Russia’s Aviation Industry: Results of Reforms and Prospects of Development

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The first reform attempts in the 1990s

After the collapse of the USSR, it immediately appeared that there was an urgent need to consolidate the sectors that disintegrated following the dissolution of the Soviet Ministry of Aviation Industry. The first such attempts started to be made in the mid-1990s. In a context marked by an absence of state defence orders and a collapsed demand for commercial airliners, the reforms primarily concerned the factories and design departments which were involved in export programmes. The main drivers of such processes at a time when the state was extremely weak were financial-industrial groups controlled by oligarchs.

Aircraft manufacturer MiG was the first to be concerned by the restructuring process. In June 1994 a historical contract worth more than half a billion dollars was signed with Malaysia for the delivery into the country of 18 MiG-29N jet fighters. In 1995 MAPO MiG was created by the merger of construction bureau ANPK Mikoyan (designer of MiG jet fighters) and serial factory No. 30. In 1996, on the basis of this company, an even wider MAPO military-industrial holding appeared, including suppliers of Mig-29 systems and components, mostly developers and producers of engines and avionics. The most important part of this company became the Kamov helicopter design bureau. It is understood that the MAPO MiG/VPK MAPO management were part of the wider circle of influence of then-presidential advisor for military-technical matters Boris Kuzyk, who in turn was tied to ONEXIM bank belonging to Vladimir Potanin and Mikhail Prokhorov. Having got much more than average financing (by mid-1990s’ standards) through the Malaysian deal, this corporate holding was unable to create a new, highly modernized version of the MiG-29 fighter nor to offer the market other ripe products in the scientific-training sector for either airplanes or helicopters. Its programme for the creation of a fifth-generation MFI 1.44 fighter failed to develop significantly. In 1997, after a change in the corporation’s management and its transfer under the control of a group controlled by Yakov Urinson¹ and Yevgeny Ananev², against the backdrop of a weakening of the position of ONEXIM in the defence industry, the level of consolidation of economic subjects that were part of VPK MAPO dramatically fell. The legal and economic independence of the construction bureau and industrial sites was resurrected, and between 1998 and 1999 a complete disintegration of the previous system took place.

¹ Vice PM of Russia March 1997 – April 1998.
² CEO of Rosvooruzhenie GK export agency from August 1997 to November 1998.
The second attempt to consolidate the aviation industry assets took place in the mid-1990s with the creation of the Sukhoi Military-Industrial Aviation Complex (AVPK), into which three Su-27/30 factories were formally folded, as well as Sukhoi’s own construction bureau. The main driver of the consolidation was the Irkutsk Aviation Construction Holding (IAPO), whose director Alexe Fyodorov was head of the AVPK. This entity, as with the MiG system, also had ties to ONEXIM bank. An attempt to consolidate under the leading role of the Irkutsk factory led to an intense opposition from the two other members of the holding, in particular from the Komsomolsk-on-Amur factory, which had strong financial resources thanks to a Chinese licensing contract\(^3\) and was strongly influenced by local elites, including criminal\(^4\) groups. In March 1998 the management changed at AVPK and the Irkutsk-ONEXIM alliance lost control over that company. At that moment, preparations began for a much more consolidated holding of the Sukhoi system without the participation of IAPO.

In this way, the first attempts at a concentrated segment turned out to be temporary and short-term. The first generation companies did not last for long and were not successful, neither in corporate construction nor in the creation and promotion of new products onto the market – nor indeed in the reaching of new export deals. The main characteristics of first generation companies were:

- Structuration around or on the basis of large export programmes – the Malaysian contract for VPK MAPO, Indian and Chinese contracts for AVPK Sukhoi. Moreover, developers and constructors of civil and military-transport aeroplanes remained on the fringes of the processes of consolidation.
- Constant internal instability and a necessity to overcome opposition of the constituent parts of the holdings.
- The pressure of an aggressive external economic and political environment.
- The entry into orbit of one of the then most aggressive oligarchical financial-industrial groups, ONEXIM Bank. The waning power of this group as a result of the departure in March 1997 of Vladimir Potanin from the post of deputy prime minister of Russia left behind a split in the sphere of control of ONEXIM over VPK MAPO and the departure of the director of AVPK Sukhoi.

\(^3\) A 1996 contract for the organization of licensed production of Su-27SK fighters and technology supply to China.

\(^4\) It is said that the organized criminal group Obshchak, under the leadership of Dzhem (Evgeny Vasin) tried to wrest control of the factory’s business in Komsomolsk-on-Amur.
One can say with some certainty that the main short-term goal for the creation of both holdings was to establish control over financial export flows. The development of a strategy of long-term development and the creation of new products was not a priority for the management of the company, or at least it never appeared to be one. This situation was an inevitable consequence of the politico-economic structure in Russia at that time – weak state institutions and harsh competition among oligarch groups. In rare instances (such as in the case of the factory in Komsomolsk-on-Amur) some highly organised criminal groups were even participating in the development of the aviation industry.
The general strengthening of the state, including the beginnings of state interference in the economy in the first half of the 2000s, was noticeable in the aviation industry. Second-generation state companies were formed in the MiG and Sukhoi sphere – RSK MiG and AKhK Sukhoi. Yet while Sukhoi remained a holding, with the parent company retaining controlling stakes in the constituent companies, RSK MiG immediately became a fully integrated company.

Having been weaker than Sukhoi in economic and innovation terms, MiG overtook it in terms of corporate construction. Also of note is that conceptually the idea of establishing these companies emerged during Yevgeny Primakov’s government, in 1998-1999, and its initiator was vice-prime minister Yury Maslyukov. This trend for establishing vertically-integrated companies was fully pursued by vice-prime minister Ilya Klebanov. In this way, we can see the continuity between the policies of the late Yeltsin and early Putin administrations. It is also interesting to note that the processes for restructuring mostly affected producers who had more or less important export contracts, while the military-transportation sector remained at the fringes of consolidation processes.

Moreover, at this stage appeared an interesting idea to establish holdings called SVSK-1 and SVSK-2 around aircraft and helicopter manufacturers. The first was to include Sukhoi, Ilyushin and Mil, the second – MiG, Tupolev and Kamov. If this idea had been implemented, then in Russia a two-polar system of industrial aviation would have arisen with strong managerial, financial and technological integration. However, this model neglected the brightest phenomenon of the early 2000s: dynamic and promising private company Irkut.

After the failed attempt to take the head of the Sukhoi system, the main shareholders in IAPO focused on using the Irkutsk factory to found public aviation construction company Irkut. In 2004 the company underwent a successful IPO – the largest in the defence sector to date – and in 2005 European aviation giant EADS became a shareholder. Although the main business of Irkut was the large-scale and ongoing construction programme for India of Su-30MKN fighters, the corporation actively sought ways of diversifying its activities, working in commercial aviation,
constructing parts for Airbus, amphibious aviation, unmanned systems and even gyroplanes. Since the corporation was founded on the basis of an industrial site, its management gave a lot of attention over to finding ways to generate constructor work which would be independent from Sukhoi. The entry into the share capital of Beriev TANTK and particularly Irkut’s merger with Yakovlev OKB provided independent innovative potential. In the meantime, the company itself received two promising projects – the Yak-130 training aeroplane and the mid-range MS-21.

Eventually, Irkut aggressively expanded its influence in the aviation industry. In 2004 the president and main shareholder of Irkut, Alexei Fedorov took the head of RSK MiG, thus creating a de facto union between Irkut and MiG. The Irkutsk alliance also took control of radar manufacturer Phazotron and established cooperation programs with Ilyushin KB.

At the turn of 2005-2006, it seemed that Irkutsk group was to gain control over the entire Russian aviation industry, including Sukhoi OKB. Over all, the foundation of a private aviation construction company with a relatively diversified business, with developed international cooperation, was, of course, a bright page in the history of post-Soviet aviation. However, the choice made by the state in the mid-2000s to create ‘national champions’ – large consolidated, fully state-controlled holdings spanning almost the whole industry – unfortunately left no future for Irkut or its alter ego in the engine-construction sector, namely the company NPO Saturn.

In general, the first half of the 2000s could be called a time of relatively free competition for the various models of restructuring of industrial aviation. Several of them, for example the bipolar scheme proposed by vice-prime minister Ilya Klebanov for diverse holdings, remained only theoretical, while at the same time second-generation state holdings RSK MiG and AkhK Sukhoi were in fact being established, just like the private international corporation Irkut had been.

In that period, in practice a bipolar structure for industrial aviation was formed, in which the main centres for business and political activity as well as the poles for consolidation were the state-owned AkhK Sukhoi and the private NPK Irkut. All the other economic subjects, including the quite active company RSK MiG, ended up being subjects of processes of reform and industrial concentration. Despite the formation of OAK “national champion”, traces of this bipolarity can still be seen today. It is also interesting to note that to a notable degree this structure resembled
the French aviation industry system of organisation. The equivalent of the French part of EADS would be the Irkutsk group, which was involved in international cooperation processes, while the equivalent of the national pole of Dassault with its dual Rafale/Falcon business would be AkhK Sukhoi, with its production of the Su-35 and the SSJ-100.

Both of these dual-polar models – the unrealised scheme by Klebanov for SVSK-1 and SVSK-2, as well as the reality of the format of AkhK Sukhoi vs the Irkutsk alliance – with hindsight seem to have been a more flexible way of organising the industry. This is both from the point of view of maintaining internal competition (in reality this did not disappear with the creation of the OAK), as well as from the point of view of the formation of international strategic alliances with the participation of Russian industrial aviation.
By the middle of the 2000s the state fully determined the shape of the consolidation of strategic assets in high-tech engineering. It embarked on the creation of a monopoly under full state control of industry associations, effectively consolidating the entire industry. Within this paradigm in the early 2000s were created the PVO Almaz-Antey concern, and the Taktischeske Raketechnoe Vooruzhenie Corporation. From the mid-2000s the formation of a series of ‘united’ corporations began: aircraft manufacturing (OAK), engine building (ODK), shipbuilding (OSK), as well as helicopter manufacturing with Russian Helicopters. This process was accompanied by a more or less conflicting nationalization of private assets and reduced the internal competition, though not totally eliminating it. The policy of monopoly formation and nationalization was generally clear and logical, though not consensual. It is based on the idea that the size of the Russian economy does not allow Russia to have more than one player in each of the above industries, and that the preservation of a competitive environment is ensured through participation in the international economic competition. The government, while planning serious investment in the modernization of strategic sectors and important state orders, preferred of course to deal with public, rather than private corporations.

It is interesting to note that the creation of the OAK was relatively conflict-free, at least in comparison with the engine-building sector, where the owner of private corporation Saturn Yury Lastochkin stubbornly resisted the nationalization of his company for more than a year. Moreover, the management of the Irkutsk alliance under Alexey Fyodorov led the process of creating the United Aircraft Corporation (OAK). On the one hand, it shows the flexibility of the Irkutsk leaders who understood the complete hopelessness of opposing basic fundamentals of economic policy. But there is a point of view that while having a large debt load, the owners of Irkut operated a “privatization of revenues and a nationalization of debts”.

Thus, with its creation in 2006, the OAK finally defined the Russian model of reform of the aviation industry - the formation “from the top”, under state control, through state force, of a monopolistic holding that at least initially had a rather weak internal integration. In the specific context of Russia’s early 2000s state capitalism, the choice of this model was probably inevitable. However, preserving the natural trend of the early 2000s would have eventually produced a more flexible and dynamic configuration of the industry. Expansion of the ‘Irkutsk group’
probably would have led to a consolidation of most of the industry around this pole and a broad alliance of Irkut, MiG OKB Yakovlev, Ilyushin and Beriev, and at least one of the Volga industrial sites – most likely the aviation plant in Ulyanovsk. With the positive development of relations with EADS, the alliance would probably have developed its international cooperation - from the production of components for Airbus aircraft to participation as an equity partner in new European projects, such as Airbus A-350XWB. The core business of the group would have remained Su-30MKI and export deliveries of the different MiG-29 versions. There would have been gradual diversification provided by the development of the Yak-130 program, and most importantly – the entry on the commercial aviation market.

On the other hand, AKhK Sukhoi would have become a purely national pole working in the interests of the Russian Air Force and exporting Su-30/35 fighter planes. Tupolev and its competence in the field of strategic aviation likely would have been drawn into Sukhoi’s orbit of gravity. This binary structure would have allowed on the one hand to preserve the national autonomy of military aviation, and on the other – to increase the scope and quality of international cooperation. Most likely, both of these tasks will be implemented in the framework of the OAK, but it is clear that the nationalization of Irkut is one of the main reasons of the stagnation of the process of rapprochement between the Russian aircraft industry and EADS.
The result of restructuring: achievements and failures

In our view, the main achievements of the Russian aviation industry and of the State, which is the main agent of its restructuring, are:

1. The physical preservation and relative financial purification of the sector during the 2009 crisis and after. At the beginning of the large-scale government intervention in the aviation industry only Irkut and, to a lesser extent, AKhK Sukhoi could boast of a more or less stable financial position. During the crisis, most of the debt-burdened economic entities in the industry were on the brink of bankruptcy. Large-scale public contributions ensured the survival of critically important companies such as RSK MiG, Voronezh (VASO) and Ulyanovsk (Aviastar-SP) aircraft plants.

2. Providing the industry with a number of guaranteed orders. Since December 2008, when the Russian Ministry of Defence signed the first major contract in post-Soviet Russia to supply fighter jets, the Russian Air Force ordered 306 fighters, 66 training and 39 military transport aircrafts. Production of Tu-204 aircraft is entirely maintained by state orders. The arming programme aims to purchase up to 600 tactical aircrafts before 2020. In this sense, we can see a transition from an export-oriented system to a functioning of the aviation industry over the traditional model, which is dominated by domestic procurement. On the other hand, little progress in the segment of commercial aircraft can be seen. It is the presence of significant state orders that allowed increases in production at the OAK from 80 billion roubles in 2007 (about 2.3 billion euros) to 180 billion roubles (4.4 billion euros) in 2012. Aircraft production has increased from 53 units in 2008 to 102 units in 2012.

3. The integration of the industry within OAK growing, even though the process is slow. AKhK Sukhoi has really been unified, in the near future an integration of RSK MiG with the Sokol factory will occur, a centre for the development of military transport aviation (OAK-TS) has been developed on the basis of Ilyushin. Integration has also been accompanied by a noticeable optimization in production. Distinguished centres of excellence, especially those specialized in the production of advanced composite materials, and in some areas such as Voronezh, Irkutsk and Komsomolsk, power consumption has decreased while productivity increased.

But two fundamental (and inter-related) problems remain.

First, Russia is still absent from the global commercial aviation market. Even worse, over the past five to seven years, Russian airline companies seem to have almost entirely shifted to the purchase of foreign aircrafts. The only exception is the regional SSJ-100 aircraft, but its annual production has barely exceeded 10 units, and its commissioning has been through several difficulties. The reasons for this situation are numerous; we will only point out that this is largely a consequence of another Soviet paradigm of aviation, which focused primarily on military planes. Any serious efforts to create a commercially viable aircraft (optimized for a domestic market), such as the IL-86 and Tu-204, have already seen the sun set on them, just as Soviet history. Another major blow to the domestic production of civil aircrafts came from the lifting of prohibitive tariffs, as well as the policies of former President Medvedev against Iran as a result of which no transaction took place for the sale of 50 Tu-204 aircrafts.

Secondly, the question of establishing strategic international alliances is still to be solved. One can probably safely say that Russia has for a long time, if not forever, missed the opportunity to enter the commercial aviation market as an independent player at the highest level. Moreover, it is far behind second tier members such as Brazil or Canada. Meanwhile, competition is getting tougher due to the emergence of new powers in the aviation industry, especially China and Japan. In this context, the only possible strategy for a continued presence in commercial aviation is through international cooperation. However, until now progress in this field has been very modest. The Italian participation in the SSJ-100 project does not seem to have brought the expected benefits. But the greatest regret should be the rate at which the Russian-European rapprochement has regressed.

After European concern EADS bought 10% of Irkut’s shares and the parallel acquisition by Russian Vnesheconombank of a 5% stake in EADS, ambitious plans for further rapprochement were discussed. Among other things, it was Russia’s participation in a European project for a A-350 liner, in the design and manufacture of an A-320NG, as well as work together on a mid-range next generation wide-body aircraft. All of these projects have not got off the drawing board. The reasons for this require a separate study, but one, if not the main, has been named - the nationalization of Irkut, which led to a subsequent withdrawal from the share capital by EADS.
On the other hand, smaller-scale projects of cooperation between the Russian and European, mainly French, aviation industries remain in place. The French systems are widely used in the Russian regional aircraft SSJ-100. The main ones concern the on-board production of Thales and the Franco-Russian (largely French) SaM-engine 146. French navigation systems or those produced under license in Russia are fitted in almost all Russian combat aircraft. The Russian export best-seller, the Su-30MKI is also equipped with Sigma 95 navigation systems and a French multi-indicator. Pilots of Indian (and probably Russian) MiG-29K deck fighters use TopSight helmets produced by Thales, and the Malaysian Su-30MKM use a hanging Damoclès laser targeting system from the same firm. However, it is clear that, for all its importance, all these local projects cannot replace the strategic partnership that existed during the mid-2000s.
The key trends of the Russian aviation industry in the next five to seven years are obvious. Backed by guaranteed state defence orders for the production of hundreds of military and dozens of military transport and training aircraft, the OAK will strive to increase production in the commercial aircraft segment. It is clear that this area is primarily associated with the development of a line of regional jets on the basis of the SSJ-100 project for medium-range MS-21. The success or failure in this sector will largely determine the national aviation industry prospects beyond 2020.

However, the greatest interest is in the search for the “side streams” generated by economic agents outside the OAK, but which have become part of the Rostekh system. One can hardly expect any revolutionary breakthroughs from the Samara aviation plant, which overexposed itself to the dead-end An-140 project (as all post-Soviet Ukrainian programmes). However, it is interesting to observe the renewed attempts to localize production in Russia of small Western aircrafts. The latest example of this kind were reports of a possible licensed production in the Russian UZGA factory, which is controlled by the State Corporation Rostekh, of 9 to 19-seater Austrian Diamond aircrafts. This lies so far outside the scope of mainstream projects that it might just produce an unexpected and very significant effect. Austrians are generally very active in cooperating with Russia in high technology areas, including defence.

A serious reconfiguration of the Russian aircraft industry may also come as a result of the technological revolution brought by the development unmanned aerial vehicles. At present, the volume of business in this sector cannot be compared with the volume of sales and production of the OAK, but the situation could change radically in the next 10 to 15 years. And it is not certain that OAK would be able to handle this revolution any better than small dynamic companies such as Tranzas. In general, as is already being seen, these “side stream” projects related to the development of light (up to 30 seats) aircrafts and unmanned aerial vehicles are likely to give birth to unexpected partnerships with foreign companies and to produce considerable effects.