

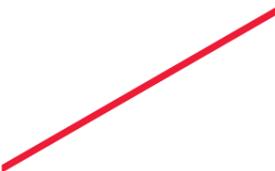
ATR 72MP

Effective and affordable force multiplier



AIRCRAFT DIVISION

 **LEONARDO**



ATR 72 MP

MULTIROLE MARITIME PATROL AIRCRAFT

The ATR 72MP, developed and built by Leonardo Aircraft, is a derivative of the best-selling ATR 72-600 commercial aircraft designed to perform a wide range of missions.

The ATR 72MP combines the reliability, maintainability and low life-cycle costs of its commercial counterpart with a state-of-the-art mission system, advanced sensors and a complete communication suite, to create an effective and affordable force multiplier, with excellent Command, Control, Communication, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) capabilities, whilst retaining ample growth capability.

The basic mission portfolio of the ATR 72MP includes all military maritime surveillance tasks; monitoring of sea lanes; fisheries protection; prevention/contrast of activities such as piracy, smuggling, drugs trafficking and illegal immigration; Exclusive Economic Zone (EEZ) patrol; Search And Rescue (SAR).

The aircraft can also act as a flying command post and can double as a capable personnel transport asset in case of emergency. By adding optional subsystems and equipment, the ATR 72MP can also become an effective ELeCtronic INTelligence (ELINT) platform.



BASED ON COMMERCIAL ATR

Thanks to its commercial ancestry, the ATR 72MP can guarantee crew comfort levels not usually afforded to military aircraft. The ideal pressurization and air conditioning in all flight conditions provided by the environmental control system, the low internal noise levels, the ergonomic seats, the fully equipped galley and the civil standard toilet, all contribute to reduce the workload and increase the efficiency and effectiveness of the crew during patrol missions typically lasting more than 8 hours: only a turboprop aircraft like the ATR 72 can guarantee this long endurance, together with the capability to fly at cruise speed to quickly reach the patrol area, working at low altitude and low speed in case of need, as required by an effective Maritime Patrol Aircraft.



MODULAR MISSION SUITE

The core of the ATR 72MP mission suite is its modular Airborne Tactical Observation and Surveillance (ATOS) mission system. Designed by Leonardo Electronics Division, ATOS manages the aircraft wide array of sensors, combines the information received in an overall tactical situation (performing true data fusion) and presents the results to the mission system operators in the most suitable format, providing excellent situational awareness.

Thanks to an advanced human machine interface, only two mission system operators are needed to fully exploit the ATOS in the ATR 72MP baseline configuration.





MAIN FEATURES

The baseline ATR 72MP features the following "core" sensors:

- › A **multimode radar**, for example the Leonardo Electronics Division Seaspray 7300E Active Electronically Scanned Array (AESA), which is able to perform long range 360° detection, tracking and identification of targets. The radar is optimized for operations against sea surface targets, providing excellent Track While Scan (TWS) capabilities.

It also features air-to-air and weather modes, plus Moving Target Indicator (MTI) capabilities which also allow overland surveillance. Available imaging modes include Synthetic Aperture Radar (SAR) for all-weather ground mapping of large areas and high resolution snapshots of medium-sized fixed targets, and Inverse Synthetic Aperture Radar (ISAR), to obtain profiles of seaborne targets. To support targets identification, the radar can be coupled with an IFF Interrogator and/or an automatic target classifier.

Different multimode search radars are also available for peculiar customer needs

- › An **electro-optical turret** equipped with video and infra-red imaging cameras. For example the FLIR Systems Star Safire 380 HD, groups in a single assembly an array of optical sensors providing passive target detection and identification capabilities in any light condition. Specifically, the baseline payload of the turret includes a high definition, color TV camera, an advanced infra-red imaging system and a low light TV camera. Optionally, laser devices such as a rangefinder, an illuminator and a designator can be incorporated into the turret to provide further capabilities.
- › An **Automatic Identification System (AIS)**, able to identify and locate any target equipped with AIS transponders, producing a picture of co-operating vessels positions and identities.
- › An **Airborne Search And Rescue System Direction Finder (ASARS DF)**, able to locate the direction of radio emitters in the frequency range from 30 MHz to 410 MHz, mainly used during SAR missions.



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A POWERFUL C4ISR PLATFORM

Beyond the two pilots and the two mission system operators, the aircraft crew includes two observers with the main tasks of exploiting the two aircraft bubble windows to perform visual search and airdrop of emergency equipment through the aircraft in-flight operable door in the frame of Search And Rescue missions.

The ATR 72MP avionic suite adds to the state-of-the-art ATR 72-600 glass cockpit a cockpit tactical display providing the pilots with mission system data and can be further integrated with high precision INS/GPS systems and an IFF Transponder.



The ATR 72MP baseline communication suite includes three V/UHF radios and one HF radio, managed through an advanced internal communication system. A wide band SATCOM system allows easy mission data exchanges with cooperating assets and ground control centers. The communication system can be optionally expanded to cope with peculiar customer needs, for example by adding a further V/UHF and/or HF radio, or including specific data link types.



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EVOLVING CAPABILITIES

A complete Defensive Aids Sub System (DASS), able to protect the aircraft from radar, IR and laser-guided threats, is available as an option to allow operations also in potentially hostile areas.

The flexibility and growth capabilities of both the platform and the mission system allow the basic ATR 72MP to expand its mission portfolio by incorporating various additional sensors, all controlled via the ATOS. The installation of any of these optional sensors implies the introduction of two additional mission system operators (with their associated workstations), in order to keep the crew workload at a fully comfortable level.

For example, the ATR 72MP can be equipped with the passive Elettronica ELT-800V2 Electronic Support Measures (ESM)/ELINT system, able to detect, analyze and identify, throughout 360°, electromagnetic emitters in a wide range of frequencies, pinpointing their geographical position. The data gathered by this system is seamlessly integrated into the overall tactical situation elaborated by the ATOS and provide the ATR 72MP with an excellent ELINT capability.

The Italian Air Force, launch customer for the ATR 72MP, has required the aforementioned ELINT system to be included in its customized configuration of the aircraft, designed as P-72A.



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CUSTOMER STATEMENTS

Italian Air Force

"We often qualify the P-72A as an 'MP+' aircraft. Primarily conceived as a maritime patrol [platform], the aircraft expresses potential that goes beyond patrolling, with a wide range of assignable missions."

"The P-72A is a modern aircraft, with state-of-the-art technology that best expresses itself through a suite of sensors perfectly integrated into the ATOS mission system. The possibility to share information and the mission status in real time with a ground station, allows those who have the task of exploit data, to get all the necessary information. In this meaning, the P-72A expresses almost unique national capabilities for the quantity and quality of information it can acquire."

Col. Federico Fedele, Commander of the 41° Stormo, Italian Air Force

"The two engines react quickly, especially at low altitudes, allowing a precise setting of the revolutions per minute to be used at the operational altitudes and speeds, allowing a good management of the endurance."

A pilot of P-72A, 41° Stormo, Italian Air Force

"As its strengths, the P-72A certainly has the huge ability to acquire information and the presentation to the crew through one of the Human-Machine Interfaces (HMI) that offers the possibility to have concentrated on a few displays, all the elements needed for maintaining a Situational Awareness of the mission."

A TACTical COordinator (TACCO) of P-72A, 41° Stormo, Italian Air Force

November 2017 - RAIDS Italia



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ATR 42MP

In service with Italian Coast Guard, Italian Customs Police and Nigerian Air Force, the ATR 42MP was the first multi-mission maritime patrol and SAR platform based on ATR commercial aircraft made by Leonardo.

Well proven in real operations over sea and land, it has the same kind of sensors and ATOS mission system of the ATR 72MP variant and is also employed for pollution detection and environmental control. The aircraft is reconfigurable to perform various transport missions.



Italian Coast Guard

"The Manta [is] a very reliable aircraft. The sensitivity of the [flight] controls is good. With only one engine, the [Manta] allows [us] to carry out all flight phases without any problem, climbing at a great rate with an operating ceiling not much different to two engines running. The response of the throttle is always precise and with minimal adjustments, the desired regimes, both cruising in the operational phases and during taxiing, are achieved."

A pilot of 2° Nucleo Aereo, Italian Coast Guard
October 2017 – AIR International



Nigerian Air Force

"Our aim is to fight all manner of maritime crimes in the country. With this aircraft, we can spot any vessel hundreds of kilometers away. The aircraft is inscribed with the words: Vigilance over the ocean."

Air Group Captain Enobong Eneh Effiom,
Nigerian Air Force
August 2014 – The NEWS Nigeria



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Operators can exploit the worldwide logistic support, including training, spares and services ensured by ATR commercial network to basic platform users.

Technical and operative support, crew and maintainers training can be tailored by Leonardo for specific operators' needs.

The advanced PW127 engines are highly reliable, allowing easy operations and maintenance (more the 10,000 hours on-wing without a shop visit).



CHARACTERISTICS

WEIGHTS

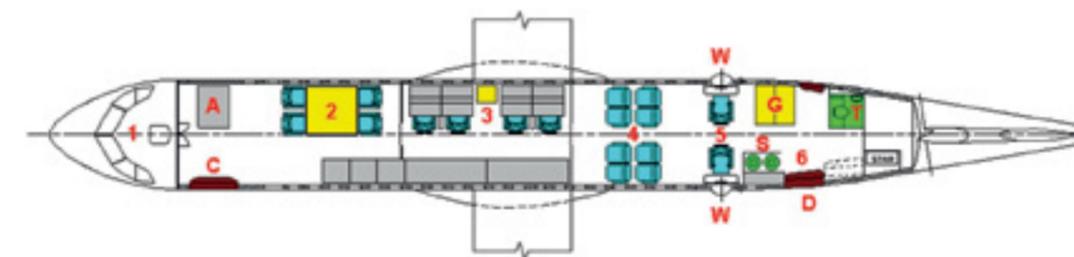
Maximum Take Off Weight	50,706 lb	23,000 kg
Maximum Landing Weight	49,273 lb	22,350 kg
Maximum Zero Fuel Weight	46,297 lb	21,000 kg
Maximum Fuel Capacity	11,023 lb	5,000 kg

POWERPLANT

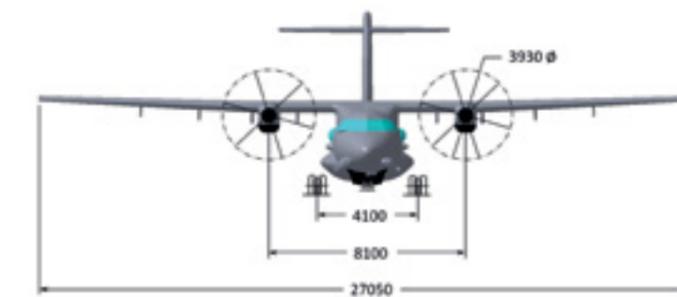
PW127M Engine Max	2,750 shp	2,050 kW
Take-off Power (1 engine out)		

PERFORMANCE

Maximum Cruise Speed	250 KTAS	465 Km/h
Maximum Operational Altitude	25,000 ft	7,620 m
Max Endurance (at 5,000 ft)	10.00 h (+45' hold)	
Take-off Distance (MTOW, SL, AEO, ISA)	4,482 ft	1,366 m
Landing Distance (MLW, SL, ISA)	2,100 ft	640 m



- | | | | |
|---------------------------------|---------------------------|----------------------------------|-------------------------|
| 1 Cockpit | 4 Passengers Area | A Auxiliary rack | S SAR kits |
| 2 Coordination/Rest Area | 5 Observation Area | C Cargo door | T Toilet |
| 3 Operation Area | 6 Launch Area | D In-flight operable door | W Bubble windows |
| | | G Galley | |





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