MEDIA RELEASE

AICRAFT successfully launched its innovative edge computing module into orbit

Monday 13 February 2023 — South Australian artificial intelligence (AI) company AICRAFT has successfully launched its edge computing module to set a record for Big Data processing on orbit.

The device was launched on Friday 10 February 2023 on board the JANUS-1 satellite of Antaris Space from the Satish Dhawan Space Centre of India under a commercial arrangement with NewSpace India Limited (NSIL), the commercial arm of the Indian Space Research Organisation (ISRO). As a key sub-system of the JANUS-1 satellite, AICRAFT's edge computing module, named Pulsar, will perform ultra-fast processing of space data using artificial intelligence at lowest power consumption. In its preliminary tests on the ground, the company has demonstrated the ability to classify 1,250 images of Earth Observation data in about 10 seconds! This was achieved using the device in low-power mode which the company expects to enable 24/7 computation, even on 'shoe-box-size' nanosatellites compared to the 10 minutes a day with current market solutions.

Pulsar can seamlessly toggle between low-power and high-performance modes which can give a further four times speedup of its low-power processing. Its power/performance ratio is currently unmatched in this size of devices – Pulsar is 95mm x 90mm x 25mm.

The module offers the advantage of being highly customisable depending on the host satellite, mission duration and orbit, making it resilient but also affordable for a variety of customers and New Space entrants. From a software perspective, the module supports over 20 of the most popular machine learning frameworks with users able to develop algorithms for Pulsar in the same way they are developing on desktops and leveraging from open-source software.

The CEO of AICRAFT Dr Tony Scoleri said, "*Getting to this point was a phenomenal journey for us. The JANUS-1 mission gave us the focus to build an advanced and space-grade AI technology in a very short time (9 months) and provided a springboard for AICRAFT to enter the space ecosystem*. *The collaboration with the US-based Antaris Space commenced through their Australian subsidiary company which is also a member of the Aurora Space Cluster, an initiative of SmartSat CRC for startups, and enabled to combine forces*."

Antaris, the software platform provider for space, fully conceived, designed and manufactured a satellite using the company's own software end-to-end in a world's first cloud-based environment. Creation of the satellite JANUS-1 involved eight organisations spanning seven countries collaborating virtually through Antaris' cloud-based platform, which features open APIs and core open-source elements.

AICRAFT and Antaris signed a Memorandum of Understanding (MOU) at the Australian Space Forum in Adelaide, South Australia in March 2022. The satellite JANUS-1 was completed in just 10 months from concept to launch readiness, with a cost saving of 75% over comparable satellite missions. It features AICRAFT's edge computing module Pulsar that was designed and manufactured in Australia and the only Australian payload in this mission.

Commenting on how the future looks for AICRAFT after the landmark JANUS-1 mission, Dr Scoleri said, "*This is an exciting flight for us, and we are already in conversations with potential customers for our next mission*."

ABOUT AICRAFT

AICRAFT is a South Australian company offering smart sensors and tailored systems powered by artificial intelligence (AI). The company specialises in purpose-built electronics and advanced semiconductor technology to craft ultra-compact, high-speed, low-power, embedded AI solutions for high-performance edge computing in space and on Earth. Learn more at www.aicraft.com.au

Further information

Please contact AICRAFT at hello@aicraft.com.au.