Strengthening Space Economic Resilience: Lessons from Intelsat 33e

Enhancing Economic Resilience – Integrating Cyber I&W into Space Situational Awareness – A Case Study of Intelsat 33e

The catastrophic breakup of the geostationary communications satellite Intelsat 33e on October 19, 2024, exposed potential gaps and vulnerabilities in traditional space situational awareness (SSA) practices that could disrupt economic stability in the space sector. Notably, Kratos's passive radio frequency (RF) monitoring network detected a telemetry loss at 04:18Z—nearly 20 minutes ahead of the U.S. Department of War and Exoanalytic optical public confirmation. Concurrently, the Space Information Sharing and Analysis Center (Space ISAC) linked the incident to widespread service interruptions, including coverage losses across several African nations, disruptions to undersea cables, and in-flight connectivity outages.

Key Insights

- Integrating real-time cyber indications and warnings (I&W) with RF data can accelerate anomaly detection.
- Connecting cyber information with operational information systems can mitigate economic disruptions and identify and quantify ripple effects of outages.
- Cybersecurity insights from the Space ISAC promote public-private collaboration to support more effective response strategies.
- A Space Information Sharing Ecosystem (SISE) is recommended to enhance economic resilience.

Socioeconomic and Strategic Impacts of Integrating Cyber I&W with SSA Systems

- Protects industries like telecom, aviation, and maritime from cascading failures.
- Boosts resilience by reducing financial losses and ensuring service continuity.
- Strengthens global cooperation with a SISE framework.
- Supports sustainable economic growth in space services.

Actionable Recommendations

- Integrate cyber I&W into SSA frameworks.
- Adopt SISE as a model for global space safety and resilience.
- Promote collaboration across commercial and government partners.

Why This Matters

The space community has developed sophisticated and targeted tools to detect different threat conditions, but access to that information can be siloed, preventing timely access where the information is needed most. Breaking down those barriers to shared safety- critical information creates a safer, more resilient, operational environment supporting our space- dependent economy.

Session Details

IAC Session: Economic Resilience and the Space Economic/Industrial Sector

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Presenters

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