

*F332 Corte-Real*  
February 1992

*F331 Álvares Cabral*  
January 1991

# Esquadilha de Helicópteros da Marinha, Portuguese Naval Aviation

Always ready, any time, anywhere

The Portuguese Naval Aviation constituted the Air component of the Portuguese Navy, from 1917 till 1952. The Air Force maritime patrol squadrons and the Navy's helicopter squadron (EHM, Esquadilha de Helicópteros da Marinha) are the present successors of the former Portuguese Naval Aviation. Although generically referred as "Naval Aviation" the air component of the Navy was officially successively designated "Navy Air Service" (1917), "Naval Aeronautical Service" (1918-1936) and "Navy Air Forces" (1936-1952). In 1958 The Navy Air Forces, which were already part of the Air Force although still under the Navy's operational control and operated by Naval personnel, were disbanded and its assets were fully integrated in the Portuguese Air Force

By: Bram Marijnissen and Rene Slegers - Lowpass Aviation

This changed in the early 1990s when the Esquadilha de Helicópteros da Marinha was created as part of the Navy's acquisition programme of the new 'Vasco da Gama'-class frigates which included a helicopter as an anti-submarine warfare system. After evaluation of the Kaman SH-2 Seasprite and Westland Lynx, the Lynx was chosen as the most suitable candidate and an order was placed with Westland Helicopters (Leonardo Helicopters) for five five Super Lynx Helicopters in 1990, for operation from the new Portuguese Navy frigates which were under construction at that time. During June

1992 the Naval Air arm was formally established and Portuguese pilots and maintenance engineers were trained by Westland Helicopters and the Royal Navy in Great Britain. The EHM, Naval Helicopter squadron was officially formed during September 1993 at Base Aérea 6 (BA6) Montijo Airbase. The EHM consists of 130 personnel and operates independently without Air Force personnel and has its own facilities at Montijo Airbase. The squadron is led by Commander Hugo Miguel Baptista who has been in charge of the squadron since mid-July 2021. Between February and July





1995, the first embarked helicopter deployment took place on the frigate NRP F330 Vasco da Gama. It was dedicated to Operation ‘Sharp Guard’. This deployment saw the start of a new era for the Portuguese Navy. To date the EHM has provided no less than 27 embarked Flight deployments and has been active in 52 countries with a variety of missions for the UN, EU, NATO and Portugal. The Squadron recently reached the number of 24 000 flight hours with ‘0’ incidents, an exceptional achievement the squadron can be very proud of.

Pilot training

After the Naval Air arm was formally established, it was decided to use the Air Forces training construction to reduce cost and improve the overall unit performance. Navy officers are selected from the Naval Academy to do theory course at the Military and Technical Training Center in Ota. After that they will begin flight training at Beja Airbase (BA11) on the Aerospatiale TB-30 Epsilon with 101 squadron. After completing their flight training, they will move on to 552 squadron for further flight training on the AW-119 Koala. Most Navy pilots have learned to fly helicopters in the Alouette III. After years of service the Alouette III was retired from active service with the Portuguese Air Force and replaced with the new AW-119 Koala.

Having completed their flight training in the Air Force, the Naval pilots then return to the Navy to start their operational conversion on the Super Lynx Helicopter at the Helicopter Instruction Centre (Centro de Instrução de Helicópteros (CIH)) of the EHM. This phase lasts about 150 flight hours. In addition to train both flight pilots and tactical pilots, the CIH also gives instruction courses to maintenance personnel, system operators and rescue swimmers.

Cockpit integration on the simulator at the Joint Lynx Simulator Training Establishment (JLSTE) took place in 2011 with the Portuguese Navy, an active member since 2012, training some 240 hours on the simulator every year. The JLSTE is based at Naval Air Station Nordholz in Germany and is used by the German and Portuguese Navy to train their Lynx aircrews. Denmark was also an active member of the JLSTE until they retired their Lynx Helicopters some years ago. The CAE built Lynx simulator entered service in 1988 and has

delivered more than 100 000 hours to Lynx aircrews. The simulator was upgraded by CAE in 2020. This was funded by the Nato Support and procurement agency (NSPA).

Helicopter underwater escape training

The Navy’s aircrews must be ready to face any emergency situation, as missions are often flown over water. The aircrews follow the Helicopter Underwater Escape Training (HUET) as the course combines practical exercises with learning about helicopter safety emergency procedures, underwater escape techniques and sea survival. The practical elements are conducted in a pool utilising a specially designed HUET module and life raft. The HUET module represents the cabin of a helicopter which is held by a lifting system and operated by a crane operator. The module can rotate at least 180 degrees, while being submerged in water to simulate a helicopter ditching resulting in capsizing. While in the module participants practise such skills as brace positions, escape plans and the operation of emergency exits. The aircrews of the Portuguese Navy undergo a HUET course twice every year.

Missions and deployments

Since their acquisition the Super Lynx helicopters’ primary tasks were to carry out Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASUW) and Naval interdiction missions. They also carry out secondary missions like Search and Rescue (SAR), Medevac, Patrol, VIP air transport and cargo missions. With the changing world situation the operations performed by the Super Lynx now include the so called ‘Fast Action’ missions in close cooperation with special units of the Portuguese Maritime Police and the Marine Corps in the fight against drug trafficking and the smuggling of immigrants.

Furthermore the EHM also focuses on various coastal operations and is also tasked with anti-terror operations. Normally the EHM provides two embarked Helicopter deployments at all time, however this has been brought back to just one deployment as two of the helicopters are still in the UK with Leonardo Helicopters.

The EHM operates the Super Lynx helicopters from the ‘Vasco da Gama’ and ‘Bartolomeu Dias’ - class



frigates. Each deployment consists of two pilots (1 flight pilot, 1 tactical pilot), a system operator (operating sonar, winch and retriever) and nine maintenance engineers. The frigates have hangar space for two helicopters but normally only one is on board during deployments. The Super Lynx can carry the Torpedo MK.46 and is equipped with the Herstal FN M3M fast firing machine gun and operates as an integrated part of the frigates weapon system.

Upgrades

The EHM has been operating the Super Lynx for three decades. The engines and various other legacy systems were getting outdated, and it was decided to modernise the machines. In July 2016 Leonardo Helicopters was awarded a EUR 69 Million contract to modernise the five Super Lynx MK95's to MK95A







through an extensive mid-life upgrade programme. The MLU programme started in September of the same year, and includes introduction of AW159 technology, the original Rolls-Royce GEM 42 engines were replaced with the much more powerful LHTEC CTS800-4N Turboshaft engines, a new glass cockpit with integrated display units, a tactical processor, upgrades to the avionics and weapon suites, and a new state of the art electrically powered rescue hoist were installed.

Portuguese navy pilots and engineers underwent aircraft qualification in the United Kingdom in 2016. Initially it was planned that all five helicopters would have completed the MLU programme before the end of 2021. The last of the helicopters would then be delivered back to the unit at Montijo airbase in December 2021, unfortunately the MLU programme was delayed due to the Corona virus and several setbacks in the upgrade programme.

In February 2020, the first MLU upgraded Super Lynx took the skies for the first time at Leonardo's Helicopter plant in Yeovil, Somerset, UK. The first upgraded aircraft was delivered back to the EHM in July 2021 while the second aircraft was delivered back in February 2022, the third Super Lynx was delivered to the unit in December 2022. The

last two helicopters are currently still with Leonardo Helicopters. The fourth was due to be delivered back to the unit at the end of 2023, while the fifth and last upgraded Super Lynx is expected back by the end of 2024.

**Future**

The upgraded aircraft provide the Portuguese Navy with significant capability enhancements from the original Super Lynx MK95. With the introduction of AW159 technology the

modernised Super Lynx MK95A has changed into a modern, much stronger weapon system which is a real change for the Portuguese Navy and will see the aircraft in service far into the 2030s. It will further provide much relief when the last two helicopters of the squadron finally completed their MLU upgrades and can be operationally deployable again. One of the priorities then will be to return to two helicopters on deployment instead of just one. The

upgraded aircraft will enable the EHM to undertake their missions safely and effectively for years to come, Anytime Anywhere. •

*We would like to thank all of the involved personnel of the Esquadilha de Helicopters Da Marinha of the Portuguese Navy for their hospitality, time and help during our visit at BA6 Montijo. Special thanks go to Squadron Commander Hugo Miguel Baptista and Lieutenant Carlos Andrade da Cunha.*

