

DIN STRATEGIC INVESTMENT INITIATIVE SPACE DOMAIN AWARENESS (SDA)

PROBLEM CONTEXT

Most Space Domain Awareness data in use today by Australia originates from assets owned and managed by other countries. It is vital for Australia to develop sovereign assets with optimised configurations of sensor packages, edge computing, and independent or distributed data management and processing.

SDA is a critical enabler of Australian space missions and capabilities. The capability of satellites to provide 'local' SDA, through sensors and data processing, will be increasingly important for mission resilience. This involves being able to detect, characterise and, if possible, avoid or survive a future contested and congested space domain.

RESEARCH QUESTIONS

How do we develop a comprehensive SDA, to characterise space objects, understand their position, orbit, changes and intent? Australian-owned assets, sensors and automated data processing are specifically included and preferred. All responses must specifically take into account and demonstrably cater for the low SWaP requirements, and environmental conditions, of space.

EXPECTED OUTCOMES

A prototype package of sensors and fused data demonstrating an understanding of how to achieve the optimum blends of sensors across a constellation (or aboard one or a few larger satellites) to enable maximal SDA.