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WHITE PAPER: COSMOX FEDERATED SATELLITE SYSTEMS INTER-SATELLITE
COMMUNICATION NETWORK TO ENABLE REAL-TIME EARTH OBSERVATION**Abstract**

Distributed Satellite Systems (DSS) have the potential to disrupt and transform the space industry, provide more valuable services to end users, limit space debris threats, and increase sustainability, cost effectiveness, robustness, and reliability of space-based assets and resources, yet the development of a fully operational shared space network has not been fully implemented or commercialized yet. Following previous research conducted in recent years and based on previous recommendations by leading researchers and subject matter experts in this domain (A.Golkar, O.Selva, P.Collopy, O.L.de Weck, et al.), CosmoX proposes advancing, legally addressing, and commercializing a Federated Satellite Systems (FSS) infrastructure to solve global challenges, such as pollution by greenhouse gas emissions and human footprint monitoring for climate change, coastal subsidence monitoring in coastal communities, civil security threats detection, and early disaster warning and response in real-time using shared and distributed space assets and resources.

This paper serves as a white paper to prove the feasibility of this disruptive technology. Calculations and simulations on how the FSS network will operate will be included. Additionally, laws and regulations to enable the FSS network will be addressed.