MOEX also signed a memorandum of understanding with China International Capital Corporation (CICC) that aims to deepen investment cooperation between Russia and China and develop the off-shore CNY market in Russia. Under this agreement, the parties will explore projects that enable trading CNY instruments on MOEX, as well as cross-listing of ETFs and other financial instruments of the Russian and Chinese trading platforms.

In April, during the third annual Global Gold Market Summit 2018 held in China, MOEX signed a memorandum of understanding with the Shanghai Gold Exchange aimed at promoting cooperation between the two exchanges in the field of gold trading. The signing of this memorandum constituted the next step in the expansion of financial market cooperation between Russia and China and the development of a Regulated Precious Metals Market provided for by the cooperation agreement in the field of gold trading between the Bank of Russia and the People's Bank of China.

International cooperation was not limited only to Chinese financial institutions. In April, during the annual Exchange Forum held in Moscow, MOEX signed a memorandum of understanding with the Hanoi Stock Exchange (HNX), aimed at promoting cooperation and strengthening the partnership between the two exchanges. In October, MOEX signed a strategic partnership agreement with the Kazakhstan Stock Exchange (KASE), under which MOEX will acquire up to 20% of KASE. The main objectives of the partnership include integration of the Russian and Kazakhstan trading markets, mutual access to exchange markets for professional participants and investors, exchange of information on market development, promotion of the KASE's initial public offering and use of MOEX's experience in the initial placement of the KASE shares.

MOEX is a member of the World Federation of Exchanges (WFE) and the Futures Industry Association (FIA). In 2018, MOEX was represented at several WFE and FIA conferences in Chicago, London, Boca Raton and Athens. MOEX was also an active participant of the WFE working groups, including those studying exchanges' efforts to attract international investors to exchange markets.



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## *Employer Brand and Attraction of Young Specialists*

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The Exchange was recognized as one of the World's Best Employers for the second year in a row. The ranking by Forbes Magazine ranked 500 top employers globally, with only four Russian companies making the list.

Due to the unique profile of MOEX, one of the priorities of the personnel policy is to attract highly qualified employees and young specialists. In 2018, MOEX targeted young talent by putting in place an internship program for 46 students of financial and IT departments of universities, giving them an opportunity to participate in real Moscow Exchange projects and undergo a comprehensive training program to develop and improve their skills and competencies. The most successful interns were offered the opportunity to continue their career at the Exchange.

In 2019, MOEX will continue working with young specialists and developing internship programs in accordance with the best practices. In April 2019, the Exchange will launch three internship programs:

- ▶ **MOEX Future Leaders** is an annual internship for senior university students who want to undergo training in the financial markets industry and strive to become true leaders. During the year, students will be able to work in several divisions of the Exchange and gain universal experience.
- ▶ **MOEX Study&Work** is a program for students wishing to participate in research activities under the supervision of experienced professionals at MOEX.
- ▶ **MOEX Start** is a three-month internship that allows interns to get acquainted with the activities of the Exchange and gain first-hand work experience during their summer holidays.

## *Collaboration with Universities*

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MOEX actively participates in financial literacy initiatives, implementing various initiatives in this area. Together with one of Russia's leading economic universities, the Financial University under the Government of the Russian Federation, MOEX convenes Fincontest, a competition focused on the financial markets. Fincontest tests the knowledge of participants in the fields of corporate finance, the securities market and financial analysis, while assisting participants in beginning a professional career in finance. In 2018, more than 2,000 students took part in Fincontest; based on the results of a multi-stage selection process, two students were offered an internship at Moscow Exchange.

Moscow Exchange professionals are regularly involved in joint programs with leading Russian universities. In 2018, MOEX speakers held a series of master classes at the Moscow State Institute of International Relations (MGIMO), the Lomonosov Moscow State University (MSU), the Higher School of Economics (HSE), the Financial University under the Government of the Russian Federation and the Moscow Engineering Physics Institute (MEPhI). The financial literacy course of study, Master's Program in Securities and Financial Engineering, was launched in collaboration with the Financial University. Over the past few years, Moscow Exchange Group employees have run a special course on Financial Risk Management at Moscow State University's Faculty of Computational Mathematics and Cybernetics. MOEX has cooperated closely with MEPhI for 20 years, a partnership under which the MEPhI operates a faculty specializing in exchange trading technologies.

In 2018, Moscow Exchange Group supported the All-Russian Days of Financial Literacy in Educational Institutions, as well as the 13th All-Russian Contest on Financial Literacy & Financial Market and Financial Consumer Protection for senior pupils.

Moscow Exchange also facilitated the On-Exchange Market Cup of the Governor of the Novosibirsk Region, a tournament where 153 students from 14 Russian universities had the opportunity to get acquainted with securities exchange markets, try out trading strategies, practice forming an investment portfolio and gain work experience in the markets.

Together with the major brokers and banks, the Financial Triathlon – Treasure Exchange quest competition was held in St. Petersburg for students and undergraduates, who could get acquainted with stock exchange history in Russia, the mechanisms of operation of the exchanges and brokers, try themselves as investors while solving entertaining economic problems and mini-cases and answer quick-fire questions.

## ***Stock Exchange History***

Since 2002, the Exchange has operated a museum that chronicles the main stages of creation and development of the Exchange and the financial markets in Russia.

In 2018, on the basis of the collected historical materials, about 100 excursions, lectures and seminars were held, which were attended by about 2,500 people, including schoolchildren and university students, as well as official Russian and foreign delegations.

Tours of the museum for new employees, who are just beginning to get acquainted with the Exchange, resumed. In addition, in 2018, the Exchange joined the All-Russian Night of Museums with about 100 employees of the Exchange visiting the museum and listening to a lecture on stock exchange history.

MOEX constantly engages in new research, and in 2018, a collection of historical documents was prepared for publication, which included the Consolidated Charter of Joint-Stock Commercial Banks, materials of the Congress of Joint-Stock Commercial Banks of 1916 and an essay on the establishment and activities of this banking association during the First World War, the Bolshevik Revolution and emigration.

## **CHARITABLE ASSISTANCE**

The charity program is carried out in accordance with the Company's Charity Policy, which was approved by the Executive Board of Moscow Exchange on 6 September 2012. The Group's charitable activities prioritize financial support for long-term social initiatives implemented by reputable specialist foundations and non-profit organizations. The Executive Board approves the list of projects to be funded based on recommendations of the Charity Policy Committee on an annual basis.

Moscow Exchange focuses its charitable initiatives on the following key areas:

- ▶ development, education and medical treatment of children;
- ▶ aid to those injured in catastrophes and natural disasters;
- ▶ support for veterans and the elderly.

The Exchange does not support organizations that discriminate based on gender, sexual orientation or nationality.

The Exchange does not, directly or indirectly, finance organizations whose activities are in any way associated with human rights violations or manufacturing and proliferation of weapons of mass destruction, and it does not take part in projects that carry risks of environmental pollution.

The Group cooperates with several reputable charitable foundations, which receive the bulk of its charity allocations. By working with partner non-profit organizations, the Exchange ensures that the funds impact a large number of people in need while also ensuring transparency of expenditures. In 2018, the Group's charity expenses amounted to RUB 27.5 mln.

In selecting new projects or deciding whether to continue funding existing projects, the Exchange applies the following criteria:

- ▶ The project's ability to address a socially significant problem in Russia;
- ▶ Measurable assessment of the project's impact;
- ▶ Opportunity for Moscow Exchange employees to take part in the project.

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## ***Support of Educational Programs***

In 2018, as part of the Exchange's continued cooperation with the New Teacher Charity Foundation for Education Support and Development that began in 2016, it allocated RUB 3 mln to support the Teacher for Russia program, which is a Russian project that sends talented young people and graduates of Russia's leading higher education institutions to teach in public schools. The program is designed to provide access to quality education for children from areas with a challenging social environment, to raise the prestige of the teaching profession amongst top Russian graduates/attract talented teachers to the school system, to spur the transformation of ordinary public schools and to introduce new educational formats and technologies. At present, the program involves 170 teachers.

The Exchange's donations fund 10 mathematics and economics teachers from the Tambov, Voronezh, Kaluga and Novgorod regions with curriculum support and scholarships.

The Exchange allocated RUB 4.2 mln to support the Nikitsky Club of scientists and entrepreneurs. The club is intended to be an interdisciplinary forum for members of the professional community with a broad social view to discuss critical issues facing Russia and help society identify the country's interests and adequate policy responses to various issues.

## ***Aid for Children***

Since 2014, the Exchange has partnered with the Gift of Life Foundation, which focuses on helping children with cancer and other life-threatening illnesses. In 2018, the Exchange allocated RUB 3.5 mln to support the foundation's most important program – Voluntary Donation – which encourages citizens to donate enough blood to hospitals.

In 2018, NSD allocated over RUB 1.2 mln to the charitable foundations Touching the Heart (Dmitry Malikov's foundation), Strana Chudes and BELA Butterfly Children's Fund to purchase medicine, dressings, high-tech hearing aids and to pay for physical therapy for children.

NSD's financial support of RUB 300,000 to Our Children Foundation assisted 35 orphan children from the Shatalovsky orphanage and Safonovsky school for orphans, as well as seven camp counselors and three coordinators who took part in a summer sports and fitness program, "Holidays with a Cause". As part of aid provided to Sheredak charitable foundation (RUB 586,000), eight children who were cancer patients were able to receive two courses of cancer treatment each.

In 2018, NSD continued financing the Danilovtsy volunteer movement and donated RUB 300,000. Volunteers organized events for cancer patients at the Rogachev Children's Hematology Center, Burdenko Neurosurgery Institute and Russian Children's Clinical Hospital.

NSD also paid the salary (RUB 235,000) a teacher of the junior remedial class at the Elizavetinsky orphanage for six months. RUB 93,000 was donated to the Sozidanie charitable foundation to cover assistance to children with hearing impairments. RUB 65,000 was donated to the Udelninsky center of out-of-school activities at which orphan children reside; the funds went toward the purchase of toy building kits Maxiclastic and Fanclastic as well as sound equipment for a vocal studio.

## ***Aid for the terminally ill and their families***

In order to foster the development of hospice care in Russia, the Exchange works with the Vera Charity Foundation, which supports over 20 hospices in Moscow and the Russian regions.

In 2018, the Exchange donated RUB 3.5 mln to programs and activities aimed at providing material, medical and social aid to families with terminally ill children, hospices for children and adults and regional healthcare establishments that render palliative care, as well as to the state-run Moscow Full-Service Palliative Care Centre of the Moscow Department of Health.

## ***Rehabilitation after stroke***

Since 2014, the Exchange has cooperated with ORBI, the first and only foundation for combating stroke. The two organizations work to raise awareness of stroke prevention measures and to help stroke survivors get back to their normal lives, which also takes a financial burden off the government.

In 2018, the Exchange donated RUB 200,000 to help people who had suffered a stroke and their families. The funds were distributed between two programs:

- ▶ creation of occupational therapy simulation rooms at medical facilities engaged in rehabilitating patients with acute cerebrovascular diseases;
- ▶ organization of the Together Against Stroke campaign that aims to raise public awareness of stroke prevention and to foster healthy lifestyles.

## ***Support for veterans and the disabled***

In honor of the 73rd anniversary of the victory in World War II, Moscow Exchange Group provided financial assistance to veterans: one-time payments were received by 89 World War II veterans and disabled soldiers, home front workers, siege survivors and prisoners of concentration camps. The donations totaled RUB 5.2 mln.

In addition, in 2018 NSD rendered financial support of RUB 80,000 to the Duet Wheelchair Dance Club that allowed the group to participate in the Russian Wheelchair Dancing Championship.

## ***Corporate volunteer program***

Moscow Exchange employees have the opportunity to take part in charitable activities by volunteering or donating funds. Announcements of socially significant activities are included in the daily Company News morning newsletter, and reports and photo essays about events are posted on the Corporate Philanthropy intranet page, where employees can also register to participate in volunteer events or make a donation, as well as advertise alternative charitable projects.

In 2018, the Group's offices hosted Donor Days (in total, 123 employees donated blood) and charity fairs. The events were supported by the Blood Service and Gift of Life charitable foundation. The Group also organized campaigns to raise funds for the treatment of children suffering from cancer. Total funds donated by employees in all campaigns exceeded RUB 111,000 and were allocated to the Gift of Life foundation.

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## RESPONSIBLE INVESTMENT DEVELOPMENT

Corporate social responsibility is playing an increasingly important role in capital markets, pushing companies to apply ESG (Environmental, Social and Governance) principles. Environmental and social criteria cover environmental and society activities, while the governance criterion implies the adoption of an ethical corporate policy.

The Exchange is working hard to implement principles for responsible investment in Russia, encouraging issuers to disclose information to help investors determine their level of corporate social responsibility.

### *The Exchange Supports Sustainable Development*

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The Exchange is planning to join the global Sustainable Stock Exchanges (SSE) initiative, which was launched in 2009 by UN Secretary General Ban Ki-moon and is a partner program of UNCTAD, the United Nations Global Compact, UNEP FI and PRI. More than 80 stock exchanges around the world have joined the initiative, which supports four key areas: gender equality, disclosure of information about social responsibility, countering man-made climate change, and support for global partnerships. Participation in the initiative confirms the Exchange's intention to encourage dialogue among investors, issuers and regulators on matters related to long-term responsible investment, in order to improve corporate ESG practices and encourage information disclosure about action in these areas.

In March 2019, the Exchange entered into a cooperation agreement with the Russian Union of Industrialists and Entrepreneurs (RUIE) to develop and reinforce responsible business practices among issuers, strengthen their investment case, contribute to enhancing transparency from issuers and strengthen trust among investors. As part of this work, the Exchange calculates sustainable development stock indices, namely Responsibility and Transparency and Sustainable Development Vector, based on analysis of companies on ESG indicators carried out annually by RSPP. The calculation base for the indices includes the securities of issuers who disclose the most complete information on activity in the field of sustainable development and corporate social responsibility.

To promote responsible financing and the creation of a "green" financial system, the Exchange is planning to establish a Sustainable Development Sector, which will include green and social bonds. The new sector will align issuers and investors with target investments and will contribute to the financing of companies that implement environmental and social programs. The Exchange is currently actively negotiating with ministries and departments regarding government support for investors and issuers of "green" and social securities.

In 2018, the Exchange held a series of conferences and seminars with the participation of Russian issuers, banks, development institutes and institutional investors, which dealt with trends in and development prospects for socially responsible investment in Russia and around the world, increasing interest among investors in companies which meet ESG requirements, and the impact of ESG factors on securities issuers' credit ratings.

### *Support for Gender Equality*

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In 2018, the Exchange joined the global Ring the Bell for Gender Equality initiative, organizing an official ceremony dedicated to gender equality and support of women's contribution to business, politics and economy. The main goal of the initiative is to encourage businesses to promote sustainable development goals by increasing women's rights and opportunities. In 2018, the initiative was supported by 61 stock exchanges all over the world.

Adherence to gender equality principles is also a part of the Exchange's corporate culture. The Code of Business Ethics stipulates that all employees of the Exchange should adhere to the principles of equality in relation to respect of labor rights, absence of discrimination towards personnel and customers on the basis of their gender, race, skin color, nationality, language, origin, property, marital status, social and occupational position, age, residency, religious beliefs, opinions, affiliation or non-affiliation with non-governmental associations or any social groups. The Exchange also respects all employees' cultures, opinions and lifestyle, and refrains from any actions that would promote the creation of an atmosphere of intimidation, hostility, offence or violation of human dignity at the workplace.

# Environmental efficiency

The environmental aspects of Moscow Exchange's activities are governed by Russian environmental legislation and standards, as well as by MOEX's own internal documents – the Environmental Monitoring and Industrial Control Program (adopted in 2017) and Waste Generation and Disposal Limits draft standards (adopted by the Moscow Department for Environmental Management and Protection for the five-year period through February 2023).

The internal environmental monitoring regulations used at all the Exchange's premises help MOEX meet modern environmental requirements:

- ▶ analyzing operational processes and selecting the best technologies for efficient use of resources and energy;
- ▶ introducing technologies for recycling and waste disposal;
- ▶ preventing pollution, reducing environmental impact;
- ▶ monitoring compliance with environmental legislation and maintaining a safe office environment and high levels of well-being for staff.

Analytical data on the environmental performance of the Exchange are given in the following sections.

## WASTE COLLECTION AND RECYCLING

Waste on Exchange premises is collected, accumulated and disposed of by classification (by type, hazard level and other indicators to ensure correct collection, storage, disposal and recycling) and systematically in accordance with the approved draft standards on Waste Generation and Disposal Limits.

Waste is processed using the latest recycling and treatment technologies. Used oil and air filters, mercury lamps, office equipment and electronic items such as monitors, keyboards and cartridges, are all sent to specialist contractors for disposal. Passports for category I-IV waste have been obtained for this purpose and data submitted to the State Control Committee of state environmental agency Rospirodnadzor.

All Moscow Exchange offices have battery collection and disposal points. Moscow Exchange employees have been using waste sorting bins since December 2018.

Waste records are kept at the offices on Bolsoi Kislovsky Pereulok and Sredny Kislovsky Pereulok, as well as on Spartakovskaya Ulitsa. At other offices disposal and recycling of all waste classes is the responsibility of the landlord, and related expenses are included in rental costs.

### Total solid waste, tons

Waste category <sup>1</sup>	2017	2018	Change 2018/2017
Category 1	0.17	0.19	11.1%
Category 2	--	0.11	–
Category 3	4.41	0.13	–97%
Category 4	209.00	224.20	7.3%
Category 5	26.21	44.19	68.6%
<b>Total</b>	<b>239.79</b>	<b>268.82</b>	<b>12.1 %</b>

The increase in the share of Category 1 waste in 2018 was due to the planned replacement of fluorescent lamps with energy-saving LED lights in Exchange offices. The increase in the share of Category 2 waste was due to the recycling of uninterruptible power supplies (planned replacement of exhausted supplies is scheduled for every 5-7 years).

The change in the share of Category 3, 4, 5 waste was due to telecommunication equipment being recategorized down (from Category 3 to Category 4) in line with legal requirements, and also due to increased volumes of paper recycling.

1. Waste categories are established by the regulations of the Russian Federation.

Method	2017	2018	Change 2018/2017
Re-use	15.52	19.94	28.5%
Release of valuable components, including energy	4.57	2.53	−44.6%
Sent to landfill	215.95	242.46	12.3%
Other methods (deactivation and recycling)	3.75	3.86	3.0%
<b>Total</b>	<b>239.79</b>	<b>268.79</b>	<b>12.1 %</b>

## WATER

### Total water consumption, liters

	2017	2018	Change 2018/2017
Municipal and other water supply systems	28,378,300	36,925,580	30.1%

### Total water discharge<sup>1</sup>, liters

	2017	2018	Change 2018/2017
Planned discharge volume	31,424,640	39,866,530	26.9%

Water consumption and discharge records are maintained for the Exchange's offices on Bolshoy Kislovsky Pereulok, Sredny Kislovsky Pereulok, and Spartakovskaya and Vozdvizhenka Streets<sup>2</sup>. For the rest of MOEX's facilities, costs for water, sewage and waste disposal are included in the rental costs and are the responsibility of the landlord.

Water offtake is organized through municipal water systems.

Water is discharged to the urban sewage system and rainwater flows through Mosvodostok, and does not require treatment.

The increase in water consumption is due to the relaunch of the fitness club on Bolshoi Kislovsky Pereulok in April 2018 following refurbishment. The fitness club, which is a sub-consumer of the water supply system, consumes 75% of the total volume of tap water received. For reference: water consumption before reconstruction in 2016 amounted to 41,419,950 liters.

1. Total discharge includes sewage and wastewater from the premises. Place of discharge: Mosvodostok, preliminary purification is not necessary.

2. Place of discharge: Mosvodostok, preliminary purification is not necessary.



## ENERGY EFFICIENCY

### Energy consumption by resource type<sup>1</sup>

Fuel	2017		2018		Change 2018/2017 (%)
	Units	MJ	Units	MJ	
Gasoline, liters	80,720.51	2,643,800.00	78,924.09	2,584,862.05	-2.2
Diesel, liters	4,524.44	159,600.00	7,048.00	248,616.08	55.8
Electricity, kWh (excluding regional subsidiaries outside Moscow)	10,651,436.95	38,345,173.02	10,996,641.71	39,587,909.75	3.2
Electricity, kWh (including regional subsidiaries outside Moscow)	10,897,701.47	39,231,725.27	11,246,767.20	40,488,361.92	3.2
Heat, GCal	4,590.05	19,990,310.07	5,029.38	21,903,482.50	9.6

Electricity consumption is monitored at all offices of the Exchange, NCC and NSD, both owned and leased. Heating costs are measured at offices in Moscow (Bolshoi Kislovsky Pereulok, Sredny Kislovsky Pereulok, Vozdvizhenka and Spartakovskaya Ulitsa) and at the Ekaterinburg subsidiary. At other facilities heating costs are included in rental expenses, and monitoring is the responsibility of the landlord. Fuel consumption is measured at all Group companies and facilities.

The reduction in gasoline consumption is due to a decrease in the use of company cars. Diesel fuel consumption in 2018 increased due to more frequent use of the diesel power generator as a result of cuts from the municipal grid, as well as a longer operating time. At the same time, use of diesel vehicles also increased. Higher heating costs were the result of a colder winter compared to 2017. The increase in electricity consumption was linked to the installation of new air conditioners and heaters.

A number of measures have been taken to reduce energy consumption:

- ▶ during non-office hours and on weekends corridor lighting, ventilation systems and office cooling systems are turned off;
- ▶ it is now possible to fully shut down air conditioning systems during the winter months;
- ▶ during the repair and renovation of the premises, the continued use of energy-saving LED lamps is planned on top of the 530 lamps that have already been installed in the period from 2016 up to 2018 (13.3% of the total amount).

Moscow Exchange uses two data centers – Dataspace1 and M1 – as part of its activities. Electricity consumption at the data centers is the responsibility of the centers themselves, which maintain independent energy consumption records, and electricity costs are included in payment for their services. To give a more complete picture of the Exchange's environmental impact, below are data on MOEX's energy consumption at the data centers.

1. Other types of energy resources (including nuclear, electromagnetic, oil, fuel oil, natural gas, coal, oil shale, peat) were not used during the accounting year.



#### Data center energy consumption, kWh<sup>1</sup>

	2017	2018	Change (%)
Electricity	4,958,557	4,768,674	−3.8

In 2018, gasoline costs increased due to a change in the make/model of vehicles being used, as well as due to a rise in gasoline prices. The increase in electricity costs was due to higher consumption as well as an increase in tariffs in 2018. Higher heating costs compared to 2017 were the result of a colder winter and an increase in heat transfer agent tariffs from 1 July 2018.

#### Energy costs, RUB thousand<sup>2</sup>

Resource	2017	2018	Δ 2018/2017, RUB thousand	Change 2018/2017 (%)
Gasoline	2,796.34	3,212.77	416.43	14.89
Diesel fuel	144.94	291.86	146.92	101.37
Electricity	54,192.25	56,495.66	2,303.41	4.25
Heat	6,438.40	7,500.09	1,061.69	16.49
Total	63,571.93	67,500.38	3,928.45	6.18

1. Data are not included in the company's resource usage tables and are included solely to simplify the calculation of indirect environmental impact

2. Excluding VAT

## ENVIRONMENTAL SAFETY COSTS

Total environmental protection expenditures and investments, RUB thousand\*

Costs for waste and discharge treatment and environmental remediation costs	2017	2018	Change 2018/2017 (%)
Production and consumption waste disposal charge (tax)	78.36	94.87	21.6
Environmental impact charge (tax)	74.09	25.60	-65.5
Cost of pollutant wastewater discharges to the municipal sewerage	27.83	21.40	-23.1
Disposal of fluorescent lamps	58.98	64.51	9.4
Disposal of office equipment	71.66	122.03	70.3
Disposal of other waste (oil; air and oil filters; paper; cardboard; ferrous scrap metals)	326.68	508.98	55.8
Disposal of bulk waste	64.00	128.00	100
Contract for the obtaining of certification for waste of hazard Classes 1-4 and the registration in the State Control information system of the Federal Service for Supervision of Natural Resources (Rosprirodnadzor)	130.00 (one-time action)	0.00	-
Contract for the report preparation and filing with Rosprirodnadzor	35.00	149.00	325.7
Contract for the development of the Waste Generation and Disposal Limits draft standards	245.00 (Waste Generation and Disposal Limits draft standards, once every 5 years)	0.00	-
Contract for the development of the Environmental Monitoring and Industrial Control Program; waste disposal regulations for hazard Classes 1 and 2; collection, accumulation, storage, accounting and disposal regulations for production and consumption waste, as well as related health and safety regulations	150.00 (one-time action)	0.00	-
<b>Total</b>	<b>1,261.60</b>	<b>1,114.39</b>	<b>- 11.7</b>

\* Excluding VAT.

The increase in recycling costs was due to replacement of office furniture and scheduled replacement of fluorescent lamps with energy-efficient LED lamps. The sharp increase in the cost of bulk waste disposal was due to the large amount of repair work at Moscow Exchange premises and the resulting disposal of a large amount of broken furniture. This waste was disposed of at specialized landfills.

Moscow Exchange's environmental footprint is relatively light, but we are still doing our best to further reduce this impact. Agreements, programs and other documents have been put in place to allow the Exchange to work with third-party specialist contractors and state oversight bodies as part of MOEX's drive to ensure waste is properly disposed of and to include environmental reporting in the company's management system.

Environmental impact prevention and environmental management system costs, RUB thousand<sup>1</sup>

	2017	2018	Change 2018/2017 (%)
Total	625.565	1,619.000	158.81

1. Excluding VAT