

SATELLITE COMMUNICATIONS FOR SECURITY OPERATIONS



ESOA
European Satellite Operators Association



Source : US Air Force

Satellite Communications for Security Operations

Satellite communications offer:

Resilience: Continuity of communications when terrestrial networks are destroyed, overloaded or simply not present. Satellite services such as earth observation, reconnaissance, monitoring and emergency communications all dramatically improve the planning, coordination and response to crises, whether natural or manmade

Global coverage: Crises often result in security issues such as the migration of people across borders. Some governments already use satellites to monitor borders 24/7; by connecting sensors, cameras and other surveillance equipment installed at borders to a central control centre

Flexibility: Terminals can rapidly be deployed and secure satellite communications can connect defence ministries, military commands and/or civil emergency command structures with their deployed forces and remote, mobile staff



Source : US DoD



Source : US Air Force

Responding to Government Communications Requirements

Satellites operators understand the communications requirements of military and civil Government users:

Global coverage Europe is getting increasingly involved in supporting activities outside EU borders

Mobility Security activities are increasingly about small groups or units that need to move quickly – "mobile expeditionary forces" – for example to get to an airport to deploy rapidly to a remote location, whether in support of UN Peace Keeping Operations or more active military operations, such as Afghanistan or Iraq

A total solution Very Small Aperture Terminals (VSAT) that operate in higher frequency bands (Ku/Ka) provide greater bandwidth and capacity, but are generally more permanent installations in a deployed command post. L-Band mobile satellite services deliver voice and IP-based data services through light-weight, portable terminals for mobile and remote groups

All-weather Satellite services provided over L-Band do not suffer from attenuation of their satellite signals by rain, snow, or other water-based weather conditions, offering more resilient and reliable satellite services for essential communications

Interoperability Fixed and some mobile satellite service operators provide satellite communications over an IP architecture, enabling military forces, civilian security services and aid/NGO first-responder agencies to have access to voice communications and all normal IP-based services and applications, such as email, VPN, internet browser, etc.

Information assurance Users can employ a range of cryptographic hardware and software-based information security solutions to ensure the privacy and integrity of their voice and data communications



Flexible Applications and Solutions

GSM Pico-cell A mobile, deployable GSM antenna and multiplexer, which when connected to a satcom terminal, establishes a single cell to allow up to ~30 GSM phones to connect to the normal worldwide communications infrastructure

Combat Net Radio Interface Similar to the GSM pico-cell, this solution enables deployed VHF/UHF push-to-talk radio users in closed user groups to communicate with, and be contacted by, a HQ or command post that is out of range of their radios

Multicast/netted communications This capability enables dispersed security forces to receive and transmit key information (audio, video, imagery, text) securely within a pre-defined closed user group, regardless of where they are in the world, ensuring up to date information is shared in a timely manner

Situational awareness Situational awareness applications, such as 'Blue Force Tracking' that is in use today by US and NATO forces, rely on satellite communications with global coverage and secure connectivity to provide near real-time data on the identification and location of deployed and mobile assets in remote locations, helping to prevent 'friendly fire' incidents

Comms on the move (COTM) Broadband data communications is no longer limited to fixed, stationary terminals. Both L-Band and VSAT terminals can now provide true COTM to vehicles, ships and aircraft, delivering simultaneous voice and broadband data to a moving platform



Remote border surveillance Combining covert surveillance cameras and other sensors with a satellite link enables the remotest of borders to be monitored 24/7. The high portability and easy set up of some satellite solutions removes any predictability about monitoring, thus lessening the vulnerability of such solutions to attack



About ESOA

The European Satellite Operators' Association was formed in March 2002 to represent the interests of the industry with the European Commission, Parliament, Council and the European Space Agency as well as other international organisations, national governments and regulators. ESOA's goals include ensuring that satellite operators benefit from the appropriate political, industrial and regulatory environment to fulfil their vital role in the delivery of communications. ESOA is governed by a Board of Directors made up of the CEO's of its Member Companies.

The activities and other details about the ESOA can be found at www.esoa.net. Members of ESOA are: Astrium Services, Eurasiasat, Eutelsat, HellasSat, Hispasat, Inmarsat, SES, SES Sirius, Telenor and Telespazio. Arianespace, Astrium Satellites, Avanti, International Space Brokers, Mansat, Marsh, Thales Alenia Space and Willis are Supporting Members of ESOA.

For more information please contact:

Mrs. Aarti Holla-Maini
Secretary General

European Satellite Operators Association,
Bastion Tower, L-20
5, Place du Champ de Mars
1050 Brussels, Belgium
t: + 32.2.550.35.75
f: + 32.2.550.35.35
w: www.esoa.net
e: sg@eso.net

