



Russian aircraft-building majors Irkut and Sukhoi have agreed on dividing the market of medium-range airliners. They will jointly provide the United Aircraft Building Corporation (UABC) with advanced airliners of the most popular size - those with 96, 110, 130, 150, 180 and 210 seats representing all types of the so-called narrow-body aircraft. At present, the Airbus A320 and Boeing 737 are dominating this market.



Irkut design house President Oleg Demchenko

Irkut will take on the MS-21 family with over 150 seats. And Sukhoi, in addition to the first-generation 96-seated Sukhoi Superjet 100 (SSJ-100), will design two second-generation aircraft — the SSJ-110 and SSJ-130 carrying 110 and 130 passengers, respectively. With that, in return for Irkut's refusal from the 130-seated MS-21 -100 and its raising the capacity of the MS-21-300 medium version up to 180 passengers, Sukhoi will provide the MS-21 an all-composite wing basing on its SSJ-110/130 solutions.

Concerning the agreement with Sukhoi, Irkut President Oleg Demchenko said it crowns "three years of cruel fighting" within the UABC. Certain designers fought to divide the company's single product line. So, Irkut will be solely responsible for the MS-21 breakthrough project with the Ilyushin aircraft company leaving it. The latter will focus on the 11-214 military transport and its Indian version dubbed Multirole Transport Aircraft (MTA). Sukhoi will develop the first and second generations of the Superjet 100. The Beriev aircraft company will work on the MS-21's tail and, jointly with the nearby TAVIA plant, will pay more attention to amphibious aircraft including the Be-200, which production will be moved from Irkutsk to Taganrog. The RAC MiG will keep on developing attack drones starting from the Skat project (Irkut's similar effort has lost its importance).

So far it is not clear, what promising projects the Tupolev design bureau will take on. Mr. Demchenko, however, said its chiefs as well as those of the Antonov design house had been offered to develop

the MS-21 "on new conditions" as inferior players. In case they do not agree to the minor role, these two famous teams will have a poor choice (of course, if they want to stay within the UABC's common policy and production strategy). To tell the truth, Tupolev may become the leading manufacturer of the next-generation wide-body airliner, which necessity was voiced by Vladimir Putin during his visit to the Gromov Flight Research Institute on February 20 this year.

As early as several months ago, in November, when Russian First Deputy PM and Chairman of UABC's Board of Directors Sergey Ivanov visited the Irkutsk aircraft plant, the production sharing system on the MS-21 was shown to him. UABC president reported to the high-ranking guest that Tupolev was to design wing leading and trailing edges as it "had accumulated much experience and developed advanced solutions" in this sphere. Under the new agreement, Sukhoi is responsible for the whole wing, while Irkut's Yakovlev design bureau is to design the body and Beriev — the tail section (tail cone and fin assembly).

Perhaps, Sukhoi's new role in the MS-21 should help create a fully new wing with improved performance for all "superjet" versions considering preliminary results of static tests of the first airframe and wing flutter tests in the Central Aerohydrodynamic Institute. As, from the very beginning, the new wing of the "superjet" will be created using only digital design systems, it is planned to use its copy increased by 120-130% on the MS-21. The SSJ-110/130 is to replace the 120

seat Yak-42D aircraft. The Yakovlev design bureau rejected requests of the Saratov plant to upgrade this aircraft by creating an advanced wing with reduced area and replacing the avionics. "The aircraft has become obsolete book and the candle", said Demchenko.

After the agreement with Sukhoi, the MS-21's production cooperation has remained almost the same. As before, the Irkutsk aircraft plant is to manufacture aluminium fuselage (most probably, it will be made of weld alloys), Ulyanovsk-based Aviastar will produce wings. Voronezh aircraft plant (VASO) — the fin assembly and Tekhnologiya Research and Production Enterprise — the tail cone and some parts of the wing.

Foreign companies will not be admitted to airframe production as talks with Airbus that lasted over three years failed. According to Demchenko, European partners are overloaded with the A380, A400M and A350 projects and, thus, lack enough resources for the A320 next generation (informal name). "They ask us to wait till 2010-2011, but we cannot wait and will carry out the works independently." By the way, Irkut is ready to work with Airbus on this project "any time". "As for Boeing, we do not work with it," stressed the company president.

In 2008, the state should allocate 1.6 billion roubles to Irkut for the MS-21 project of a total 3.5 billion to be spent only on the airframe without the powerplant and avionics. Twice as much money is required to finish all the works. And it should be taken from the company's own funds, shareholders or on capital market. Rolls-Royce experts say the development of the next-generation engine may cost

\$5 billion with its larger part likely to be obtained by engine manufacturers themselves.

For the MS-21 to be competitive, it should surpass the A320 by cost-efficiency by at least 10%. This will be achieved by using advanced technologies reducing weight by 15% (by raising the share of composite materials from 10% up to 40% and even more) and fuel consumption — by 25% (at the expense of promising engines with high thermal cycle parameters) and direct operation costs — by 15%. "Our aircraft will outperform the Boeing 737 and Airbus A320. Will it outrun foreign planes of the next generation? I do not know the answer so far," said Demchenko.

Both the 32 managers of the MS-21 project and Yakovlev designers developing the advanced aircraft under the leadership of project manager Professor Andrei Matveev seem very decisive. "We are ambitious, but not so much so that to occupy the whole market of medium-range aircraft. Half of the Russian market and 10% of the world one will be enough," clarified Irkut president.

The MS-21 project is still in the initial phase. The aircraft is to be ready by 2015. The programme is still a long way from being profitable. That is why, the currently-manufactured Su-30MK multifunctional fighter that enjoys good demand on the world market will remain Irkut's main product in the short run. Last year, the company delivered 40 aircraft to its clients, namely 16 planes — to India, 6 — to Algeria and 10 — to Malaysia. In addition, the total number includes five kits of the second and three — of the third phase of the Su-30MKI's license production in India by Hindustan

Aeronautics Limited.

The Irkut aircraft plant has a very high production rate. In the Soviet era, the plant yearly manufactured 22-26 Su-27UB combat trainers. In several following years, it produced no less than 35-36 fighters a year. The peak level was reached in 2007, when Irkut manufactured \$1 billion worth of aircraft (\$1,296 by the Russian Accounting Standard). The profit reached the record-breaking figure, too, exceeding \$160 million. With that, the corporation is holding leading positions by per capita output (\$112,000) among all companies in the field.

The Irkutsk plant is now getting ready for manufacturing the Yak-130 combat trainer. Under the contract with the Defense Ministry, the first 12 Yak-130s for flight colleges should be made by the Nizhny Novgorod-based Sokol plant. The first two planes will be delivered this year. The Nizhny Novgorod plant is, however, overloaded by its main products — MiG-29 and MiG-31 aircraft. So, the UABC decided to assemble Yak-130s in Irkutsk. The first Yak is to be made in assembly shop No.7 by year-end. It is designed for Algeria, the first foreign customer.

The company's total backlog equals \$4.6 billion. Irkut accounts for about 20% of all Russian arms exports. In the coming years, it plans to remain the leader of the Russian aircraft building industry and strengthen its positions by means of diversification — to be more exact, by launching a weighty civilian component, chiefly the MS-21, to its military projects.

