Space Machines Company awarded Defence contract to develop autonomous space threat detection system

Advanced AI-powered capability will contribute to the protection of Australian and allied space assets

SYDNEY, AUSTRALIA, 5th JANUARY 2026 — Space Machines Company (SMC) has secured a $2.9 million contract with Defence's Advanced Strategic Capabilities Accelerator (ASCA) as part of the Emerging and Disruptive Technologies, Decision Advantage program. The Space Threat Analysis and Response System (STARS), will be an advanced capability contributing to the protection of Australian and allied space assets in an increasingly contested orbital environment.

This project aims to enhance Australia's space situational awareness and protect critical space assets by predicting close flybys, RPO windows and potential interference of Australian and allied spacecraft by other objects in Low-Earth Orbit (LEO). The system will be designed for seamless integration into a space command and control system such as SMC's Solstice OS, which enables streamlined operations of spacecraft fleets and on-demand orbital services.

"The dynamic nature of the space environment demands automated systems capable of processing complex data and generating actionable intelligence at unprecedented speeds. STARS addresses a critical need for enhanced space domain awareness through autonomous analysis and response planning. By developing this sovereign capability in Australia, we are contributing to the resilience of the allied space defence industrial base whilst advancing the science and technology priorities outlined in the National Defence Strategy." said **Rajat Kulshrestha**, CEO and Co-Founder of Space Machines Company.

The 24-month project will advance STARS from a conceptual technology to a working prototype. By ingesting data from ground-based space domain awareness systems and commercial data providers, STARS will enable rapid, informed decision-making in dynamic space environments where objects move at 28,000 kilometres per hour and traditional response windows are measured in minutes, not hours.

Upon completion, SMC plans to integrate the STARS capability into Solstice OS to enable the coordination of a fleet of Optimus Viper Rapid Response Vehicles.

By leveraging artificial intelligence and advanced data analytics, STARS will predict potential interference windows, and evaluate threat characteristics in near real-time. STARS aims to assess the threat environment for specific satellites and generate response plans whilst prioritising the protection of sovereign and allied space systems. The system's autonomous analysis capabilities will enable decision-makers to maintain continuous situational awareness.

This STARS prototype is a first major step toward a mature capability that will then be offered to allied partners through the Solstice OS platform, enabling coalition forces to leverage their own intelligence sources for threat detection and analysis whilst coordinating protective responses. This approach will bolster Australia's ability to cooperate in allied multi-domain operations.

Rajat Kulshrestha concluded: “Space Machines Company's selection for the STARS project reflects the company's established expertise in autonomous spacecraft operations and command and control systems for distributed space assets. SMC's development of technologies that integrate real-time data processing, mission planning and fleet coordination provides the foundation for advanced threat analysis capabilities that can operate at the speed and scale required for modern space domain awareness.”

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About Space Machines Company
Space Machines Company (SMC) is an Australian space technology company delivering orbital superiority through rapidly deployable, mass-produced spacecraft systems. Our Optimus Viper vehicles, powered by AI-driven Solstice OS, conduct persistent proximity operations and multi-angle surveillance to protect critical space infrastructure against emerging threats. With operations across Australia, the US, UK, and India, SMC serves as the only non-US provider of coordinated swarm-based space domain awareness capabilities to democratic nations throughout the Indo-Pacific. We enable allied forces to counter near-peer threats to the satellites underpinning global communications, navigation, and economic activity—responding in hours and days, not months.

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