

# HiDRON Sets New Records in Canadian Aviation

UAVOS recently conducted a successful record-setting stratospheric flight, as part of a joint project between the company and Stratosdynamics. The stratospheric glider named HiDRON was released from a Canadian Space Agency (CSA) scientific gondola at an altitude of 111,434 feet and performed a four-hour controlled flight and landed at Iroquois Falls Airport about 80 km from the Timmins, Ontario launch site. The flight once again confirmed HiDRON's capability to perform high-altitude missions and beyond visual line of sight (BVLOS) operations and set a new operational best for the flight in a challenging stratospheric environment. The night flight was also supported by the French Space Agency (CNES) and was part of the 2019 Strato-Science Balloon campaign.

The record setting flight achieved many firsts in Canadian Aviation such as it was the highest altitude flight of a UAV or Remotely Piloted Aerial Systems (RPAS). Also, it was the first UAV above 20,000 feet in Class A airspace.

The HiDRON release from the CSA gondola was another first for the company, as previous launches have been carried out by weather balloons and added new layers of complexity. Prior to the launch, the Stratosdynamics and UAVOS teams advanced aspects of the HiDRON including the transponder, stratospheric flight controls, data links, and safety protocols. The HiDRON features UAVOS' autopilot AP 10.3 Micro. The mission plan was to release the HiDRON from the gondola sometime between an altitude of 30 km altitude and the target ceiling altitude of 121,000 feet. Once released, the HiDRON would follow a pre-set flight plan and land at Iroquois Falls Airport. This meant the team was onsite at the Timmins airport until the gondola's lift-off from the CSA Balloon Base.

As the gondola rose to its float altitude, the HiDRON was released at around 12:30 am on September 1 at an altitude of 111,400 feet. The HiDRON performed well in difficult headwinds and -60-degree C stratospheric conditions with its

AMON detector recording single pixel data in a near-moonless night sky.

The record setting flight is the culmination of 12 months of international collaboration and planning with colleagues in Canada, Belarus and Slovakia and was the second of two flights commissioned to test AMON Airglow detector from Stratosdynamics' client, the Institute of Experimental Physics at the Slovak Academy of Science. The Slovakian team was searching for a cost-effective method for the AMON detector to have a clear view upwards unencumbered by a weather balloon blocking the view. The AMON detector is planned to participate in BUSO-SPB2 mission that will fly on a long duration NASA balloon in 2022.

Alakssei Strabaliatai, CEO, UAVOS said: "HiDRON is a real solution that advances the important research around climate change and other atmospheric chemistry problems. The HiDRON provides solutions for tough problems that affect all of humankind, which is why it is such a necessary platform for researchers."

