

Why Pen Aviation Chose Sagetech Over the Competition

CASE STUDY

Challenge

Pen Aviation had an immediate need for a Transponder but knew that regulations would eventually require a complete Detect and Avoid Solution. While evaluating the market for TSO transponders, they knew that ADS-B In was a critical input for Detect and Avoid Systems.

Solution

Pen Aviation turned to Sagetech's MXS Transponder to address this challenge. The MXS Transponder supports ADSB In/Out and will integrate seamlessly with Sagetech's ACAS based Detect and Avoid system. Currently in field trials, Sagetech's MXS is the only TSO certified low SWaP-C transponder with ADS-B In/Out, available on the market.

COMMERCIAL SOLUTIONS

Results

- MXS TSO certified transponder with ADS-B In/ Out
- Low SWaP, one box solution
- Detect and Avoid capability for safe airspace integration
- Cost effective

Customer



OVERVIEW

DHL Express, the world's leading international express service provider, and Pen Aviation, the industry-leading ecosystem provider for Unmanned Automated Solutions (UAS), signed a Memorandum of Understanding (MOU) in 2021 to commercialize time-critical goods deliveries with unmanned aerial vehicles (UAVs), leveraging PEN UAS-based solutions.

"Cargo drones will be the next generation of transportation in logistics. This POC comes in the wake of the recent 12th Malaysian Plan announcement where the Government of Malaysia highlighted the importance of seamless connectivity and reliability in transport and logistics. The use of drone technology will enable us to reach rural communities especially in East Malaysia, where critical items such as vaccines, medicines, and medical devices are needed while allowing us to fulfill our purpose of connecting people and improving lives", said Julian Neo, Managing Director, DHL Express Malaysia & Brunei.

In line with Deutsche Post DHL Group's aim to achieve net-zero emissions by 2050 ("Mission 2050") the PEN55V micro turbine requires 3 times less energy to fly than battery-powered UAVs and does not cause any pollution related to battery manufacuring, charge and recycle.

CHALLENGE

In order for Pen Aviation to fly with 3x less energy than a battery powered UAV, low SWaP was important; however, so was thinking about the future state of the program. Pen Aviation had an immediate need for a Transponder but knew that regulations would eventually require a complete Detect and Avoid Solution.

SOLUTION

Sagetech's MXS TSO certified transponder with ADSB In/Out aligns perfectly with Pen Aviation's needs. In addition, Sagetech's ACAS based Detect and Avoid solution, currently in field trials, will enable Pen to pursue BVLOS flights on a global scale. Sagetech's MXS is the only TSO certified, low SWaP-C transponder with integrated ADS-B In/Out on the market.

RESULTS

Sagetech created the micro-transponder segment and will continue to build on their MX capabilities. The certified MXS is the cornerstone of Sagetech's Detect and Avoid (DAA) architecture which will support Beyond Visual Line of Sight (BVLOS) operations by their customers. Sagetech's DAA products will accelerate the next generation of UAV-based services for both defense and civil customers. Together with the MXS, Sagetech's ACAS-based DAA platform will provide the most advanced, certifiable DAA system for crewed and uncrewed aircraft with onboard, full power, low SWaP collision avoidance capability.

- MXS TSO certified transponder with ADS-B In/ Out
- Low SWaP, one box solution
- Readily integrates with Sagetech's ACAS based Detect and Avoid computer
- Cost effective

To learn more about our Commercial Detect and Avoid Solutions, please visit: **sagetech.com/commercial-solutions**



Sagetech Avionics is an aerospace technology company empowering safe flight in crewed and uncrewed aircraft with certifiable situational awareness solutions.

Currently serving military and civil duty on a broad range of UAV platforms, Sagetech solutions are mission-proven and offer decades of program experience, certifications, and millions of flight hours to deliver maximum value over the life of an unmanned platform. Today, Sagetech is expanding its technology platform to create comprehensive, certifiable systems such as detect and avoid solutions.

Every day, Sagetech works in concert with its extensive ecosystem of OEM customers, technology partners, and resellers to ensure UAVs fly safer with Sagetech on board.



Follow Us: in y P 317 W Steuben St. | Bingen, WA 98605 sagetech.com | sales@sagetech.com