

COMPETITION SONIC BARRIER ACCESSIBLE FOR RUSSIA

Russia is designing the MS-21 long-haul aircraft of the XXI century. It is the first aircraft to have its wings fully made of composite materials. In future composites will be widely used in all aircraft, both military and civilian. Several prototypes of fifth-generation fighter are currently undergoing trials. New-generation missile weapons are being designed for the future fighter. President of the United Aircraft Corporation (UAC) Mikhail Pogosyan told the Amber Bridge about the plans.

Today those who offer a family of aircraft rather than individual jets win the global market. Which aircraft do you stake on? How wide will be the use of composite materials in new aircraft?

Naturally, a family of aircraft provides business advantages. The line-up of passenger aircraft produced by the UAC enterprises comprises 75-seat An-148 and Sukhoi Superjet-100 which can carry from 95 to 115 passengers. In 2015 we plan to fly out MS-21 aircraft which can carry from 150 to 200 passengers. We have to cap the niche existing between 115 and 150 seats and then we shall have a complete line-up of aircraft. In this segment we are considering a possibility of using a composite-material wing. The capacities which are being built for MS-21

in Ulyanovsk and Kazan will be used also for production of aircraft units under the NG program. Priority programs include the development of MS-21 and further upgrade of the family of Sukhoi Superjet-100. I want to stress that composite materials will be widely introduced in all perspective aircraft.

It is interesting to know insider opinion of the current situation in aircraft construction.

We have to clearly and without illusions comprehend the starting positions. Financing of the aircraft industry in Russia began in the middle of the 2000s. For over ten years since the '90s the industry literally survived as it could. And the industry comprises huge enterprises and a workforce of over 100 thousand people. Only Sukhoi and Irkut traditionally earned profit due to export military orders. When the enterprises were consolidated the UAC inherited from the epoch of the '90s a huge number of bad assets and gigantic debts. Over 130 billion rubles from the total appropriation for the industry went to repay and reschedule debts but not to reform and design new aircraft.

In contrast to western competitors who focused exclusively on new products developed on the basis of well-oiled infrastructure we had to both design new aircraft and carry out a major re-equipment of enterprises and switch to digital design and modeling. And we did it. Besides, Kazan and Ulyanovsk are completing the construction of two modern enterprises which will produce the latest constructions made of composite materials and assemble



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from them wing units for MS-21 and subsequent products. Besides military and civilian aircraft construction, the transportation segment also got a boost. Work is underway to consolidate program control within the UAC. We are progressing towards a single purchasing system for equipment and systems and unification of after-

sale support. Jointly with financial institutions we are designing a system of sales financing. Today we produce a hundred aircraft a year and over twenty of them are civilian. Combat jets



prevail so far but today we are also launching serial production of civilian aircraft. This year we have to produce over 120 military and civilian craft. The annual production growth rate is about 20 percent.

Do you think it is possible to accelerate the growth?

There is global experience in aircraft construction. The Airbus aircraft corporation was created in 1970. However A-320 appeared fifteen years later. And only after 2000 the aircraft became the most selling in the world. It took thirty years to produce a breakthrough model and successfully promote it on the world market! And it happened in Europe which did not suffer from the shocks that hit our industry in the 1990s. Brazil produced Embraer in 1969 but the first commercially successful ERJ-145 appeared only in the '90s. The breakthrough E-Jets family emerged in early 2000s. It again took nearly 30 years. On the one side there are the Europeans with experience in aircraft construction. On the other side there are Brazilians who had no experience. But the result is the same - it took nearly thirty years to enjoy a stable position on the world market which confirms there are no miracles in the world. Today the Airbus and Embraer are successful companies. The first buyers of the first A-300 of Airbus were Air France and Lufthansa which at the time were government-owned airlines from cooperating member-countries.

We created a new aircraft in ten years. The project of the first Russian regional aircraft was launched in 2001. In Sukhoi design bureau we gathered the best designers from various aircraft bureaus. In 2008 we flew out the first Sukhoi Superjet-100. In January 2011 it was

certified by the MAK register and commercial operations began. In a year we received international EASA certificate and in 2012 it was validated, i.e. recognized as valid by aviation authorities of Mexico, Indonesia, and Laos. The aircraft is operating in three countries and will be soon supplied to Mexico. Like all aircraft producers in the world we are going through the difficulties of the initial operational stage and gradually overcome them. I am no storyteller and I won't tell you that in 20 years we shall overtake Boeing and Airbus. But I am completely convinced that we can join the troika of leading actors.

Will you have time to occupy a niche on the world market?

The current growth rate in air transportation forms a situation on the market when the emergence of another player is only logical and sometimes offers the only possible way out. Demand for new aircraft increases as passenger flows grow. Major airlines quickly renew their fleet. That means mostly big air carriers are queuing for new aircraft of established leaders and have to stand in the line for years. Possibilities of expanding production even in leading companies are not endless. At the same time new airlines come to the market which also need modern and reliable but cheaper aircraft. We have to promote our products on the world market thanks to such new carriers. It is no secret that an available line-up of different capacity aircraft with a single servicing and sales financing system provides advantages against competitors with a single aircraft type.

There is much talk about passenger Superjet which was designed in Russian from scratch. It is both praised and cursed. What does the aircraft mean personally for you? Does it offer a new stage?

In Sukhoi design bureau we mostly produced combat aircraft although since late '90s we also dealt with civilian designs. We knew that

the share of combat jets was constantly decreasing on the world market. Today they account only for 25% while in late '70s - early '80s it was over 60 percent. It is strategically important to enter the market of civilian aircraft if we want to develop. The startup of the program to develop a regional aircraft was preceded by thorough market analysis and a search for a segment for a competitive new product. Superjet became the first passenger aircraft for us. We had to create a new company to design and produce civilian aircraft. For the first time in Russian aircraft construction the design, production and after-sale servicing are united into a single center of responsibility like it happens in the whole world. It was a very important stage in my work.

In ten years we not only produced an aircraft, we also designed

The Superjet project taught us to work in modern realities of international cooperation and create a system of after-sale services.

You are often blamed for actually killing such aircraft as Tu-204 and Tu-334 and other projects as you took over all the money for Superjet.

In the past decade of the XX century western aircraft construction moved to a new level. Had Russia failed to launch a modern project and continued to produce only morally outdated aircraft we

would have simply lost the aircraft industry by now. I am sure we had to make a breakthrough. And we made it!

I cited the example of A-320. The Europeans waited for the hour of triumph for thirty years. And we? The project of the first Russian regional jet was launched in 2001. In 2008 we flew out the first Sukhoi Superjet-100. In January 2011 it was certified and commercial operations began. In a year we received international EASA certificate and in 2012 it was validated by aviation authorities of Mexico, Indonesia, and Laos.



a new model of product creation. Before Superjet an aircraft was not perceived as a product. Aircrafts were created inside a design bureau. Now we live in open market conditions and the old paradigm no longer works in new realities. The project taught us to work in international cooperation and create a system of after-sale services. For the first time we began to engage air carriers in technical design of an aircraft.

In the beginning you said about transportation segment. How is Il-476 project progressing?

It is planned to supply to the Air Force 39 aircraft of the upgraded version of Il-76 airlifter.



complex (PAK FA) are undergoing trials. They will be used as a basis for the final fifth-generation aircraft. Four aircraft are flying, one is a complex ground stand, and one is undergoing static tests.

Stealthiness is the main characteristic of fifth-generation aircraft. How do you achieve it?

It is possible to achieve it through special shape and by special coatings that decrease the level of infrared emission. Jointly with the Academy of Science and industry institutes we received inspiring results. This year we have to complete preliminary test trials and submit the aircraft for full-scale state commission tests. In general I believe the

However in the past twenty years I am engaged in organizational work and management. I am a manager, but my rich designer experience helps me a lot.

Last question: how do you react to criticism?

I accept well-argued criticism and am ready to give well-argued questions. I continue

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to work 16 hours a day because I believe that regardless of all problems we are on the right and only possible development track. The



Trials have begun. It is planned to sign contracts for various types of the aircraft - fuel tanker and various specialized aircraft both for the defense ministry and other law enforcement agencies.

I hope the decision will be soon adopted regarding a light military transport plane. The UAC has already submitted proposals. Work is underway to modernize and repair An-124 airlifters. We do it jointly with Ukrainian colleagues.

The Russian Air Force has numerous MiG-29 fighters. Do you plan to modernize or replace them?

This year we shall begin supplying MiG-29K which will be later used on the Admiral Kuznetsov aircraft carrier. The jets will supplement the current fleet of Su-33 seaborne aircraft. Beside, the supplies of the latest MiG-35 fighters are planned. I believe the contract will be signed in the near future. Capital overhaul

and modernization of practically the whole fleet of MiG-29 available in the Air Force are planned.

How do the trials of the fifth-generation aircraft proceed?

According to the approved schedule. At present six aircraft of the perspective frontline aviation

project develops according to the level of complexity. There are no problems which we are unable to comprehend.

What are you - a manager or designer?

Long ago at the age of 27 I became the youngest team leader in Sukhoi design bureau.

implementation of the ambitious tasks which we set before ourselves demands enormous effort. That's it.

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