

February



2



10



18



20

2 MAJOR EVENT

4-TH INTERNATIONAL EXHIBITION
OF HELICOPTER INDUSTRY
HELIRUSSIA-2011

10 HARD TALK

IF THERE IS OPTIMISM,
SANITARY AVIATION WILL BE
IN PLACE

16 AMAZING PHOTO

MI-8 MTV-1

18 PRESENTATION

MI-171A2: NEW STAR OF THE RUSSIAN
HELICOPTER INDUSTRY

20 FIGHT STRENGTH

WINGS OF PHOENIX

24 PRACTICE

VYAZMA FIGHTING MIGHT

28 LOCAL MARKET

EUROCOPTER NEWS



24

Vyazma fighting might



HeliRussia-2011 – the Fourth Time in Russia



**4-th International Exhibition
of Helicopter Industry
HeliRussia-2011
19 – 21 May, 2011, Moscow,
IEC "Crocus Expo"
Hall No. 1, Hall No. 4**

From May 19 to 21, 2011, 4-th International Exhibition of Helicopter Industry HeliRussia 2011 was held in compliance with the order of the Russian Federation government No. 1275-p issued on September 2, 2009, on the territory of "Crocus Expo". The exhibition was organized by the Ministry of Industry and Trade of the Russian Federation on the initiative of Helicopter Industry Association. WAD "Russian Helicopter Systems" was a sponsor. The organizing committee of the exhibition was headed by Denis Manturov, the deputy minister of industry and trade. The title sponsor of HeliRussia 2011 was JSC "MIC "Oboronprom", the general sponsor – company "Eurocopter Vostok".

161 companies from 17 countries of the world were the participants of the 4-th International exhibition of helicopter industry, namely from Russia, Ukraine, USA, Great Britain, France, Switzerland, Italy, Spain, Germany, Canada, Columbia, Poland, Norway, Belarus, Lithuania, Latvia.



Last year, 156 companies from 14 countries participated in the exhibition; 129 companies from 10 countries of the world presented their displays at the first exhibition; 144 companies from 14 countries presented their displays at the second exhibition. The first HeliRussia receives 129 companies from 10 countries of the world.

The items of display of HeliRussia 2011 was arranged on the grounds of 10 750 sq.m, where 121 Russian and 40 foreign companies were presented. Among them there were the helicopter designers and makers, helicopter simulators, components, rooms and special equipment for the helicopter equipment. The companies

providing the ground support, radar monitoring, making helicopter sites, maintenance centers and fueling complexes have shown their products. The transport, leasing, insurance companies and, of course, the dealers of helicopter equipment have shown their products as well. The second year running, the exhibition displayed Autogiros. This year they were 7 as compared with four in 2010.

15 helicopters were displayed at the exhibition: among them Ми – 38, Ка – 32 – 2 helicopters: with the fire-fighting and medical equipment, Ка – 226, EC135, As 350, AW139, AW109, SKYe SH09, AK1-3 (DB Aerocopter), R66, R44 (3 pcs), Berkut made by JSC "Moscow helicopter plant by

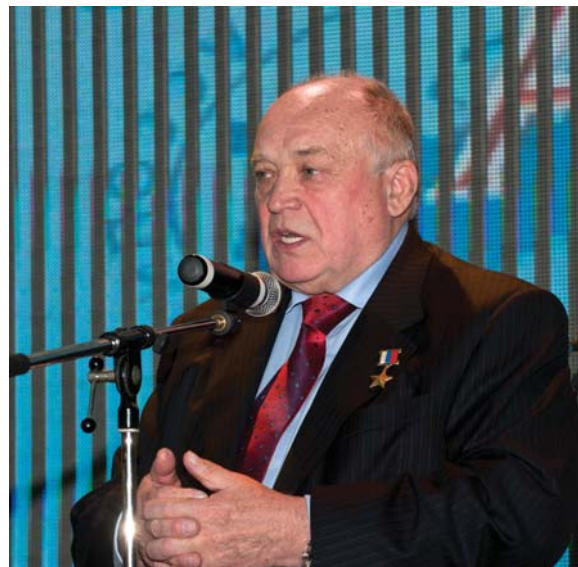
M.L. Mil", JSC "Kamov", Eurocopter, AgustaWestland, Robinson Helicopters, Marengo Swisshelicopter, CB Aerocopter, LLC "Berkut".

In front of the exhibition hall, three helicopters were displayed: Ka – 32A11BC, Ka – 32 with medical equipment and the second experimental helicopter Ми – 38 made jointly by the Moscow DB by Mil and the helicopter plant in Kazan.

10 Russian and 1 foreign companies have shown the military products at HeliRussia 2011.

The letters of congratulations from





the President of the Russian Federation Dmitry Medvedev, the Chairman of the Government of the Russian Federation Vladimir Putin, the Deputy Chairman of the Government of the Russian Federation Sergey Ivanov, the plenipotentiary representative of the President of the Russian Federation in Volga federal district Grigoriy Rapot, the Chairman of Federal Council of Federal Assembly of the Russian Federation Sergey Mironov have arrived to the participants, organizers and guests of the exhibition.

The following guests participated in the official ceremony of exhibition opening which was on May 19, 2011 at 12 o'clock in hall No. 1 of IEC "Crocus Expo":

- Deputy Chairman of the Government of the Russian Federation Sergey Ivanov,
- first deputy minister of industry and trade of the Russian Federation Andrey Dementiev,
- plenipotentiary representative of the President of the Russian Federation in Volga federal district Grigoriy Rapot,
- first deputy chairman of Military-Industrial Commission of the Government of the Russian Federation Uriy Borisov,
- deputy minister of transport of the Russian Federation Valeriy Okelov,
- major-general of the Army Aviation Combat Employment center of Ministry of Defense of the Russian Federation Alexander Cherniyaev,

- president of the Helicopter Industry Association, the hero of Russia Sergey Miheev,
- general director of "MIC "Oboronprom" Andrey Reus,
- general director of JSC "Russia's Helicopters" Dmitry Petrov,
- chairman of Head Office of Helicopter Industry Association Michail Kazachkov,
- and other official persons.

Sergey Ivanov read out the address of the President of the Russian Federation Dmitry Medvedev to the guests and participants of the exhibition. It is stated in particular in the document that "the Russian items of display show again the pat-





terns of equipment both of the civil and military use, which find a market all over the world. Today it is important not only to support the obtained quality level but also to rapidly modernize the works, stimulate the development of innovations".

In his speech, Sergey Ivanov pointed out a high interest of foreign helicopter-making companies to the Russian market.

"The growth in the number of exhibitors of HeliRussia takes place annually mainly due to attraction of foreign companies which, on the one hand shows the transparency of our market and, on the other hand shows a high interest to it from the world leaders of helicopter business", told S.Ivanov opening International Exhibition of Helicopter Industry HeliRussia-2011. "Such a tendency demonstrates that it turned into a respected and representational international show of this quickly developing and high-technology branch", - pointed out the Vice prime minister.

He also pointed out that the Russian helicopter industry has preserved its competitive ability at the world market. "The Russian helicopter industry has a long history, good traditions; we have

competitive products both of civil and military use", - pointed out S. Ivanov.

He added that the given exhibition is the only exhibition site in Russia showing the whole spectrum of Russian and world helicopter industry products.

The first deputy minister of industry and trade of the Russian Federation Andrey Dementiev read out the greetings to all those present from the Chairman of the Government of the Russian Federation Vladimir Putin in which the achievements of the home helicopter makers and the importance of the Russian exhibition grounds were pointed out: "It is important, that the wide program of HeliRussia makes it possible not only to show the innovations, but to exchange the useful experience, to discuss the whole spectrum of burning branch problems. I am sure that the exhibition will help to strengthen the innovation potential of home helicopter-making, development of cooperative connections, moving the products of Russian manufacturers to the world market".

In his turn the plenipotentiary representative of the President of the Russian Federation in Volga federal district Grig-

oriy Rapot who has taken part in the ceremony of exhibition opening pointed out that "The affair attracts a higher attention of world's leaders in designing, making and use of helicopters. The unique technology and the most advance products are shown here".

The backbone of Russian display was the integrated stand of MIC "Oboronprom" including helicopter-making holding JSC "Russia's Helicopters" and Integrated Engine-Building Corporation which have shown 18 Russian companies on the grounds of 508 sq.m. Holding "Russia's Helicopters" has had a highly intensive business program at the exhibition – technical conference "The role of helicopters in the solution of urgent regional problems" and round-table conference "The role of helicopters in the development of the Arctic Region".

The first day of the exhibition was rather fruitful in signing the agreements of partnership for the helicopter-making holding. JSC "Russia's Helicopters" and leasing company "WEB-Leasing" signed an agreement on strategic partnership at the aviation market of Latin America. The agreement provides, in particular, rendering of leasing services the companies



from Latin America which want to buy and use new Russian civil helicopters. The holding and air company "UTAir" have signed an agreement on delivery of ten light helicopters Ми-34С1. As explained by the general director of air company "UTAir" A.Martirosov, according to the results of operation of these helicopters the fleet of helicopters of this type in the air company may be increased in perspective up to 50. He told that it was planned to deliver the helicopters first of all to the training center of "UTAir" and to use them for training the pilots and to monitor gas and fuel fields as well. That day, holding "Russia's Helicopters" also signed a framework agreement with French company Turbomeca for the delivery of a large lot of engines for helicopters Ka-62.

An agreement on the first order for delivery of 40 series engines of company Turbomeca at exhibition HeliRussia has been signed by the general director of holding "Russia's Helicopters" Dmitry Petrov and the president of company Turbomeca Pier Fabr.

Agreements have been also signed among the other participants of the exhibition. Company Eurocopter has given air company "UTAir" a code certificate due to

which the Training center for the pilots of air company in Tumen can provide training of the pilots for the helicopters of Turbomeca. The Center in Tumen has become the 20-th in world training network Eurocopter and the first, founded without participation of the helicopter maker in the company capital. According to the signed agreement, the Center gets the exclusive rights for training on the territory of Russia and CIS.

Company Agusta Westland has signed a contacts for the delivery of two AW139 to Russian company Exclases Holdings.

40 foreign companies of helicopter industry has taken part in HeliRussia 2011, among them the leaders of world market, such as Eurocoptere, Agusta Westland, Sikorsky Aircraft, "Motor Sich", KC "Ivchenko – Progress", Turbomeca, MArenco Swisshelicopter, Becker Avionics, Pall Corporation, Simplex Manufacturing, Absolute Fire Solutions, Air Methods Product Division, Ancol, Goodrish, H+S Aviation and others.

At exhibition HeliRussia 2011, company Eurocopter has displayed the first result of its cooperation with the Russian

air industry – helicopter EC135 which for the first time on the demand of the Customer, air company "Gaspromavia", carries the Russian avionics made by Russian company "Transas" based at Saint Petersburg. The stand of Eurocopter displayed helicopter As350 belonging to air company "UTAir".

Americal company Sikorsky Aircraft has asserted itself at the Russian market after a very long interval. Vice-president of the trade and marketing company Frank DiPaskuale declared the beginning of new official sales of his helicopters in Russia. In 2012 the company reckons to certify heavy helicopter S-92 and light helicopter S-434 in Russia. Sikorsky also plans to promote middle helicopter S-76D to the Russian market, however, the terms of its Russian certification are not clean, since this model is still tested yet.

Company "Motor Sich" has displayed at the exhibition modernized helicopter engine TB3-117BMA-СБМ1В designed by the Ukraine engine builders for the needs of Russian Air Forces. Its feature is the possibility of adjustment of the automatic control system to the takeoff power from 2500 to 2800 h.p. depending on the helicopter type. The Ukraine designers think

that the new engine can be used on the Russian helicopters, type Ми-8, particularly on Ми-171/172 and also on rotorcrafts.

Augusta Westland has displayed on its stand helicopter AW139, the same as the one displayed by the company last year. It is planned that at the end of 2011, first helicopters of this model will be manufactured in Tomilino located near Moscow.

At HeliRussia 2011 Swiss company

"Berkut" having a takeoff mass of 785 to 830 kg. Its first flight is planned a month after closing of the exhibition.

Interesting developments have been presented by the rotaplane makers who two years running exhibit as part of the helicopter exhibition stands. Shown among them were two-seater Cavalon, elegant МТОsport Гирос-1 and Гирос-2 popular among the customers, and light one-seater "Barsic" designed by the

try Association and agency "AviaPort". Discussed at the conference were the parameters of Russian helicopter market from the position of the helicopter equipment customers and makers. Listened to were the reports on the international helicopter market forecast made by company Honeywell Aerospace (the director on the market analysis being Charles Park), on the American helicopter market made by the International Helicopter Association (the Vice president being Ed-



Marengo Swisshelicopter held its first presentation at the Russian and European markets of its new helicopter SKY SH09. The latter is equipped with one gas turbine engine, has a takeoff mass of 2.5 t and is an all-composite structure. The stand had shown a full-size model of this helicopter. The assembly of the first flight model begun this year in winter and the trial flights are planned for the beginning of 2012. The next exhibition will show a ready flight item.

Shown at HeliRussia 2011 was the first Russian helicopter Robinson R66 presented by company Uralhelicom. Though this helicopter has not yet been certified in Russia, it already has a Customer. It is planned, that R66 will be certified this year in autumn.

Among the Russian innovations the exhibition has shown a coaxial two-seater

Voronezh state redbrick university as well.

Traditionally, the International Helicopter Association (HAI) participates at HeliRussia. Its delegation not only represents its organization on the exhibition stand but also participates in international conference "Helicopter market: realities and perspectives", in seminar "Future Development and Experience in Employment of Russian and Foreign Flight Standards", in international seminar "Flight Safety Control System in Helicopters", and also in the awarding ceremony for the winners and prizemen of the Helicopter Industry Association bonuses.

By tradition, the exhibition had a vast business program which included 34 diversified activities. One of its key activities was the 3-rd International conference "Helicopter Market: realities and perspectives" organized by the Helicopter Indus-

ward Dikamply), on the Russian helicopter market (the chairman of the management board AVI being Michael Kazachkov). The conference was held on the first day of the exhibition opening and had a broad resonance among the participants of the Russian helicopter market.

The third round-table conference "The Problems of Use of Alternate Fuels of Blau Gas Row (ASKT) in Helicopters and Other Airplanes" was devoted to the alternate fuels which was already traditional. The conference was held by the Council of Experts in urgent scientific and technical and social and economic problems under vice speaker of State Duma of the Federation Council of the Russian Federation together with CAHDO, StSRI CA and "Interaviagas".

The topic of the round-table confer-

ence has attracted a great interest on the part of specialists. More than 80 persons from 45 organizations have been present at it. The participants of the round-table conference pointed out that today a heavy workload has been done in the ASKT field, the actual figures of efficiency and perspectives of the given innovation trends have been reached. The project has reached such a maturity level at which the results of developments can be handed over to the industry and in-

users of aviation simulators. Such an interest to the round-table conference is comprehensible – the number of flight accidents and air crashes of the helicopters in different structures of the state and civil aviation is still too high.

awarded.

For the first time, declared by the Helicopter Industry Association was the International Journalistic Contest in the best publication on the helicopter topic has been completed also at HeliRussia 2011. Notebooks were presented to four winners of the contest by the Chief of the board of directors of National Association of Journalists "Mediacratiya".



roduced in service. However to do this, the additional capital assets are needed. To solve the financial problem of the project, participation in the state aviation technology development programs will be required. One of the most urgent problems for today is processing platform "Aviation Mobility".

Round-table conference "Simulator Know-How – Flight Safety Improvement Reserve" have been held at exhibition HeliRussia 2011. It attracted a great interest on the part of professionals of aviation community – two hours provided for the action was not enough for arguments. More than 130 specialists and representatives of field mass media have gathered to listen to the speakers of round-table conference; among them the representative of government institutions, the leading Russian aviation simulator makers, the representatives of certifying agencies, the

The club of experts together with JSC "Russian Ventures Company" has held a round-table conference devoted to the development of scientific researches and developments (R&D) in the corporations, as well as in small and medium innovation companies. A report was made by the director of scientific and research center of JSC "Russia's Helicopters" Podoryashev D.A., the member of the board of JSC RVK Ruznetsov E.B., the generator director of JSC "Interaviagas" Zaytsev V.P., and the expert of International intellectual property organization Leontyev B.B.

At HeliRussia 2011, the winners of contest "Helicopters of XXI Century" organized by the JSC "MIC "Oboronprom", JSC "Russia' Helicopters", as well as of the photographic contest "Beauty of Rotorcrafts" held already the fourth year by the Helicopter Industry Association were

For three working days of the exhibition, more than 7 thousand peoples visited it. Among them the notables and statesmen of the Russian Federation and of other states, the representatives of foreign military agencies, as well as businessmen and non-professionals of helicopter sport. Many visitors were the ordinary citizens with children who examined the cockpits and passenger compartments of the helicopter of different makers with great pleasure.

The next, fifth, jubilee international exhibition of helicopter Industry HeliRussia 2012 will be held at the same grounds, in IEC "Crocus Expo" from 17 to 19 May, 2012.

We are sure that it will be still more interesting and varied in form.



If there is optimism, sanitary aviation will be in place

From 17 to 19 May of this year, HeliRussia 2012, the fifth international helicopter industry exhibition, will take place in Moscow. Medical or sanitary aviation as a problematic industry in Russian helicopter aviation will become one of the items of the business program of the exhibition.

Long years of lack of due airmindedness resulted in a modern state of Russian sanitary aviation. It is enough to say that for almost two decades no regulatory document was adopted in this area at a federal level. From mid 1990s, obligations of financing sanitary aviation were transferred from the federal center to regions.

It is worth saying that experience of other countries, including USA, in this area is noticeably different from that of Russia. In the USSR solid experience in sanitary aviation was amassed. In the Soviet Union, the first sanitary plan was built in 1925. By mid of the past century each region of the USSE had light-

weight sanitary planes and the number of sanitary flights for medical purposes in the late 1970s exceeded 100,000 times a year. Currently, sanitary flights are by 6-7 times less frequent and continue to decrease. The majority of flights take place in Siberia, in the Far East and the Far North regions. In the European

part of Russia aircraft are regularly used for medical purposes only in 5 regions. There are almost no specialized aircraft and thus sanitary air evacuation of casualties and patients is carried out under conditions that do not meet modern requirements for onboard medical equipment, proper allocation of patients and arrangement of work places for medical personnel.

To ensure measures are taken to rectify the problems, by order No. 931 of the Ministry of Healthcare and Social Development of the Russian Federation of August 15, 2011, a working group was formed to address the problems of sanitary aviation in Russia. It was arranged primarily with a hope to ensure clear guidelines on the structure and procedure for the arrangement of the service.

No doubt, one should not expect an immediate breakthrough in solving all the issues by the working group. However the fact of forming a pool of specialists handling sanitary aviation issues is positive. The range of issues is quite wide.

For example, in Moscow the underlying issue is absence of a regulatory act governing the activity of sanitary aviation in the capital. General aviation rules are not fully consistent with the specifics of medical work. According to them airlines servicing any hospital is to obtain a clearance for flights over the city each day. Therefore, due to long clearance it would be unable to take an emergency flight. Other challenges include lack of helicopter landing sites within the city and prohibition to land within specific federal objects.

The list may be extended not only in relation to helicopters, but also airplanes by which casualties may be transported. Among other issues are technical challenges and the ability of crews to use the capacity for transform-

ing useful space to apply stretchers onboard. Another issue is certification of onboard medical equipment. Finally, there is lack of well-equipped helicopters for such purposes.

Meanwhile, in 2011, for the purposes of providing emergency help for people injured in accidents on roads c o n -



necting Moscow and St Petersburg, the Ministry of Civil Defense and Emergency Response purchased four Ka-32A helicopters. In 2011-2012, it is planned to purchase five helicopters of this type. Traditionally, by analogy with the activities of sanitary aviation in the USSR, Mi-8 helicopters are planned by hearsay. But are they suitable for use in sanitary aviation?

"It depends on the task," says S.G. Suvorov, senior research associate of Anesthesiology and Critical Condition Therapy department of Federal State Institution "Moscow Research Institute of Pediatrics and Pediatric Surgery" at the Ministry of Healthcare and Social Development of Russia. "When it comes to an emergency or armed conflict regime, certainly, there will be Mi-8 (Mi-17), Mi-

24 (Mi-35) and Ka-32 helicopters.

It is noteworthy that Moscow Research Institute of Pediatrics and Pediatric Surgery has gained the most solid in Russia experience applying medical helicopters to provide help to children and teenagers. The specialists of the institute are thus high-grade experts in applying sanitary aviation for civil purposes.

"As far as I know, Ka-32 is not certified for passenger transportation," adds Sergey Germanovich. "The second challenge is that due to the low positioning of a reducer, it is inconvenient for medical staff to work in this helicopter. Ka-32 is quite a large and powerful plane. This creates problems when landing in the city, in particular, due to a strong air stream. As regards Mi-8, it is also a challenge to land it in inhabited localities as it is too large.

At the same time, on a positive side, Ka-32, used in sanitary aviation, offers flexibility. For relatively small money, it may be used as a helicopter for sanitary or fire-fighting purposes or as a transporter of large-sized and heavy loads. It is quite problematic to use helicopters manufactured in Western countries in the same role.

"However neither Mi-8 nor Ka-32 are suitable for daily use as sanitary helicopters," says S.G. Suvorov. "Normally, due to a relatively big size such a helicopter lands at a large distance from a hospital and a patient has to be transported to it by road. Such movement is no good for the health of a patient. As our task is to reduce the number of movements of a patient, it is necessary to land a helicopter at a maximum vicinity to a place of accident and a medical institution. We need helicopters with parameters different from the well-established classification. If Mi-8 is too big for the evacuation of one or two patients, the majority of

light-weight helicopters are too small to carry patients in a critical state. The clinic's 15-year experience working in Moscow and the Moscow region with medical modification of Eurocopter Vo-105, VK-117 and ES-145 helicopters shows that medical helicopters with a takeoff weight of 3-3.5 ton is perhaps the best solution for providing medical help to casualties and patients on a daily basis.

Along with classification requirements to sanitary aviation helicopters, Russian medical specialists also set out their requirements for operation.

"If we talk about using helicopters to help people injured in road accidents," says S.G. Suvorov, "one should note that car accidents on federal roads outside inhabited localities are fraught



with the most severe consequences. This is conditioned by high speeds and fewer possibilities of providing medical help. The more severe the damages are, the more a patient needs specialized medical help which is concentrated in large cities. With regard to the cost of a flight hour and flight risks, first of all, a helicopter is required for the evacuation of badly injured people from remote district hospitals to trauma centers of level 1.

In cities severe injuries are quite rare in road accidents. In Moscow there is a wide network of ambulance sub-stations and the duration of pre-hospital period (i.e. from getting an injury to delivery to a medical institution) is almost the same when using a car and a helicopter. A helicopter gains an advantage to a car at remote evacuation at a





distance of more than 50 km. The problem of evacuating casualties in cities is mostly about dispatch service and logistics of ambulance crews in cars. It has been proved scientifically on the basis of massive practical information.

Absence of standards and regulations on sanitary aviation in Russia also affects onboard medical equipment in helicopters.

“One of the core issues is absence of

standards on medical equipment used in the evacuation by air,” says S.G. Suvorov. “Today formally anything or nothing can be taken aboard. From 2007 requirements for ambulance cars are set out in the state standard GOST R 52576-





2006 the main provision of which echo the European standard EN 1789:1999, as well as in a number of orders of the Ministry of Healthcare and Social Development of Russia. When speaking about prospects, we need to refer to European requirements for onboard medical equipment, in this case for helicopters.

Russian medical specialists have an adequate and good attitude to domestic medical equipment. "It boasts a great degree of serviceability and strength," says S.G. Suvorov. "I've seen a monitor made in Russia which fell down from a third floor and was still operable. Russia has good breathing equipment, but it has a material drawback – large weight. It is hard to move. At one of enterprises in Kazan high-quality medical modules for transportation of injured people have been developed and can be used both in helicopters and planes.

In general, as regards equipment, imported equipment is mainly used. Though there are many nuances here, too. Suppose that almost all ambulance services in Europe use equipment with pneumatic drives. They operate for as long as oxygen is present in a cylinder. In our country, with regard to long distances and our reality, they tend to

order a double drive, i.e. backed up with an electric drive. What if in a most critical moment an oxygen cylinder gets empty or power supply is interrupted?

By the way, there are big challenges with transportation by air of oxygen cylinders for medical purposes as no technical guidelines are present and there is no answer to a question: who should certify cylinders, what are requirements to cylinders, etc.

So when we talk about equipment in general, I believe that the core issue is about the need to develop standards.

Another issue is about the possibility to assess the level of qualification of medical staff engaged in sanitary aviation. As it turned out, no solution has been found so far.

"Unfortunately, we have no common understanding of medical personnel working in sanitary aviation," says S.G. Suvorov. "In Russia, an official nomenclature of healthcare personnel is in place. It outlines a list of applicable medical specialties in the country. But it does not mention medical specialists working in sanitary aviation. In the Soviet times, there were terms such as "onboard doctor", "onboard resuscitator", "onboard

medical attendant" and others, but now these have become obsolete. Consequently, no legal status is present, no programs for training of specialists are approved. This is yet another regulatory and legal "gap" to be filled. This is a responsibility of the federal ministry which is granted relevant powers by laws.

Currently, medical support is based on the state participation by using resources of the Ministry of Civil Defense and Emergency Response. Traditionally, specialists wonder whether there is an alternative to this ministry. This has nothing to do with negligence. To the contrary, the main focus is to improve the efficiency of medical aviation support for the injured. This, in its turn, offers an opportunity to engage additional resources and facilities of other helicopter operators. What are they?

According to experts, no doubt, any aircraft may be used for medical purposes. Their national identity is of no importance in this case. Israel is a common example – the country that for many years is under near-war regime. There, military helicopter pilots perform the

role of sanitary aviation. Everyone is clear about the advantage of this concept – military pilots constantly hone their skills of landing by hospitals, dealing with medical formations and evacuating patients and injured people.

“What prevents Russia from applying this scheme?” asks S.G. Suvorov. “Nothing, except for the lack in the army of helicopters suitable for this task.”

Other countries have experience in sanitary aviation, too. Therefore, the principal task is to arrange the service so that its efficiency and accessibility improved, without ineffective replication of functions. In the opinion of interested specialists, including those from the working group, the best solution is quite clear. The issue is to arrange financing under Russian conditions to ensure transparency of expenditures within a system, irrespective of whether it is our exclusive solution or partially based on that



of foreign counterparts.

Therefore, the working group for sanitary aviation in the Russian Federation, set up on August 15, 2011, is focused on addressing and solving a huge tangle of issues that prevent the development of sanitary aviation in various

areas, discussing and finding possible solutions. Optimism suggests that in this domain a political will is present and a pool of professionals, capable of accomplishing real tasks, has been formed.

By Herman Spirin

more information about business programm of HeliRussia 2012
www.helirusia.ru





Mi-8 MTV-1



**ВЕРТОЛЕТНАЯ
ИНДУСТРИЯ**

New-generation Mi-8 helicopter



Russian helicopter industry keeps on increasing production which is highly demanded world-wide and inland, at civil and military market. 214 helicopters were produced according to the results of the year 2010 and according to the preliminary results 260 helicopters of diverse classes and purposes were manufactured in 2011.

Message concerning the performed transfer of 9 Mi-17V-5 helicopters to Afghanistan Air Force was received on the New Year's Eve. Their purchase is financed by the USA and transaction amount is estimated approximately as 370 million USD. Helicopters were delivered in accordance with the contract concluded be-

tween JSC Rosoboronexport and US Air Forces Command in respect of delivery of 21 vehicles. The rest of helicopters are expected to be delivered in 2012. Moreover, according to this document, the Russian party shall render financial and maintenance support services, supply spare parts and ground support equipment.

Mi-8 Helicopter has long ago proved itself as simple and reliable while operating in different geographic and climatic conditions. According to the experts' research, even a person with secondary-level education is able to master this aircraft. However the range of its options surpasses all the world competitors of the same class.

However, nowadays this legendary rotary-winged aircraft opens a new page in its history. Developer of the helicopter, "Mil Moscow Helicopter Plant" company and the Ulan-Ude Aviation Plant, which both are parts of the "Russian helicopters" holding, are arranging operations for intense remodeling of Mi-8 helicopter. The basic aircraft Mi-171 has been counted on. Upon completion of all operations with the aircraft the civil version – Mi-171A2 helicopter – is to be produced. Its certification according to local and international airworthiness requirements is planned. Up to the present moment this helicopter has been marked with the designation "Mi-171M", i.e. modernized or updated in

plans of JSC "Russian helicopters". And it is the way, how it was introduced in ambitious program of the Russian helicopter holding for generation of new model range of helicopters in coming few years.

New star of the Russian helicopter industry

Helicopter will be newly equipped, fitted out with a glass compartment, and main systems and units are planned to be modified. Crew will consist of two persons. The controls of various systems in the crew cabin will be subject to reconfiguration, i. e. they will become much more easy-to-handle for pilots. Aircraft maintenance mechanic shall remain in the crew but his participation in helicopter control loop will be excluded.

Composite materials are supposed to be used in helicopter construction. They shall reduce the aircraft weight and allow improving aircraft performance or implementing the spare weight of the helicopter for solution of other tasks.

Airframe is subject to some modifications. Internal configuration of the passenger (cargo) cabin shall be improved. Rear fuselage is developed in two versions. The first version is conventional one with round cargo doors. And another one is developed with ramp, the same as Mi-8MTV-5 or Mi-8AMTSh.

The higher thrust up to 1,000 kg and the flight speed raise – by 20-25 km/h were registered during the testing of main and X-shape steering rotors for Mi-38 helicopter. This will allow increasing the transported cargo weight at the external load up to 5,000 tons.

Different modifications related to improvement of aerodynamic performance of the new aircraft are being also developed. Having new rotors, it makes sense to implement exploratory works regarding new rotor drive system in order to use engine power reserves to the fullest extent. According to the experts' research, cruise speed of Mi-171A2 flight shall be equal to 260 km/h and hover and service ceiling will increase up to 4,000 and 6,000 m respectively.

Fiberglass blades operating life is planned to be extended up to 20 years and service life limit – up to 6,000 hours.

One of the remodeling aims is reducing of the helicopter's flight operating hour cost. At present one flight hour requires servicing of up to 20 man/hours.

This parameter is expected to be reduced up to 8-10.

Implementation of more than 80 planned innovations shall not only change the exterior view of the 8th model, but also allow it to remain within the range of aircrafts meeting all modern international requirements. This aircraft will also be equipped with the updated complex of aviation electronics and a new operation and support system. According to the plan, development engineering and testing operations for Mi-171A2 will be completed by the end of 2013. According to preliminary schedule, serial production of helicopter modified models is supposed to start at JSC "Ulan-Ude Aviation Plant" in 2014. Nowadays it is one of the key production facilities of the Russian helicopter holding. Modern and powerful manufacturing and technological potential of the JSC "Ulan-Ude Aviation Plant" allows to arrange quickly the manufacture of new aircraft models and combine production of trial models with serial production of equipment. The plant has managed to construct and produce

over 8,000 aircrafts for 70 years. At

present this plant is specializing in manufacturing of Mi-171 and Mi-171Sh helicopters.

New helicopter success depends significantly on project level set by historical developer of the model – JSC "Mil Moscow Helicopter Plant". Now the legendary Russian design-engineering department develops helicopters corresponding requirements of contemporary customers, tests equipment and prepares for serial production and certification, as well as modifies and upgrades existing helicopter types. JSC "Mil Moscow Helicopter Plant" develops an advanced speed helicopter and a range of others; takes part in a program of JSC "Russian Helicopters" named "Recovery of serial production of Mi-34helicopter "; finishes testing for Mi-28NE and Mi-38; arranges modernization of Mi-2, Mi-8/17, Mi24/35 and Mi-26. Helicopters marked with "Mi" are produced serially at aviation plants in Ulan-Ude, Kazan, Rostov-on-Don and Arsenyev.

Main information:

JSC "Russian Helicopters" is subsidiary company of "Oboronprom" Corporation

which is part of Russian Technologies State Corporation. It manages and controls the following helicopter industry enterprises: JSC "Mil Moscow Helicopter Plant", Kamov JSC, JSC "Ulan-Ude Aviation Plant", JSC "Kazan Helicopter Plant", Rostvertol PLC, Arsenyev Aviation Company "Progress" named after N.I.Sazykin, JSC Kumertau Aviation Production Enterprise, JSC Stupino Machine Production Plant, OJSC "Reductor-PM", JSC "Novosibirsk Aircraft Repair Plant" and Helicopter Service Company JSC.

Partners of the JSC "Russian Helicopters" are: LLC "Aero Taxi-Service" (produces and services the interior of aircrafts); Transas JSC (develops software solutions, navigation systems, aviation simulators); CSTS Dinamika (development, production and customer service of complex simulator systems); JSC "BETA IR" (produces testing equipment and aviation electronics); JSC Ural Civil Aviation Works (repairs engines and their units, as well as main helicopter gearboxes).

"Oboronprom" Corporation is multi-purpose engineering group established in 2002. It is the part of Russian Technologies State Corporation. Main spheres of activity are: helicopter industry (JSC "Russian Helicopters") and engine building (MC "United Engine Corporation").



Wings of Phoenix

Before I start telling about the revival of Russian helicopter army aviation it is worth to realize that today the recovery of the potential of Soviet aviation manufacturing is taking place. This involves dozens of small towns in Russia which suffered severe economic downfall in 1990s. Now production capacities of the top manufacturers of combat aircraft, which became famous during the cold war, are being recovered in these very towns. Today as the confrontation of the super powers of the 20th century is over, manufacturing of military helicopters is becoming an essential element of competitive economy fostering the development of new technologies and the growth in export revenues.

A town where Alligators are made

Arseniev is one of Russia's industrial "military" towns, a secret town in the past. For three decades such "secret" towns have seen ups and downs of the entire in-

dustrial empire manufacturing military equipment. Indeed, "seen" does not mean "remained intact", but Arseniev and its famous enterprise «Progress» managed to advocate its usefulness or even indispensability.

It is no surprise that manufacturing of Kamov's beasts – "Black Sharp" and "Alligators" – was settled in this exotic place. The town's coat-of-arms has cedar branches and yew, juniper and lotus grow in the localities. Just imagine the Asian environment, the spirit of Russian pathfinders and a feeling of a remote military camp and you will get Zhukovsky located by sea. The Obzornaya bold mountain, which Arseniev citizens adjusted as TV retransmitter and the best in the Khabarovsk region piste, rises over the urban landscape.

In our country, it is probably a feature of such inhabited localities which, despite their remoteness and a population of only 50-70 thousand people, choose to function as the "center". Suffice it to say that "Progress" as the manufacturer of sports aeroplanes SP-55M, Mosquito-type cruise missiles and advanced helicopters Mi-34, engaged 3,000 subcontracting en-

helicopter industry magazine/ february, 2012

terprises across the country. Mainland is different – there endless wasteness begins one kilometer away from a large city, but Arseniev is as far as 250 km away from Khabarovsk. Students and schoolchildren account for 20% of its citizens. By the way, besides technical schools and branches of far eastern universities, Arseniev has the Primorsky Aviation Technical School. Furthermore, the town is appealing for tourists as it boasts several dozens local natural and archaeological monuments – caves, ancient settlements and sacred woods. Naturally, Arseniev's landmark and the citizens' pride are Kamov's strike helicopters. It is another matter that they are manufactured quite rarely, to say the truth. Now the staff of "Progress" aviation association and the local citizens are hopeful that this object of pride will not turn history. This year the company is launching the Alligator project to produce the first three serial machines.

Let me remind you that Ka-52 "Alligator" has preserved all combat capabilities of one-seat prototype Ka-50. Unlike serial Ka-50, the helicopter has better tactical parameters for combat operation at night and under complicated weather conditions, coordination of combat helicopters in a group and communication with ground command posts. Alligator's feature is that pilots are located in one cabin "side by side". Kamov's developers believe that such arrangement simplifies the design of a set of data display equipment for two members of the crew, its backing up

and arrangement of a double system for helicopter, equipment and armaments control, thus making it more reliable.

New equipment for Russian army aviation

In 2003, Army aviation corps of the Land Forces were included in the Air Forces of Russia. Their aviation fleet was in a miserable state. Experienced pilots of the army aviation performed combat missions in the Chechen Republic on machines that were as old as them and the serviceability of aviation equipment was as low as possible.

Over the past years the army aviation has revived as if Phoenix from ashes. This happened by no magic, but due to well-thought out and methodical work. The state of affairs has changed cardinally due to the efforts of the Air Forces authorities and with the support of the nation's leadership. At the first stage, part of helicopter fleet was repaired. Then new helicopters were purchased and old machines were written off.

For a few years, new and modernized helicopters Mi-28N "Night Hunter", Mi-26T, Ka-52 "Alligator", Mi-8AMTSh and Mi-8MTV-5, "Ansats-U" appeared. Last year the army aviation corps of the Air Forces of Russia received more than 100 new helicopters, in particular more than 20 strike helicopters Ka-52, Mi-28N and Mi-35M.

Intensive repair of operating helicopter fleet continues. More than 70 helicop-

ters were delivered to aviation bases of the Air Forces from repair enterprises of the defense industry.

In 2011, helicopters "Ansats-U", on which a new generation of helicopter pilots will be trained, were delivered to the Syzran branch of the Military Training Research Center of the Air Forces.

According to experts, in the previous years the priority goal of reequipping the army aviation was to integrate the Air Forces with the Air Defense of Yuzhny military circuit. In 2011, in the framework of the state defense contract the army aviation of Yuzhny military circuit received more than 20 new and upgraded helicopters. Now all main supplies of rotary-wing machines will be carried out in other military circuits.

In the beginning of 2012, 12 helicopters Mi-28N "Night Hunter" will be delivered to the Smolensk aviation base of Zapadny military circuit. By 2015, the circuit's army aviation will fully transfer to this helicopter which is capable of performing combat missions with equal success at any time of the day.

At the same time, other equipment will continue to be delivered to combat units of the army aviation corps of Zapadny military circuit. For example, last year various aviation bases of the circuit received an entire squadron of Mi-8MTV-5.

Aircraft, technical and engineering personnel of aviation bases of the army aviation corps have completed training for new helicopters at the Center of Combat



Training for aircraft personnel of the army aviation corps (Torzhok) and are ready for the operation of modern equipment.

Naturally, volumes of current supplies of the aviation equipment are incompatible with the Soviet times. However in modern armies the requirements that are not related to volumes prevail. Army aviation corps of Russia need equipment meeting modern international standards and requirements of military construction with regard to forming a new image of the Armed Forces of Russia.

It is noteworthy that aviation fleet is renewed and re-equipped in other branches of aviation of the Air Forces, too. With the support of the nation's leadership, conditions have been created for Russian Defense and Industrial Complex in terms of financing which are not in place in other countries. The Defense Ministry makes 80 to 100 percent advance payments under contracts. Furthermore, the state re-equipping program has been developed and is being implemented with contracts signing by 2017–2020, with regard to the lead times for the manufacturing of military products.

Learning to fly

In 2011, aviation corps of the Air Forces were focused on improving the professional level of officers, flight skills of crews and their readiness for combat operations.

Average flight hours per one pilot meet requirements of regulatory documents and increased by 20 percent as compared with 2010. Last year more than 2,500 high-grade aviation specialists were trained.

Quality of flight and tactical training improved, too. The number of flight and tactical trainings rose by 10 percent, in particular with combat shooting by 8 percent.

Tactical, flight-and-tactical and tactical-and-special trainings is the supreme and most efficient form of tactical training of control units and troops, as well as verifying their combat skills. In the training year 2011, the Air Forces carried out more than 300 trainings of various level.

They were planned and carried out without elements of simplifying, which significantly improved the quality of tactical training and smooth operation of divisions and military units.

As a result, flight crews of the Air Forces have successfully participated in

large-scale operative-and-strategic trainings of the Armed Forces of Russia, including jointly with armed forces of other countries. For example, combat missions in a joint training with combat shooting "Combat Alliance 2011", joint operative training "Shield of the Alliance 2011", strategic training "Center 2011" were performed at a high level.

In performing the set objectives in 2012, improving the professional level and methodical skills of commanders of all levels will be the core objective of combat training of the Air Forces.

To improve the quality of individual training of military personnel, ensure smooth operation of crews on the basis of applying modern technical means for training, this year it is planned to equip aviation units of the Air Forces with state-of-the-art training complexes of new and upgraded aviation equipment.

In 2012, it is planned to deliver 20 flight simulators to 13 military units and training centers of the Air Forces, including simulators of the latest samples of aviation equipment, in particular Ka-52 and Mi-28N.

Nikolay Korobov
photo Sergei Aleksandrov





Ka-32A11BC

BEYOND COMPETITION IN EXTREME SITUATIONS

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Vyazma fighting might

It was on 28th of October in 1948 in Serpukhov, Moscow satellite town, when the first wings in the USSR Air Forces was established, and helicopters were in service with its forces; it laid the foundation of army aviation as a separate community of the Air Forces.

At first helicopter aviation was called auxiliary one and faced the problems of cargo transportation, fire adjustment, reconnaissance support and providing of robust communication at action scene. Eventually, in the course of industrial development, the helicopters has become an independent aerial firing aid. Magazine "Helicopter industry" represents photo-report regarding combined exercises of helicopter pilots of army avi-

ation air base located in town of Vyazma, the Smolensk Region, with special task forces detachments of Airborne Troops.

History of Vyazma helicopter union in figures

Vyazma air base stems from the year 1987 when a separate helicopter (combat and control) regiment was formed at the airfield Stendal in German Democratic Republic. The regiment was being formed on the basis of parts of the 3rd combined-

arms army of the Soviet military force in Germany – separate helicopter squadrons located in Köthen, Zerbst, Mahlwinkel and Neuruppin. Helicopters Mi-24, Mi-8T/MT, Mi-8Vz/PU, Mi-9 were in service with the regiment. The regiment received the Colours on the 25th of March, 1987.

After the pullout of the Soviet troops out of the East Germany the regiment was re-deployed to the Dvoyevka airfield in the town of Vyazma accommodating at that time an air training center which included well-known aerobatic team "Rus" engaging the operational jet trainers L-39.

In accordance with the Agreement between the USSR and GFR dated October 12, 1990 "On terms and conditions of sojourning and systematic pullout of the Soviet troops out of the GFR territory" and in pursuance of guidelines of the USSR Defense Secretary sustaining units received a task to re-deploy in Transcaucasian military district.





Transcaucasia was rapidly becoming a "flash point", that is why the pullout of all the departments and units of the Western Group of Forces into southern republics of the Soviet Union was interrupted by the Order of the Defense Minister. Re-deployment into Azerbaijan did not succeed. The pullout of the regiment out of Germany was delayed until 1992.

An air base in the Central Russia was chosen as the deployment site for regiment in December.

As at parting, the regiment was recognized in 1991 as the best helicopter regiment of the Soviet Army and decorated with the Challenge pennant of the Commander-in-Chief of the Army air corps of the USSR armed forces. This pennant is preserved in the regiment museum as the symbol of the lapsed military might of the Great Powers army.

From all said about the air base history it is worth mentioning another two helicopter regiments – one from Tula and another from Kaluga, the ways of which intercrossed on the territory of Smolensk. As the result of reform directed to the Air Forces, these regiments were re-deployed in Vyazma (in its turn, disbanded helicopter detachments from Kostroma and Kursk had been re-deployed in Kaluga earlier).

Thus, Vyazma air base was formed on the bases of the best helicopter regiments of the Central Russia.

This new regiment was often sent to "flash points" after redeployment in Russia. The first detached service took place in Transdnistria, then – in Tajikistan, afterwards two Chechnya operations, peace operations in Angola, Sudan, Sierra Leone and Kosovo ensued.

They managed to escape large battle actions in the Transdnistria; however the regiment was engaged in participation in Tajikistan internal conflict.

Combined peace-keeping forces in the Republic of Tajikistan were formed in 1994 by Russia, Tajikistan, Kazakhstan and Kyrgyzstan. The regiment personnel started preparation for completing of operations on the Tajikistan territory in March-April. A separate helicopter squadron was founded at the air base named "Aini" located 8km away from Dushanbe. It became a part of the 201st motor rifle division – the main unit of the peace-keeping forces. The regiment personnel were performing the orders in Tajikistan from the 15th of May to 18th of November in 1995. Usage of the Air Forces in the Tajikistan internal conflict was absolute. Communication network is lacking in Tajikistan and all the basic transportations are accomplished mainly by means of helicopters. What is more, there are mountainous territory where delivery of provision and reinforce is practically impossible without aviation support. Mountainous regions also place restrictions to application of strike helicopters. However anti-air defense forces of the opposition approved themselves weak.

The conflict defined the meaning of the airfield deployment network. Due to suitable airfields lacking the major part of the Russian aviation had to deploy on the territory of the civil airport of Dushanbe what declined significantly the striking aviation missions efficiency.



Tactics remained mostly the same and had been thoroughly developed in Afghanistan.

Military operations from May to November, 1995 in Tajikistan included 18 combat missions to the air support of ground troops, 472 flights to landing site of reconnaissance and sabotage groups and airlifted force, 9 flights to the place of evacuation of the sick and wounded, 120 flights for the aerial reconnaissance, 65 flyoffs for people and cargo transportation, 48 flights for the armed escort, 8 retranslation flights and 8 search-and-rescue missions.

The second detached service in Tajikistan took place in August, 1998 – February, 1999. The following operations were performed during this period: 25 flights to direct aerial support of the ground troops, 604 flights to the landing place of reconnaissance and sabotage groups and airlifted force, 12 extrication flights, 144 air reconnaissance flights, 75 transportation flights, 10 missions of transport helicopters escort.

The regiment crews took part in counter-terrorism action perhaps from its first day. Statistics is shocking. Number of transported people and cargo of one squadron Mi-8 (the second is combat helicopters Mi-24) is comparable with yearly transfers of the transport aviation regiment – two squadrons Il-76-x! Later helicopter pilots performed 12-13 missions per day, taking into account that 2-3 flights were accepted as a norm. Ammunition expenditure is also meaningful. Wars, similar to the Chechnya conflict, always engage helicopters. Afghanistan, Iraq and Afghanistan again – Helicopters are always lacking.

Chechnya operations from January 1995 to March 1996 number 20 flights regarding aerial support of the ground troops, 5 extrication flights, 765 transportation flights (28 tons of cargo and 260 people transported, including 30 injured and 12 dead), 12 reconnaissance flights, 6 aerial escort flights, 17 retranslation flyoffs. 3 support points, 7 fire nests, 5 automobiles were exterminated in the course of those operations.

Total number of flights performed from May to July, 1996 in Chechnya amounts to 5,562 missions with a summary attack of 4,104 hours, which includes: 646 flights to direct aerial support of the ground troops, 24 search-and-rescue flights, 29 flights to the landing place of reconnaissance and sabotage groups and airlifted force, 138 extrication flights, 167 air reconnaissance flights, 3,645 transportation flights, 762 missions of transport helicopters escort, 11 retranslation and 128 radio warfare tasks implementation flights. Helicopters transported 5,737 tons of cargo and 46,217 people.

Statistics shows the way how a local conflict escalated gradually into large-scale war actions. Period from May to July, 1996 is rather demonstrative in respect of statistics. It is the period of the most intensive usage of helicopters and ammunition expenditure during both of the Chechnya campaigns. This is an example of offensive army group operation where helicopters act as air artillery arm and generalized transportation means.





The first period of the second Chechnya campaign is characterized almost with the same percentage of intensive using the helicopters as they were applied during the first conflict. It was an offensive operation of the ground troops.

Helicopter use characteristics changed when later control was taken over the major part of the mutinous territory. Despite the great number of flyoffs, the ammunition expenditure reduced considerably. However, the intensity of the ground force air support increased. Percentage of reconnaissance flights remained practically the same, moreover, its efficiency rose owing to the modern equipment implementation.

Relatively inactive period starting from spring 2006 is described by the following:

almost the half of flights is accounted for monitoring – reconnaissance and radio warfare, people and cargo transportation flights percentage lies under 10%, taking into account that flight number reduced 10 times in comparison with the most active phase of the operation.

Using the figures, it can be concluded that the Russian helicopter pilots had to work hard during the years 1990-2000. Besides this is the information connected with one helicopter regiment only.

The regiment performed 40,309 flights while performing orders in "flash points" from January, 1995 to September, 2007. All the assigned tasks were carried out by helicopter pilots at a high level. Despite the tense times Russian army managed to demonstrate its power. At present day

the main members of the regiment are the vexillaries of many "flash points" – flight instructors. None of lieutenant has retired from the regiment since 2000, inclusive of air technicians – suggesting that it is extremely rare case. What is bothering that lieutenants themselves become flash-point vexillaries too fast. Actually the regiment continues performing combat missions, not on the former USSR territory, but in Sierra Leone, Sudan and other countries where Russian military international organizations are involved to participate in peace-support operations.

**Sergey Aleksandrov,
Nikolay Korobov**
photo Sergei Aleksandrov



Eurocopter Vostok



DELIVERS FIRST ENHANCED AS350 B3E HELICOPTERS FOR UTAIR AVIATION, WHICH WILL BECOME THE LARGEST ECUREUIL OPERATOR IN RUSSIA AND CIS



Eurocopter Vostok delivers first enhanced AS350 B3e helicopters for UTair Aviation, which will become the largest Ecureuil operator in Russia and CIS

UTair Aviation has received its initial three Eurocopter AS350 B3e enhanced helicopters as this leading Russian and CIS operator builds up the largest fleet of Ecureuil family rotary-wing aircraft in the region.

These AS350 B3s are among 20 aircraft ordered from the Eurocopter Ecureuil product line in 2010 by UTair, marking the biggest contract for light helicopters ever placed in Russia and CIS. Certification of the AS350 B3e variant was issued by the area's Interstate Aviation Committee (IAC) civil aviation authority in December 2011.

"We are happy to have the new AS350 B3e helicopters in our fleet," commented UTair Aviation CEO Andrey Martirosov. "These helicopters have improved flight safety and high reliability. They are powerful and more efficient, which enables us to offer a competitive product in the helicopter services market to our customers in oil and gas industry."

The AS350 B3e is an enhanced version of Eurocopter's single-engine AS350 B3, offering a high-performance helicopter capable of carrying out the most demanding missions in extreme weather and geographical conditions. Its exceptional lifting capability, high endurance, extended range and fast cruise speed make the AS350 B3e the leader in its class.

"With the AS350 B3e now certificated by the IAC, we have initiated deliveries of this latest member in one of the world's most popular helicopter families to UTair Aviation, which is an industry leader in its own right," said Laurence Rigolini, the CEO of Eurocopter's Russian-based subsidiary, Eurocopter Vostok.

Features of the AS350 B3e include the Turbomeca Arriel 2D turboshaft engine with a new-generation digital FADEC (Full Authority Digital Engine Control) and an engine data recorder for condition monitoring. The integration of Eurocopter's dual-screen Vehicle and Engine Multi-function Display (VEMD) in the cockpit allows pilots to check primary aircraft and



About UTair Aviation

UTair Aviation is the world's largest airline in terms of fleet having more than 330 helicopters of all classes. The base of the airline's fleet is made of Mil and Eurocopter helicopters. UTair Aviation is the largest helicopter service provider to the UN with which it cooperates since 1992. In Russia the main UTair customers for helicopter works are the leading oil and gas companies. In 2011, UTair carried out helicopter operations in Russia and ten foreign countries.

About Eurocopter Vostok

Eurocopter Vostok, a 100% wholly-owned subsidiary of Eurocopter SAS, was created in 2006 to provide sales, customer support, and to implement fleet follow-up in Russia and the CIS. More than 140 Eurocopter helicopters currently are operating throughout Russia and the CIS countries – bringing the Eurocopter Group's share of the Russian and CIS gas turbine market for Western turbine-engine helicopters to more than 70 percent.

About Eurocopter

Established in 1992, the Franco-German-Spanish Eurocopter Group is a division of EADS, a world leader in aerospace and defense-related services. The Eurocopter Group employs approximately 20,000 people. In 2011, Eurocopter confirmed its position as the world's number one helicopter manufacturer with a turnover of 5.4 billion Euros, orders for 457 new helicopters and a 43 percent market share in the civil and parapublic sectors. Overall, the Group's helicopters account for 33 percent of the worldwide civil and parapublic fleet. Eurocopter's strong international presence is ensured by its subsidiaries and participations in 21 countries. Eurocopter's worldwide network of service centers, training facilities, distributors and certified agents supports some 2,900 customers. There are currently more than 11,300 Eurocopter helicopters in service in 149 countries. Eurocopter offers the most comprehensive civil and military helicopter range in the world and is fully committed to safety as the most important aspect of its business.

engine parameters in one glance – thus reducing workload and enhancing safety. Eurocopter's application of composite materials for the helicopter's airframe, rotors and main rotor head gives the AS350 B3e the best protection against corrosion, thereby reducing maintenance costs.

UTair Aviation will use the new helicopters for oil and gas pipeline patrols, surveillance missions, VIP transportation and cargo airlift in Russia – including Western and Central Siberia.

The milestone 20-aircraft Ecureuil family order placed by UTair in 2010 was composed of 13 AS350 B3e helicopters, an AS350 B3, and six of the twin-engine AS355 NP versions. Deliveries from this contract began in 2011 – including one of the AS355 NPs, as well as the AS350 B3 – and will continue through 2013, with the aircraft reinforcing a Eurocopter-built fleet operated by UTair since 2006 that also includes AS355 N and BO105 rotary-wing aircraft.

Additionally, UTair Aviation is the launch customer for Eurocopter's new EC175, having placed an order for 15 of these seven metric ton-category helicopters in 2011.

EUROCOPTER BOOSTS ITS SALES BY 12 PERCENT IN 2011 AND INCREASES ORDER INTAKE BY MORE THAN 100 HELICOPTERS

Eurocopter generated a record high annual turnover in 2011 as the company benefitted from long-term strategies of investing in innovation to keep its helicopter product line at the forefront, growing the international footprint, developing services businesses and optimizing internal operations.

The deliveries of 503 rotary-wing aircraft in 2011, along with Eurocopter's enhanced support and services activities, generated a turnover of 5.4 billion euros – representing a growth of 12.5 percent from the previous year, and marking the first time Eurocopter's annual turnover has surpassed the 5 billion euro volume. Deliveries included the 1,000th Dauphin, which was received by Indian operator Pawan Hans; the 1,000th EC135, provided to the German ADAC automobile club – one of Eurocopter's longest-standing customers; and the 100th EC225, accepted by the Bristow Group.

New helicopter orders also picked up

last year, with the 457 net bookings representing a value of 4.7 billion euros, compared with the 346 helicopters sold in 2010. The year's business included initial firm orders for the new EC175; major bookings for the EC225 from CHC Helicopter, CITIC Offshore Helicopter Co., Bristow Helicopters and RTE; the continuation of orders from the U.S. Army for the UH-72A Lakota; and the first large booking for Eurocopter's enhanced EC145 T2 helicopter version from Germany's DRF Luftrettung.

"We marked many key achievements during the past 12 months, which were the results of our company's across-the-board strategy to invest, innovate and improve as we continue Eurocopter's industry leadership," said President & CEO Lutz Bertling. "As Eurocopter celebrates its 20th anniversary in 2012, we are well positioned for the future."

Consolidated turnover

Deliveries of new production helicopters represented 51 percent of Euro-

copter's 2011 consolidated turnover, while support and services continued its growth to account for 38 percent of the total. The remaining 11 percent was generated by development and other activities.

Order bookings

Export sales outside of Eurocopter's home country nations remained the primary source of business, at 77 percent of total bookings in 2011. Civil contracts accounted for 68 percent of the order volume, with military sales representing the remaining 32 percent.

Bookings by product range

The strongest growth in 2011 sales was registered by Eurocopter's Ecureuil/Fennec/EC130 Family and the EC145:

- EC120 Colibri: 13
- Ecureuil/Fennec/EC130 Family: 238
- EC135: 42
- EC145 (including the UH-72A Lakota): 104
- Dauphin/Panther/EC155 Family: 21
- EC175: 4
- Super Puma/Cougar EC225/EC725 Family: 35

For the EC175 and EC225, several multi-year contracts were signed, for which the customers' bookings will be logged based on annual purchase orders.



2011 Highlights

Eurocopter marked numerous program, commercial and technical achievements during the past 12 months.

The company's unveiling of its new EC145 T2 version and introduction of the enhanced "e" upgrades for the AS350, EC135, AS365 and AS332 were well received by the market.

Eurocopter's emphasis on innovation was underscored by the initial public appearance of its X3 high-speed demonstrator aircraft at the Paris Air Show, and the start-up of pioneering flight testing for a hybrid helicopter concept combining an internal combustion engine and an electric motor.

The company's worldwide presence increased with the most significant acquisition in its 20-year history: Vector Aerospace, a leading maintenance, repair and overhaul service provider headquartered in Canada. New subsidiaries and participations were created in 2011 with the Eurocopter Kazakhstan Engineering operation in Kazakhstan, and the Korea Aerospace Industries-Eurocopter joint venture to support the Korean Utility Helicopter's marketing and export.

The inauguration of Eurocopter Global Logistics at Marignane, France marked an important step in enhancing the company's logistics and industrial performance, while the investments in support and services activities were underscored by the opening of new training centers in Russia and China, along with a support and service center in Scotland – where a new EC225 full-flight simulator already has logged more than 1,000 training hours.

In 2011, Eurocopter advanced two programs to align and enhance its industrial capabilities: the Systemhaus project at the company's Donauwörth, Germany site, which will concentrate all the resources, skills and equipment required to develop, manufacture, certify and maintain helicopters in one location; and the new facility to be built at Le Bourget Airport near Paris, which is to become a worldwide benchmark in the conception, manufacture, maintenance and overhaul of helicopter blades.

Last year, Eurocopter also completed the two-year SHAPE transformation effort, which strengthened its capabilities during the market downturn of the past several years.

2012 flight plan

Eurocopter's ambitious innovation program, the growth of its international footprint and further expansion of the services offering will remain priorities for the coming year. This includes continued development of the X4 – which will introduce a revolution in helicopter operations for Eurocopter's Dauphin successor; inauguration of the EC725 assembly line in Brazil and the phase-in of a production facility for aerostructures and components in Mexico; as well as the broadening of support, services and MRO (maintenance, repair and overhaul) business for Eurocopter and non-Eurocopter helicopters.

The next-generation EC175 will enter service in 2012, incorporating significantly increased range and payload capacity – making it the first seven metric ton-category helicopter delivered with such capabilities.

Eurocopter also will focus on production ramp-up activity to meet a strengthening international marketplace, which includes increasing the output for its Super Puma family, the EC145 T2, the Ecureuil family, along with the NH90 and Tiger military helicopters.

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