



A Rotor Trip East



**Helicopter-Industry:
Going East and Coming West**



Great Resources



Above: Kazan Ansat



Kamov Ka-226 (Air Rescue)



Kazan Aktai



Kamov Ka-115

In this issue we are taking a brief look at worldwide co-operations and joint ventures that are increasingly part of the eastern European and Russian helicopter industries. Western companies and corporations acting as both customer and/or supplier are obviously convinced of the works' and products' high quality standards in eastern Europe.

Readiness to experiment and the fun of developing new ideas are characteristics that still describe the helicopter industry in those nations (maybe even more than before). The engineers are open for new thoughts and concepts, and have repeatedly shown the courage to take at least some of these ideas from the drawing boards and computer design systems to realize them despite an almost constant and disrupting lack of funds. They certainly deserve the respect their Western colleagues pay their efforts.

New Standards

However, even the designs that take all the hurdles of R&D and become actual prototypes are still a (much too long) way off any serial production. The barriers to break down before new ideas can actually enter serial production are strong. The old (and by no means inherently bad) concepts of robustness and simplicity still prevail despite too high TCO (e. g. due to fuel inefficient engines) and entirely unacceptable environmental impacts (e. g. high noise emissions). On the other hand the dazzling sales numbers (Mi-24: 3,000; Mi-2: 5,500; Mi-8/Mi-17: 12,000) seem to prove those concepts right. But in fact, most of these numbers were reached in a system of dependent nations, not on a market with open competition. New types and models introduced on the international market have to take international standards in all areas into account, and while still providing robustness and simplicity have to do this at quite another level of technology.

Today's existing market for operators is stabilized almost exclusively by the price tag. Market leader in crisis or developing regions, where simple transport missions are the daily business, is no doubt the Mi-8/Mi-17 family against which new and modern Western helicopters do not stand much of a chance. They are simply too expensive to acquire for local operators. But requirements are growing, as the example of the Sudan shows, where the Swiss operator HELOG is flying hi-tech Puma helicopters for the United Nations. Manufacturers and design bureau like Mil, Kazan, Kamov, Rosvertol and PZL Swidnik have recognized this trend. Not only are upgrade programs underway for almost all their models, but a new generation of helicopters is on or almost on the production lines. They are not necessarily following western role models, but the manufacturers are going to comply with western standards and requirements by integrating selected western components. This is especially the case for engines, sensors and avionics (glass cockpits). The Russian AP-29 regulations are harmonized with FAR part 29 regs to facilitate certification in the US and Europe.

Obstructions

Even though EUROMIL, the joint venture of Eurocopter, Kazan Helicopters and Mil to design and build the Mi-38, was slowed down "for reasons of state", reasons such as these will have to be overcome in the future. State directives, even if they seem indispensable now to the state, will have to take international customs into consideration, if joint ventures are to be successful. Likewise, western companies have to take eastern practices into account. They may also have to realize that their much practiced and successful sales policy of "you buy our helicopters and we'll manufacture them in your country" might not (yet) work in Russia or other eastern European nations. Policies of national autonomy and independence, the limitation of western ownership, and the enormous capacities of their own helicopters' industrial base will most likely make the desired participation in such ventures for western companies difficult for some time.



Mi-38 (Transport/Passenger)



New military designs and upgrades
 Left: Mi-17V-5 (multi-purpose)
 Above: Ka-60 (Fenestron)
 Right: Mi-28N (Combat Night)



Heavy Lift Expertise

On the other hand, this potential and these capacities could be of use even in e. g. the development and later in the production of a future Heavy Transport Helicopter (HTH) currently under consideration in a number of countries. It might be a political nightmare for some, but it is indisputable that with the Mi-26, the largest helicopter with the highest payload in service in the world, and other models Kazan and Mil have considerable experience with heavy lift helicopters. The Mi-38, that is to be the successor of the immensely successful Mi-8, does not come near the requirements of the HTH (and was never intended to), but compliance with JAR 29, Pratt & Whitney turbines, cockpit avionics by Sextant Avionique,



PZL Swidnik SW-4

as well as a six-blade fiber glass main rotor prove a new flexibility and the readiness to adopt western standards.

Another example for this is the Mi-17 upgrade program that integrates many western components such as FLIR, Pratt & Whitney turbines, a new transmission, and especially new avionics from Honeywell, Goodrich, Canadian Marconi, Trimble Navigation, and Transicoil – and will meet the FAR part 29 requirements.

Engines and Turbines

Kamov Helicopters has signed an agreement with Turbomeca to equip the Ka-226 and the Ka-115 with the Arrius 2G engine. Plans to co-produce the Arrius 2G and ensure after-market services and product support in Russia are being studied. But Turbomeca is not the only engine manufacturer co-operating with eastern European partners.

Rolls-Royce

- Model 250 in Kamov Ka-226
- Model 250 in PZL Swidnik SW-4

Pratt & Whitney

- PW-270K in Kazan Ansat
- PW-127T/S in Mi-38
- PW-127 in Mi-17

Lycoming

- HIO-360 FIAD (Piston) in Mi-60

Besides integrating western turbines in the new Ka-226, the Korean operated Ka-32 uses an Simplex onboard container for fire-fighting missions (4 tons capacity). Simplex has developed this container specifically for the Ka-32.

PZL Swidnik

AgustaWestland is showing its confidence in the abilities and expertise of the Polish manufacturer PZL in yet another way. PZL manufacturers forward, center and rear fuselages, tail booms, and vertical fins for the A109 helicopters, and the AB139. It is definitely worth mentioning that part of the AB139's fuselage has been designed by PZL's R&D department.

Eurocopter

Eurocopter has recently signed a three year contract with Heli Invest in Poland to create a maintenance center for EC 120 and EC 130 helicopters, and to promote customer services. Part 145 approval by the EASA is expected this year.

Eurocopter's cooperation with IAR Brasov, a Romanian aircraft manufacturer, aims for a modern competence center specializing in retrofits and maintenance for Eurocopter's range of first generation helicopters (Puma, Alouette, BO 105). Support for the renewal of Romania's helicopter fleet is another field of operation.

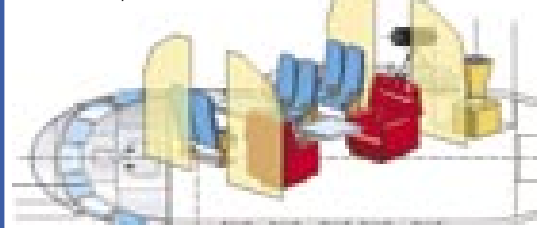
Conclusions

Business ties in the rotorcraft industries between eastern and western partners are becoming more and more common where integration of products is concerned, but true co-operations still appear to be difficult, depending on the respective national policies. However, if companies want to enter the opening markets, be they in the east or in the west, current problems will have to be solved. As this prerequisite is evident to all involved, this is most likely just a question of time.

Self-Design

New ways of reaching potential customers are implemented, too. The prospective owner of a new Mi-17 can design the helicopter's color scheme in almost any way he likes and decide on the layout of the cabin on his PC in his office. The "Configurator", a program on the company's CD allows to try out any combination one likes.

Our picture shows the new ROTORBLATT helicopter in its VIP configuration for the editorial team including two plush lounge chairs for the publisher and editorial director



The HeliCenter 2006 – the special helicopter tradeshow within the ILA Berlin Air Show – is shaping up promisingly. No aerospace event offers a better setting for EAST-WEST-EAST trading.

Besides the exhibition, company presentations, and the static display showing about 60 helicopters and other rotorcraft, a special Air Rescue day and a number of conferences will be held with and for the experts and specialists in rotorcraft industry, organisations, operations and R&D.

Currently under consideration as possible topics for the conferences are:

- Putting the Helicopter to Work: Showing the helicopter's capabilities in aerial work
- Helping with the Helicopter: The helicopter as the indispensable tool to bring humanitarian aid in disaster regions all over the world
- VUAV – Opportunities and Obstacles: Usage of VUAV in military and non-military environments and missions
- Heavy Transport Helicopter: Final requirements, contenders, possible east-west co-operations

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