



Are You Prepared to Fight in DDIL?

“Every orbit and satellite network has its place. While many others are going bigger and faster, we’re focused on doing what we do best by providing small, low cost, critical connectivity with maximum mobility” – Iridium CEO Matt Desch





PACE – The Basics (sequential)

- **Primary** – The preferred method.
 - **Alternate** – A backup method that’s almost as good as the Primary.
 - **Contingency** – A less ideal but still workable method.
 - **Emergency** – The last resort when nothing else works.
-
- As a Sigo - there’s not just one!
 - Transport: LOS radio / BLOS satcom / wire / runner
 - BLOS satcom: PLEO1 (K), GEO1 (K), MEO (K), PLEO2(L)
 - Network: SIPRNet / JWICS / NIPRNet / SBU-E
 - PNT: GPS / GNSS1 / GNSS2 / GNSS3

 - But in reality...
 - Signature/footprint (ECAP?)
 - Cost / affordability
 - Interoperability with coalition partners

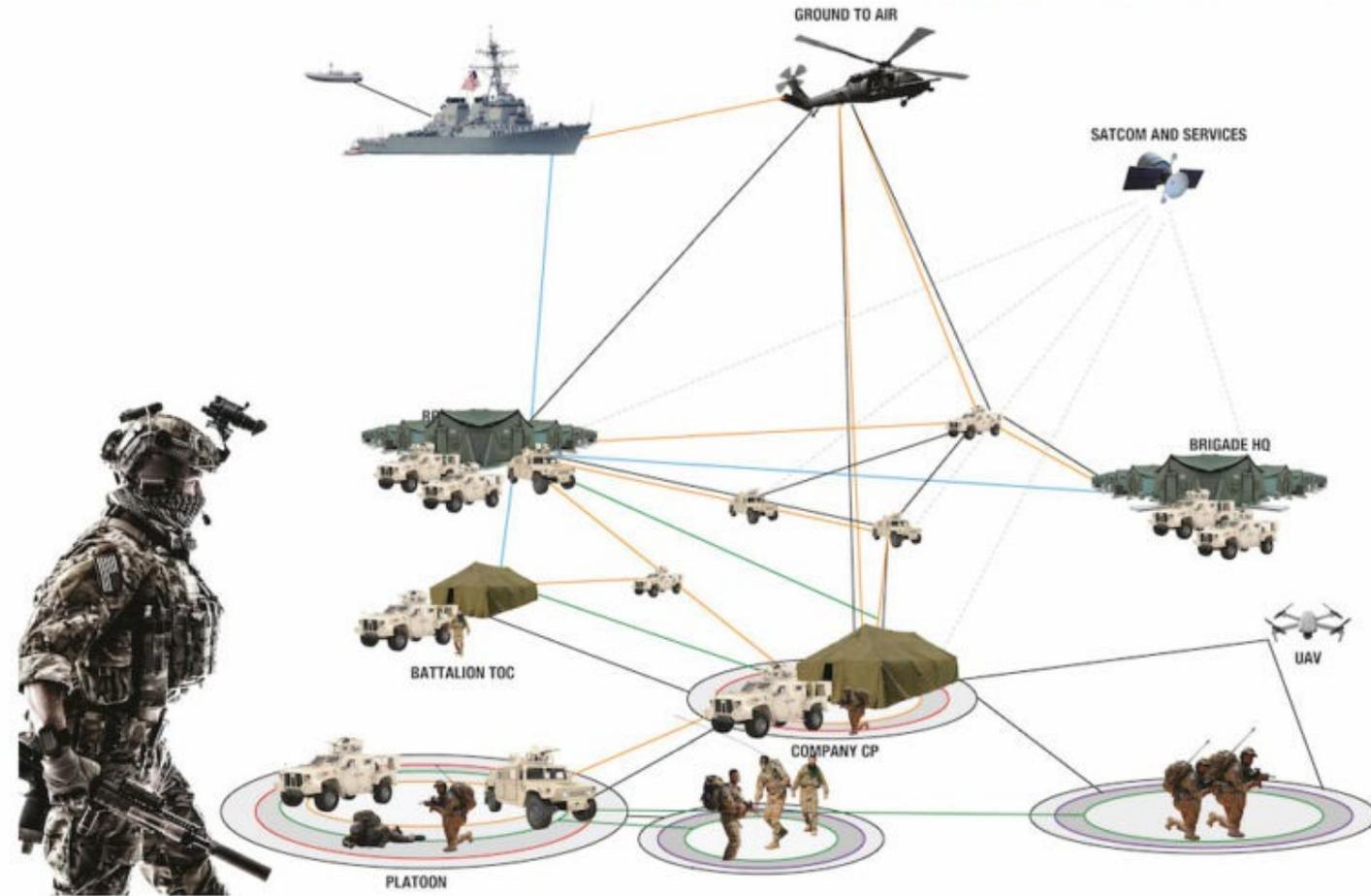


“E” does not have to mean “worst”. It must be the most reliable!



Smart Routing

- Simultaneous PACE
- Multiple resilient transport
- Automated (AI/ML)
- Efficient path algorithms
- Requires data packet metering (pipe size)



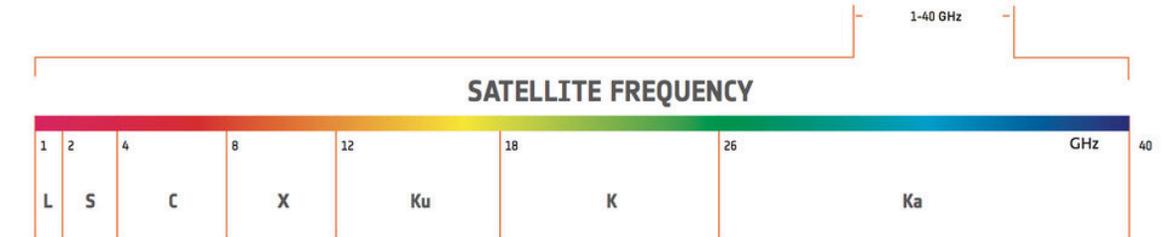
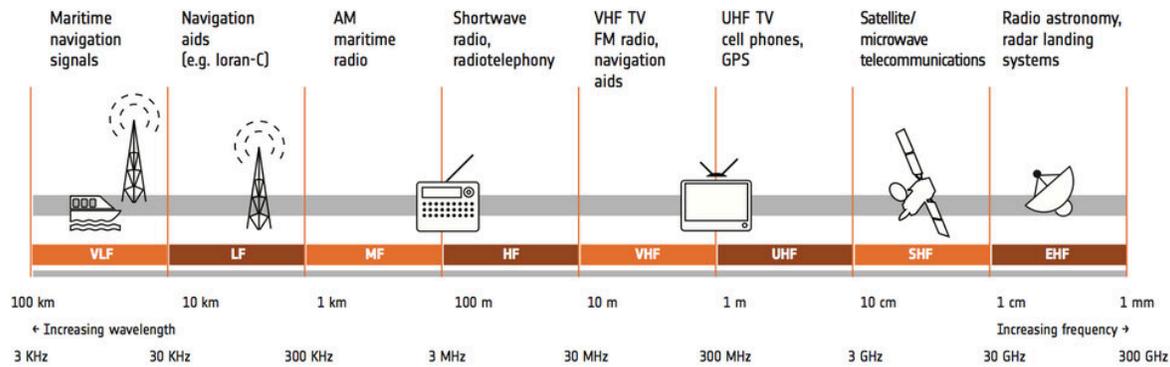


DDIL Defined

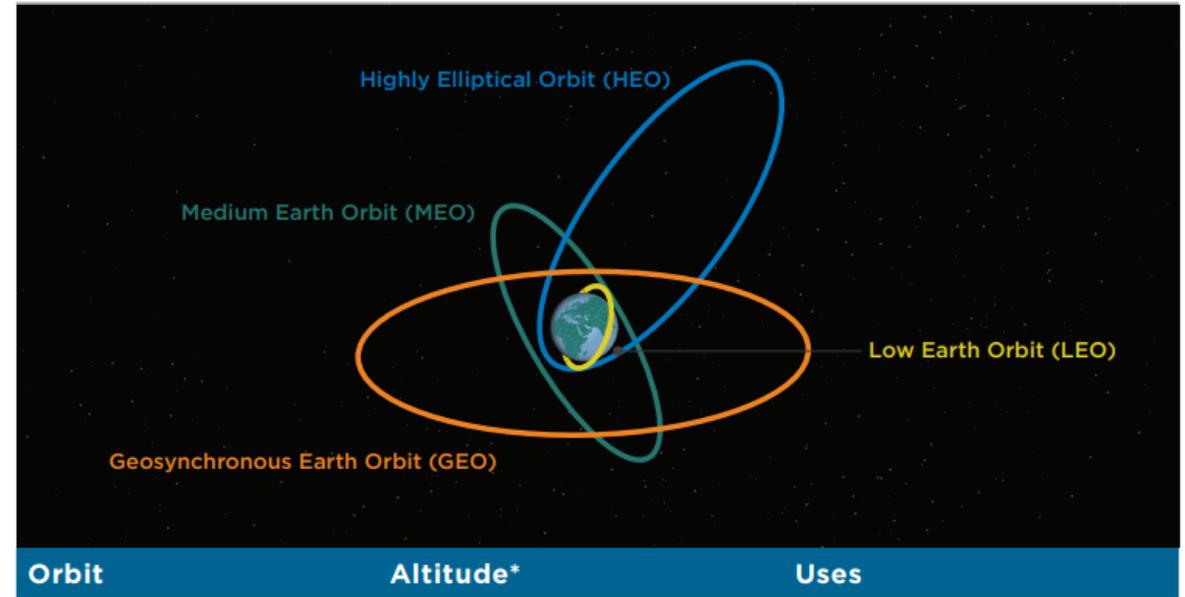
- **Denied:** Complete lack of connectivity due to infrastructure absence or intentional interference.
- **Disrupted:** Temporary interruptions caused by environmental factors, cyberattacks, or equipment failure.
- **Intermittent:** Sporadic connectivity with frequent drops or unstable links.
- **Limited:** Restricted bandwidth or high latency that constrains data transfer and real-time communication.

Factors contributing to DDIL include:
adversarial actions, environmental challenges, and systemic issues
that disrupt connectivity.

MULTI – SPECTRUM/ORBIT



Orbit Types and Uses^{37,38}



Orbit	Altitude*	Uses
Low Earth Orbit	Up to 2,000 kilometers	- Communications - ISR - Human Spaceflight †
Medium Earth Orbit	Approx. 2,000 to 20,000 kilometers	- Communications - Positioning, Navigation, and Timing
Highly Elliptical Orbit	LEO altitudes at perigee (nearest to Earth) Approx. 40,000 kilometers at apogee (farthest from Earth)	- Communications - ISR - Missile Warning
Geosynchronous Earth Orbit	Approx. 36,000 kilometers	- Communications - ISR - Missile Warning

BFT/
TRACKING

DNX/DTCS
(NETTED IRIIDIUM)

TELEPHONY
(TYPE 1)

RUDICS

IRIDIUM CERTUS®

MANAGED ACCESS

IRIDIUM MESSAGING
TRANSPORT®
(IMT®)

iridium®

IRIDIUM PNT

IRIDIUM PULSE

- EMSS Unlimited Airtime
- PLEO Broadband
- GPS Alternative
(U.S. Army Program of Record)

IRIDIUM SHORT BURST DATA®/
ENHANCED SHORT BURST DATA



IRIDIUM BURST® GDB

IRIDIUM YOUR MULTI-TOOL SATCOM SOLUTION

Command and Control, Out-of-Band Management, Data Backhaul, Unattended Sensors, Autonomous Solutions, Trackers, GPS Denied, Personal Communications





IRIDIUM AND IRIDIUM CONNECTED® SOLUTIONS



Honeywell Aspire 350



Iridium 9575



McQ Ranger



McQ Owl



Somewear Labs Satellite Hotspot



Everywhere Secure In-Reach Mini



Everywhere Solar Satellite Tracker



ICOM SAT-100



NAL Research Shout Family



Thales MissionLINK



4k Solutions Global Satellite Communications Kit (GSCK)



SD Gov "Jump Kit"



NAL Research Quicksilver



Blue Sky Network TOC Box



AssetLink AssetPack



McQ Connect

If you think we're just a phone company, then you're not asking us to help you solve ALL of your problems



EMSS Overview



The EMSS unlimited airtime contract offers a variety of end-to-end Iridium narrow band services through the ground infrastructure owned by the EMSS Program Office and operated by the EMSS Capabilities Office (ECO). Several new services being introduced are covered in the existing airtime contract.

Services Offered during OIF/OEF



Secure Voice



Short Burst Data (SBD)



Paging (Pulse)



RUDICS



DTCS

Additional Services Offered Today



Enhanced SBD (ESBD)



DTCS Global Services (DTCS-GS)



Managed Access DNX



Burst (EMSS GDB)

In discussion...



NTN Direct (3GPP Standards Based)



Iridium Messaging Transport



Iridium Certus



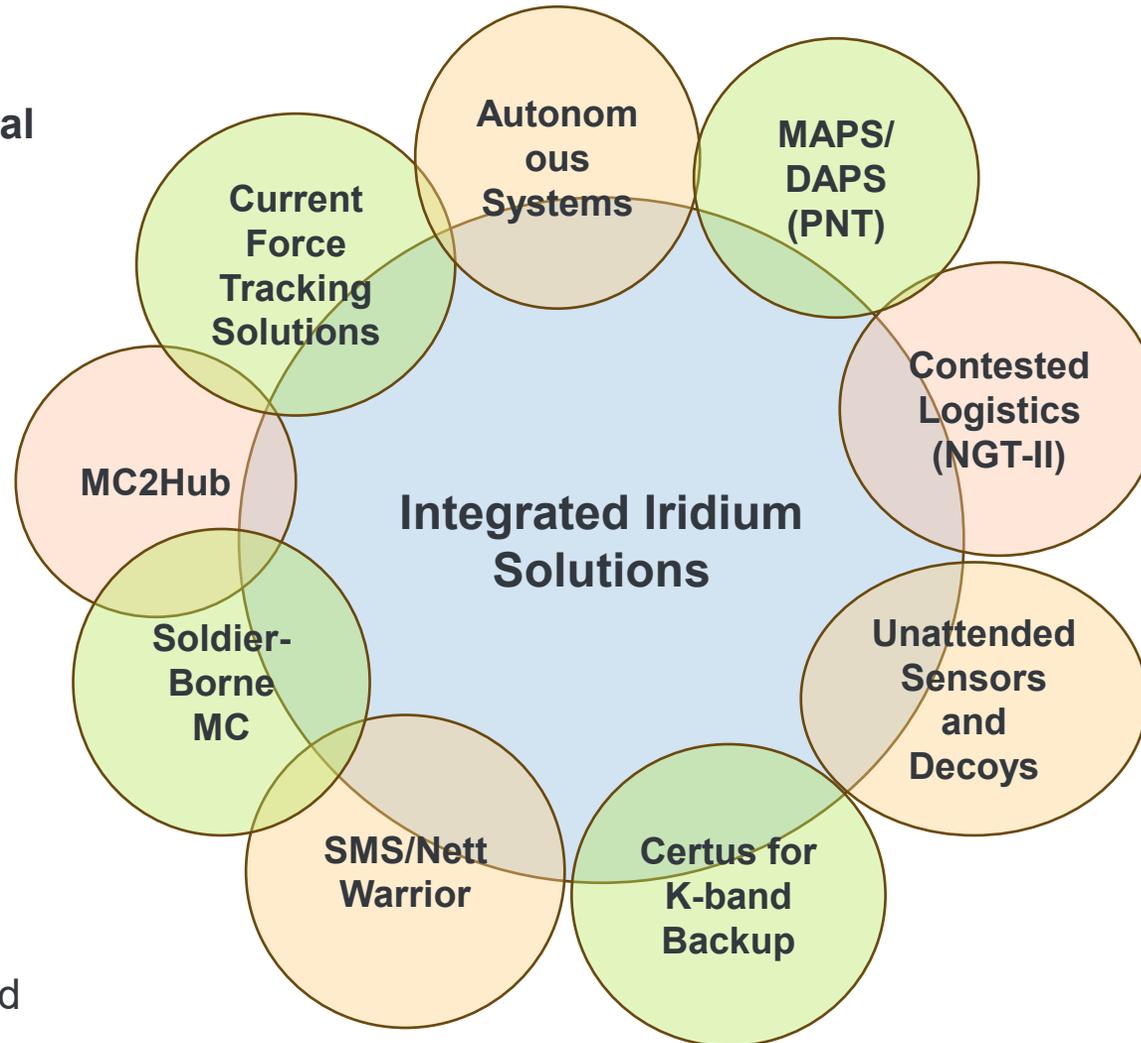
Iridium Commercial Gateway Access



Iridium/EMSS as a Core Layer to the DoW Network

Narrowband ensured “essential services”

- “Soldier/Vehicle IoT” PLI/chat/C2:
 - SBMC, SMS, and MC2Hub
- Army existing Iridium tracker/puck inventory integrated into NGC2 apps
 - 31,000 devices
- SBU-E voice/data
 - Existing DTCS fleet
 - DNX integration
- Autonomous systems C2
 - Gp 1/2 programs
 - All domain unmanned
- Unattended Ground Sensor C2



Communications in DDIL environment

- Burst proliferation across all other device types for ensured downlink data
- Certus midband as K-band alternate or contingency

Other missions

- “Logistics IoT”: Contested logistics, in-transit visibility
- USA and National Guard use in support to civil authorities (HA/DR, special government events, etc.)



EMSS Academy: Enabling Operational Readiness

In contested, austere and DDIL environments, communication failure is not an option. The EMSS Academy ensures personnel can confidently employ their Iridium-enabled equipment when mission success depends on it.

The Challenges:

- Capability alone does not equal operational readiness
- Units often receive equipment without mission-relevant training
- Gaps in operator proficiency reduces operational effectiveness
- Commands need a repeatable way to build proficiency amongst users before these capabilities are needed in real-world operations

The Solution:

- EMSS Academy delivers standardized, hands-on training for EMSS devices, services and mission workflows
- Connects classroom instruction to operational use cases, not just device familiarization
- Increases user confidence, improves employment of devices and supports command readiness goals
- Helps the force fully realize the value of the EMSS program

Iridium-enabled equipment for DSCA, GWOT and LSCO!



EMSS Academy: From Fielded Capability to Trusted Operational Use

Module 1: Iridium & EMSS Overview	Module 7: Incident Management & Support
Module 2: Secure/Telephony (Voice)	Module 8: Use Cases & Future Capabilities
Module 3: Iridium Short Burst Data® (SBD®)	Module 9: Knowledge Repository & Resources
Module 4: Simplex Services (Burst & Pulse SM)	Knowledge Check: Jeopardy Game
Module 5: DTCS Familiarization & Setup	Practical Application
Module 6: Procuring Devices & Services through EMSS	Q&A / Closing Remarks

No cost training – packaged for your unit's requirements



ARE YOU READY TO OPERATE IN DDIL?

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We are ready to train and exercise (proof of concept) with you!