



Iridium Update

Cross Polar Working Group



Mike Hooper

Senior Business Manager - Aviation

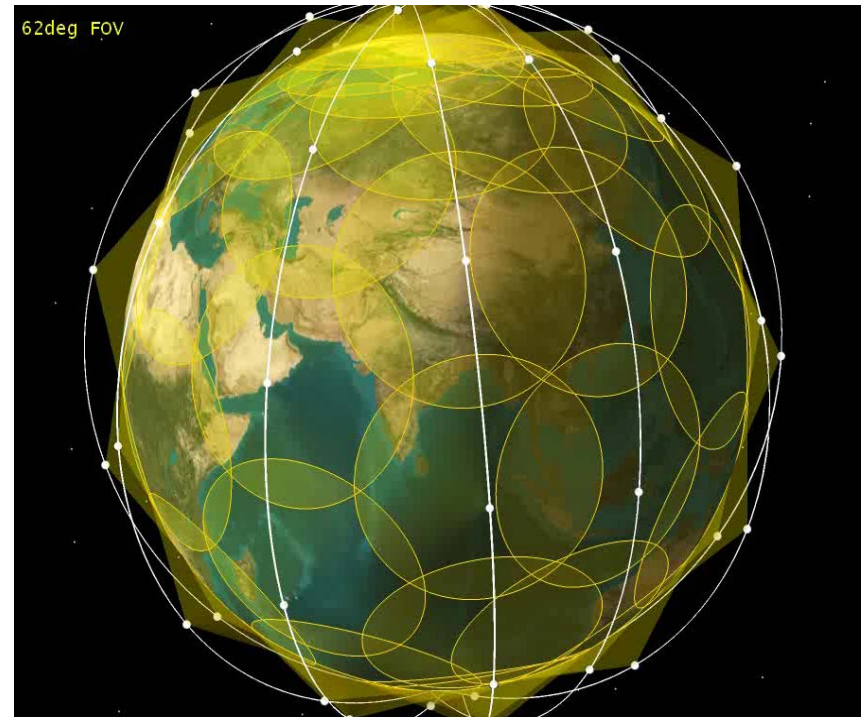
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RELIABLE • CRITICAL • LIFELINES

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

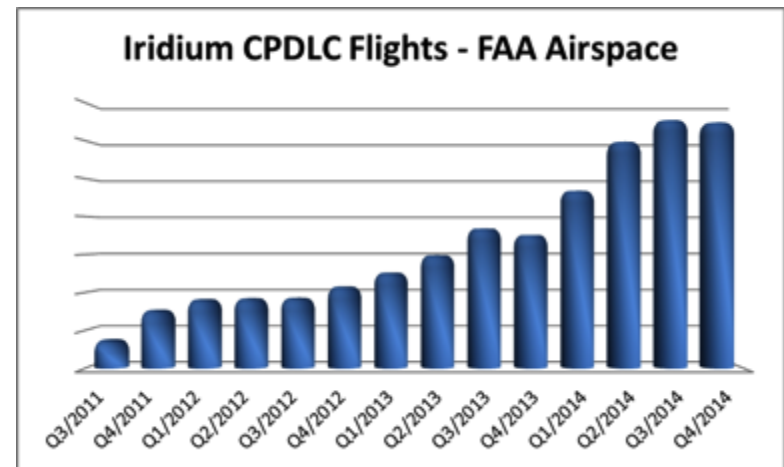
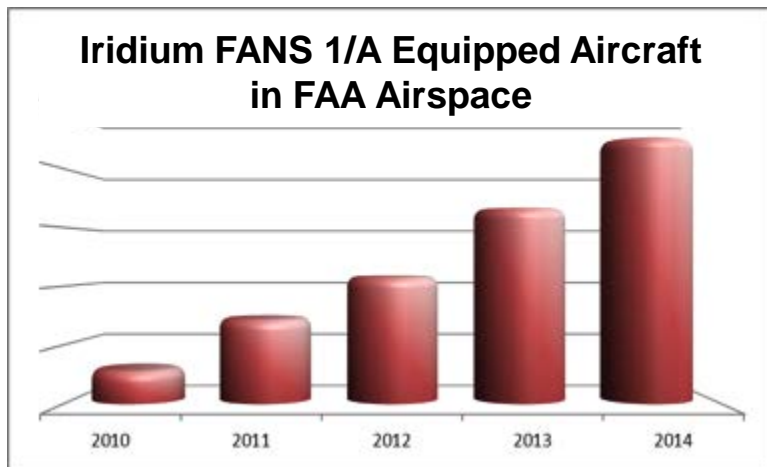
To enhance aviation operations and safety through reliable Pole-to -Pole communications.

- 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

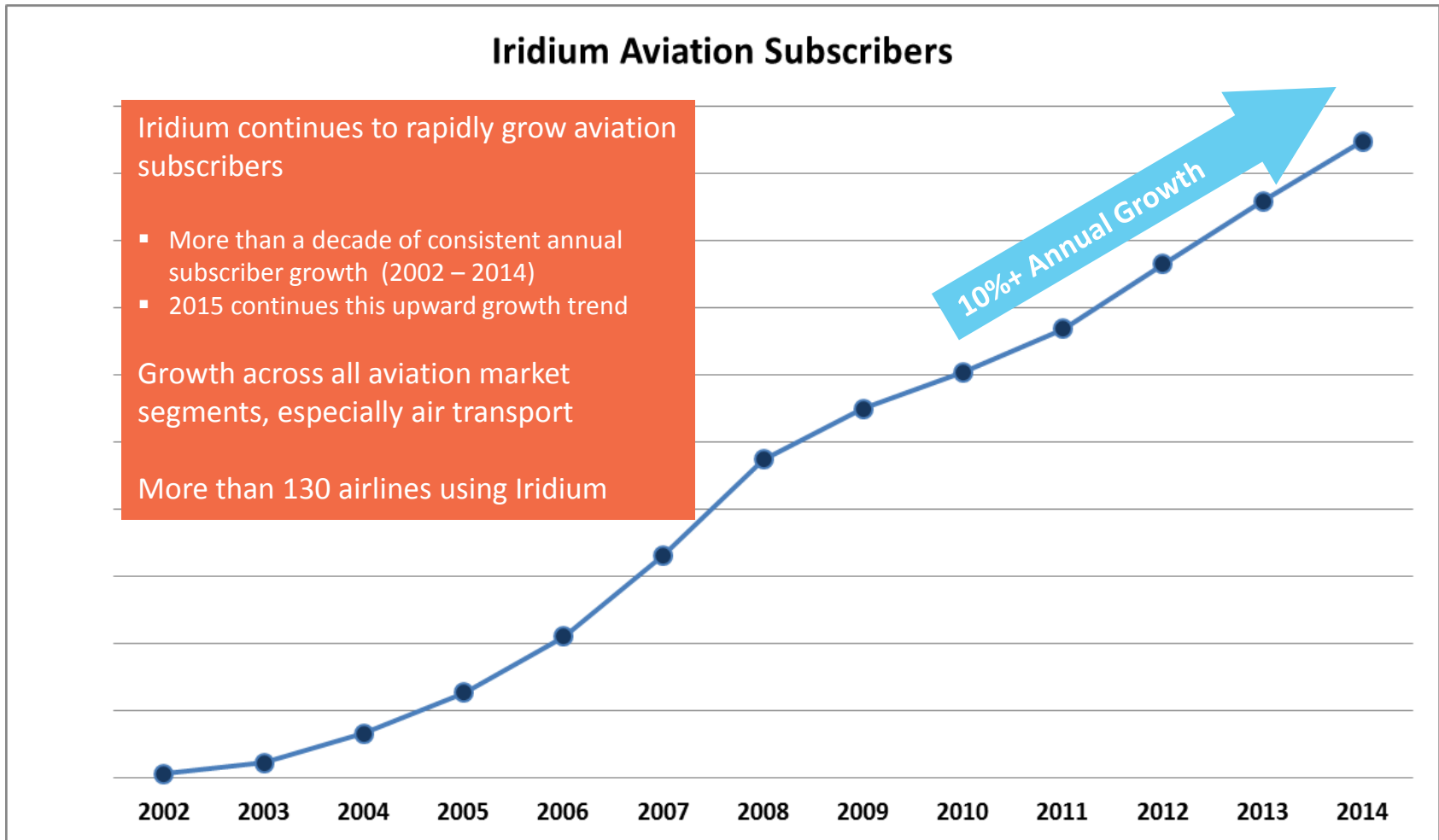


Iridium Safety Services (FANS 1/A) Adoption

- 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.