

A low-angle, upward-looking shot of an Airbus A330 MRTT aircraft in flight against a clear blue sky. The aircraft's white fuselage, dark wing, and engine nacelle are prominent. A yellow and red striped tail fin is visible on the left. The perspective is from below, looking up at the underside of the plane.

A330 MRTT

The Benchmark

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A330 MRTT

Introduction

The A330 MRTT is the only new generation tanker fully certified, in operational service and combat-proven now



The A330 MRTT is a modern and adaptable platform that can carry more passengers and more freight than any competitor whilst concurrently performing its air-to-air refuelling missions. The A330 MRTT is the most efficient way to succeed in your mission!

Need for a New Generation of Tankers

Modern air power doctrine reveals four primary roles for military air asset:

- Air Defence: control of the air.
- Intelligence, Surveillance and Reconnaissance: the "eye and ears" in the sky.
- Deep Strike: offensive action.
- Air Transport: men and equipment movement between and within theatres.

History has shown that all of these roles can be enhanced by the use of Air-to-Air Refuelling (AAR), extending the endurance of patrolling aircraft, increasing the combat effectiveness of strike forces and making longer range deployments safe and possible.

Tankers are an acknowledged force multiplier in air forces worldwide. However, aging tanker fleets no longer meet 21st Century operational requirements due to constraints of lack of fuel capacity, insufficient range and mission endurance, obsolescence of avionics, poor availability and high maintenance costs.

Indeed, in order to meet the challenging and concurrent mission requirements ahead, Multi Role aircraft provide maximum operational flexibility and significantly reduce through-life costs.

The A330 MRTT: The Benchmark

Airbus A330 Multi Role Tanker Transport (MRTT) has transformed the air mobility options available to the world's air forces, thanks to:

- An inherited platform developed from a massively successful airliner: the Airbus A330-200.
- A fuel capacity of 111 Tonnes. The A330 MRTT is the first ever tanker to achieve such a fuel capacity without the use of additional tanks.
- Latest Cobham and Airbus Defence & Space AAR system technology.
- The capability to transport 300 equipped troops across intercontinental distances.
- Up to 45 tonnes payload capacity (permanent 8 NATO pallets capacity in the lower deck).
- Total mission flexibility, that allows cargo, personnel, and medical evacuation transport in the same sortie as the AAR role.
- Unrivalled through-life cost savings.

The A330-200: A sound Basis

The A330 MRTT is derived from the highly successful Airbus A330-200 airliner, a medium-to-long range, twin aisle, twin engine aircraft. Features such as the most advanced technologies, composite materials and proven modern aerodynamic designs, make the A330-200 the most competitive economics solution.

More than 1050 A330s cross the sky daily; a growing order backlog of 330 more ensures sustained production of the aircraft for years to come, continuing upgrades and improvements and guarantying a ready supply of competitively-priced spare parts.

Airbus Group and Tankers

Airbus Defence & Space is responsible, within Airbus Group, for the development and marketing of military aircraft, for roles such as military transport/tanker, antisubmarine warfare, maritime patrol, airborne early warning and other special applications.

Besides responsibility for the A330 MRTT programme, Airbus Defence & Space is the tanker developer and supplier of the six A310 MRTT New Generation mid-sized Tanker Transports in operation within the Canadian Air Force (CAF) and German Air Force (GAF).

The A310 MRTT has proven its operational effectiveness by actively supporting recent campaigns: Libya, Operation Unified Protector, in 2011 and in Mali, within Operation Serval, in 2012/2013.

Proven AAR System

Its fast fuel flow rate (up to 3 600 kg/min - 1 200 US gal/min) makes the ARBS the most capable new generation flight proven Boom available.



Aerial Refuelling Boom System (ARBS)

Located underneath the rear fuselage of the tanker, the Airbus Defence & Space ARBS refuels receptacle-equipped receivers such as the F-16 Fighting Falcon, the F-35A Lighting II or the A330 MRTT itself (when equipped with the UARRSI).

The Airbus Defence & Space Fly-by-Wire ARBS is the only new generation Boom, in service today, providing a larger geometrical envelope for safer, quicker and easier operations through more accurate disconnection systems and responsive controls.

Universal Aerial Refuelling Receptacle Slipway Installation (UARRSI)

If required by an air force, the A330 MRTT can be equipped with an interoperable UARRSI compatible with Boom nozzles and compliant with NATO standards. During night operations, the refuelling receptacle is illuminated and markings around are provided.

The UARRSI allows the A330 MRTT to be refuelled from Boom-equipped tankers with up to 3600 kg/ min - 1200 US gal/min refuelling transfer rate.

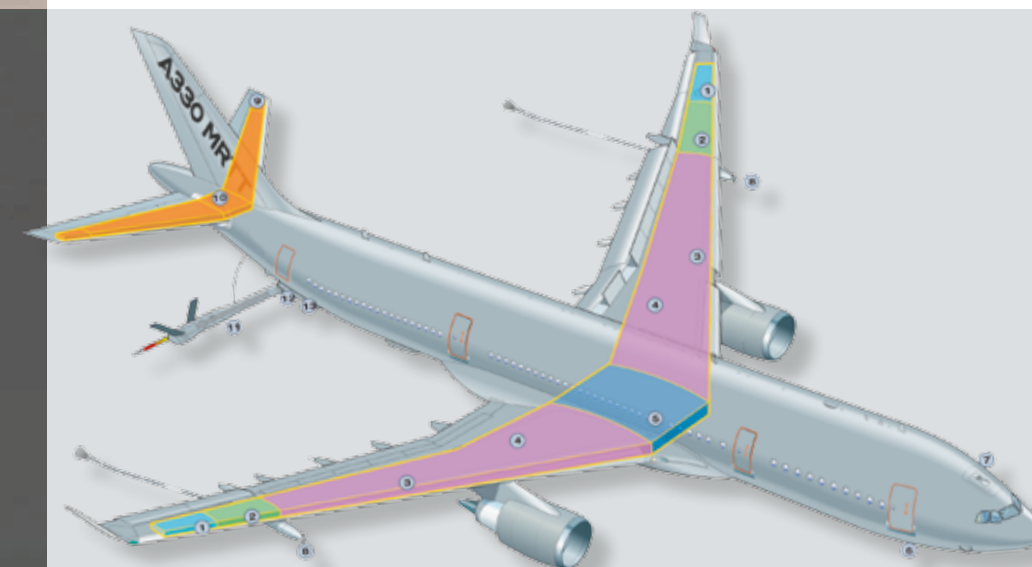
The A330 MRTT 111 000 kg (245 000 lb) fuel capacity of the basic fuel system provides the aircraft with an exceptional range and offload capability without additional tanks

A Large Basic Fuel Capacity

Its basic fuel capacity allows the A330 MRTT to carry and offload more fuel than any competitor and due to its efficient powerplants, to conduct the full range of primary AAR and transport missions with exceptional range.

Retaining its genuine Multi Role capability, the A330 MRTT is fully interoperable with Probe-equipped and Slipway-equipped receivers on the same mission with no need for tanker reconfiguration.

- 1 Vent Tank
- 2 Outer Tank
- 3 Inner Tank
- 4 Collector Box
- 5 Center Tank
- 6 Air Refuelling Console
- 7 UARRSI
- 8 Under-Wind Pods
- 9 Vent Tank
- 10 Trim Tank
- 11 Aerial Refuelling Boom System
- 12 Fuselage Refuelling Unit
- 13 Enhanced Vision System



A high fuel offload rate (1800 kg/min - 600 US gal/min) ensures AAR of large Probe-equipped aircraft such as the C-130J, the KC-390, the C295 and the A400M.



Under-Wing Pods provide simultaneous Hose and Drogue refuelling at high fuel offload rate (1300 kg/min - 420 US gal/min), allowing receivers to minimise refuelling time and increase operation efficiency



Air Refuelling Console

The A330 MRTT AAR systems and mission planning systems are controlled from the advanced Air Refuelling Console, located in the flight deck. This increases the safety of the AAR operation and ensures a timely and synchronized reaction of the flight crew to unexpected events. A second seat facilitates observation and training activities and can be additionally used for an optional mission system operator.

The Air Refuelling Console is seamlessly integrated with the A330 flight deck following Airbus design principles of dark cockpit, improving the situational awareness of the Air Refuelling Operator (ARO).

Enhanced Vision System (EVS)

The A330 MRTT includes an EVS that allows the remote operation of the AAR systems using a 2D/3D digital system.

This high definition camera system provides day, night and adverse weather operation images, a complete view of the traffic in a 270° sector behind the aircraft, an option to monitor details of the refuelling equipment and allows high resolution video recording of the refuelling operations.



Fuselage Refuelling Unit (FRU)

The advanced Cobham 805E FRU presents a reliable and capable single point alternative to Under-Wing Pods, offering a permanent Hose and Drogue capability with negligible impact on aircraft performance.

The FRU, a removable Hose and Drogue unit mounted in the rear fuselage of the aircraft, allows refuelling receivers with a different fuel type. This option assures NATO fuel type to be transferred from Wing-Pods, while an alternative fuel type is dispensed from the FRU.

Under-Wing Pods

The Cobham 905E Under-Wing Pods, currently in service, enable the A330 MRTT to refuel any NATO or allied Probe-equipped receivers such as the Typhoon, the Tornado, the Jaguar, the F/A-18 Hornet or the Sukhoi 30. The 900 series Wing-Pods incorporate a digitally controlled and electrically operated Hose drum unit, optimizing reliability and maintainability.

Taking advantage of the hard points already available in the wings, the A330 MRTT is the lowest risk choice platform. Wing-Pods are fitted where outer engines are usually located on the common A330/A340 wing, minimizing modifications and avoiding structural instabilities found in other tankers.

The full tanker crew shares a common area in the cockpit during operation, enhancing crew coordination and joint situational awareness



Systems

The A330 MRTT is certified for two-crew transport operation and has the most advanced Flight Deck in the tanker/transport market today. It provides higher reliability and lower crew workload, thus dispensing crews with spare capacity to enhance mission success.

State-of-the-Art Flight Deck

The A330 MRTT fully benefits from the latest advances in commercial aircraft cockpit design, including advanced avionics, a modern human machine interface (HMI) and Fly-by-Wire (FBW) controls, to reduce crew workload and enhance situational awareness.

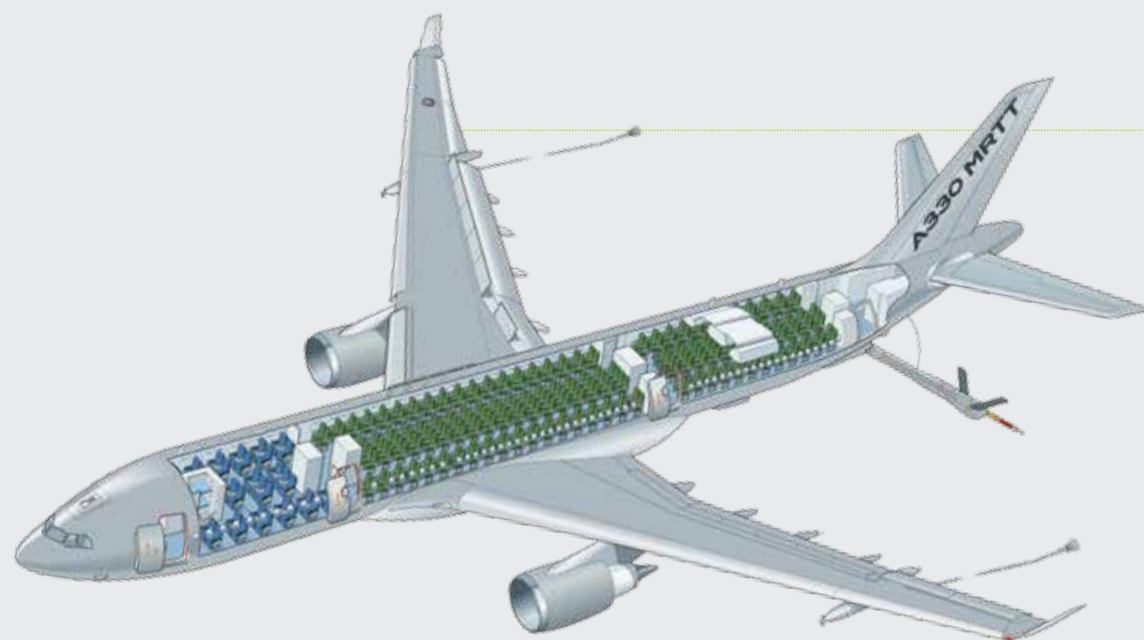
A complete glass cockpit provides not only the required flight data, but also electronic specific AAR and mission data to both pilots: for first time the commander of the tanker has full awareness with video image of the AAR

operation behind the aircraft. Two side-stick controllers give precise control to the FBW system, which delivers improved and safer flight characteristics.

The refuelling systems are operated from a console installed for first time inside the cockpit, maximizing crew coordination. The ARO console includes a second position to accommodate an instructor or a mission coordinator, who has access to the interphone, communication systems and mission systems through the ARO console.

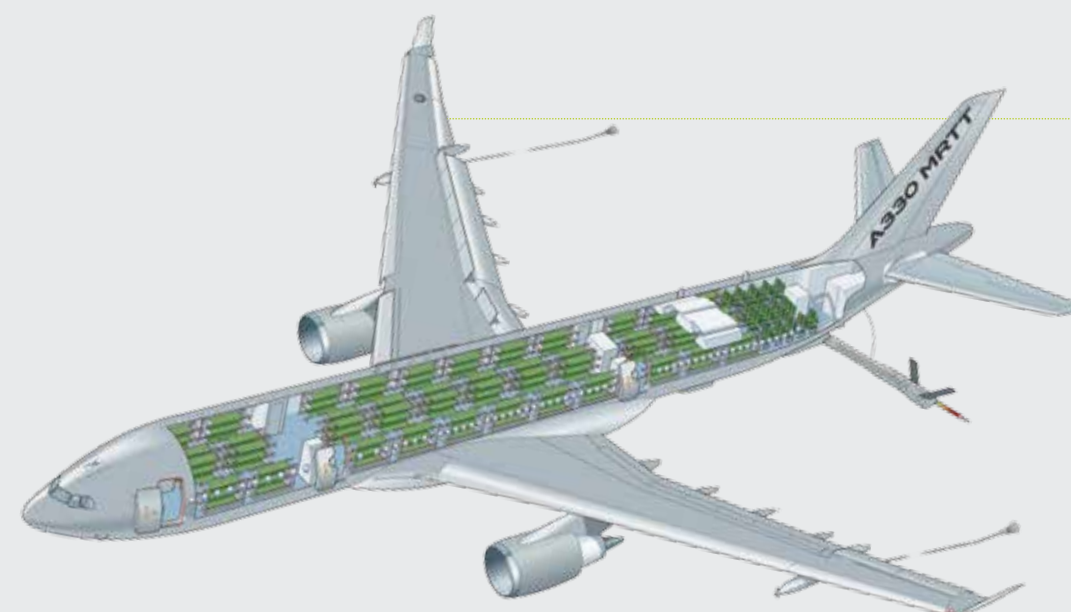
Strategic Transport Capabilities

The A330 MRTT accommodates 56% more passengers and 55% more stretchers than competitors.



Passenger Configuration

The A330 MRTT can transport 266 passengers on a typical two-class configuration (30 in business seats and 236 in economy), or up to 300 troops on a single class configuration with true airline passenger comfort. The maximum certified capacity is 380 passengers. The A330 MRTT versatile seating arrangement provides greater comfort and more configuration flexibility than any other tanker.



Medical Evacuation (Medevac) Configuration

The A330 MRTT is an outstanding strategic Aeromedical Evacuation aircraft. Its large fuselage permits maximum flexibility allowing up to 130 NATO stretchers to be carried over intercontinental distances and ensuring comfort for all.

Additionally, medical beds can be installed over the top of designated fold down seats in any seating configuration and stowed within the lower cargo compartment. The A330 MRTT can be simultaneously used as troop transport on an outbound relief mission, and is capable of being rapidly converted into a Medevac aircraft at any time.

Wide body Fuselage

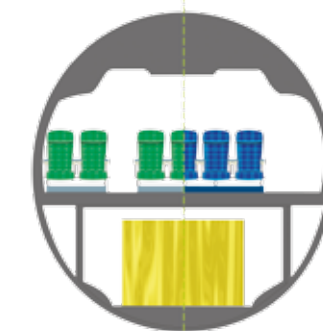
The A330 MRTT is a true wide body aircraft and its extensive cabin provides greater comfort and more configuration options than any other tanker available today. The wings are large enough to hold all the fuel needed to make the A330 MRTT a high performance tanker without affecting either the lower deck cargo compartments or the upper deck transport capabilities.

Featuring a 222 in (5.63 m) wide body fuselage cross-section, the A330 MRTT deck offers simultaneously flexible passenger and cargo roles.



No cargo capability when additional fuel tanks added

KC-767A KC-46



Only one LD3 or non-standard containers (such as additional fuel tanks)

A330 MRTT



Efficient side-by-side LD3 containers and no additional fuel tanks

The A330 MRTT is capable of carrying a payload of up to 45 tonnes (99 000 lb)

The versatility of the A330 MRTT enables cargo to be conveniently stored within the lower deck in a variety of cargo options covering the full range of existing under floor cargo containers and pallets



VIP configurations

The outstanding Multi Role capabilities of the A330 MRTT can be further enhanced by selecting a VIP transport cabin configuration.

For a more flexible option, Airbus Defence & Space offers removable VIP transport kit modules.

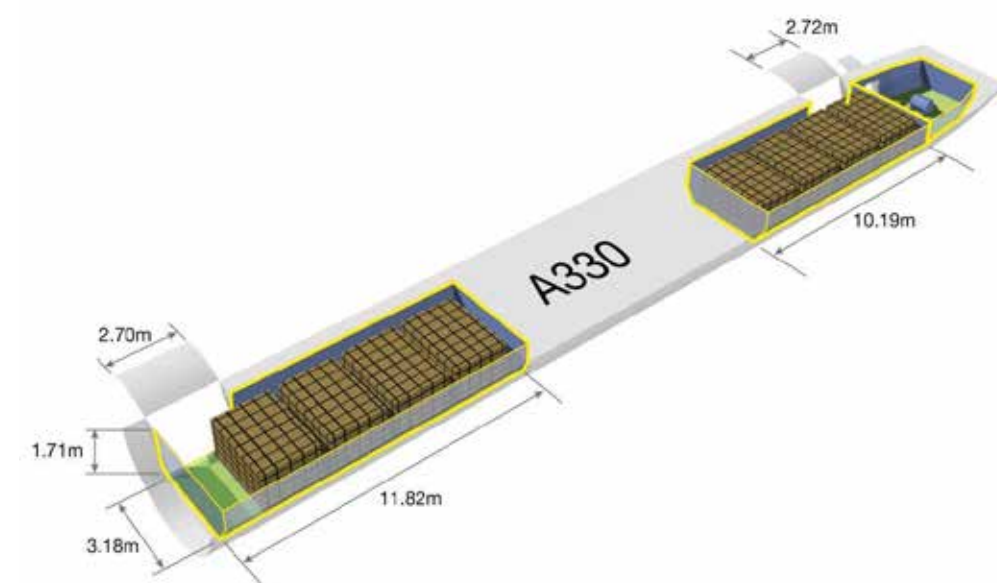


Lower Deck Configurations

Like the A330-200, the A330 MRTT includes three lower deck cargo compartments (forward, aft and bulk) which further demonstrate the versatility of the aircraft. These areas provide as much volume as the C-130 and as much Payload as the A400M.

The A330 MRTT provides air forces with a new standard in air transport:

- No need for special containers.
- AAR systems do not affect cargo compartment capacity.
- Maximum useable volume of 120 m³ (4200 ft³).



Customers

“The A330 MRTT make a tremendous contribution to Australia’s need to move large numbers of personnel and cargo over long distances, both domestically and throughout the Asia Pacific region.”

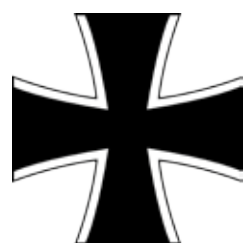
Air Cdr Gary Martin, Former RAAF Air Lift Commander



MRTT: The Preferred Tanker/Transport Solution

2010 marked the 10th anniversary of the contract signature of the first MRTT derived from an Airbus platform: the conversion of four A310-300 into A310 MRTT for the German Air Force.

In June 2011, the first Airbus DS new generation tanker, the A330 MRTT, was delivered to the Royal Australian Air Force. Up to the date, Airbus DS has sold 34 units to 5 different Air Forces and more than 20 A330 MRTT are currently in service with 4 operators.



4 A310 MRTT
Germany
Luftwaffe



2 A310 MRTT
Royal Canadian
Air Force



5 A330 MRTT
Royal Australian
Air Force



6 A330 MRTT
Royal Saudi
Air Force



3 A330 MRTT
United Arab Emirates
Air Force



14 A330 FSTA
United Kingdom
Royal Air Force



6 A330 MRTT
Republic of
Singapore Air Force

Customer Services

Airbus Defence & Space Customer Services organization is backed by more than 35 years of success offering performance services tailored to the demanding expectations of each of our customers around the globe.

Airbus Defence & Space's main objective is to ensure the accomplishment of their missions and, for that reason, Airbus Defence & Space has developed integrated support solutions to obtain the best operational performance and benefit from a comprehensive range of services, including:

- Integrated services solutions.
- Customer support.
- Training and operation services.
- Maintenance, Repair and Overhaul (MRO), Maintenance engineering and fleet management services
- Engineering services.
- Material services.
- IT solutions.

Moreover, the A330 MRTT customers will profit from the high reliability of the civil A330-200 airliner, a commercial product that has consistently maintained unprecedented operational availability rates of over 99%, and will take advantage of worldwide support infrastructure demanded by today's commercial airlines.

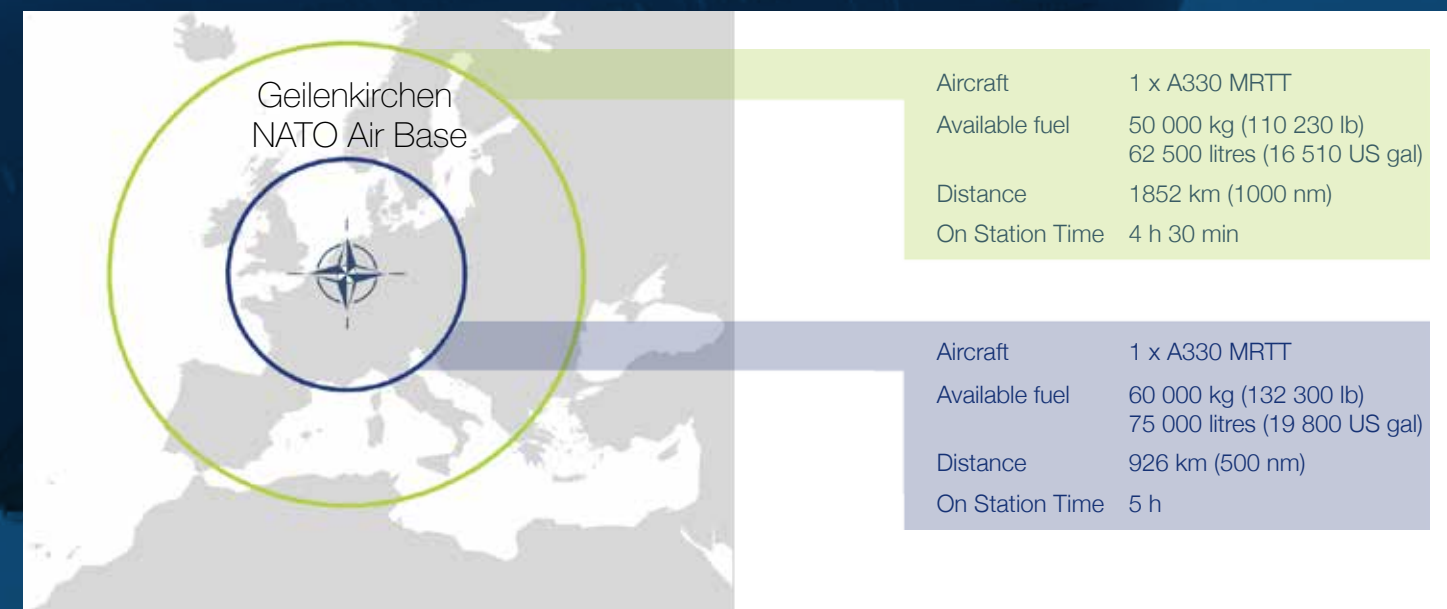


AAR Performance

“This aircraft can take six fighters from Australia to the mainland United States happily. Its loiter time and offload is almost twice that of a US Air Force KC-10A Extender.”

Air Cdr Gary Martin,
Former RAAF Air Lift Commander

Towline Mission Capability



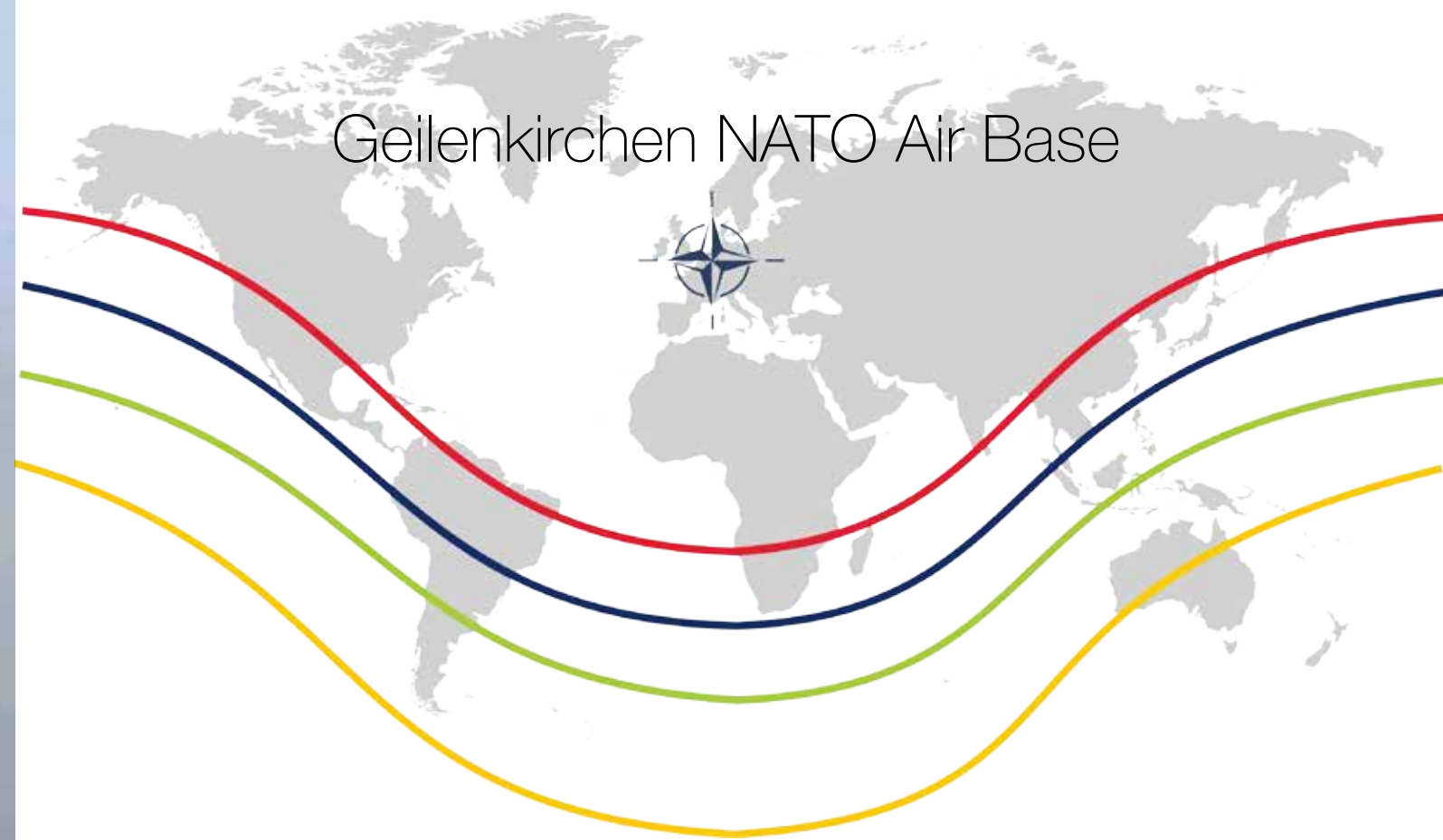
Deployment (Trail) Mission Capability

“We can drag four Typhoons directly from the UK to the eastern seaboard of the United States, stay the night, and then go all the way to Red Flag (in Nevada). With a VC10 (...) that’s four nights, versus two with the Voyager.”

Air Wing Commander Jamie Osborne,
Officer Commanding 10 Squadron



Air Transport Performance



- 40 000 kg (88 000 lb) = 300 troops and their equipment over 4500 nm (8400 km)
- 30 000 kg (66 000 lb) = 200 rescue personnel and their equipment over 5500 nm (10 200 km)
- 20 000 kg (44 000 lb) = 250 evacuees over 6500 nm (12 000 km)
- Ferry Range = 8000nm (14 800 km)

Specifications and Dimensions

GENERAL DIMENSIONS			
Overall Length	58.80 m		193 ft
Overall Height	17.40 m		57 ft
Wing Span	60.30 m		198 ft
Wing Area	362 m²		3897 ft²

MAXIMUM WEIGHTS			
Maximum Take-Off Weight (structural) MTOW	233 000 kg		514 000 lb
Maximum Landing Weight (structural) MLW	182 000 kg		400 000 lb
Maximum Fuel Weight MFW	111 000 kg		245 000 lb
Maximum Payload	45 000 kg		99 000 lb

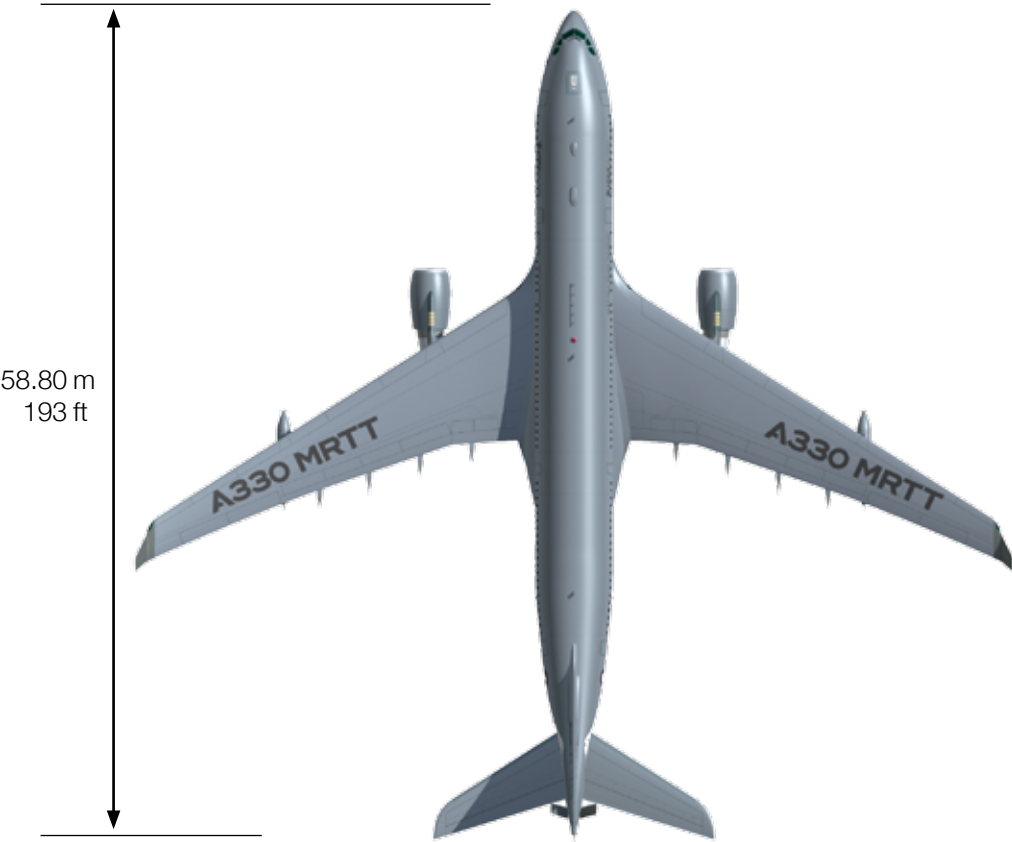
ENGINE			
General Electric CF6-80E1A3	320 kN		72 000 lbf
Rolls-Royce Trent 772B	316 kN		71 000 lbf

PERFORMANCE			
Maximum Cruise Altitude	12 600 m		41 500 ft
Maximum Operating Altitude - AAR Mission	10 700 m		35 000 ft
Maximum Cruise Speed		Mach 0.86	
Typical Cruise Speed		Mach 0.82	
Refuelling Envelope		180-325 kt CAS	

RANGE			
Range with Maximum Payload (ISA+15)	7000 km		3800 nm
Range with 40 Tonnes Payload (ISA+15)	8400 km		4500 nm
Range with 30 Tonnes Payload (ISA+15)	10 200 km		5500 nm
Range with 20 Tonnes Payload (ISA+15)	12 000 km		6500 nm
Range with 10 Tonnes Payload (ISA+15)	13 900 km		7500 nm
Ferry Range/ Range with Maximum Fuel (ISA+15)	14 800 km		8000 nm

TAKE-OFF AND LANDING PERFORMANCE			
Landing Distance - LFL-SL MLW	1750 m		5700 ft
Landing Distance - LFL - 2000 ft, MLW	1800 m		6000 ft
Take-off Distance - SL, ISA, MTOW	2800 m		9200 ft
Take-off Distance - 2000 ft, ISA, MTOW	3000 m		10 000 ft

CREW	
Flight Crew	2
Mission Crew	1 Air Refuelling Operator and 1 Mission Planning System Operator (optional)





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 More information on the A330 MRTT official web site: www.a330mrtt.com

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