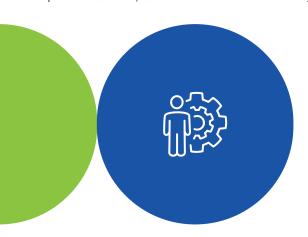# IT Infrastructure

Our proprietary IT solutions are geared towards reducing operating costs and boosting efficiency. Cutting-edge digital technologies have enabled us to continue scaling rapidly while saving employee time and streamlining costs in challenging market conditions.
At the same time, our IT services have proven their effectiveness both in ensuring all major systems run flawlessly and securely, and in enabling the smooth roll-out of new solutions. Digitalisation has found its way into all major aspects of our business, including logistics, inventory management, demand forecasting, procurement, pricing, HR, and finance.

In 2022, amid turbulent market conditions and geopolitical turmoil, we faced disruptions in the supply of some components and updating technologies. Delivery times increased twofold. Under these challenging conditions, the Company constantly sought out new supply channels, introduced alternative software and hardware solutions and rolled out available equipment.

Information security and data privacy threats and requirements have grown incrementally over the reporting year, partly due to the tense geopolitical environment, which prompted various hacker groups to step up their activities, but also due to the constant tightening

of data protection regulation. In order to provide futureproof responses, we put a special emphasis on information security solutions and services.

By way of example, 2022 saw an uptick in DDoS attacks on the Company's web-based resources, as well as a surge in the number of malicious emails. To safeguard the Company's web infrastructure, we regularly audit the security of corporate resources and eliminate detected vulnerabilities.

We introduced two new solutions to protect our web-based applications in 2022: a DDoS protection service and a smart cyberattack protection service. New anti-virus and anti-spam modules were also launched for the Company's email service.
In addition, the requirements for password protection were toughened, while several information security standards and regulations were developed and updated.

To ensure data remains secure, the Company leverages specialist software tools and much more

A special system is used as an office proxy server and a firewall to protect against attacks, filter unwanted traffic and prevent unauthorised access to resources

To identify critical security flaws in our server and network infrastructure, we leverage an automated solution that seeks out and fixes vulnerabilities and software flaws, installs missing patches and flags malware and misconfigurations across various operating systems, devices and applications

The special IDM system, which was released in 2021 and is constantly being improved, offers a centralised approach to managing user accounts and access rights across the Company's corporate systems

The smart DLP system, which has been used for several years and is aimed at detecting and countering the unauthorised dissemination of confidential information, as well as the misuse and the illegal use of resources, has proved its effectiveness many times over

A specialised data protection system has been introduced for backup and storage; it provides a backup of entire servers and virtualisation systems, thereby minimising the recovery time of systems in the event of a failure

Internal IT Infrastructure

Fix Price's Enterprise Resource Planning (ERP) system is the cornerstone of the Company's IT infrastructure. The system is a one-stop shop for managing cash, goods and materials; procurement and pricing procedures; and internal systems at stores and the head office, including HR and Finance. At every stage, inventory turnover, financial flows and accounting can all be managed from within the ERP system. Moreover, the integration of the BOSS-Kadrovik HR management system with other management systems allowed us to centralise timesheet tracking across stores and warehouses.

Budgeting Module

In 2022, we successfully launched a budgeting module. Its principal function is to control the receipt and expenditure of funds, track future cash flows against the existing budget, as well as to prevent budget overruns.

Warehouse Management System (WMS)

WMS Logistic is an in-house software system specially tailored to manage technological operations inside our warehouses in real time. It helps keep all distribution centres running smoothly, and is being integrated with our ERP system. WMS Logistic embraces several cutting-edge solutions, including a module for verifying the merchandise loaded onto pallets. It empowers our logistic specialists to check the actual weight of a loaded pallet at both entry and exit points of distribution centres. The technology is an effective barrier against delivering incorrect orders to stores, as pallets can be repacked at a warehouse, unlocking time and cost savings.

If a difference of 0.8x the weight of the lightest box on the pallet is detected, it will be rejected and referred to the security function's control area, where the error can be identified and corrected. The security function ensures that no poorly packed pallets are sent out to stores.

Proprietary Demand Forecasting Tool (Demand Forecasting System)

Auto-Order was rolled out to streamline the overall efficiency of managing in-store inventory balances, facilitating automated store-level ordering to support inventory replenishment / restocking.

Visualisation Tool

This tool draws all the necessary data from various sources into a single application and is used for the operational management of key metrics and business analytics. This enables the Fix Price management team to track operational performance and business risks in real time.

Information Management Tool

The electronic document management system serves as a tool for managing a single database, providing electronic document approval, archiving, etc. All our units are connected online into the electronic document management system, which allows for an unprecedented reduction of time for approvals and for achieving full control over internal corporate communications.

POS System

Fix Price implemented a modern advanced POS system with broad functionality, which is specifically designed to collect real-time transaction data from cash registers, to transfer data to Fix Price's ERP, and to manage product mix. We aim to further improve our POS system to enhance our unique value proposition and to keep up with the modern retail trends.

Mobile Solutions for Store Operations and Employees' Remote Access

We have developed an Android-based mobile app for automating all processes managed by store employees on a real-time basis via tablets or smartphones. The app has proved its efficiency in several ways. Firstly, it enables our managers to view and track current operational tasks in real time and report on any results. Secondly, it provides centralised remote monitoring of the condition of store premises. In this way, it contributed to reducing the time spent on solving standard tasks and boosting the productivity of store employees. We are constantly expanding and enhancing its functionality to optimise and automate existing business processes. For example, in recent years, blocks for issuing online orders, product write-offs, unsold products analytics, and repair and maintenance ticketing for in-store equipment have been introduced.

Fix Price School

In 2022, we continued to fine-tune Fix Price School, a remote learning app for the Group's employees regardless of the division they work in. The app has a user-friendly interface and is a convenient tool for reading or listening to various courses, taking qualification tests, and much more.

Web-System to Streamline New Store Openings

Another significant recent innovation at Fix Price has been the introduction of a system that has greatly simplified the new store opening process for our staff. The suite of IT services developed by the Company has completely automated the data collection process for available real estate and calculates the economics of opening a new store in a particular location.

Supporting the Supply Chain

This modern software solution is used to automate repetitive tasks around managing deliveries, import supplies, custom support, logistics, verifying certification, calculating planned and actual costs, etc.

Improving the Customer Experience

Fix Price's business is built around providing superior service to customers while rolling out the latest innovations and technologies across all related processes at our checkouts. It allows us to boost productivity, drive customer loyalty and achieve our strategic goals.

Self-Service Checkouts

On the back of a successful pilot in Moscow in 2021, self-checkouts are being installed at our new stores in Russia. Self-checkouts cut staff workload during peak hours, and unlock extra capacity for more footfall while optimising costs. By shortening checkout queues and processing payments faster and more comfortably for shoppers, we have encouraged customer loyalty. Also, during the pandemic, self-checkouts helped keep our customers safe by reducing contact with store employees. In 2022, more than 1,260 self-checkouts were put into operation, while the share of purchases through them in stores reached an average of 37%. In the future, we plan to grow the number of self-checkout machines in our stores.

Payment by QR Code (Faster Payments System)

We constantly strive to make the shopping experience in our stores as convenient and swift as possible, so we welcome all the options that facilitate this. In 2022, our stores were upgraded to accept QR code payments through the Bank of Russia's Faster Payments System (SBP). This service allows Russian shoppers to instantly receive and transfer funds commission-free. The majority of Russian banks are connected to the SBP, which means our customers can pay for their purchases from the comfort of their banking app: they do not need to get out their bank cards, all they have to do is scan a QR code generated at checkout. These transactions charge a lower bank commission vs card payments, which is beneficial for the Company.

WE CONSTANTLY STRIVE TO MAKE THE SHOPPING EXPERIENCE IN OUR STORES AS CONVENIENT AND SWIFT AS POSSIBLE

E-Receipts

In 2022, like many other Russian retailers, we transitioned to paperless receipts. This migration helps our customers to have a more convenient way to track their expenses. It also helps us to reduce receipt printing costs. In addition, the reliability of cash registers grows thanks to the reduction in the load on printers. Given the scale of our network footprint in Russia, we also expect to be able to contribute to reducing the level of household waste on city streets. We believe that our customers will support our initiative and show willingness to stop using paper receipts.

Mobile App for Customers

Although we are primarily a brick-and-mortar retailer, we are always responsive to new customer demands and have launched a mobile app for those who want to shop online. Through the app, customers can place orders for either home delivery or in-store pickup. The application was first launched on Android in 2018 before coming out on iOS in 2019, and was added to Huawei's AppGallery in 2022.

SET Mark System for Tracking Sales of Labelled Products at Checkout

SET Mark Centrum technology is tailored to prevent human error at checkout. It is geared towards assisting with tasks around tracking labelled products, preventing sales of counterfeit goods, deterring theft, and preventing foul play by competitors.

Set Loyalty Service (SLS)

SLS is the ultimate tool for processing any number of coupons reliably and quickly. It has been rolled out across all Company's stores.