BUSINESS INVESTMENT GUIDE TO MOSCOW

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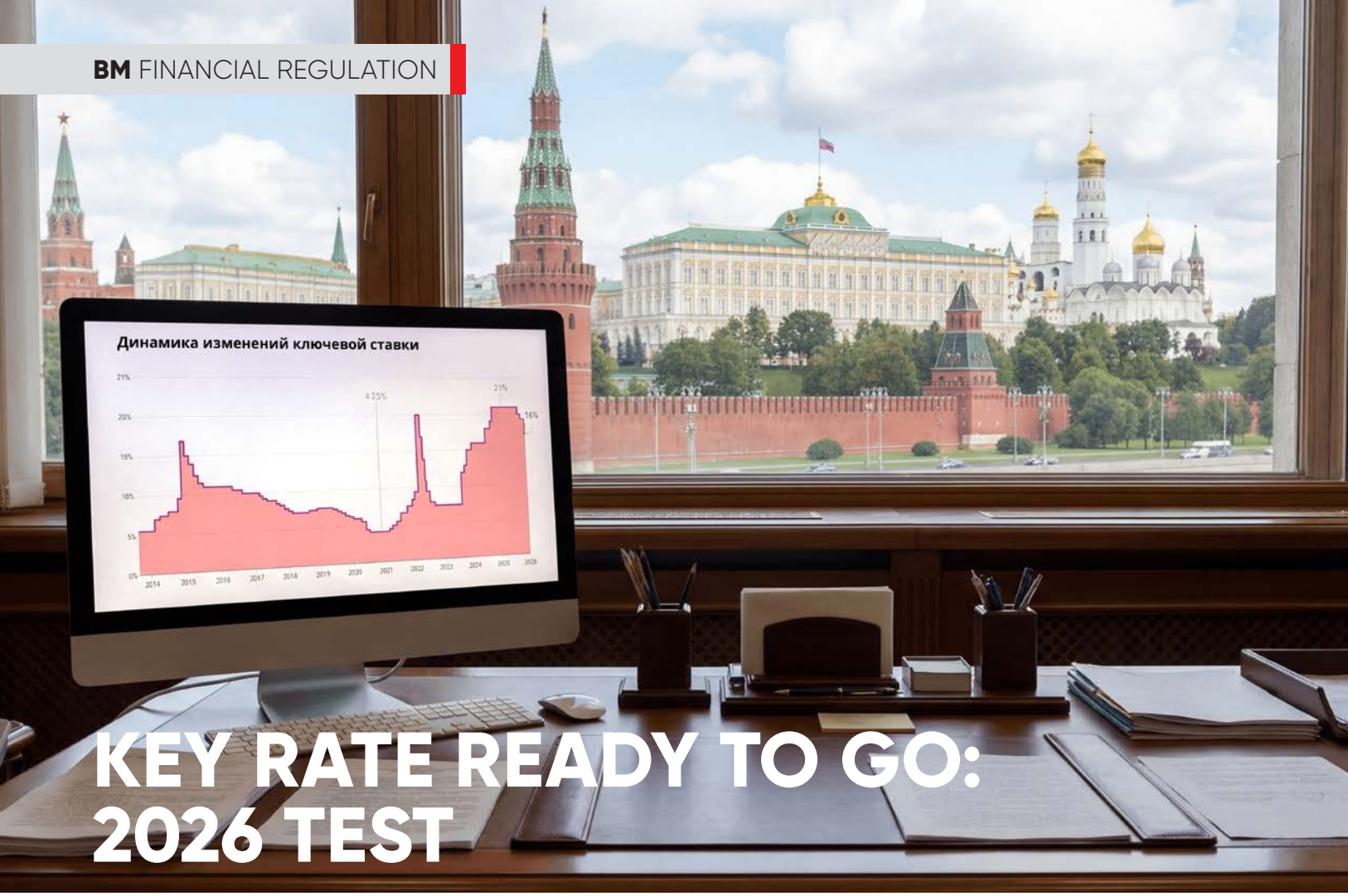


KEY RATE READY TO GO: 2026 TEST

CHANGE IN THE KEY RATE BY 0.5 PERCENTAGE POINTS "DOESN'T MAKE A DIFFERENCE; IT'S THE TRAJECTORY THAT MATTERS". THERE IS A LOT OF TIMELESS EVIDENCE TO SUPPORT THIS THESIS BY ALEXEI ZABOTKIN, DEPUTY CHAIRMAN OF THE BANK OF RUSSIA, INCLUDING CLASSIC SONG LYRICS. THIS BRINGS UP THE LYRICS OF THE LEGENDARY SONG BY LEONID DERBENEV (MUSIC BY EDUARD KOLMANOVSKY) FROM "THREE DAYS IN MOSCOW" MOVIE OF 1974: «ONE SNOWFLAKE IS NOT SNOW, ONE RAINDROP IS NOT YET RAIN…»

On February 13, the Board of Directors of the Central Bank held its first key rate meeting in 2026, lowering it from 16% to 15.5%. It is believed that such "starting point" decisions determine the nature and tonality of the monetary policy for many months ahead. However, the regulator has already proven more than once that it knows how to surprise the public, acting as flexibly, unpredictably, and sometimes even paradoxically as possible. And all things considered, generally it acts wisely.

The Central Bank's February move came as a surprise to most analysts and financial market participants who expected the key rate to remain at the same level. How come, they wondered, pointing out a number of drivers, which in their opinion outweighed any grounds for further monetary policy easing. Indeed, in January, monthly inflation reached 1.62%, annual inflation accelerated to 6% (up from 5.59% in December), and the Russian population's inflation expectations figure stood at an impressive 13.7% for the second consecutive month. Based on Rosstat figures, since the start of the year (as of mid-February), prices for cucumbers have risen 43.3%, tomatoes 20.4%, carrots 14%, and potatoes 12.6%. A new VAT rate of 22% came into effect in January, public transport fares, excise taxes and minimum prices on many goods, particularly alcohol, were increased.

Meanwhile, there are also other factors that apply, other "weights" on the hypothetical side of the scale.

"When making rate decisions, what matters is not the price growth for a single month, but underlying inflation", - as Alexei Zabotkin clarified later. According to him, it is not so much the change in the rate, but its level that influences inflation. A key rate of 15.5% is still 'tight policy' that constrains credit activity. This, says the Deputy CBR Chairman, prevents demand from running ahead of supply-side growth and triggering another price surge.

As noted in the Bank of Russia's materials (and confirmed by Governor Elvira Nabiullina at the February 13 press conference), "there has been a redistribution of inflation from late 2025 to early 2026." … November and December "saw slow price increases for several volatile components, particularly fruits and vegetables, with a limited impact from the VAT increase on December prices. However, early in 2026, the im-

Last week of January, consumer price growth slowed down to 0.2% compared to 0.45% a week earlierю (Source: Rosstat)

pact of these factors on the economy shifted in the opposite direction… Another reason was the larger-than-expected scale of utility tariff indexing for 2026, compared to the October forecast".

Rouble Exchange Rate Remains Stable

"January's surge in inflation is technical, a one-time effect caused by the VAT hike and tariff indexing that the Central Bank had already anticipated, – says Anastasia Gorelkina, social communications expert. – According to Rosstat, as early as the last week of January, consumer price growth slowed down to 0.2% compared to 0.45% a week earlier. During the period from February 25 to March 2, inflation was 0.08% compared to 0.19% the previous week, and the annual rate (according to the Ministry of Economic Development) was 5.72% compared to 5.8% a week earlier. Therefore, situational factors have fully manifested themselves and are beginning to fade away".

Mark Goihman, ForexBY analyst, does not see any compelling reasons for inflation to accelerate in the foreseeable future, reminding of the emerging trend of economic slowdown and that today the majority of Russians prefer saving to spending.

"The key rate remains high, which means bank deposit interest rates continue to be attractive to consumers, - the economist says. – This same situation limits lending. Lower credit availability cools down demand. The rouble exchange rate remains stable, which means that imports are getting less expensive. Seasonal factors play their role as well: after the New Year's peak, consumer activity traditionally declines. Furthermore, in February, the indicator of Russians' inflationary expectations dropped to 13.1%, so people are hoarding less, which in itself is cooling down the market. Ultimately, in January, the so-called "statistical base effect" took effect, when higher taxes and tariffs led to a literal explosion of prices. Nothing of the kind was observed in February".

According to Goihman, over the upcoming spring and summer months of 2026 annual inflation will fluctuate in the range of 5,7-6%. If the Central Bank does not accelerate the pace of monetary policy easing, if household inflation expectations continue to weaken and consumer demand falls, if the rouble remains strong and import volumes moderate, there is simply no other choice but to expect this outcome.

Trillions in Deposits

A distinct factor, significantly impacting inflation dynamics, relates to the total volume of household funds in the banking system. According to the Deposit Insurance Agency (DIA), it reached ₽65.2 trillion at the end of last year. Of course, it's all about the persistently high key rate, which, as we know, pulls market rates along with it. For the first five months of 2025, the rate stood at 21% per annum, and only in June did the Central Bank lower it by 1 percentage point.

By the way, at the beginning of 2024, with the interest rate at 16%, total bank deposits by Russians amounted to ₽45 trillion, whereas at the start of 2023 (at 7.5%!), they totaled ₽35 trillion.

The regulator accompanied the February cut of the key rate to 15.5% with a soft signal to the market. Following the CBR, banks adjusted their rates too: in the absolute majority of cases they brought it to the key rate level, but there also had been some drastic moves – down by 1,5 percentage point. Some banks offer 14% (instead of 14,5%) for two- to three-month deposits, others provide 15% (instead of 16%). And it doesn't seem like consumers are very concerned about what's happening yet. According to experts, bank deposits remain the primary tool for preserving savings. After a long period of record-high interest rates, Russians have developed a strong inclination towards bank deposits, allowing them to counter inflation quite successfully.

The total volume of household funds in the banking system reached ₽65.2 trillion at the end of 2025. (Source: Deposit Insurance Agency (DIA)

"Households exercise extreme financial caution, choosing clear and secure instruments, – says Maria Brodovskaya, First Deputy Chairman of the National Savings Bank. - A bank deposit remains just that: it is transparent, insured through the DIA (Deposit Insurance Agency), and does not require specialized knowledge, unlike, for example, stock market investments".

Clearly, a substantial volume of deposits, especially long-term ones, exerts a disinflationary effect. When the population prefers to keep their money in the banks rather than spend it on goods and services, spilling it over into the market, the pressure on prices is relieved. Huge volumes of liquidity are effectively being withdrawn from active circulation.

Alexei Zubets, Director of the Center for Social Economy Research, says that credit institutions actually operate as a

Over the upcoming spring and summer months of 2026 annual inflation will fluctuate in the range of 5,7-6% (Source: Mark Goihman, ForexBY analyst)

giant vacuum cleaner (driven by a powerful high-rate motor), vacuuming money from the consumer market to prevent rampant inflation. Which is the ultimate goal of the CBR. In the analyst's view, the situation will not change dramatically in 2026, as deposit yields remain attractive to Russians despite some decline. Moreover, the government is fully committed to preserving the status quo. Its goal is to prevent a sudden, large-scale capital flight from banks at any cost.

"Over ₽65 trillion is a little short of the annual budget of the country, – notes Zubets. – This colossal monetary overhang is kept at bay due to the two factors. The first is tight monetary policy, which will not be drastically eased any time soon. The second is the stable rouble exchange rate. If the Central Bank cuts the rate by several percentage points at once, or if the exchange rate falters (both scenarios are unlikely), it will be a signal for some depositors to start withdrawing money from banks. If trillions of roubles spill over into the market all at once, the consequences could be quite dire. These funds currently serve as a stabilizer: they remain 'trapped' within the banking system, preventing uncontrolled inflation".

Middle East and Other Factors

Meanwhile, as Elvira Nabiullina quite rightly noted, pro-inflationary risks still prevail over disinflationary ones over the medium-term horizon. According to the head of the regulator, they are linked "to a more prolonged upward deviation of the Russian economy from the balanced growth path and high inflation expectations, effects from VAT and regulated price increases, as well as deteriorating terms of foreign trade".

This list could be extended. Furthermore, according to Igor Nikolayev, chief researcher of the Institute of Economics of the Russian Academy of Sciences, the inflationary potential of increasing value added tax cannot be fully exhausted in the short term.

"No, that's not how this works, – says the expert. – The new 22% VAT rate does not automatically imply a price increase, unlike the 1.6% January utility tariff indexation, for example. Many sellers and manufacturers are not at all eager to increase prices. Some are trying to reduce costs, some are even ready to lose some margin not to scare consumers away and avoid heavy losses. But some time later they would definitely realize that there is no other way out but to raise their prices. Consequently, we will see a delayed impact".

Nikolaev notes that one must not forget the average national indexation of utility rates by 9.9% in October, as well as the implementation of the government decision on a technology fee of up to ₽5,000 per unit of electronics sold, effective October 1st. This means a new inflationary spike is ahead of us. Although the Central Bank has adjusted its inflation target for the current year to 4.5–5.5%, it will be considered a success if we manage to keep it in single digits, under 10%. Furthermore, at the end of February (after the CBR key rate meeting), another formidable factor emerged—the escalation of the crisis in the Middle East and the de facto halt of shipping in the Strait of Hormuz, through which about 20% of the world's oil supplies and 30% of LNG pass.

Against the backdrop of these events, the risks have increased significantly: these are primarily higher logistics costs, transport costs, other various costs. Correspondingly, Nikolayev sums it up, it means potentially stronger inflationary pressure, and the process threatening to be a long-drawn-out affair. Based on the 2022 experience, one could say that it may take at least several months. And while new, more expensive supply chains are being developed, Russians risk facing rising prices for electronics, auto parts, and other goods imported through parallel import.

Mikhail Nikitin, head of international business and finance practice, 5D Consulting partner, thinks otherwise. In his view, high oil prices are more likely to have a disinflationary effect because they boost the rouble. Rising logistics costs remain a separate driver, but its impact will demonstrate no earlier than in a few months, if the crisis drags on. Proactive price hikes by major e-commerce platforms and retailers, leveraging high-profile news before real cost inflation kicks in, could pose a growing risk.

In conclusion, the emerging internal and external circumstances in 2026 necessitate a highly cautious and gradual reduction of the key rate by the Central Bank, which the regulator will undoubtedly do.

Alexander Larin

NEW REALITY: TECH INDEPENDENCE AND STATE SOVEREIGNTY IN TODAY'S WORLD

Breaking Down Old System

A new global technological paradigm is emerging nowadays. It will bring about a breakdown of the old system, based on the science and technology supremacy of the West, allowing it to extract super profits and oppress other countries, preventing their progress.

A number of countries have already broken away from technological dependence. India, China, Indonesia, Malaysia, and Vietnam have emerged as world-level leaders in many technological sectors.

"Containment" Led To Inspiration

Russia is likewise swiftly closing the gap and reducing its dependence on Western technologies, which originated in the late 20th century.

The crisis of 2014 gave Russia a strong impetus to accelerate scientific and technological development. Back then, the West embarked upon a course for the economic and technological "strangulation" of Moscow and correspondingly, aimed to break down the country. Western elites were under the illusion that Russia was completely dependent on their "benevolent" attitude and that it would have been enough to restrict trade, provision of technologies and services, and the country would crash as a "colossus with feet of clay".

Western theories about the "clay colossus" have been around for some time, and though Russia has already proven the inconsistency of these theories more than once, the West, with a persistence worthy of a better cause, falls into the rancid swamp of its delusions, getting a lot of bumps in the process.

In 2014 Western companies, which held a dominant position in a number of Russian economic sectors, began to voluntarily withdraw from Russia. They wrapped up their production, refused to provide technologies and services despite immense financial and reputation losses. The West had assumed that it would more than make up for its losses when Russia crashes.

The world has entered an era of profound changes. It is not only about breaking down the old unipolar world order, but also about shaping a new one that is expected to be free from the political and economic dictates of the powerful.
Changes are affecting every facet of modern statehood, covering technology, science, education, and culture...
Pre-requisite
Alexander Shirov, Director of the Institute of Economic Forecasting of the Russian Academy of Sciences and a Doctor of Economics, is convinced that the 'demand for technological sovereignty' is becoming increasingly important. Under the modern high-tech development trend, lack of sovereignty in this area rules out self-reliance and stability in the majority of other areas, ultimately including the political sphere.

"At that time, large Russian companies, primarily in the financial sector, began considering replacing foreign software (SW) with domestic developments to mitigate risks. 2015 marked the beginning of import substitution in state agencies, which were banned from purchasing foreign software, if the Domestic SW Register featured similar Russian software. In 2018, similar processes started out at state-owned corporations.

The Russian Ministry of Digital Development ("Mintsifry") recommended in 2021 that entities operating Critical Information Infrastructure (CII) switch to domestic products. As a result, in 2022 demand for domestic software increased by 300% year-on-year", – recalls Roman Volkov, CEO of Russian ITFB Group.

In 2023, Russia adopted the Concept of Technological Development until 2030. It covers 9 national projects affecting 15 sectors of the economy. The priority sectors are new materials and chemistry, advanced space systems, food security, unmanned systems, bioeconomy, transportation mobility, production and automation equipment, healthcare, energy, and so on.

In 2024, Russia invested over ₽65 billion (about $1 billion) in technology sovereignty projects. As of last year, the total volume of open credit lines alone reached ₽2,7 trillion (approximately $40 billion).

Targeted investments drove superior growth, significantly exceeding industry-wide figures. For instance, in 2025, the IT sector saw a growth of around 15%, with computer, electronics, and optical products manufacturing up by 13%.

According to the Russian Ministry of Economic Development, accelerated growth in high-tech industries will continue up to 2028. Production volumes in these industries will increase by 30%.

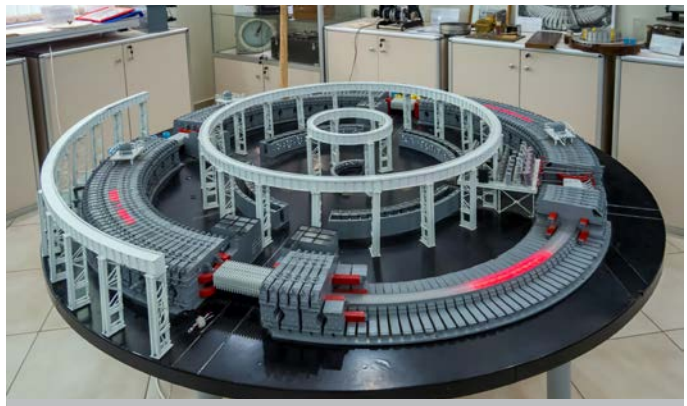
Technology Revolution Fruits

Such are the dry facts of plans and statistics. These seem impressive, but only specific achievement cases can provide an insight into the scale of an industrial breakthrough, currently implemented by Russia.

Here are some examples for 2025 only:

Russia has joined the ranks of an elite "digital club" previously comprised only of the US and China. Now Russia also has its own search engine, messengers and social networks.

But the most significant achievement in this area is that an interconnected digital ecosystem is operating in the country. Other members of the 'club' cannot boast of this.



The IT sector saw a growth of around 15%, with computer, electronics, and optical products manufacturing up by 13%. (Source: Ministry of Economic Development of the Russian Federation)

"Few nations can claim that their digital environment acts as a cohesive organism. Some countries are trying to accelerate its development; some are still arguing about standards. We have all of these in place. Nowadays the strength of a state is also determined by its capability to provide modern digital comfort to its citizens. Russia has demonstrated its capability to do this. And this is its real competitive advantage, now recognized worldwide", – says Armen Gasparyan, Member of the Public Council under the Ministry of Digital Development, Communications and Mass Media of the Russian Federation.

Today, Russia is actively establishing genuine technological sovereignty and developing unique, globally competitive, high-tech products. Moreover, the country has returned to the ranks of states that set the trends in scientific and technological progress.

Russia holds a unique position as the only country to have both built and operated small modular reactors and floating nuclear power plants.

Rosatom specialists have developed a plasma rocket engine, slashing travel time to Mars to just 1–2 months, down from the usual year.

Russia is the undisputed leader in building nuclear-powered ships, boasting the world's most powerful icebreaker fleet.

In 2025 Russia became a leader in artificial intelligence development among the BRICS countries, created a unique scanning vortex microscopy method with ten times the resolution of existing methods, the country is actively developing unmanned transportation applications.

Last year a new Alzheimer's disease medication and cancer vaccines were developed in Russia, and a NICA collider was launched in Dubna.

Moscow's New Industrial Paradigm

The above list of Russian science and technology achievements of 2025, which is far from exhaustive, and a significant share of victories belongs to scientists, designers and innovative companies of Moscow. Overall, the metropolitan city accounts for over 17,5% of Russian high-tech companies and a third of jobs in the domestic research sector. Forty percent of Russian patents have been granted to Moscow-based companies and researchers.

A molecular NGS panel for personalized cancer therapy was developed in Moscow. The panel can analyze more than 500 genes, when its existing foreign counterparts can process only about 300.

Moscow's innovation ecosystem, among the first in Russia to embrace high-tech, now includes nearly 30000 industrial enterprises, almost 42000 IT companies, over a thousand of research organizations and educational institutions, more than 1700 infrastructure assets

Another example of Moscow's achievements last year is the 3D bioprinting technology for customized implants to repair the eardrum. Doctors have already successfully conducted over 40 surgeries on patients with severe hearing impairment.

A smart neural network-based system, providing for quick and precise decision making for urban infrastructure and metropolitan development, has been created in Moscow. Last year, Moscow ranked second in the world Smart Cities index, falling just 0.1 points behind Singapore.

Moscow's innovation ecosystem, among the first in Russia to embrace high-tech, now includes nearly 30000 industrial enterprises, almost 42000 IT companies, over a thousand of research organizations and educational institutions, more than 1700 infrastructure assets: technoparks, shared equipment centers, engineering centers, pilot testing sites etc.

Breakthrough Ecosystem

"Moscow's technological development is based on a cluster approach. This approach works better than a distributed innovation environment, where every developer has to search for opportunities to implement his ideas on his own", – says Dmitry Kulish, Director of the Center for Entrepreneurship and Innovation at Skoltech.

Cluster is no longer a fashionable term, but a tool that really accelerates production growth. Co-locating developers, component manufacturers, labs, logistics, and service providers shortens the technological cycle and reduces product development and time-to-market costs.

The innovation ecosystem created in Moscow allows companies of various specializations to seamlessly transition from one project stage to another, promptly find partners, and enter target markets. Moscow's extensive, multi-faceted support system enables the development of new products and technologies at any stage of readiness.

Organizations such as the Moscow Innovation Cluster fund serve the goals of technological development. The Cluster connects the city, major businesses, investors, research teams and start-up companies. The cluster drives innovation and serves as a support resource for Moscow's tech sector.

The 'Innovators Academy' program helps startups develop and refine their technological ideas with the support of experienced mentors.

To design, produce, test, and certify any product or component, you can reach out to the "Prototype Factory" – the service offers free search for contractors.

Then, products can be tested under a pilot testing program for innovations, receive feedback from users and assess project potential. For this purpose, Moscow has set up a world's largest pilot testing network, comprising 236 sites.

By implementing a consistent policy of supporting innovation, Moscow has emerged as the driver of Russia's technological progress over the last decade. The city has achieved major successes in such areas as digitalization, genetics, microbiology, cybernetics, transport, robotization and other sectors.

Today, every third enterprise in the city is high-tech, and some companies are unique worldwide. Moscow Photonics Center is the unique production facility for photonic integrated circuits in the world.

53 Moscow's technoparks and the Special Economic Zone (SEZ) "Technopolis Moscow" have become the centerpiece of the new industrial policy of the city.

The Government of Moscow is not just striving to increase the number of production facilities, but is developing a forward-looking industry. A new urban economy model, based on high-tech, flexible and sustainable, is clearly visible now. Today it accounts for 42% of all industrial revenue of Moscow. This number will exceed 50% over the next few years.

Nikolay Sergeyev

In 2024, Russia invested over ₽65 billion (about $1 billion) in technology sovereignty projects. (Source: Ministry of Economic Development of the Russian Federation)

Anton Redozubov: “MOSCOW HAS BECOME A TESTING GROUND FOR THE AI REVOLUTION”

THE GENERATIVE ARTIFICIAL INTELLIGENCE (AI) MARKET IN RUSSIA SOARED TO ₽58 BILLION IN 2025, UP FROM ₽13 BILLION IN THE PREVIOUS YEAR. THIS IS EVIDENCED BY A STUDY CONDUCTED BY IT COMPANY JUST AI AND MARKETING AGENCY ONSIDE. THE GOVERNMENT IS FOCUSING ON DIGITALIZATION OF MANAGEMENT PROCESSES, TRANSFORMING MOSCOW INTO A TOP TESTBED FOR AI IMPLEMENTATION IN GOVERNANCE AND MUNICIPAL SERVICES. ANTON REDOZUBOV, INDEPENDENT CYBERSECURITY EXPERT, SPOKE TO THE BM MOSCOW FORESIGHT MAGAZINE ON THE PRIMARY CHALLENGE OF ALL THESE TRANSFORMATIONS.

The Moscow Region saved over ₽2,5 billion 2025 under 67 AI-driven projects (Source: Andrey Vorobyov, Governor of the Moscow Region)

What were the key AI market highlights of the past year?

2025 marked a turning point for Russia: we stopped looking at AI as at some sort of a foreign gimmick and adopted it as a critical technology of national scale. If we highlight three main results of the year, then the first one will be the trend towards sovereignty. Major players have finally placed their bets on their proprietary developments, designed for Russian language and domestic context.

The second result is the migration of risks: AI made routine tasks, like speech recognition or translation from foreign languages, easier, but at the same time gave rise to new threats — deep fakes, sophisticated fraud, infrastructure attacks. And the third result is the transtion from theory to practice: now there are first domestic benchmarks and industry solutions. Sber and Yandex presented their speech-to-text models, business got efficient work tools.

Has AI mitigated any risks?

It did not, but it transformed risks, making them more complex and requiring new competencies.

It sounds like an encouragement to learn rather than to be afraid. But aren't we overly optimistic?

We certainly shouldn't go into seclusion and become Luddites — let's recall English workers of the XIX century, destroying machinery, "denying" them their work, or means of subsistence. History doesn't repeat, but it can rhyme if we misuse the IT tools at our disposal. Our goal is not to reject it, but to learn to control it. AI is not a magic wand, it is a lever. If we use it the right way, it will multiply our force, and if we don't — it will hit us hard.

Late last year Danish Saxo Bank predicted introduction of a "virtual CEO" at the helm of a major corporation in 2026. Could this be real?

In terms of technology capability – yes, it could, it is already possible to implement such a solution today. But in terms of legal and executive concerns it is definitely impossible, especially in Russia. AI cannot be held responsible for its decisions, and this is the cornerstone for any governance and legal regulations. In my opinion, reality will be more mundane: instead of a "virtual CEO", we will see advanced decision making support systems, which currently run up to 80% of analytical operations. The key issue here is control. "AI Cleanup Assistants" will be required to audit algorhytmic solutions and errors. And even if a position of Vibe Code Cleanup Specialist — a person cleaning up AI-generated code errors (some analysts say this is one of the "jobs of the future") is still a meme, but it is terrifyingly close to reality. 2026 will be the year of experiments in this area, but there will be no large-scale transition: legal and reputation risks both for major corporations and government agencies are too high.

Will AI replace government officials, at least partially?

It won't definitely happen in 2026. AI can and must serve as a tool for application preprocessing, data validation, anomaly detection. And it has been doing this for a long time, every day, without any hype. Decision making support systems were developed way back in 1980s. Yet, final authority, especially in socially sensitive areas, such as approval of social benefits, issue of permits, should stay in human hands. This is insurance against data or algorithm logic errors. Technology helps, but it doesn't replace responsibility.

What, in your opinion, is the main 2025 takeaway for business and government?

The last year has shown that those who started systemic implementation of the technology, are already reaping benefits, and those who waited for a "perfect time", are lagging behind. But it is important to remember: AI sovereignty is not isolation, but the ability to develop one's own solutions based on global experience, while taking national interests into account. The risks haven't gone away, they've just become more complex. And this means that we need more than just engineers; we need lawyers, ethicists, and cyber security professionals who understand how 'black-box' sys-

In 2026 will see the start of a pilot project for integrated traffic control in Tushino (Source: mos.ru)

tems function. 2025 gave us a map, and 2026 will require us to navigate this map.

Why do some still see artificial intelligence as a threat, while others see it as a miracle?

When I'm asked about AI, I often recall a quote by William Gibson: "The future is already here — it's just not very evenly distributed". Some see a neural network as an image generator, others view it as an unobtrusive assistant sorting mail or plotting a route. I'm being pragmatic about this: AI is neither a miracle nor a monster — it is a tool, just like a steam engine of old or a personal computer. It's only a matter of adoption speed: previously the humankind had enough time to get used to a new technology, and now everything happens in a blink of an eye. Artificial intelligence in Russia is everyday reality, it operates in support desks, navigators and security systems. The question is not whether AI will exist, but how deeply it will be integrated into our daily routines.

Many people are concerned that algorithms will take away their jobs. How valid are these concerns?

AI will replace non-professionals, those who resist development, and not professions. This evokes a historical parallel: accountants used to work with abacuses, then calculators, followed by the era of Excel and 1C. The profession has not disappeared, it has evolved. Any routine white-collar jobs will be under threat: template-based copywriting, basic accounting, data input operators. Those who use AI as a personal assistant, have nothing to fear over the next five years. A doctor, monitoring diseases with the help of algorithms, or an engineer, designing a part in dialogue with a neural network, will only be more efficient. As for a full vehicle autopilot, we are still a long way away from infrastructure that would enable it, where it would be contolled by "smart road", and not just the car.

Can Russia become a global leader in neural networks, considering the sanctions on purchasing foreign technologies and other obstacles?

Sanctions are a challenge, historically answered by our people with a major breakthrough effort. Football coaches say: "The Russians only start playing after conceding the first goal". Our strengths involve profound mathematical school and unique data: computer vision for industrial applications, geoanalysis, agricultural technologies and voice technologies. Cybersecurity will play a special role, it will require AI solutions for protection and identifications of fraudsters. It is crucial to have affordable technologies. In this case major business operates as a nuclear icebreaker: it clears the way and invests in fundamental models. But it would be small business, which will deliver solutions to every person like a swift boat. Any attempt to "bottle up" AI within corporations will strangle the market.

Expert estimates show that by 2030 the Russian AI market could grow up to ₽778 billion, registering average annual growth of 68,1%.

You are a security expert. What are the key risks posed by AI expansion and how do we protect ourselves from these?

If AI could help in search for medicines, it would be as likely to help with fraud. I mean it is not the tool itself, but those who use it and for what purposes. This is the eternal battle of sword and shield. The key "dark side" of current IT solutions are deepfakes and fraud. An average person doesn't need to be a cybersecurity expert to protect themselves from all this: practicing digital hygiene is enough. First of all, one should develop critical thinking: If a "relative" asks for an urgent money transfer, call them back on their known, existing phone number to verify the situation. Second, establish a code word with your family for emergencies as a reliable defense against voice scams. Third, maintain basic tech habits: use two-factor authentication procedures and create strong passwords to access significant personal information.

What should we do with education? How do we prepare our children for the world, where answers are provied by a machine?

The most important issue would be to teach a child to think and ask the right questions. AI provides answers, but only a human can pose a task. Philosophy, logic, mathematics and natural sciences are fundamental for this purpose. Hard skills matter, but you need an understanding of how algorithms work, not just programming. And apart from these, soft skills are critical too: communication, empathy, creativity. And naturally, attutude towards gadgets: a phone has to be used as a tool, not as a substitute for reality. Live

communication, sports, and development of fine motor skills are key to develop a healthy neural network in your head and a sound mind in a sound body.

Moscow is actively implementing AI in governance today. How successful is this experience?

The capital city is the main testing ground and incubator for the latest IT practices. Moscow's comprehensive approach makes it unique: the city is building a complete digital ecosystem, which is becoming a model for Russian regions. The city sets world standards in transport: 2026 will see the start of a pilot project for integrated traffic control in Tushino, the share of "smart" traffic lights will increase up to 80%, and biometric payments will be available for all ground transport modes.

Digital twins are used in construction to verify compliance with standards and codes before construction starts.

In healthcare, AI in the EMIAS (Unified Medical Information and Analytical System) is already analyzing X-ray images, helping to identify pathologies in early stages and relieving doctors of routine work.

A special experiment in the field of state supervision is scheduled for 2026–2028: neural networks will automatically identify landscaping and environmental violations through CCTV and drone cameras. This will eliminate the human factor and corruption. Moscow operates not as a "city under a golden dome", but as a federal competence center scaling successful solutions nationwide.

What does this mean?

Successful practices are already yielding measurable results. The Moscow Region, following the lead of Moscow, saved over ₽2,5 billion 2025 under 67 AI-driven projects. Neural networks have been insstrumental in identifying over 500 thousand property maintenance violations, and by the end of 2026 the number of such projects in the Moscow Region will grow up to 80. As highlighted by Andrey Vorobyov, Governor of the Moscow Region, the goal is to "free people from routine". The "Gorodovoy" Complex operates in a similar fashion in Saint-Petersburg: this winter it monitored 21 types of violations, ranging from ice cover to failure to remove snow in a timely manner.

How systematically will this experience be scaled up at the federal level?

The process is already underway. Oleg Morozov, Chairman of the State Duma Committee on Control, made a statement: the outcomes of the Moscow neural network experiment will be reviewed by state supervision agencies, and the "most successful practices" will be rolled out in "other regions". Now the federal authorities are preparing to introduce KPIs for AI use for all Russian regions, and the "Digital Region" platform of the Moscow Region is viewed as a hub to exchange best practices.

The instructions from the President of the Russian Federation dated January 3, 2026, following the "Journey into the World of Artificial Intelligence" (AI Journey) conference, actually take this subject from the status of "interesting pilot projects" to the mode of state oversight of performance outcomes: there will be a uniform implementation database, and it is planned to include an AI parameter into the digital transormation ranking of the Russian regions. Simply put, what works in Moscow and the Moscow Region today will become the national standard tomorrow.

In healthcare, AI in the EMIAS (Unified Medical Information and Analytical System) is already analyzing X-ray images, helping to identify pathologies in early stages.

What is your personal outlook for the next year: will there be "digital paradise" for us?

We all believe a little bit in a magic wand that will turn us from Ilya Oblomov into Ilya Muromets. But the reality offers two scenarios. The pessimistic scenario, let's call it "Digital Swamp": we will stop straining our brains by entrusting everything to algorithms. This is a direct path to cognitive degradation and increased unemployment for those who failed to retrain for a new profession. In a word, just like the plot of the Idiocracy movie. But there is another option, an optimistic scenario: AI will become a tool which will liberate us from routine tasks. The labor market is already adapting to the new IT reality, and given the current labor shortages in the economy, people will be better off if they invest into retraining, rather than remain unemployed.

What will be the outcome?

We already have some of the "digital paradise" built around us — in a couple of clicks we can order food delivery or a tour to the Baikal Lake. The main challenge of 2026 lies not in technology, but within us. AI will not replace humans, but humans, using AI, will replace those who reject it. Real progress will arrive when we quit waiting for miracles and start building it by ourselves, combining perseverance, self-confidence and critical thinking. This is that very "humanity", which cannot be replicated by AI. BM

FROM MINING TO EXCHANGES: WILL CRYPTO COME OUT OF THE SHADOWS IN RUSSIA?

The draft law presented by the Central Bank and the Ministry of Finance at the end of February sets tight deadlines for establishing full-fledged crypto business infrastructure by 2027, with its main part scheduled to go live as early as July 1st of this year. Moscow's leading experts spoke to BM Moscow Foresight magazine on the rationale behind the government's decision and future implications for the industry.

Russian authorities have been very cautious about their approach to legalization of cryptocurrency assets in Russia. It is worth recalling that the Ministry of Finance and the Central Bank of Russia had long-standing disagreements over the necessity of legalizing cryptocurrencies. The Central Bank of Russia was adamantly opposed to 'monetary surrogates,' a term it used to encompass all cryptocurrencies simultaneously, and the Finance Ministry was quite open-minded regarding both digital coins and mining, and was willing to consider allowing this business in our country. However, the introduction of sanctions against Russia after the start of the special operation in Ukraine and difficulties in the foreign economic activity of domestic companies changed the Central Bank's stance.

Glimpses of agreement among regulators' views began to emerge at the end of last year. On December 2, speaking at the "Russia Calling!" VTB Forum, Deputy Chief of Staff of the Presidential Administration Maxim Oreshkin stated that cryptocurrency mining is having an increasingly noticeable impact on the Russian foreign exchange market. According to him, digital asset mining had effectively become a "hidden export" with significant financial flows. Cryptocurrencies are already being used to pay for imports, which requires a revision of approaches to the balance of payments. Back then, Oreshkin called upon the CBR to take these realities into account, because underestimating cryptocurrency flows threatened erroneous rouble FX rate forecasts. This was when many analysts realized that the days of authorities turning a blind eye to the shadow turnover of digital currency had been over.

Three Key Achievements

Reflecting on the past year in crypto, experts have reached a consensus on three main takeaways. Firstly, in 2025, crypto established a foothold in the economy. The "powers that be" have undergone a change of philosophy. While regulators previously viewed Bitcoin as a threat, they now recognize it as a probable instrument for facilitating transactions. "I believe 2025 was a turning point," notes Georgy Topchishvili, Business Development Director at the ABCEX crypto exchange. "Crypto in Russia has ceased to be a semi-under-

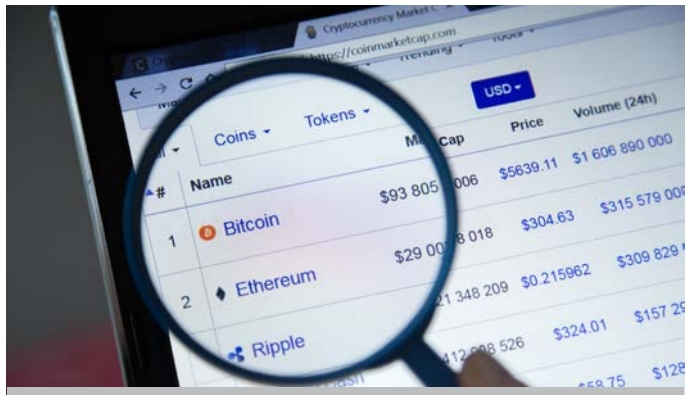
ground topic and has gained a definite economic status. The biggest breakthrough is the government's transition from the 'prohibit' concept to a 'permit but control' model".

Bitget CMO Ignacio Aguirre agrees, pointing to the market's institutionalization: "The regulatory agenda has shifted from a logic of prohibition toward a model of controlled use: licensing operators, discussing access for qualified investors, and establishing reporting and compliance requirements. This is not full-scale legalization, but it is a significant institutional shift".

The second key achievement of the past year was utilizing mining for export purposes and adopting cryptocurrency in foreign trade operations. Digital currency has ceased to be merely a speculative asset, evolving into a vital survival tool for Russian businesses under sanctions and even becoming a component of the country's balance of payments, which was acknowledged by Maxim Oreshkin in his statements. "For me, the main outcome is that the crypto market in Russia has become a part of the economy rather than an abstraction," emphasizes Raphael Polansky, Business Development Director at BitMEX. "Mining has been recognized as an industry, the number of large-scale mining data centers in the country has grown, and actual investors have emerged, not just speculators". Cryptocurrencies have de facto become a tool for foreign trade and cross-border settlements for a segment of Russian business.

Ignacio Aguirre noted: "Against the backdrop of sanctions restrictions, crypto is being used as an alternative settlement infrastructure, particularly in transactions with counterparties from Asia, the Middle East, and the CIS. This is not a mass or public market, but it is here that crypto has proven its applied value as a means of bypassing institutional barriers".

The industry is no longer the domain of "garage enthusiasts". It has been entered by major investors and financial-industrial groups. However, this was also facilitated by purely



Against the backdrop of sanctions restrictions, crypto is being used as an alternative settlement infrastructure, particularly in transactions with counterparties from Asia, the Middle East, and the CIS. (Source: Ignacio Aguirre, Bitget CMO)

economic reasons. "Thanks to the weakening dollar, computing equipment became nearly 25% more affordable in roubles for customers last year," noted Andrey Loboda, economist and top communications manager in digital currencies and industrial mining.

The third outcome for the Russian crypto industry last year was the transformation of investors themselves: they have become more mature, and truly large-scale capital has entered the sector. In effect, the Russian crypto market came of age in 2025. The era of shitcoins (literally, a term for a cryptocurrency which is useless, has no new technology to back it and was created for the only purpose of making money for its founder, for PR purposes of a founder, or just as a joke — ed.note.) and reckless risks is a thing of the past.

"The Russian retail investor became noticeably more cautious and pragmatic in 2025," states Ignacio Aguirre. "Interest has shifted from high-risk tokens to core assets and stablecoins".

While private investors opt for reliability, large-scale capital is carving out a niche in the mining sector. Andrey Loboda points to the market's hidden giants: "The current leaders have been joined by many large financial and industrial

Mining has been recognized as an industry, the number of large-scale mining data centers in the country has grown, and actual investors have emerged, not just speculators (Source: Raphael Polansky, Business Development Director at BitMEX)

The Bank of Russia and the Ministry of Finance have developed a draft law "On Digital Currency and Digital Rights. (Source: RBC)

groups that have not yet publicly announced their activities. There are compelling reasons for this: the mining industry is under harsh EU and US sanctions".

Also, in 2025, regulators actively promoted Digital Financial Assets (DFAs). News about the growth in their trading appeared regularly, although critics argue that for the average user, the distinction between DFAs and crypto remains blurred.

The year of stepping out of the shadows

All the changes that took place last year have paved the way for active measures by the "powers that be" in the current year. And so, in February, the debate over the status of cryptocurrencies in Russia was finally settled at the highest level.

According to RBC, the Bank of Russia and the Ministry of Finance have developed a draft law "On Digital Currency and Digital Rights." According to the document, all necessary conditions for the operation of companies engaged in the "organization of digital currency circulation" will be established in Russia by July 1, 2027. Meanwhile, the core regulations are expected to come into force as early as July 1 of this year.

The draft law from financial authorities details who, how, and under whose control can sell, buy, and conduct other transactions with cryptocurrency. Experts emphasize that there is an important international aspect to this entire story. "The primary objective of this decision is to align domestic legislation with FATF (Financial Action Task Force) requirements regarding anti-money laundering, given that a new round of the Russian Federation's assessment for compliance with these requirements is expected in 2028," states Denis Polyakov, head of the Digital Economy practice at the GMT Legal law firm. — At the last FATF assessment, we were put 'on the radar' precisely because of the lack of full-fledged regulation of relations with cryptocurrency". "Introducing the legislation in the middle of this year will allow us to establish its application practice just in time for the re-evaluation date and pass it successfully, while maintaining our country's high FATF compliance rating," the expert explained.

What is particularly interesting, and even somewhat ironic, is that Russia is striving to comply with the regulations of an international body that suspended its membership back in 2023 due to the Special Military Operation, effectively joining the sanctions.

What does the bill created by the Central Bank and the Ministry of Finance offer? The core essence of the document is that cryptocurrency trading in Russia will now be conducted professionally and in an organized manner. The financial authorities plan to establish five categories of participants for such trading:

- Exchanges and trading systems required to hold a trading organizer license;
- Digital depositories, which will be responsible for maintaining records of rights to digital currency, similar to current depositories holding data on shareholders; a register of digital depositories will be maintained by the Bank of Russia;
- Management Companies (Asset Managers), which will be authorized to invest their clients' funds into digital currencies;
- Brokers, through whom transactions will be executed, similar to how it currently works with stocks;
- Crypto exchanges will also be subject to a registry maintained by the Central Bank of the Russian Federation. The regulator will monitor the minimum capital requirements for such organizations. Their minimum monthly transaction volume must be at least ₽3.5 million (excluding foreign trade contracts). Furthermore, crypto exchanges will be required to monitor cryptocurrency transactions and report any suspicious activity to the Bank of Russia.

Furthermore, crypto exchanges and depositories will be required to comply with the law "On Countering the Legalization (Laundering) of Criminally Obtained Incomes and the Financing of Terrorism". All necessary conditions for companies involved in "organizing the circulation of digital currencies" to operate in Russia must be in place by July 1, 2027. At the same time, authorities plan for the main regulation to take effect as early as July 1 of this year.

Digital currencies cannot be used as a means of payment inside Russia, except for cases explicitly permitted for foreign trade contracts. Residents, i.e., citizens of our country, will be able to carry out transactions with cryptocurrency only through organizations licensed to handle it. Exceptions are foreign trade transactions and operations of miners with newly mined crypto. And assets stored outside identifier-addresses will not be eligible for legal protection in Russia.

Unqualified meaning ordinary investors will be able to purchase cryptocurrency only after passing a test. The test results will remain valid for one year. Furthermore, brokers or asset

With the start of the Special Military Operation (SMO) in 2022 and under sanctions, when Visa and Mastercard payment systems stopped serving Russian companies and individuals, the demand for cryptocurrencies as an alternative solution in foreign economic activity increased significantly. (Source: Grigory Osipov, a former FSB officer and now an independent cybersecurity expert)

management companies will be required to warn their clients about the risks associated with cryptocurrency investments. The crypto asset must be admitted to organized trading within the country. In addition to individuals and companies that meet the regulator's requirements, cryptocurrency operations will be open to government bodies, federal subjects, municipalities, the prosecutor's office, and other agencies.

Pros And Cons Of Innovations

According to Grigory Osipov, a former FSB officer and now an independent cybersecurity expert, with the start of the Special Military Operation (SMO) in 2022 and under sanctions, when Visa and Mastercard payment systems stopped serving Russian companies and individuals, the demand for cryptocurrencies as an alternative solution in foreign economic activity increased significantly. In 2024, the authorities legalized cryptocurrency mining and allowed the possibility of using them as an "alternative" scenario, but exclusively for foreign economic operations.

The new bill certainly brings hope that the 'rules of the game' and the key players will finally be defined. Regulating a market that has already long been established is quite a challenging task; however, it is still much better than a total ban, the expert emphasized.

Bill analysts note that the regulation proposed by financial authorities implies serious capital and reporting requirements – this is not a business for 'roadside stalls'. Most likely, crypto services will become part of the existing market, offered by banks, brokers, and investment platforms.

Looking at global experience, in the US, Great Britain, and EU countries, cryptocurrency regulation has been developing in this exact direction for several years. There is no total ban, but there are clear requirements for those who work with retail customer funds. Russia is moving along the same path.

According to Ignat Likhunov, founder of the Cartesius law firm, the system currently being formed by the state provides legal and legally protected conditions for cryptocurrency transactions. Their transparency is achieved through the rejection of anonymity and a certain increase in fees. At the same time, it is expected that the official market status will minimize the risks of bank blocking that participants previously faced – this is an obvious advantage of the entire innovation. "On the downside, commissions will rise because all participants will now be unable to avoid taxes throughout the chain," – the lawyer added. "It will also be more difficult to hide some crypto for a rainy day, as its cashing out will be made more difficult and complicated".

Outlined Prospects

From a broader perspective, looking beyond the draft legislation proposed by regulators, Ignacio Aguirre believes that Russia's crypto market development will move in three key directions this year. Firstly, regulation will become stricter but more defined. This will reduce the grey zone, but will not lead to full liberalization. The second forecast is that market growth will be moderate and functional, rather than speculative. In 2026, the crypto market in Russia will grow not due to hype, but due to practical, applied use cases:

- cross-border settlements,
- hedging FX risks,
- keeping value outside traditional financial system.

A massive influx of retail investors, like in 2021, should not be expected.

Third forecast: focus on base assets and stablecoins.

The following cryptocurrencies will enjoy the highest demand:

- Bitcoin – as a long-term store of value;
- Ethereum – as an infrastructure asset;
- Stablecoins – as a settlement tool.

Exotic altcoins and meme tokens will fade to the periphery of Russian investors' interest.

So, if the past year was a transitional one for the Russian crypto market – moving from survival to cautious integration into economic reality – then 2026 will be a year of consolidation: with fewer players, but clearer rules and a more pragmatic approach to cryptocurrency use.

Anna SOLNTSEVA

Vitaly Abramov: "THE RUSSIAN SUPPLEMENT MARKET IS GROWING BY DOUBLE DIGITS, WITH DEMAND SHIFTING TOWARD A MORE CONSCIOUS APPROACH"

VARSEAS (LLC AS RS) is a Russian innovative biotechnology company specializing in the full-cycle development and production of bioactive ingredients. Its primary focus is on marine undenatured collagen derived from deep-sea mollusk tissues. We discussed the development of modern biotechnologies in Russia and dietary supplement market prospects with Vitaly Abramov, founder of VARSEAS brand.

What inspired you to start your biotechnology journey and launch the VARSEAS brand?

After creating several companies in the manufacturing sector, I was looking for a project that would leave a mark, not just bring profit. In 2018, I came across a scientific development that could not be brought to an industrial scale. The technology existed, and some research had been conducted, but there was a lack of evidence base and business expertise for industrial implementation.

Once I realized the scale of the project and that it involved the world's only production technology for undenatured marine collagen, the decision was made. For the first time in my career, I told myself: if anything goes wrong, I am the only one to blame. If it works, it is also my achievement. Such a level of personal responsibility inspires me more than any financial figures.

How did you come up with the idea of producing undenatured marine collagen?

I didn't seek out the idea—it found me. The unique innovation demanded more than just funding; it required expertise in setting up manufacturing from the ground up, navigating regulatory landscapes, and managing logistics and market entry. Once I dove into the topic, I realized the scale of its uniqueness. There are thousands of products labeled 'collagen' on the market, but the vast majority are hydrolysates or gelatin, where the original protein structure is destroyed. Only we produce native collagen with a preserved triple-helical structure on an industrial scale. Opportunities like this only come once in a lifetime.

Vitaly Abramov

founder of VARSEAS brand

How do you assess the current state of the bioactive ingredients and food supplements market in Russia?

The market is growing at double-digit rates and demand is high, but development remains chaotic. The main issues are terminological confusion and widespread counterfeiting. Packages labeled "collagen" often contain nothing but a mix of amino acids, while products claimed to be "native" turn out to be hydrolyzed. This creates a vicious cycle: consumers buy the product, see no results, and lose faith in the entire category. Ultimately, honest manufacturers are the ones who suffer. We constantly face a lack of trust in our product's effectiveness because clients have already been burned by counterfeits. We have to do more than just sell; we have to convince the market and prove our differences. However, there is a positive trend: the demand for evidence-based information is growing, consumers are becoming more educated, and a culture of reading ingredient lists is emerging.

Which macro trends, in your opinion, shape up the demand for marine collagen products on the domestic and international markets?

This is primarily conscious consumption. People have stopped blindly believing advertising; they have begun studying ingredients and demanding scientific evidence. This plays into the hands of manufacturers of high-quality products. Next is the demand for preventive medicine instead of treating consequences, which became especially pronounced after the pandemic. People are willing to invest in maintaining their

health. In this context, collagen is not a cosmetic product, but a functional ingredient for joints, skin, and connective tissues.

After 2022, there has been a sharp increase in demand for import substitution, but of high quality. Consumers want Russian products that are not inferior to or superior to imported ones. The international market is moving towards transparency of raw material origin and proven bioavailability. Asian markets are particularly sensitive to scientific justification and are willing to pay for proven quality.

Which barriers to the growth of innovative ingredient production in Russia are the most critical, in your view?

Long and unpredictable registration and certification timelines mean it can take two to three years from product readiness to legal market presence. During this time, the market changes, competitors copy the idea, and investments are frozen. Furthermore, the complexity of registration does not correlate with innovation – copies and fundamentally new developments undergo the same lengthy procedure.

The lack of clear terminology in legislation allows anything to be labeled as collagen. We are fighting for the integrity of the category, but it is legally impossible to prohibit such terminology manipulation. For us, this results in direct financial losses we have to spend resources on educating the market instead of developing the product.

Targeted state support specifically for innovative developments is also insufficient. Most programs are aimed at import substitution through copying Western technologies, rather than creating fundamentally new solutions. Another issue is the difficulty of accessing international markets due to the non-recognition of Russian quality standards.

In which segments do you see the greatest potential for exporting Russian bioactive ingredients?

Premium cosmetics for Asian markets, where there is a sophisticated consumer culture and a science-based approach to product evaluation. Nutraceuticals for the Middle East, driven by a growing middle class and rising demand for premium health products; this market is less regulated than Europe yet highly affluent. Pharmaceutical ingredients represent a long-term strategy, requiring years of certification.

The core principle is to avoid price dumping or positioning as a "cheap alternative." Instead, the focus is on competing through superior quality, unique technology, and scientific validation.

What sets your undenatured collagen apart from other types of collagen on the market?

Undenatured collagen retains its native triple-helical structure, undamaged by thermal or chemical processing. Most manufacturers use high-temperature treatment, which destroys the spatial structure of the molecule. This results in a set of peptides or amino acids—this is already a denatured form with different properties and bioavailability.

Our technology is based on low-temperature extraction that preserves the native structure. This is the world's only method for industrial production of undenatured collagen from marine raw materials. The difference is not a marketing spin, but fundamental. It is like comparing a fresh egg to egg powder—technically both contain protein, but their properties are radically different.

What key scientific discoveries or technologies enabled you to establish industrial production of the product?

Our core technology is a low-temperature extraction method that preserves the native protein structure. The development process took several years and involved a full R&D cycle with the participation of scientific institutions. While technical details are confidential, the key point is: we did not adapt existing technology, but created a completely new one.

Our raw material is deep-sea giant squid. Its uniqueness lies in the fact that its collagen structure is as close as possible to human collagen, with a 98% biocompatibility rate. This is a fundamental difference from terrestrial collagen sources. That is precisely why we chose this type of marine raw material, despite the complexity of working with it.

A critical quality control system is implemented at every stage of production, along with specialized handling of marine raw materials, which require strict logistics and storage conditions. The technology has been verified by Swiss experts who analyzed the process and product for several months.

We have a series of peer-reviewed publications in both Russian and international scientific journals, with patent applications filed for various production technologies—ranging from hemostatic sponges to quality control methods. The product's efficacy is supported by research from the Sechenov First Moscow State Medical University and Kursk State Medical University. These studies demonstrate the high efficiency of intact protein complexes, the formation of a stable cellular monolayer, and a complete lack of cytotoxicity. This establishes a solid scientific foundation for potential applications in the pharmaceutical industry.

What international standards does your company adhere to in terms of quality and research?

We operate in compliance with ISO 9001 for quality management systems and ISO 22000 for food safety. Our pharmaceutical ingredients are manufactured according to GMP requirements. Prior to 2022, while collaborating with international partners, our products underwent expert evaluation for compliance with Swiss and European standards.

The main principle is not to produce to the minimum requirements of Russian legislation, but to perform in compliance with the strictest international standards from the start. It is more expensive and complex, but it provides a competitive advantage and opens up the global market.

How do you assess the potential for applying your products in related industries, such as pharmaceuticals, cosmetics, and sports nutrition?

Nutraceuticals and cosmetics are our core business areas today. In the food supplement and nutraceutical segment, we are seeing the highest demand, with a clear need for evidence-based products with a solid scientific foundation.

Cosmetics is our second key area; our ingredients are used by premium brands. Native collagen works differently in cosmetics compared to hydrolyzed collagen, providing an advantage to manufacturers willing to invest in high-quality formulas.

Sports nutrition is a promising area for joint and ligament recovery. Athletes are an educated audience who understand the difference between collagen types and are willing to pay for effectiveness.

Pharmaceuticals is our long-term strategic goal today, the most challenging direction that requires years of clinical trials and drug registration. It is potentially the largest-scale, but it is an investment for years to come.

Do you think the current regulatory framework is sufficient to stimulate innovation in the industry?

Definitely not. The current regulatory framework prioritizes the 'do no harm' principle over promoting excellence. It fails to distinguish between pioneering, unique technology and a simple copycat product. There are no mechanisms in place to provide a competitive advantage to those investing in research and creating groundbreaking innovations.

We need a system that severely cracks down on counterfeiting while simultaneously stimulating true innovation through tax incentives, expedited procedures, and priority export support. Currently, investing in R&D and creating unique products is often less economically viable than copying someone else's work and selling it cheaper.

How much do regulatory requirements affect the time-to-market for new products? What legislative changes would facilitate the work of innovative bioproduct manufacturers?

Registering a food supplement with a unique formula takes just as long as registering a standard formula—at least one and a half to two years. The paradox is that the more in-

novative the product, the more questions regulators have, and the longer the process takes. There is a lack of understanding that innovation should be stimulated by speed, not hindered by over-caution.

There are two key issues that are critical for us. First, the lack of a clear legal definition for 'undenatured collagen' forces us to explain what it is and how it differs every single time. No category, no standard—no fast-track registration. Second, there is no fast-track procedure for products with a solid scientific base. Despite having publications, patents, and validation from leading medical universities, this provides no advantage in registration speed.

A priority registration mechanism is required for products with proven scientific novelty, conditional on the submission of an expanded research package. This would stimulate R&D investment.

What measures do you consider necessary to combat terminological chaos in the industry?

We need legislative definition with independent conformity assessment at the registration stage; a public register of non-conformities with product inspection results — consumers must be able to verify if a product matches its declared composition; fines proportional to the benefit from deception– not symbolic amounts, but a percentage of revenue. We need fines commensurate with the benefits of deception — not symbolic amounts, but a percentage of revenue; educational work with consumers on how to read ingredient labels and tougher requirements for advertising claims — any claim regarding efficacy must be supported by available research.

Do you consider it important for industry associations and working groups to participate in the development of standards?

Industry associations are vital, but their efficiency depends on the operational setup. A major problem is that participating manufacturers often send staff focused on sales and marketing instead of technological standards.

Effective performance requires a balance of interests. Working groups on standardization must include production engineers, the scientific community, independent experts, and consumer representatives. Quality standard decisions should be based on scientific data and production reality, rather than commercial compromises.

Process transparency is essential—all proposed standards must be published for public consultation before approval. Associations should not only formulate standards but also actively participate in their enforcement—conduct independent audits of member products and publish the results.

The association's mission is to protect the interests of both consumers and quality producers. It must create an environment where honest manufacturers are encouraged to stay honest, and violators face economic consequences. This is the only way industry self-regulation can serve the best interests of the whole market.

Are there prospects for digital labeling and transparency of ingredient origin? What additional quality control measures are necessary?

The compulsory labeling system 'Chestny ZNAK' for dietary supplements in Russia is already in place and being implemented. It is a reality, not a prospect. Technically, the capability to track the product from manufacturer to consumer exists.

It is important to understand that labeling verifies the legality of the product's circulation, not the composition of a specific package. The code confirms that the product was legally manufactured and passed through official distribution channels. However, it does not show whether the actual composition matches what is declared on the label.

The next step is voluntary transparency of manufacturers through QR codes with access to test reports, information on raw material origin, and laboratory control results. The technology for this exists, but it is a manufacturer's initiative, not a legal requirement.

Transparency is a competitive advantage for honest producers, allowing us to showcase real data. The challenge is whether the industry is ready for this level of openness.

Could you evaluate the prospects for Russian products in the global collagen market, including premium segments?

The global collagen market shows double-digit growth, driven by the dynamic and profitable premium segment. With strict compliance with international standards and proven scientific evidence, the outlook is very promising.

Our experience has shown: the main thing is the real uniqueness of the technology. Undenatured marine collagen with a structure as close as possible to human is not a copy of existing products, but a fundamentally different solution. This

is precisely what can open the doors to demanding markets.

It is critical to avoid falling into price competition. Positioning as 'cheaper than imported' is a dead end for the premium segment. Competition must be driven by technology, scientific data, and proven efficiency.

The market is large, and there is room for different players. Our goal is to find our niche where our unique technology provides a competitive advantage. This requires patience, substantial investment in R&D, and a willingness to take a long-term path without quick returns.

Which international markets are you primarily interested in and why?

The current geopolitical situation significantly influences market selection. The Asia-Pacific region is a priority. Japan and South Korea, Vietnam, Thailand, Malaysia, Singapore, and Indonesia remain in our focus. There is an educated premium consumer segment there, ready to analyze product features and pay for verified quality. The Japanese market is particularly demanding—they will not buy based on flashy messaging only; data and evidence are required.

The Middle East is a truly accessible destination. The UAE, Saudi Arabia, and Qatar are actively developing economic ties with Russia, and there are no political barriers. The region boasts high purchasing power and a growing interest in premium health and beauty products.

China is a challenging market. They are the largest producers of hydrolyzed collagen themselves, offering very low prices. Competing there is difficult; it requires a clear niche and a solid understanding of what unique value we can offer.

How do foreign market regulations differ from the Russian system, and how does this affect your plans?

In Russia, one often encounters subjective interpretations of the same requirements by different experts. What is accepted by one organization may be rejected by another without clear explanation. Requirements can change in the middle of the document review process.

Japanese and Korean markets have stricter quality requirements but more transparent procedures. There, a single case of non-compliance can ruin a reputation forever. In Russia, the risks for unscrupulous manufacturers are significantly lower.

This influences our strategy: we initially target the requirements of these markets, as they are some of the strictest in the world. We undergo certification to their standards and conduct research based on their requirements. After that, adaptation to Russian requirements usually presents no issues. The European market remains a long-term prospect, but not a current priority.

What steps are necessary for the recognition of Russian quality standards on the international stage?

In the current context, the systematic recognition of Russian standards is more of a long-term prospect. The political situation influences mutual recognition processes of certification.

At the same time, this is not critical for operating in international markets. The Asia-Pacific region and the Middle East are open to cooperation and evaluate products based on their actual characteristics. There, independent studies and actual quality are more important.

Our strategy hinges on adhering to the highest international standards from day one. Operating under ISO, we conduct research tailored to target market requirements and leverage independent expert evaluations. We publish our findings in peer-reviewed international journals and cooperate with accredited laboratories.

When a partner evaluates a product, they look at concrete data and results, rather than formal certificates. That is exactly where we place our bets—building a reputation through validated quality and transparency to audits. This approach works in markets that are open to dialogue. BM

DOES AFRICA'S STARVING POPULATION NEED RUSSIAN GRAIN?

According to Agroexport, food supplies to African nations have more than doubled over the last five years and had reached up to $7 billion by the start of 2025.

Africa is a non-political, but very real business, it is a good partner for Russian agricultural producers and fertilizer manufacturers: there is huge demand for grain, seed oils and fertilizers on the continent. However, the Forbes magazine opines that only those who are not afraid of anything can work with Africa. Millions to be made on the continent won't come easy, but obstacles, ranging from strong competition and pirates to droughts, are quite real.

It is enough to recall the recent scandalous statement by Kenyan journalist Jeremy Simiyu, who reported that garbage bins in the continent's poorest countries are filled with moldy bread made from Russian flour. According to the journalist, at least one third of hungry people never receive this bread, because in Africa, they don't know how to store wheat and baked bread. So, first Moscow has to educate Africans about storing food, to install required refrigerating equipment, otherwise these issues will only keep piling up.

Don't Wait For Handouts, But Learn And Gain Experience

Be that as it may, a most important issue, discussed at a recent Russia-Africa conference on strategic partnership in the agricultural sector, convened in Ethiopia's capital, Addis Ababa, was: what does the Black Continent offer – are there greater risks or greater profits?

The African side at the meeting was presented by top executives of such corporate giants of the continent as Ethiopian Investment Holdings, Kenya Network for Trade and Export Services, Eastern Africa Grain Council, Ryli Beef and Grains Limited, Bemaco, Alakuku Group and others.

From the Russian side, the discussion featured about 300 of representatives from major businesses, scholars and government officials, including the RF Ministry of Agriculture, Agroexport, Rosselkhoznadzor, Rossotrudnichestvo, Rusagro and others.

As part of the meeting, experts also discussed working conditions under Western sanctions and how to build sustainable supply chains for food and fertilizers to Africa.

The Jeune Afrique publication opines that the issue is not limited to trash cans only and that the African food market is undergoing a profound transformation, fueled by population growth and rapid urbanization. These factors make it one of the most dynamic in the world, creating steady growth in demand for grain, especially for wheat and rice. Yet, the continent's agricultural sector and production fail to match rising consumption, leading to an increasing imbalance.

"We have arrived to discuss experience, and not handouts – said Yevgeny Primakov, head of Rossotrudnichestvo. – It is Russia's experience in overcoming total dependence on imports, expertise in building a high-efficiency agricultural industry, currently exporting food globally. We are ready to share this experience and projects".

Primakov pointed out, that the conference agenda focused on technologies, including processing of agricultural raw materials, fertilizers, development of the banking sector and logistics, and also related challenges.

"We are not discussing quantity of grain we are capable of delivering. Trust me, we have a lot", – assured the head of Rossotrudnichestvo.

Ksenia Bolomatova, Executive Director of the Union of Grain Exporters and Producers, in her speech at the conference emphasized that over 20 years the grain consumption on the African market has grown by 66%, when its production has increased just by 55%. This gap is especially wide in the wheat segment, where the demand has risen by 65%, but its production has gone up by 24% only. Under these conditions, Bolomatova noted, the key objective is to build long-term partnerships with such a reliable external supplier of grains as Russia.

The discussion participants came to a clear conclusion: it is required to transfer Russian experience, knowledge and technology to Africans as quickly as possible in order to upgrade their agricultural sector, while simultaneously helping to build human resource capacity in the African agricultural sector.

Africans Won't Say No To Fish

Russian Deputy Minister of Agriculture Andrey Razin also called on Africans to cooperate in technology, knowledge exchange, breeding, and seed production.

"In our view, - Razin stressed, - This is a new growth point that will help the African continent ensure its own food security and minimize dependence on external supplies".

According to Agroexport head Ilya Ilyushin, in addition to grain, Russian supplies of vegetable oils, meat, and processed foods are gaining momentum. So, the export of fat-and-oil products has almost doubled in recent years, exceeding $720 million. Shipments of finished goods increased in value terms by 51%, and livestock products – by 4 times.

Furthermore, prior to the imposition of sanctions, Russia had supplied nearly 200,000 tons of fish to the continent annually, and today the goal is to return to this level.

"We see great potential for increasing the supply of Russian agricultural products to Africa. By 2030, the volume of Russian agricultural exports to African countries may exceed $7.5 billion". – said Ilyushin.

Mohamed Abdi Hayir, Minister of Agriculture and Irrigation of Somalia, said that Africa is realizing the importance and readiness to feed its people.

The Minister stated that the continent has large land areas suitable for agriculture, significant water resources and young population, ready for innovation. "Africa has the potential to not only feed its own population but also significantly contribute to global food security".

Potential areas for cooperation were presented by Gerald Makau Masila, Executive Director of the Eastern Africa Grain Council (Kenya). These include pre-sowing treatment, pest control, technologies for fertilizer application, grain storage and processing.

"We lose a lot of grain after harvesting. According to some estimates, the losses reach up to 25%. The post-harvest level offers great investment opportunities, and we are inviting our Russian colleagues to work together with us", – Gerald Masila summed up.

In addition, there is significant potential for investment in agricultural processing and the creation of port infrastructure to both facilitate imports and promote exports to other regions. This is a specific matter for Russian investors and builders, said Gerald Masila.

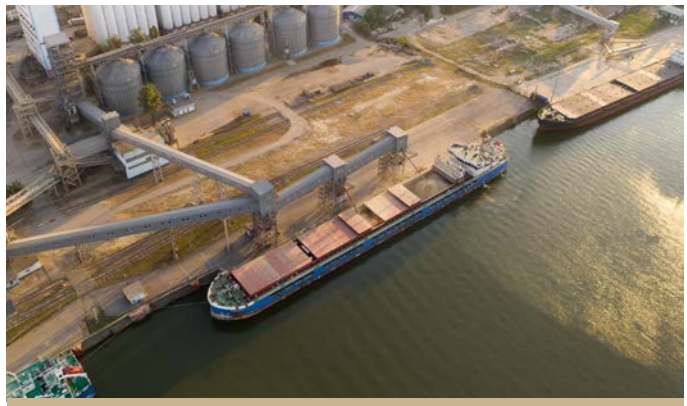
Fertilizer Issue Needs To Be Resolved

Fertilizers represent one of the most important sectors in Russian-African trade. Experts in the agricultural sector predict this continental market will grow over 30% to $20 billion by 2030. Even if they maintain the current share of 10%, Russian producers are expected to generate over $2 billion in revenue, according to Forbes expert estimates.

Another challenge is the low technological and managerial standard of agriculture, primarily expressed by the degree of fertilizer use at African fields: 20 kg per 1 hectare in densely populated Sub-Saharan Africa, when in South Asia and Latin America it is 170 kg, in East Asia – 300 kg, and in Europe – 800 kg.

In 2024, according to calculations by the Russian Association of Fertilizer Producers, Moscow supplied 1.9 million tons of fertilizers to Africa, worth nearly $1.5 billion (50% growth over three years).

Key players in this market are PhosAgro and EuroChem, which account for 35% and 25% of all Russian fertilizer exports to Africa, respectively.



South Africa, one of the most economically developed countries in Africa, purchases grain and fertilizers, as well as coffee extracts, essences, and concentrates from Russia. According to Agroexport, the volume of Russian supplies more than doubled in 2024, amounting to $205.4 million (942,000 tons of products).

Moscow: Ice Cream For Nigeria

Moscow provides significant assistance to African countries. Following Mayor Sergey Sobyanin's directive, the city is actively supporting Moscow businesses in expanding trade and economic ties with various African nations. Food industry products have become a key driver of development for Moscow-based manufacturers.

Last May, Moscow-based companies, in particular, delivered 709,5 tons of humanitarian aid to Burkina Faso.

In addition, the Russian side is finalizing the necessary procedures to provide free aid to Niger in the volume of up to 20,000 tons of wheat.

According to the Department of Investment and Industrial Policy of Moscow, growth of Moscow's exports to Africa could be driven by dairy products, vegetables, poultry, chocolate products and animal feed. Just recently Moscow has resumed supplies of poultry meat and offal to Benin and started ice cream exports to Nigeria. BM

AGRICULTURAL DRONES REPLACING TRACTORS: UAVS WORKING FARMLAND IN RUSSIA

Today there are 300 thousand agricultural drones circling over farmlands across the world. According to expert estimates, the global agricultural UAV market will grow to $18,6 billion in just 10 years. Nikita Strelnikov, "Agro Tekhnologii" Head of Projects, spoke of the situation with the current application of "smart birds" across Russian fields and explained what a modern agricultural drone is in his interview to the BM Moscow Foresight magazine.

Today the USA, Russia and India are actively developing their own ag drones. However, experts say that Chinese drones are equipped with cutting-edge electronics and proprietary software (SW). Furthermore, their drones are more reliable in operation. This is the very reason for Chinese "birds" soaring over farmlands everywhere – from Mongolia to Brazil.

According to FAO, the share of ag drones, made in the PRC, today comprises about 90% of the global market! Meanwhile, a single Chinese firm, DJI, commands 70% of the global UAV market. The second position is occupied by yet another Chinese company, XAG, though products by this company have been gradually disappearing over the latest months, including from the Russian market. And it is also gradually losing ground back at home.

Chinese company Vector AGR is confidently moving into the third place, focusing specifically on agriculture and rapidly increasing production of next-generation agricultural drones.

According to a research by Fact.MR consulting company, in 2024 the global ag drone market was estimated at $4,9 billion. According to expert forecasts, by 2034 the volume of the market will grow up to $18,6 billion with the average annual growth rate of 14,1%.

What is an agricultural drone, and why do you think this machine is so necessary for agriculture?

Over just a few years in existence, agricultural drones have made human field labor much easier and saved large amounts of money for farmers. But most importantly, UAVs are becoming part of the "smart economy".

Today, agricultural drones are used in almost all types of field work, with the exception of direct seeding and harvesting. The primary and most popular spheres of ag drone applications are herbicide, insecticide and fungicide treatment.

For farmers, UAVs by and large represent an in-house aviation capability, providing significant autonomy in harvest preparation and mitigating agricultural scheduling risks. These smart machines easily operate over wet soil, on windy days and even at night.

Ag drone is also viewed as an important tool for controlling farming activities, reducing impact of external factors and making the process of growing crops predictable.

A separate important area is the introduction of mineral fertilizers into the soil. This technology is especially relevant for early spring fertilizing, for frozen and thawed soil — over the period, when farm equipment cannot operate in the fields due to waterlogged soil, and use of all-terrain vehicles involves high risks and costs. In such conditions, agricultural drones, which do not exert pressure on the soil, become the optimal and often the only possible solution.

Agricultural drones can also be used to sow small seeds that do not need to be buried in the soil. These crops include rapeseed, buckwheat, rice and a number of others.

An important category includes drones designed for monitoring crop conditions, assessing crop development, identifying outbreaks of diseases, pests, and stress zones, predicting yields, and forecasting potential risks.

Drones are equipped with sensors and infrared cameras. These tools help identify soil moisture and fertility, map

topography, and locate soil erosion, drought-stricken, or swampy areas. If necessary, sensors can detect sick animals in the herd.

It is worth noting that, that the RF Ministry of Agriculture officially included ag drones into subsidized programs. Thus, the government acknowledges that this is not just an experiment, but a working tool, tried and tested by the whole agricultural complex.

Is it true that the demand for ag drones in Russia has been growing by 20% every year?

This is true. The market growth is confirmed by the RF Ministry of Agriculture and by independent research: the annual growth rate in Russia is ≈25–28%. The Federal Center for Unmanned Aircraft Systems (FC UAS) expects that the market for drone-based pesticide application is expected to grow to approximately ₽57 billion by 2030.

By the way, this has been a general trend worldwide since 2016. The number of ag drones in operation at the Philippines, Malaysia, China and other countries grows by about 20-30% every year.

"Agro Tekhnologii" company is seeing growing agricultural UAV sales: farmers got a good look at them and now are moving to create full-fledged drone fleets and buying not just one drone, but 2–4–6 drones per farm.

Please, tell us what is the design of an ag drone, how high can it fly, what payload can it carry?

All ag drones have similar design: frame, motor, a tank for liquid or a hopper for dry preparations, spraying system, autopilot and navigation.

Drones usually fly at 3-6 meters above crops. A new generation of heavy drones can carry up to 70 kg, which is a major productivity improvement.

The very philosophy of ag drone operation is about speed, mobility and operational capability. Drones are highly valued for fast field deployment, they do not require any complex infrastructure and can be put into operation right away. As technology becomes more complex, this advantage fades away.

There are examples of heavy-lift drones with high payload capacity on the Russian market, such as the Russian-made ID-100A. This is a really powerful drone, but its operation requires a truck with a winch, a large mixing station, significant amounts of fuel and highly skilled operators.

At the same time, classic ag drones weighing up to 70 kg require only two operators and a mixing station of about 1000 liters.

For these reasons, the development of drones today does not focus on drastic increases in tank sizes and volumes, but follows the path of streamlining the existing solutions — higher operational speed, precision, better logistic and autonomy capabilities, so that a drone remains a mobile and fast tool and does not turn into a complex and heavy piece of equipment.

What are the main agricultural applications for ag drones?

The largest areas of application are grain crops, corn, sunflower, the classic large field crops.

But gardens and vineyards offer great potential. Drones perform best in the areas where equipment could damage plants, where there are complex logistics and special equipment is very expensive. We are now actively working to demonstrate the total effect for gardeners and winegrowers. And the results are very impressive.

Nikita Yurievich, who buys drones more often: farmers or large agrocomplexes?

They all buy drones, but for their specific needs.

A farmer would buy 2-4 ag drones to be able to promptly cover his areas under crops.

Large companies put together massive "drone fleets" – 8 drones and more.

In 2024 the global ag drone market was estimated at $4,9 billion. According to expert forecasts, by 2034 the volume of the market will grow up to $18,6 billion with the average annual growth rate of 14,1%. (Source: Fact.MR consulting company)

Which ag drones are in most demand with farmers and why?

The choice of our farmers is primarily driven by reliability, ease of maintenance and availability of services nearby.

Today the demand leaders are DJI Agras and Vector drones– a promising range, manufactured in China.

XAG used to be popular too, but the access to the equipment and services is severely restricted due to the sanctions.

Could you please name the Top -10 ag drones, made in Russia and worldwide?

We are working with the key two lines: DJI and Vector. DJI is a global leader, the brand is familiar even to those who have never held a drone in their hands. It is a benchmark for stability and precision.

Vector AGR is a Chinese-made range, actively marketed today by "Agro Tekhnologii". We have the same level of confidence in this brand and see that these ag drones have proven their worth in live operations. These drones are focused on easy field use of their solutions, have less complicated designs to ensure hassle-free maintenance in field conditions.

Just recently a compact Vector AGR HD525 has hit the market, it is a 25-liter capability model, designed specifically for small farmers.

Speaking of Russian developments, today there are several projects worthy of attention, though these are for now at different maturity stages.

One of the most prominent cases is the ID-100A drone, made in Russia by the "Sky Tractor" company. This is a heavy agricultural drone with a 200-liter tank, driven by a diesel power unit. According to manufacturer specs, the drone can cover 800 hectares per one work shift. At the same time, it is important to realize that this is not a classic ag drone, but a sophisticated aerial complex, requiring special logistics, a large capability mixing station, fuel and trained staff. This is an interesting drone, technologically ambitious and promising, but it is mostly targeted at large companies and special application scenarios.

The market is also seeing the appearance of Russian mid-range drones with specifications similar to widespread global models. First of all, these are S-80 drone by "Future Transport" (Togliatti) and "Rubin A-50", designed by "Istok" design bureau. Both drones feature a tank of about 50 liters and according to their performance specifications, are similar to their Chinese counterparts of the segment.

Today these solutions are in the field testing and pilot operation stage. There are no mass sales or a large number of independent reviews yet, but testing, conducted directly at farms with participation of manufacturers, show promise. It is obvious that the developments are focused on hands-on use and aren't run just for the sake of experimenting.

Generally, the Russian ag drone market is currently searching for its optimal business model: from heavy, high-performance drones to more compact and universal solutions. These projects have potential, and over the next few years a lot will depend on how fast they can move from testing to serial production and actual field operations.

By the way, Indian-made drones and drones from other countries are also present on our market, but these lag far behind the Chinese ones in terms of performance and stability.

"Agro Tekhnologii" has many customers in Russia, from Vladivostok to Kaliningrad. We have extensive regional presence and get enough feedback from farmers. This is why we are perfectly sure of which exact drones should be offered to a customer.

If I may ask, how much does a drone cost, could you name prices of the most popular UAVs in Russia?

The most popular models on the average cost from ₽1,8 million to ₽3,5 million per full set. The set includes a drone, control panel and software, replaceable batteries, generator, charging station – these items are required for uninterrupted field work.

Here is an interesting point: today UAVs are sold at zero VAT rate. As per section 15 of Article 164 of the RF Tax Code, civil aircraft registered in the State Aircraft Register (RosAviation) are to be taxed at 0% VAT, with proof of registration.

This means that 0% VAT and RosAviation registration, available at the time of drone purchase, confirm legal nature of UAV import and use in the territory of our country.

It is important not to confuse "0% VAT" with "ex VAT" — these are different things altogether.

How hard is it to pilot an ag drone? Where do they train to do this?

Piloting a UAV isn't hard, it's not a plane or a helicopter, but some specific skills are required. "Agro Tekhnologii" experts conduct pilot training: theory, practice, fieldwork, maintenance. Upon completion of a training course, a person can confidently operate during a season and perform almost without any incidents. There is great demand in Russia for this skill set.

- "Agro Tekhnologii" has its main office in Rostov-on-Don, why is the Moscow market so important for you?

Moscow is the center of executive decisions, investments and tech expertise, including the agricultural complex. This is where the industry digitalization agenda is determined, this is where all the specialized research institutes, integrators and training platforms are located.

For us, Moscow is a strategic area for development. We are entering the Moscow market with a purpose: we are communicating with agricultural enterprises of the region, taking part in industry events, international exhibitions, considering formats for cooperation with dedicated educational institutions, including the Academy of Human Resources for the agricultural complex.

Our goal is not only to supply equipment to the Russian market, but to build infrastructure for implementation of unmanned solutions: provide personnel training, improve application methods, integration with digital platforms. In this regard, Moscow is one of the most promising and dynamically developing markets of the country.

Nikita Yurievich, what is your vision for the future of agricultural drones?

The future of agricultural drones is linked to farm automation. The idea is that human labor would shift over to strategic and planning tasks, and routine operations, like field work, would be performed by machines. This means that in the next few years people would not have to work in the field all day: it would be sufficient to set up a machine with a flight mission in the morning and to check its results in the evening, park and charge drones, and review performance quality.

Gennady Chebyshev

VERFER UAC: **RUSSIAN RIVER AND LAKE CLEANER**

A year and a half ago another player joined the ranks of the engineering ship manufacturers of Russia – it is LLC "VERFER – Universal Amphibious Complexes". The company's main specialization are multifunctional and high-performance dredgers. We spoke to Igor Aleskerov, primary co-founder and investor of the company on the needs of the Russian market in this equipment, import substitution, areas of application, capabilities and advantages of their products.

There are lots of ads for sale and rent of dredgers and for manufacturing orders over the Internet. Do you have any concerns about available market opportunities, about returns on your investments, which are probably rather significant?

I have no concerns whatsoever. How many such offers are there on the Internet? Dozens, hundreds at most. How many companies manufacture dredgers? As far as I am aware, no more than twenty. And how many of these are capable of setting up serial production, just like us? And finally, how many dredgers can they make a year, in total? According to our estimates, it would be hundreds at best. But thousands are needed. The scope of work for this machinery is the entire country.

In fact, even the all-knowing Yandex Alice doesn't know the exact number of rivers in Russia. Various sources state that there are two to three million, and all of these require regular maintenance, and some need to be urgently rescued, including major navigable rivers. According to scientists, even the mighty Volga has already exhausted its self-healing capacity. It needs help. And it is the main waterway, the pride and one of the symbols of Russia. What can we say then about other rivers, especially medium and small ones? And about the lakes, which also need constant care. Our country also has many lakes – over two million.

The "Water of Russia" project is a dedicated program within the 'Ecological Well-being' national project, which is scheduled until 2030. The program aims to make our rivers and lakes deep and clean, and to improve the quality of life for people around them. We can already see examples of systematic and focused efforts in this direction.

Could you provide any examples?

There are a few examples right here, in Moscow. Moscow authorities and Sergei Semyonovich Sobyanin personally pay great attention to environmental issues. I didn't notice it before, but now I regularly see special vessels, including dredgers, on the Moskva and Yauza rivers. The city has a whole fleet of these, and water quality in Moscow's rivers is showing positive dynamics. If this keeps up, I would hope that one day, the Yauza will be clean enough for swimming. Of course, that is still a long way off. But if we're talking about the long term, one question arises. Any technology has a very unpleasant property.

What do you mean by that?

Technology, even the most advanced, eventually becomes obsolete. It is not so much about physical wear and tear as it is about obsolescence. This is also fully applicable to dredgers. Our products integrate all currently available innovative technologies. These include both performance efficiency and control systems. Our software is regularly updated. We are ready to supply Moscow with the latest models of our equipment on a priority basis. Moscow is dear not only to its residents, but to all of Russia. Everything that concerns the image of Moscow, including the conditions of its water bodies, is a matter of national importance.

And one more thing. Our production facilities are located in Chelyabinsk region, but for obvious reasons, we conduct

our business from Moscow. It is one of the world's leading political and business centers, and its role in this regard will only increase. And we try to look into the future.

If I got this right, your dredgers are designed to solve environmental problems of rivers and lakes.

And many more problems besides these. Our dredgers can be used with equal efficiency in both natural and artificial water bodies, including industrial reservoirs, for example, at nuclear power plant cooling ponds, where water quality is also a safety issue.

Another vast area of application is the tailings ponds of mining and concentration plants, where solid tailings are stored underwater for reprocessing or final disposal. Mining industry professionals are well aware of likely issues: overflow of tailings ponds, collapse and erosion of dams. These could not only have a negative impact on production cycles, but lead to undesirable environmental consequences fraught with financial and reputational losses. Timely use of a dredger can prevent any such problems.

To wrap up our discussion on competition, let me assure you again that we are not afraid of it. On one hand, we are confident of the quality of our products and their market demand. And on the other hand we, as citizens of our country, could only welcome more manufacturers of dredgers, offering more modern equipment on the domestic market. The market is big enough for all of us, I'd like to reiterate.

The name of your company clearly states that it specializes in amphibious dredgers.

Indeed, amphibious dredgers among others. However, we can produce both relatively compact self-propelled dredgers, as well as larger non-self-propelled ones. Both types feature several modifications. Models and their specifications are fully customized based on client preferences and the scope of work. Furthermore, our product range features auxiliary vessels to move dredged soil. But indeed, our current flagship product is the VERFER 900 multifunctional amphibious dredger.

Does its amphibious capability design mean that it can move over land? If yes, then at what speed? And how far?

I wouldn't drive it from Saint-Petersburg to Moscow. Though, I am confident that if we give our engineers this challenge, they will find a way to solve it. On a serious note, amphibious capability is designed for a slightly different purpose. For example, VERFER 900 can be launched and returned to shore without the use of lifting equipment. It is fully autonomous in this regard. It can operate both on water surface and on dry land. Speaking of long distance transfers, let's say, to another region, then it could be transported both by truck and by railway. This convenient capability is provided by the compact size of VERFER 900. It is 15,6 meters long and only 3,2 meters wide.

How does such compact size combine with high performance and multifunctionality?

As surprising as it may seem at first, this is a perfect combination. For example, the pump capacity is at least 900 cubic meters of pulp per hour. This is not inferior to the productivity of larger dredgers. The cutter suction dredger operational depth is about seven meters, and the backhoe depth is about six meters.

Going back to the Volga river, I should say that our VERFER 900 cannot operate in deep water in some sections of

What is a dredger?

Dredgers are classified as technical fleet vessels. This category, long with dredgers, includes in particular, pipelayers, floating cranes, docks and drilling rigs, and also other vessels. Dredgers perform various environmental and industrial-economic tasks. Their primary functions are bottom dredging and water body cleaning. Dredgers can be utilized for mining sea and river sand, combating coastal waterlogging, constructing and reinforcing dams, as well as many other operations.

the main current, it will not be able to reach the bottom. It is designed to work in coastal areas, backwaters, channels and numerous tributaries. Any large river is an extensive ecosystem, a complex organism, and its health is determined by the condition of all its elements. And this dredger would be a perfect fit for medium and small rivers and lakes. Its compact size, high mobility and amphibious capability enable it to perform any tasks in hard-to-reach areas of water and in shallow waters.

What are the specific tasks for such dredgers? In other words, which specific functions is VERFER 900 designed for?

In a nutshell, it can perform all operations, required for vessels of this class. Let me name its key functions, along with dredging, laying fairways, approaches to ports, piers and berths, it can also remove sludge deposits and tailings, build up and reinforce levees. It can perform channel widening, shoreline shaping and stabilization, removal of aquatic/riparian vegetation and prevent bank waterlogging. This list is not exhaustive. This versatility is provided by availability of easily replaceable attachments, making the dredger a multipurpose vessel. Essentially, it can replace several types of equipment – from a floating excavator to a macerator vessel.

How did we ever get by without this kind of technology?

First of all, for a time, the water bodies managed on their own. Now, people have to deal with the consequences of their impact on nature, and they cannot manage without modern technology.

As for specific universal amphibious dredgers, a Finnish company Aquamec Ltd used to have a monopoly in this segment of our market. Its Watermaster dredgers are still widely used in our country. But after the start of the special military operation in Ukraine, the Finns left Russia, and our VERFER 900 serves as a more than adequate replacement for their products. It is a prime example of import substitution due to its indigenous design and high-level Russian manufacturing localization. By the way, we are able to achieve 100% localization. But even today our company is completely independent from supply of components from unfriendly countries. No one can be sure what other sanctions the West could impose and how these would affect our industry.

What if the Finns would want to come back?

They would, sooner or later, and not only them. Russia is too huge and too tasty a piece of the market pie. We constantly hear that companies that have left our market have started registering trademarks in Russia, McDonalds being one of the latest examples. If I am not mistaken, Korean car makers have done it earlier.

But slamming the door on your way out is one thing, but coming back is another. In this case we need to recall what Vladimir Vladimirovich Putin said in this regard. He pointed out, that coming back won't be easy for some Western companies. For those companies that had used anti-Russian rhetoric or supported the Armed Forces of Ukraine, it won't be enough just to apologize. Overall, the President advocates a pragmatic approach, considering the interests of domestic manufacturers, and we fully support it. At the same time, we plan to develop international contacts and cooperation. However, much, if not all, depends on who we cooperate with and in which areas.

Igor Timurovich, could you please share your plans in this regard?

This may come as a surprise for you, but our long-term plans are connected with Africa. Indeed, they do not have as many rivers and lakes there as we have, but there is a lot of other work for dredgers. The African continent is the world's largest underground storehouse. While Africa accounts for roughly 17% of the global population, it possesses almost one-third of the world's natural resources. This means their mining and processing industry will be developing, operating the existing and building new mining and processing plants with their tailings ponds, as I have mentioned previously.

It is obvious that any equipment requires maintenance. Most likely, a dredger, just like a car, is required to undergo regular check-ups. Do you provide this service?

We view the provision of such a service as a natural continuation of our production cycle. Making a contract with a customer, we enter into long-term relationships with him, since our products are designed for a long service life. In other words, these relations do not end with the delivery of a finished dredger to the customer. We provide a full range of warranty and post-warranty services. Replacement parts might be needed over time, consumables are required on an ongoing basis. We keep both spare parts and consumables in stock at all times and these can be promptly shipped to a customer. Should the need arise, our team is prepared to visit the location on-site to provide comprehensive assistance. We will also provide customer technical personnel training.

But these services are required right after we manufacture a new dredger, fit it out and run all required tests.

And how much time does it take to build and test a dredger?

The countdown starts at the time of contract execution. When a contract is signed, we immediately notify our production division. And they will be ready to hand over a finished dredger to a customer in one hundred days. BM

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