

Platform Aerospace's Vanilla, Ultra-Long Endurance UAS Flies Over 1,000 Miles into the Arctic Polar Ice Cap

Press release

June 2024

HOLLYWOOD, MD – Platform Aerospace has successfully completed an arctic flight campaign for a DoD customer. Vanilla flew two flights totaling more than 65 hours in the arctic circle, including operations north of the 78th parallel.

In September 2023, the Vanilla Ultra-Long Endurance UAS carried a metrological sensor suite to measure environmental conditions in the Arctic and to validate Vanilla's aircraft icing detection systems and mitigation strategy.

Operating from Deadhorse, Alaska, Vanilla flew over 500 miles toward the North Pole and back, for a round-trip of over 1,000 miles in 17 hours. Afterward, Vanilla continued data-collection, using multiple 200-mile laps, for another 22 hours. This was a single un-refueled flight of 39 total hours. A second flight of 26 hours increased Vanilla's flight time to 65 hours operating north of the 70th parallel.



Vanilla flew in the Arctic environment for 39 hours continuously.

During the flights, cloud and icing warnings were provided real-time to our UAS operators. The Atmospheric Sensing and Prediction Sensor (ASAPS) from PEMDAS Technologies & Innovation, takes high-quality measurements of pressure, temperature, and humidity to provide icing potential to our UAS operators. This system was invaluable for both the science objectives and for giving operators confidence in the actual conditions around the aircraft.

"Vanilla's performance is ideal for environmental monitoring missions, such as this demonstration of flying multiple

sensors to the polar ice cap," says Dr. Dan Edwards, Chief Technology Officer of Platform Aerospace.

Takeoffs were performed under Visual Flight Rules (VFR) with a chase escort to warning area airspace. On both flights, conditions at the airfield unexpectedly deteriorated to Instrument Meteorological Conditions (IMC). In one instance, Vanilla stayed on mission an additional 22 hours awaiting better weather before filing an Instrument Flight Rules (IFR) flight plan for the area navigation (RNAV) approach with the assistance of the FAA. This event illustrates the power of Vanilla's Ultra-Long Endurance to mitigate bad weather; and demonstrated integration with the processes and procedures of the National Airspace System (NAS).



Vanilla landed in IMC conditions under a filed IFR flight plan.

Vanilla is an Office of the Undersecretary of Defense for Research and Engineering (OUSD(R&E)) Rapid Defense Experimentation Reserve (RDER) Program.

About Platform Aerospace

Platform Aerospace is a service-disabled veteran-owned small business (SDVOSB) specializing in disruptive UAS technologies and rapid aircraft modification. We are a 30-year-old aviation engineering and manufacturing company and owner of the world-record setting Group 3 UAS, Vanilla.

If you are interested in learning more, please contact bd@platformaero.com or visit our website at <https://platformaerospace.com/>.