C-390 MILLENNIUM

EMBRAER

C-390 MILLENNIUM

UNBEATABLE COMBINATION

THE NEW GENERATION MULTI-MISSION TRANSPORT AIRCRAFT

C-390 MILLENNIUM

THE ANSWER TO THE 21ST CENTURY DEMANDS

The new generation military multi-mission transport aircraft with unrivaled mobility and operational flexibility in a single platform. This provides air forces with optimal fleet performance generated by a cost-effective combination of high availability and productivity.

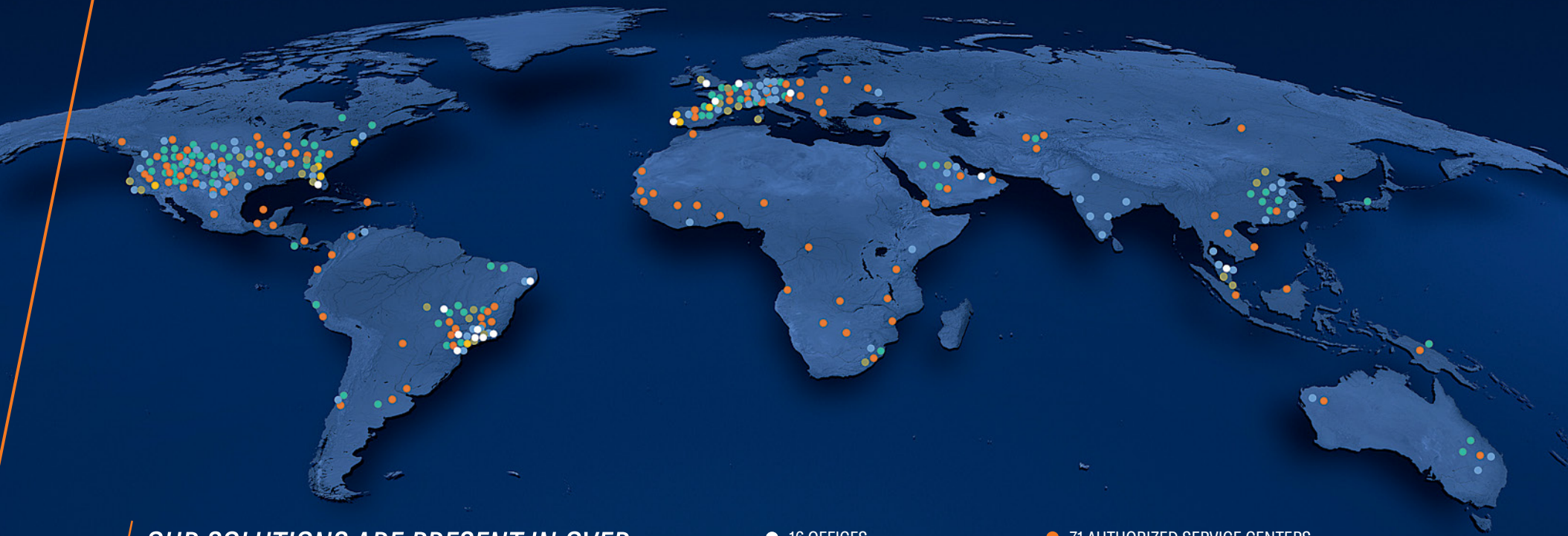
- RAPID RECONFIGURATION AND THE LATEST TECHNOLOGY
- OPERATIONAL EFFICIENCY AND LOW LIFE-CYCLE COSTS
- SPEED IN THE AIR AND FASTER TURNAROUNDS

WORLDWIDE PRESENCE

Embraer was born for Defense as a successful strategic plan by the Brazilian Government. The company was founded in 1969 and is recognized globally for the quality of its products and services.Privatized in 1994 and listed on the New York Stock Exchange, Embraer is a global leader in solutions for Defense and space, offering an integrated portfolio from aircraft to complex border surveillance systems. Learn more about our products and services at defense.embraer.com/global

CLIENT	QTY	1ST DELIVERY	
BRAZIL	x22	2019	
PORTUGAL	x05	2023	NATO
HUNGARY	x02	2024	NATO

WORLDWIDE PRESENCE



OUR SOLUTIONS ARE PRESENT IN OVER
60 GOVERNMENTS AND ARMED FORCES

- 16 OFFICES
- 24 WAREHOUSES
- 9 OWNED SERVICE CENTERS
- 71 AUTHORIZED SERVICE CENTERS
- 110+ FIELD SUPPORT REPRESENTATIVES
- 75+ FLIGHT SIMULATORS

VALUE PROPOSITION

MULTI-MISSION CAPABILITY TO PERFORM MORE WITH A SINGLE AIRCRAFT

Built-in multi-mission capability
Built-in rapidly reconfigurable multi-mission design

PRESERVE INTEGRITY OF THE LIVES AND THE ASSET

Safety level comparable with most modern commercial jets
Improved aircraft survivability level
Low crew workload

OPTIMAL, AVAILABLE AND COST-EFFECTIVE OPERATIONAL FLEET

Low life cycle cost, High availability and Reduced fleet size

HIGHER PERSONNEL READINESS UPON DEPLOYMENT POINT OR ARRIVAL

Cabin comfort: enhanced crew and pax environment

CONFIDENCE IN MISSION ACCOMPLISHMENT

Easy to fly and low crew workload and High completion rate

OPERATION FLEXIBILITY

Can operate with minimal ground support and in austere environments, including operations from unpaved or damaged runways

UNRIVALED MOBILITY IN ITS CLASS

High productivity and Fast loading and unloading

PERFORMANCE AND SPECIFICATIONS

PERFORMANCE

Maximum Payload (Concentrated)	**26 metric ton / 57,320 lb**	
Maximum Payload (Distribuited)	**23 metric ton / 50,706 lb**	
Fuel Capacity (wing tanks, usable)	**23.9 metric ton / 52,690 lb**	
Maximum Cruise Speed	**470 KTAS/Mach 0.80**	
Altitude Ceiling	**36,000 ft**	
Cabin altitude (at max ceiling)	**8,000 ft**	
Range with 26 metric ton (57,320 lb)	**1,080 nm**	
Range with 23 metric ton (50,700 lb)	**1,470 nm**	
Ferry Range	**3,370 nm**	
Ferry Range with internal tanks	**4,570 nm**	
Takeoff Dist (CFL, SL, ISA, 500 nm, payload 23 metric ton)	**1,524 m**	**5,000 ft**
Takeoff Dist (CFL, SL, ISA, 500 nm, payload 16 metric ton)	**1,165 m**	**3,820 ft**
Vref with 25 klb of useful load	**116 KCAS**	
Normal Landing Dist (SL, ISA, 26 metric ton)	**1,000 m**	**3,280 ft**

DIMENSIONS

Length	**35.20 m**	**115 ft 5 in**
Height	**11.84 m**	**38 ft 10 in**
Wing Span	**35.05 m**	**115 ft**

CARGO HOLD

Length (Floor + Ramp)	**18.50 m**	**60 ft 8 in**
Height (Minimum)	**2.95 m**	**9 ft 8 in**
Width	**3.45 m**	**11 ft 4 in**
Volume	**169 m^3**	**5,970 ft^3**

MAIN SYSTEMS

IAE V2500-E5 engines with 31,330 lb of takeoff thrust

Rockwell Collins Pro Line Fusion Avionics System

Gabbiano Tactical Radar T-20 from SELEX Galileo

CERTIFICATION

The C-390 MILLENNIUM is fully militar certified. This hybrid process combines the efforts of both civil and military airworthiness authorities. This approach ensures the aircraft can safely accomplish all its military missions.

The C-390 MILLENNIUM basic platform was certified by the Brazilian Civil Airworthiness authority in accordance with FAA 14 CFR Part 25 standards.

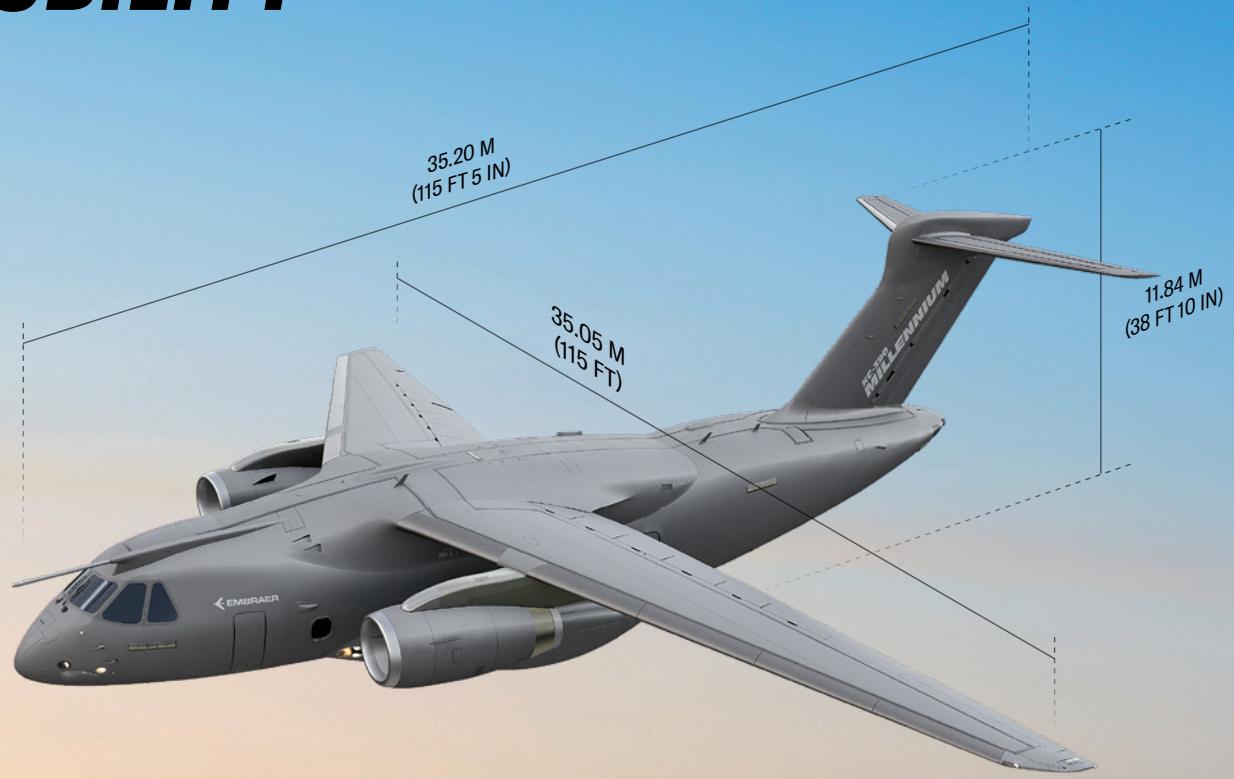
The military certification complements the civil certification with military standards, specifications and criteria in order to cover the military mission accomplishment, military items and systems.

DUAL CERTIFICATION *APPROACH FROM THE BEGINNING*

INCREASED MOBILITY

The ability to project joint forces over great distances is essential to every military. The C-390 MILLENNIUM offers unrivaled strategic, operational and tactical logistic support with unmatched mobility, speed and range, anywhere in the world.

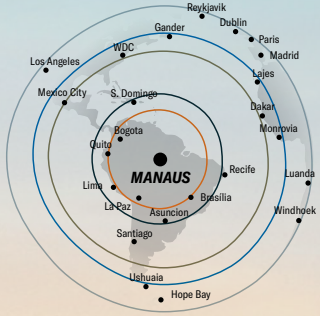
Cruising at 0.80 Mach and moving up to 26 metric ton (57,000 lb), the C-390 MILLENNIUM delivers more payload faster than any airplane in the tactical airlifter market.



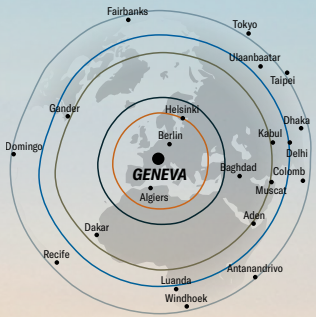
THE JET ADVANTAGE:
PRODUCTIVITY AND EFFICIENCY

INCREASED MOBILITY

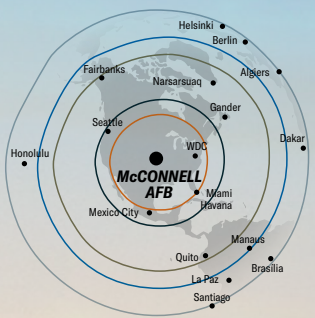
RANGE



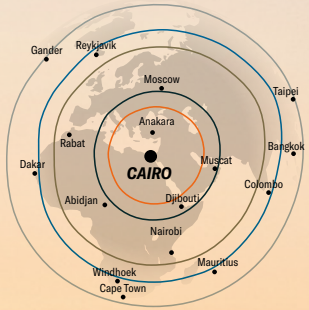
BRAZIL



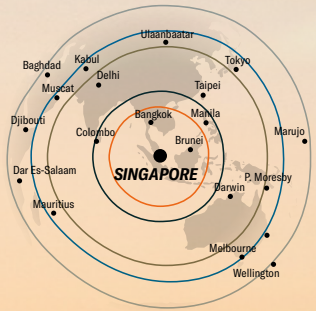
SWITZERLAND



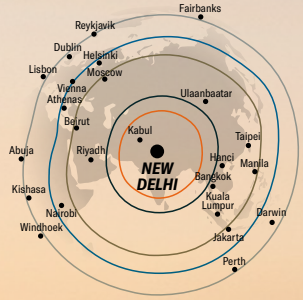
USA



EGYPT



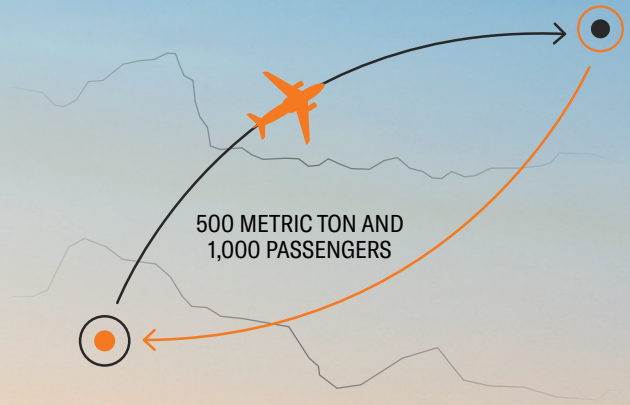
SINGAPORE



INDIA

- 1,080 NM - 26 METRIC TON / 57,320 LB
- 1,470 NM - 23 METRIC TON / 50,706 LB
- 2,710 NM - 14 METRIC TON / 30,864 LB
- 3,370 NM - FERRY FLIGHT
- 4,570 NM - FERRY FLIGHT WITH FUSELAGE TANKS

FAST RESPONSE

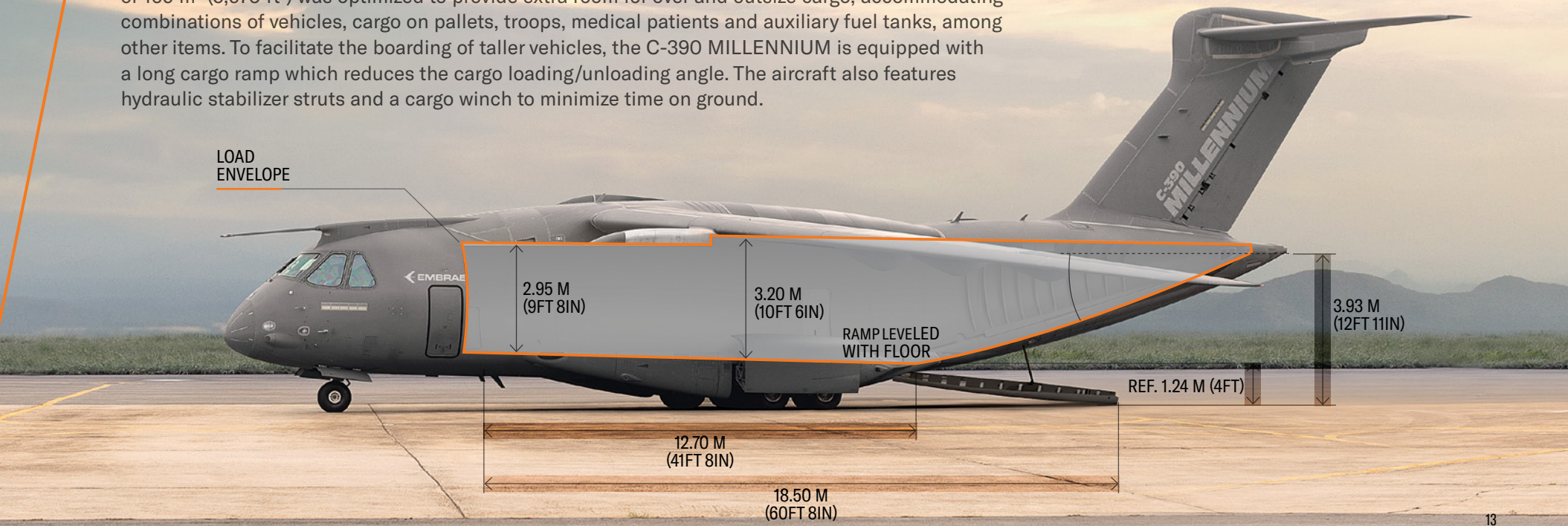


Fleet	**6 x C-390 MILLENNIUM**
Round Trip Distance	**1,350 nm**
Round Trip Flight Time	**3h20**

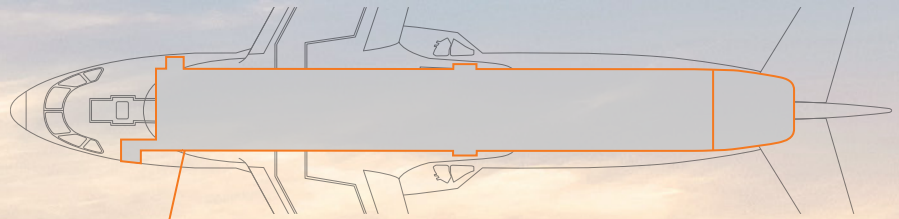
***500** METRIC TON AND **1,000 PASSENGERS** DELIVERED IN LESS THAN **2 DAYS**, **40% FASTER** THAN A TYPICAL TACTICAL TURBOPROP AIRLIFTER*

CARGO CAPACITY

THE C-390 MILLENNIUM IS CAPABLE OF CARRYING HEAVY COMBAT VEHICLES WEIGHING UP TO 26 METRIC TONS (57,320 lb). An unobstructed, continuous width cargo compartment with a volume of 169 m^3 (5,970 ft^3) was optimized to provide extra room for over and outsize cargo, accommodating combinations of vehicles, cargo on pallets, troops, medical patients and auxiliary fuel tanks, among other items. To facilitate the boarding of taller vehicles, the C-390 MILLENNIUM is equipped with a long cargo ramp which reduces the cargo loading/unloading angle. The aircraft also features hydraulic stabilizer struts and a cargo winch to minimize time on ground.



CARGO CAPACITY



CONTINUOUS WIDTH

LOAD ENVELOPE

2.95 M
(9FT 8IN)

3.45 M
(11 FT 4 IN)

RUGGED DESIGN

DEVELOPED ACCORDING TO STRINGENT REQUIREMENTS, the C-390 MILLENNIUM is a transport aircraft with multi-mission capabilities with a rugged design that withstands operations from semi-prepared and damaged runways, as well as in harsh environments, varying from the hot and humid Amazon forest down to the freezing cold Antarctic continent, as well as in hot and sandy desert conditions.

Short, austere, semi-prepared and damaged airfields are important operational environments for military airlift aircraft. The operational capacity of the C-390 MILLENNIUM on semi-prepared and unpaved airfields is achieved through a combination of a highly capable structure, and landing gear designed to operate and reduce damage on soft unpaved airfields. The engines are mounted in a forward elevated position to prevent ingress of debris.

The C-390 MILLENNIUM is capable of operating from the maximum (worst) semi-prepared and damaged runways defined by MIL-B-8866B and, for soft field operations, perform 10 passes at a CBR 4 airfield (loose fine sand or soft clay). The C-390 MILLENNIUM has excellent ground maneuverability, and can operate on airfields with limited space for parking or maneuvering and no ground facilities. The C-390 MILLENNIUM can normally operate from a 4,000 ft (CFL*) semi-prepared soft airstrip (CBR-6: compacted sand-clay soils) carrying 12 metric ton of cargo to a distance of 500 nm.

** Critical Field Length*

DESIGNED TO OPERATE *IN SHORT, AUSTERE, SEMI-PREPARED AND DAMAGED RUNWAYS*

RUGGED DESIGN

IAE V2500 ENGINE

Minimum FOD ingestion.
Optimum position
(high ground clearance and
forward mounted).
Wide chord metallic fan blades.
Part 33 Certified Engine.

DAMAGE TOLERANT DESIGN

Modern structural design.
Strong and durable airframe.

ANTARCTIC OPERATION

Operational from unpaved runways covered with ice and snow on the freezing cold Antarctic continent.

SEMI-PREPARED AND DAMAGED AIRFIELD OPERATION

Worst Semi-Prepared
and Damaged Runway
from MIL-B-8866B.

LANDING GEAR

Low Resistance
Airfields (CBR-4)
Brake-by-Wire,
Wheel-by-Wheel.

ALL WEATHER

Designed for
extreme climates,
including hot
and sandy desert
conditions.

MISSIONS MODULES

ONE AIRCRAFT, MANY CAPABILITIES

The C-390 MILLENNIUM aircraft is a highly flexible platform that combines multi-mission capabilities with the lowest life cycle cost in the tactical airlifter market. It offers unmatched versatility to configure the aircraft to accomplish a broader range of missions.

REDUCINGTIME
on the ground and in the air, improving mission success and helping saving lives.

RAPID RECONFIGURATION
The C-390 MILLENNIUM can be reconfigured for all missions in 3 hours or less.

AERIAL ASSAULT
22

AERIAL RESUPPLY
19

AIR-TO-AIR REFUELING
23

AERIAL FIREFIGHTING
25

MISSIONS MODULES

ONE AIRCRAFT, MANY CAPABILITIES

AERIAL RESUPPLY

Dropping cargo, the C-390 MILLENNIUM has multi-role capabilities and features.

Being new generation, it has the latest technology and innovations, including advanced fly-by-wire architecture, along with digital integrated avionics. All this not only makes the C-390 MILLENNIUM easier to fly, it also reduces the workload on the crew.

24 CDS CONTAINERS 48” X 48” (8 FROM THE RAMP)

AIR DROP EFFECTIVENESS & PRECISION

The C-390 MILLENNIUM aerial delivery system provides remote and automatic release of cargo in flight at low and high altitudes. The air drop operations can be held by parachute extraction or gravity cargo dropping. The Continuous Computational Drop Point Calculation Software (CCDP) is integrated to the avionics system and, in combination with the precise navigation delivered by the Fly-by-Wire system, it calculates the air release point with exceptional precision, providing high mission effectiveness.

AERIAL RESUPPLY

LVAD

LOW VELOCITY AERIAL DELIVERY AT HIGH ALTITUDE

FLEXIBILITY FOR SEVERAL OPERATIONS

The C-390 MILLENNIUM Cargo Handling System (CHS) has the flexibility to carry out the operations launching via extraction of single type-V platforms.

Single load drop	**Up to 41,887 lb / 19,000 kg**
Sequential drops	**Up to 52,910 lb / 24,000 kg**

Platform	**32ft / 9.8 m**
Extraction Parachute	**22ft | 6.7 m**

COMBAT OFFLOAD

The Cargo Handling and Aerial Delivery System facilitates the loading and offloading of cargo, restraining of loads during transport and release of airdrop loads for aerial delivery. The CHS accessories, such as tie-down rings, roller trays, cargo guidance and restraint systems are available to a reduced Load Master crew workload.

AERIAL ASSAULT

UP TO 64 PARATROOPERS

The C-390 MILLENNIUM has capacity for 64 fully equipped paratroopers in Aerial Assault operations.

The Cargo Handling System (CHS) provides flexibility for the operations of paratroopers launching from both sides of the aircraft, recovering up to 32 static line bags at each side of the aircraft.

AIR-TO-AIR REFUELING

DAY AND NIGHT AERIAL REFUELING CAPABILITY WITH OBSERVER WINDOWS AND NIGHT VISION CAMERAS. The C-390 MILLENNIUM can be equipped with advanced refueling pods (Cobham 912E Series) that meet the high-performance criteria of the aircraft providing a lightweight and efficient solution. Each pod provides fuel transfer up to 400 US GPM. Roll-on/roll-off auxiliary fuel tanks can be quickly and easily installed in the fuselage to expand the aircraft fuel offload capacity or range performance.

TANKER FOR FAST FIGHTERS AND HELICOPTERS

The KC-390 MILLENNIUM is capable of refueling both fixed and rotary wing aircraft, operating at speeds from 120 KCAS to 300 KCAS and at altitudes from 2,000 ft to 32,000 ft. The KC-390 MILLENNIUM on-ground refueling capability can be used to refuel vehicles or forward operating bases.

FEATURES

Palletized Aux. Fuel Tanks	**Up to 3 tanks, 8,800 lb / 4,000 kg each**
Wing refueling PODs flow transfer	**Up to 400 GPM**
Aerial refueling cameras	**DAY & NIGHT cameras**

REFUELING ENVELOPE

180 to 300 KCAS	**Up to 32,000 ft**
120 to 140 KCAS	**From 2,000 ft up to 10,000 ft**

AIR-TO-AIR REFUELING

THE C-390 MILLENNIUM CAN BE QUICKLY CONFIGURED FOR
AERIAL REFUELING AS A TANKER (KC-390) AND AS A RECEIVER AIRCRAFT

C-390 RECEIVER

The C-390 Millenium is also capable of operating as a receiver through a refueling probe installed on the upper-forward fuselage, slightly left of center, demonstrating excellent characteristics for aerial refueling with low levels of vibration. The higher speeds of the C-390 reduces the receiver pilots workload.

FEATURES

- Aerial refueling operations as a receiver aircraft performed by the pilot with minimal interaction with the tanker
- Refueling rate is up to 400 US GPM
- All wings and auxiliary fuselage tanks can be refueled

AERIAL FIREFIGHTING

The second-generation Modular Airborne Fire-Fighting System (MAFFS-II) is an important aerial resource for firefighters in battling wildfires.

The roll-on/roll-off aerial firefighting system is capable of delivering up to 3,000 gallons of retardant meeting U.S. Interagency Air-Tanker Board (IAB) ground pattern coverage (gpc) level criterion. The C-390 MILLENNIUM fly-by-wire provides outstanding maneuverability at low speed and low altitude to fly over wildfire areas, increasing the mission efficiency and crew safety.

THE C-390 MILLENNIUM FLY-BY-WIRE FLIGHT CONTROL SYSTEM *PROVIDES OUTSTANDING MANEUVERABILITY AT LOW SPEEDS FOR AERIAL FIREFIGHTING OPERATION*

SEARCH AND RESCUE

During Search & Rescue missions, every minute counts to save lives. The C-390 MILLENNIUM turbo fan engines provide unmatched speed compared with other aircraft.
The C-390 MILLENNIUM can be equipped with a complete set of equipment to support search & rescue missions, all easily reconfigurable in the field.

REMOVABLE ELECTRO-OPTICAL | INFRARED (EO/IR) POD FROM RAFAEL

- SAR – Search and Rescue
- MP – Maritime Patrol
- Navigation
- Target Acquisition & Tracking
- Laser range finder
- Laser Pointer
- Night super wide image used for low-level night flight.

FEATURES FOR SEARCH & RESCUE MISSIONS

- Four spotter positions with bubble windows and large observation windows, designed for maximum visibility
- Lateral litters and/or crew seats
- Removable internal fuselage fuel tanks to expand range or time on station for SAR missions
- Ability to operate the rear ramp while flying low-and-slow
- Search patterns easily programable in the navigation system

HUMANITARIAN AID

The C-390 MILLENNIUM is designed, built and certified to deliver the fastest response for humanitarian assistance, disaster relief missions and stability operations. In a world where climate changes, conflicts, and disasters pose an increasing threat, being able to deliver fast and effective assistance determines success in saving lives, providing shelter and restoring services.

MEDICAL EVACUATION

CAPACITY FOR **36 PAX** AND **50 LITTERS, 74 LITTER** WITH **8 ATTENDANTS** OR UP TO **80 LITTERS**

The C-390 MILLENNIUM provides support for ground operations or disaster relief missions transporting wounded survivors or casualties. The C-390 MILLENNIUM can be configured to carry up to 74 litters (STANAG 2040) and 8 additional members, including medical attendants and necessary life supporting equipment

SPECIAL OPERATIONS

COMBAT OPS

Designed to accomplish tactical missions with the highest level of efficiency.

BASIC DESIGN FEATURES

- Low speed: **120 KCAS**
- Tactical Descent: **12,000 ft/min**
- Steep Approach
- High Maneuverability: **Fly-by-Wire**
- Damaged Runway Operation

Real Usage of aircraft limits:

- Continuous 3 G envelope Protection

Short Field Capable:

- Low speed capability, Advanced Brake System,
- High Efficiency Spoilers

SURVIVABILITY

The C-390 Millennium was designed with survivability in mind.

KEY POINTS

- High Speed similar to a fast jet: **Mach 0.8**
- High Altitude: **36,000 ft**
- Fuel Tanks Inertization: **OBIGGS**
- Redundancy and segregation for critical systems
- Night Vision Compatibility
- Tactical Radar
- Comprehensive Self Protection System
- Armoring
- Fail-safe airframe
- Lower noise signature

SPECIAL OPERATIONS

SELF PROTECTION SUITE

The C-390 MILLENNIUM can be equipped with a complete self protection suite (SPS) to increase survivability levels.

DETECTION & COUNTERMEASURES WITH 360° COVERAGE

- Radar Warning Receiver (RWR)
- Laser Warning System (LWS)
- Missile Approach Warning System (MAWS)
- Countermeasure Dispensing System (CMDS)
- Directional Infrared Counter Measures (DIRCM)
- Electro Optics/Infrared Pod
- Ballistic Protection (Armor 7.62 mm and 0.50 inch)
- Enhanced Vision System (EVS)
- On Board Inert-Gas Generation System (OBBIGS)

CARGO THE MOST COMPREHENSIVE FLEXIBILITY

THE ADVANCED CARGO HANDLING SYSTEM (CHS) provides high flexibility and productivity levels, merging a modern solution for software-controlled cargo locking and proven cargo handling mechanical solutions. The CHS is designed to be easily and quickly reconfigured for different missions without the need for special tools. The cargo floor can be changed from flat to a roller configuration with the flip-over capability.

ADVANCED CARGO HANDLING SYSTEM

The cargo floor, an integral part of the C-390 MILLENNIUM main structure, is designed with the strength to transport heavy-tracked and wheeled vehicles of up to 26,000 kg (57,320 lb). An optimized tie-down grid of rings with 10,000 lb and 25,000 lb of restraint in any direction ensures quick configurations changes and great cargo load flexibility.

The CHS features all the necessary accessories to facilitate cargo loading, restraining and offloading, such as tie-down rings, roller trays, cargo guidance and restraint systems. It is fully compatible with the existing military airlift equipment, such as type V platforms, 463L pallets, A-22 CDS bundles and ground support loaders.

THE CHS IS DESIGNED TO BE EASILY AND QUICKLY RECONFIGURED

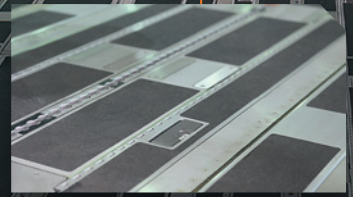
ADVANCED CARGO HANDLING SYSTEM

LOADMASTER STATION

CENTRALIZED CHS OPERATION

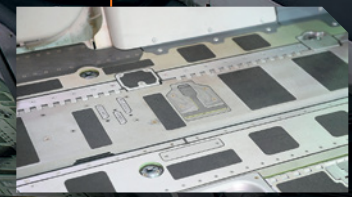
From a protected station, the Loadmaster can control and operate the Cargo Handling System, enhancing system situational awareness and allowing efficient handing and deployment of cargo.

ROLLER TRAY ASSEMBLY



48” CONTAINER DELIVERY SYSTEM (CDS) RAIL

88” FOLDING PALLET LOCK (FPL)



108” OUTBOARD GUIDE RAIL (OBGR)

THE MOST COMPREHENSIVE FLEXIBILITY

***C-390 IS CAPABLE OF TRANSPORTING** A MAXIMUM OF 50,706 LB (23,000 KG) OF DISTRIBUTED LOADS AND A MAXIMUM CONCENTRATED LOAD OF 57,320 LB (26,000 KG)*

PARATROOPERS

Capacity for 64
Paratroopers

TROOPS

Capacity for 80
Occupants

LIGHT AND HEAVY VEHICLES

Capacity for 3 to 4 light
vehicles or 1 to 2 heavy vehicles

THE MOST COMPREHENSIVE FLEXIBILITY

PALLETS

Capacity for 6 x regular pallets or 7x 463L pallets or 24 x CDS bundles 48”x48“

HELICOPTERS

Capacity for one Black Hawk or similar size helicopter

MEDEVAC STRETCHERS

Capacity for Configuration with 36 pax and 50 litters, 74 litter with 8 attendants or up to 80 litters

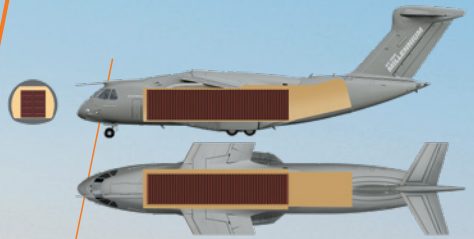
THE MOST COMPREHENSIVE FLEXIBILITY

1 ISO TANK (20 FT)

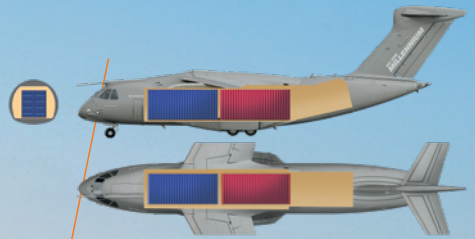
MAFFS II (FIREFIGHTING)

THE MOST COMPREHENSIVE FLEXIBILITY

INNOVATIONS *SUCH AS THE AUTOMATED CARGO HANDLING ENABLE THE FAST LOADING AND UNLOADING OF DIFFERENT PAYLOADS*

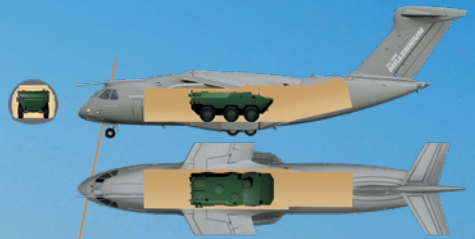


1 X ISO CONTAINER (40 FT)

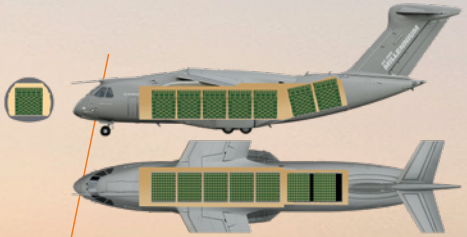


2 X ISO CONTAINER (20 FT)

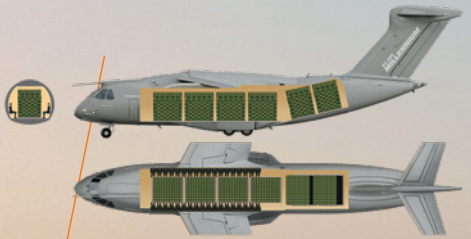
1 X BLACK HAWK HELICOPTER



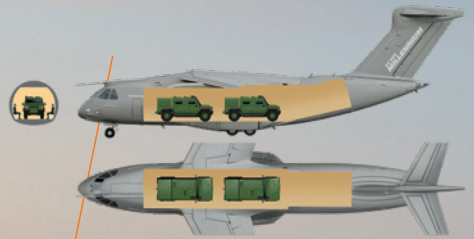
1 X ARMORED MODULAR VEHILE (AMV)
E.G., GUARANI 6X6



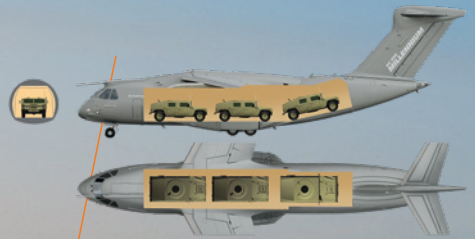
7 X 463L PALLETS



6 X PALLETS AND 36 TROOPS

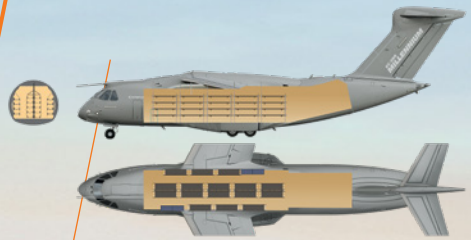


2 X LIGHT MULTIROLE VEHICLES
(LMV) – E.G., IVECO LMV

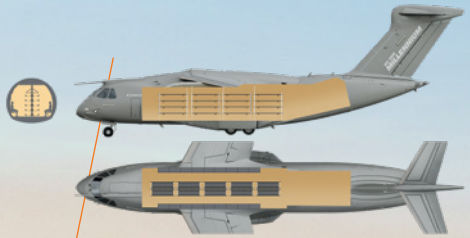


3 X HIGH MOBILITY MULTIPURPOSE
WHEELED VEHICLE (HMMWV)

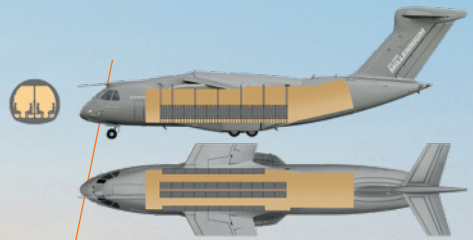
THE MOST COMPREHENSIVE FLEXIBILITY



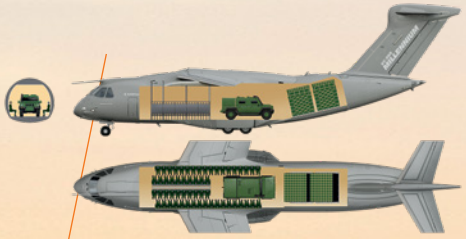
74 LITTERS, 4 CREWMEMBERS AND 4 ATTENDANTS



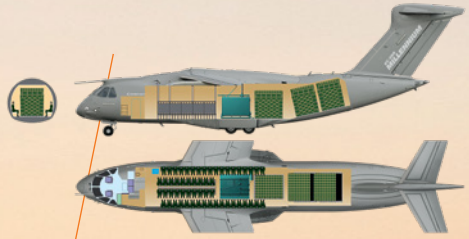
50 LITTERS AND 36 PAX



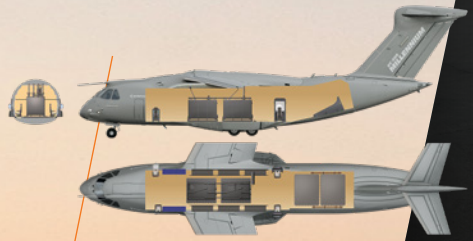
80 TROOPS OR 64 PARATROOPERS



56 PAX, 1 X LMV (E.G., IVECO LMV) AND 2 X PALLETS



56 PAX, 1 AUXILIARY FUEL TANK AND 3 PALLETS



SEARCH AND RESCUE

STRUT STABILIZER

The Hydraulic Strut Stabilizer is an important feature for remote and autonomous operation. Commanded from the Loadmaster Station, it conveniently stabilizes the aircraft reducing time on the ground and minimizing vulnerability in hostile environments.

THE AIRCRAFT

STATE-OF-THE-ART TECHNOLOGY

BUILDING OVER DECADES OF DEVELOPMENT EXPERIENCE, the C-390 MILLENNIUM incorporates the most advanced and proven technologies and design concepts.

Equipped with state-of-the-art technologies, the C-390 MILLENNIUM provides significantly reduced crew workload, efficiency and precision for the mission accomplishment.

STATE-OF-THE-ART TECHNOLOGY

C-390 MILLENNIUM IS THE FUTURE

FLY-BY-WIRE

The most capable flight control system in the segment allowing pilots to tailor the system to the mission and safely fly to the limits of the flight envelope with low crew workload.

AVIONICS

Fully interactive and CNS/ATM compliant Rockwell Collins Pro Line Fusion Suite delivers intuitive Human Machine Interfaces, enhancing productivity and safety.

OPTIONAL ADDITIONAL CREW MEMBER STATION

An optional third crew station in the cockpit, equipped with an integrated display, communication system and mission controls, supports efficient coordination on advanced missions including Search and Rescue and Aerial Refueling.

EVS/ SVS

Dual Head-up Displays with Enhanced Vision System significantly improves situational awareness in critical operational scenarios, such as in low visibility conditions.

AVIONICS *CONFIGURABLE MULTIFUNCTION WINDOWS*

IMPROVED CREW INTERFACE FOR BETTER MISSION EFFICIENCY

- LATEST GENERATION INTEGRATED AVIONICS AND MISSION SYSTEMS – ROCKWELL COLLINS PRO LINE FUSION®
- FULL FLY-BY-WIRE WITH CLOSED LOOP AND ACTIVE SIDE STICKS
- COMPLIANT WITH THE LATEST CNS/ATM REQUIREMENTS
- INTEGRATED MISSION SYSTEM

AVIONICS *CONFIGURABLE MULTIFUNCTION WINDOWS*

FULL FLY-BY-WIRE

STATE-OF-THE-ART FULL FLY-BY-WIRE SYSTEM with closed looping, developed by Embraer and already in its third generation, improving mission efficiency.

REDUCED PILOT WORKLOAD *ON DEMANDING CONDITIONS*

ACTIVE SIDE STICKS: *IMPROVED CREW COORDINATION AND OPTIMIZED CONTROL*

AUTOMATIC PROTECTION *FOR REAL USAGE OF THE AIRCRAFT LIMITS*

CHARACTERISTICS

- Angle-of-Attack (AOA) limiter as stall protection system
- Allows to reduce the margins over the stall speed when compared to a stick pusher
- Allows perform critical missions with higher safety performance
- Replaces conventional shaker and pusher solutions
- Complete envelope protection in all phases of flight
- Weight Savings
- Precise Pilot Control
- Overspeed Protection

FULL FLY-BY-WIRE

WITH CLOSED LOOP IMPROVING MISSION EFFICIENCY

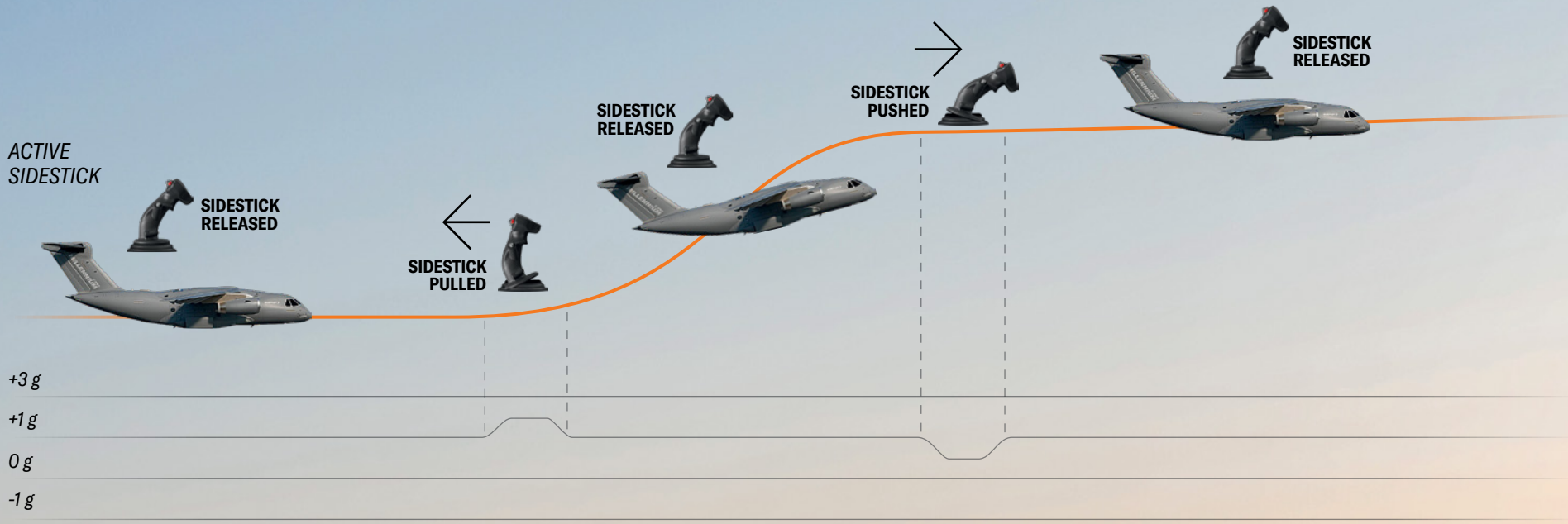
FLY-BY-WIRE ENSURE BENEFITS SUCH AS:

- Structural load factor (G protection)
- High angle of attack (stall/buffeting protection)
- Dive speed (high speed protection)
- Sideslip (lateral structural load protection)
- Tail Strike Avoidance (TSA) during take off and landing

REDUCED AIRCRAFT RESPONSE DUE TO TURBULENCE

- Fly-By-Wire reacts more effectively than conventional autopilot systems
- Fly-By-Wire control laws reduce aircraft oscillations during turbulence, which means enhanced safety

FULL FLY-BY-WIRE



SIDESTICK ARCHITECTURE

- Adapt the force versus deployment profile according to mode of operation
- 1P & 2P electronically interconnected
- Increase situational awareness
- Possibility of having different feel profiles, optimized for each mission

FLY-BY-WIRE ENSURE PROTECTIONS SUCH AS:

- Trajectory compensation: leveled flight with bank angle.
- Auto trim: automatic offload of elevator to horizontal stabilizer.
- Reduced effects for configuration changes: speed brake and Flap/Slat deflection.
- Lower pilot workload

SYSTEMS

C-390 MILLENNIUM IS THE FUTURE

OMS

A fully integrated Onboard Maintenance System provides diagnostic information to the maintenance crews, facilitating troubleshooting activities, reducing downtime and cost, enabling the C-390 to achieve the higher availability levels, typical of the commercial aviation

STRUT STABILIZER

The Hydraulic Strut Stabilizer is an important feature for remote and autonomous operation. Commanded from the Loadmaster Station, it conveniently stabilizes the aircraft reducing time on the ground and minimising vulnerability in hostile environments.

FOUR WHEELS BOGIE TYPE MAIN LANDING GEAR

A Four-Wheel Bogie Type Main Landing Gear in each LH and RH sides provides efficient flotation capabilities for operations on soft airfields (CBR-4) as well as shock absorbing capabilities for operations on damaged runways. It supports deployment of the aircraft to unassisted and remote locations.

COMFORT

The C-390 MILLENNIUM Air Conditioning and Pressurization System are modern and efficient, with precise temperature and low cabin altitude controls. Combined with the aircraft's wider cross section and a heated floor in the cargo compartment, comfort is enhanced during missions with passengers in the cargo cabin.

SYSTEMS

TACTICAL RADAR

The C-390 MILLENNIUM is equipped with advanced Tactical Radar, featuring Spot SAR (Spotlight Synthetic Aperture Radar), weather, air-to-air, navigation, air-to-ground and high resolution modes.

SELF PROTECTION

The C-390 MILLENNIUM Self-Protection System combines a broad range of Detection & Declaration devices (Radar Warning, Laser Warning and Missile Approach Warning) and capable Countermeasures (Chaff & Flare and DIRCM) enhancing the aircraft survivability in hostile scenarios.

MISSION SYSTEMS

The C-390 MILLENNIUM integrates several sensors to provide truly advanced multi-mission capabilities. Tactical SAR Radar, EO/IR Pod and Mission Computers allow the flexible employment of the aircraft in different scenarios.

CCDP

For the air delivery mission, the Continuous Computed Drop Point (CCDP) algorithm uses altitude, speed and wind to define the optimum release point to reach the drop zone. It allows for manual or automatic cargo release.

NVIS

The C-390 MILLENNIUM interior, exterior and cockpit systems are fully Night Vision compatible.

ERGONOMIC AIRCRAFT INTERIOR

COCKPIT

Outstanding cockpit visibility and ergonomics.

3RD COCKPIT POSITION AND REST AREA

Additional Crew Member Station:

- AAR
- EO/IR Pod
- Self Protection System (visualization)

ERGONOMIC AIRCRAFT INTERIOR

LOAD MASTER STATION

Functional and comfortable with optimum visibility on the cargo area.

SAFE & COMFORTABLE CARGO COMPARTMENT

- Comfort for Crew & Troopers on Long Duration Flights (Wide Cabin)
- Automatic Temperature Control
- Reduced Vibration and Noise
- Complete Toilet with External Service
- Appropriate Signaling and Emergency Exits
- Passengers Emergency Oxygen System

EASIER TO MAINTAIN

RELIABILITY, MAINTAINABILITY AND AVAILABILITY were major design requirements for the C-390 MILLENNIUM.
Reliability through proven systems, Redundant Architecture and Robust Design deliver outstanding availability levels

LIFE CYCLE COST

Outstanding Cargo Capacity, Speed and Availability result in incomparable productivity, which when associated with low operation and maintenance costs, lead to reduced and affordable Life Cycle Costs.

RELIABILITY

C-390 MILLENNIUM incorporates recognized proven technologies for redundant systems architectures, leading to unprecedented reliability levels in the segment.

MAINTENANCE PLAN

In addition to reducing downtime, the optimized Maintenance Plan enhances the benefits of highly reliable systems and the airframe to more easily facilitate necessary inspections, checks and services. Years of interaction with air forces, systems manufactures and certification authorities in maintenance steering groups leveraged real maintenance experience to develop a platform easier to service and maintain.

MAINTAINABILITY

The C-390 MILLENNIUM design made maintainability a major requirement. Employing the most efficient methods, such as MSG-3, tools and experience, the aircraft's maintenance is substantially facilitated and optimized to minimize downtime and cost.

AVAILABILITY

The highest levels of reliability, combined with ease of maintenance delivers unparalleled availability in the category. The optimized maintenance planning and the on-condition maintenance philosophy substantially reduce the aircraft downtime and the maintenance costs.

EASIER TO MAINTAIN

DESIGNED FOR MAINTAINABILITY

QUICK AND EASY MAINTENANCE

COMBINATION OF MATURE SOLUTIONS AND INNOVATIONS

IAE V2500 Engine
+
Rockwell Collins Pro Line Fusion Avionics

AIRLINER RELIABILITY AND AVAILABILITY LEVELS

Use of Commercial Aircraft Techniques and Experience (MSG-3, On-Board Maintenance System)

OPTIMIZED MAINTENANCE

Routine Check:
Every 14 days of operation → 4 man-hours

Intermediate Checks:
600 FH or 12 months → ~ 9 to 12 days

Basic checks:
60 months → ~ 25 to 35 days

LOGISTIC SUPPORT AND TRAINING

UNPRECEDENTED RELIABILITY LEVELS FOR THE SEGMENT, associated with a design optimized to reduce maintenance and combined with comprehensive support and material services support solutions. This delivers very high fleet availability and low life cycle cost.

EMBRAER TRAINING INFRASTRUCTURE OR ON SITE TRAINING DEVICES *CAN BE USED FOR EXPEDITED OPERATIONAL AND MAINTENANCE CREW READINESS*

LOGISTIC SUPPORT AND TRAINING

FLIGHT SERVICES AND TRAINING

Specialized Center providing Flight, Maintenance, and Specialized operator training solutions for initial and continued training needs.

FIELD SERVICES

Specialized field service technicians teamed with each Customer to maximize aircraft value through out the entire life cycle. Providing scalable sustainment solutions, from basic to turn-key performance based capabilities and services.

MATERIAL SERVICES

Supply chain solutions, from transactional to outcome based supply packages. Services include: parts, component repairs and support equipment. Utilizing our vast global network we provide repair & overhaul, logistics operations, stock optimization and warehouse management.

FLEET SERVICES

Specialized entry to service teams deliver mission readiness upon initial operation. World class on-site field service representatives assure fleet readiness anytime, anywhere. Ongoing support with optimized maintenance solutions.

INFORMATION SERVICES

Complete state-of-the-art information technology capability services to ensure current, timely, and accurate information needed to keep the flight, operations, and maintenance crews equipped and informed at all times.

KC-390 TANKER FOR FAST FIGHTERS, HELICOPTERS AND KC-390 TO C-390

THE C-390 MILLENNIUM CAN BE QUICKLY CONFIGURED FOR AERIAL REFUELING AS A TANKER (KC-390) AND AS A RECEIVER AIRCRAFT. Day and night aerial refueling capability with observer windows and night vision cameras. The C-390 MILLENNIUM can be equipped with advanced refueling pods (Cobham 912E Series) that meet the high-performance criteria of the aircraft providing a lightweight and efficient solution. Each pod provides fuel transfer up to 400 US GPM. Roll-on/roll-off auxiliary fuel tanks can be quickly and easily installed in the fuselage to expand the aircraft fuel offload capacity or range performance.

AIR-TO-AIR REFUELING

The Air to Air Refueling (AAR) architecture for the KC-390 is the Probe-and-Drogue System. The KC-390 transfers fuel to the receiver aircraft using Wing Pods that deploy hoses equipped with drogues. The receiver aircraft uses a compatible probe to receive fuel from the KC-390. The objective of AAR operations is to enhance combat effectiveness by extending the range, payload or endurance of receiver aircraft. Successful AAR depends on 3 major factors:

A

Equipment Compatibility. It is essential that the aircraft requiring AAR are fitted with probes and fuel systems compatible with the KC-390's.

B

Performance Compatibility. It is essential that the aircraft requiring AAR are compatible with the KC-390's AAR envelope (speeds and altitudes).

C

Procedural Compatibility. It is essential the aircraft requiring AAR to employ pre-planned and compatible procedures for rendezvous, making contact, fuel transfer and departure.

AIR-TO-AIR REFUELING

The KC-390 MILLENNIUM is capable of refueling both fixed and rotary wing aircraft, operating at speeds from 120 KCAS to 300 KCAS and at altitudes from 2,000 ft to 32,000 ft. The KC-390 MILLENNIUM on-ground refueling capability can be used to refuel vehicles or forward operating bases.

FEATURES

- 180 to 300 KCAS - **Up to 32,000 ft**
- 120 to 140 KCAS - **From 2,000 ft up to 10,000 ft**

The KC-390 MILLENNIUM is also capable of operating as a receiver through a refueling probe installed on the upper-forward fuselage, slightly left of center, demonstrating excellent characteristics for aerial refueling with low levels of vibration, and the higher speeds of the C-390 enabled decreased workload for the receiver pilots:

FEATURES

- Aerial refueling operations as a receiver aircraft performed by the pilot with with minimal interaction with the tanker;
- Refueling rate is up to 400 US GPM;
- All wings and auxiliary fuselage tanks can be refueled.

AIR-TO-AIR REFUELING

OPERATION & MAIN FEATURES

1X AUXILIARY CREW MEMBER STATION (ACM)

ACM STATION (COCKPIT)

ACM AAR PANELS

AAR SYNOPTIC & CONTROL

2P COCKPIT

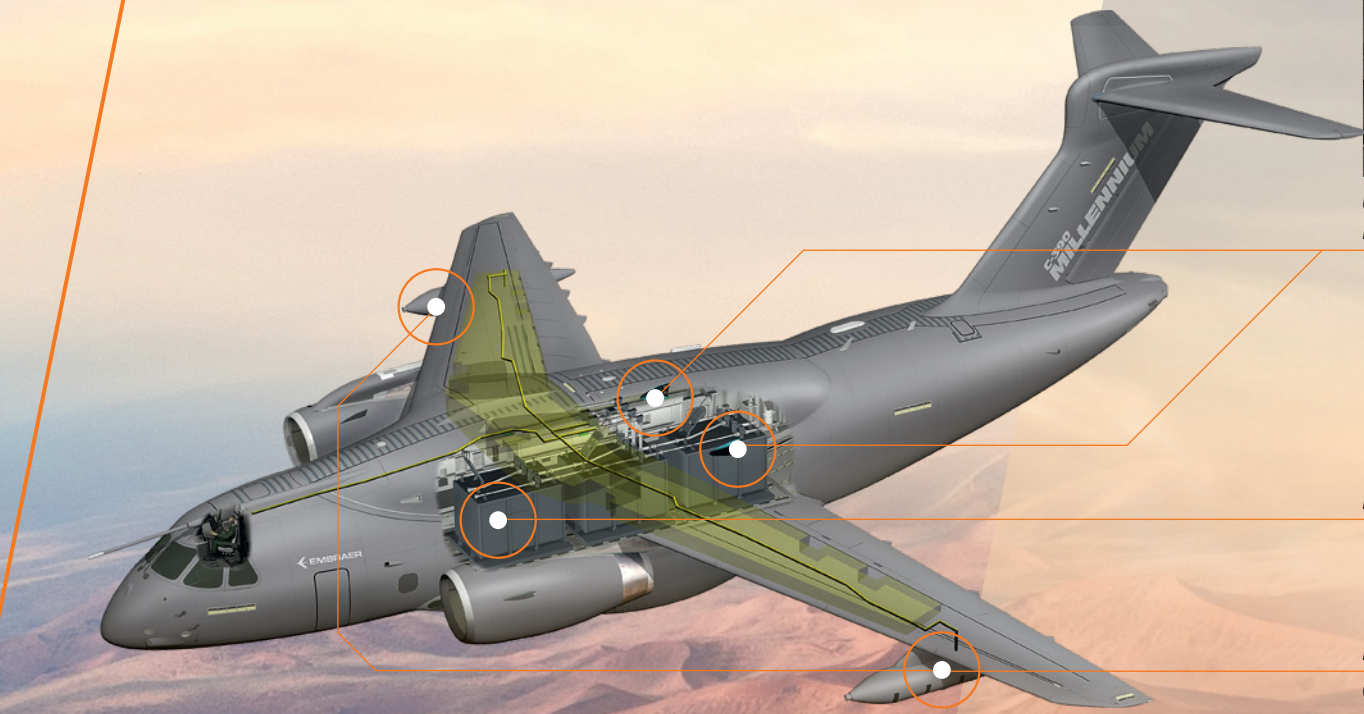
AIR-TO-AIR REFUELING OBSERVATION (LH/RH)

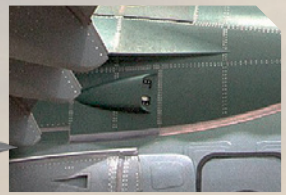
- REFUELING SYSTEM OPERATION
- HOSE EXTENSION AND RETRACTION
- DISPLAY OF RECEIVERS VIDEOS

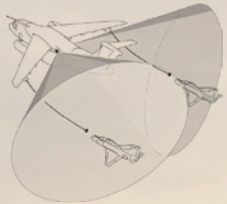
RECEIVER REFUELING PROBE - 400GPM REFUELING RATE

The refueling probe can be removed in case of long period without receiver refueling needed.

AIR-TO-AIR REFUELING







COLOR AERIAL REFUELING CAMERAS

Night & Day Operations

WINGS + AUXILIARY FUSELAGE FUEL TANKS (AFFT)

Up to 3 Optional Fuselage Fuel Tanks

WING AERIAL REFUELING PODS (WARP)

COBHAM912 family

C-390 IN ACTION

USA

Operation Culminating 2021 was an unprecedented joint training exercise between the Brazilian Army, the Brazilian Air Force, and the US Army, to prepare paratroopers and crew for employment missions in air-land operations. In all 10 flights performed during the exercise, the KC-390 MILLENNIUM successfully demonstrated its excellent interoperability with other aircraft and armed forces.

HAITI / PORT-AU-PRINCE

Humanitarian support to help Port-au-Prince earthquake crises mitigation.

DATE	FROM	TO	"DISTANCE [NM]"
22-Aug-21	Anápolis (SBAN)	Cachimbo (SBCC)	541
22-Aug-21	Cachimbo (SBCC)	Boa Vista (BVB)	804
23-Aug-21	Boa Vista (BVB)	Port-au-Prince (PAP)	2151
	Anápolis (SBAN)	**Port-au-Prince (PAP)**	**3496**

BRAZIL

Five aircraft delivered: current engaged in crew training and COVID-19 operations.

C-390 IN ACTION

POLAND | WARSOW

Humanitarian support & repatriation of brazilians, ukrainians argentinians and colombians.

RETURN ON 10TH MARCH 2022

42 Brazilians	05 Argentinians
20 Ukrainians	01 Colombian
14 Children	**10 Pets**

LEBANON | BEIRUTE

Humanitarian support to help beirut port explosion crises mitigation.

DATE	*FROM*	*TO*	*"FLIGHT TIME [HH:MM]"*	*"DISTANCE [NM]"*
12-Aug-20	São Paulo (GRU)	Fortaleza (FOR)	2:59	1261
12-Aug-20	Fortaleza (FOR)	Cape Verde (SID)	4:09	1536
13-Aug-20	Cape Verde (SID)	Valencia (VLC)	4:27	1799
13-Aug-20	Valencia (VLC)	Beirut (BEY)	4:16	1758
	São Paulo (GRU)	**Beirut (BEY)**	**15:51**	**6354**

ANTARCTIC | KING GEORGE ISLAND

For the first time, the KC-390 Millennium accomplished cargo airdrop in Antarctica, delivering supplies to “Comandante Ferraz” Antarctic Station.

THE ADVANTAGES

FOR AIR FORCES THAT DESIRE TO ENTER THE 21ST CENTURY ACHIEVING MORE OPERATIONAL EFFECT AND WITH SIGNIFICANTLY MORE CAPABLE MODERN PLATFORMS the C-390 MILLENNIUM delivers unrivaled mobility, high productivity and operation flexibility at low operational costs on a single and unique modern platform because of its rugged project design with state-of-the-art technology capable to operate in austere environments, built-in multi-mission capability at low life-cycle costs, high levels of availability, safety and survivability with simplified maintenance normally only associated with commercial aircraft.

EMBRAER, PRESENT IN ALL DEFENSE ENVIRONMENTS

EMBRAER IS A GLOBAL COMPANY WITH MORE THAN 50 YEARS OF AEROSPACE EXPERTISE. In addition to the A-29 Super Tucano, an advanced training and light attack aircraft, and the C-390 Millennium, a multi-mission military transport aircraft, it offers a complete line of integrated solutions for air, space, sea, land, and cyber systems. With more than 8000 aircraft delivered and solutions present in more than 60 Governments and Armed Forces, Embraer offers solutions for land applications such as Command and Control (C4I), sensors, ISR (Intelligence, Surveillance and Reconnaissance), information systems, communication, border monitoring and surveillance, naval combat and management systems, and integration of geostationary satellites for communication and observation. In the cyber area, it provides complete solutions for business protection and defense and security applications.