

In This Issue

I3 Update

Intelsat's Interference Reduction Initiative is Addressing Customer Concerns

Intelsat Launches Free Training for Customers

Customer Focus

NHK

Focus on Services

Cruising Into the Mobility Sector

Tech Talk

Satellite Station-keeping

OU Corner

Final Stretch for Winter Olympics 2010

Intelsat Network Update

New Satellites Expand Intelsat Network

MyIntelsat Update

2009 Survey Results

Intelsat In the News

CEO McGlade Makes *Space News*' 2009 Top 10 List

Connections Update

Brazil Host to Intelsat's Latin America Regional Seminar Intelsat on the Road

Announcements

Intelsat BLOG, Facebook and Twitter

Feedback

Intelsat's Interference Reduction Initiative is Addressing Customer Concerns

Intelsat Launches Free Training for Customers

Throughout 2008, Intelsat customers had a clear concern: Radio Frequency Interference (RFI). Interference is an issue that needs Intelsat's attention.

We heard you and the Intelsat Interference Management Initiative (I3) was born. We are proud to report the progress on this significant issue.

The goal of Intelsat's I3 initiative is to create an interference-free space environment for our customers.



Today, Intelsat continues to drive industry efforts targeted at reducing RFI and the word is out. Two additional satellite operators recently joined the Satellite Operator Interference Reduction Working Group, one of the components of the I3 Initiative. The two new operators bring the group total to 14.

Free Customer Training Program

Intelsat has launched a pilot program to provide free training to its customers. The program is targeting the training of customers who have experienced problems with either access or operations issues. In the near future, we will be expanding the program further.

Intelsat has endorsed the BeaconSeek/SlingPath training course specifically designed for satellite news gathering (SNG)

[your comments and feedback. Please share your thoughts at \[intelsatinsider@intelsat.com\]\(mailto:intelsatinsider@intelsat.com\).](#)

operators. The endorsement is in addition to Intelsat's previous announcement of endorsement of the Global VSAT Forum's (GVF) training and certification program.

Carrier ID

Additionally, Intelsat has been the focal point for documenting and coordinating an industry standard approach to Carrier ID. Recently, Intelsat collected endorsements for the Carrier ID framework methodology from seven satellite operators, with more expected.

These endorsements have been shared with the **Satellite User Interference Reduction Group (SUIRG)**, an industry group whose mission is to reduce interference and to "stop it before it starts." In the near future, SUIRG will be sponsoring a meeting with modem equipment manufacturers and monitoring tool vendors to present the Carrier ID framework. The goal of the meeting will be to share the framework and establish a target date for implementation.

Intelsat will be attending a SUIRG meeting in Cannes, France, where Carrier ID and the other I3 initiatives will take center stage.

RFI Alert Network Now Operational

The Satellite Operator RFI Alert Network, hosted by the Satellite Users Interference Reduction Group (SUIRG), is now operational with a dozen satellite operator members. The RFI Alert Network is designed to help satellite operators who have exhausted preliminary investigations and suspect that an interfering signal may be from a source outside of their network – signals intended for an adjacent asset or a signal with an unusual signature. The goal of the system is to reduce the duration of customer-impacting RFI events by having more "eyes in the sky."

Monitoring Capabilities

In recent months we have added monitoring capabilities to our Lagos, Nigeria, site. Currently, we have 186 antennas deployed and will make our target of 190 by the close of 2009. Additionally, we are well on our way to meeting the goal of 21 new calibrated facilities by year's end. Recently we completed calibration of our Global Monitoring System (GMS) at our sites in Riverside, California, Bosque Alegre, in Argentina, and Pretoria, South Africa. Next up, work will commence at sites in Australia, Kenya and Kazakhstan.

For more information about the Intelsat initiative to provide its customers an interference-free space environment, in addition to the Intelsat INSIDER, the I3 team also is communicating at customer (Connections) and industry events to spread the word and gain industry support. Customers may also have access to an I3 section on MyIntelsat, Intelsat's customer extranet, which contains the latest I3 developments, information on how one may report RFI, as well as access to educational white papers on RFI reduction.



[back to top](#)

Customer Focus

NHK



NHK Global Media Services, Inc. (G-Media), a subsidiary of long-time Intelsat customer **NHK Japan Broadcasting Corporation** (NHK), will be launching the **first global High-Definition (HD) news channel** on the

Intelsat system. NHK World TV will be an English-language channel, broadcasting HD news from Japan and NHK's 30 HD-equipped news bureaus around the world, as well as a variety of informational programming to millions of viewers in more than 80 countries.

"Through Intelsat, we have been able to reliably reach a global audience with NHK's hallmark programming for **more than 20 years**. Intelsat's heritage in successfully delivering HD video, its resilient satellite and teleport infrastructure, along with its regional video neighborhoods makes Intelsat our preferred distribution platform for NHK's new HD channel," said **Masatoshi Hara**, Executive Vice President, NHK Global Media Services, Inc.

G-Media will deliver the 24-hour free-to-air HD news and lifestyle channel from NHK's new HD studio in Tokyo to cable headends and Direct-to-Home (DTH) service providers throughout the Americas, Africa, Europe and Asia, utilizing Intelsat's global infrastructure, including its satellite video neighborhoods, fiber and teleports. The same infrastructure will be used by G-Media to transmit NHK's international Japanese language premium channel, "**NHK World Premium**." For Asia-Pacific and the Americas, the programming will be distributed via the **Intelsat 8** and the **Intelsat 9** satellites located at 166° East, and 58° West, respectively. For Europe, South Asia, the Middle East and Africa, the programming will be distributed via the **Intelsat 10** satellite located at 68.5° East. Turnaround services will occur at Intelsat's Napa, Fuchsstadt and Atlanta teleports.



[back to top](#)

Focus on Services

Cruising Into the Mobility Sector

Communications providers serving planes, trains, automobiles, and seafaring vessels, are turning to Intelsat for mobility communications needs. The Mobility sector has traditionally been served by two main platforms – Inmarsat and Iridium, and these companies are successfully addressing voice and narrowband requirements.



But, customer demands have changed. Customers need broadband connectivity. Today, Intelsat is able to offer greater bandwidth than some of the traditional mobility services providers, which were established originally to provide basic voice services - and at a cost-effective price.

With the breadth of today's communications requirements – Internet, video and large data files – alternate solutions are necessary and this is where Intelsat can step in to meet customer demand. "The need for speed, as I call it, or the need for broadband continues to expand every

day," said **Patricio Baez**, Intelsat's Senior Product Manager, GlobalConnex (GXS) Mobility Services. Customers want greater capacity and more frequent connectivity.

Additionally, while other operators offer services on a pay-as-you-go basis, Intelsat offers long-term contracts, thus **greater flexibility for the customer**, especially when it comes to being charged for minutes of use vs. dedicated bandwidth. If a given operator has bandwidth limitations and its pricing is based on time, when a customer wants to transmit or receive a large data file, it can be very expensive. On the other hand, that same large data file can be downloaded in a fraction of the time using an Intelsat high-bandwidth link. This results in a substantial cost-savings for the customer.

In the mobility realm, there is also a move to 'all-in-one' communications solutions – unlimited calls, unlimited texting, unlimited web-surfing, etc.

Intelsat's customers are the driving force behind its entry into the mobility sector. Customers such as **AT&T, KT Corp, CapRock, Panasonic, Vizada** and **Schlumberger** plan to market mobility services to a broader audience. Intelsat is making significant investments to create a global mobility infrastructure to meet customer needs.

Working on a Sea-faring Vessel

While at sea, the challenge of satisfying a "**quality of life**" need is largely met with ship-to-shore communications. The presence of broadband communications makes a real difference in the lives of those who work at sea. No longer do seafaring professionals and crewmen have to be separated from family, friends and entertainment for months at a time. They can have **immediate access** to medical and learning opportunities as well - all via satellite. These services are also playing an increasingly important role in crew recruitment and crew retention.

Consider a cargo ship that is at sea for nine continuous months. The crew is working, but they also are granted a fair amount of personal time. While they are very likely looking forward to pulling into port, whether it's Piraeus, Greece; Cancun, Mexico; Miami, Florida, or Singapore, most of the time in port is spent working – unloading, loading, and conducting repairs and maintenance. Therefore, how a crewman or an officer is able to use their personal time while at sea – and whether or not they can communicate with the outside world – becomes a crucial matter.

Baez said, "Some of our customers have told us that it takes approximately 12 months to recruit and employ, and the average length of employment is approximately 18 months, which is rather brief. The ship's recruiters actually bid for the candidates, and the employees choose the ship on which they want to serve." Because of a shortage of crewmen, and given that as time progresses recruits are more **technology-savvy**, the importance of providing quality-of-life communications capabilities becomes a major differentiator for the employer.

Given the numerous stories of piracy at sea, the ability to continuously **monitor real-time security updates** and alerts while onboard is paramount. Intelsat can offer broadband capacity that far exceeds the typical limited connectivity available on many commercial ships. Some ships, due to prohibitive costs, connect to the Internet only a few times a day, for only a few minutes at a time. A higher bandwidth Intelsat solution can more cost-effectively offer always-on web-browsing, email access, security updates and piracy warnings ships need to take protective measures in a timely manner.

Of the 11 satellites Intelsat currently has in the manufacture or design phase, it is investing to place **mobility packages** on several of them. This includes a high-power mobility beam, such as those on the **Intelsat 21** and the **Intelsat 19** satellites, which will serve not only terrestrial areas, but ocean areas as well. "We're the enabler for Ku-band **global mobility platforms**," said Baez.

Tech Talk

Satellite Station-keeping

In 1945, an article authored by **Sir Arthur C. Clarke** was published in *Wireless World* magazine that stated an extra-terrestrial satellite relay would "appear" in one spot in the sky if the satellite were at approximately 35,787 kilometers (22,237 miles) above the Earth's equator. As a matter of fact, a satellite does indeed appear to stay in one place in the sky by traveling at the same speed as the Earth's rotational speed - called a **sidereal rotation period**.



Galaxy 17 in Geosynchronous Orbit

For operational purposes, Intelsat's world-class operations teams strive to keep its satellites within an "operational box" of 0.05 degrees - plus or minus - horizontally and vertically from the location we are allowed to operate it (also known as East/West and North/South travel or station-keeping).

For example, if we are allowed to operate a satellite at 123° West Longitude over the equator, the satellite would be considered station-kept while the satellite "drifts" within 122.95° West to 123.05° West for horizontal and plus/minus 0.05 degrees North and South travel

vertically from the equator in a 24-hour period.

However, many factors affect a satellite's speed, such as the **solar wind** and the **gravitational fields of the Earth, moon and sun**. Each one of these factors can speed up or slow down a satellite depending on which axis the force and direction is applied to the satellite.

Over time, and left on its own, this speeding up and slowing down will cause a satellite to drift away from its operational box. To counteract these undesired forces, early engineers designed small thruster systems placed onboard the satellite for station-keeping purposes. These thruster systems have built-in redundancies to ensure satellites can be controlled at all times. These systems can be **bi-propellant** (bi-prop or chemical fuel) or **Xenon-Ion Propulsion** systems (XIPS - pronounced "zips" or ion propulsion).

To keep a satellite in its proper operational box, Intelsat's **Flight Dynamics Department** models the travel pattern for a satellite at its orbital location for several days in the future. This is called **ephemeris data**, which is then posted on MyIntelsat to enable customers who use antennas to track our satellites. Flight Dynamics also predicts when and how long a station-keeping maneuver is needed to keep the satellite within the station-kept box.

Intelsat engineers then compare telemetry readings and daily periodic measurements from the ground to the satellite (called **ranging**) to the theoretical travel to ensure proper station-keeping. Any variance in actual from theoretical travel will be evaluated to determine the proper action necessary to keep the satellite in a station-kept orbit.

[back to top](#)

OU Corner

Final Stretch for Winter Olympics 2010

Intelsat, the only global satellite operator to provide **coverage of every Olympic Games since 1968**, will continue its heritage of delivering the global sporting event to a worldwide audience this February when the Olympic Torch arrives in Vancouver, British Columbia, after a 45,000 kilometer journey across Canada, beginning the **2010 Winter Olympics**.



Intelsat's OU Special Events team has been working diligently to solidify the particulars behind the transmissions infrastructure Intelsat will establish to deliver the global feeds. To date, team members have engineered the distribution path that will be offered for broadcasters—rights holders and non-rights holders; have conducted a site visit to establish the live shot position and conducted on-site technical surveys.

Once onsite for the event, Intelsat will provide managed services to both the rights holding and non-rights holding broadcasters, including:

- Managed platforms for encoding and multiplexing in SD and HD
- Transmission services via the Intelsat global network to virtually any destination in the world
- A Ku-band satellite news gathering (SNG) truck that will be available to travel to any location in the Vancouver area per a broadcaster's request
- Managed fiber services
- Turn-around services on the Intelsat network to include standards conversion, re-mux and data/IP
- Live shot position, with backdrop of Vancouver, the Lions Gate Bridge and English Bay
- Multi-format tape play-out services

Watch for further updates on Intelsat's broadcasting plans for the 2010 Winter Olympics in **Intelsat INSIDER** and on **MyIntelsat**.

[back to top](#)

New Satellites Expand Intelsat Network

Two Intelsat Satellites, Two Unique Stories...and One to Grow On

The Intelsat 14 Satellite

The Intelsat 14 satellite is slated for launch from Cape Canaveral, Florida, on a U.S.-built **Atlas V** rocket in the fourth quarter of 2009. The final stages of testing and integration at **Space Systems/Loral's** facilities in Palo Alto, California, has been completed and the satellite has been delivered to the East Coast for launch preparations.

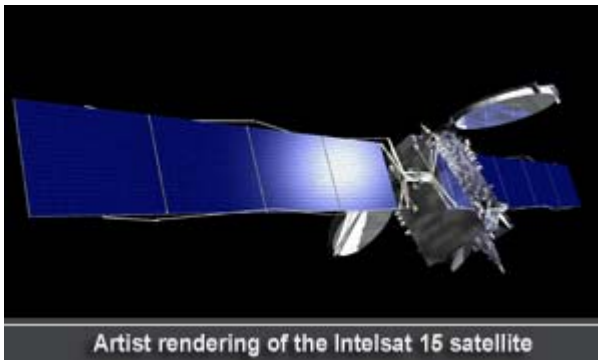
The Intelsat 14 satellite is a relatively large spacecraft carrying a



total of 62 transponders with a capacity of 72 equivalent 36 MHz units. It will replace the Intelsat 1R satellite at the 315° East orbital location to serve customers in North and South America, Europe and Africa with C- and Ku-band capacity. The Intelsat 1R satellite today serves more than 100 Intelsat customers. The Intelsat 14 satellite demonstrates Intelsat's on-going commitment to industry leadership in South America and Africa.

The Intelsat 14 satellite will serve major customers in South America, as well as customers in Africa and customers serving the Oil & Gas industry. Additionally, **Intelsat General Corporation** (IGC) will be a major user of Intelsat 14 satellite capacity. The Intelsat 14 satellite is carrying a special hosted payload called IRIS - **Internet Router In Space** - developed through a partnership with Cisco and supported by the U.S. Government.

The Intelsat 15 Satellite



In the meantime, the Intelsat 15 satellite is being prepared for a late November 2009 launch. The spacecraft will be launched from the **Baikonur Cosmodrome** in Kazakhstan on a Land Launch Zenit rocket.

Construction on the Intelsat 15 satellite was completed in May 2009 and it is currently in storage at **Orbital Sciences Corporation** in Dulles, Virginia. The satellite will be shipped from the U.S. to Kazakhstan on an **Antonov 124** airplane, one of the largest transport planes in

the world.

The Intelsat 15 satellite will be deployed to 85° East to replace the Intelsat 709 satellite. Smaller than its sister satellite, the Intelsat 14, it carries 22 transponders with a capacity of 36 equivalent 36 MHz units.

It has a unique Ku-band beam that will cover the entire country of Russia and has a high-power beam that will cover the Middle East.

Intelsat partner **JSAT** purchased five transponders on the Intelsat 15 satellite, for the life of the satellite, to serve customers in the Indian Ocean Region.

THOR 6 to Add Capacity at 1° West

Expanding its service offerings at the 1° West orbital location, Intelsat has purchased 10 transponders aboard **Telenor Satellite Broadcasting's THOR 6** satellite, slated for launch later this year. This transaction for additional capacity at 1° West is a strategic move to grow Intelsat's media business. Intelsat and Telenor Satellite Broadcasting have partnered to develop 1°W into a choice video neighborhood for broadcasters seeking premier access to cable and DTH communities of Central and Eastern Europe.

[back to top](#)

MyIntelsat Update

2009 Survey Results

Intelsat launched MyIntelsat, our customer extranet, in August 2008. Over the last year, we have improved the site's functionality and added new content. In August 2009, we invited customers to participate in a brief survey to offer general feedback, which will help us evaluate and prioritize the development of new applications and new elements that are of most interest to our customers.



Wiesław Dzierżak, Director, **Telekomunikacja Polska**, winner of a raffle conducted among all survey respondents for a US\$250 gift certificate said, "First of all, I have to admit that I am quite surprised with the news I was the winner of the gift card. Also, all Intelsat customers should use MyIntelsat as it provides them with quick, reliable information and enables us to work smarter and more efficiently."

The following are some highlights of the more than 850 survey responses:

- 58.50% of users are either an engineer or an Earth Station Manager
- 33.00 % hold a management or executive role
- 85.89% of respondents reported being satisfied or very satisfied with their MyIntelsat experience
- 79.91 % visit MyIntelsat to use a variety of tools, including Link Budget, Sun Interference, Detailed Coverage maps, etc.

Features that have been prioritized based on customer feedback include:

- **Search All Antennas Registered with Intelsat** - To assist our customers in identifying uplinks or downlinks and to enable certain connectivity and services, antenna data, recorded by Intelsat for identification and network operations purposes, is being made available to all Intelsat customers utilizing the MyIntelsat website.
- **Schedule Routing Log** - This application will display Work Order number, date, start time, status, satellite uplink and downlink information, allocated bandwidth (MHz) and Goodnight times.

If you would like to read the full survey transcript, please contact [Pallavi Oberoi](#), Intelsat's Program Manager, Web Strategies and Implementation.



[back to top](#)

Intelsat In the News

CEO McGlade Makes *Space News*' 2009 Top 10 List

Intelsat **Chief Executive Officer Dave McGlade** was featured in the 31 August 2009 edition of *Space News* as one of **10 Who Made a Difference in Space**. Annually, the Editors of *Space News* select noted individuals from the world of politics, private industry and public agencies who have made a difference in space industry developments.



Most notably, McGlade was recognized for helping Boeing Satellite Systems "**introduce a new line of communications satellites to the market.**" *Space News* also honored McGlade for keeping Intelsat in the forefront of efforts to encourage government organizations, especially the U.S. Defense Department, to continue building stronger relationships with the commercial sector and to place dedicated payloads aboard commercial satellites. The

nomination highlighted the **Intelsat 14** satellite, which will carry the **Pentagon's Internet Router in Space (IRIS)**, and the **Intelsat 22** satellite, which will carry a **UHF payload for the Australian Defence Force**.

Overall, the editors agreed that McGlade was one of a handful of business leaders this year who are **"making big things happen, and not just for their own companies."**

Other notable honorees making the list included U.S. President **Barack Obama**; U.S. Defense Secretary **Robert Gates**; Indian Space Research Organization Chairman **G. Madhavan Nair**; Space Exploration Technologies Chief Executive Officer and Chief Technology Officer **Elon Musk**; and Globalstar Executive Chairman **Jay Monroe**.

[read more in [Space News](#)]

[back to top](#)

Connections Update

Brazil Host to Intelsat's Latin America Regional Seminar







Intelsat held its Latin America Regional Seminar on Monday, 24 August 2009 at the JW Marriott Rio in Brazil. This first Intelsat Regional Seminar in Brazil since 2006, the event was attended by **more than 30 Intelsat customers** throughout the region. Brazilian customers **Sky Brazil** and **INTELIG** presented during the Customer Experience and Applications Showcase. Sky


Brazil discussed its DTH solutions in Brazil and throughout Latin America and INTELIG discussed how it uses a hybrid (satellite and fiber) network for telephony backbone and cellular backhaul solutions for connecting multiple locations in Brazil. Intelsat executive management delivered Intelsat business updates, including a review of the company's service offerings in Brazil and Latin America and Intelsat's focus on the Brazilian market.

[back to top](#)

Intelsat on the Road

Join Intelsat Around the World

| Event | Location | | Dates |
|--|-------------------------|--|---------------|
| ITU Telecom World 2009 | Geneva, Switzerland |  | 4-9 October |
| Connections EME | Barcelona, Spain |  | 11-13 October |
| SATCON 2009 | New York City, USA |  | 14-15 October |
| Capacity Africa | Cape Town, South Africa |  | 14-16 October |

| | | | |
|--------------------------|-------------------------|--|----------------|
| Offshore Communications | Houston, Texas, USA |  | 1-4 November |
| CASBAA Convention | Hong Kong |  | 3-6 November |
| Connections Africa | Cape Town, South Africa |  | 8-10 November |
| AfricaCom 2009 | Cape Town, South Africa |  | 11-12 November |
| Oil & Gas Communications | Kuala Lumpur, Malaysia |  | 17-18 November |

[back to top](#)

Connect with Intelsat

Join the Discussion: Connect with Intelsat on the Intelsat BLOG, Twitter and Facebook



Intelsat will be blogging live from various upcoming conferences and satellite launches. The **Intelsat BLOG** will be accessible from MyIntelsat, our customer extranet, and via the Intelsat public website during major industry and Intelsat events. You can also "follow" us on **Twitter** and "fan" us on **Facebook** for regular updates. Choose your medium and stay-in-touch with Intelsat!



[back to top](#)

In the Next Intelsat INSIDER

The next edition of **Intelsat INSIDER** is scheduled for delivery on Tuesday, 1 December 2009, and will feature:

- an Intelsat 16 satellite update
- a focus on Intelsat's teleports
- Intelsat at ITU

[back to top](#)

[Home](#) | [About Us](#) | [Services](#) | [Network](#) | [Resources](#) | [Press](#) | [Investors](#) | [Careers](#) | [Contact Us](#)

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