EMSS ACADEMY

Module 3:
Iridium Short Burst Data® (SBD®)

Iridium Government Programs

October 2026

iridium®

Legal Disclosures

Statements made in this Presentation are not warranties, and IRIDIUM EXPRESSLY DISCLAIMS ALL WARRANTIES, IMPLIED WARRANTIES, WARRANTIES OF MERCHANTABILITY AND WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, except as expressly set forth in the relevant Iridium Limited Warranty and the Iridium Product Sales Terms and Conditions.

The views and opinions expressed in this presentation are solely those of the presenter and do not necessarily represent those of Iridium, which makes no warranty as to accuracy or completeness of the information provided or the views or opinions presented. The information in this presentation is subject to change without notice.

Read and understand the Iridium User Manual and the safety warnings and information contained in that Manual before using any Iridium product.

Iridium, the Iridium logo, Iridium Certus, Short Burst Data, SBD, Iridium Burst, Iridium OpenPort, and Your World. Our Network. are registered marks of Iridium Satellite LLC and its affiliates. All other registered marks, trademarks, service marks and logos are property of their respective holders. Information is subject to change without notice.

Curriculum Overview

Module 1:	Iridium® & EMSS Overview
Module 2:	Telephony Services (Commercial & Secure)
Module 3:	**Iridium Short Burst Data® (SBD®)**
Module 4:	Simplex Services (Iridium Burst® & Iridium Pulse℠)
Module 5:	DTCS Familiarization & Setup
Module 6:	Procuring Devices & Services Through EMSS
Module 7:	Incident Management & Support
Module 8:	Use Cases & Future Capabilities
Module 9:	Knowledge Repository & Resources

Module 3 Learning Objectives

Terminal Learning Objective

- Understand how SBD provides global, low-latency data connectivity for government and military operations.

Enabling Learning Objective

- Explain the role of SBD in tactical and strategic communications.
- Identify operational use cases for SBD and Enhanced SBD (ESBD).
- Describe SBD message flow and network architecture.
- Differentiate between SBD and ESBD capabilities.
- Recognize common SBD devices and their specifications.
- Understand integration with COP systems for force tracking and mission management.

Iridium Short Burst Data (SBD) Service







- SBD devices are designed for low power consumption and usage over long stretches of time. Normally these devices remain in sleep mode, but can be programmed otherwise, waking up only to receive or send data.
- Users can monitor SBD devices through Friendly Force Tracking (FFT) systems or vendor applications as they send updated PLI, sensor readings or user messages. An SBD device can be provisioned to send and receive messages from other SBD devices if its transceiver is one of the five provisioned destinations.
- **Use Cases:**
  - Personnel tracking
  - Logistics support / asset tracking
  - In-transit visibility
  - IoT applications
  - Remote sensors
  - Messaging
  - Autonomous Systems & C2













Use Cases



Communications in Contested Environments



During a Special Operations Forces (SOF) training exercise, Somewear Labs hotspot and node device enabled SOF teams to maintain connectivity on TAK and to rapidly and accurately call for fire on high-priority targets with minimal risk of exposure and in challenging conditions where other communications failed. Its compact, lightweight, and sub-1-wat design allowed continual use and transport through rugged terrain. Satellite connection and message transmission took 20–30 seconds with low-signature operation to counter enemy electronic warfare threats.

Elements

- Two-way BLOS data messaging that maintains a low RF signature
- Operates in near-real-time transmission, even in austere environments and terrain
- Increased C2 for Command and Field users

Drone Operations in Contested Environments



IRIDIUM CONNECTED BY
Horizon

SERVICE
Short Burst Data (SBD) / Iridium Burst

PARTNER
Somewear Labs



Leveraging Iridium's global, low-latency coverage with Somewear Labs Horizon Multi-network radio UxS operators retain reliable, uninterrupted control in remote, maritime, or contested areas where radio links fail, with telemetry matching traditional radio systems. Combined with onboard autonomous guidance, navigation, and control, the integration also supports two-way BLOS communication for mission updates and dynamic re-tasking.

Elements

- Resilient BLOS command and control
- Reliable tasking in contested environment
- Integration of telemetry and mission data into COPs

Iridium Short Burst Data (SBD)

Iridium Short Burst Data (SBD)

Iridium Short Burst Data provides real-time, two-way messaging anywhere in the world. It is a simple, efficient packet-based service for frequent short data transmissions between equipment and centralized host computer systems.

EMSS Core Services

- Secure Voice
- **Short Burst Data (SBD)**
- Iridium Pulse℠
- Iridium Burst (EMSS GDB)
- RUDICS / CSD
- DTCS

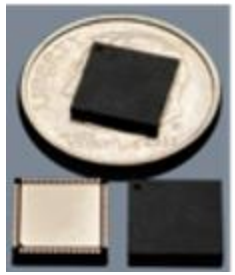
- Operational for 20+ years, the proven service continues to evolve to support new features and capabilities to include ESBD.
- One- or two-way messaging delivered through small, lightweight, low-power transceivers such as the 960X series and Iridium Core 9523.
- Allows sending same message from 1 device to up to 5 other devices.

	Iridium 960X	Iridium Core 9523
Message Send Size	340 bytes	1,960 bytes
Message Receive Size	270 bytes	1,870 bytes
Message Data Equivalent	x3 standard text messages	Excel spreadsheet with several hundred cells

Iridium SBD Modems

















Iridium Enhanced Short Burst Data (ESBD)

Enhanced Short Burst Data (ESBD)

ESBD provides the same one- or two-way messaging, but improves on SBD with increase payload size, faster throughput, and increased security. This service is available through the EMSS network.

- AES-256 Encrypted Over-the-Air (OTA) Signaling.
- Faster Data Throughput with Protocol Enhancements.
- Larger transmit and receive message sizes.
- Message recovery improvements that allows continuation of data transfer in the event of momentary loss of RF signal, offering greater success rates than SBD.
  - Increases likelihood of successful message transfer in challenged RF environments.

	Iridium 9603
Message Send Size	4,095 bytes
Message Receive Size	4,095 bytes
Message Data Equivalent	Small JPEG image, podcast episode

New EMSS Services

- Enhanced SBD (ESBD)
- DTCS Global Services (DTCS-GS)
- Managed Access DNX

ESBD Advantages Over SBD

Same one- or two-way messaging as legacy SBD but with added security and improved performance

- **AES-256 Encrypted Over-the-Air (OTA) Signaling**
  - Device identifier and metadata obfuscated in the event of adversary collection and parsing of device OTA transmission
- **Faster Data Throughput with Protocol Enhancements**
  - Reduced time on air increases difficulty of adversary OTA intercept and collection
  - Increased mission and battery life
- **Larger transmit mobile originated (MO) and receive mobile terminated (MT) message sizes**
  - Minimizes need for segmentation and multiple transmissions to send larger size messages
- **Message Recovery: Legacy SBD requires entire message transfer for success**
  - Message recovery allows continuation of data transfer in the event of momentary loss of RF signal, offering greater success rates than SBD
  - Increases likelihood of successful message transfer in challenged RF environments

Iridium SBD Partner Devices & Capabilities*

	5x Systems Mini SATCOM Terminal (MST)	Garmin inReach Mini 2	Iridium 9575A Bearcat	SHOUT nano	SHOUT nano 100	SHOUT nano TS	Somewear Node	Somewear Global Hotspot
Display Screen		✓	✓	✓	✓	✓		
Bluetooth	✓	✓			✓		✓	✓
Mobile App		✓		✓	✓	✓	✓	✓
ATAK Supported Plug-in	✓	✓		✓	✓	✓	✓	✓
MMC FT-Web Supported	✓	✓	✓	✓	✓	✓	✓	✓
MESH Networking							✓	
Location Sharing	✓	✓	✓	✓	✓	✓	✓	✓
Wi-Fi							✓	
Cellular	✓						✓	
SOS Button	✓	✓	✓	✓	✓	✓	✓	✓
2-Way Messaging	✓	✓	✓	✓	✓	✓	✓	✓
Group Messaging	✓	✓	✓			✓	✓	✓
Offline Maps		✓					✓	✓
Weather Forecast Data		✓					✓	✓
AES-256 Encryption	✓	✓	✓	✓	✓	✓	✓	✓
Charging / Data Port	2-Pin	USB-C	ACTC1801	USB-Micro B	USB-C	USB-Micro B	USB-C	USB-Micro B



NOTE: List is not all encompassing. Expanded list of all partner devices available upon request

Check On Learning – Question 1

Scenario: A unit loses primary communications during a disaster response mission but still needs to exchange short text messages and location updates.

How can SBD maintain command and control when other communications systems fail?

Answer: During a disaster response mission, responders could use SBD-enabled devices to:

- Send and receive short text messages between teams and command centers.
- Provide continuous GPS location updates for personnel and vehicles.
- Maintain accountability and friendly force tracking through systems such as FT-MMC.
- Share emergency alerts and status reports despite damaged infrastructure.
- Display unit locations and operational information on a Common Operational Picture (COP) for commanders.

SBD Network Architecture & Flow

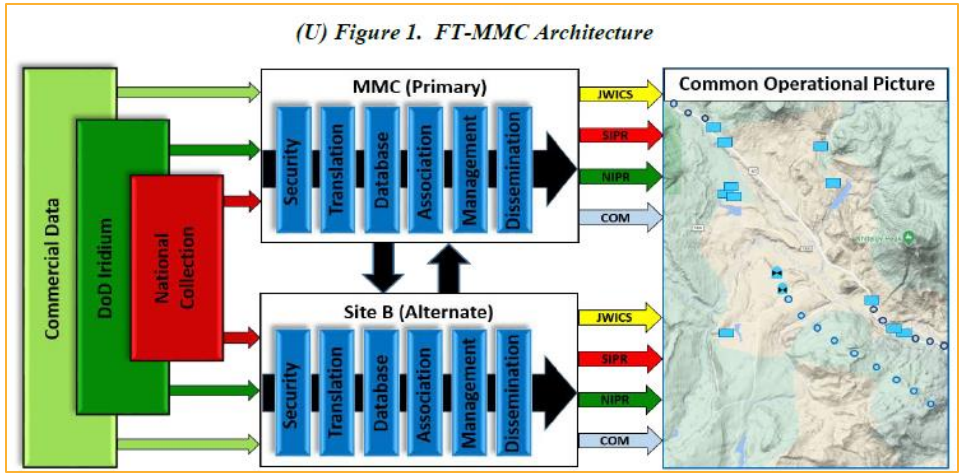


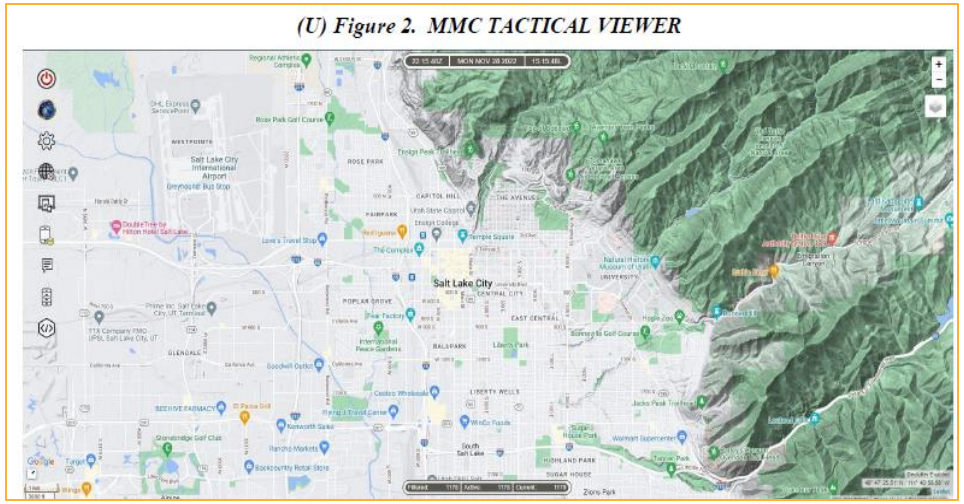
SBD Network Architecture



Iridium COP Integration to Tactical COP

Force Tracking-Mission Management Center (FT-MMC) Overview



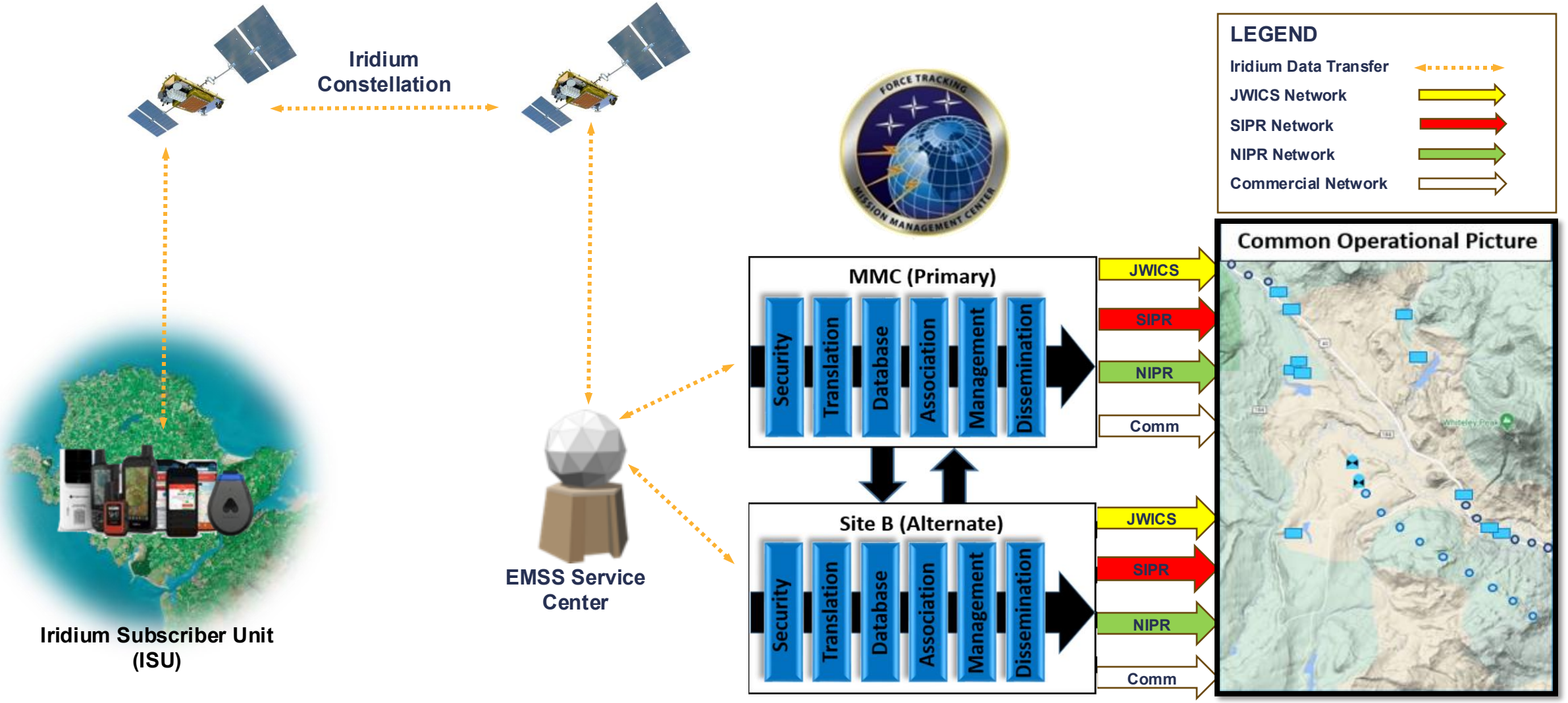


EMSS Devices can be injected into the multiple COPS via the MMC.

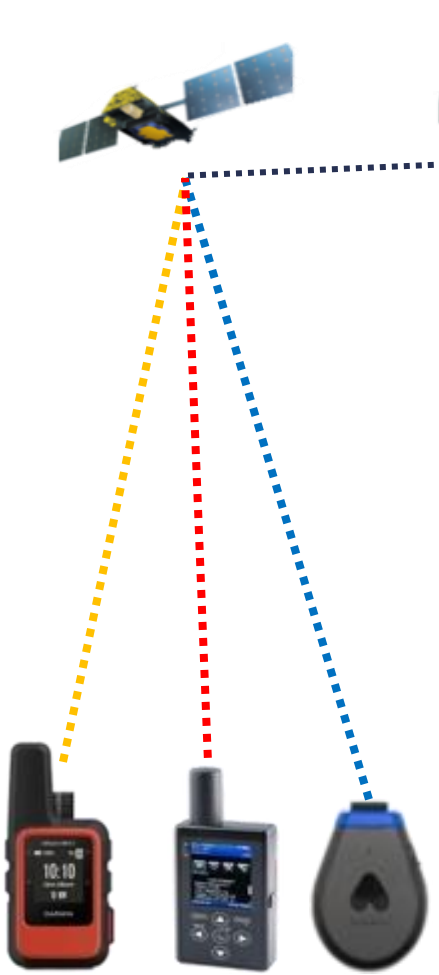
- Architecture support bi-direction traffic
- Includes both (mutually exclusive):
  - Friendly Force Tracking (FFT)
  - Tagging, Tracking and Locating (TTL) activities
- Tactical Viewer (TV) feature of the FT Web Portal
  - Enables users to view their device data on a map
  - Accessible via NIPR, SIPR and JWICS
  - Key Items
    - Historical device query (1M breadcrumb positions).
    - Text messaging
    - Device to device, device to TV, and TV to Device.
    - Manage and display FT Alert (911) messages.
    - Manage brevity codes and associated messages.

70,000 EMSS devices today point to MMC

Iridium Device COP Integration OV-1



Current Iridium Device COP Integration OV-1



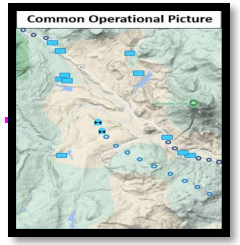
EMSS Service Center

EVERYWHERE Mission Connect

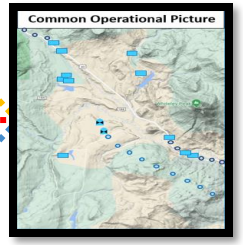
NAL Research

Somewear Labs

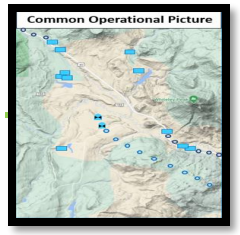
FT-MMC



3rd Party COP



3rd Party COP



3rd Party COP

LEGEND

- Partner Ecosystem
- FT-MMC
- Direct-to-COP
- Iridium SV crosslink

3rd Party COPs Include but not limited to:

- TAK
- MAVEN / LAPIS
- NORTHROP GRUMMAN GCCS-J

Check On Learning – Question 2

Scenario: A platoon is conducting operations in mountainous terrain with no terrestrial communications available. The commander requires continuous position updates and the ability to send short messages.

What Iridium service would you consider a suitable solution, and how could the data be integrated into a COP?

Answer: Service = Short Burst Data (SBD), integrated into a COP by using the FT-MMC or contacting the EMSS Helpdesk (Trace Systems) to update device provisioning form to include the COP IP destination address



iridium

EMSS Points of Contact

- **Office:** EMSS Helpdesk (Trace Systems Inc.)
  - **Supporting Functions:** 24/7/365 support for troubleshooting, procurement, activations, re-activations, deactivations, provisioning, whitelisting/allow-listing
  - **Point of Contact:**
    - **Email:** emss.support@tracesystems.com
    - **Phone:** +1 (844) 668-4554
    - **Website:** https://www.tracesystems.com/contract-vehicles/emssepcc/#CustomerSupport

- **Office:** EMSS Project Management Office (PMO)
  - **Supporting Functions:** Program details, additional support, general inquires, program approvals
  - **Point of Contact:**
    - **General Email:** ssc.csco.emsssupport@spaceforce.mil
    - **Device/Service Request Email:** ssc.csco.emssrequest@spaceforce.mil
    - **Phone:** +1 (240) 521-4268
    - **Website:** https://emss.pac.disa.mil/info.shtml?csrt=9780213535365683145

- **Office:** Iridium Satellite Communications
  - **Supporting Functions:** Network/service/device support, additional program support
  - **Point of Contact:**
    - **Website form:** https://www.iridium.com/company/contact/
    - **Email:** GovernmentSolutions@iridium.com
    - **Phone:** +1 (480) 752-1100
    - **Website:** https://www.iridium.com/markets/governments/us-government/iridium-enhanced-mobile-satellite-services
    - **EMSS Academy Requests:** https://www.iridium.com/markets/governments/us-government/emss-program/iridium-emss-academy/iridium-emss-academy-training

- **Office:** USSF Commercial SATCOM Office (CSCO)
  - **Email:** SSC.PA@spaceforce.mil

Thank You



iridium