



INTELSAT[®]

Integrating Multi-Orbit Satellite Connectivity for Enhanced Communications Redundancy and Preparedness





In today's information warfare age, mission success on the battlefield is contingent on soldiers having the ability to gather, analyze, and securely share critical information and communicate on the move and at a moment's notice.

An integrated, resilient satellite-based network is the connective tissue that makes this possible.

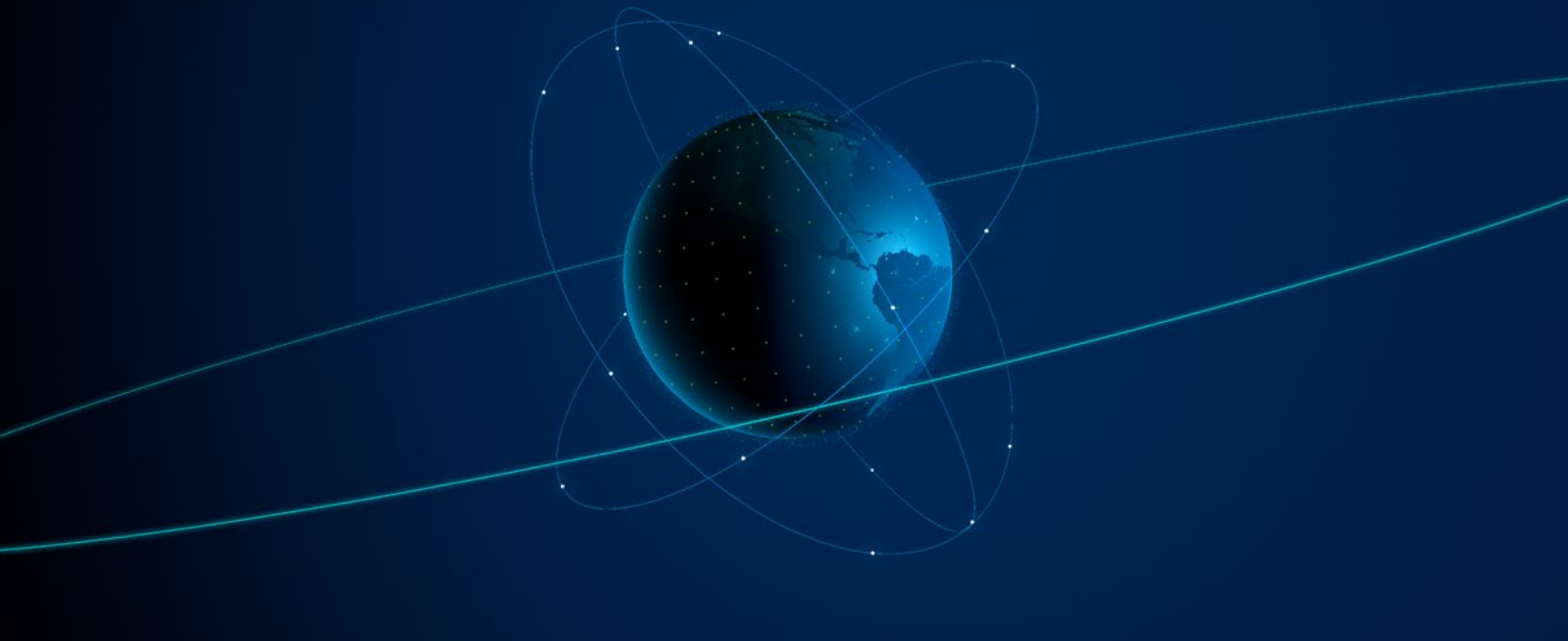
Commanders and fighters must have access to continuous, uninterrupted, high-quality connectivity for voice, video, and data transmission. Outages or delays stemming from degraded or damaged network infrastructure or equipment are simply intolerable.

Recognizing this reality, military and defense organizations continue to enhance their communications redundancy and preparedness plans to include a range of Primary, Alternate, Contingency, and Emergency (PACE) connectivity options. These PACE plans are designed to ensure communications continuity no matter the situation or conditions on the ground.

PACE: **Primary,** **Alternate,** **Contingency, &** **Emergency**

While PACE plans often contain a satellite networking component, it's critical that the satellite element itself includes redundant, resilient connectivity. A satellite solution that leverages assets in multiple satellite orbits has an inherent benefit in coverage, resiliency, and flexibility.

For decades, satellite communications have played a major role in military operations. Either as a primary option in remote locations where terrestrial networks do not exist or for back-up and redundancy, militaries have relied upon the ubiquity and continuous availability of satellite networks. Satellite sits nicely within any level of a well-designed PACE plan.



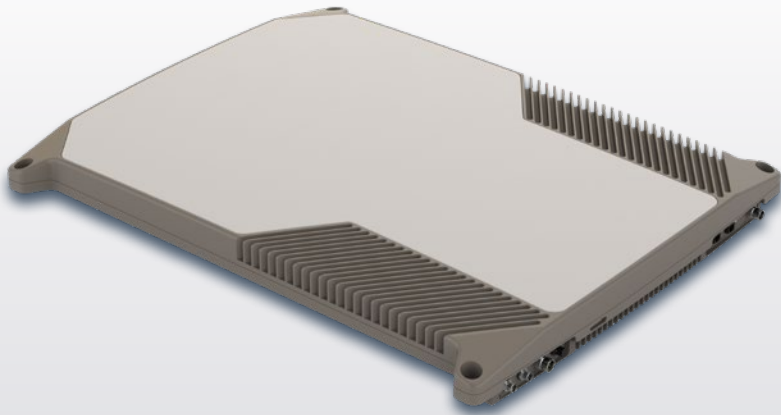
But access to a single satellite connection option presents an unacceptable level of risk. Even a network with redundant satellites can be susceptible to disruption at the terrestrial level. Additionally, some networks cannot offer users a Committed Information Rate (CIR), leaving the quality of connectivity subject to congestion, interference, and downtime. CIR is a particular threat for PACE networks, as the network is likely to have a highly elevated contention rate in an emergency as more users are competing for a limited resource. In other words, a network without a CIR is likely to let you down just when you need it the most. Finally, consideration needs to be made as to the susceptibility of non-GEO networks to attacks from adversaries or damage from natural events and space debris.

Given these threats from a single orbit network, military users and PACE planners have recognized the opportunity to mitigate risk with a multi-orbit network but have had to weigh the benefits against the challenges of multiple hardware platforms. Fortunately, satellite providers like **Intelsat** are making it possible for militaries, warfighters, and PACE planners to integrate seamless multi-orbit satellite connectivity and enjoy the benefits of both satellite networks on the battlefield with solutions like their Multi-Orbit Tactical Terminal (MOTT).

MOTT is a ruggedized, smart edge device that integrates GEO and LEO satellite bands through a guaranteed, resilient, multi-orbit connectivity solution. MOTT uses software-defined capabilities to intelligently determine the fastest, best, and cheapest route for transmitting voice, video, and data traffic in supporting C5ISR applications.

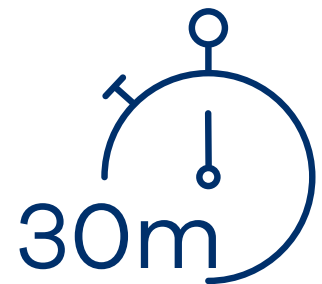
Seamlessly integrating access from multiple orbits, fills gaps in global coverage, and provides the network redundancy and failover support that ensures fighters in the battlefield will never be without the bandwidth required for mission success. Incorporating military grade GEO satcom also deliver an optimal level of data security beyond basic encryption with **Transmission Security (TRANSEC)** capabilities, which masks channel activity and prevents adversaries from exploiting information.





Modular and lightweight, MOTT is highly portable and configurable with a flat, low-profile antenna designed to evade detection. MOTT sits on top of any vehicle and can be installed by a non-technical user in under 30 minutes. Backward compatibility means personnel can use existing radios and handheld equipment to send and receive digitized communications, eliminating the need to carry and operate multiple pieces of communications equipment.

MOTT enables military and defense organizations to develop more fulsome PACE communications plans by adding multi-orbit satellite connectivity to the mix. With the best of both satellite networks, and the ability to easily switch between the two, military personnel and warfighters engaged in battle can have the trust and confidence that the connectivity needed for basic communications and critical intelligence sharing will always be available, even in the most hostile, remote, and difficult environments.



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