

Air pool

In the last of a two-part feature on the Belarusian Air Force and Air Defence, **Patrick Roegies, Stefan Goossens** and **Erwin van Dijkman** examine the air arm's fortunes following the merger of the air force and air defence force and assess the current order of battle.



On December 21, 2001, the Air Force (VPS) and the Air Defence Forces (VSPA) of Belarus were merged into a unified air defence force – the Belarusian Air Force and Air Defence (VPS i VSPA in Belarusian, or VVS i VPVO in Russian). Early the following year saw the creation of two operational tactical commands (OTC), the Western and the Northwestern, which paralleled the OTCs of the ground forces; each was apparently assigned one fighter aviation base. At the end of 2002, the 61st Fighter Aviation Base was under the Western OTC, while the 927th Fighter Aviation Base was under the Northwestern OTC. The HQ of the Western OTC was based at Baranovichi, which covered the western and southern parts of Belarus, and the HQ of the Northwestern OTC was at Machulishchy, covering the northern, central and eastern parts of the country. The remaining aviation bases were

apparently directly subordinated to the VPS i VSPA Command.

The air force structure itself did not change and the remaining operational air bases as of the 2001 merger were as follows:

The reformed VPS i VSPA inventory included Su-24M/MR, Su-25/UB, Su-27P/UB, MiG-23MLD/UB, MiG-29/UB, Il-22, An-12, An-26, An-24, Il-76MD, Tu-134, Tu-154, Mi-24,

Mi-8, Mi-6 and Mi-26 aircraft. Some of these, although listed among the air bases' inventories, were undergoing overhaul, in storage due to a lack of spare parts, or (like the MiG-23) had been simply withdrawn from service. Most of the transport aircraft had been withdrawn and soon found their way to private or state companies and many fighters were sold abroad.

Between 2001 and 2015, the VPS i VSPA was subject to continuous and significant changes. In 2002, the 65th Combat Transport Helicopter Base at Kobryn was reorganised into the 65th Independent Mixed Helicopter Squadron before being disbanded the following year and its assets transferred to other units. The Mi-8MT combat transport helicopters and Mi-8 electronic warfare variants were transferred to the 181st Combat Helicopter Base at Zaslavichy (Pruzhan). Two Mi-26s were transferred

Belarusian Air Force and Air Defence 2001

Unit	Location	Type
13th Independent Helicopter Squadron*	Babruysk	Mi-8
50th Transport Aviation Base	Machulishchy	An-12, An-24, An-26, Il-76, Il-22, Tu-134
61st Fighter Aviation Base	Baranavichy	MiG-29, Su-27
65th Combat Transport Helicopter Base	Kobryn	Mi-8, Mi-26
116th Bomber Reconnaissance Aviation Base	Ros	Su-24
181st Combat Helicopter Base	Zaslavichy (Pruzhan)	Mi-8, Mi-24
206th Assault Aviation Base	Lida	L-39, Su-25
248th Independent Helicopter Squadron for Special Assignments	Minsk-Lipki (also known as Minsk-Stepyanka)	Mi-8, Mi-26
276th Combat Helicopter Base	Barawtsy (Baravukha-1)	Mi-8, Mi-24
927th Fighter Aviation Base	Osovtsy (Byaroza)	MiG-29

* Formed in 1994 as the 13th Independent Helicopter Squadron for Combat Control and equipped with airborne command posts variants of the Mi-6 and Mi-8. It was disbanded in 2002 and all stored Mi-6s were scrapped in situ, while its Mi-8s were redistributed among other units.

Power *Between Russia and the West*



Above: A pair of single-seat Belarusian Su-25s – '21 White' and '32 White' – take part in a military parade over Minsk last July 3, celebrating 75 years since the country was liberated from Nazi occupation. The future of the 'Frogfoot' is unclear; there's currently no modernisation programme for the remaining fleet and no replacement aircraft has been selected. Tom Feline
Below: The first two Su-30SM fighters, '01 Red' and '02 Red', arrived at Baranavichy air base in November 2019. According to the original contract, deliveries of the 12 jets were due to commence in 2018 but were delayed due to a lack of foreign components, supplies of which were hampered by Western embargo. Belarus MoD



to the Ministry of Emergency Situations based at Minsk-Lipki and the remaining examples of the type were transferred to the 50th Mixed Aviation Base at Machulishchy. The latter was created on August 30, 2002, from the previous 50th Transport Aviation Base – it took

over the equipment and personnel from the 248th Independent Helicopter Squadron for Special Assignments at Lipki, which was disbanded the same year.

On February 23, 2002, the 276th Combat Helicopter Base was disbanded and its assets

transferred to the 181st Combat Helicopter Base, some of the helicopters being cannibalised to keep the remaining fleet in operational condition.

With a shortage in training capacity, the first two L-39C trainers were delivered in

December 2005 from the Chuhuyiv Aircraft Repair Plant in Ukraine; another three were delivered the next month. Five more were handed over by the Odessa Aircraft Repair Plant in a similar timeframe. These aircraft were all ex-Ukrainian Air Force aircraft. All ten were assigned to the 206th Assault Aviation Base at Lida. Originally, Belarus had ambitious plans to acquire up to 36 L-39s, but these were eventually shelved for financial reasons.

The next reform in July 2010 led to the disbandment of the 116th Guards Radom Red Banner Assault Aviation Base at Ros, which closed down as an active airfield. The Su-24M and Su-24MR aircraft were all transferred to the 206th Assault Aviation Base at Lida, which was renamed as the 116th Guards Radom Red Banner Assault Aviation Base. The flight training squadron with ten L-39s went to form the separate 206th Flight Training Centre – a

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1: Belarus has already explored the full combat capabilities of the Yak-130, including launches of R-73 (AA-11 'Archer') missiles against parachute targets and drops of live KAB-500Kr TV-guided bombs. The aircraft are likely equipped with the indigenous Talisman-NT twin-pod wingtip-mounted radar jamming system. Patrick Roegies **2:** Only two An-26s now remain operational within the VPS i VSPA. At least one - EW-007DD, the sole An-26AFS aerial survey and photography aircraft - was overhauled in Rostov in late 2010 and was redelivered to Belarus in summer 2011. Patrick Roegies **3:** While new Mi-8MTV-5 helicopters have been delivered to overhaul the rotary fleet, the number of aircraft to be acquired remains unclear. This example, '87 White', is equipped with the L-370E8-6BV Vitebsk self-defence suite. This consists of four UV warning sensors fitted at the tips of the weapons outriggers, three directional IR jammers, plus flare launchers. Patrick Roegies

Aircraft sales

On gaining independence, Belarus inherited enormous quantities of military equipment from the former Soviet Union, including aircraft and helicopters. These were not only surplus to its own needs and - more importantly - beyond its financial resources, but also exceeded the combat aircraft limits set out by the Treaty on Conventional Armed Forces in Europe. An agreement was quickly signed with Russia for the transfer of all aircraft surplus to its needs.

In addition to all the Long-Range Aviation units and assets that were originally based in Belarus, Moscow received additional aircraft - including MiG-25 interceptors. In 1993, these were followed by a full bomber division with three Su-24 regiments (complete units, not just the aircraft). However, the deal was not one-sided - Belarus was short of modern fighters, and in May 1993 the 787th Fighter Aviation Regiment with MiG-29s was transferred from Finow air base in Germany to Ros air base, where it was disbanded on the spot and its aircraft transferred to the two remaining fighter units at Baranavichy and Osovttsy (Byaroza). At the start of 1994 both units were fully equipped with aircraft (three full squadrons) and transformed into fighter aviation bases - the 61st (with one MiG-29 squadron) and 927th (with three MiG-29 squadrons). At this point, Belarus had a surplus of MiG-29s.

Most of the surplus assets were withdrawn from use - aircraft were sent to the 558th Aircraft Storage Base at Baranavichy, while helicopters went to the 1169th Aircraft Storage Base in Luninets. The obsolete types were earmarked for scrapping, while the newer ones were offered for sale to foreign nations.

In 1996 Belarus sold 16 MiG-29s, two MiG-29UBs (the latter being ex-Russian aircraft), ten Su-25s and eight Su-25UBs to Peru, their delivery being completed the next year.

This was soon followed by the sale of two Su-24MRs to Algeria in 1997. The same year, two Mi-24Vs were sold to Sierra Leone and two Mi-24Ps to Papua New Guinea.

In 1999, 14 MiG-23s and Su-22s - originally stored at Baranavichy - were sold to Angola. The same country also bought one Su-24M bomber the following year. Also in 1999, a contract was signed for the delivery of 31 MiG-29s and MiG-29UBs to Algeria. The delivery was completed in 2002, and also included at least six ex-Russian MiG-29UBs.

In 2000 two Mi-24P gunships were sold to Ethiopia. In 2001 three Su-25s and a Su-25UB of the 206th Assault Aviation Base were sold to Macedonia via Ukraine, as well as a Su-27P to the UK - again via Ukraine.

A year later, two Mi-24Vs were sold to the Ivory Coast. In 2003 two Su-25UBs went to the same country, followed by another sale of two Su-25s in 2004 and two Mi-8s in 2005. Also in 2005, two Mi-24s were sold to Djibouti.

In 2008, 33 MiG-23s were exported to Syria and 11 Su-25s to Sudan. In 2009 and 2010, four more Su-25s went to Sudan, while starting from 2009 Azerbaijan acquired a total of 11 Su-25s (at least one of which was a two-seat Su-25UB). In 2010, two Mi-24s went to Nigeria and one to Uganda. In 2012 one of the Su-27UBMs was sold to the UK as a 'Su-30MK2B', while one more Su-25 went to Azerbaijan.

Finally, in 2013, a batch of 12 Su-24s was reportedly sold to Sudan. However, Belarus has so far confirmed delivering only four aircraft in 2013, and no more than eight have been noted.

Most recently, in February 2019, Belarus donated a batch of four MiG-29s to Serbia. Serbia will pay for their overhaul and modernisation, which will be carried out at the 558 Aircraft Repair Plant (ARZ) in Baranavichy. **Vladimir Trendafilovski**

Belarusian Air Force and Air Defence 2010

Unit	Location	Type
50th Mixed Aviation Base	Machulishchy	An-26, Il-76, Mi-8, Mi-26
61st Fighter Aviation Base	Baranavichy	MiG-29/MiG-29UB, Su-27P, Su-27UB
116th (Guards) Assault Aviation Base	Lida	Su-24M/Su-24MR, Su-25, Su-25UB
181st Combat Helicopter Base	Zasimavichy (Pruzhan)	Mi-8, Mi-24
206th Flight Training Centre	Lida	L-39C
927th UAV Training Centre*	Osovttsy (Byaroza)	Irkut-3/Irkut-10 UAV

* Directly subordinated to the Belarus Armed Forces General Staff, and not officially an air force unit.

separate unit that subsequently merged with the 116th.

On August 24, 2010 the 927th Fighter Aviation Base at Osovttsy (Byaroza) was re-formed as the 927th UAV Training Centre of the Armed Forces General Staff; it received Irkut-3 and Irkut-10 drones the following year. Its MiG-29s and MiG-29UBs were transferred to Baranavichy, the non-upgraded *Fulcrums* being flown until their operational hours were expended, after which they were withdrawn

from use and stored at the base.

The VPS i VSPA was now operating from five remaining air bases (see table above).

In 2010, the first eight Su-24s were withdrawn from use. In February 2012, the remaining 34 Su-24Ms and Su-24MRs were also retired due to high operating costs. The aircraft were moved to the 558th Aircraft Storage Base at Baranavichy and eight were later confirmed transferred to Sudan (see Aircraft sales).



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DOSAAF

The Voluntary Society of Assistance to the Army, the Air Force and the Navy of the Republic of Belarus (DOSAAF) is very active and provides aviation enthusiasts with the opportunity to obtain a flying licence and engage in sports and flying activities. The

DOSAAF is organised regionally and makes use of six airfields: Babruysk-Syckava, Brest, Mogilev-Novaja Pasjkava, Minsk-Lipki, Rahachow and Vitebsk-Novakukavyachyna. Each facility offers different specialisations including gliding or parachuting.

The DOSAAF operates An-2, Mi-2, Yak-52, Yak-55 and PZL Wilga 35A aircraft and Jantar and Blanik gliders. While airfields are fairly busy in the summer months, the Yaks, Wilgas and gliders are kept in storage over winter.



The DOSAAF base at Minsk-Lipki operates various Mi-2 helicopters including EW-029AO in Belarusian national colours. The fleet of aircraft was largely inherited from the Soviet era, but is kept in good condition. Patrick Roegies

In December 2012, in a surprising move, the 17 Su-27Ps and four Su-27UBMs were also stood down: these were the force's most recently acquired and capable fighters. Thereafter, the MiG-29 became the primary air defence fighter. The Su-27s had been due for a lifetime extension programme including several systems upgrades, but the budget was lacking.

With yet another significant reduction of the operational inventory, in autumn 2014 the existing structure of Northern and Northwestern OTCs was disbanded.

Refurbishment and modernisation programmes for the MiG-29 and Su-25 were begun by the 558 Aircraft Repair Plant (ARZ) at Baranavichy and, in April 2014, two Su-25UB trainers upgraded to Su-25UBM standard were redelivered. Eight MiG-29s brought up to MiG-29BM standard

had been returned to service by November 2015, together with three modernised MiG-29UBM trainers. A handover ceremony took place at Baranavichy on December 1, 2015.

The overhauled *Fulcrums* received a cockpit video system to record in-flight parameters and gained the ability to use RVV-AE (R-77, AA-12 *Adder*) and R-27ER/ET (AA-10 *Alamo*) medium-range air-to-air missiles, as well as guided bombs. The fighters were also equipped with an indigenous Satelit self-protection jammer.

On November 1, 2014, the 206th Flight Training Centre was integrated within the 116th (Guards) Assault Aviation Base.

An initial batch of four Yak-130 trainers were purchased in 2011 and delivered in 2015. On May 29, 2015, another combat training squadron was formed, equipped with newly delivered Yak-130s. The second batch was delivered on November 23, 2016,

and the third consignment of four aircraft was handed over last May 11. Currently, the L-39s operate alongside the Yak-130s and at least two of the Albatros were overhauled in Ukraine in 2015-16.

In November 2015, the 181st Combat Helicopter Base was disbanded, and its helicopters transferred from Zaslavichy (Pruzhany) to Machulishchy to be integrated in the 50th Mixed Aviation Base. The changes also included formation of a third squadron equipped with around 18 Mi-24s and six Mi-8s, plus 12 additional crews.

The number of fixed-wing transports was also reduced significantly. Only two Il-76s remain operational today, of which at least one was overhauled at the 360 ARZ at Zhukovsky, Russia, where work was completed in December 2016. There are also only two surviving operational An-26s; at least one was overhauled in Rostov, Russia, in 2010.

A squadron of An-2s was inherited at Borovtsy and used for paratrooper training for airborne troops. These biplanes appear to have been withdrawn from use relatively soon after independence and the unit disbanded in the early 1990s.

Due to the reorganisations between 2001 and 2014, aircraft numbers were decreased significantly. All aircraft withdrawn from use were sent to the main storage facility or prepared for sale to foreign customers.

Local upgrades

In April 2014, it was announced that all future modernisation and upgrade programmes for the VPS i VSPA were to be undertaken domestically. The same year, Belarus teamed up with the Ukrainian company Motor Sich to develop the Mi-8MSB modernisation programme. An initial batch of five Mi-8s were



1: A modest number of 'Hinds' have been upgraded by the Orsha ARZ. However, the current status of the Mi-24V fleet remains unclear. While at least a pair each of the Mi-24K, Mi-24P and Mi-24R variants are all flying with the 50th Mixed Aviation Base at Machulishchy, the older Mi-24Vs are probably in storage. Patrick Roegies **2:** The 558 ARZ has undertaken refurbishment and modernisation programmes for the Su-25 and MiG-29. In April 2014, a pair of upgraded two-seat Su-25UBM trainers - '83 White' and '84 White' - were redelivered to the VPS i VSPA and assigned to the 116th Guards Assault Aviation Base at Lida. Patrick Roegies **3:** The 927th Fighter Aviation Base at Osovtsy (Byaroza) was disbanded in 2010 and all remaining active MiG-29s concentrated at the 61st Fighter Aviation Base at Baranavichy. During the past decade only a handful of these aircraft have been put through an extensive overhaul programme to keep the survivors operational. With the arrival of the Su-30SM, the remaining 'Fulcrums' are likely to be withdrawn. Patrick Roegies



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Ministry of Emergency Situations

The Ministry of Emergency Situations of Belarus (MChS) has its own fleet of aircraft. Most notable is the Mi-26 helicopter, which the MChS kept operating after the air force had withdrawn the type. The *Halo* is often used for heavy-lifting and firefighting tasks, including abroad. Other aircraft include a diminishing fleet of An-2s and Mi-2s, a handful of Il-103 trainers, plus AS355NP and Mi-8MT helicopters. The AS355s were formerly operated by the Border Guards. The main MChS base is at Minsk-Lipki, co-located with the DOSAAF unit that moved here from Minsk-Baravaya. Another important hub is at Vitsyebsk-Uskhodni.

brought up to this standard. Another ten were planned to undergo the upgrade and work began the same year at the Orsha Aircraft Repair Plant (ARZ) in co-operation with Motor Sich.

A modest number of Mi-24s have also been upgraded at Orsha ARZ, where a Mi-24R was flight tested with TV3-117VMA-SBM1V-02 engines manufactured by Motor Sich. Flight tests were also conducted with a Mi-24V equipped with TV3-117VMA-SBM1V engines from the same company. The re-engined Mi-24V demonstrated significantly improved performance, including speed and rate of climb.

There were also further plans to modernise Mi-2s to the MSB-2 standard, again with support from Motor Sich. The military version, designated MSB-2MO, was

envisaged in three sub-versions: anti-tank, reconnaissance and ship-based. However, on May 15, 2018, a criminal case was initiated against the former general director of the Orsha ARZ and Motor Sich officials. The board of directors was fired, Orsha ARZ returned to state control and the Mi-8MSB and MSB-2 projects were cancelled.

Instead, the Belarusian government decided to purchase new helicopters and withdraw the ageing Mi-8s that were in need of overhaul. On June 16, 2015, Russian Helicopters announced that a contract had been signed with the Belarusian defence ministry for delivery of 12 Mi-8MTV-5 helicopters between 2016 and 2017. At least two were delivered on October 19, 2016, with the remainder arriving by the following April 11.

Current order of battle

Today, the VPS i VSPA operates from three remaining active air bases. These are Baranavichy, Lida, Machulishchy, while the recently acquired Irkut UAVs are assigned to the 927th UAV Training Centre at Osovtsy (Byaroza). In addition, there are reserve air bases with no permanently based aircraft that are kept in operational condition, with on-base infrastructure and personnel.

Due to the limited availability of assets and budget, VPS i VSPA aircrew record, on average, fewer than the required 100 hours. Between 2000 and 2005, average flight hours were approximately ten to 15 hours per year, which increased to around 30-35 per year between 2005 and 2010. Since then, the figures have further increased to 70-80 hours annually.



With the introduction of the Yak-130, some expected that the L-39C's days would be numbered. However, at least two examples underwent recent refurbishment in Ukraine, suggesting at least a portion of the Albatros fleet will remain in active service for the time being. Patrick Roegies



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Belarusian Air Force and Air Defence 2019

Unit	Location	Type
50th Mixed Aviation Base	Machulishchy	An-26, Il-76, Mi-8, Mi-24
116th Guards Assault Aviation Base	Lida	L-39, Yak-130, Su-25
61st Fighter Aviation Base	Baranavichy	MiG-29
927th UAV Training Centre*	Osovtsy (Byaroza)	Irkut-10 UAV

* Directly subordinated to the Belarus Armed Forces General Staff.

The VPS i VSPA took delivery of its first pair of Su-30SM multi-role fighters in November (see Russia & CIS, p20). Currently, 12 Su-30SMs are on order and deliveries are expected to be completed by 2021; these will likely replace the ageing MiG-29s. According to unconfirmed sources, around 11 MiG-29s are still in operational service and their remaining lifetime will mainly depend on the cost per hour compared with the new Su-30SM.

In the last decade, Russia has submitted several requests to use

at least one forward air base on Belarusian territory. In 2013, the Russian defence minister Sergei Shoigu announced plans to forward deploy military aircraft in Belarus and a detachment of Su-27s from Besovets was temporarily based there in December 2013. In January 2018, several media reports in Russia and Belarus stated that a Russian Aerospace Forces regiment previously intended to be based in Belarus would instead be located in Russia's western exclave of Kaliningrad.

Conclusion

Integration of the Su-30 within the VPS i VSPA will considerably enhance its capabilities and provide an effective complement to ground-based air defence systems such as the S-300, S-400, Buk-M2 and Tor.

The future of the Su-25 remains unclear. There are currently no modernisation plans for the remaining fleet of aircraft and no replacement aircraft has been specified.

Examples of the Mi-24P, Mi-24K and Mi-24R are all still flying with the 50th Mixed Aviation Base at Machulishchy. At least two of each variant are operational, having been noted flying in the last few years after recent overhauls.

The older Mi-24Vs are

probably in storage.

A large number of Mi-8s have also recently been noted stored at the same base. As of 2019, the air arm listed four Mi-26s on strength.

While Belarus has repeatedly refused to provide Russia with an air base within its borders, it remains in Moscow's interest to strengthen the VPS i VSPA's ability to defend its airspace – and thus prevent possible adversaries from attacking Russia through Belarusian territory.

In future, aircraft replacements and modernisation programmes will depend on the availability of sufficient funds, which will likely remain hard to come by in the short term at least. **AFM**



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