



Iridium Update

Cross Polar Working Group



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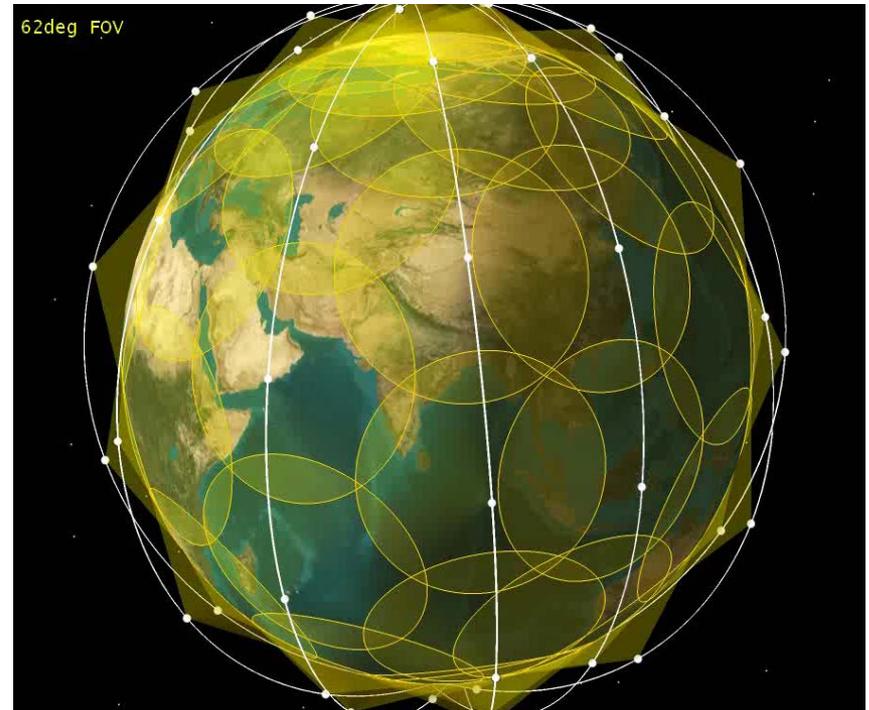
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RELIABLE • CRITICAL • LIFELINES

Iridium - Unique Global Network

- 66 cross-linked, low earth orbit (LEO) satellites
- Only **fully global** voice and data provider
- Messages are routed from satellite to satellite and grounded at teleports around the world
- Aircraft connectivity is seamless
- Added redundancy and exceptional network availability

Iridium constellation with 100% global service area



- 6 orbital planes of 11 satellites each + 1 spare
- North bound on one side of earth and south bound on other
- 780 km altitude, 86.4° inclination, 100 minute orbital period

The World of Iridium Aviation

- Iridium Technology
 - Iridium satellite network is healthy and stable
 - Iridium has a strong funding profile for the completion of Iridium NEXT development and deployment
 - Redundant GES – linked with dynamic TPN
 - Small form factor antenna and transceiver – easiest to develop and install
 - No retirement of services and continuation of all products under NEXT
- Iridium is the leading satellite network provider to global aviation
 - 10s of thousands of subscribers across all aviation market segments
 - Iridium is leader in the rotorcraft, UAV and general aviation market segments
 - Iridium market share continues to increase in corporate and commercial aviation
 - Iridium success in OEMs continuing to accelerate

Iridium Aviation Philosophy

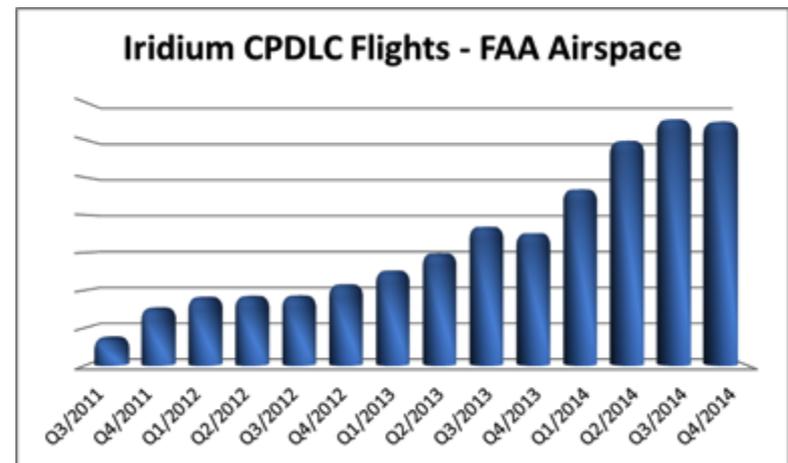
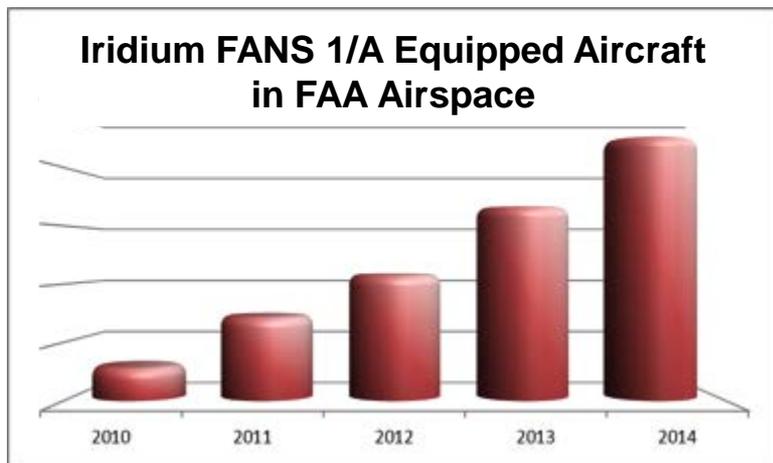
To enhance aviation operations and safety through reliable Pole-to -Pole communications.

- What connectivity?
 - FANS, AMS(R)S Safety Voice, “Black Box” streaming, EFB connectivity, cabin services (voice/data), etc.
- How can Iridium do this?
 - Small form factor, low cost transceivers
 - Low profile, small form factor antennas
 - Competitively priced services
 - Global network coverage and throughout Polar routes (North and South bound)
 - Applicable to all aviation market segments
 - Partnering with World Class Technology Companies

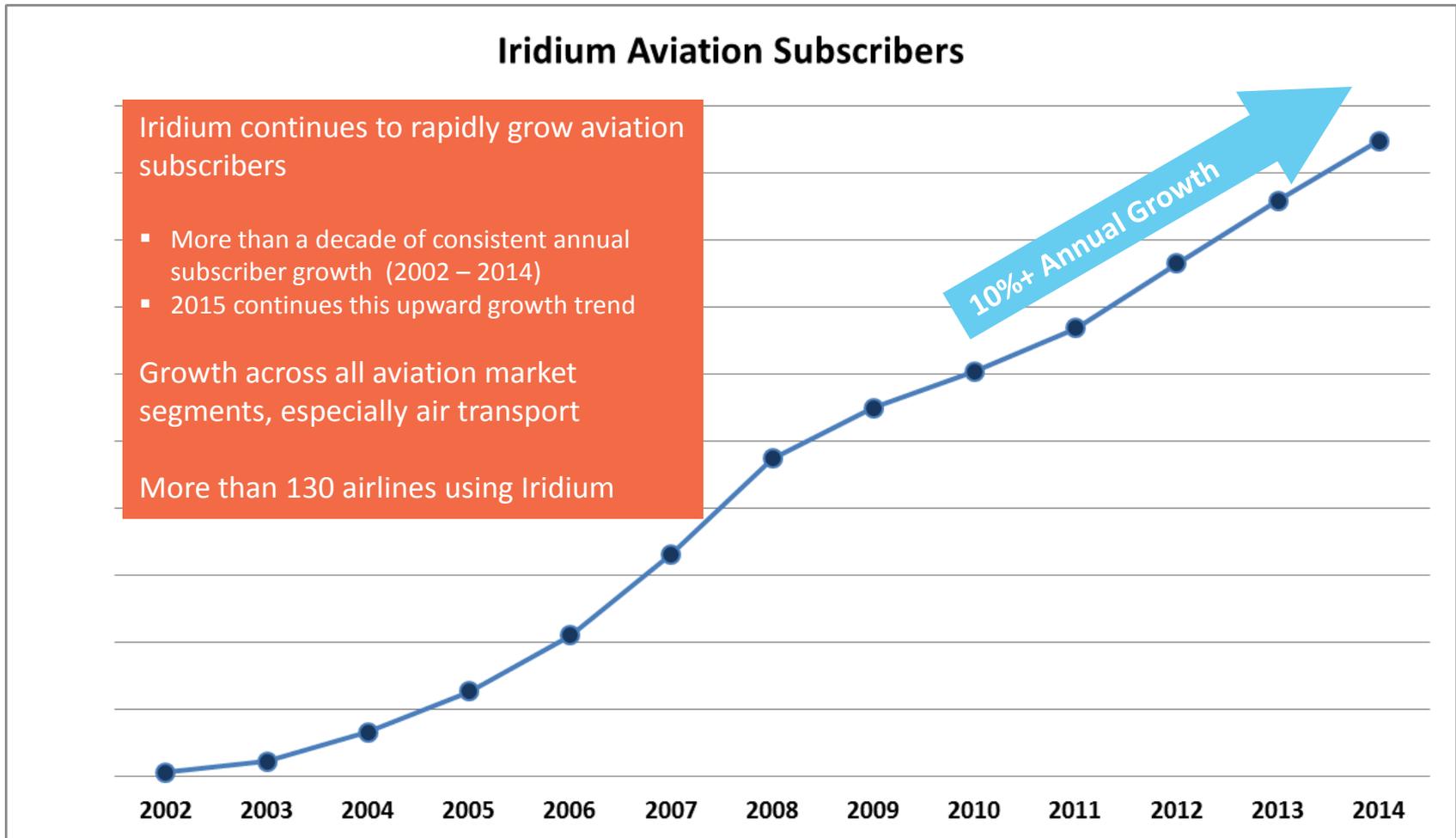


Iridium Safety Services (FANS 1/A) Adoption

- The adoption of Iridium for aviation safety communications continues to gain momentum
- The number of flights using FANS over Iridium (FOI) also increased more than 25% in 2014
- The number of aircraft using Iridium for CPDLC increased more than 25% in 2014
- New OEM deliveries and service bulletins are accelerating Iridium equipage



Iridium Subscriber Growth



Safety Services Requirements

Iridium view of requirements needed to support safety services.

Requirements	Iridium Capability
Resilient space network (space weather)	LEO orbit protects. Inherent satellite design protections and available link margin. Over 1,150 operational years
Resilient ground network	Global satellite network acts as ground link. Network overcomes satellite or GES issue.
Geo-location capability (without GPS data)	Iridium can determine location of user within 10km 90% of time due to nature of LEO constellation
Continuity of service commitment	All Block 1 services work on NEXT. No service retirement. Network continuation through 2030.

Iridium Safety Data Services

Provides high-availability, low latency two-way data communications with global coverage, including polar regions.

- Iridium Circuit Switch Data (CSD)
 - Ideal for Electronic Flight Bag (EFB) data or fax service – not for FANS1/A
- Iridium Short-Burst Data (SBD)
 - Optimal for FANS 1/A communications using ACARS (Aircraft Communications Addressing and Reporting System)
 - Meets GOLD RCP240 latency and availability performance metrics for safety communications
 - Enhanced for aviation users by providing message prioritization



Iridium ATS Safety Voice Service - (AMS(R)S Voice)

- Enhanced calling platform for ATC voice communications
- Compliant with ICAO SATCOM Voice guidance material and available for commercial use
- GOLD compliant LRCS to RSP standards
- Unique SIM cards are required and available to select service providers for the Safety Voice platform
 - Distribution restricted to aircraft that intend to use Iridium for ATC voice communications
- Iridium ATS Operator Guide available for partners since August 2013 and updated regularly



Iridium ATS Safety Voice Service Details

- Caller Authentication
 - Interrogation of all GtA calls to validate the authenticity of the calling party
- Call Priority
 - Dynamic priority dialing for any call
 - Assign and maintain call priority for all active AtG and GtA calls for each aircraft
 - Maximum call priority is defined for each unique GtA user. No max priority for pilot AtG
- Call Preemption
 - Ruthless preemption of lower priority calls if all channels to the cockpit are in use
 - Caller ID
 - Support for communicating calling party identification for all AtG and GtA calls



Iridium ATS Safety Voice Service Adoption

- Service Status:
 - Currently 240+ Iridium ATS service subscribers
 - 18 aircraft operators
 - Six ANSPs (supporting 18 FIRs) are actively supporting the service and more are looking to add support for the service
 - United States (FAA) **AIP not yet updated*
 - Canada (NAV CANADA)
 - Ireland (IAA)
 - Iceland (Isavia)
 - New Zealand (ANCZ)
 - United Kingdom (NATS)
- Operational Evaluation FAA:
 - ARINC has begun collecting ATS call performance metrics to report to the FAA PARC CWG
 - ATS Tiger Team – lead by Tony Rios from Avionica



IRIDIUM CERTUSSM BROADBAND



Iridium Certus

Comprehensive ~\$3 billion plan that supports our success for many years

- Fully replaces the current constellation of 66 LEO satellite
- Modernized ground earth stations with new features and capabilities
- Will include 6 in-orbit spares and 9 ground spares
- Scheduled deployment between Q3 2015 and end of 2017
- Seven launches using SpaceX Falcon 9 Heavy rockets and Dnepr launches
- Significant advantages
 - Significantly increased network capacity
 - Much greater data speed capabilities
- Fully backward compatible

2015	Launched	Total
	2	2
	10	12
	10	22
	10	32
	10	42
	10	52
2017	10	62
	10	72

Roughly 10 satellites per quarter.

66 operational and 6 in-orbit spare.