



**MPA**  
MULTIROLE PATROL AIRCRAFT



# THE PIAGGIO AEROSPACE MPA MULTIROLE PATROL AIRCRAFT

The Piaggio Aerospace MPA – Multirole Patrol Aircraft – is a technologically advanced, efficient and competitive Special Mission, Multi-Role, Enforcement light twin turboprop aircraft designed to meet the requirement for security and enforcement missions in peacekeeping operations to real combat scenarios with the advanced performance and best in class operational characteristics, comparable to those required by the most demanding operators in this category.

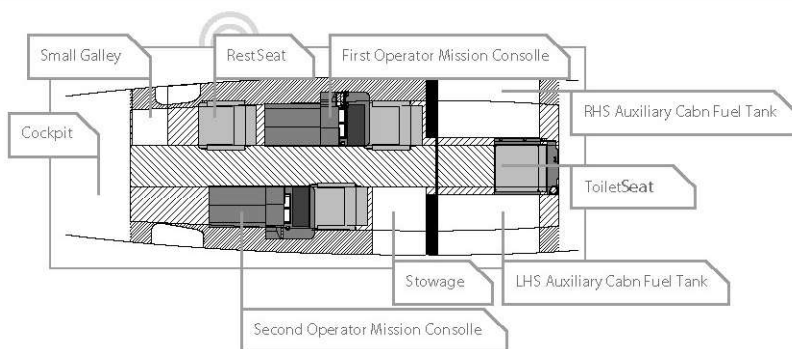
Piaggio Aerospace is developing the Multirole Patrol Aircraft - MPA in partnership with ADASI - Abu Dhabi Autonomous System Investments, a subsidiary of Tawazun - the company that manages many complex programs for the UAE Armed Forces and that is forming joint ventures with a number of internationally recognized companies. The MPA is designed to be a flexible platform able to provide different intelligence roles and to be customized with a variety of



mission specific sensors and management features to provide Surveillance/ Reconnaissance, Exclusive Economic Zone patrol and Search and Rescue duties with an unmatched combination of endurance, range of operative speeds, high climb gradient and operative ceilings, wide and comfortable operative environment for Maritime Patrol, Ground Surveillance, Tactical ISR, ELINT/COMINT. Piaggio Aerospace MPA provides end-users performances that surpass other competitors in the segment of light turboprop medium altitude manned aircraft, bridging the gap between heavier turboprop ISR platforms, due to its ability to:

- Fly fast and at high altitude to distant operative theaters requiring significant length endurance.
- Integrate latest Radar sensors and advanced EO/IR technology.
- Process and fuse acquired information with the most advanced Mission Consoles of the category.
- Deliver intelligence data on the ground with its flexible LOS/BLOS datalinks.
- Provide a drastically reduced footprint while delivering extraordinary operative efficiency.

Piaggio Aerospace MPA with a Maximum Mach Operative (MMO) of 0.65 is the fastest Special Mission turboprop on the market. The platform has been designed to integrate the most



The large, stand up cabin allows installation of a wide range of mission-consoles for flexible operation and special missions work; thanks to the rearward pusher propeller configuration the cabin has the lowest internal noise and vibration level of this aircraft category. The Crew are comfortably located in a stand up operative area with two consoles, one rest seat, a galley and a stand up toilet. With a differential pressure of just 9 psi the cabin has a very low equivalent

altitude, that provides the most comfortable working environment for pilots and operators, ensuring the lowest fatigue and maximum efficiency of operation for this class.

sophisticated mission sensors in the category and provide best in class vehicle performance at the same time, e.g.:

- Climb quickly up to 41.000 feet.
- Loiter quietly at low speed (125KTAS).
- Dash at high speed (up to 350 KTAS, MMO=0.65) to distant operative theaters.
- Patrol broad areas in low altitude operation for up to 7 hours.
- Perform high altitude operations with 10 plus hours of endurance.
- Fly a maximum range of more than 3300 NM.



## ABOUT THE PROGRAMME

The Piaggio Aerospace Multirole Patrol Aircraft represents the evolution of the Piaggio Aerospace P.180 Avanti II aircraft tested and certified for passenger transportation and proven over more than 20 years of uneventful service and 800.000 flight hours with its patented Three-Lifting-Surface Configuration (3LSC) and high aspect ratio laminar wings.

The modified aerodynamic configuration designed for special mission applications, underwent extensive low speed/high speed wind tunnel testing in the world's leading facilities to validate design and performance and during testing demonstrated an outstanding 30% reduction of required power in comparison to its nearest competitor.

The MPA inherits the exceptional characteristics of the P.180 Avanti II platform, including high speed performance, with the implementation of some significant modifications to further improve performance and install upgraded mission and aircraft systems:

- Increased Wing and Horizontal Tail surfaces and span
- External low noise pack (including power plant upgrade with newly designed scimitar propellers)
- New landing gear.
- Increased Capacity Fuel Tanks
- Mission System by SAAB

## MISSION CAPABILITIES

The Piaggio Aerospace MPA is a new multi-role aircraft conceived to be missionized for many different roles: Maritime Patrol, Ground Surveillance, Tactical ISR and COMINT missions. Aimed at being the most effective Special Mission light turboprop aircraft on the market, Piaggio Aerospace selected the defence and security company SAAB as the MPA systems supplier. Piaggio Aerospace and SAAB are integrating the MPA with a full suite of sophisticated airborne sensors and surveillance systems and the advanced Aquila Mission Management System (MMS) will be integrated on the MPA.

Therefore, a high performance Search Radar and EO/IR sensor suite will be integrated into the MMS to conduct a wide variety of missions, making the MPA one of the most functional and advanced aircraft available of its type. The radar antennae and pedestal are mounted in the belly to provide a 360°unimpaired view, with an installation that does not protrude

into the pressure vessel and is provided with highly reliable 28VDC energy supply for maximum mission performance.

The MPA's open architecture Mission System offers inherent mission flexibility, while the extensive use of COTS components guarantee a state-of-the-art human/machine interface, graphics capability and computer throughput performance. The Aquila MMS integrates tactical sensors and data links providing the Operators with total situational awareness fusing data from Mission Sensors and also providing information through the best in class, advanced man-machine interface. Two operator stations are equipped with multifunction consoles with integrated display and control units to monitor and control the sensors and collect, analyze, fuse, record and distribute all available data, thereby significantly reducing,



dedicated control panels and monitors to maximize flexibility and crew task allocations while having a direct integration into the aircraft avionics for best mission management and integration of pilot and operators activity.

MPA integrates an advanced Communication system, with wideband LOS Datalink and a flexible yet, powerful Ku/Ka BLOS SATCOM system. The comms system may be enhanced and integrated with Link11/16, and IFF Interrogator.

Optionally, and highly recommended, MPA may also be installed with a Self-Protection System (SPS) to protect valuable assets.

Twin turboprop, all weather, proven system architecture and technologies.

Unmatched combination of performance for multi-role missions:

1. Full stand up cabin, with lowest noise & vibration level and cabin relative pressure altitude for best in class crew comfort
2. Patrol time @100nm, low-altitude surveillance @5,000ft is 7.0 hours (45' fuel reserve)
3. MMO M=0.65
4. Max Cruise Speed (15,000 lbs @25,000 ft): 3.50 KTAS
5. Loiter capability at 125KTAS in less than 1 turn radius.
6. Climb to 35,000 ft. in 20 minutes at maximum weight
7. Operational Ceiling: 41,000 ft.

## MAIN COMPETITIVE CHARACTERISTICS

## MPA – MULTIROLE PATROL AIRCRAFT

### DIMENSIONS

Span	21.382 m	[70.15 ft]
Length	14.400 m	[47.24 ft]
Heigh	3.964 m	[13.00 ft]

### WEIGHTS

Max Takeoff (MTOW)	16,500 lbs
Max Landing (MLW)	14,500 lbs
Zero Fuel (ZFW)	11,500 lbs
Mission Payload (mission equipment and 2 operators)	1,350 lbs
Max Fuel @ Max Payload	5,100 lbs
Max Allowable Fuel	5,300 lbs

### PERFORMANCE

Max Cruise Speed	350 KTAS
Max Operation Altitude	41,000 ft
Max Endurance (at 5000 ft) 45 min VFR reserve	7.0 hours

### POWERPLANT

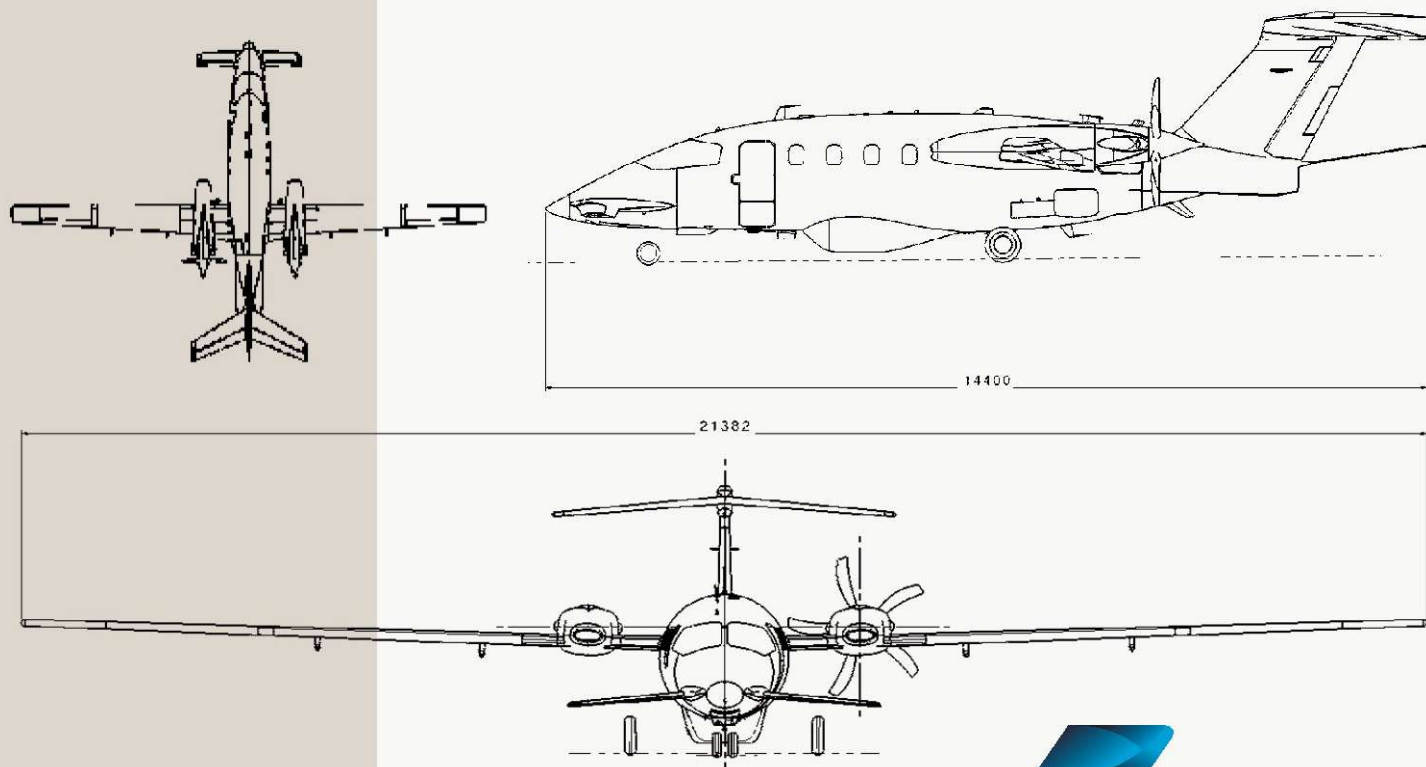
2 x Pratt & Whitney Canada PT6A-66B 950 SHP each (ISA, sea level)  
Hartzell five-blades scimitar low noise propeller, counter rotating

### AVIONICS SYSTEM

Rockwell Collins Fusion EDS

### MISSION SYSTEM

2 SAAB removable, tactical operator stations equipped with multifunction, integrated display control units.



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