

# Esquadilha de Helicópteros da Marinha, Portuguese Naval Aviation

**Always Ready, Any Time, Anywhere**



## History

The Portuguese Naval Aviation constituted the Air component of the Portuguese Navy, from 1917 till 1952. The Portuguese Air Force maritime patrol squadrons and the Navy's helicopter squadron (EHM, Esquadilha de Helicópteros da Marina) 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.

This all changed in the early 1990s when the Esquadilha de Helicópteros da Marina 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 Westland Lynx was chosen as the most suitable candidate and the order was placed with Westland Helicopters (now Leonardo Helicopters) for 5 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. He 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. This deployment was dedicated to Operation 'Sharp Guard'. With this first embarked



helicopter deployment a new era started for the Portuguese Navy. Until today, 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 which can be called an exceptional achievement, something 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. This to reduce cost and improve the overall unit performance.

Navy officers are selected from the Naval Academy, after that they start their theory course at the Military and Technical Training Center in Ota. After that, they will start to undergo flight training at Beja Airbase (BA11) on the Aerospaciale TB-30 Epsilon with 101 Squadron, in the past this course took place at Sintra Airbase (BA1) but some years back 101 Squadron relocated from Sintra Airbase to Beja Airbase. After finishing their flight training on the TB-30 they will move on to 552 squadron where they will conduct further flight training on the AW-119 Koala. Most Navy pilots have learned to fly helicopters in the Alouette 3. After years of loyal service, the Alouette 3 was retired from active service with the Portuguese Air Force and replaced with the new AW-119 Koala, selected officers from the Navy therefore learn to fly helicopters on the AW-119 nowadays.

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.

Furthermore the Portuguese Navy is also a member of the Joint Lynx Simulator Training Establishment (JLSTE). Portuguese cockpit integration on the simulator took place in 2011. The Portuguese Navy is an active





member since 2012 and trains 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 (HUET)

The Navies aircrews must be ready to face any emergency situation, because missions are often flown over water. To establish this, the aircrews follow the Helicopter Underwater Escape Training (HUET). The HUET 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 has the ability to rotate at least 180 degrees, while being submerged in water to simulate a helicopter ditching resulting in capsise. While in the module participants put into 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

At the time the Super Lynx helicopters were acquired their main tasks were to carry out Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASUW) and Naval interdiction missions. Next to that they also carry out secondary missions like Search and Rescue (SAR), Medevac, Patrol, VIP air transport and Cargo missions, however the situation in the world has changed a lot since then and so have the tasks and missions for the Super Lynx, today the aircraft performs several other missions. They still carry out the Anti-Submarine Warfare, Anti-Surface Warfare and Naval Interdiction missions for which they were initially purchased, these are still one of the units main tasks, but slightly fewer of these operations take place today, apart from that the EHM also concentrates on other operations, one of these are 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 in the Marine environment.

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 at the moment two of the units helicopters are still in the UK with Leonardo Helicopters.

The EHM operates the Super Lynx helicopters from the 'Vasco da Gama' class and 'Bartolomeu Dias' class frigates. Each embarked deployment consists of 13 persons; 2 pilots (1 flight pilot, 1 tactical pilot), 1 system operator (operating sonar, winch and retriever) and 9 maintenance

engineers. The frigates have hangar space for 2 helicopters but normally only 1 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.



**Aircraft overview**

- 19201** Super Lynx MK95 delivered July 1993 with Leonardo helicopters for MLU upgrade.  
Note: ex Royal Navy Lynx HAS3 rebuild to Super Lynx MK95
- 19202** Super Lynx MK95A delivered July 1993 MLU upgraded active  
Note: ex Royal Navy Lynx HAS3 rebuild to Super Lynx MK95
- 19203** Super Lynx MK95 delivered November 1993 with Leonardo helicopters for MLU upgrade
- 19204** Super Lynx MK95A delivered Nov 1993 MLU upgraded active
- 19205** Super Lynx MK95A delivered Nov 1993 MLU upgraded active

**Overview helicopter carrying ships of the Portuguese Navy**



*F332 Corte-Real*

**‘Vasco da Gama’ class – Meko 200 Type:**

<b>Pennant Number NRP (Name)</b>	<b>Commissioned</b>
F330 Vasco da Gama	November 1990
F331 Alvares Cabral	January 1991
F332 Corte-Real	February 1992



*F330 Vasco da Gama*



*F331 Alvares Cabral*

**Bartolomeu Dias’ class:**

<b>Pennant Number NRP (Name)</b>	<b>Commissioned</b>
F333 Bartolomeu Dias (Note: Former Karel Doorman class F833 HNLMS van Ness of Royal Netherlands Navy)	January 2009
F334 Dom Francisco de Almeida (Note: Former Karel Doorman class F833 HNLMS van Ness of the Royal Netherlands Navy)	November 2009

Both of the Bartolomeu Dias class frigates sailed to the port of Den Helder in the Netherlands for an extensive MLU modernisation programme, the MLU programme took place between 2018 and 2022 and was carried out by the Dutch company Alewijnse Marine, this included the service life extension of both frigates and the modifications of the weapon, sensors and communication systems while work was also undertaken on propulsion and power distribution.



*F333 Bartolomeu Dias*

### Upgrades

The EHM has been operating the Super Lynx already for three decades and celebrated its 30th anniversary in June this year. After all those years of loyal service, the engines and various other legacy systems of the Super Lynx were getting outdated, therefore it was decided to modernise the helicopters. 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 midlife 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 are 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 an 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 that same year, initially it was planned that all 5 helicopters would have completed the MLU programme before the end of 2021. The last of the 5 helicopters would then be delivered back to the unit at Montijo airbase in December 2021, unfortunately the MLU programme was delayed a lot 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 will 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 step 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 have completed their MLU upgrades and can be operationally deployable again with the squadron. One of the priorities then is to go back from one to the required two embarked deployments. The upgraded aircraft will enable the EHM to undertake their missions safely and effectively for years to come, 'Anytime Anywhere'.

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