

IAF BUSINESSES AND INNOVATION SYMPOSIUM (E6)
Strategic Risk Management for Successful Space & Defence Programmes (4)

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OPTIMIZING COMMERCIAL SPACE SYSTEM INTEGRATION FOR SECURITY APPLICATIONS
IN CENTRAL AND EASTERN EUROPE

Abstract

The evolving security landscape in Central and Eastern Europe, exacerbated by the ongoing Russian-Ukrainian conflict, underscores the critical role of space-based assets in contemporary defense strategies. This study examines the strategic optimization of commercial space systems for security and defense applications in the region, aiming to enhance situational awareness, threat assessment, and crisis response capabilities.

Purpose: This research aims to determine how commercial space systems can best be integrated to enhance security and defense operations in Central and Eastern Europe. The study will analyze the region's unique challenges and identify the specific types of commercial systems that offer the highest value proposition in terms of cost, performance, availability, and risk mitigation.

Methodology: The study employs a qualitative analysis approach, comparing security needs in the region with existing capabilities offered by various commercial space systems. It examines use cases from the Ukrainian conflict, lessons learned, and best practices from leading space-faring nations. Additionally, a risk analysis framework will be applied to assess the potential benefits and vulnerabilities associated with commercial system reliance.

Results: The analysis will yield insights into the optimal composition of commercial space assets tailored to the security needs of Central and Eastern Europe. It will determine which systems (e.g., imagery, communication, etc.) provide the most impactful advantage, and will outline the operational requirements for their successful implementation.

Conclusions: The study will advocate for a balanced and strategic approach to integrating commercial space systems alongside government-owned assets within defense frameworks. It will provide recommendations on the specific systems that Central and Eastern European nations should prioritize for investment, development, or acquisition, along with guidelines for mitigating risks while maximizing the benefits of commercial space technology.