

Against the NATO's

Portugal's geographical position is far from the world's current trouble spots, yet it retains a credible air force, prepared for any threat, as **José Matos** reveals.



CELEBRATING ITS 65th anniversary in 2017, the primary tasks of today's Força Aérea Portuguesa (FAP; Portuguese Air Force) include maintaining air superiority in areas vital to national defence, controlling the country's airspace, defending national territory against air attack, destroying or suppressing enemy forces, operating in support of ground and naval forces, providing air

transport, search and rescue, fisheries patrol and supporting international missions.

The FAP's assets are distributed throughout mainland Portugal, as well as the islands of the Azores and Madeira. The air force has 100 aircraft and approximately 6,800 personnel, and its units fall under the direct control of the Air Force Chief of Staff, who is responsible to the Minister of National Defence.

The Portuguese Air Force Air Command at Monsanto, Lisbon, operates a network of four radar stations (Fóia, Pilar, Montejunto and Arieiro) and has two F-16 fighter squadrons based at Monte Real's Base Aérea (BA; Air Base) 5 in central Portugal. These form the FAP's main combat element.

Peace Atlantis F-16s

Portugal joined the F-16 'club' in July 1994 when its first four jets arrived at Monte Real under the Peace Atlantis I programme. They were among 20 new-build aircraft equipped with Pratt & Whitney F100-PW-220C engines taken from US Air Force stocks, thoroughly inspected and updated to -220E specification.

Odds

Southern Guard



Left: The Portuguese Air Force maintains a pair of F-16AMs on quick reaction alert (QRA) at Monte Real and the fighters have participated in Baltic Air Policing. Bartek Bera

Below: Portuguese Air Force Chief of Staff Gen Manuel Teixeira Rolo. FAP

These aircraft were in F-16A/B Block 15 Operational Capability Upgrade (OCU) configuration, ready for the Mid-Life Upgrade (MLU), as well as the Falcon Up and Falcon Star structural improvement programmes. A new unit, Esquadra 201 'Falcões', was established at Monte Real in order to receive this batch of 'Vipers'.

Portugal bought a second batch of F-16s in 1998, comprising ex-USAF aircraft that had been stored at the Aerospace Maintenance and Regeneration Center in the Arizona desert. Twenty-five were acquired, but only 16 F-16As and four F-16Bs entered service, the remainder being cannibalised for spares. Esquadra 301 'Jaguars' was formed at Monte Real to operate them.

The FAP then turned its attention to the MLU process, but it progressed slowly. The first F-16MLU unit, Esquadra 301, only became operational in November 2005, with Esquadra 201 receiving its full complement of upgraded jets in 2008.

The F-16 squadrons remain on national quick reaction alert (QRA) standby 24 hours a day and made the headlines in



FORCE REPORT Portuguese Air Force



2014 after intercepting Russian Tu-95MS strategic bombers over the Atlantic, off western Portugal. The country's air defence system detected the bombers as they approached the northwest edge of Portugal's Flight Information Region on October 30, 2014. A pair of QRA F-16s launched from BA5 to intercept, turning the Russians away from Portuguese airspace.

Life for Monte Real's F-16 pilots is usually more peaceful, however, and it is very rare to see Russian aircraft off the Portuguese coast.

'Vipers' to Romania

A group of 27 Romanian personnel from Baza 71 Aeriană (71st Air Base) at Câmpia Turzii arrived at Monte Real for training in September 2014, following a 2013 agreement for the sale of 12 Portuguese F-16s to their country. The contract stipulated that Romanian pilots and maintenance personnel would be trained in Portugal.

A peculiarity of the deal is that Portugal bought three additional F-16s from the US to include in the package, because the FAP had only nine to sell. This reduces Portugal's F-16 fleet to 30, sufficient to keep the two squadrons at Monte Real operational.

The first six jets arrived in Romania in September (see *News*, November 2016, p5), with three more due in December and the last trio in September 2017. Romania's air force will have a single F-16 squadron, and nine

Air order of battle — Força Aérea Portuguesa

Squadron	Type	Base
Esquadra 101	Epsilon	BA1 Sintra
Esquadra 103	Alpha Jet A	BA11 Beja
Esquadra 201	F-16AM/BM	BA5 Monte Real
Esquadra 301	F-16AM/BM	BA5 Monte Real
Esquadra 501	C-130H	BA6 Montijo
Esquadra 502	C295M	BA6 Montijo
Esquadra 502 (det)	C295M	BA4 Lajes
Esquadra 502 (det)	C295M	AM3 Porto Santo
Esquadra 504	Falcon 50	BA6 Montijo
Esquadra 552	Alouette III	BA11 Beja
Esquadra 552 (det)	Alouette III	AM1 Ovar
Esquadra 601	P-3C CUP+	BA11 Beja
Esquadra 751	Merlin	BA6 Montijo
Esquadra 751 (det)	Merlin	BA4 Lajes
Esquadra 751 (det)	Merlin	AM3 Porto Santo
Esquadra 802	Chipmunk Mk20	BA1 Sintra

of its pilots are already trained to fly the aircraft having completed the Monte Real course.

With the deal in full swing, including deliveries and personnel training, the FAP currently has no capacity for a similar programme, although Bulgaria is also interested in ex-Portuguese F-16s. Sofia is in the market for nine jets and Lisbon is considering buying more 'Vipers' from the US under a bilateral military co-operation agreement, carrying out the MLU and then selling the aircraft to the East European state.

The FAP has a strong engineering tradition and Portugal has focused on creating an aerospace sector capable of covering military and civilian markets as well as attracting foreign investment.



Inside an F-16AM cockpit during a Baltic Air Policing mission, shadowing a B-52H on a Global Power sortie. FAP



Right: The Portuguese fleet of Merlins has suffered due to a lack of funding, which has hit availability. FAP/Saj Domingos
Below: The Merlins are primarily tasked with search and rescue and fisheries patrol. USAF/SSgt Zachary Wolf

Lack of funds

Although its F-16 numbers 30 aircraft, during 2015 the FAP was never able to maintain more than 11 or 12 at mission-ready status — three fewer than in 2014.

The jets have flown far less than planned in the past five years, and the number of operationally ready aircraft declined from 18 to 11 between 2012 and 2015. Nevertheless, in 2016 the F-16s took on another NATO Baltic Air Policing (BAP) mission when a detachment of some 90 personnel and four fighters went to Šiauliai, Lithuania, as part of the rotating commitment.

The 'Vipers' worked alongside Royal Air Force Typhoons operating from Ämari, Estonia, during their four-month stint, which finished at



the end of August. It was Portugal's third BAP deployment, following previous duties in 2007 and 2014.

A lack of funding extends across the FAP, which reached an all-time operational low in 2015; the force's readiness throughout 2016 has yet to be assessed. Of the 100 aircraft in its 2015 inventory, only 40 were mission-ready.

Budgetary pressures have impacted aircraft maintenance, forcing the FAP to trim its available fleet. These restrictions affect some areas particularly badly, including the search and rescue (SAR) mission.

Helicopters: old and new

In December 2001, Portugal ordered 12 EH Industries



Above: Esquadra 552 is responsible for the helicopter advanced training course at Beja with the soon-to-be-retired Alouette III. FAP **Left:** P-3C Orion serial 14808 has been specially painted in Esquadra 601 markings to celebrate the unit's 30th anniversary. Here the aircraft is accompanied by Alpha Jet A serial 15228, wearing the colours of the now defunct Asas de Portugal aerobatic team. Menso van Westrhenen



Portugal has assigned C-130Hs to the United Nations Multi-dimensional Integrated Stabilization Mission in Mali. FAP

EH101 Merlin helicopters for SAR and fisheries patrol. In February 2005 the first of these aircraft arrived at BA6 in Montijo, near Lisbon, to replace Esquadra 751's ageing SA330 Pumas.

As well as the technological leap the Merlin represents, with superior systems, sensors and performance compared to its predecessor, it is capable of SAR missions extending to 350nm (650km).

In 2015, however, the Merlin fleet flew only 1,724 hours — compared to 2,145 hours the previous year — and no more than three or four helicopters were mission-ready: one at Lajes in the Azores, another at Porto Santo in Madeira and two at Montijo, home of Esquadra 751 'Pumas'.

Confronted about the Merlin situation in parliament in 2016, Minister of National Defence José Azeredo Lopes highlighted another problem: BA4 Lajes had two helicopters, but only one crew, with duties including SAR, inter-island medevac and disaster relief. The shortfall was resolved in summer 2016 when a second crew was assigned.

In June 2014 an injured man on the island of São Jorge in the Azores died before he could be

moved to a hospital because the sole Merlin crew at Lajes was conducting another rescue at the time, while BA3 Porto Santo's Merlin was grounded for want of qualified pilots.

In recent years there has been a growing trend of FAP pilots leaving to join the civil sector. Inevitably the most experienced, these airmen will have satisfied the 12-year service commitment they made on earning their wings.

The FAP now has around 100 pilots, which is insufficient for its needs, yet cannot afford the flight hours to qualify them on all its aircraft.

Pilot training

Founded at BA1 in Sintra in February 1978, the Air Force Academy (AFA) trains the FAP's regular officers. Pilot training takes five-and-a-half years, starting with elementary flying.

Cadets begin on the de Havilland Canada Chipmunk Mk20 with Esquadra 802 'Águias' before progressing to the Aérospatiale Epsilon with Esquadra 101 'Roncos'. They log at least 36 hours in the Chipmunk and 136 hours on the Epsilon.

The first Chipmunk arrived in Portugal during the 1950s and the remaining six have had a long





Above: A C295M tactical transport at work in Mali in January 2015. FAP
Below: A handful of Epsilons at Sintra are sufficient to feed the pilot training requirement. FAP



service life. Some were upgraded in 1989, but the type is not certified for instrument flying and has inverted-flight restrictions. In 2015, the fleet flew 1,148 hours.

The AFA acquired the Epsilon in the late 1980s, but from its inventory of 14 only five were airworthy in 2015. They flew 3,170 hours, sufficient to meet the academy's needs.

Fighter pilots undergo additional training on the Alpha Jet A — a

type acquired from Germany in 1993 — based at Beja, in southern Portugal, with Esquadra 103 'Caracóis'. Portugal received 50 ex-Luftwaffe Alpha Jets as payment for German use of the facilities at Beja until 1993. Only 40 were airworthy, with the remainder used for spare parts.

In October 1993, the Alpha Jets replaced Fiat G91s assigned to Esquadra 301 'Jaguars' and the T-33s and T-38 Talons of

Esquadra 103 'Caracóis'. When Esquadra 301 became an F-16 operator, Esquadra 103 continued as Portugal's only Alpha Jet unit: in 2015 its six available aircraft flew 615 hours.

Beja also hosts Esquadra 552 'Zangões', providing rotary-wing training on the venerable Alouette III, which dates from the country's colonial wars. The helicopter requires urgent replacement, but no funds, ●

Elementary flying training is still carried out on the venerable de Havilland Canada Chipmunk Mk20s of Esquadra 802 'Águias'. FAP



even for second-hand aircraft, are expected until 2018 when the FAP will decommission the Alouette III fleet.

The same fate faces the Alpha Jet, which is also designated for withdrawal. If new aircraft fail to arrive, the retirement of these two types will leave critical gaps in the FAP pilot training programme. Possible stopgap solutions include contracting pilot training to private companies or sending pilots abroad for advanced instruction.

In the meantime, two of Esquadra 552's six Alouette IIIs are kept on permanent alert for coastal SAR up to 5 miles (8km) out to sea, one based at Ovar near Porto and the other at Beja. A suitable replacement will be needed when the helicopters reach the end of their operational lives.

Also operating from Beja is Esquadra 601 'Lobos', which flies the P-3C CUP+ Orion. The unit was activated at Montijo in March 1986, when Portugal received six second-hand P-3Bs from Australia.

Lockheed upgraded the aircraft to P-3P standard, including many of the mission systems installed in the P-3C-II. The first example arrived at Montijo in August 1988, on delivery from Burbank, California, while Indústria Aeronáutica de Portugal (OGMA) modified the remainder in country. The final P-3P reached the FAP in July 1990.

In February 2008 Esquadra 601 left Montijo for Beja. Between 2010 and 2012 five ex-Dutch P-3C-II Orions arrived at Beja and underwent the Capability Upkeep Program (CUP) to P-3C CUP+ standard. Lockheed



A Falcon 50 from Esquadra 504 at Horta on Faial Island, preparing for the aeromedical evacuation of a patient to mainland Portugal. FAP

Martin carried out the first two conversions in the US, while OGMA took care of the rest. The new aircraft enabled Esquadra 601 to expand its mission set.

In 2015 the two airworthy P-3s flew 1,060 hours, the highest number since 2010. It was an improvement over 2014 when only one was operational, logging 850 hours.

Bison, elephants and lynx

The FAP's transport fleet is centred at BA6 Montijo, home to Esquadra 501 'Bisontes', equipped with the Lockheed C-130H Hercules; Esquadra 502 'Elefantes', with the Airbus Defence and Space C295M; and Esquadra 504 'Linces', operating the Dassault Falcon 50.

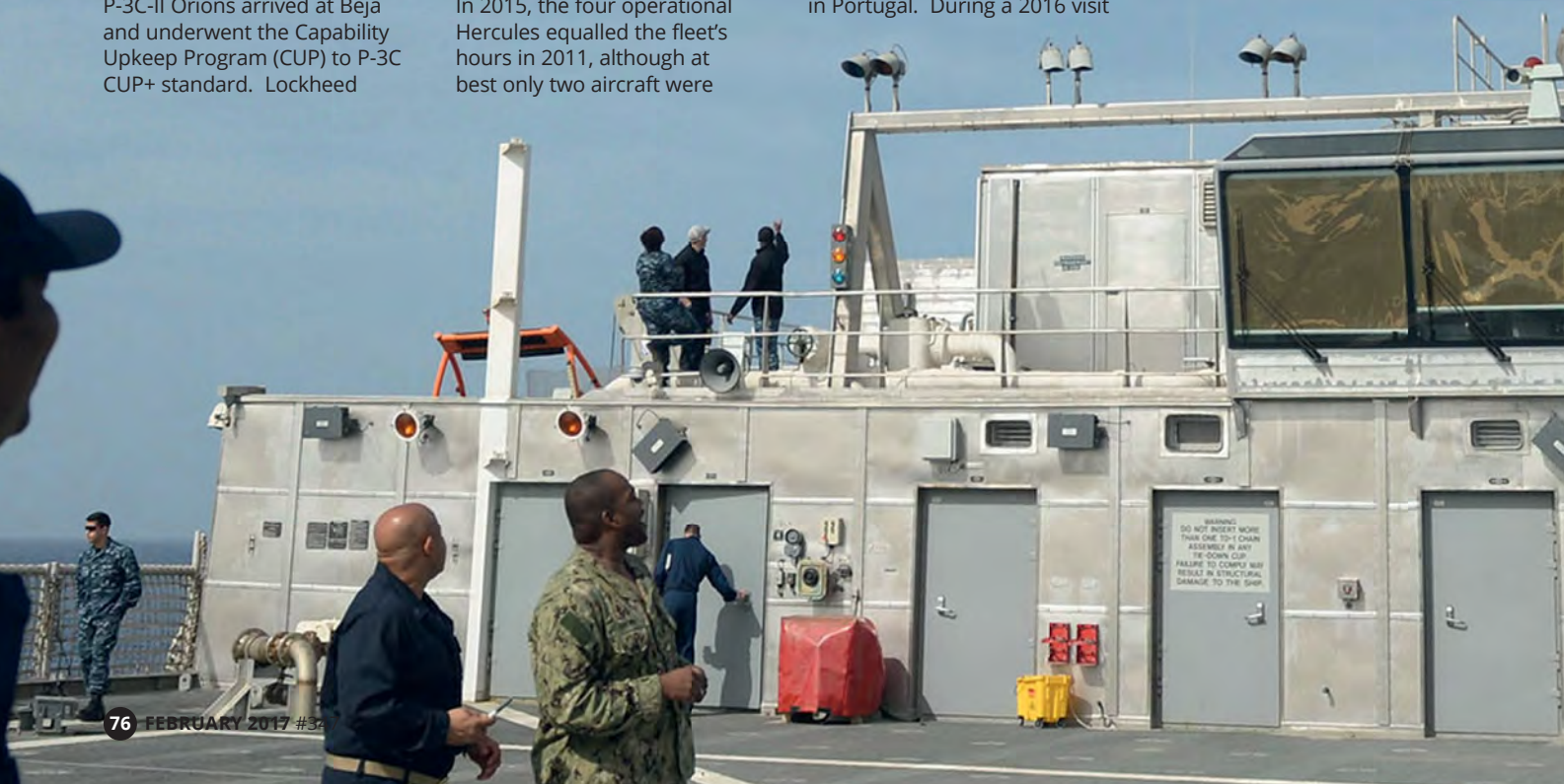
The first C-130 arrived in Portugal in September 1977. In 2015, the four operational Hercules equalled the fleet's hours in 2011, although at best only two aircraft were

airworthy simultaneously. A fifth is parked in a hangar without engines, while another was destroyed in an accident that killed three crew in July (see *Attrition*, September 2016, p93).

On June 16, 2016 the Ministry of National Defence allocated €29m for C-130 modernisation between 2016 and 2023, which should keep the type operational until 2030. Until the work is complete, Portugal's Hercules will remain unable to meet the requirements of the Single European Sky, an initiative launched in 2004 to improve flight safety across the region.

The C-130 upgrade programme has gained the government additional time to select a replacement platform. The Embraer KC-390 is a strong candidate, given the investment the Brazilian company has made in Portugal. During a 2016 visit

Below: A Portuguese P-3C CUP+ overflies USNS 'Spearhead' (JHSV 1) in the US 6th Fleet area of responsibility. US Navy/ MCS1C Joshua Davies





Above: A new C-130H upgrade project will be complete by 2023, which will enable the aircraft to meet the requirements of the Single European Sky initiative. *FAP*



to the Embraer facilities in Évora, José Azeredo Lopes confirmed Portugal's interest but did not specify a timescale for acquisition.

The C295Ms were ordered in 2006 to replace the C212 Aviocar. The FAP bought 12 aircraft, five in C295MPA Persuader configuration for maritime surveillance and the remainder for tactical transport. Two aircraft are compatible with photographic systems for intelligence, surveillance and reconnaissance (ISR) missions.

In 2015 the squadron maintained five operational aircraft, as it had in 2014, and logged 3,238 flight hours (compared to 3,321 in 2014). Single C295s are usually stationed in the Azores (BA4) and at Aeródromo de Manobra (AM; Military Airfield) 3 on Porto Santo Island.

The three Falcon 50s fly VIP transport and medical evacuation

missions. The FAP maintains one example at readiness for medevac from the Azores to the mainland.

The future

The FAP's 2015 operating budget was just €386.9m, a modest sum that affected its ability to respond to the national and international challenges facing Portugal, while 2016 was no better. The country's economic situation remains precarious and major defence investments cannot be expected in the near term.

Remarkably, however, the FAP continues to meet its obligations, as demonstrated by Portugal's robust participation in multinational operations.

In that context, it is important to highlight the FAP's participation in the European Union's Frontex initiative (with C295s and P-3Cs helping manage the EU's Mediterranean borders),

NATO's BAP programme (with F-16s) and the UN mission in Mali (where the C-130 and C295 provide logistical support).

The most recent Military Programming Law, approved by parliament in April 2015, provides for the upgrade of the C-130 fleet and further modernisation of the F-16. The same legislation supports the upgrade of the F-16's AN/AAQ-28(V) Litening AT Block II navigation and targeting pods to the latest G4 standard, as well as update plans for the Falcon 50 and Epsilon.



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Five examples of the C295MPA Persuader were purchased to cover maritime surveillance missions. *FAP/Saj Domingos*