XTAR LLC

Mobile Deployable Communications,
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X-band's Unfair Advantage

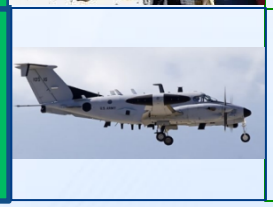
- Theatres of operation have changed calling for more mobile, agile communications
  - Fewer, smaller deployments
  - Shorter-term operations
  - Smaller, more covert, more mobile terminals
- Demand for more immediate information, data heavy applications
- Utilisation and understanding of X-band's technical advantages
- Less susceptible to environmental interference
- Antenna advancements (*Tampa Microwave, Gigasat, Copasat, GATR*)

Dispelling X-Band Myths

Technical	MYTH	Antennas are cumbersome, as large as C band
	FACT	Antennas are as small as 6 x 6 inches
Operational	MYTH	◆ High data rates are not achievable
	FACT	◆ XTAR's customer routinely require high data rates at 10-20 Mbps; links closed at 200 Mbps! ◆ BW efficient antennas 40-60 cm
Organisational	MYTH	The only accessible X-band is MILSATCOM
	FACT	Commercially provided X-band has been available since 2005; new commercial X-band payloads are planned
Financial	MYTH	It's very expensive!
	FACT	Cost is comparable with Ku and Ka costs per Mbps, ***and…*** ◆ It works in the rain ◆ More BW efficient for small terminals

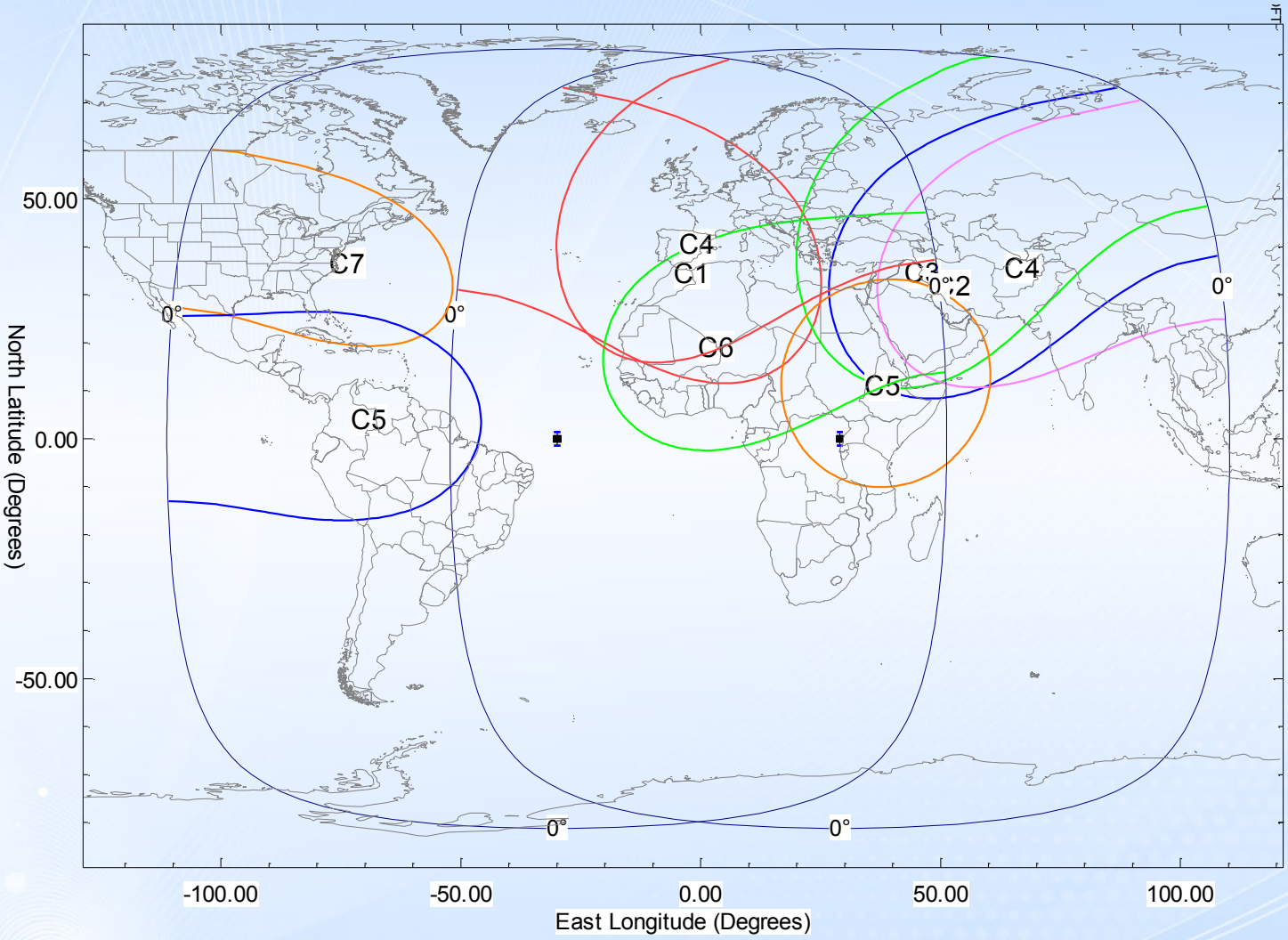
Meeting Operational Needs

New Intelligent Warfare: Land - Sea - Air

Antenna		TX Rates	User Requirement	
Fixed/ Deployable 1.2-3.8m		2-45 Mbps	Situational Awareness Illegal Immigration Surveillance/Recon Piracy Illegal Fishing Effective Border Control Drug Interdiction	Little or no infrastructure Small antennas Small Teams Remote locations
Mobile/ Early Entry 0.6-1.2m		1-10 Mbps		
Maritime 0.46-2.4m		1-20 Mbps		
Airborne Surveillance 20-45cm		1-10 Mbps		

Coalition, Special Forces, Humanitarian, Surveillance, Covert

XTAR Coverage



Fast, Cost-effective Solutions

High Value ◆ Customizable ◆ Short or long duration

- Dynamic Response
- Real-time Situational Awareness
- Mobile Patrol
- Biometrics

XTAR

Milsatcom & Comsatcom

Commercial leased services come with a price tag - billed to the user or the coalition/mission at the time of lease. MILSATCOM systems come with a price tag also, but independently owned satellites come with a high cost. We need to look at collaborative efforts aimed at improving user's access to commercial satellite capabilities. Industry does not have all the answers, but they are (and will remain) an integral part of the future, and government users seek the capabilities which can significantly reduce costs.

- Complementary capabilities: XTAR, WGS and Commercial solutions
  - Benefits: Multi-band antennas enable collaborative and innovative responsive and proactive to user needs
  - Impediments: Budgetary constraints, contractual limitations
- Buying into WGS has limitations:
  - High Cost
  - Performance Limits & Old technology
  - Limited Access and preemptible
  - Inflexible and expensive terminals
  - Lack of operational control
- XTAR's experience: User + Equipment Manufacturer + Integrator + Buyer
  - Collaboration is iterative with antenna platforms. As user needs morph, personal contact results in new solutions (example, Manned ISR Platforms)

Conclusion

- X-band is a viable, affordable alternative that should be considered
  For ANY Government Beyond Line of Site Requirement
- XTAR provides excellent coverage suitable for European nations requirements
- XTAR has provided services to