

IT achievements in retail business in 2018

- VTB was the winner in the **Breakthrough of the Year** category at the Retail Finance Awards for achievements in the finance business in Russia
- 14 days → online: **automating the issuance of non-standardised documents**
- Business Wikipedia: knowledge management system for the front line of the Retail Business global business line, **winner of Project of the Year 2018** (Global CIO competition)

IT achievements in corporate business in 2018

- ▼ reduction from 60 **to 25 minutes** in the time needed to submit a loan application in former VTB24 systems
- ▼ **12 times** the time needed to update records for all of the Bank's corporate customers
- ▲ from 13 to **23 thousand** increase in the number of payroll clients

My Investments application was the **winner of a Retail Finance Award**

Key Technological Projects Implemented by VTB Group in 2018

The work of the Supervisory Council was digitised. This has enabled the Bank to optimise the processes involved in preparing and holding meetings of the Supervisory Council by creating a unified communication space in accordance with all security requirements.

The IT infrastructure from the former Bank of Moscow's automated banking system (ABS) was migrated into VTB's private cloud platform. The migration has resulted in a reduction of RUB 10 million in operating costs per month due to no longer having to provide technical support for obsolete equipment. In addition, the time needed to carry out the most important background processes was reduced by three times, as was the operational window for backing up data. Annual savings will amount to RUB 120 million.

Next-generation remote banking service platform. Advanced containerisation and traffic management technologies were used for its design, thus increasing the availability and fault tolerance of systems. The distributed capacity of the Bank's private cloud is used as the basic technological infrastructure.

VDI (virtual desktop infrastructure) technology was implemented, and 14 thousand employees were transferred to virtual work stations. This is part of a large-scale programme to centralise and improve the quality of IT services and provide a common IT platform as part of the integration of former VTB BM and VTB24 structures with VTB.

Corporate Business Portal unified information platform. This project introduces tools for cross-functional interaction among employees and a work platform for the Bank's corporate business call centre, and it also involves the use of intelligent information processing algorithms.

Advanced data analysis toolkit. This will help specialists from the Big Data and Modelling Centre, the Retail Credit Risk Department and the Retail CRM and Sales Department. The service will improve the accuracy of forecasts and analytics through the use of a new class of models based on neural networks.

VTB Foresight Projects

Work on the Bank's digital transformation is being carried out in the form of foresight projects. Each project is aimed at the creation and development of digital products based on the most advanced technologies available: big data, blockchain, artificial intelligence, biometrics, and the Internet of things. Five foresight projects were launched in 2017, and the Digital Transformation team from the Information Technology Department developed 17 new products in 2018, while also continuing to develop earlier products.

Foresight projects	2018 results
<p>Common identification system: client authentication using biometric technology. Launched in 2017.</p>	<ul style="list-style-type: none"> • The first stage of the pilot project on biometric authentication of clients in the Corporate-Investment Business's Client Support Centre was successfully completed. Using a special application, operators can identify corporate clients based on biometric voice data.
<p>VTB's common multichannel biometric platform. Project launched in 2018.</p>	<ul style="list-style-type: none"> • The business requirements and platform functionality were determined; • Requirements from departments involved were collected and analysed. Options for the use of a biometric platform for VTB Group were identified; • The high-level architecture was developed and approved; • Compliance of the Bank's information systems with the requirements presented for information systems that process biometric personal data was ensured.
<p>Contactless and biometric authentication system. Project launched in 2018.</p>	<ul style="list-style-type: none"> • A fast, easy-to-use authentication system was created for shareholders at annual and other meetings.
<p>Data monetisation service: a big data analytics system for building predictive and advisory models with the application of machine learning. Project launched in 2017.</p>	<ul style="list-style-type: none"> • A monitoring system for corporate clients regarding the risk of loan defaults is being put into operation; • A platform for analysing big data was created that is connected to internal and external data sources to enrich the internal analytics and improve the quality of predictive models; connections are in place to the most advanced libraries for data analysis and machine learning available, including using neural networks; • A pilot project was completed to predict loan defaults by corporate clients based on an analysis of news feeds; • A pilot project (pilot cross-organisational model) was completed for predicting the acquisition of financial products and services of partner companies by Bank clients based on an analysis of customer transactions; • A hyperdata project is at the implementation stage: a big data platform for analysing customer data.
<p>Geoanalytics Project launched in 2018.</p>	<ul style="list-style-type: none"> • A pilot project was launched to create a service that uses data from geo-coordinates and map visualisation.
<p>Common digital transaction service: support for paperless transactions based on blockchain technology. Launched in 2017.</p>	<ul style="list-style-type: none"> • A prototype for the Digital Banking Guarantee System was developed; • The first test transactions for the issuance of digital bank guarantees were conducted.
<p>Open API. Project launched in 2018.</p>	<ul style="list-style-type: none"> • A pilot project was launched to create a portal for developers and open interfaces for the bank's partners within MSB global business line.

Foresight projects	2018 results
<p>Omnichannel communications system: communications system based on advanced communication platforms. Project launched in 2017.</p>	<ul style="list-style-type: none"> • Prototype for a Unified Digital Communications System developed.
<p>Augmented reality platform: integration of real objects (brochures, leaflets and other VTB advertising media) into a virtual environment in order to obtain more extensive information about Bank products and services through smartphones. Project launched in 2018.</p>	<ul style="list-style-type: none"> • Prototype platform developed.
<p>Intelligent personal assistants for clients (using the Yandex Alice smart speaker system) . Project launched in 2018.</p>	<ul style="list-style-type: none"> • A working prototype was created based on Yandex's Alice smart speaker system service to advise clients.
<p>Intelligent robot collector. Project launched in 2018.</p>	<ul style="list-style-type: none"> • A pilot project was completed with testing of the functionality for making first call to clients with overdue loans. The result of this communication is automatically recorded in the Bank's systems.
<p>Corporate-Investment Business chat service. Project launched in 2018.</p>	<ul style="list-style-type: none"> • Additional functionality implemented within the digital communication platform, improving interaction between the Bank and its Corporate-Investment clients; • Preliminary research conducted.
<p>VR Mortgage. Project launched in 2018.</p>	<ul style="list-style-type: none"> • The concept for an immersive remote service was developed to help the Bank's clients choose real estate.
<p>Digital payment service: a blockchain-based payment system. Project launched in 2017.</p>	<ul style="list-style-type: none"> • A patent was received for technology used to create blockchain-based multi-issuer payment systems; • A tool for blockchain-based p2p transfers was developed: the Digital Payment Service.
<p>Blockchain-based multi-issuer loyalty system. Project launched in 2018 .</p>	<ul style="list-style-type: none"> • The concept for a blockchain-based multi-issuer loyalty system was developed. The system takes into account the interests of all potential participants: the city, its inhabitants and businesses.
<p>Short-module training platform. Project launched in 2018.</p>	<ul style="list-style-type: none"> • A mobile application was developed that enables call centre employees to acquire new knowledge more efficiently and to maintain it; • Content for the application is being developed.
<p>Internet of things Project launched in 2018.</p>	<ul style="list-style-type: none"> • Prototype tested for automatic data collection from housing and public utilities meters.

Expected impact

At the end of 2018, several developments with a proven impact were being piloted at the bank:

- An intelligent robot collector that allows the Bank to save up to RUB 18 per minute per call, which is 7 times cheaper than a call from an ordinary operator;
- Voice biometrics for servicing corporate clients, making it possible to reduce operational risks and provide improved service quality. The overall impact of the introduction of these technologies is estimated at RUB 392 million over five years.

VTB Corporate Accelerator

For the first time in the Bank's history, a corporate accelerator was launched in 2018 to work with startups. Its objectives include not only searching for and integrating breakthrough technologies from the open market into the Bank's internal processes, but also creating an internal culture of working with innovations within VTB. Projects are being considered in priority areas determined in conjunction with the Bank's business units, including big data and analytics, blockchain, artificial intelligence, biometrics, cybersecurity, etc. Some 190 startups from Russia, Finland, Georgia, Armenia and Belarus submitted applications for participation in the accelerator, and the Bank selected 12 projects to take part in the programme. Various divisions of the Bank launched pilot projects with seven of the participants, including on solutions for collecting, analysing and managing data, process robotisation, speech analytics, etc.

Development of remote service channels (mobile-first strategy)

Today, consumers of financial services prefer virtual services that offer convenience, efficiency, availability and security. Responding to requests and anticipating the needs of customers, the Bank offers digital products that are focused as much as possible on the individual needs of each customer. Improving the processes of interaction with retail and corporate clients requires the transformation of the Bank's internal business processes. Automation of routine operations, optimisation of the performance of business divisions, improving the quality and speed of business analytics – all of this helps reduce costs and increase productivity.

The following initiatives have been implemented in the interests of retail customers:

- client registration and account reservation with VTB Business Online LITE;
- introduction of Apple Pay;
- adaptation and introduction of Samsung Pay; daily payments through Samsung Pay have exceeded RUB 20 million;
- scanning functionality added for QR codes and barcodes;
- VTB My Investments mobile application launched;
- Robo Advisor, the first service for choosing an investment portfolio in the Russian market, was created; designed for the VTB My Investments application, the service supports a unique rebalancing functionality;
- VTB Front for tablets;
- a push inbox was launched, allowing customers to receive SMS notifications about transactions through the application, along with a properly formatted receipt for each operation;
- a virtual Bank branch was created: this system enables interaction between customers and the Bank's call centre using chat and collaboration tools through a web interface. An online chat option is currently available for contacting the Bank. This allows customers to exchange text messages and images with operators.

Business clients received new opportunities for process optimisation, including:

- an online business registration service (the first certified myDSS application using CryptoPro DSS technology for signing legal documents through a smartphone);
- functionality that allows customers to access the Bank's mobile service and confirm operations with a short code/touch/face ID;
- functionality was added that enables customers to obtain documents through the Bank's mobile service;
- functionality was added that allows customers to change their bonus category through the Bank's mobile service;
- upon request, remote paperless voting is available through the Bank's mobile service.