



## Maritime Monitoring and Safety Services with Iridium

Third Technical Exchange on AIS via Satellite - Aug 19<sup>th</sup>, 2009

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RELIABLE • CRITICAL • LIFELINES

# Iridium Everywhere

## The One True Global Network

Anyone can promise you the world. Only Iridium can deliver.

- The only truly global voice and data communications service
- 66 LEO cross-linked satellites
- A single subscriber device works worldwide
- Reliable, low latency connection
- Highly secure, available network for robust voice & data services

### Worldwide Coverage



1 Month's Commercial Activity

# Focusing on the Future

## We're a Fast Growing Industry Leader

Iridium has a bold vision of global leadership.  
And we are making it happen every single day.

- Continued solid financial performance
- Consistent growth in revenue, subscribers and partnerships
- Iridium to combine with GHL Acquisition Corporation (GHQ)
  - Announced September 23, 2008, expected to close in 2009
  - Will continue to do business globally as Iridium
  - Provides an initial source of funding for NEXT
  - Takes Iridium public

# Iridium Devices

Ready to work anytime and everywhere you need it



## Short Burst Data

Track your interests everywhere — simply and reliably

- Environmental monitoring
- Pipeline monitoring
- Distress and alarm
- GPS compatible
- Asset tracking



## OEM Transceiver

Voice and data asset tracking — its what's inside that counts

- Maritime Safety
- Flight Tracking and Monitoring
- Land and Mobile Military Operations
- Voice and Data Communications



## Shipboard/Rig/ Fixed Equipment

Finally the “open ocean” really is open

- Easy to install
- No moving parts
- Supports prepaid calling



## Satellite Handheld Phone

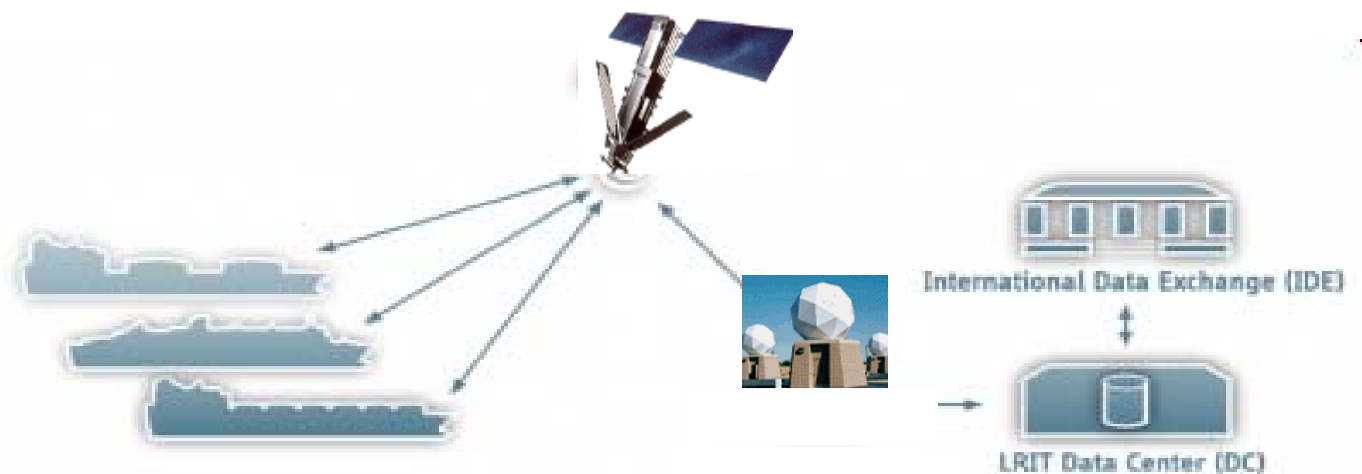
The tough customer chosen by even tougher customers

- Voice and data communications anywhere in the world
- Just like dialing a GSM phone

# LRIT

## Long Range Identification & Tracking

- Iridium, through its service partners, offers a range of cost-effective, robust LRIT solutions to meet IMO carriage requirements.
- Iridium is the only MSS Provider covering Sea Area A4



### VAM

Value Added Manufacturer



**WATCH DOG Inc.**  
Leading The Way In Satellite Tracking

### CSP

Communication Service Provider



### ASP

Application Service Provider



Fulcrum Maritime

Absolute Software





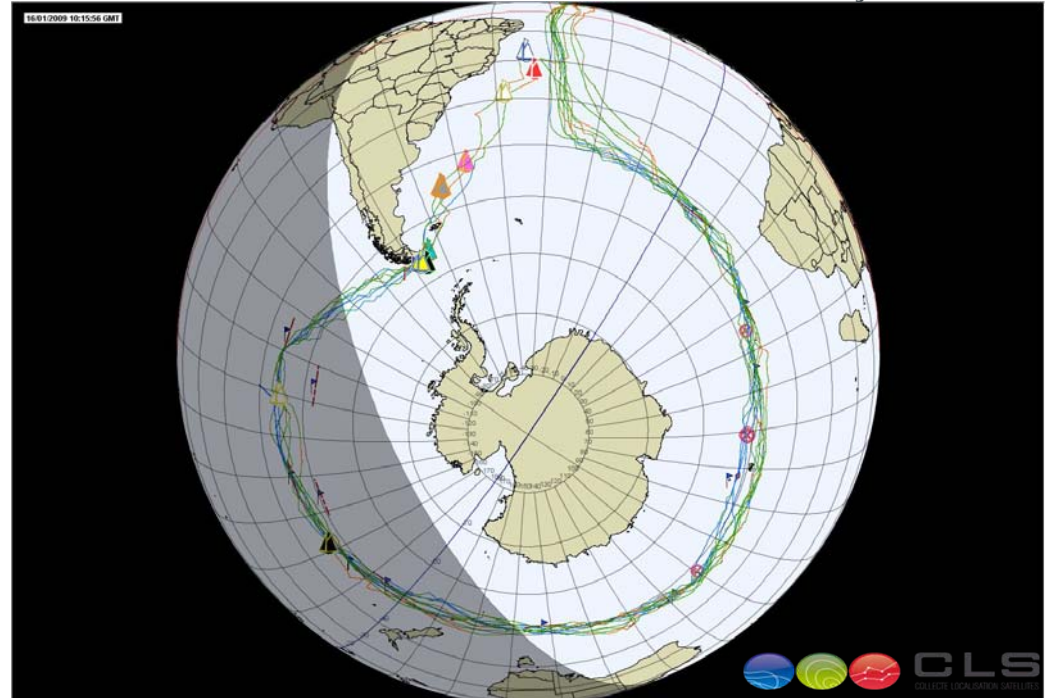
# LRIT

Long Range Identification & Tracking

- Truly global real time coverage, including Sea Area A4.
- Low uniform latency
- Single gateway access point
- Small compact antenna size
- Robust, proven, affordable equipment
- Easy install

Example: Vendée Globe race 2008-'09

tracked thru Iridium Thorium unit manufactured by CLS



Proven Success with asset tracking and security applications



# LRIT

Long Range Identification & Tracking



BlueTraker® LRIT



Thorium® LRIT



\*Faria Watchdog 750



Stand-alone, dedicated terminals ensure interference-free operation

Iridium LRIT Value Added Manufacturers

\*SEA-Watch based on Faria product



# GMDSS

## Global Maritime Distress & Safety System

- **Regulatory Status**
  - IMO guidelines for other mobile satellite systems to provide GMDSS services
  - Amendments to SOLAS Chapter IV = effective July 1, 2009
  - Resolution A.1001(25) = establishes criteria for qualification
  - International Mobile Satellite Organization (IMSO) to provide oversight
  - COMSAR subcommittee has voted to endorse expansion of Worldwide Navigational Warnings for Arctic Region; relies on HF radio now
- **Iridium Application as GMDSS Service Provider being prepared**
  - Technical review and project planning in progress
  - Ongoing discussions with sponsoring government
  - Expect to submit application to IMO at MSC87 (May 2010)
- **Iridium already has Proven success in Aviation safety**
  - ICAO granted Iridium international approval to offer satellite air traffic safety services in 2008

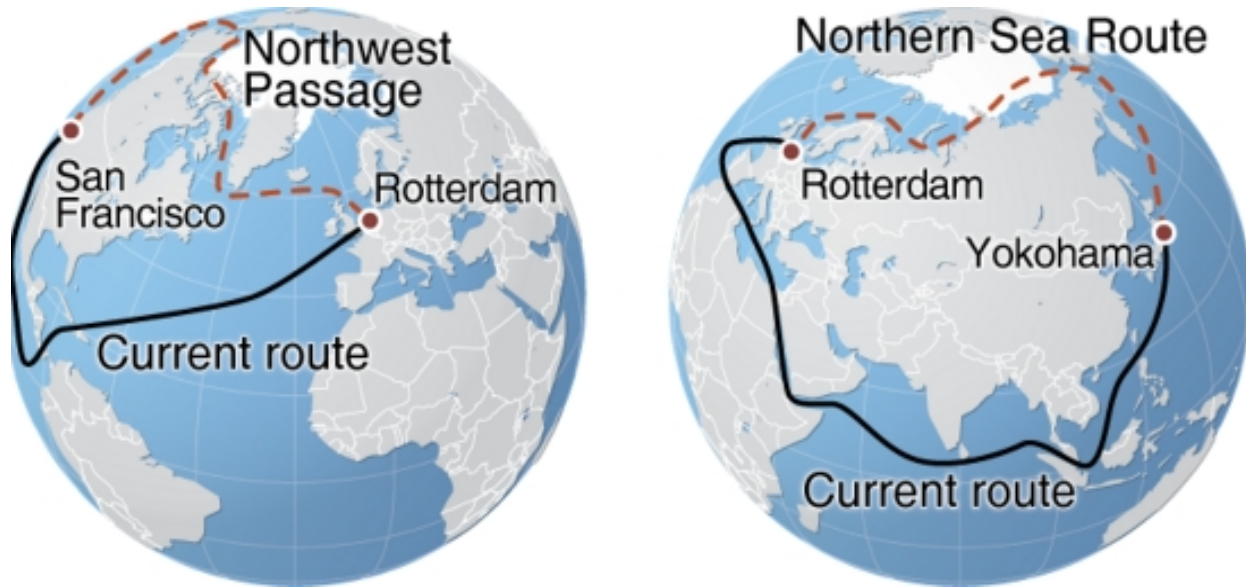
***Green Light to move ahead***



# GMDSS

## Global Maritime Distress & Safety System

- Opening of new Arctic Sea Routes endorses the need for expanded safety
- New NAVAREAS/METAREAS XVII to XXI require reliable MSI broadcasts beyond current NAVTEX and SafetyNet coverage



***Only Iridium provides complete coverage over GMDSS Sea Area A4  
>70 degrees latitude served only by HF radio***

# GMDSS

## Global Maritime Distress & Safety System

- **Global Data Broadcast Capabilities** are currently being investigated by Iridium using our proven Short Burst Data (SBD) Service
- These capabilities would include all GMDSS requirements
  - Scheduled and unscheduled broadcasts
  - Global (All Ships), 21 NAV/METAREAS, Coastal Warning areas and Circular, Rectangular and User-defined Areas (SAR ops)
  - MSI message particulars (type, priority, number)
- Main specifications (provisional)
  - Capacity 8.3 Mbytes per day
  - Data rates from 770 bps (global) to 9,200 bps (local)
  - Low latency (< 30 seconds from receipt to delivery)
  - Recorded voice?
- Availability (tentative)
  - H1 2011

## Arctic Service Capabilities



# The Open Passage Expedition: Sailing the Canadian Arctic



- S/V Silent Sound (4 crew) 7,000 miles in 4 months from Victoria, BC to Halifax, NS over the top of Alaska and Canada
- Relying on **Blue Sky Network's** Iridium-based D2000 GPS Tracking Device and Iridium 9555 Satellite Phone for real time tracking and critical voice and data communications

# Canadian Coast Guard: LRIT Arctic Trials



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

- 3 different LRIT terminals (Inmarsat-C, SkyWave D+ and Iridium) installed on 3 CGG icebreakers patrolling Canada's Arctic waters
- Tests and performance monitoring of all 3 systems well underway, will continue throughout the 2009 Arctic season
- Results will be reported by Canada to the IMO
- VAM Partner: EMA, BlueTraker LRIT terminal
- VAR Partner: Pole Star, Canada's LRIT ASP



# Kongsberg Satellite Services (KSAT): Satellite Technology and Arctic Governance



- KSAT and Iridium have teamed to demonstrate how satellite technology (imaging, GNSS, communications) can benefit industry, government and research operations in the Arctic
- Real-time images for maritime surveillance (coastal states), ice and pollution tracking, oil companies and environmental monitoring
- Iridium satellites enable delivery anywhere in the world



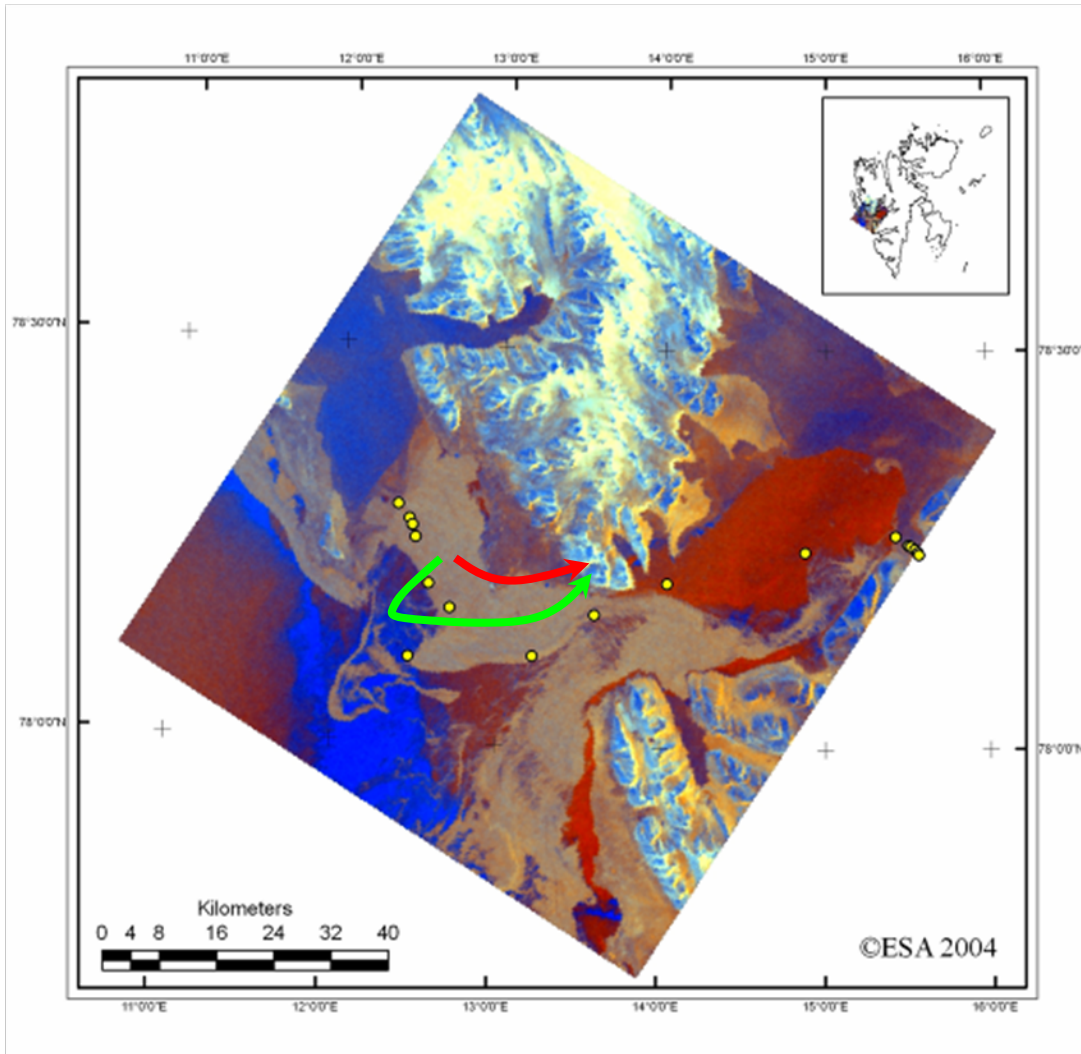
78° North:  
- KSAT Svalsat  
- Iridium Gateway



# KSAT Ice Navigation Optimal Routing



KONGSBERG



Planned direct route  
through the ice

**6 hours**

Actual route  
around the ice

**3 hours**

**The view from above  
halved the journey time**



# The Evolution to Iridium NEXT

## Unleashing the Power of Opportunity

We are constantly innovating and finding new ways to expand the possibilities.

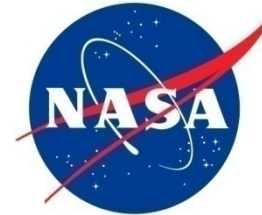
- Iridium NEXT satellites designed to host 50 kg secondary payloads
- Unique opportunity for economical space access (< 20% cost of dedicated scientific missions)
- Applications: Remote sensing, earth observation, command and control and more
  - Possibly AIS?
- Public-Private Partnership - sharing of infrastructure with commercial systems offers potential to augment the current and planned GEOSS programs in a cost effective way



# Iridium NEXT Hosted Payloads

## Broad Range of Partnership Opportunities

- Operationally Responsive Space (ORS) Strategic Initiative
- Scientific missions
- Climate change surveillance and forecasting
- Low-resolution imaging



# Iridium Everywhere

## The Facts Speak for Themselves

Iridium delivers the world without limits, without compromise and without exception.

**Iridium** covers every inch of the Earth's surface

**Iridium** is unmatched for secure, near real-time services and network availability

**Iridium** manufactures rugged, reliable and easy to integrate devices

**Iridium** creates *Reliable Critical Lifelines* with hundreds of mission critical applications

**Iridium** is advancing the way global enterprises do business

**Iridium** is growing, profitable and on-track to launch Iridium NEXT

