



50<sup>th</sup> INTERNATIONAL  
PARIS AIR SHOW  
LE BOURGET  
JUNE 17-23, 2013

# THE REIGN IN SPAIN

## Visit to Airbus Military in Seville



A330MRTT

### Yayu's Managing Editor visited Airbus at Seville and Toulouse in May-June 2013.

Usually spread out over a calendar year, this time the Airbus Military TMB-13 (Trade Media Briefing) and the Airbus Commercial AID (Airbus Innovation Days) were just a week apart and both 'just in time' before the Paris Air Show to be held later from 17 June 2013 at Le Bourget. Both the visits are a treasure trove of information but to put it all together is a task by itself !

In this first article, I shall review the visit to Airbus Military in Seville in Spain and in the second, the visit to Toulouse in France.

Taking place over two days 29-30 May, we visited Airbus Military's facilities in Seville. On arrival at the San Pablo plant, we were straight away given an insight on the market for military and civic/humanitarian transport aircraft which was followed by a review on their aircraft products in operation worldwide. After the MRTT/Derivatives programme update, there was a technology and innovation session, followed by briefing on the EIS A400M training and overall customer services. The next day was

focused on the A400M programme as well as the flight test update. All in all, a well put together schedule with the right amount of information partaken, even though in concentrated form.

Airbus Military is the "only military and civic/humanitarian transport aircraft manufacturer to develop, produce, sell and support a comprehensive family of airlifters ranging from three to 45 tonnes of payload". The product range includes the three to nine tonnes payload 'Light and Medium' Family, comprising the C212, the CN235 and the C295 "workhorses", the all new 37 tonne A400M as well as the A330 MRTT.

Altogether, Airbus Military has sold more than 1,000 aircraft to some 130 military, civilian and governmental customers. More than 800 of these aircraft have been delivered.

Headquartered in Madrid (Spain), the company's facilities are essentially based in Spain. Its main sites are at Getafe, close to Madrid, where civil Airbus A330 airframes are converted into Multi Role Tanker Transport (MRTT) aircraft, and



Seville, where the San Pablo factory, south of the airport, hosts the A400M Final Assembly Line opened in 2007, as well as the complete production and final assembly of the C212, CN235 and C295.

Airbus Military was formally created in April 2009, following integration of the former Military Transport Aircraft Division (MTAD) and Airbus Military Sociedad Limitada (AMSL) into Airbus. This integration allows for a single and streamlined organisation. Airbus Military has its own P&L accounting, and employs more than 5,000 people.

We start with latest developments on the A400M. The Company has received full Type Certification for the A400M new generation airlifter, marking a critical step towards delivery of the first aircraft to the French Air Force. Award of the Type Certificate makes the A400M the world's first large military transport to be designed and certified to civil standards from its inception. Military Initial Operational Clearance is imminent paving the way towards first delivery.

The Type Certificate was presented to Airbus Military by European Aviation Safety Agency (EASA) Certification Director Dr. Norbert Lohl. As Airbus

## Airbus Military A400M undergoes extreme cold weather tests

The Airbus Military A400M has successfully undergone a renewed series of cold weather tests in a production-representative configuration. During a week-long deployment to Iqaluit, Canada, the flight test-team demonstrated the capability of equipment such as the cargo system and production-standard engines, which were not available during earlier tests in Sweden. Tests conducted over 5 days on Grizzly 5 / msn6 included engine runs after a 24-hour cold-soak to  $-32^{\circ}\text{C}$ , use of all the cargo bay equipment, taxiing, and a development flight.



A400Ms lined-up.



Military CEO Domingo Ureña Raso said: "I would like to thank everyone in Airbus, Airbus Military and at EASA who has worked so hard to achieve this certification. It is an enormously gratifying moment to have confirmation that the A400M has fully demonstrated its compliance with the most stringent airworthiness standards. This is an aircraft that is going to transform the military airlift world in the years ahead and we look forward with great excitement to the first delivery."

Cedric Gautier, Airbus Military Head of A400M programme, continued "Certifying the A400M to civil as well as military standards has been a huge challenge for us, our suppliers and EASA itself. But by providing a firm framework for certification from day one, to globally accepted standards, both we and the operators will see important benefits as the aircraft matures in service and new customers join the programme."

During the certification programme, the A400M has undergone exhaustive testing of its handling qualities throughout the flight envelope in normal and failure conditions; demonstrated outstanding performance in high heat of the Gulf, extreme cold of Sweden and Canada, and at the high altitude of La Paz, Bolivia, having satisfactorily completed more than 300 hours of function and reliability

testing to demonstrate the robustness of its TP400 engines and systems.

Additionally it has begun tests of more advanced military functions such as air-to-air refuelling, air-dropping of supplies and paratroopers, and low-level flight – all with highly encouraging results. The five-strong fleet of 'Grizzly' development aircraft has now completed some 4,800 hours in the air during more than 1,600 flights and will continue intensively to expand the A400M's military capabilities.

The A400M can perform missions which previously required two - or more

- different types of aircraft, and which even then provided an imperfect solution. Its fuselage external width of 5.64 metres (18 ft 6 in) is equal to that of the A330/A340 wide-body. The inside usable width of four metres / 13ft, height of four metres (13ft), and usable length of nearly 18m (59ft), allows it to carry numerous items of outsize cargo including, for example, an NH90 or a CH-47 Chinook helicopter, or two Stryker infantry carrier vehicles (ICV) of 17 tonnes each for military purposes. It can also carry a 25 tonne semi-articulated truck with a 6m (20ft) container, or a rescue boat, or large lifting devices, such



as excavators or mobile cranes needed to assist in disaster relief.

Furthermore, the A400M is the only airlifter that can fly these items directly to the site of the action thanks to its unique landing characteristics. With its 12-wheel main landing gear designed for operations from stone, gravel or sand strips, its efficient absorption of shockloads into the airframe structure, and its minimised risk of foreign object damage, the A400M is able to land on, and take-off from, short, soft and rough unpaved airstrips meeting up to the CBR4 standard. These characteristics allow it to ensure, for example, that swift humanitarian aid can arrive on the spot in the very short timeframe needed after a disaster.

Thanks to these new technologies, the A400M has the ability to fly distances up to 4,700 nm (8,700 km), at a cruising altitude up to 37,000 ft, and at a speed of up to Mach 0.72 - very similar to that of a jet powered airlifter, which gives it the potential for strategic-logistic missions.

Moving on to the A330 MRTT. Airbus Military's A330 Multi Role Tanker Transport programme ended the year 2012 with another success, with its selection by the Indian Air Force (IAF) as the planned new generation tanker/transport as also rapid progress being made by the Royal Australian Air Force and the UK's Royal Air Force in deploying the type in operational service.

The IAF's selection of the A330 MRTT means that the aircraft has won every major procurement competition outside the USA since launch, cementing its status as the definitive new generation tanker/transport for leading air forces of the world.

India, with which contractual negotiations are now underway for an envisaged six aircraft, becomes the fifth nation to select the A330 MRTT following Australia, Saudi Arabia, the United Arab Emirates and the UK. France has already indicated its intention to place an order for the aircraft and other campaigns are running worldwide, notably in Singapore.

All five aircraft ordered by Australia have now been delivered and the RAAF has stated its intention to declare Initial Operating Capability very soon. Already however the aircraft, known in the RAAF as the KC-30A, has already been flying intensively on both transport and refuelling missions and performed highly

## Airbus Military C295 demonstrates release of MBDA Marte missile

**A**irbus Military and MBDA have successfully demonstrated the release of an instrumented Marte MK2/S anti-ship inert missile installed under the wing of the C295 maritime patrol aircraft. This flight was the last of a series of trials performed in a joint Airbus Military – MBDA collaboration to validate the aerodynamic integration of Marte on C295, its handling qualities and performance tests.

The installation of weapons under the wings provides new operational capabilities to the C295 MPA allowing the aircraft to perform new missions demanded by customers. In the anti-submarine warfare (ASW) role, the C295 is already in-service carrying the MK46 torpedo. The Marte Mk2/S is already integrated on the AW-101 and the NFH (Naval NH90) helicopters in service with the Italian Navy and integration activities for the Marte ER on the Eurofighter Typhoon are currently underway.

The MBDA Marte MK2/S missile is a fire-and-forget, all-weather, medium-range sea-skimming anti-ship weapon system, equipped with inertial mid-course guidance and radar homing terminal guidance, and capable of destroying small vessels and heavily damaging major vessels. The missile has a weight of 310 Kg and is 3.85 m long.



successfully in the international Exercise Pitch Black 2012.

In the UK, through AirTanker, three aircraft are now in service with the RAF with three more to be delivered by mid-2013. Airbus Military is on track to deliver the "core fleet" of nine to the UK and have them in squadron service by mid-2014, followed by further deliveries to get to the full fleet of 14. Availability

and on time performance for the Voyager in service have been excellent with operational figures for the year to date showing an aircraft availability of 96%, while AirTanker achieved an on-time performance of almost 98% : a level of service comparable to that of any commercial airline.

Uniquely the RAF has concluded follow on flight trials if at entry into



50<sup>th</sup> INTERNATIONAL  
PARIS AIR SHOW  
LE BOURGET  
JUNE 17-23, 2013

service, it wishes to use a different drogue for the underwing hose-and-drogue system used for refuelling, rather than the equipment in-service with the Royal Australian Air Force and Royal Saudi Air Force (RSAF). This has resulted in some delay to release in service for air-to-air refuelling which is now expected to take place” very shortly.” But the Voyager is already playing an expanding role in

shouldering the RAF’s transport burden, capitalising on its ability to carry some 290 passengers on a main-deck left clear by the A330 MRTT’s unique feature of requiring no additional fuel tanks to conduct AAR.

Elsewhere, deliveries of the initial batch of three aircraft for the RSAF will be completed early in 2013, to be followed by the three aircraft ordered by the UAE in the

coming months. The second batch of three for the RSAF, which were options that were subsequently firming are due for delivery after a gap following the first batch.

The result is that by mid-2013 as many as 17 A330 MRTTs are expected to be in service with four air forces, marking the beginning of a transformation of air-to-air refuelling abilities across the globe.

Those operators will benefit from the aircraft’s unprecedented load-carrying capability, optimised mixture of boom and hose refuelling, vastly improved crew operating conditions, and exceptional reliability and life-cycle costs originally designed to meet the exacting demands of commercial airlines.

As earlier stated, Airbus Military produces a comprehensive range of airlifters offering payloads from three to 45 tonnes. In the light and medium tactical segment there is the family of three models



*A330 MRTT of the Royal Australian Air Force (RAAF)*



*The C295 is turning out to be a real ‘workhorse’.*

- the C212, CN235 and C295 - offering from three to nine tonnes of payload. The operational qualities built into the aircraft make them not only the most capable machines for typical military missions, but also give them the versatility to undertake that growing group of non-defence tasks that may be described as “civic” missions. These include humanitarian aid, but also law enforcement, surveillance, search and rescue (SAR), environmental control and many others.

In the transport role the aircraft all feature a rear ramp to allow easy loading and unloading, especially in ill-equipped operating locations and a cargo compartment that is completely unobstructed and adaptable to operators’ needs. They have hardened cabin floors to cope with concentrated loads and STOL performance with robust landing gear designed to handle soft (CBR2) and unpaved terrain.

For maritime patrol, anti-submarine warfare, and surveillance missions the aircraft have low-level flying characteristics with up to 3g manoeuvrability and, for the CN235 and C295 in particular, a cruise

speed optimised for persistent surveillance and wide area coverage. In the search and rescue (SAR) role they benefit from wide field-of-view bubble windows and safe low-speed flying characteristics.

The Airbus Military C295 is a new generation, very robust and reliable, highly versatile tactical airlifter able to carry up to nine tonnes of payload or up to 71 personnel, at a maximum cruise speed of 260 kt (480 km/h). Fitted with a retractable landing gear and a pressurised cabin, it can cruise at altitudes up to 25,000 ft, while retaining short take-off & landing (STOL) performance from unprepared short, soft and rough airstrips, as well as having low level flight characteristics. Powered by two Pratt & Whitney Canada PW127G turboprop engines, the C295 provides hot and high performance, low fuel consumption and consequently a very long endurance of up to 11 hours in the air.

The C295 is also available in an Anti Submarine Warfare (ASW) version. Derived from the Surveillance and Maritime Patrol Aircraft (MPA) version of the C295, the C295 ASW is equipped with a tactical system proven during

MPA/ASW missions, and under-wing stations to carry weapons and other stores.

Airbus Military is now developing an Airborne Early Warning & Command (AEW) version of its C295. The primary sensor of the AEW&C to be fitted into the six metre (20 ft) rotodome, will be the IAI/ELTA 4th Generation Active Electronically Scanned Array (AESAs) Radar with integrated IFF. The C295 AEW&C is to provide high quality 360° surveillance, creating in real-time an integrated Air and Maritime Situation Picture and Electronic Order of Battle. The AEW&C Situation Picture is to be shared with friendly forces via Network Centric data links. A C295 fitted with a rotodome demonstrator has been conducting flight trials from Airbus Military’s Seville facility since early June 2011.

Finally, but not in the least, I would like to thank the entire team at Airbus Military as well as Avian Media in India for organising this timely and meaningful visit. Look forward to TMB-14!

VSC

## **C295W with enhanced performance launched**

Announced at TMB’13, was this new series of the C295 that will be available in 2014 featuring winglets and updated engines as standard. The new model will provide operators with enhanced performance in all flight phases but is particularly aimed at those operating at “hot and high” airfields where payload increases in excess of 1,000kg are promised. In intelligence, surveillance and reconnaissance (ISR) roles such as airborne early warning (AEW) the enhancements will increase endurance by 30-60min and permit an operating altitude up to 2,000ft higher than now. The new features will also provide an overall reduction in fuel consumption of around 4% depending on configuration and conditions.

The C295W, assembled in Seville, Spain, is being offered to the market from now on and will be the standard version of the aircraft in all versions from the fourth quarter of 2014. Certification is expected in 2Q14. Airbus Military is committing to the C295W following flight-trials with winglets fitted to its company development aircraft which showed positive results for a weight penalty of only around 90kg. The engines are the Pratt & Whitney Canada PW127 turboprops which power all versions of the C295.

Airbus Military Head of Programmes, Light & Medium, and Derivatives, Rafael Tentor said: “The C295 has consistently been the market leader in all sectors in which it is offered. By investing in continuous development of the aircraft we are committed to maintaining its leadership through the introduction of substantial operating benefits. We very much look forward to discussing the C295W with existing and prospective customers.”

