

Powering Autonomous, Intelligent Operations in Space — with Cryptographic Integrity and Zero Trust Cybersecurity

The next generation of space systems—from satellites and mega-constellations to space stations and orbital infrastructure—is approaching a critical inflection point, stretched to its limits by the scale of operations, the deluge of data, and escalating security demands. These platforms generate staggering volumes of information every day, yet most lack the onboard intelligence to interpret or act on it in real time. Instead, they remain tethered to Earth-based ground stations, introducing latency, straining limited bandwidth, and creating operational bottlenecks that undermine true autonomy.

At the same time, resilience is under threat. In-orbit decisions often leave no verifiable audit trail, while

communication networks are increasingly exposed to cyberattacks and malicious interference. In an environment where speed, trust, and security are paramount, these gaps undermine the effectiveness of today's space infrastructure and constrain the growth of the orbital economy.

The defining question remains: how do we equip orbital systems not only to observe, but also to decide, defend, and act—intelligently, autonomously, and securely—in real time?

The Space Armour Solution

Space Armour is addressing these challenges with a unified, modular platform designed specifically for in-orbit operations. Unlike conventional systems that rely on Earth for intelligence and trust, Space Armour brings both directly to space.

At its core, the platform uniquely integrates three critical layers:

In-Orbit AI Engine

A modular, upgradable, and power-efficient system capable of running advanced AI workloads directly onboard satellites and stations. This allows orbital assets to process vast amounts of data in real time, unlocking true autonomy and reducing reliance on ground infrastructure.

Blockchain Node for Verifiable Autonomy

A co-deployed ledger that cryptographically timestamps and records AI inferences, decisions, and telemetry. This creates a tamper-evident, auditable trail that makes autonomy provable—ensuring operators, regulators, and stakeholders can trust every action taken in orbit.

Zero Trust Security Gateway

A cybersecurity mesh that shields critical infrastructure, encrypts communication, and enforces identity-driven access across space and ground assets. By extending Zero Trust architecture beyond Earth, it ensures systems remain resilient, trusted, and secure across the orbital economy.

Together, these layers transform orbital infrastructure into intelligent, autonomous, and trusted systems, redefining how satellites and stations operate in the most challenging environment imaginable.

Space Armour uniquely integrates AI optimized for in-orbit operations with cryptographic trust and embedded security—engineered for real-world space deployment



A Platform for the Space Economy

As humanity accelerates beyond Earth toward a multi-planetary—and ultimately interstellar—future, Space Armour is laying the foundation for secure, resilient, and intelligent space infrastructure. From Earth observation and disaster response to secure satellite communications, from autonomous in-orbit maneuvering to interplanetary mission support, the applications are vast—and the imperative is clear.

Join us as we empower the orbital economy to operate with intelligence, resilience, and trust—unlocking the next era of growth in space.

Space Armour is an alumnus of the UK Space Agency's Accelerator Program, and a member of NVIDIA's Inception Program and the SSTL ecosystem.

