

Rocket man

In his appetite for innovation, Eddie Astanin cuts an unusual figure among the leadership of financial market infrastructures. But in his conviction of the possibility of positive relations between regulators and regulated, his willingness to learn from and apply the experience of others, and in his belief that extended global networks of CSDs can be built without amalgamation, the CEO of the Russian CSD paints a vision of the future of infrastructure that is utterly convincing.

Eddie Astanin is a rocket scientist. This may not be quite the compliment it was in the years before the financial crisis, when physicists blended mathematics, finance and computing power to create what Warren Buffett dubbed “financial weapons of mass destruction.”

But after graduating in 1984 from the Space Academy in Leningrad, where he specialised in the mathematical modelling of ballistics - the movement of objects through space - the 22-year-old Astanin began his career as a research mathematician attached to the military space institute. By the time he left a decade later, Eddie Astanin had a doctorate in ballistics.

“It was a good grounding for my future career in the financial services industry,” he jokes. Now the chairman of the executive board of National Settlement Depository (NSD) in Moscow, Eddie

Astanin can look back on a career trajectory at least as steep as that of a rocket. For he joined National Depository Centre (NDC), as the Russian central securities depository (CSD) was then known, as recently as December 2004.

Closing the gap between front and back

His invitation to become the chief operating officer (COO) of the NDC - set up in 1997 by the Bank of Russia, Moscow Interbank Currency Exchange (MICEX) and the domestic and foreign custodian banks - came from Andrei Kozlov, then the first deputy chairman of the Bank of Russia.

“He was the outstanding leader and driver of the process of development of the financial markets



in Russia,” says Astanin. “He had an absolutely clear vision of how the financial markets and the banking industry should develop. It was a tremendous honour for me to be invited by him to become the COO of the NDC.”

The brief Kozlov gave to Astanin and the NDC team was to build a new technology platform for the CSD. It was sorely needed. At the time, the platforms for trading bonds and equities had outstripped the capacity of the post-trade systems to settle transactions safely and efficiently. “NDC needed to improve the scalability and reliability of its systems,” explains Astanin. “In terms of efficiency, it had to catch up with the trading platforms.”

Kozlov knew he could trust Astanin to close the gap, because he had seen him develop a platform for the government bond market already. After joining the Moscow Exchange, the parent company of the NDC, Astanin had overseen the development and installation of a national bond trading platform.

The new platform was adopted not only by Moscow Exchange, but by the independent regional exchanges that were in the 1990s active in several of the largest cities in Russia, from St Petersburg to Vladivostok. Astanin even wrote the rulebook for the trading firms that used it. Inevitably, he also had to take an interest in how trades settled, so by the time he joined NDC in 2004 he had plenty of direct experience of the role and capabilities of the CSD.

“The platform of the NDC was obviously inter-connected with the trading platform of Moscow Exchange,” explains Astanin. “That was one of the reasons Andrei Kozlov trusted me. He paid a lot of attention to post-trade, and the revitalisation of NDC was very much his

project.” Sadly, Kozlov did not live to see the launch of the new platform but, with the help of consultants from both Accenture and TCS, it went live in 2008.

In 2009 Astanin had been appointed as chief executive of NDC. In April 2009 the NDC had transformed itself from a not-for-profit into a joint stock company, as the prelude to a merger with the MICEX Settlement House (MICEX SH), then still wholly owned by MICEX. It was the initiative of the Bank of Russia as a main stakeholder of Moscow Exchange. The aim was to create a single CSD for Russia.

Changing the culture of NSD

When MICEX merged in December 2011 with the rival Russian Trading System (RTS) platform to create the Moscow Exchange Group of today, the ambition to create a single CSD was finally fulfilled. In 2012 NSD absorbed not only the RTS Settlement Chamber but the Depository Clearing Company (DCC), which provided CSD services to firms trading on RTS. “It was my first experience of mergers and acquisitions, and I am proud that it was a success, because we know from the statistics that 75 per cent of mergers fail,” says Astanin.

By November 2012, Eddie Astanin was master of a single CSD for all Russian securities. With the integration of four post-trade utilities complete, the next task was to devise a growth strategy for the merged entities.

As it happens, strategy-making was not the most difficult task. “It was much harder to change the corporate culture,” recalls Astanin. “It meant hiring from local and foreign companies new people with the right knowledge, skills and experience, and firing



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the people who still clung to a monopolistic rather than a client-orientated culture.”

It is a measure of his stature, not only within Moscow Exchange Group but within the wider financial marketplace and the regulatory environment, that Astanin was able to accomplish such sweeping changes. This owed a great deal to his prior experience in the government bond markets. By the time he assumed leadership of the new NSD in 2010, he had already worked with colleagues, bankers and regulators in Moscow for a decade and a half. They knew him, and he knew them.

The unexpected regulatory lesson of August 1998

Being architect of the government bond trading platform also gave Astanin a ring-side seat at the event which shaped everything that has happened in the Russian financial markets since the turn of the century: the crisis of 17 August 1998, when the currency was devalued, and the country defaulted on its debt.

“I was in the centre of the storm,” recalls Astanin. “I remember the morning of the day we got the order from the Bank of Russia to stop trading.” But he extracted from the experience something that delegates to the May 2015 Cancun meeting of the World Forum of CSDs – a body Astanin headed for two years – were surprised to learn. Asked what single factor was most helpful to the development of CSDs, and which was most unhelpful, Astanin replied unhesitatingly: “Regulation, and regulation.”

What he meant was that the nature of the interaction between regulators and regulated can accelerate or obstruct the progress of development and reform, particularly in the

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wake of a crisis. Astanin reckons it took Russian market participants at least five years to recover from the shock of 1998. But he believes it would have taken even longer if the Bank of Russia and the Ministry of Finance had not made serious efforts to re-write the regulations in ways that addressed the concerns of the marketplace.

Astanin played his part in one of the crucial reforms of the government bond market that followed: the introduction in 2001 of a repo market. This had the predictable effect of enhancing liquidity in Russian government bonds, but it also provided a stable source of central bank funding for privately owned banks. Fittingly, one of the responsibilities of NSD today is the provision of tri-party collateral management services to banks raising central bank money in the repo market.

Recognition of the importance of repos to government bond markets illustrated the willingness of Astanin and his regulatory counterparts to learn from the experience of developed markets. "In some countries, it took decades to develop bond markets, trading platforms, and regulations," says Astanin. "We used the experience of others not just to avoid mistakes, but to jump from a sketch to a fully dematerialised marketplace in one leap."

Innovating instead of talking

That willingness to learn, and to innovate, has become an ingrained aspect of the corporate culture of NSD under Eddie Astanin. Nothing illustrates it as well as the fact that it took NSD just five months to initiate and test a blockchain technology to handle corporate actions and e-proxy voting. It was one of four potential use cases

identified by a specialist group set up by Astanin as recently as November 2015.

To deliver a workable prototype, NSD hired a group of London-based developers at bitcoin platform Digital Securities Exchange (DSX). "We can already process 80 transactions a second, but our initial goal is to raise that to 300 transactions a second, and we know we can achieve it," says Astanin. "On the basis of this experience alone, I can say that blockchain technology definitely has a future - maybe not in the core business of the CSDs, but certainly in associated areas."

Among the "associated areas" identified by NSD as ripe for reform by distributed ledger technology are its trade repository services. As it happens, the trade repository, originally designed to bring Russia into line with the G20 pledge to ensure all clearable OTC derivatives are reported, has already increased its traffic from zero at the start in 2013 to 450,000 submissions from 1,173 financial institutions in 2015. Corporates will start reporting their trades to the repository later this year.

That alone makes the trade repository one of the main axes of growth at NSD. Another is tri-party collateral management. "It has proved a very successful project," says Astanin. "Now more than 200 banks are using the service. Practically all of the major international custodian banks active in Russia use us to provide them with a government bond repo service that enables their clients to raise finance not just in rubles but in euro and US dollars as well."

Custodians can now also offer clients trading Russian securities settlement in central bank money, since NSD has introduced an



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automated clearing house (ACH) service that connects banks directly to the real time gross settlement system (RTGS) of the Bank of Russia. “We have become the biggest payment system in the Russian financial market after the Bank of Russia,” says Astanin. “We are facilitating the settlement of payments worth more than 300 trillion rubles a year.”

Settlement in central bank money represents a major advance in risk mitigation for investors in the Russian securities markets. Until it introduced the service last year, NSD could settle transactions in commercial bank money only.

How to become a data vendor

An even more popular idea with the banks is the assumption by NSD of responsibility for the accuracy of corporate actions data and other information about securities. From 1 July this year, under legislation passed in the summer of 2015, NSD became the sole official source of information about issuers, their securities, the identification codes and prices of those securities, and the entitlements attached to them. NSD also provides a valuation tool for investors in illiquid instruments.

Astanin sees the valuation tool as important, since it exemplifies the ability of NSD to turn Big Data into information. He promises customised analytical services to clients, and points to the success of NSD - assisted by mathematicians at the Russian Academy of Mathematics - in reducing the time taken by its tri-party engine to calculate collateral calls from 300 seconds to just four. “It is an example of how we are able to use Big Data,” says Astanin.

Leading the world into ISO 20022

Importantly, all of the information is couched in the ISO 20022 standard. With the new payments system also adopting the ISO 20022 standard, NSD has become a world leader in terms of compliance with the new standard.¹ “ISO 20022 is invaluable not just for CSDs, but for issuers, registrars, custodians, payments banks and central banks,” says Astanin. “In fact, the Bank of Russia is keen for us to standardise communications between market participants beyond the banking sector, including insurance companies, pension funds and corporates. We have plenty of support from our regulator on standardisation.”

He reckons the ISO 20022 standard will help achieve an astonishingly ambitious goal he has set: to raise the proportion of securities messages carried on the SWIFT network from less than a tenth of the overall SWIFT traffic generated by NSD to at least half. Regulatory enthusiasm for ISO 20022 is also a further reminder of the importance Astanin attaches to positive dialogue between the regulators and the regulated.

“In Russia, we have helpful co-operation between regulators and the infrastructure,” he says. “We have the willingness, and the opportunities, to develop our infrastructure without wasting time and energy on personal or political battles. That does not mean we do not have strong debates from time to time.”

Building a global CSD network

One of those strong debates was over whether or not it was sensible to allow foreign banks to

¹ See “The challenges and rewards of an ISO 20022 pioneer,” in MI Forum magazine, Issue No. 3, 2015, pages 22-28.

open nominee accounts at NSD. It took nearly a year to resolve. But when the first foreign nominee accounts were finally opened for Clearstream and Euroclear, the consequent rise in the price of government bonds knocked 150 basis points off the average yields of Russian government debt. “The results proved we were right to argue for foreign nominee accounts to be allowed,” says Astanin.

In fact, the success of the links with Clearstream and Euroclear has encouraged him to seek similar arrangements with the CSDs of Asia. Memorandums of understanding are now in place with the CSDs of China, Hong Kong, Japan, India and South Korea. “The idea behind them is to provide direct access to these markets for Russian investors, and foreign investors with direct links to the Russian markets,” explains Astanin. “We know there is a real appetite from both sets of investors for links of this kind.”

In April this year he was in China, to lay the foundations for links with the Chinese CSDs. “Technically, the links are not difficult for us to set up,” says Astanin. “But it will take some time to turn the proposed link into reality. For the Chinese regulators, ten years is no time at all. We respect Chinese culture, so we do not want to push forward too aggressively. We prefer an evolutionary approach to a revolutionary one.”

Patience is an unexpected virtue in a man who has orchestrated change at a fierce pace in the 20-odd years he has spent in financial markets. Perhaps all rocket scientists think faster and see further than most people, but in his time at what is now Moscow Exchange Group, Astanin has created an electronic bond market, merged multiple CSDs into one, reinvented the internal culture of the merged entities, built a trade repository, and gone further and faster than any CSD in the world in reforming corporate

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actions data and processes, introducing e-proxy voting, and driving adoption of the ISO 2022 standard. Under his leadership, NSD is now deep into Big Data and blockchain projects.

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History creates shortcuts to the future

In short, the NSD of Eddie Astanin has become a world leader in infrastructural reform and innovation. Astanin is the first to admit that the external environment helped. At the end of the 1980s, Russia had its break with history, creating a palimpsest on which people such as Eddie Astanin could script a future free of legacy interests, systems and clients. But Astanin himself also lived that break, and is mindful that factors other than historical chance were at work.

Born in Moscow when it was still the capital of the Soviet Union, Astanin was raised at Baikonur in Kazakhstan, where his father worked at the cosmodrome. At the time, the Russian space programme was run by the military, and his father was a military space engineer as well as a mathematician engaged in the development of ICBMs armed with nuclear warheads. When he entered the Space Academy in what was then Leningrad in 1979, Eddie Astanin expected to follow exactly the same career path as his father.

The collapse of the Soviet Union in the early 1990s put paid to that expectation. By then, Astanin was married to Alexandra – though she too was raised in Baikonur, because her father was also a military space engineer, they did not actually meet until they were both in Leningrad. Now they have two children and two grandsons. “It was a difficult time, with the Soviet Union breaking up into different countries, and I had

to earn money for my family,” he says. “So I decided to leave the armed services, and get a financial education.”

Astanin enrolled at the Financial Academy in Moscow. With his deep knowledge of mathematics, the course was not difficult for him, but it did take two years. It was after graduating in 1994 that he joined MICEX. His first role – it is an apt measure of the times – was to run the entire department responsible for the electronic trading of government bonds. “Maybe I was a little bit lucky, but it was a good time to join the company,” says Astanin. “Everybody had an opportunity to find their personal niche, from which to build their career.”

Together, regulators and regulated make things happen

But he argues that neither his career nor the subsequent development of the Moscow Exchange Group owed much to the initial conditions. Astanin reckons it was entirely possible for the break with history to have propelled the Russian financial markets down a cul-de-sac. What averted that possibility, he reiterates, is the willingness of the individuals at both the regulatory agencies and Moscow Exchange Group to work together to effect change.

“Our regulator – the Bank of Russia – and the Ministry of Finance are progressive,” explains Astanin. “They want to develop our financial markets infrastructure. They understand the strategic benefits of it. Likewise, the management of the Moscow Exchange Group has a strategic vision. We want to change our industry. We prefer a leadership style of management, because we want to change the company, and change the environment in which

we operate. In co-operation with the regulator, change is much easier to accomplish.”

Change certainly holds no terrors for a man whose life and career were overturned by a disruption of world-historical proportions. Indeed, Eddie Astanin sees nothing but opportunity for CSDs in the much-discussed technological disruptions of today. A trip to Silicon Valley with fellow members of the SWIFT Board encouraged him in his conviction that blockchain is just one of a triad of developments – the others are Big Data and the Cloud – driven by the fall in the cost-power ratio of digital computing technologies.

New opportunities are opening up for CSDs

“FinTech is a huge threat to financial intermediaries,” says Astanin. “Are CSDs a victim of the same future? I am not so sure. I think FinTech means more opportunities than threats for CSDs. We have something similar to what PayPal and Visa have: a crucial role at the centre of a network. NSD is already a centralised platform for different types of activity, such as settlement, collateral management and the storage of information about transactions in a data repository. Scaling our platform up, and giving end-users access to it – that is where the future of the CSD industry lies. We can make it much easier and safer for customers to use their digital gadgets to get information as well as complete transactions.”

His vision of the future of CSDs on the global scale is equally vivid. “We do not face competition in the services we provide in our national markets, but CSDs are nodes in a global network,” explains Astanin. “Every financial centre is competing on that network for the limited resources of global investors, and CSDs help them do that. But



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CSDs are and will remain national institutions, especially in their role as issuer CSDs. The best way to develop CSDs across borders is not to merge them, but to connect them via bi-lateral links between investor CSDs. Those links will not only allow users of CSDs to access other markets at lower cost, but create much less resistance at the national level, and so allow a global network of CSDs to evolve more smoothly.”

The effectiveness of those bi-lateral links ultimately depends on the ability of CSDs to agree on standardised communication protocols, and to harmonise their working practices. Eddie Astanin knows this. While he yields to no one in his belief in the beneficent power of competition (“Competition is good - it brings a real edge to our development”), he argues that frictionless networks are more powerful still. In fact, the main reason he agreed to chair the World Forum of CSDs for two years was his belief that standardisation and harmonisation could create a genuinely valuable global network of CSDs.

“There are more and more common points of integration between CSDs,” says Astanin. “CSDs are becoming increasingly important elements in the global financial network.” In the meantime, the culture of innovation he has instilled at NSD is taking the Russian CSD in some interesting directions.

The unanswered question is whether Eddie Astanin can maintain the momentum. He thinks he can. “Every company has the opportunity to use its resources to innovate, and there are plenty of companies which are more successful than NSD at doing that,” concludes Astanin. “They are the benchmark for us. I am confident we can compete with them. Big companies may have more resources than us, but we are more flexible.”

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