

Polish combat aviation - maintaining the illusion?

In view of the developments in Ukraine related to the illegal annexation of Crimea by Russia and the struggles between the Ukrainian armed forces and the Moscow-backed separatists in the east of the country, it seems necessary to accelerate the process of modernization of the Polish Armed Forces in order to improve Poland's security. Adopted in December 2012, the Plan of Technical Modernisation of the Armed Forces 2013-2022 was developed in a different political context. Due to the depletion of service life of parts of aircraft currently used by the Polish Air Force, it is also necessary to discuss the future of the Polish military air force, which is still largely represented by a significant portion of obsolete post-Soviet planes, such as the Su-22, and the MiG-29, purchased in the late 1980s and early 1990s.

Replacement of Su-22

In 2014, Polish Su-22 will celebrate the 30th anniversary of its entry into service of the Polish Armed Forces. Poland has purchased a total of 110 of these aircraft in combat version (90 SU-22M4), and training-combat (20 SU-22UM3K). In addition to the Polish Air Force, with 32 Su-22 aircraft, they are also used by the air forces of Angola, Syria,

Vietnam and Yemen. The design, from the turn of the 1970s, has aged considerably, and the Polish machines have never been modernized. Although the pilots have certain amount of sentiment for them, the combat potential of aircraft produced in the 1980s raises a lot of doubts. Depleted service life of airframe and armament, and the lack of basic facilities such as on-board radar, put a question mark over their continued operation.

Contrary to earlier announcements, in February 2014 the Ministry of National Defence declared a desire to maintain the Su-22 in the Air Force and provide the necessary, basic

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modernization including installation of new radio stations, as well as more modern reconnaissance systems (IFF, Identification Friend or Foe). The reinforcement of aircraft by Wojskowe Zakłady Lotnicze No. 2 in Bydgoszcz (an aviation repair company) is to enable their continued service over the next 10 years. The representatives of the Ministry of National Defense (MoD) ensure that Poland has adequate reserves of efficient armament for Su-22 aircraft, including about 200 pieces of laser-guided CH-25/29 missiles. The possibility of a possible integration of a new type of weaponry is not taken into account because it would generate too much cost.

The current vision of the MoD is different from the previously disclosed information and plans for the withdrawal of Su-22 aircraft. In accordance with applicable service life, the aircraft were about to complete service by 2015. The already outdated plans assumed their replacement by a squadron of multi-role aircraft – most likely the F-16. It can be assumed that the MoD's further analysis showed the lack of a smooth transition to a new type of aircraft while maintaining the trained staff. The new multi-role aircraft squadron was to enter service in 2019. This means that the Armed Forces would have four years to modernize the infrastructure of airports and start the process of training pilots. The current limitations of equipment and infrastructure allow the complete basic training of just four F-16 pilots per year. For this reason, the provision of the necessary personnel to support the new squadron of multi-role combat aircraft would be possible only in cooperation with the United States.

In April 2014, the Ministry of National Defence announced that 18 Su-22 aircraft will remain in operation for the next 10 years. It should be noted that in October 2013, the position of MoD was different (Secretary of State in the Ministry Czesław Mroczek, in response to a statement made by Senator Sławomir Preiss on October 3, 2013, noted that the continued operation is unprofitable due to "operational-economic" reasons). Critical opinions in relation to the MoD plans were expressed by the Polish Industrial Lobby (PIL). As announced by the Minister of National Defence Tomasz Siemoniak in the 21st Tactical Air Base in Świdwin, 12 combat aircraft and 6 training-combat aircraft will remain there. According to the PIL this number is insufficient for both operational and training reasons. The efficiency index for Su-22 aircraft in Su-22M4 version is about 70 percent. This means that only 8 to 9 aircraft dedicated to combat purposes will be capable of conducting flights. It should be emphasized that, because of the responsibilities associated with the protection

of airspace, reconnaissance and training activities, it is necessary to maintain full readiness of six aircraft. Consequently, to participate in national and international exercises only two or three Su-22M4 aircraft remain. PIL recommends, therefore, the prolonging of the use of at least 22 Su-22 aircraft (the option of maintaining all 32 machines is presented as the most adequate). This would ensure a higher level of training of pilots for the new aircraft, as well as guarantee full utilization of existing human resources - both pilots and maintenance personnel.

On the other hand, the concept of continued use of the Su-22 in the Polish Air Force is controversial. Already in 2012, the publisher of the military magazine "Skrzydla Polska" Tomasz Hypki criticized the MoD for maintaining the illusionary capabilities of the Air Force in the form of 32 Su-22 aircraft, calling at the same time for concentrating the efforts of the Ministry and the Polish defense industry to replace them, e.g. by unmanned combat aircraft. This idea is also not free from controversy. Drones are undeniably the future of military aviation, but are not able to completely replace the traditional, manned aircraft for battlefield support. The reason for this is that they still have limited options in terms of carrying weapons.

The decision to extend the life of Su-22 coincides with the ending in 2014 of modernization works of MiG-29 aircraft, which are stationed in the 23rd Tactical Air Base in Minsk Mazowiecki (the equipment reinforcement of the Minsk aircraft includes the installation of modern avionics with the MIL-STD-1553 data bus, a new multi-function display, mission computer, as well as additional radios AN/ARC-210 Talon). The equipment reinforcement is also needed in a squadron of the 22nd Tactical Air Base in Malbork, where there are already exploited MiG-29 taken from the German Air Force in 2003-2004. The modernization work that has been carried out so far and the transition to operation by the technical condition allow continued use of the two squadrons of MiG-29 aircraft until 2028. Due to the close deadline for the withdrawal of both the MiG-29 and Su-22 it can be assumed that in the longer term MoD would announce a bid for new generation aircraft.

The fifth generation aircraft in the Polish Air Force – a dream or real project?

A turning point in the context of the modernization of the Air Force may be the statement by the Deputy Inspector General of the Air Force Tomasz Drewniak, who said that the extension in Su-22 operating is associated with the planned purchase of multi-role 5th generation aircraft. According to Gen. Drewniak, Ministry of Defence would replace

the current aircraft constructed by the Soviets with aircraft designed in stealth technology, so most likely the F-35 Lightning II. This information has not been included in the non-confidential parts of the current Technical Modernisation Plan for the years 2013-2022. Deliveries would begin in 2022 and continue until 2030, and thus after the withdrawal of the last MiG-29 and Su-22.

The announcement of the purchase of the 5th generation aircraft received wide coverage in the media. However, there is no binding decision made by the MoD, and the financial estimates made by Gen. Drewniak, unsupported by objective data, cast doubt on the entire project. Assuming that Poland in the future intends to maintain seven tactical aviation squadrons, the replacement of combat aircraft of the 1st Wing of Tactical Air Force in a 1:1 ratio would be necessary. That is in fact the purchase of 4 squadrons of combat aircraft (64 pieces), which may exceed Poland's financial capacity. Because it is clear that the Air Force will not have access to other designs of the 5th generation (except the F-35 represented only by the F-22, whose production ended, the Russian PAK FA and the Chinese Chengdu J-20 and Shenyang J-31), the project should be considered primarily in terms of the purchase of American F-35 Lightning II. An aircraft built by Lockheed Martin, in the future, is to be the backbone of U.S military (United States Air Force, United States Marine Corps and United States Navy), as well as other participants in the Joint Strike Fighter program co-financing the development of the F-35. This concept should be considered, and this must be preceded by a detailed military and financial analysis. If the Air Force were to join the ranks of F-35 users, it would be the largest acquisition in the history of the Polish Armed Forces. The scale of expenditures can be seen in the modernization projects of other countries involved in the JSF program. In April 2014, the Australian government of Tony Abbott approved a plan to purchase 58 F-35 (the purchase of 14 pieces was approved in 2009), which assumes that spending will amount to at least 14 billion dollars. It can be assumed that due to the limited number of suppliers of 5th generation aircraft, a hypothetical bid will also allow 4.5th generation aircraft, so the Eurofighter Typhoon, Dassault Rafale and Saab JAS F3 39E / F Gripen (due to the end of the production cycle of F/A- 18E / F and F-16E / F, European aircraft will be the only competition for the F-35).

In the coming years, it will be necessary to carry out multi-faceted analyses of the strategy to replace obsolete Soviet aircraft. Expertise should take into account not only the combat

capabilities of the acquired aircraft, but most of all Poland's financial possibilities. Implementation of this program requires securing the resources today. Therefore, one of the priorities of policy makers should be to determine an optimal form of financing of the project in the future.

Conclusions and recommendations

1. Maintenance of real combat capabilities of aircraft used by the Polish Air Force should be one of the priorities of the Ministry of National Defense. It is necessary to realize the modernization of aircraft currently in use, but also conduct in-depth analysis of the requirements of the Air Force for a new multi-purpose combat aircraft.
2. The Russo-Ukrainian conflict requires the Polish authorities to revise its modernization policy. In the near future, it will be necessary to define the operational needs of the Air Force, as well as exploring the possibility of funding future modernization projects.
3. The Polish Air Force now operate four squadrons (64 machines) of older generation combat aircraft. The continued capacity of Su-22 and MiG-29 requires prompt decisions – in terms of both further renovation and modernization work and planning future purchase of a new generation multi-role aircraft.
4. The bid for the new multi-role aircraft should be preceded by a multi-layered analysis which takes into account the long-term perspective of the use of new equipment (combat capability and modernization potential), effective use of staff of the Air Force, as well as the optimal way to finance the program.

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