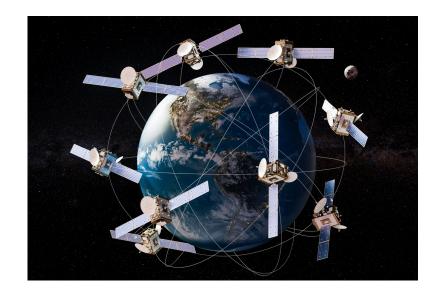
DIN Pilot Project

Funding \$149,511



ON-BOARD FEDERATED LEARNING IN ORBITAL EDGE COMPUTING FOR SPACE SITUATIONAL AWARENESS

Western Sydney University - University of Sydney - AU Cloud

"Edge computing and federated learning techniques using reconfigurable computing to enable on-board space situational awareness (SSA) in smart satellite constellations."

Problem

Enhancement of the 'space cloud', a smart satellite constellation concept providing resilient and trusted global space services.

Solution

The main objective of this project is to develop an architectural framework of orbital edge computing for satellite constellations to train machinelearning models for space situational awareness.

Using reconfigurable computing, the team will deliver a new technique to reduce energy consumption and training time, based on mixed-precision on-chip training.

The project will finish in 2024.

START TRL: 2
EXIT TRL: N/A
DIN INVESTMENT: \$149,511

EXTERNAL INVESTMENT: N/A

NO OF RESEARCHERS: 5
NO OF NEW ROLES: 1

CONTACT:

- Bahman Javadi, <u>Western Sydney</u> <u>University</u>
- Philip Leong, <u>University of Sydney</u>





