

Italy's Antares Chinooks in action

Italy is one of a number of ISAF nations operating the versatile Chinook over Afghanistan. **Luca Peruzzi** examines the use of the type by Task Force Fenice.

Since August 2005, Italian Army aviation has deployed a number of the versatile AgustaWestland CH-47C medium/heavy transport helicopters to Afghanistan.

The vast area of responsibility (AoR) that makes up the Italian-led Regional Command West (RC-W) – like Afghanistan in general – presents extreme climate and territorial challenges; the transport capabilities offered by the Chinook are considered essential in moving material and troops or rapidly deploying them in what is a hostile environment with a limited road and airfield infrastructure.

EARLY UPGRADES

Italy's past willingness to renovate its Chinook fleet, as well as the recent acquisition of the latest CH-47F model, will allow the Italian Army to not only maintain but also to enhance its medium-lift capability in support of current and future military and peacekeeping missions.

Italian Army Aviation received its first Boeing CH-47C Chinook transport helicopters in August 1972 with deliveries from Elicotteri Meridionali (EM) – a Frosinone-based Agusta affiliate – which, in 1968, acquired from Boeing the right to the co-production, marketing and servicing of the helicopter for customers in Italy and certain foreign countries.

Designated by the Italian Army as Elicottero da Trasporto Medio-1 (ETM-1) or Medium Transport Helicopter, 40 CH-47C helicopters have been received in two different versions (code A/B and C). The C versions, which were

delivered from 1989, were funded by Italy's civil protection department and differed by the addition of two 7,260kg external hooks, a rescue hoist and upgraded flight electronics, including navigation equipment.

Agusta began in 1987 to re-deliver upgraded versions of the original airframes (code D, but widely known as CH-47C+), with Textron Lycoming (today Honeywell) T55-L-712E engines, composite (fibreglass) rotor blades and a more advanced transmission system, increasing the maximum take-off weight by 2,680kg to 22,700kg. A firefighting capability was also added.

Since initial deliveries, the CH-47C Chinooks were assigned to the Italian Army aviation units and in February 1976 these were merged into what was then known as 1st Regiment Antares. Based at Viterbo airport, the unit went through a series of organic modifications, before being structured from 2003 into a headquarters and base structure.

The make up now consists of 11th Squadron 'Ercole', equipped with the CH-47C+ helicopters; 26th Squadron 'Giove', also designated Reparto Elicotteri Operazioni Speciali (REOS), the only special forces supporting unit in the Italian Army Aviation and equipped with Agusta/Bell AB-412s, CH-47C+, and the recently introduced into service NHIndustries NH-90 TTHs; and the logistic squadron, which provides the base logistics and transport support for in-field operations.

The regiment also has a permanent detachment of Agusta/Bell AB-205 helicopters

at Pisa airbase to support the Folgore's paratroop brigade.

According to Col Michele Tanzarella, a former Antares commander and current head of Italian Army's RC-W Aviation Battalion in Afghanistan, 1st Regiment Antares is currently made up of around 1,100 personnel, roughly 50% of whom are assigned to flying, flight line and technicians.

The main tasks assigned today to 1st Regiment Antares are the assurance of rotary-wing assets for tactical and logistics support in support of the Italian contingent within the International Security Assistance Force (ISAF) in Afghanistan, helicopter support for special operations (with REOS assets) and the evacuation of Italian citizens in crisis situations,



The Chinooks crews were heavily involved in pre-deployment mission-rehearsal training back in Italy before their move to Afghanistan. (Photo: author)



The Herat-based Chinooks are heavily tasked by the Italian forces in RC-W and will have each flown as many as 800 hours in 2010. (Photo: Italian Army)



missions in support of Italian armed forces on national territory, as well as firefighting, disaster relief and civil protection duties,' Tanzarella said.

'The initial CH-47C component has been progressively reduced due to aging and support difficulties. Today it comprises around 15 helicopters assigned to the 26th Squadron, but also employed by REOS flying personnel for special operations support.'

While the upgrade programme has significantly improved the helicopter's performance, the avionics (except for the NVG-compatible cockpit and the addition of GPS and turbine temperature digital control) has remained largely analogue and unchanged.

'More recently in 2009, the helicopters to be deployed in Afghanistan have been given a new self-protection suite known as Sistema Integrato di Auto-Protezione (SIAP),' Tanzarella said.

This includes the Elettronica ELT-156X(V)4 radar warning receiver, Selex Communications/EADS AN/AAR-60(V)2 MILDS missile warning system, Selex Communications RALM 01/V2 laser warning receiver and MES ECDS-2 chaffs and flares dispenser suite, all managed through a dedicated electronic warfare processor (EWP). Data is displayed by a threat warning display (TWD) in the cockpit together with an EW control panel (EWCP).

'The suite allows a complete automatic response to IR/UV, RF and LSR threats, compared to previous manual-only activated decoy launchers. This adds to three 7.62mm gun stations at the two forward doors and rear ramp, and ballistic protection for pilots

seats, flight specialist stations, power, flight control transmission and vital systems,' Tanzarella explained.

'The standard CH-47 crew is composed of two pilots and a crew-chief, but in-theatre operations are conducted with three flight specialists/weapon operators in addition to the pilots. Around 30 of the latter are currently employed on the Chinook component, with more specialised training conducted for REOS flight crews, including dedicated courses and familiarisation with special forces instructors,' he added.

Junior Chinook pilots come from both the Italian and US training syllabus, with an additional familiarisation period on board the CH-47C+ for the US-trained pilots. The latter rely heavily on the flight specialists during the mission, making the Chinook crew a unique team. Furthermore, they received training in both high-altitude flying in the Italian Alps – also used by foreign CH-47 crews – and river/sea helicopter flotation conditions.

The characteristics of snow are similar to sand, helping pilots to learn how to mitigate dangerous brownout situations, while flotation training is required mainly to support special forces' use of dinghies.

Maintenance and logistic support is provided for the Chinook by the 4th Support Regiment (Reggimento Sostegno) 'Scorpione', also based at Viterbo airport.

'The [4th Support Regiment] conducts maintenance inspection at the second level while the 800 flying hours check is generally

performed by AgustaWestland. Moreover it also manages the avionics and support material repair and spare parts, having additionally developed specific modifications on the helicopters, such as more easily detachable tail pylon for reducing preparation for before and after air transportation.'

OPERATIONAL DEBUT

The Antares units were first deployed abroad with AB-205s in 1979 for the UNIFIL operation in Lebanon. However, the Chinook component saw its operational debut in Incirlik, Turkey, in 1991, followed by operations in Albania, Somalia, Mozambique, and a long period in Bosnia and later in Macedonia and Kosovo.

'Since November 2003 to June 2006, the Antares Regiment supported the Italian contingent in Iraq (Operation 'Antica Babilonia') with 11th (REOS) AB-412 and 26th CH-47C+ helicopters. Today the regiment's assets and personnel are deployed in Afghanistan, a task which has been supported since August 2005,' Tanzarella outlined.

Due to its heavy transport capabilities, the Chinook component has also been involved in important disaster relief operations in support of civil population in Italy, such as the 2009 earthquake, which struck L'Aquila city and the surrounding region, as well as the subsequent G8 Summit in the city.

Tanzarella said the experience helped the unit to be mature and learn how to be ready for deployment within a few hours of request. ➔

Use of infantry to provide cover for helicopter landing zones is commonplace even in the relatively RC-W region of the country. (Photo: Italian Army)



Since 15 October, 1st Antares Regiment has provided the command and most rotary-wing assets to Task Force Fenice, the Expeditionary Army Aviation Task Force, which deployed for the first time from April 2009 and was specifically developed by the army to provide a team that is better integrated with ground troops.

Due to the enlarged number of ground troops, Task Force Fenice is today composed of ten AgustaWestland AW-129Cs, six upgraded AB-205s and five CH-47C+s.

'Usually three Chinook are ready for operations, with one spare and the other under second level maintenance activities. Previously this was carried out in Italy over a longer period, but is today conducted on Herat base every two and a half months,' Tanzarella said.

The CH-47 component has logged around 2,900 flying hours since its first deployment in August 2005, an average of 500 flying hours per year. The unit expects to fly around 800 in 2010. Operating from main and forward operating bases, the Antares Chinook component is the workhorse for transport missions due to its high-altitude capabilities and high cargo carrying capacity.

The Italian CH-47s operate regularly at the edge of the hot-and-high envelope with

mission profiles requiring five tons of material or 30 troops, resulting in a total payload of eight or nine tons, taking off in temperatures higher than 50°C and flying over mountain peaks up to 15,000ft in height with fuel to provide two hours and 40 minutes endurance.

Col Marco Centritto, former RC-W Aviation Battalion Commander in Afghanistan from May to November 2009, said: 'The CH-47s proved again and again the capability of performing their missions even after enduring damage from enemy fire.

'They were the perfect partners of the AW129 Mangusta, capable of flying back without any trouble, although one had its fuel tank and its transmission shaft hit. The battle damage repair performed by our maintenance personnel guaranteed its readiness for flight operations in very few hours.'

ITALY'S FOXTROT MODEL

On 22 April 2009, the Italian MoD's General Directorate for Air Armaments (ARMAEREO) awarded AgustaWestland a contract for the delivery of 16 Boeing International CH-47F Chinook helicopters in a customised version for the Italian Army.

Valued at approximately \$1.2 billion, the contract includes mission role equipment as

well as initial logistical support, training and spare parts, and options for four additional helicopters. The delivery of the first aircraft is planned for the end of 2013, with final deliveries in the second-quarter of 2017.

The contract with the Italian MoD followed a previous agreement signed in July 2008 between AgustaWestland and Boeing for the joint manufacture of new helicopters for the Italian Army, with Finmeccanica as the prime contractor and responsible for design and systems integration, aircraft final assembly and delivery, and Boeing as prime subcontractor building the helicopter fuselage.

The Italian Army's CH-47F customised version incorporates new avionics and self-protection suites, as well as specific airframe modifications and equipment to comply with operational requirements.

In addition to a newly-designed airframe, the helicopters will feature a BAE Systems Digital Advanced Flight Control System (DAFCS), up-rated Honeywell T55-L-714A engines and a Rockwell Collins Common Avionics Architecture System (CAAS) cockpit. The CAAS will be integrated with an advanced communications, navigation and identification (CNI) package based on a communication suite provided by Selex Communications, including three VHF/UHF SRT-651/P radios with Have Quick I/II and SINCGARS secure frequency-hopping capabilities – allowing tactical communications with the ground, air traffic control and maritime domains, one of which is dedicated to satellite communications (SATCOM) with national SICRAL and NATO systems – and an HF-band SRT-170 radio, all associated with crypto equipment for operation in the secure voice/data modes.

The navigation package is based on twin embedded global positioning and inertial navigation systems (EGI) together with the Selex Communications ANV-241 multi-mode receiver with VOR/ILS/MB and MLS embedded capabilities, in addition to TRD 94 transponder and Homer U/VDF (DF430F). The helicopter is

Italian Aviation Battalion offers embedded forward MEDEVAC

THE ITALIAN ARMY has introduced a forward MEDEVAC capability embedded in the Aviation Battalion Task Force deployed to Afghanistan since last October.

A medical team of three members including a doctor, which have followed a specific flying training and familiarisation course, together with a specially-equipped litter with life-saving equipment, can be embarked on board the available six Agusta/Bell AB-205s deployed in the theatre of operations, in order to provide the quickest medical support to ground troops.

To allow the AB-205s to operate in hostile environments, they have been equipped with a mission equipment package (MEP), including the Sistemi Integrato di Auto-Protezione (SIAP) suite with a fixed ALQ-144 IRCM and engine IR-suppressor, ballistic

protection, SINCGARS radio system and a Doppler/GPS navigation-based package.

In order to further exploit the synergies between the aviation battalion and ground troops, a company of the deployed infantry force is trained in airmobile operations, to provide on rotation a quick reaction force platoon operating under tactical command of the aviation battalion in case of intervention.

The company follows a survival, evasion, resistance and escape (SERE) training programme, followed by familiarisation with CH-47C operations in day and night operations and a dedicated live fire-training exercise to qualify the whole aviation battalion package, including the AB-205s and A129C combat helicopters, for Afghanistan deployment.



also equipped with the latest generation Selex Communications M425 next generation identification, friend or foe transponder capable to operate both in civilian 'S' and military '5' modes.

In order to enhance mission safety and all-weather capabilities, the Italian Army's Foxtrot version features an advanced mission suite, including an integrated head up display (HUD) MB503A, a L-3 Wescam FLIR sensor with video recording capabilities and a weather radar, all installed in the long nose enclosure together with a Selex Communications laser obstacle avoidance and monitoring (LOAM) system, which has also been selected for the NH-90 TTH, together with an high-intensity searchlight and emergency locator transmitter.



To provide a fire suppression capability the Chinooks are equipped with three machine guns, including one that is able to be mounted on the rear ramp. (Photo: Italian Army)

The self-protection suite will be based on the latest version of the current SIAP (Sistema Integrato di Auto-Protezione), while the helicopter will be equipped with armoured crashworthy pilot seats and ballistic protection for vital helicopter areas and equipment.

The platform will also feature IR engine suppressors in order to further improve protection from man-portable air-defence systems (MANPADS) threats. Moreover, in order to offer a fire-suppression capability, the helicopter will be equipped with two Oto Melara gun support kits for the 7.62mm M-134

weapon systems on the forward doors and a ramp positioned 12.7mm machine gun.

The Italian Army's CH-47F version will also feature a range of equipment such as engine sand-filters, an external rescue hoist, fast rope stations on ramp, cabin door and centre hatch, rotor brake, helicopter emergency egress lighting system (HEELS), forest penetrator, hook load measurement system, centre aisle troop seats and power down ramp.

The contract also includes training courses for both flying crews and technicians, which will be taken both in US and Italy as well as two years of logistics support provided by AgustaWestland. This will include field service, ensuring maintenance over day-level inspection, and on-job training at Viterbo air base and will be followed by three more years with a reduced number of company personnel for maintenance activities. **DH**

BREEZE-EASTERN

 AGUSTA A109K2	 HS-29700	 EUROCOPTER AS-350B3
 AGUSTA BELL 212/412	 HS-20200	 AGUSTA BELL AB139
 MDHI MD902	 HS-20200	 AGUSTAWESTLAND 109E
 SIKORSKY CH53	 HS-10300	 BOEING CH 46/47
 AGUSTAWESTLAND EH-101	 HS-10300	 EUROCOPTER AS365(HH65)
 SIKORSKY UH-60Q	 HS-29900	 AGUSTAWESTLAND EH101

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