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Marina Bulat

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### Results of HeliRussia

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The international helicopter industry exhibition HeliRussia 2014 coincided with a unique situation on the international helicopter market. The global industry continues to recover. The demand for helicopters in the oil and gas and specialized sectors (medical, law enforcement, etc.) served as a saving boost for the helicopter industry. In this respect, the specifics of the Russian helicopter industry are in line with the global trend – the mass production of large helicopters with significant take-off weight.



### Helicopters for the global market

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Russian Helicopters Holding Company, subsidiary of UIC Oboronprom, which in turn is a part of Russian Technologies State Corporation, once again will take part in the Farnborough International Airshow. A wide model line-up of civil and military helicopters which are most needed today at the world's market of medium-class helicopters will be demonstrated to experts and visitors.

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Russian Helicopter Systems (RHS) is a good example of what these new business models are and how they are formed. This company was positioned as a specialized aviation enterprise from its very inception. Since its founding in 2006, the company has acquired not only a variety of helicopter businesses, but also became known in Russia and abroad for a number of big projects in the helicopter industry.



### New name: a new level of ambition

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Laurence Rigolini, the General Manager of Airbus Helicopters Vostok: "Today, our customers are mainly VIPs and commercial operators, whereas Airbus Helicopters Vostok is also the only foreign OEM whose helicopters are used by Russian law enforcement and military services. With 225 Airbus Helicopters rotorcrafts in operation today, the Russian and CIS market is very promising for Airbus Helicopters as our product range matches all mission segments".

MAJOR EVENT



# Results of the seventh helicopter spring in Moscow

Russian helicopter industry are in line with the global trend



The international helicopter industry exhibition HeliRussia 2014 coincided with a unique situation on the international helicopter market. The global industry continues to recover, although this recovery turned out to be a bit slower than desired. The demand for helicopters in the oil and gas and specialized sectors (medical, law enforcement, etc.) served as a saving boost for the helicopter industry. Currently, the majority of demand for medium and heavy helicopters comes from emerging markets in Southeast Asia, South America – places where the production of oil and gas is on the rise. In this respect, the specifics of the Russian helicopter industry are in line with the global trend – the mass production of large helicopters with significant take-off weight. These types of helicopters are currently in demand in the extractive industries in different countries. Another trend is the upgrades of helicopter fleets for the main consumers of

helicopters: aircraft fleets have been aging worldwide. In the U.S., for example, the average age of civil helicopters is 24 years. In Russia, this number is approaching 30 years. The extent of their use in the harsh conditions of the oil and gas industry provides for great after-sales opportunities.

The Seventh HeliRussia Exhibition has its own agenda that is dictated by the needs of the national industry. The Russian government plans to allocate 36 billion RUB for the development of the civil helicopter industry before 2020. The government is urging producers to significantly increase the volumes of production and supplies of civil helicopters both domestically and as export products. The demand for these products on the domestic market is huge, as it encompasses projects in the Arctic and Northern regions, specialized industries, medical and rescue equipment fields, transportation and passenger vehicles.





However, the actual supplies are slow to arrive due to the slow pace of production growth and deficiencies in financial logistics at the Central Bank of the Russian Federation.

But HeliRussia is not only a platform to discuss problems, but also a demonstration of all relevant developments in the industry.

This year, the HeliRussia exhibition gathered 212 companies from 20 countries of the world, providing services in the sphere of production, development and operation of helicopters, helicopter technology and air and ground-based equipment. 165 of them were Russian and 47 from abroad (in 2013, there were 40 foreign companies). On an area of 13,850 square meters, there were 21 Russian and foreign helicopters. In just 3 days, the exhibition was attended by more than 10,000 people, and there were more than 40 events in the framework of the business program. More than 350 representatives of the Russian and foreign mass media were accredited at the exhibition.

The exhibition was opened by the presidential aide of the Russian Federation for issues of military and technical cooperation, Vladimir Kozhin, Russian Federation minister Mikhail Abyzov, Deputy Minister of Industry and Trade of the Russian Federation Yuri Slusar, First Deputy General Director of Rostec Vladimir Artyakov, Chairman of the Industry Committee of the State Duma of Russian Federation Sergey Sobko, General Director of Russian Helicopters Alexander Mikheyev, General Director of the Central Aerohydrodynamics Institute Boris Alyoshin, and Chairman of the Board of the Helicopter Industry Association Mikhail Kazachkov. During the opening, a congratulatory telegram was read from the head of the administration of the President of the Russian Federation, Sergei Ivanov and the Deputy Chairman of the Government of the Russian Federation Dmitry Rogozin, who assessed highly the contribution of the HeliRussia exhibition to helicopter development, attraction of investments, new technologies and international cooperation within the helicopter industry.



The MI-28NE helicopter was exhibited in front of the pavilion entrance, equipped to carry out combat missions day and night in all weather conditions





The Russian Helicopters programme at HeliRussia is traditionally packed and varied

### Helicopters

The traditionally rich exhibition was presented by the general sponsor of the HeliRussia exhibition: Russian Helicopters. Like last year, the show stopper of the exhibition was a military helicopter. This time, it was MI-28NE, exhibited in front of the pavilion entrance, equipped to carry out combat missions day and night in all weather conditions. The fully armoured cab of this helicopter is capable of withstanding a direct hit by 23 mm caliber ammunition. Next to it, visitors could see the Mi-38, which recently set the world record for rate of climb. At the exhibition, the visitors were able to acquaint themselves with another novelty of the Russian manufacturers: a light multipurpose Ansat helicopter. This time, the model was presented in the medical version. The general sponsor of the exhibition, AirbusHelicopters (former Eurocopter), pre-

sented an AS 350 light model helicopter. The distinguishing feature of this helicopter is that it is the only foreign-made model in Russia that domestic companies have chosen for implementation of the full range of works, including monitoring of pipelines, load suspension, geophysical research and transport of passengers.

Russian Helicopters and AugustaWestland showed customers a twin-engine AW 139 multi-purpose VIP version helicopter produced by the joint venture in Russia. To date, more than 190 operators from nearly 60 countries have placed orders for approximately 720 of helicopters of this type. American manufacturers were represented by helicopter companies MD (MD-520), Bell (Bell-429 and Bell-407JX), as well as the entire series of helicopters manufactured by Robinson (R-22, R-44 and gas turbine R-66).

### Engines

One of the expected premiers on display was the new engine of the Turbomeca RTM 322 family, with a capacity of 3000 HP. Currently, the engine type is installed on helicopters of the NH 90 family, AW 101 and AH-64D. Taking into consideration the close cooperation of the manufacturer with Russian helicopter specialists, as well as lessons learned from engines manufactured by Turbomeca, this type of engine can be expected to increase in the near future on Russian existing and prospective helicopter models.

Russian United Engine Building Corporation in turn presented the VK-800V and VK-2500 family of engines, and fuel equipment to significantly reduce the cost of maintaining the airworthiness of helicopters.

The stand of Ukrainian company Motor Sich deserves special mention, which this year



presented a number of helicopter engines, including the newest family of TV3-117vMA-SBM1V, and TV3-117VMA-SBM1v 4E series, and AI-450 M, D-136-2, MS-500V turboshaft engines.

The very presence of Ukrainian companies at the exhibition is a prime example of the fact that any political differences do not affect Russian-Ukrainian cooperation in the helicopter industry or destroy established long-term relations.

### Equipment

At HeliRussia-2014, KRET first presented at the exhibition as a single structure. Companies within the group showed the best developments in the field of avionics for various purposes. The complex on-board 21st century equipment drew much attention to the future high-speed helicopter (KBO PSV), de-

veloped by Ulyanovsk Instrument Design Bureau (UKBP).

Also at the KRET stand, the multifunctional Arbalet (FH-01) radar complex was presented, as well as a navigation control unit-computer, and laser optical-electronic suppression station, which was part of the electronic President-S warfare complex. Another unique exhibit at the KRET stand was the modern system of intellectual processing visual information in the optical-electronic sighting system and target Ka-52 Alligator system. It was created by the State Ryazan Instrument Plant (GRPZ), which also presented a helmet target and indication system at the international exhibition. Industrial Automatics Design Bureau in Saratov (KBPA JSC) specializing in the development and production of control systems for helicopters, presented a navigation panel-

calculator at the show, which manages helicopters in automatic and manual modes. Transas Aviation will demonstrated flight navigation complexes, which are the basis for new types of helicopters (MI-38, Ka-62) and modernization of MI-8/MI-17.

At the stand of the Ural Optical and Mechanical Plant (UOMZ), part of Schwabe holding, you could see the surveillance and aiming system of GOES-342, the surveillance and search engine GOES-337M, as well as civilian optical observation systems SON-730, SON-820, the main feature of which is the light weight, not exceeding 5 kg.

Finnish company Polartherm presented the HDU-43 thermal installation, designed specially for terrestrial heating of narrow fuselage aircraft and helicopters, taking into account the needs of clients such as the Ministry of Emergency Situations, as well as mili-



tary operations, where safety and effective heating are important.

**Business program**

The business program of the HeliRussia exhibition was attended by over 1,300 participants from more than 200 local and international companies this year.

The exhibition held conferences, round tables and seminars on the topics: "Air ambulance and medical evacuation", "Aviation on-board equipment", "City helipads", Helicopter market: realities and prospects", "Safety of helicopter flights: experience and practice", etc.

The focus, of course, was on the round table "City helipads". On the day it took place, a technical flyover by helicopters of the Ministry of Internal Affairs of the first two specialized urban ministry city helipads built within the framework of the implementation of urban transport development program took place in Moscow. At a round table, developers of the industrial layout of helipads in the city of Moscow, representatives of MosgortransNIiproekt State Unitary Enterprise and representatives of regulatory bodies, including the leadership of the Moscow branch of the Centre for Air Traffic Control and Inspection of Air Transport Safety gave presentations. The majority of participants in the round table expressed the view that the regulations that have existed since the 1930s, limiting the use of aircraft in municipal locations, need updating, with the involvement of all stakeholders, including private helicopter operators. It was also agreed that future collaboration of developers and implementers of programs with regulators would modernize the existing legislation and improve air safety, including major cities such as Moscow.

At HeliRussia 2014, there was a "Russian air ambulance and medical evacuation" round table. The round table was attended by heads and specialists of the Ministry of Health of Russia, the Ministry of Internal Affairs, health authorities of constituent entities of the Russian Federation, hospitals, medical institutions, and research staff of medical universities. Following the round table, it was decided to develop a pilot "Development of



## Russian United Engine Building Corporation in turn presented the VK-800V and VK-2500 family of engines, and fuel equipment to significantly reduce the cost of maintaining the airworthiness of helicopters

the system of air ambulance in 2014-2015" project, the establishment and improvement of the system of training for managers and staff of air ambulance centres and "Protection", as well as approve the draft order of emergency consultative medical and medical evacuation.

The Central Aerohydrodynamics Institute jointly with the Central Institute of Aviation Motors and Interaviagaz organized a round table on "Gas motor aviation - promising direction for reducing the cost of air travel in Russia" where experts discussed new technological solutions aimed at increasing the use of gas as a motor fuel for air transport in accordance with the order of the President of the Russian Federation of the State program of natural gas vehicle technology in transport vehicles.

For the 6th time at the exhibition the annual "Helicopter Market: Reality and Prospects" International Conference was held, dedicated to the condition and prospects of development of the helicopter market.

The conference participants noted the steady growth of the Russian helicopter market and the helicopter industry in general. A review of the current state of the Russian helicopter fleet, the dynamics and the forecast of development of the helicopter market was given. According to expert data, helicopter production in Russia since 2004 has increased 3.5-

fold while with since 2009 it has increased by an average of 66%. As of 2014, the overall increase of the helicopter industry in Russia is at a level of 15-20% per year. 2013 was a record year for Russia in terms of the number of imported foreign helicopters: 145. Compared to 2012, growth was almost 50%. In general, the foreign helicopters fleet more than doubled since 2009. A leader among foreign helicopters continues to be light helicopters manufactured by Robinson Helicopter Company.

At the same time, since 2011, there was significant growth of the medium-class fleet of helicopters of major manufacturers in Russia. Supply of helicopters of medium class in Russia in 2013 increased by 64% compared to the previous year. At the same time, for light class helicopters, the growth was 39%. Russian helicopters continue to be in high demand both inside and outside the country. At the end of 2013, the portfolio of solid orders of Russian Helicopters holding totaled 808 helicopters worth 401.2 billion rubles.

### Key events

For several years, one of the key markets for Robinson Helicopter Company in Europe is Russia. This year, 500 R-66 helicopters were delivered to Russian customers. The jubilee version was at the exhibition and handed over by the head of the company of Robinson Helicopters, Kurt Robinson.

Russian Helicopter Systems signed an exclusive contract at the exhibition with the world's leading designer and manufacturer of aluminum helipads, Bayards Aluminium Construction BV. According to interviewed experts, the best practices, technology and production capacity of Bayards not only constitutes a serious competitive advantage, but will also significantly upgrade the Russian market of helicopter services.

UTAir airline will buy additional equipment from Canadian manufacturers DART Aerospace, used on AS350 and AS355 Airbus Helicopters. A tripartite agreement between UTAir DART Aerospace Engineering and Heliatika (Russia), representing products of the Canadian manufacturer in Russia, includes supply and installation, including for customer support, of additional fuel tanks,





hanging baskets and chassis and equipment that will allow the company to expand the range of services offered to customers. UTAir also has extended the Airbus Helicopters training centre certificate by signing an agreement at the HeliRussia 2014 international exhibition in Moscow. The companies

**HIA once again gathered a wide range of professionals – reputable and competent specialists and leaders in the helicopter industry – under one roof**

have agreed to continue their joint activities on training of pilots and technical personnel at the training center in Tyumen. The agreement was signed for a period of three years. Russia Helicopters holding and Control Systems in the Rostec corporation signed a strategic partnership agreement. "The subject of the agreement is cooperation on the development of information technologies at Russian Helicopters holding, including in the area of scientific research, development and innovation projects.

Traditionally, during the days of the HeliRussia exhibition, the winners of the Helicopter Industry Association Awards are given prizes. This year's winners were announced in the following categories: pilot, test pilot, pilot-athlete of the year, pilot year of state helicopter aviation, engineer and design engineer of the year, test engineer of the year, and promising young engineer of the year. In the competition for 2013, 46 of the best employees from 24 companies in the helicopter industry participated, of which 36 were engineers and 10 were pilots.

This contest for employees of helicopter industry enterprises that are members of the HIA is held for the seventh time since 2008. From its very inception, the main objectives of the contest were to disseminate information about the most interesting events, achievements and people in the Russian helicopter industry, to provide a platform for networking and exchange of experience among the best representatives of the industry, as well as to support the development of young professionals.

The Helicopter Industry Association once again gathered a wide range of professionals – reputable and competent specialists and leaders in the helicopter industry – under one roof. The event aims to both reward those who deserve praise and to demonstrate the unity and solidarity of the entire helicopter community.

As part of the exhibition an awards ceremony for the 7th annual "Beauty of helicopter" photo competition was held. Winners were selected in 5 categories.



Russia Helicopters holding gave awards to the winners of the annual "Helicopters of the 21st century" competition. The total number of participants in the "Helicopters of the 21st century" competition in 2013-2014 was over fifteen students attending specialized higher education institutions. They included the Moscow Aviation Institute, Tupolev Kazan State Technical University Komsomolsk-on-Amur State Technical University, the Far Eastern State Technical University, the Southern Research Center of the Russian Academy of Sciences, the Korolev Samara State Aerospace University and the largest enterprises of the Russian aircraft industry. The number of participants exceeded sixty people.

This year, however, the main event took place not at the exhibition, but in Moscow on May 23 when a technical flight from Moscow's first-ever helicopter pads took place, built by a private company. The Moscow-City and House of Music sites are pilot projects, built by Russian Helicopter Systems within the framework of realization

of the "Development of the transport system for 2012-2016" state program of the city of Moscow.

This is despite the fact that at first, these pads will be used in the interests of law en-

forcement and emergency services aviation (Ministry of Internal Affairs, FSB, Ministry for Emergency Situations, etc.). With the liberalization of Moscow airspace, these sites can be used by independent carriers.



Flexible business models of new companies allow to modernize the helicopter market in Russia

# Propelling practice toward the ideal

The beginning of the century in Russia was marked by the creation of several dozen small aviation companies that were initially oriented toward sales and services of light helicopters in the country -

Robinson, MD helicopters. The move was a response to the formation of a new class of consumers - private air carrier owners for whom helicopters had become an integral part of their lifestyles. However, over time, in addition to sales, new airline companies began to explore the sphere of aviation services such as charter flights and helicopter taxi. And in the last 5-7 years, market participants have been involved in the race for the creation of a new helicopter infrastructure around the metropolitan area - Heliports, technical centers and flight schools.

The Moscow company Russian Helicopter Systems (RHS) is a good example of what these new business models are and how they are formed. This company was positioned as a specialized aviation enterprise from its very inception. Since its founding in 2006, the company has acquired not only a variety of helicopter businesses, but also became known in Russia and abroad for a number of big projects in the helicopter industry. Suffice it to say that RHS is the organizer of the annual international exhibition HeliRussia and helicopter race Mil Design Bureau Cup. Today, JSC RHS is included in the joined RHS holding and about a dozen industrial exhibitions and conferences are held under the auspices of the organization.

#### Off to a great start

JSC RHS adopted the concept of ideal service and development as far back as the beginning stages of its organizational development. This largely determined the innovation behind the RHS business model – a quality that is much more important in terms of company value than simply technological innovations. Adrian Slywotzky, managing director of the consulting company Mercer

**In the last 5-7 years, market participants have been involved in the race for the creation of a new helicopter infrastructure around the metropolitan area**



In Myakinino, within the confines of the metropolitan conglomerate, at the crossing of motor roads and waterways, as well on the Moscow metro line, is a 24/7 Heliport



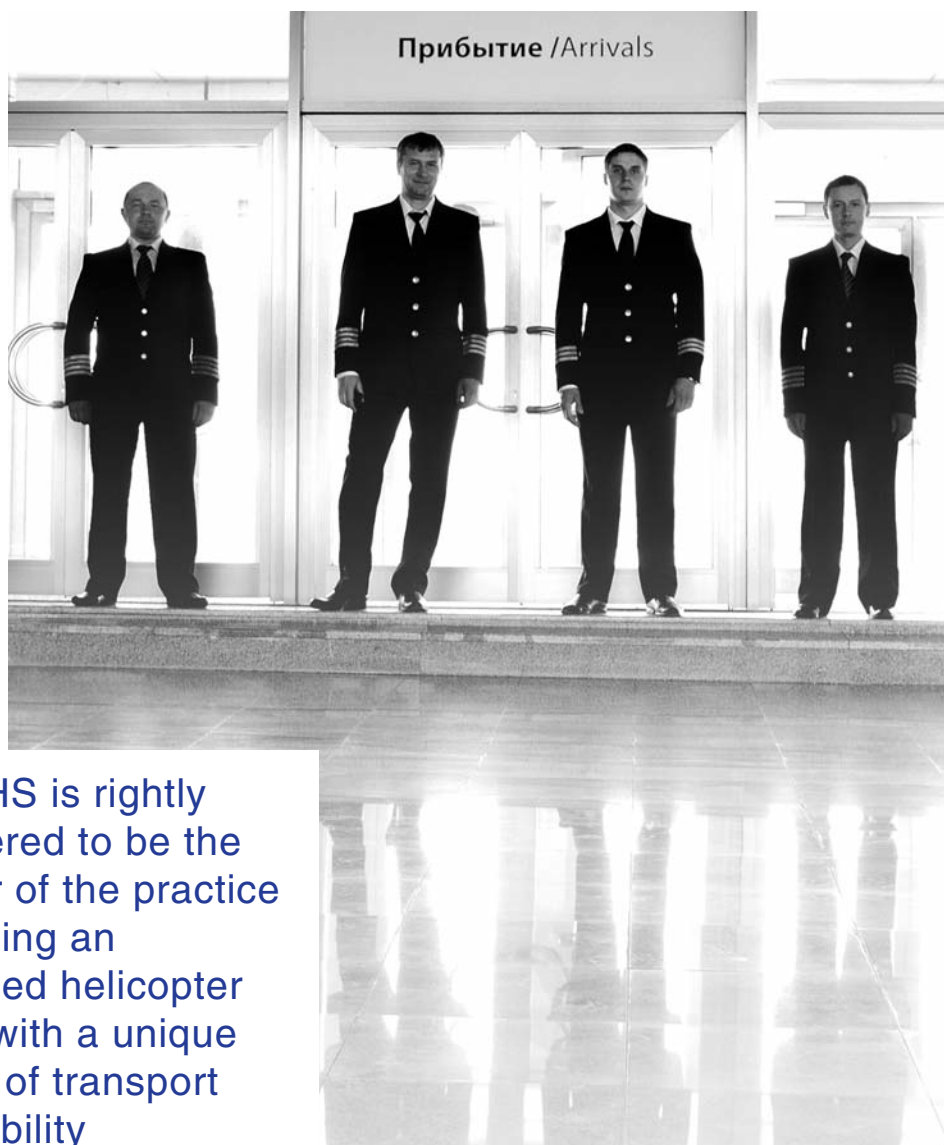
Management Consulting, illustrated the correctness of this approach using the examples of companies like Toyota and McDonald's in his book Value Migration, published by Mann, Ivanov and Ferber.

From its very inception, Russian Helicopter Systems logically inserted itself into the market that emerged during the period of increased competition (beginning 2000s), which gave birth to new combined forms of organizing the aviation business – a period of market fragmentation. These companies were successfully created in order to cover the whole spectrum of potential customers. At the same, expectations of success for such business models were more than justified, which was confirmed through experience in the future.

**Helicopters are a matter of integration**

JSC RHS is rightly considered to be the founder of the practice of creating an integrated helicopter center with a unique system of transport accessibility. In Myakinino, within the confines of the metropolitan conglomerate, at the crossing of motor roads and waterways, as well on the Moscow metro line, is a 24/7 Heliport that provides a wide range of services for air carrier owners and helicopter taxi clients. There is also a unique Russian Helicopter Systems aviation training center (ATS RHS).

The unique nature of ATS RHS lies in its one-of-a-kind style, atmosphere and a system of ensuring productive interactions between teachers and students. The Russian Helicopter Systems aviation training center has its own set of techniques and a special aura that ensures continuous interest in the center both among beginners who learn about ATS RHS at RHS club events that are regularly held on the Heliport territory located on the rooftop of the Crocus Expo Exhibition Centre and among experiences pilots who want to improve their flying skills.



**JSC RHS is rightly considered to be the founder of the practice of creating an integrated helicopter center with a unique system of transport accessibility**





ATS RHS offers its students a full range of training courses

ATS RHS offers its students a full range of basic training courses in aircraft handling for clients with different levels of experience, from “beginner” to “advanced.” The most valuable and responsible offer is the package of basic and complicated safe flight classes called “Safety Course.” The center is fully compliant with the aviation legislation of the Russian Federation. All pilots/instructors possess necessary permits and certificates. The female helicopter squadron called Calibri is a special point of pride for the RHS Aviation Training Center.





### Water prospects

The fact that JSC RHS is located in close proximity to the water artery of Russia's capital – the Moscow River – plays an important role in terms of the way the company's activities are structured. This, plus the fact that the JSC RHS is a member of the Helicopter Industry Association (HIA), has determined the so-called "water strategy" of the company. The fact is that, in 2013, HIA put together a conceptual design for the placement of landing pads in Moscow with the help of RHS experts. Based on the draft concept of the state program of the City of Moscow (2012-2025) called "Development of Urban Infrastructure on Bodies of Water," it involves the installation of seven landing pads on the Moscow River for air taxis and rescue helicopters.

The project involves floating landing pads for 1-2 helicopters. These landing pads will be able to move from place to place when necessary. Thus, a potential solution has been developed for many existing problems related to the placement of helicopter landing pads in both densely populated areas and in remote areas. Experience has shown the efficiency and adaptability of such a solution, which takes into account not only the economic component, but also the moral factor when it comes to the interaction of this transportation infrastructure with the public. However, floating helipads are just future prospects, even if they are possibilities in the very near future.

### As part of the Moscow transportation infrastructure development

The theme of water in RHS activities is already embodied in the first project of specialized water-based heliports located within the limits of the capital. They provide platforms for takeoff and landing, fuel and dispatching services for helicopters up to 6.5 tons for the Ministry of Defense, Ministry of Emergency Situations and medical aviation. The aviation passports for the Moscow-City and Dom Muziki landing sites were obtained on March 20, 2014. This infrastructure is designated for, among other things, the development



Chairman HIA Mikhail Kazachkov and Head Manager ATS RHS Oleg Motorny





and maintenance of commercial aviation: the creation of an air taxi and sightseeing flights. As of today, the operating helipads are Moscow-City and Dom Muziki, which were initiated by the starting investor RHS-Holding LLC. JSC RHS is the single operator of the helicopter landing pads. The facilities are part of the infrastructure of the city of Moscow, which will be expanding the network of helicopter landing pads in accordance with the "State Program on the Development of Moscow for 2012 – 2016."

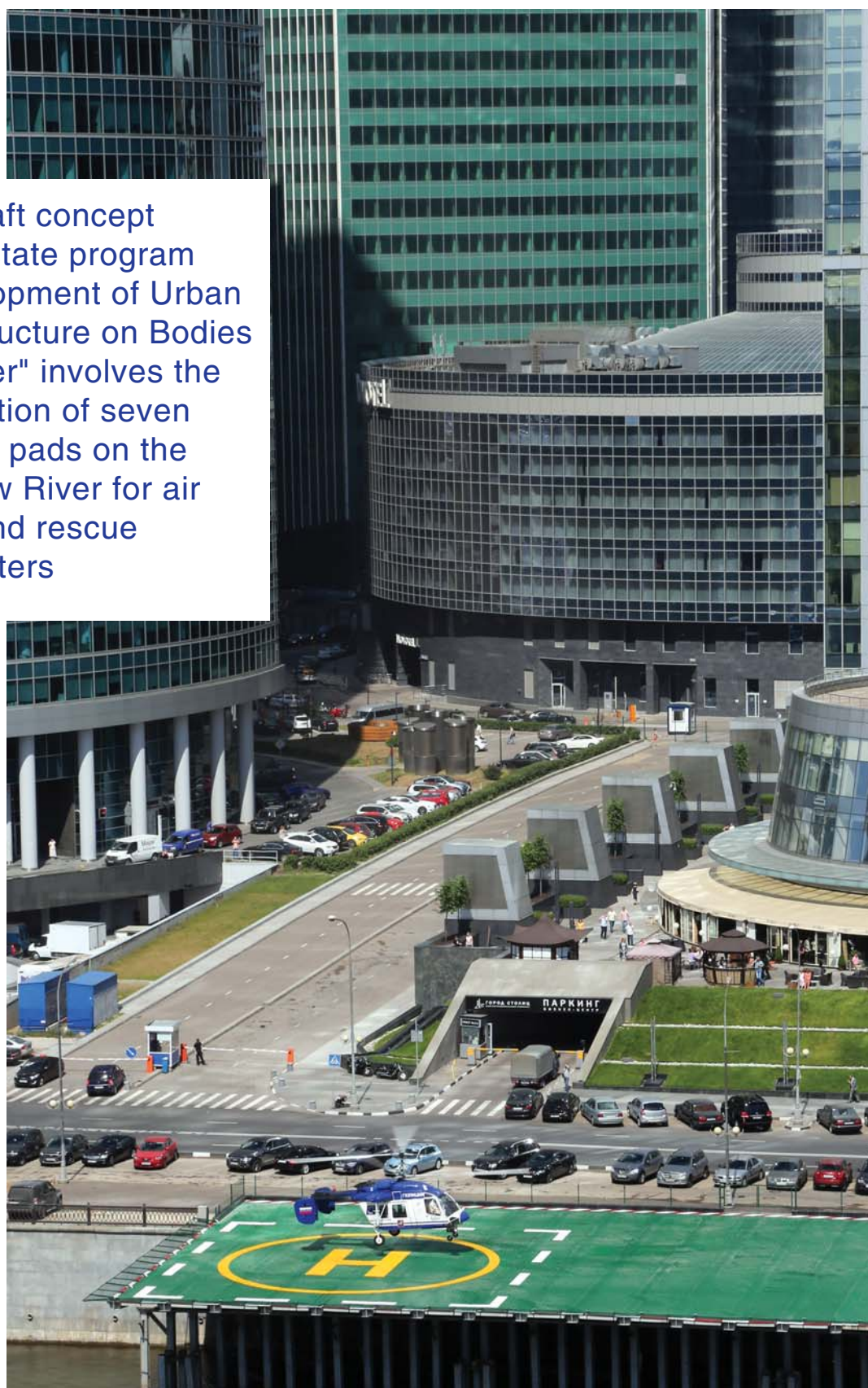
#### With the goal of modernizing the helicopter industry in Russia

In this aspect, JSC RHS also demonstrates an understanding of the potential of the integrated business model. According to the agreement signed on May 22, 2014 with Bayards Aluminum Construction BV - a leading manufacturer and developer of aluminum helipads - JSC Russian Helicopter Systems became the general partner and the exclusive representative of the Dutch company in the Russian Federation. Thus, the best practices, technology and production capacity that Bayards possesses, and that JSC RHS has obtained after signing the contract, is not only a major competitive advantage, but will also significantly modernize the Russian helicopter market.

According to Mikhail Kazachkov, Chairman of the Helicopter Industry Association, creating a modern terrestrial infrastructure is one component of the development of the helicopter business in Russia. But as practice has illustrated, JSC Russian Helicopter Systems is not limited to development in just these areas. Company management hopes to build company-owned production facilities in the future, both for the production of aircraft and special equipment for helicopters and for the comprehensive modernization of helicopters.

## The draft concept of the state program "Development of Urban Infrastructure on Bodies of Water" involves the installation of seven landing pads on the Moscow River for air taxis and rescue helicopters

*Herman Spirin*





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# Mi-28NE



Russian helicopters are keeping pace with the global trend of updating models

# Helicopters for the global market



Russian Helicopters Holding Company, subsidiary of UIC Oboronprom, which in turn is a part of Russian Technologies State Corporation, once again will take part in the Farnborough International Airshow.

**A wide model line-up of civil and military helicopters which are most needed today at the world's market of medium-class helicopters will be demonstrated to experts and visitors. In keeping with tradition, this year Russian Helicopters Holding Company has prepared for demonstration the models of helicopters that in the next two or three years will present a new image of the company's line-up, they include: the Mi-171A2, an advanced medium multirole helicopter, created on the basis of the renowned Mi-8/17 series of helicopters with the use of the latest technologies and materials; the Mi-38, a Mi-family helicopter of the new generation in the medium-heavy category with a takeoff mass of 15.6 tons; the Ansat helicopter, which claims to be the most needed utilitarian helicopter for the business and service sector; the EASA-certified Ka-32A11BC, a recognized "expert" of construction-and-assembling works and firefighting; and the Mi-28NE attack helicopter.**



The legendary Mi-8/17 series is a firm favourite in the corporate and VIP transport market

To date, the focus of Russia's domestic helicopter production remains on the Mi-8/17 and its numerous modifications, variants of application and equipping. Of course, this is no coincidence, it is difficult to find a more reliable and unpretentious helicopter among its competitors. Therefore thousands of these helicopters are operated by commercial airlines and security agencies around the world.

However the time is getting on, and in 2009, starting with the Mi-171A2 project, a program of total modernization of the 'eight' series was launched. During several years the analysis was carried out in relation to correspondence of units, systems and structural parts to the current domestic and international rules and regulations, and the plan was worked out to bring them into full compliance with the latest standards. More than 100 different innovations were introduced to the design of the helicopter that improved performance and the operation system, reduce the cost per flight hour and much more.

The Mi-171A2 and its subsequent modifications will be powered by two VK-2500PS-

03 turboshaft engines with antisurge protection, which will differ from the TV3-117 and VK-2500 engines previously found in the Mi-8/17 series. They will have increased capacity and additional modes as the VK-2500PS-03 engine is a civilian version of the BK-2500P engine which is used in the Mi-28NE and Ka-52 attack helicopters. The transmission will also be improved thanks to the increased powerplant output. The modified VK-2500PS engines will have an increased service life and will be equipped with the FADEC digital engine control system.

They will also have the dustproof devices of high efficiency with increased air purification (from 75 to 95%). This modification of the VK-2500 engine also has improved self-regulation, allowing for high-altitude engine start up to a height of 6,000m. Apart from all this, the helicopter will be equipped with the Safir 5K/G auxiliary power unit.

Significant changes will be made to the design and manufacturing process of the

helicopters' main rotor systems. The helicopter's propellers are made of composite materials and make use of new technologies that have already been tested on the Mi-38. The helicopter will also come with an X-shaped tail rotor.

All these innovations will increase the service life of individual elements 2-3 fold and provide a 10 percent margin of stability to directional control.

The internal electronics in the new helicopter will be radically transformed too.

The Mi-171A2 will come with KBO-17 avionics equipment designed by the Ulyanovsk Instrument Manufacturing Design Bureau being a part of the Aircraft Instrument Engineering Corporate Group. The equipment makes use of glass cockpit technology. The KBO-17 houses four, 6x8-inch liquid crystal displays that show flight-and-navigation information and on-board systems data. The central 15-inch detector broadcasts the data from the external optical surveillance system which covers the front and the lower hemisphere of the helicopter. The new equipment also



VIP version of the Mi-38 being designed in collaboration with AirTaxi-Service

has the two-channel PKV-171A digital autopilot, modern means of communication and GLONASS / GPS navigation. It is planned to equip the helicopter with a laser radar that will provide the recognition of a cable up to 5mm in diameter at a distance of 1,000m – a feature that will significantly improve the flight safety at low altitudes.

By using a KBO-17, it will be possible to switch to a 2-man crew and significantly reduce the number of overhead panels - from seven to three. One of the most important tasks when creating a modification of a helicopter or a new helicopter is to reduce the operational costs while increasing the lifespan of the frame, units, systems and parts. As a result, we will see a host of revisions to volume and frequency of maintenance, implementation of a set of constructive measures and optimization of service methods. After implementing this new approach, the servicing of one flight hour will reduce to 8-10 man-hours, compared to current 20 man-hours. Roughly the same improvement will be found in the service life of the helicopter itself in comparison to its predecessor.

The first deliveries of the Mi-171A2 helicopters are scheduled for the beginning of 2015.

Of particular interest to clients of the Rus-

sian company is the Mi-38 passenger and transport helicopter, hailed to fill the niche between the Mi-8/17 series and the heaviest series-produced helicopter in the world, the Mi-26T. It is worth noting that compared to the Mi-8/17 helicopters that are similar in class, the top speed of the Mi-38 has been increased by 50 km/h along with a maximum cruise speed of 45 km/h with reduced cabin vibration. This is an important factor in improving the crew comfort and units and systems performance. Ultimately, these changes increase flight reliability and safety.

It's no secret that the Mi-38 was originally designed as a replacement for the Mi-8/17, but in the course of the project it became clear that the Mi-38 could open a new market niche between the medium multirole Mi-8/17 (that can carry cargo up to 4 tons inside the freight compartment or on external sling), and the Mi-26T/T2, a heavy-weight champion that can lift up to 20 tons of cargo inside the transport compartment and on external sling.

The Mi-38 is capable of lifting up to 7 tons of cargo on external sling and up to 6 tons inside the cargo compartment, and this allows to assign the Mi-38 and Mi-8/17 to different categories of helicopters, even with the increased lift capacity on external sling of up to 5 tons seen on the advanced

Mi-171A2, the latest modification of Mi-8/17. The larger interior volume of Mi-38 (compared to the Mi-8/17) makes it possible to expand the range of optional equipment, to accommodate additional cargos within loading range and seat more passengers.

The significant future of the Mi-38 will be determined by key economic indicators, such as direct operating costs (DOC) and the cost of per flight hour. The Mi-38 largely managed to overcome the so-called "legacy of the 90s", which is an encouraging result for the helicopter, otherwise its working life would have been cut short. The helicopter has been built and after a series of tests, is ready for the mass production. The basic helicopter flight characteristics have already been confirmed and include an increase of a rotor thrust to hover over the calculated value by 500kg, and a solid speed of 320km/h and ceiling of 8,100m. This helicopter has a potential for the VIP configuration. The transport and configuration characteristics of the helicopter are considered by the industry experts as the possibility to create a perfect "number 1 board" for the political and business elite.

Along with specialized transporters the model exhibit of Russian Helicopters is supplemented by the Ansat, a promising business aviation helicopter. This helicopter was created in the midst of an industrial crisis in Russia in the 1990s in an attempt to fill as quickly as possible a promising niche and implement a breakthrough project in unfamiliar market conditions. The balance of innovative and traditional solutions was expected to ensure a basis for the optimum performance characteristics and the ability to quickly adapt to the large-scale production, along with the low price of the first Russian helicopter.

The Ansat was designed from the outset to meet new AP-29 airworthiness standards, in line with FAR-29 international standards. In accordance with these standards, one of the main criteria for the main "A" category certification is the requirement to ensure continual flight in case of a failure of one of



New helicopters are equipped with radar station, which is mounted above the main rotor of the helicopter, allowing the Mi-28NE to scan the surrounding area after rising above the terrain







engines. This requirement has largely determined the choice of the helicopter's design and in particular, the choice of engines with a large power reserve.

Many innovative solutions were implemented in the Ansat's design. For example, the forward fuselage with cockpit canopy, engine nacelle hood and some other non-bearing structural elements are made of composite fiberglass.

The cargo and passenger cabin (the prototype cabin was smaller) has relatively large sizes for the helicopters of this weight class, around 3.17x1.66x1.3m and a volume of 6.7m<sup>3</sup>. The Ansat is equipped with energy-absorbing pilot's and passengers' seats. In line with current safety requirements, all passengers in the cabin are seated facing forward.

For the first time in the history of helicopter construction a helicopter of this weight category may accommodate ten passengers. One of them is seated next to the pilot, to the left, and the rest nine seats are placed in the cargo-and-passenger cabin. Boarding takes place using four doors: two

in the cockpit and two in the cargo-and-passenger cabin. The rear of the fuselage comes with the space for loading baggage or stretchers.

The Ansat has a hingeless, maintenance-free rotor/shaft assembly. The hinges have been replaced by a rigid rotor setup with a flexible element – a composite torsion bar. The four-blade assembly consists of two crossed bars, with two blades affixed to each. Thanks to its hingeless rotor system, the helicopter is more controllable and manoeuvrable, is lighter, and costs less to manufacture and substantially less to operate. The replacement of components may be done outside maintenance bases, depending on the condition and readings of the actual information gathering system. The hingeless torsion bar assembly is a Russian innovation and has great prospects for further development.

The Ansat is equipped with the latest piloting and navigation systems allowing for automatic and manual piloting in calm and adverse weather conditions, as well as full autonomy in flight preparation and

helicopter maintenance.

The Ansat is powered by PW 207K Pratt & Whitney Canada 630 h.p. engines (the first two prototypes were powered by PW-206) sit above the cargo-and-passenger cabin, in the nacelle behind the main rotor gearbox, with ROM side air intake. The propulsion unit is equipped with full authority digital engine control (FADEC). The engines drive the rotors and systems of the helicopter by means of the two-stage VR-23 gearbox.

**The Ansat alone with all its modifications covers the entire range of light helicopters in the 3000 to 4000kg take-off classes**



The Mi-38 passenger transport helicopter

Another important advantage initially included in the configuration of the helicopter, is that thanks to the cabin volume, the Ansat can include a host of modifications. The basic transport and passenger version is designed to carry up to 10 passengers or 1,000 kg of cargo inside the cabin or 1,300 kg on external sling.

**Of particular interest to clients is the Mi-38 passenger transport helicopter, hailed to fill the niche between the Mi-8/17 series and the heaviest helicopter in the world, the Mi-26T**

Easily-removable chairs make it easy to convert the helicopter from a passenger mode to a cargo mode. From the very outset, engineers provided for the construction of the medical and evacuation and search and rescue modifications of the helicopter. Kazan Helicopters in conjunction with the Chief Medical Administration of the Ministry of Defense, the Russian Emergencies Ministry and the Ministry of Health, worked on forming of a medical complex on the basis of the Ansat. Specialists of the factory offered an option of the Ansat medical and evacuation helicopter. It has space for two medical workers and two stretchers. The right side has a mounted rescue winch with the lifting capacity of up to 300kg, and a searchlight can be found under the fuselage. The helicopter can be outfitted with optional search and discovery equipment, and fire extinguishing features. The helicopter developed made use of the best practices of all schools of domestic helicopter construction. According to experts, the demand in this class of helicopters is around 100 units

per year. Therefore, the Ansat alone with all its modifications covers the entire line-up of light helicopters in the category of take-off weights from 3,000 to 4,000kg.

The multipurpose Ka-32A11BC civilian helicopter with coaxial rotor continues to conquer international markets. Built in the Republic of Bashkortostan, Russia, by Kumertau Aircraft Production Enterprise (Kumapp), which is part of Russian Helicopters Holding Company, the helicopter is unequalled in many applications. In addition to transportation and patrolling, it can be used for search and rescue missions, as a flying crane for very complex erection work, and is one of the best fire helicopters in the world.

The Ka-32A11BC has demonstrated unsurpassed capabilities in firefighting, especially in mountainous areas and densely-built urban environments at the level of the top floors of high-rise buildings. The Ka-32A11BC is highly configurable with more than 40 different options avail-



The multipurpose Ka-32A11BC civilian helicopter with coaxial rotor

able, including Bambi-Bucket and Simplex fire-fighting systems of various capacities, water cannons for horizontal fire-fighting, turret water cannons and stowable lifting cabins for transportation and rescue operations. In the early 2000s, Kumapp in Kumer-tau developed a horizontal telescoping water cannon for the Ka-32 series that can shoot a stream of water about 40 meters. The first production Ka-32 helicopter with a water cannon of this type was delivered to South Korea in November 2005. With every new mission, pilots learn more about the unique capabilities of the Ka-32A11BC helicopter. For example, it can put out fires in dense urban areas that are out of the reach of fire trucks, as was demonstrated at the Moscow City Complex where, in April 2012, one was used to put out a fire that had engulfed over 300 square meters of a skyscraper at a height of 67 floors (270 meters). It's no exaggeration when the company's engineers claim that the Russian-built 32A11BC fire helicopter with horizontal water cannon can extin-

guish a fire even higher up, such as in the upper floors of the Burj Khalifain in Dubai, which is 828 meters tall and has 163 floors.

And finally – a few words about the latest representative of Mi combat helicopters. The round-the-clock combat helicopter Mi-28NE is a two-seat (pilot and navigator-operator) classic single-rotor helicopter with a five-blade main rotor and an X-shaped tail rotor, all-movable stabilizer and fixed landing wheels with tail wheel gear. The wing can be used for the suspension of arms and extra fuel tanks. Mi-28NE is designed to search for and destroy tanks and other armored vehicles, as well as low-speed air targets and troops. The upgraded version of the Mi-28NE attack helicopter, known as the "Night Hunter" (exported), received a double control system through which the navigator operator can fly the helicopter in case the pilot is injured or absent. New helicopters are equipped with radar station, which is mounted above the main rotor of the helicopter, allowing

the Mi-28NE to scan the surrounding area after rising above the terrain. At the same time, the helicopter remains hidden from the enemy. In addition to the radar system, Russian combat helicopters are equipped with a landing control system for landing at night or in dense fog.

The specifics of the design provide for high survivability of the Mi-28NE helicopter. Crew survival during emergency landing with vertical velocities up to 12 m/s is achieved by employing a passive protection system with energy-absorbing structural components (chassis, seats, parts of fuselage).

Recent events on the helicopter market prove that Russian helicopter construction is keeping pace with the world trend for the global modernization of the line-up. This trend has become a dominating factor for the key operators working to meet the growing needs of offshore oil production and a number of business and socially-important missions.

*German Spirin*

Russia is the 3rd market in terms of delivered units worldwide behind the USA and Brazil

# New name: a new level of ambition



**Interview with Laurence Rigolini, the  
General Manager of Airbus Helicopters  
Vostok**

*What is the Russian market like for Airbus Helicopters today: who buys the helicopters and what are they used for?*

Today, our customers are mainly VIPs and commercial operators, whereas Airbus Helicopters Vostok (former Eurocopter Vostok) is also the only foreign OEM whose helicopters are used by Russian law enforcement and military services.

Besides, we are proud that our machines start to be the preferred aircraft for medevac and air ambulance missions which is a fast growing segment.

With 225 Airbus Helicopters rotorcrafts in operation today, the Russian and CIS market is very promising for Airbus Helicopters as our product range matches all mission segments.

Generally speaking, since 2010, Airbus Helicopters Vostok steadily increases its sales thanks to an aggressive marketing of its products; as a direct consequence 80% of its helicopters sold in 2012 and 2013 went to newly acquired customers.

2013 was a particularly successful year for Airbus Helicopters Vostok with 28 aircraft delivered representing more than 60% of the Western built helicopter deliveries in Russia and CIS.

From an Airbus Helicopters Group perspective, this record figure ranks Russia, for the first time ever, as the 3rd market in terms of delivered units worldwide in 2013 behind the USA and Brazil.

*Is there a change in demand and scope of missions?*

If we are speaking about the Airbus Helicopters customer profile in Russia and CIS before and today, initially we used to sell helicopters mainly to VIP customers. As of now, we see a growing demand on other market segments such as commercial and corporate customers, as well as law enforcement, emergency medical services and training organisations.



**Our aircraft are real  
work horses for  
commercial operators  
world-wide aiming at  
earning money with  
them**

## With 225 Airbus Helicopters rotorcrafts in operation today, the Russian and CIS market is very promising for Airbus Helicopters as our product range matches all mission segments

The key success factors of Airbus Helicopters products leading to an increased demand are the variety of our product portfolio, the modernity of the offered technology, its cost-effectiveness as well as the easy-to-maintain concept. The optimized human-machine interface is also very much appreciated especially with regards to safe operation in the extremely harsh environment in which our customers are flying our products.

*Which Airbus Helicopters models are most popular in Russia and CIS?*

Today's best-sellers are the light single-engine Ecureuil machines, AS350 and EC130. For the very first time and after an intensive demonstration tour in Russia and Ukraine in spring 2013, we successfully certified and delivered the first EC130 T2s to the Russian and CIS market and are confident that this product will meet a positive echo among our growing customer base.

The light twins EC135 and EC145 are also popular models in Russia and CIS more particularly with regards to parapublic and emergency medical services missions.

*EASA recently certified the EC145 T2. Is there an interest in this machine in Russia?*

Indeed, the new EC145 T2 model recently certified by EASA will without any doubt match the high level of expectations of our Russian and CIS customers. This aircraft has a large multi-purpose cabin that can be

configured both for VIP or HEMS missions. The first EC145T2 in Mercedes Benz layout will be delivered to a Russian VIP by the end of this year.

Among the upgrades of the 4-ton EC145 T2 it's worth mentioning the new Arriel 2E engines and the Fenestron, as well as modernised main and tail rotor gearboxes and the advanced Helionix avionics suite with a 4-axis autopilot that protects the helicopter across the flight envelope, reduces pilot workload and raises their awareness. Together, this leads to unprecedentedly high safety.

corporate missions or saving lives, but are also real work horses for commercial operators world-wide aiming at earning money with them (offshore/utility/aerial work/geophysics/pipeline inspections etc). Our vision is to propose high end helicopters for highly demanding customers. However, in order to address specific market niches and grasp new market opportunities, Airbus Helicopters also offers low cost versions of certain aircraft types such as the AS332C1e which was developed for humanitarian missions in particular.



*Airbus Helicopters are not the cheapest machines out there. Are you planning to offer special value models to developing markets?*

Airbus Helicopters with its product range portfolio ranking from the light single EC120 to the heavy twins EC225 always has the right answer to its customers' mission requirements. Our aircraft are not only flying

*We also have a question about models that have never been present in Russia, the Super Puma that could have competed with the Mi-17 and Mi-38...*

You are right. The Super Puma is not yet present in Russia, but some of them are flying since many years in other CIS countries. Its latest version the EC225 is particularly well adapted to transportation of passengers





to oil rigs and is used as such all over the world. Indeed, this aircraft meets the latest and toughest OGP requirements and thanks to its robustness can safely operate over long distances in extremely rough environments. Therefore, we are convinced that this product will soon be seen in the Russian sky, too. As you know 2014 is the year of the delivery of the first EC175 to our partner and launch customer UTair. This aircraft has also been developed to match all market requirements but in particular the extremely demanding Oil & Gas specificities. We are proud and very much looking forward to the entry into service of this new model; Russia being among the first countries to receive this aircraft type.

*Airbus Helicopters every year announces creating new models. What should we wait this year?*

Besides the EC175 we just mentioned and

which will enter into service this year for the first time, Airbus Helicopters unveiled during Heli Expo 2014 two new variants of existing products, the EC225e and the AS332C1e. Our CEO gave also an update on the X4 medium twin development program whose first flight is foreseen in 2015.

The EC225e is an extended range heavy helicopter variant primarily designed for the offshore market with improved passenger cabin, increased payload and fuel capacity. The EASA 2015 certified EC225e will have a range of 300nm with 10 passengers. The AS332C1e is a utility variant of the Super Puma designed for missions in high/hot environments which features the 4-axis auto-pilot and automatic flight control systems from the EC225.

*Since reorganization of the company in January 2014 and since Eurocopter operates under new name - Airbus Helicopters - have*

*you noticed any changes for the brand? Are top priorities of the brand remaining the same?*

The Airbus Helicopters name comes with new ambitions inspired by the values and excellence of Airbus Group. As a direct consequence, Airbus Helicopters has redefined its top priorities to further enhance safety, raise customer satisfaction, advance the quality of our products and services and improve our competitiveness. We are implementing these priorities by placing our efforts on product reliability and availability, speeding up response times, reducing lead times and production costs and integrating the Airbus Group's standards of quality.

It's a company-wide transformation plan and challenge which each entity and employee is committed on to meet all over the world for the satisfaction of all our customers.

Only a few states that can develop and produce modern helicopters

# Russian Helicopters a Logical Choice



Uniqueness, efficiency and unification – these are the qualities that make the ever-popular Kalashnikov brand what it is. Russian Helicopters JSC also combines all these outstanding features which make it an increasingly popular company the world over.

### One Unique Feature Complements the Other

There's a lot that can be said about the uniqueness of the Mi-28N, Mi-35M, Ka-52 and Ka-27. The fact is that each of these models almost completely covers the spectrum of challenges faced by land and sea combat choppers. So these four helicopters, without a doubt, make up a full set of combat helicopters that can guarantee the security of any country.

The Mi-28N 'Night Hunter', day or night and in adverse weather conditions, is designed to seek and destroy tanks, armored and unarmored vehicles, as well as enemy personnel

unarmored combat units, troops and helicopters at the forefront and tactical depth – in all weather conditions and at any time. The 'Alligator' can provide target detection, target acquisition, provide cover fire for troop landings, make patrols, accompany military convoys and provide coordination, letting other helicopters pinpoint positions of ground-force command posts. The focus of the Ka-27/28 is Anti Sub Warfare (ASW) with landing possible on various classes of ships, including aircraft carriers. It is capable of detecting modern submarines and surface targets, transmitting data on them to ship and shore points and attacking them with airborne weapons.

based on the TV3-117VMA. The VC-2500 differs from the base model with a 15-20 % increase in power features, the introduction of new FADEC-type digital automatic regulation and control system, as well as extended service life. Thanks to the improved characteristics of the VK-2500 engine, the helicopter's ceiling increased by 30 %, the climb rate is increased by 50 %, lift capacity is increased by 1,000-2,000kg (depending on the helicopter model), and speed and maneuverability are improved. With these qualities, the helicopters acquire entirely new operational possibilities in high altitude areas and hot climate zones.



and low-speed air targets. The Mi-35M is a multipurpose military helicopter that can undertake combat missions around the clock and in adverse weather conditions. Designed to destroy enemy armored vehicles, provide cover fire to ground troops, troop landings, evacuation of wounded, as well as transportation of goods in the cargo cabin and on the external sling. The focus of the Ka-52 'Alligator' is the destruction of tanks, armored and

### One for All

One of the most highly sought after properties in combat, production and for the consumer is unification. This is where everything is subject to the laws of efficient production, maintenance and operation. Suffice to say, each of the four helicopters comes with VK-2500 turboshaft engines which were first put into development at the Klimov Factory in 1999. The design is

### On Land and at Sea

The uniqueness of each of the four helicopters means they can be flown in extremely harsh environments. The Russian Ka-52 'Alligator' combat helicopter proved a perfect fit for the French-based Mistral class helicopter carrier. No issues were detected when adapting the Mistral for the 'Alligator'. In terms of geometry, the chopper was a good fit for the ships hangar and winch. The Ka-52 attack-



recon chopper is another strong competitor. Coaxial scheme screws, modern avionics and powerful weapons give this helicopter serious performance stats, along with unique maneuverability and high combat effectiveness.

#### Modern Attack Helicopters for Tough Climates

The fact that the Mi-35M (since 2011) attack helicopter is supplied to Azerbaijan and Brazil showcases the success of the Mi-24 line. And it's not simply a case of these helicopters being familiar in the country of the buyer (Azerbaijan, where deliveries of Mi-35M began in 2011). According to the estimates from the Brazilian Ministry of Defence, the Mi-35M (known as the AH-2 Sabre in Brazil) is a modern attack helicopter with high firepower that can be used to escort other helicopters, isolate combat zones and offer fire support to ground forces. These are the first Russian specialized attack helicopters to be used up by the Brazilian Air Force. The initial batch of three AH-2 Sabres was adopted by Brazil's Air Force during a





ceremony held April 17, 2010 at the Porto Velho Air Force Base. Later that same year, three more helicopters were delivered. Along with the supplying of the Russian helicopters abroad, Russian Helicopters' order backlog grew too. In 2011, it doubled, from 430 to 859 helicopters at a total cost – 330 billion rubles. In the same year, contracts were signed with Russia's Ministry of Defense for the supply of more than 600 helicopters by 2020. The largest contracts were for the Ka-52 and Mi-28N attack helicopters. This in itself goes to show that Russian Helicopters deliver high-quality goods that are trusted by the Russian Armed Forces.

The Mi-35M (side numbers YI-351 to YI-354) was used in the harsh natural conditions of

Iraq, delivered there in late 2013. These helicopters were manufactured under the contract to supply Iraq with six Mi-35Ms for \$ 217 million (\$ 256 million including the cost of weapons), signed on April 16, 2013. This contract is an addition to the famous 2012 agreement on the purchase by Iraq of 36 Mi-28NE combat helicopters. The second part of this delivery (previously 15 helicopters were delivered) arrived in Iraq in January 2014. Baghdad will receive a total of 40 Mi-28NE and Mi-35s. They will be used for border security and counter-terrorism.

#### Selecting Which Provides Advantages

"In the world today, there are almost no countries that operate without their own helicopter fleet. However, there are only a few

states that can develop and produce modern helicopters. Among them, Russia is one of the leaders. That is why the armed forces of more than 90 countries on all continents have Russian military helicopter aircraft", noted the deputy head of the Department for the Export of Helicopter Technology and Services Vladislav Kuzmichev, who heads the delegation of Rosoboronexport. "Export is on the up because of deepening cooperation with traditional partners and because of expanding the geography of deliveries. Given the attractiveness of the Russian helicopters thanks to their cost-effectiveness, the presence of a trained aircrew and maintenance personnel, as well as appropriate infrastructure, the most logical solution for these countries is to choose Russian helicopters".

**Andrey Vezhnovets**



The EC175 helicopter is the new tool for Utair's business

# Flagship of Airbus Helicopters for the Russian operator





EC175 received its EASA certification on January 30th, 2014 including mission systems for offshore oil-and-gas operations. FAA certification is anticipated in the middle of the 2014, with FAA pilots having already started their flight on the EC175 in Marignane with a positive first feedback, TCCA and Russian certification will follow. First deliveries will take place in second half of 2014 and will address the 3 first customers

NHV, UTair and Heli-Union. UTair Aviation not incidentally appeared among the first big customers of the EC175 helicopter. The aviation park of the company Utair totals more than 350 helicopters. The UTair Aviation customer base in Russia is concentrated in the oil and gas sectors. Cooperation with this branch of industry is traditional for helicopter companies, whose appearance and development over the past

decades was stimulated by oil and gas exploration. Now foreign companies are involved in implementation of many projects for oil and gas production in Russia and joint ventures are created. Thus foreign participants introduce international standards applied abroad for flight safety and quality control. New standards for aircraft, flight personnel and maintenance are required. Maintenance needs of



**UTair is planning to use the EC175 in one of the most dynamic segments of helicopter operations to date: airborne support operations for coastal shelf oil and gas companies**

foreign oil companies leads to Mi-8 helicopter replacement with its variants: Mi-8 MTV, Mi-8 AMT, and also on Mi-171. UTair has also begun fulfilling a contract to provide personnel training for piloting control and service of 20 Agusta Westland AW139 helicopters. Additionally, UTair will establish an authorized service centre for the AW139. Domestic Ka-32A11BC helicopters acquired by the company are targeted for the European hi-tech market. It's anticipated

that these helicopters will be in high demand.

UTair is planning to use the EC175 in one of the most dynamic segments of helicopter operations to date: airborne support operations for coastal shelf oil and gas companies. These are the so-called "offshore operations" that require frequent passenger and freight transportation to and from the platforms. UTair is going to use the EC175 helicopter outside Russia, in those countries where the competition in the market of helicopter services is high.

In search of new business opportunities, UTair entered the international market at the beginning of 1990s. At that time there were projects in Africa specified in peace-keeping contracts with the United Nations. At the present time, UTair is one of the primary suppliers of transport services for the UN. Last year, for example, 70 aircraft and about 2,000 UTair staff members were involved in missions for this international organization. Presently, 37 UTair airplanes and helicopters work in Sudan, Southern Sudan, Congo, Sierra Leone, Liberia, Cote d' Ivoire and Afghanistan. This represents

51 crews, which is more than 300 people including technicians.

Beyond the UN contracts, in order to increase and diversify the client base, UTair is attracting commercial clients in Eastern Europe, South America, India and the Republic of South Africa. In the future, UTair will develop foreign subsidiary companies and will consider purchasing other new assets abroad.

For nine years, UTair Europe has been performing unique and difficult projects. Towers for mobile telephone operators, lifts for European ski resorts, power transmission towers, conditioners and logos of world companies on high-rise buildings—all this was mounted, constructed and renovated by means of UTair Europe.

In another region — South America — UTair has formed a joint venture in Brazil and work will begin soon at the oil company's request. In Brazil — a striking example—oil extraction is growing annually and there is a need for helicopter equipment and specialists. Such steps are possible in South East Asia, a market the company is approaching via its division in India.

