

TTU presents



PARIS AIR SHOW - LE BOURGET 2015

Mastering the 3rd dimension

Airbus Group's know-how in the field of military aircraft is founded on a synergy between its civil and military divisions. On-going innovation, thanks to the Airbus Group Innovations network and its cultivation of technological excellence through the sharing of skills and resources among its subsidiaries, is combined with Airbus's sales and marketing clout, its portfolio of customers and Airbus Defence & Space's extensive knowledge of the requirements of armed forces. In the field of military helicopters, the same synergy is largely responsible for the success of Airbus Helicopters, the worldwide leader on civil markets.

AIRBUS
GROUP

A400M

CUSTOMERS

Belgium
 France
 Germany
 Luxembourg
 Malaysia
 Spain
 Turkey
 United Kingdom

A crucible of technological and operational know-how, the **A400M**, the new kingpin of European strategic and tactical transport, is a military aircraft that features the latest civil aeronautical technologies, such as flight controls, automation and advanced systems integration. The **A400M** improves the fluidity and efficiency of military operations thanks to its impressive technical robustness. It is used on various theatres of operation and flew around the world in a 17-stage journey totalling more than 70 flight hours without experiencing any failures. The **A400M** has clocked more than 2,000 operational flight hours within the French Air Force. In addition to its versatility and high degree of manoeuvrability, it is capable of transporting very heavy payloads (20 **A400M** aircraft will be able to carry more than 3,000 tonnes over a distance of 4,500 km in five days). Its operational capabilities will be reinforced with the introduction of new standards that include, first of all, major new tactical capabilities, such as parachuting of equipment and personnel, adaptation to unprepared airstrips and the capability to operate in very hot weather, and second, the capability for automatic navigation at low altitude. These capabilities are currently in the process of obtaining qualification or are in development.

PRODUCTION SITES	 SPAIN	Final assembly and composite materials
	 GERMANY	Assembly of engines, main fuselage
	 UNITED KINGDOM	Wing assembly
	 FRANCE	General systems integration, assembly of cockpit, fairing and landing gear
	 BELGIUM	Leading edges and wing flaps
	 TURKEY	Forward fuselage, spoilers



The **A400M** has already been ordered by eight countries, for a total of 174 aircraft. France, Germany, the United Kingdom, Spain, Belgium, Turkey and Luxembourg, the launch customers, have been joined by Malaysia. France has already received six aircraft. Following major renovations, Air Base 123 in Orléans is now home to the A400 fleet, which will gradually replace ageing C-130 Hercules and C-160 Transall aircraft.



A330 MRTT

CUSTOMERS (signed orders)

Australia (5)
France (12)
Saudi Arabia (6)
Singapore (6)
United Arab Emirates (3)
United Kingdom (14)

The **A330 MRTT** was designed as a true multi-role aircraft, capable of carrying out in-flight refuelling, strategic transport, medical evacuation and intelligence missions. Within the French Air Force, it will replace the fleets of C-135, A310 and A340 aircraft. A single MRTT is capable of carrying out the same number of missions as two or three previous-generation aircraft. With maintenance also, it represents a generational leap with respect to the C-135 FR, by introducing the latest maintenance concepts in commercial aviation. An already a mature platform, the MRTT is notably deployed in Iraq, where each day it reliably carries out the refuelling of aircraft used by the coalition against the Islamic State. The **A330 MRTT** was also designed as a scalable aircraft, with future capacities for growth beyond the initial standard. Its development potential, made possible by its template, electrical power and ability to remain on station, will enable it to serve as an “intelligent tanker,” capable of carrying out ISR and C2 missions, or to relay information transmitted by other airborne systems. It has been ordered by the United Kingdom, Australia, Saudi Arabia, the United Arab Emirates, Singapore and France, and selected by Qatar and India.



C295 Persuader

The **C295 Persuader** is the latest addition to the line of tactical transport aircraft made by Airbus Defence & Space. Robust, and noted for its fuel efficiency, it only requires light maintenance. It has been certified on both civil and military levels since 1999. With the initial CN235 version, there are more than 400 units in service on all continents. In “surveillance and maritime patrol” version (MPA), the **C295 Persuader** has two hard points for torpedoes, anti-ship missiles or mines, a nose-mounted camera and an ESM system. One of the features that make the **C295 Persuader** a unique aircraft in its category is the “Fully Integrated Tactical System” (FITS) console, developed by Airbus Defence & Space. It integrates and controls the mission sensors, serves as a man-machine interface for the navigation and communication systems of the **C295 Persuader** and provides onboard operators with real-time tactical image. It greatly facilitates maritime patrol, anti-submarine, and maritime reconnaissance missions as well as fisheries policing and pollution control missions.

The **C295 Persuader** is in service with the Chilean Navy and has been ordered by Algeria.

An unique aircraft in its category with the “Fully Integrated Tactical System” (FITS) console



Caracal

CUSTOMERS

Brazil
France
Indonesia
Malaysia
Mexico
Saudi Arabia
Thailand

Based on the Cougar, the **H225M Caracal** is the first French helicopter fitted with a complete self-protection system (radar alert, missile approach and laser alert detectors). It is capable of fulfilling a wide range of missions, from tactical transport and special operations to SAR and maritime patrol missions. A major asset for French special forces, the Caracal can carry up to 28 commandos and boasts an endurance of six hours and 15 minutes with its ferry tanks. The **Caracal** features a FLIR turret, which provides it with night-time/all-weather intervention capabilities, and its man-machine interface has been optimised to provide maximum assistance to the crew. This proven aircraft's exceptional capabilities were confirmed during its deployments with French forces in Afghanistan (used with or for the Allies, who were able to see its efficiency in action), Libya, Mali, Mauritania, Niger, Chad and Burkina Faso. In 2006, during Operation Balliste in Lebanon, French **Caracal** aircraft evacuated 1,000 people in three weeks. In all, 108 units have been ordered by France (19 aircraft for the 4th RHFS, EH 1/67 Pyrénées and GAM 56), Brazil, Saudi Arabia, Mexico, Malaysia, Indonesia and Thailand. Other sales are anticipated, in particular in Poland.





Major asset for French
Special Forces

Tigre HAD

Combat-proven, the Tiger HAD has been deployed in the Sahel and in Central Africa

Since 2005, the **Tigre** has formed the core of the French Army Light Aviation's airmobile capabilities. Its deployments in Afghanistan, Libya, Somalia and Mali were key to manoeuvres, forces protection and in-depth strikes. The HAD version (support-destruction), the first units of which were deployed by the French Army in Central Africa and in the Sahel, features an air-to-surface missile capability. Carrying Spike or Hellfire II missiles enables it to fire at reinforced targets from 8,000 metres away. Highly agile, the **Tigre HAD** is also powerful and benefits from a strengthened motorisation, thanks to its two MTR390 turbines that allow a weight of 6,600 kg on take-off. Its avionics suite notably includes the EUROGRID battle space management system and the latest-generation, four-axes digital automatic flight control system. The **Tigre HAD** is fitted with a TV camera, a thermal imaging camera and a laser designator that enable it to simultaneously track up to four targets. Its additional fuel reservoirs provide it with a greater flight range consistent with the use of air-to-surface anti-tank missiles. With the Block 2 recently qualified, the **Tigre HAD** is now "navalised" for air-maritime operations, notably from helicopter-carrier projection vessels. France has already received 10 units of this version of a total fleet of 60 that is currently being upgraded – including the Tiger HAPs already delivered and which will be gradually upgraded to HAD standard –, and Spain has ordered 24.



NH90 TTH

The **NH90 TTH**, the latest of the tactical troop transport (14 to 20 persons) and equipment transport helicopters (loads of more than 2.5 tonnes), is the first helicopter in its category to be fitted with electric flight commands, a carbon fuselage, a rear ramp and an integrated mission system. It can also be used for helicopter transport and medical evacuation missions, or as a helicopter-transported command post. Capable of withstanding combat damage, the **NH90 TTH** is, thanks to its endurance and its speed, totally interoperable with the Tiger. Highly manoeuvrable and resistant, it offers an excellent weight/power ratio and is capable of operating in all kinds of environments, thanks to its defrosting system and sand filters. It was deployed in Afghanistan for tactical transport and medevac missions carried out by the German and Italian armies, and in Mali by the First Combat Helicopter Regiment (1er RHC – Phalsbourg). The Australian version (MRH90 Taipan) was used in Vanuatu and in the Philippines. The TTH features many similarities with the NFH, the naval version of the NH90. In total, more than 237 **NH90 TTH** helicopters have been delivered since 2006, among which 14 TTHs to the French Army Light Aviation (ALAT), of 68 ordered, and 13 NFHs to the French Navy.

CUSTOMERS

Australia
Belgium
Finland
France
Germany
Greece
Italy
New Zealand
Oman
Spain
Sweden



AS332 C1e

A high-performance, rapidly available and cost effective solution

As a complement to the H225M and NH90 offer, Airbus Helicopters offers the multi-mission aircraft **AS332 C1e**. A modernised version of the AS332 Super Puma, this standardised equipment helicopter is a high-performance solution that is rapidly available and cost-effective. It is well-suited for logistical support operations (4.5-tonne load capability), peacekeeping or troop transport missions, including at high altitude or in very hot weather conditions. Versatile, robust and customisable on request, the **AS332 C1e** is fitted with advanced avionics notably used on the Caracal (four-axes automatic navigation, automatic flight control system and countermeasures) that provide exceptional stability and flight precision. EASA and FAA certified, the **AS332 C1e** is an excellent alternative to Russian Mi-8- and Mi-17-type helicopters. It has been ordered by Starlite Aviation (two aircraft delivered) for logistical support and peacekeeping operations (UN, NGO), by the Bolivian Air Force (six aircraft, among which two delivered) for operations against drug trafficking and civil security, and by Indonesia (one unit delivered, dedicated to ferrying between islands).



AS565 MBe

The latest naval version of the AS565 Panther, the **AS565 MBe** is a light multi-role helicopter fitted with a new engine (Turbomeca Arriel 2N) that provides increased performance at high altitude or in very hot weather conditions, an increased maximum load on take-off (MTOW) of 4,300 to 4,500 kg, an increased payload capability of 280 kg at 5,000 feet and a 10 per cent reduction in direct maintenance costs (DMC). In addition, the **AS565 MBe** has an advanced man-machine interface that enables better awareness of the tactical situation, large screens coupled with a multi-sensor processor (digital mapping, search and weather radars, FLIR – Sagem's EUROFLIR 10 system – TCAS and H-TAWS) as well as a two-channel full authority digital engine regulator (FADEC). It can be operated from ship decks or offshore locations to cover the entire spectrum of maritime security missions (MARSEC): surveillance of exclusive economic zones (EEZ), SAR, maritime counter-terrorism, anti-piracy operations, medevac, pollution control, assistance for ships in distress or vertical refuelling (VERTREP). A force multiplier and alternative to mid-range helicopters that are generally poorly adapted for multi-mission operations, the **AS565 MBe** features an endurance of four hours and is fully qualified to operate from 100 NATO ships. Nearly 1,037 Dauphin/Panther helicopters have been delivered to 279 customers in 95 countries, among which 16 to the French Navy, and 100 are in service with the U.S. Coast Guard.

Covering
the entire
spectrum of
maritime
security
operations



Eurofighter Typhoon

CUSTOMERS

(orders)

Austria (15)
Germany (143)
Italy (96)
Oman (12)
Saudi Arabia (72)
Spain (73)
United Kingdom (160)

A latest-generation twin-engine multi-role aircraft, the **Eurofighter Typhoon** is in service in the air forces of the United Kingdom, Germany, Italy, Spain, Austria and Saudi Arabia. Its supersonic, non-reheated flight capabilities and its high degree of manoeuvrability at subsonic speeds enable a wide range of missions. **Typhoons** of tranche one have demonstrated their air-to-surface strike capabilities with laser-guided bombs, and with tranche two, now all delivered, the versatile twin-engine offers the capability to fire GPS-guided bombs, and soon, Storm Shadow, Taurus and Brimstone cruise missiles. The latest-generation CAPTOR E active antenna radar, currently being developed, will considerably increase the air-to-air and air-to-surface capabilities of the **Typhoon**, thanks to extended radar coverage that enables faster and more precise target detection and acquisition. The **Typhoon** has been used in operations in the Balkans, in Libya, in Iraq and as part of NATO sky policing missions.

