



Iridium GMDSS Provider Application to the IMO

Worldwide Navigational Warning Service (WWNWS)
Subcommittee - 5

01-04 October 2013

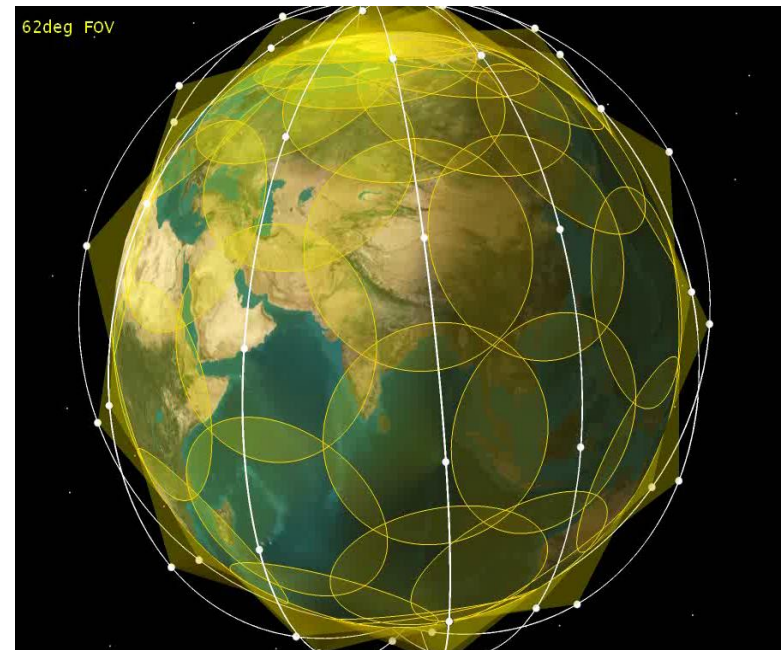


RELIABLE • CRITICAL • LIFELINES

Unique Network - Unparalleled Capabilities

- The Iridium network is comprised of a constellation of 66 cross-linked, low earth orbit (LEO) satellites
- Calls are routed from satellite-to-satellite and grounded at gateways around the world
- Iridium is the *only* satellite network that provides *fully global coverage* including Sea Areas (A1 - A4)
- The dynamic motion of the Iridium satellites provides added redundancy and network flexibility

Iridium constellation provides
100% global service area



Iridium Maritime Users

- Iridium has provided global, reliable communications to the maritime industry for ~15 years
- Iridium provides communications for nearly all segments of the maritime industry, consisting of more than 50,000 subscribers worldwide, including 15,000 SOLAS class vessels
- Iridium is currently utilized to provide maritime safety and regulatory communications (LRIT and VMS)



Iridium Maritime Communications Portfolio

Telephony

Data Link

Broadcast

Broadband



Iridium Maritime Services

Telephony

- A priority-based two-way telephony service
- Utilized for routine ship-to-shore, shore-to-ship and ship-to-ship communications

Data Link

- A priority-based two-way data service
- Utilized for routine ship-to-shore, shore-to-ship communications

Broadcast

- A new, fully global, priority-based one-way data service
- Can be utilized for distribution of Maritime Safety Information (MSI)

Broadband

- A fully global two-way broadband data service, utilized for routine communications



Iridium Service Dependability

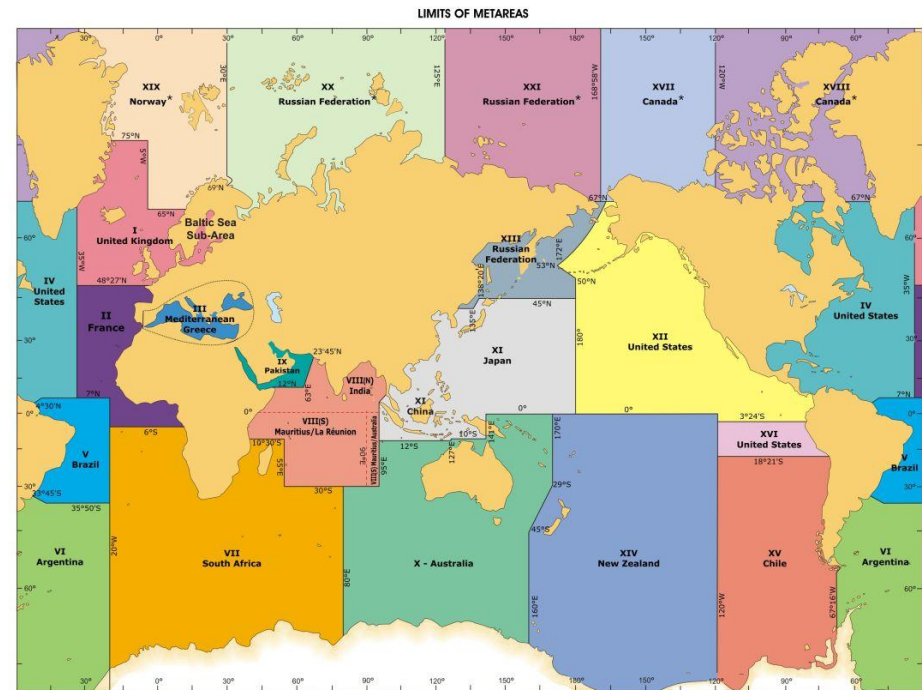
The Iridium network is one of the most robust communications networks in the world

- Consistently performs at **99.9% availability**
 - Telephony Services Availability: 99.95 trailing 12 months
 - Data Link Services Availability: 99.90% trailing 12 months
- *Redundant* network and satellite architecture
- Only commercial satellite network with *fully functional in-orbit spares*

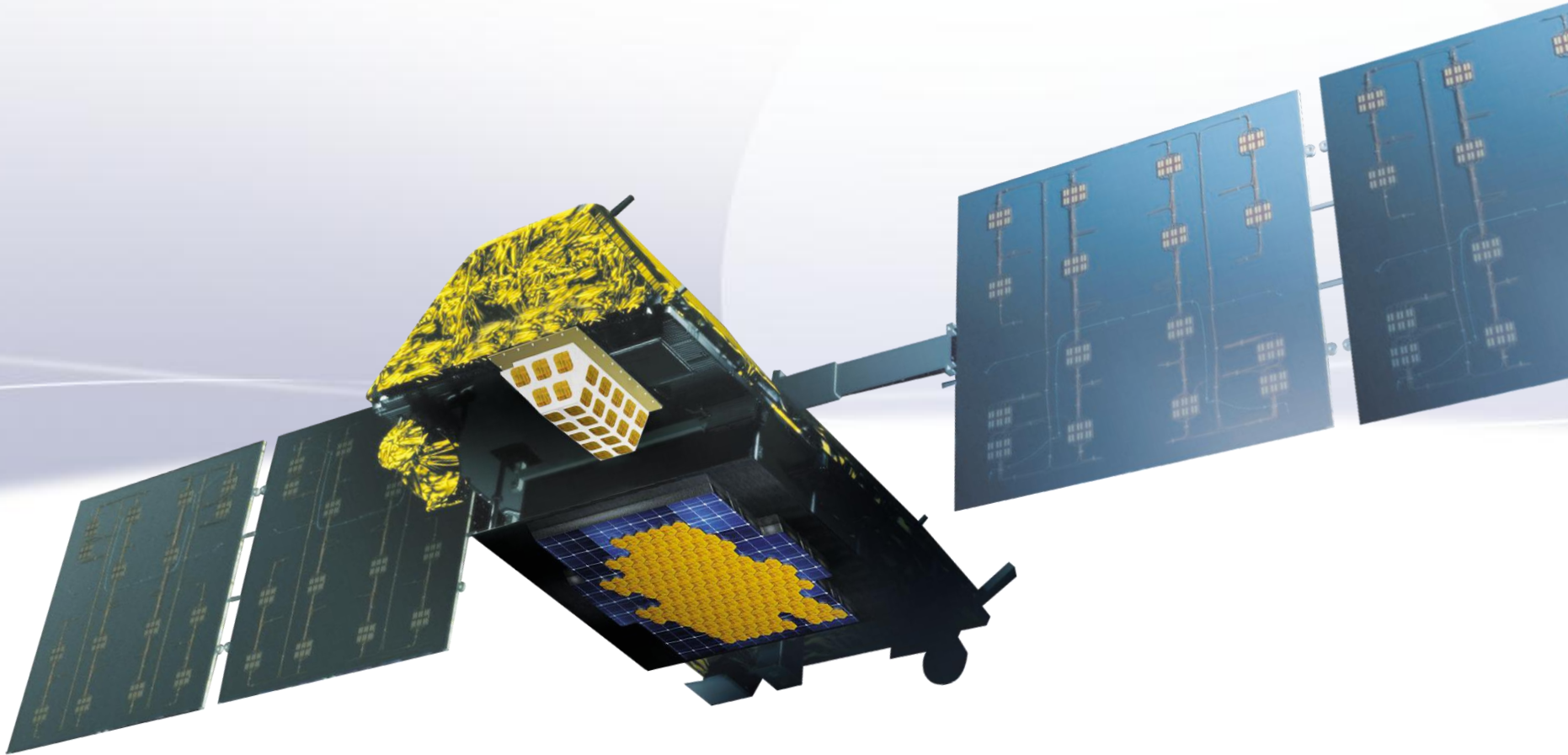


Iridium GMDSS Recognition Application

- Iridium is seeking GMDSS recognition under the process defined in Res. A. 1001 and additional guidance provided in Circ. 1414
- The proposal submitted to MSC92 was the first step in the process to seek GMDSS recognition as described in Res. A.1001 and Circ. 1414
- A detailed application will be submitted by the U.S. delegation to the Navigation, Communication, Search and Rescue (NCSR) sub-committee for verification and evaluation
- The earliest opportunity for recognition would be MSC94 but MSC95 is more likely



* The GMDSS is under implementation for the Arctic METAREAs and is expected to be fully operational by 2010/11



Transition to Iridium NEXT

Iridium Constellation Status

Current constellation remains healthy.
Forecast to be viable for years to come
and is supported by in-orbit spares.

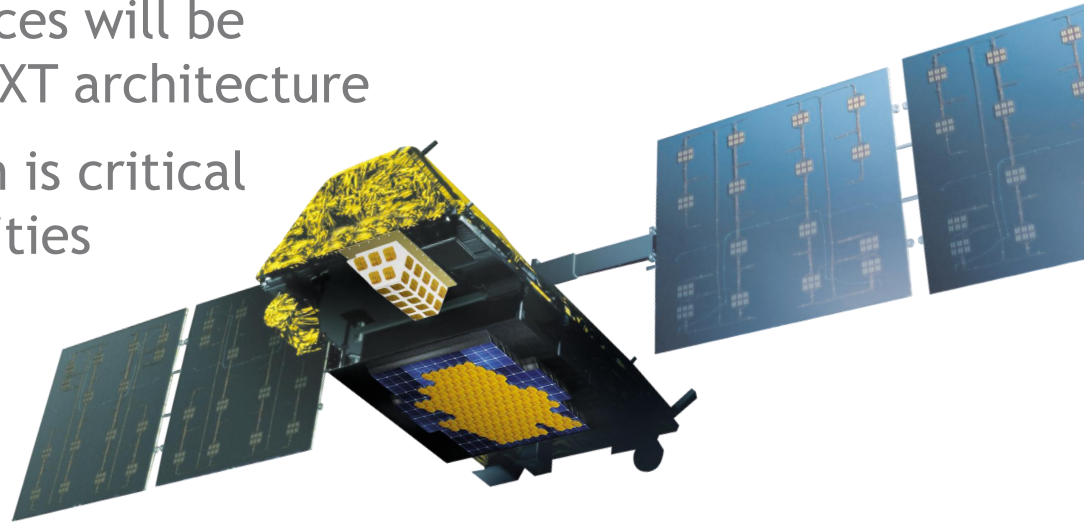
Iridium NEXT

- Fully replaces the current constellation of 66 LEO satellite
- Modernized ground stations with new features and capabilities
- Will include 6 in-orbit spares and 9 ground spares
- Scheduled deployment between early 2015 and 2017
- Eight launches using SpaceX Falcon 9 Heavy and ISC Kosmotras rockets
- Significant advantages
 - Significantly increased network capacity
 - Much greater data speed capabilities
- Fully backward compatible



Planned Evolution to Iridium NEXT

- There is no greater priority for Iridium than ensuring a smooth transition to Iridium NEXT
- Implementing a continuous and methodical evolution from the current system to Iridium NEXT
- Incremental one-for-one replacement of satellites
- Backwards compatibility to all subscriber devices and solutions
- Current Iridium legacy services will be supported by the Iridium NEXT architecture
- Backward compatibility plan is critical to new services and capabilities



Iridium **PRIME** SM



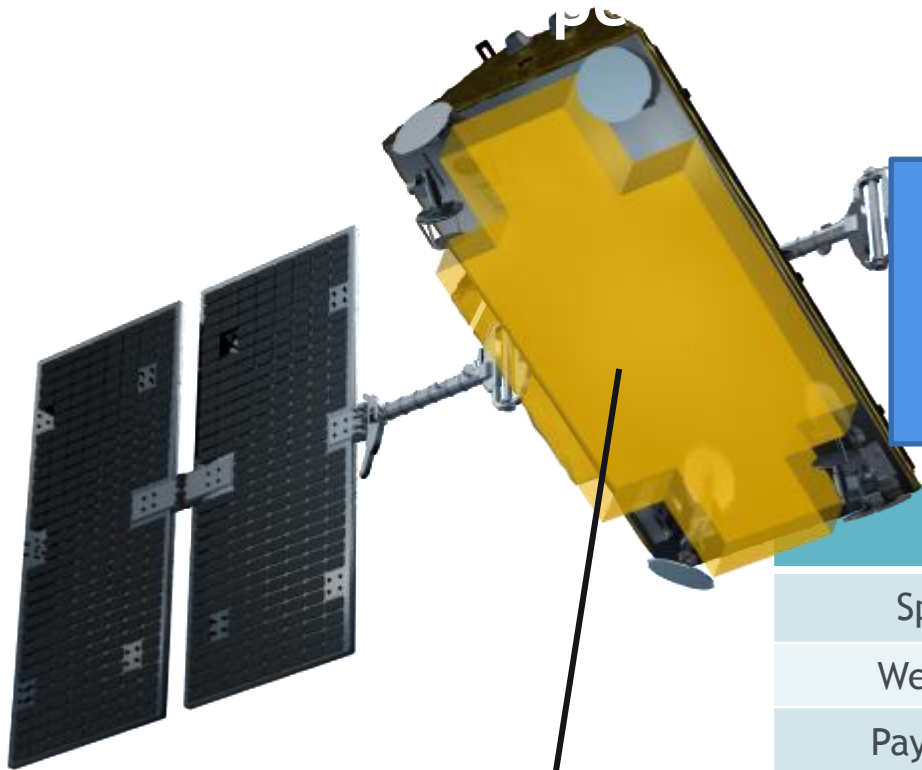
Iridium PRIME Overview

- Based on the success with hosted payloads on Iridium NEXT, Iridium is launching a bold new vision for hosted payloads - Iridium PRIMESM
- Hosted payloads have become essential to providing affordable options for space missions, and opportunities are expanding
- To respond to this demand, solutions need to be flexible in timing, aligned with customers' technology and budget decision-making process.

Why Introduce Iridium PRIME Now?

- With the implementation of the Iridium NEXT infrastructure, Iridium can fly more than 66 operational satellites in our constellation
- The Iridium NEXT ground support systems are designed to fly more than 140 satellites simultaneously
- After designing and building 81 satellites as part of Iridium NEXT (operational and spares), additional satellites will have a low incremental cost
- Once Iridium NEXT is complete in 2017, we can launch additional satellites/payloads into our network when they are ready





Available
PRIME Payload
Area

Creates a turnkey platform for hosted payloads that will cost less than 50% of the cost of creating a stand-alone satellite mission

Iridium PRIME Payload Spec Comparison

Spec	Iridium NEXT	Iridium PRIME
Weight	50 kg	265 kg
Payload Dimensions	30cm x 40cm x 70cm	Almost Entire Nadir Deck Area!
Payload Power	50 Watts (200 W peak)	650 Watts (1100 W peak)
Payload Data Rate	Up to 1 Mbps	Up to 17 Mbps

Summary

- A Lasting Value Proposition For The Maritime Industry

- Operates a fully global satellite network providing maritime communications in all four Sea Areas (A1, A2, A3 & A4)
- Has a long history of providing mission critical and maritime communications
- Iridium is seeking recognition to be part of the GMDSS and will provide a comprehensive application demonstrating compliance with Res A.1001 to the NCSR sub-committee and IMSO for review
- Current constellation is healthy and is *fully compliant with GMDSS requirements*
- Iridium NEXT will provide continued service beyond 2030 and will be fully compliant with GMDSS requirements without the need to replace approved shipboard equipment
- Iridium PRIME provides an opportunity to enhance or extend maritime communications cost effectively globally





THANK YOU

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