

satellite Interference Reduction Group

formerly



are dealing with...

Satellite Interference!

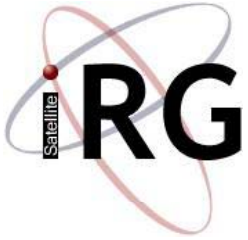
...the Carrier ID Process



***WBU-ISOG, Zagreb, Croatia
October 24-25, 2011***

STOP Interference Now! (it's a **SIN!**)





Satellite RFI: the big 4!

Problems:

1. Improper Installations
2. Sub-Standard Equipment
3. Unidentified Carriers
4. Insufficient Incident Coordination

Solutions:

Proactive...

- ✓ Training & Certification
- ✓ Type Approvals

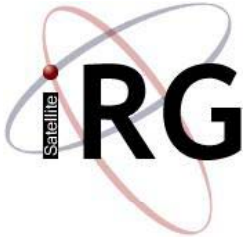
Reactive...

- ✓ Carrier ID
- ✓ Data Sharing (SDA)

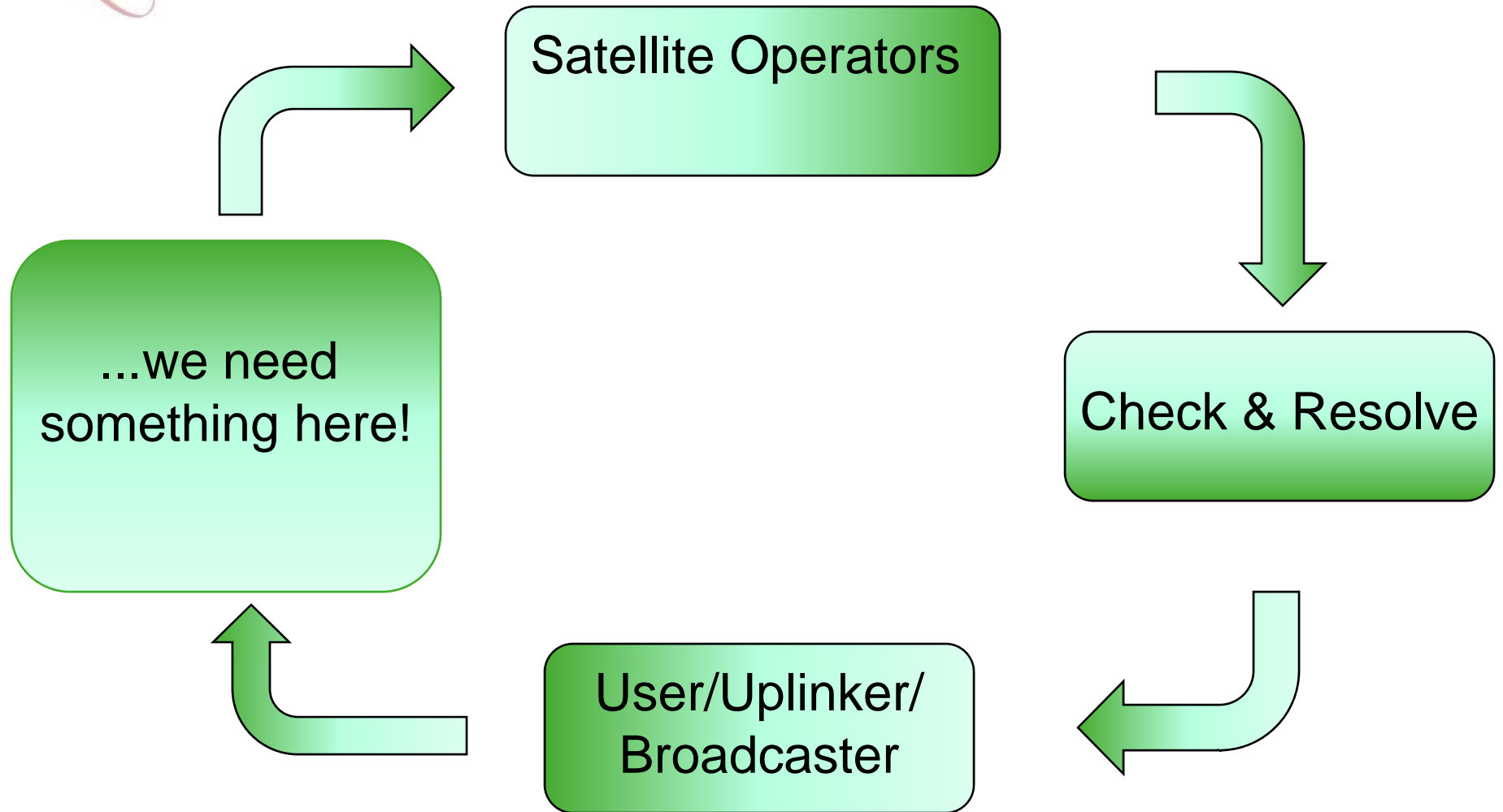
*...the CID Process allows these issues to be fully coordinated,
using CID as the Key!*

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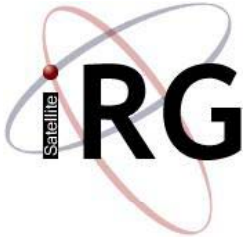


...where we have been!

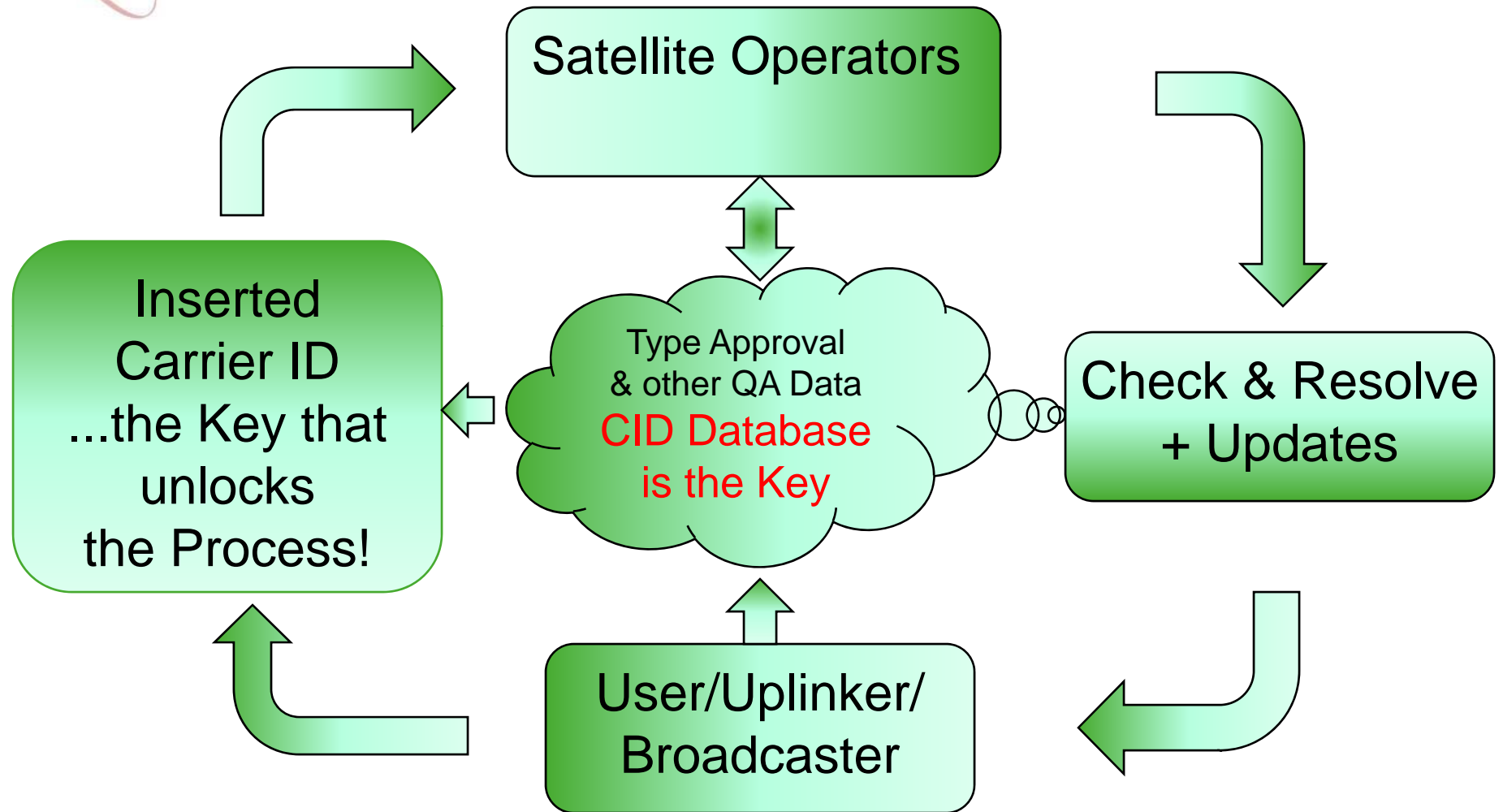


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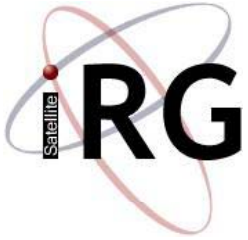




Carrier ID & the QA Process...



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Carrier ID Goals & Milestones...

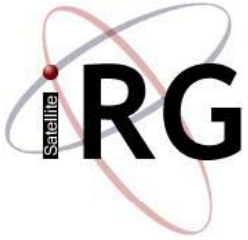
Our immediate Goal: **ALL Video Transmissions for the 2012 Olympics to have Carrier ID!**

Since the Carrier ID Forum, Intelsat HQ – Washington DC 18th Nov 2009...

- Working Groups – Video & Data (by sIRG) + VSAT (by GVF)
- Enhanced NIT Specification for Video Encoders generated and ratified by WBU-ISOG 2009/2011 (original developed in 2006)
- RFI End User Initiative started Feb 2011 headed up by CNN & ABC
- New Modulation Technology initially developed by Comtech for SCPC (Video, Data, Etc.) released at the 2011 Washington Satellite Show
- **Eutelsat** announces (IBC 2011) using NIT CID by **30th June 2012!**
- **DVB** approved **5th Oct 2011** to the next phase to standardise CID!
- GVF, RFI EUI, SDA, sIRG & WBU-ISOG working together to make this happen!

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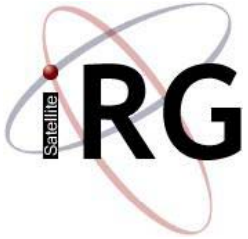
What needs to be done now!...

Results from IBC, HBO Meeting & sIRG Conference based on using the NIT for Olympic Video Transmissions...

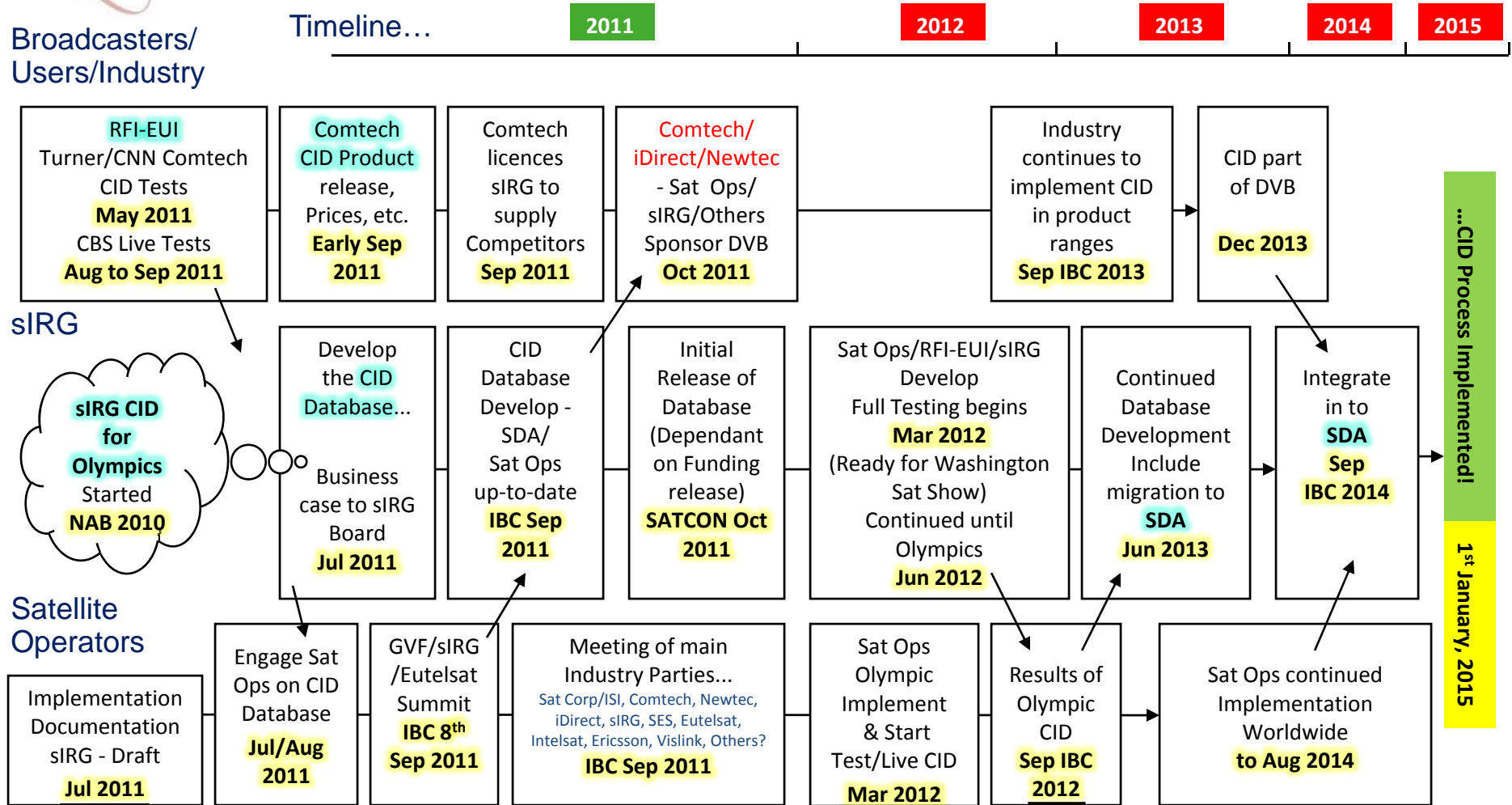
- sIRG with the SDA & Satellite Operators developing initial CID Database & Processes needed to make this happen;
- Set up Test Carriers with existing transmissions with CID NIT added on Eutelsat, Intelsat & SES for Carrier Monitoring manufacturers to test detection systems;
- Get Broadcasters involved using RFI-EUI & asking Arqiva, BBC, BSkyB, EBU & SiSLive to use CID;
- Liaise with manufacturers and ensure CID NIT ready encoder models are published. *We know Ericsson, IDC, NTT & Vislink are ready and Fujitsu & Harmonic are in the process of adding this facility.*
- *Newtec have now provided CID NIT in MENOS & Modulator Products!*

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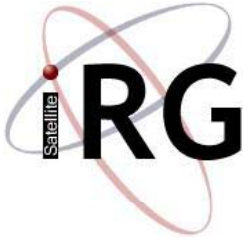




Carrier ID Process “Road Map” - way forward



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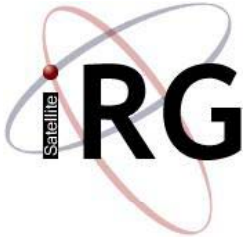
In Conclusion...

- **“Carrier ID” is not going away!**
Remember... **“It Protects the Good Guy!”**
- **...a Key to QA/Type Approval**
- **...Training & Certification is part of the QA
Process**
- **...help reduce bandwidth for Users –
drives the cost/MHz down**
- **MAKE IT HAPPEN for 2012!!!! Promote it !!!**

Many Thanks

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For More Information - Contact...

- sIRG: Exec Director, Martin Coleman

Email: martin.coleman@sating.org

- GVF: Secretary General, David Hartshorn

Email: david.hartshorn@gvf.org

- WBU-ISOG: Chairman, Dick Tauber

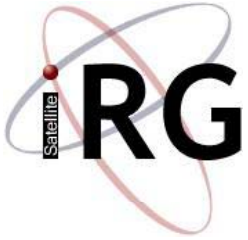
Email: dick.tauber@turner.com

- RFI EUI: Co-Chairs, Dick Tauber (CNN - see above)
Rich Wolf (ABC)

Email: richard.p.wolf@abc.com

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...background on sIRG

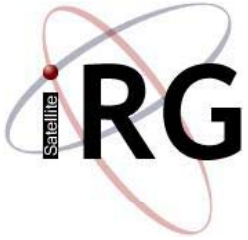
- The former Satellite Users Interference Reduction Group (SUIRG) was restructured in February 2011 and rebranded:

satellite Interference Reduction Group (sIRG)

- It will actively pursue interference reduction by promoting:
 - Coordination with other industry organizations to address regulatory issues, and ensure adoption of Carrier ID
 - Investigation and development of new technologies and techniques
 - Assist in the development of training and certification programs for installers and users
 - Use of best operational practices
 - Support & coordinate with GVF, RFI-EUI, WBU-ISOG, APSCC
- Members total 34, including satellite operators and other organizations
 - New Members are wanted, to get new ideas, grow participation, expand industry-wide implementation of interference mitigation initiatives

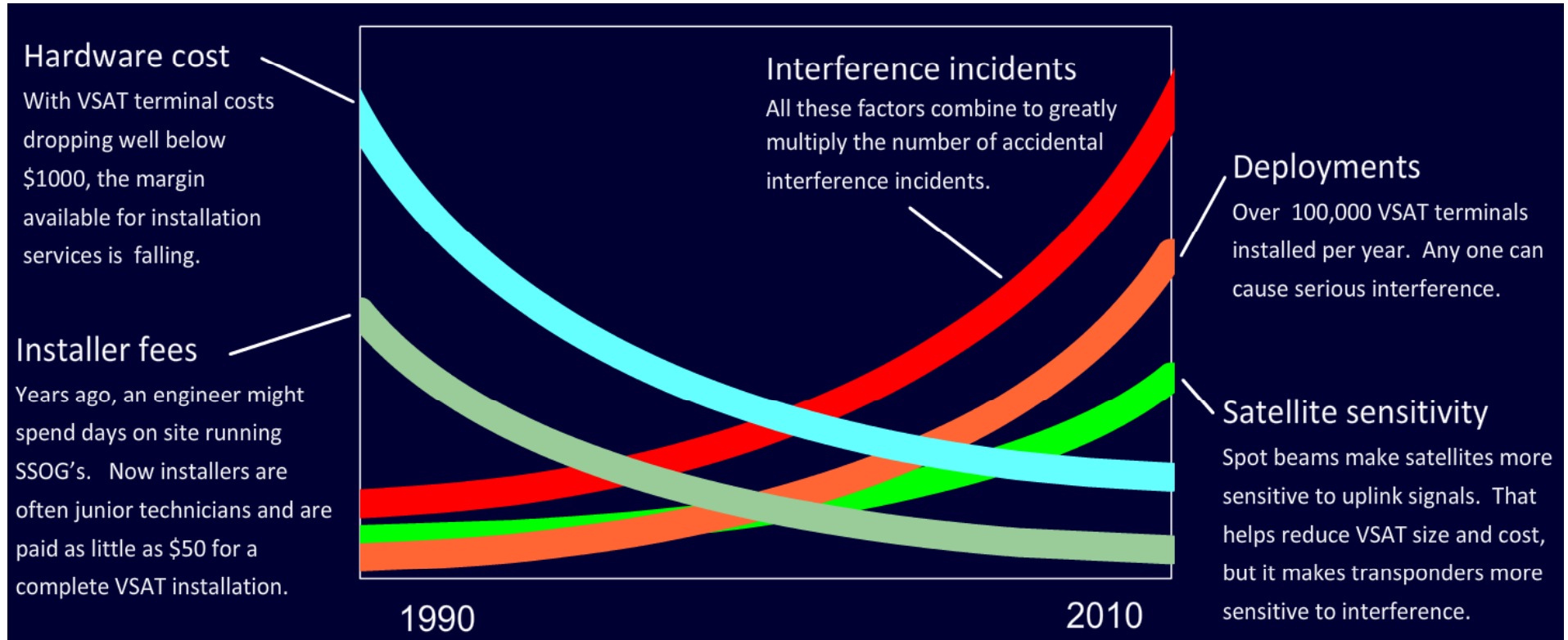
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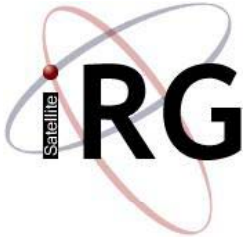
Why is Interference increasing?

Analysis supplied by GVF...



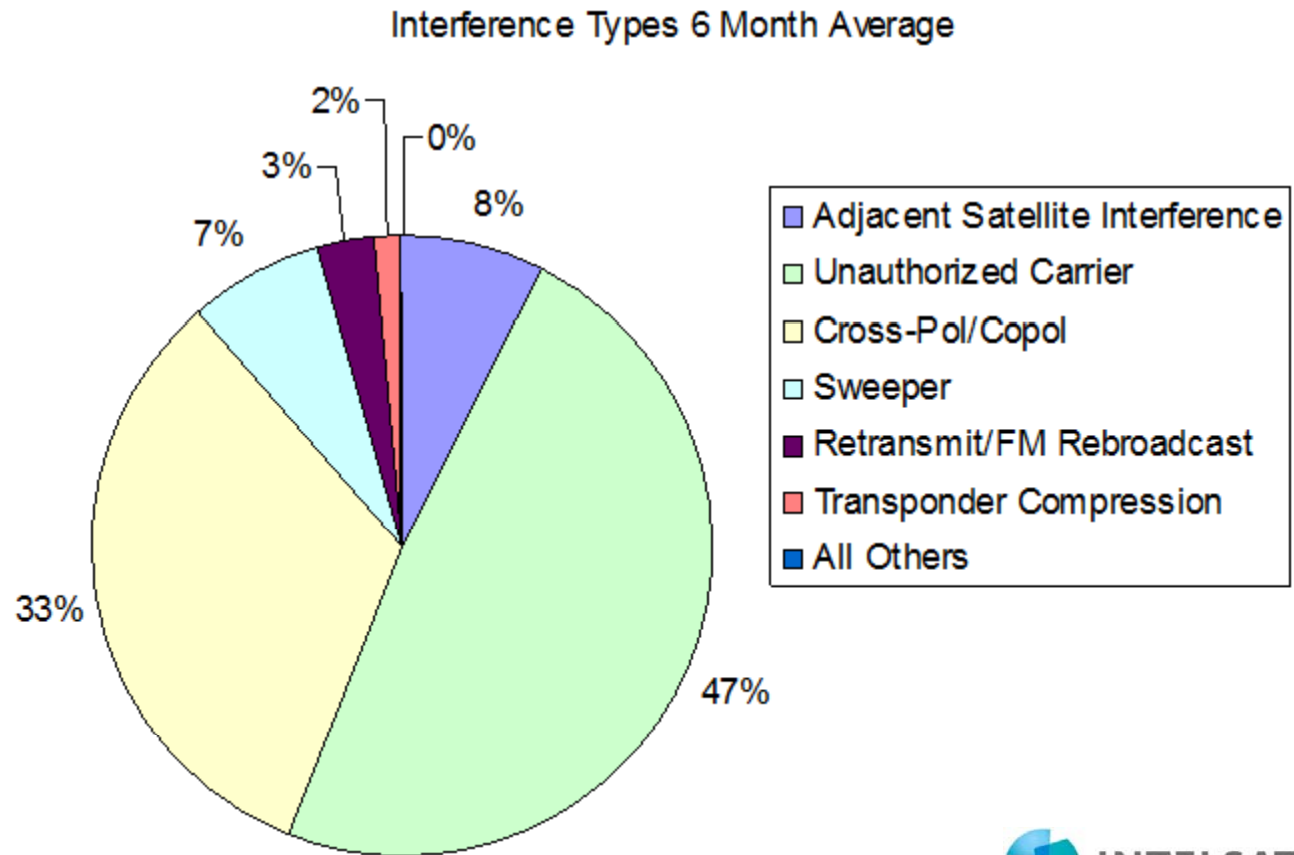
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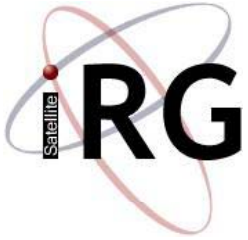


...the Stats!

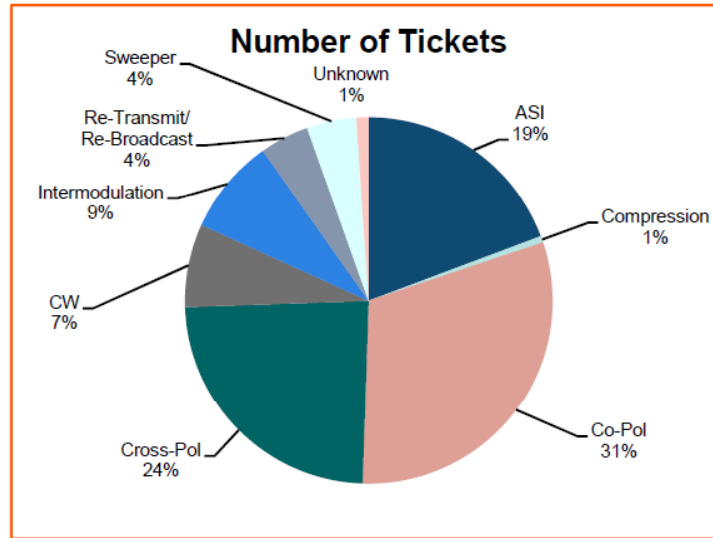
Data supplied by Intelsat...



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SES Experience with RFI...



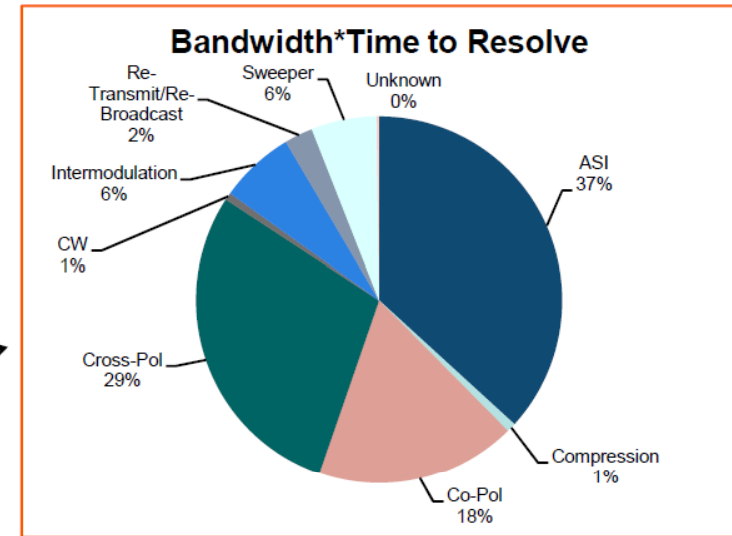
Source of data: SES Tickets Dec 2010-May 2011

RFI data based on the number of Tickets for each type of interference

- Roughly consistent distribution as other Operators
- Indicates that the major problems, in terms of the number of events, are Co-pol and X-pol from our own customers, followed by ASI

RFI data based on the impact of affected bandwidth and the length of time required to resolve each type of interference

- The most significant causes, in terms of the biggest impacts to the business and customers, are ASI and X-pol, due to the extensive time required to investigate and correct these types

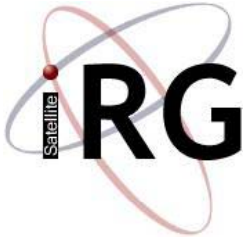


Source of data: SES Tickets Dec 2010-May 2011

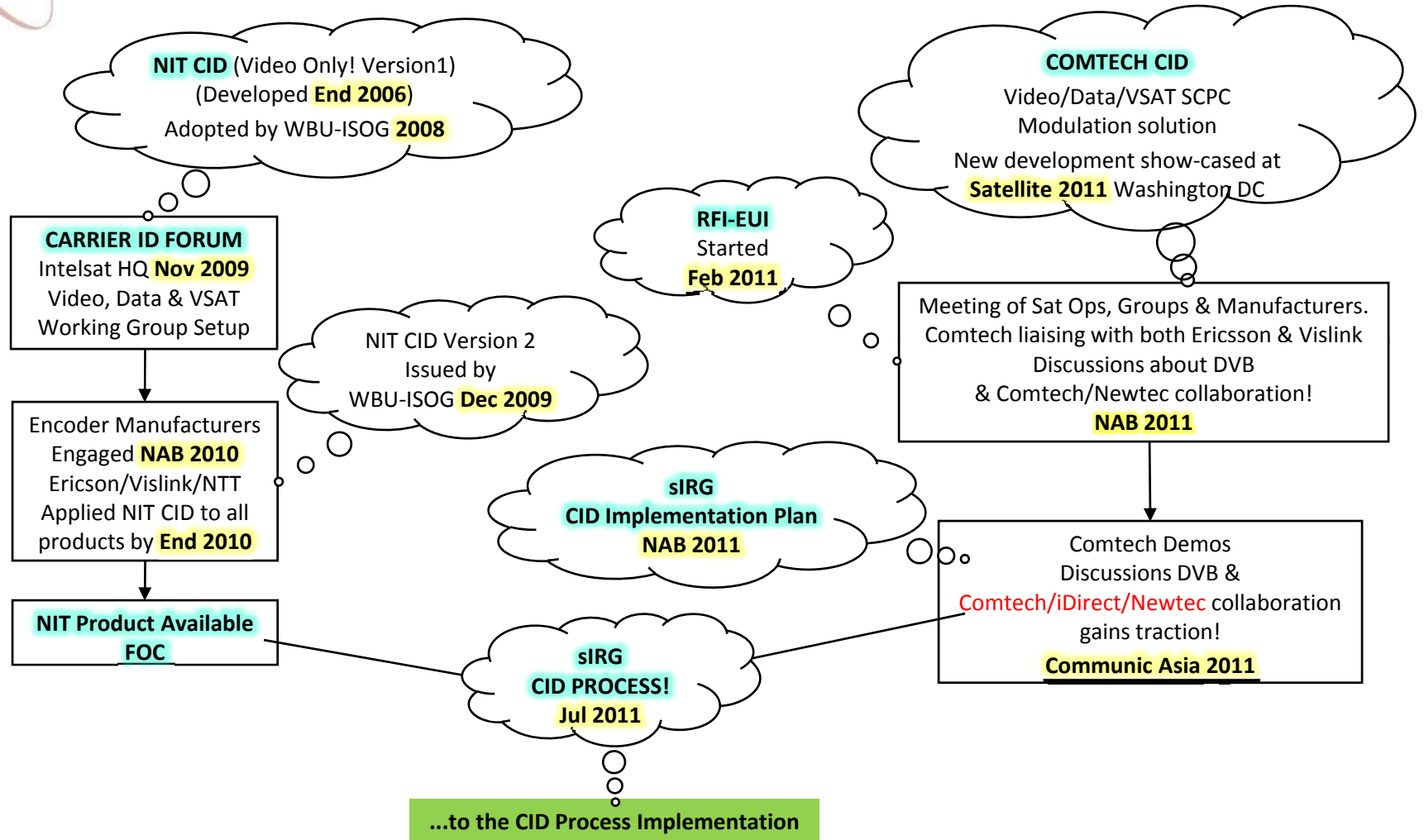
SES Proprietary – Not for Public Release

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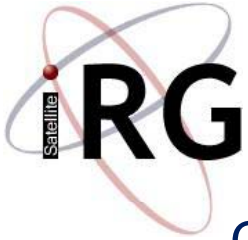


Carrier ID Process “Road Map” – how it began



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...the Carrier ID Process – Draft Details ...the Carrier ID Database

Central to this Process is the CID Database...

Initially will be developed on sIRG Web Site System. Developed CID Database system to migrate to the SDA for Satellite Operator integration & visibility.

Apart from the CID information of ID, Uplinker, etc., this will allow input of the following...

- Transmit Chain Equipment data;
- Approvals, Transmit Power, ESVA/Test data;
- Installer/Integrator & Certification data.

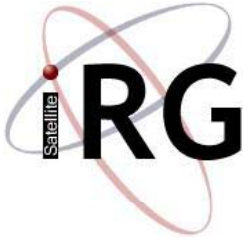
From the above we expect every transmit chain to have a unique ID and all pertinent data added by the User.

CID is the **KEY** that unlocks relevant data to the Satellite Operator!

...thus joining CID to Type Approval/QA + Training & Certification!

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Transmission/Operations Set Up...

Before Transmission...

- User to request IDs and basic user information, Login, etc.
- System responds with checks to ensure ID allocated is unique;
- User to enter critical & relevant data to the CID Database;

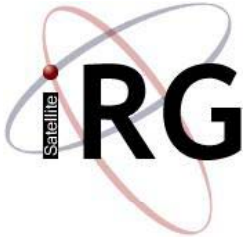
On Transmission of any carrier the following takes place...

- Satellite Operator checks ID against CID Database & ensures all pertinent data has been completed by User – Automated process by the CID Database/SDA/Sat Ops Systems;
- If OK, Transmission goes ahead;
- If not, User asked to complete data before Transmission.

(Note, this can become a formal process when fully implemented.)

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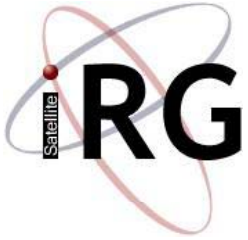


...advantages to the Satellite Operator

- Efficient Interference Resolution!
- Check CID Database against Local Records (*assumes via the SDA*)...
 - Approvals/Equipment details and the differences;
 - Who installed the system;
 - Interference patterns emerging on Equipment Set Up + Failures, Installation, etc;
 - Allows database errors to be checked/corrected in advance;
 - Automated ID Data and Difference checking – 24/7;
 - Cross Member checks easily made;
 - Allows Statistics to be produced linking QA & Training, etc.

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...advantages to the Uplinker

- Comprehensive data on all Equipment, Installation, Approvals;
- Allows Equipment faults & changes to be passed on to Satellite Operators automatically;
- QA effort rewarded by better management and less errors within the “System” – *Satellite Operators working **with** Users!*;
- Over time, reduced Bandwidth thus reducing Cost/MHz!
- Speed up Interference resolution, by Process, not by guess work!
- User Data secure from other Users/Competitors. To be protected by the legal framework already set by the SDA.

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