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satellite Interference Reduction Group

formerly



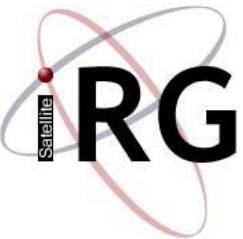
are dealing with...

***Satellite Interference!***

***...the Carrier ID Process***

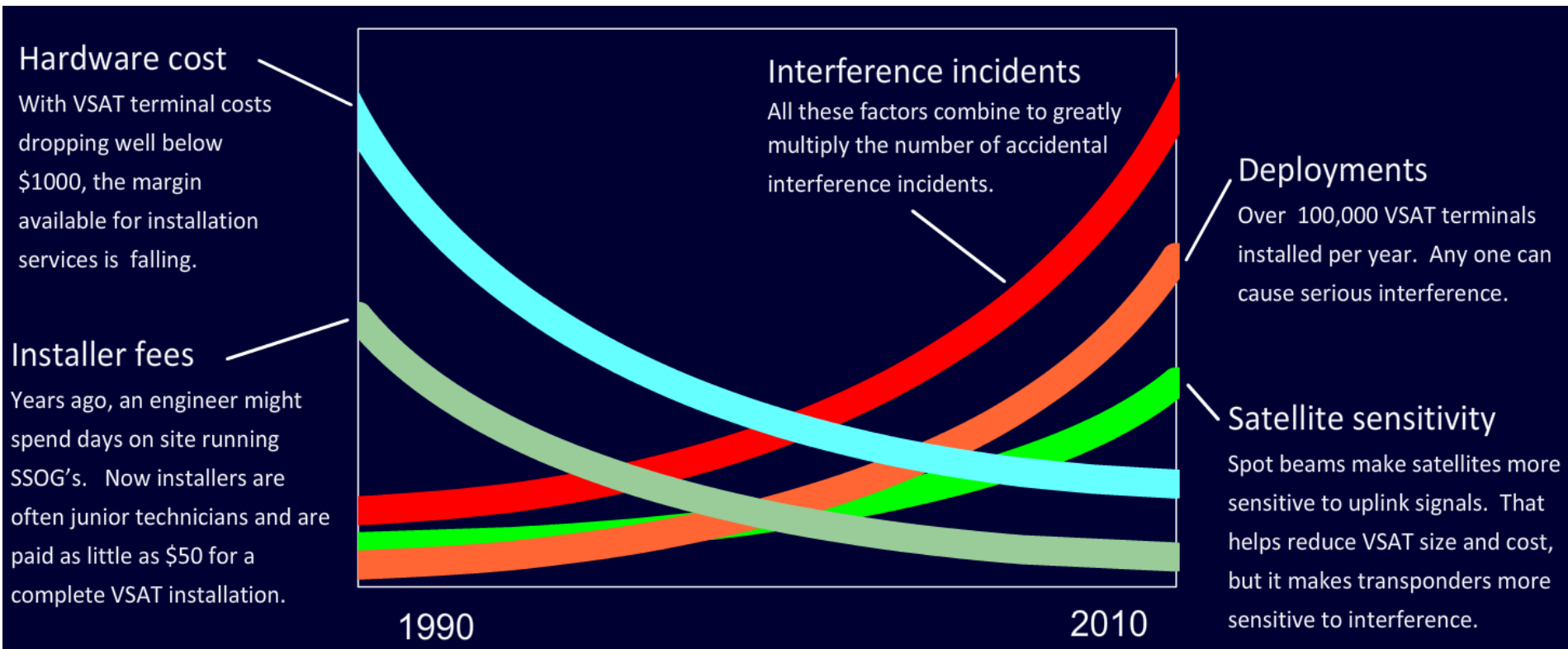
**STOP Interference Now!** (it's a **SIN!**)





# Why is Interference increasing?

Analysis supplied by GVF...

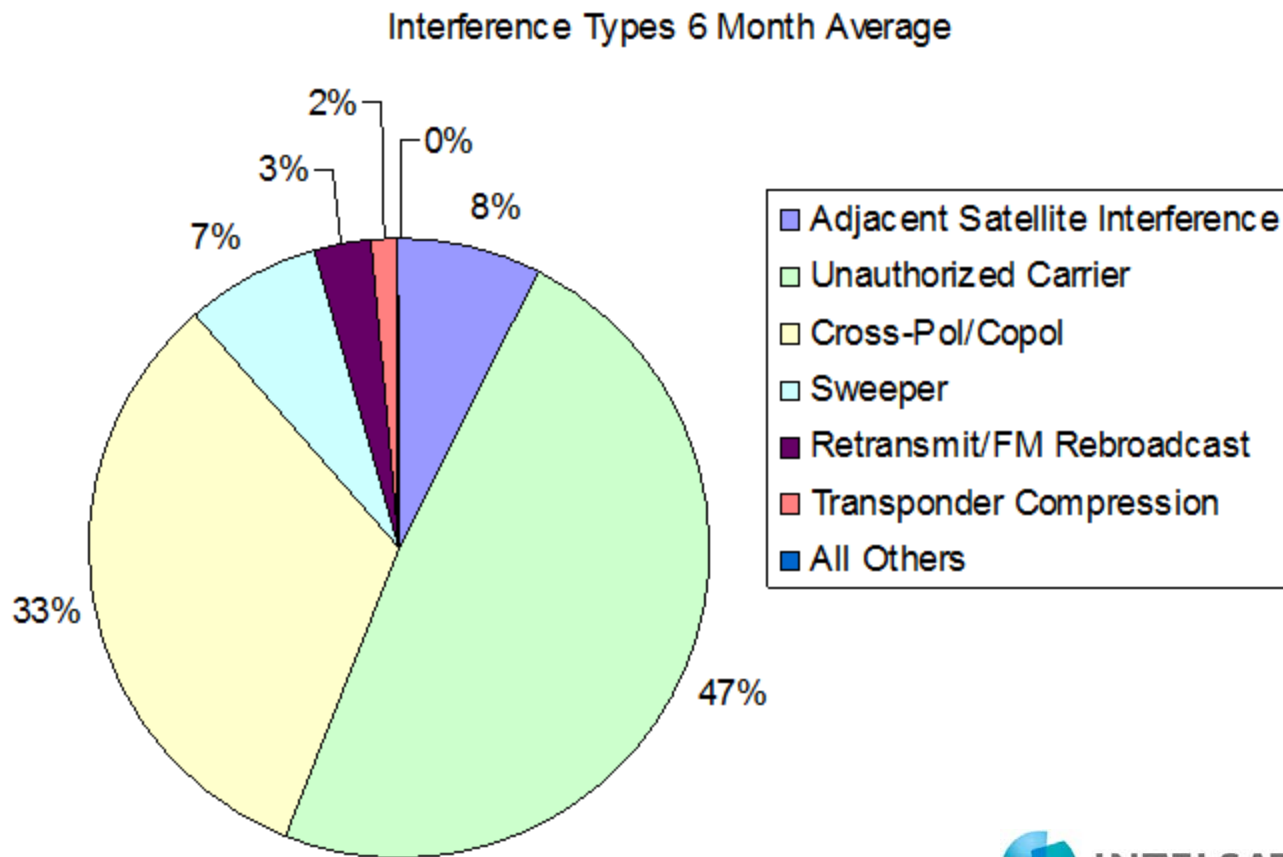


## STOP Interference Now! (it's a SIN!)



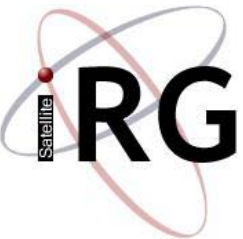
# ...the Stats!

Data supplied by Intelsat...

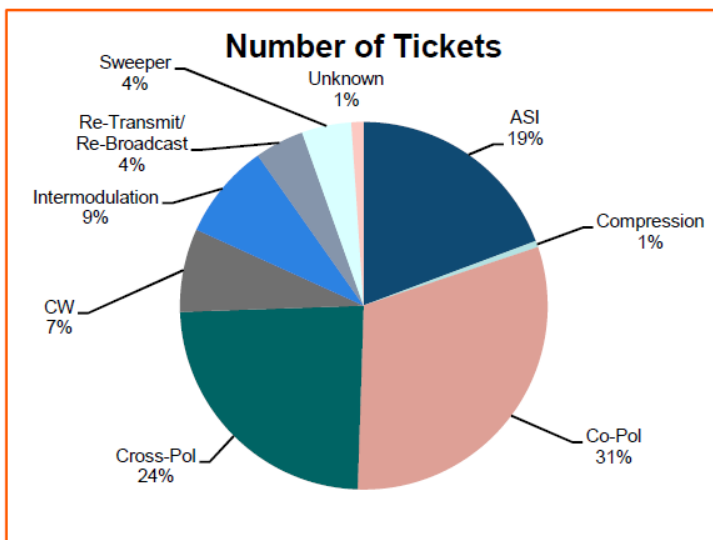


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# SES Experience with RFI...



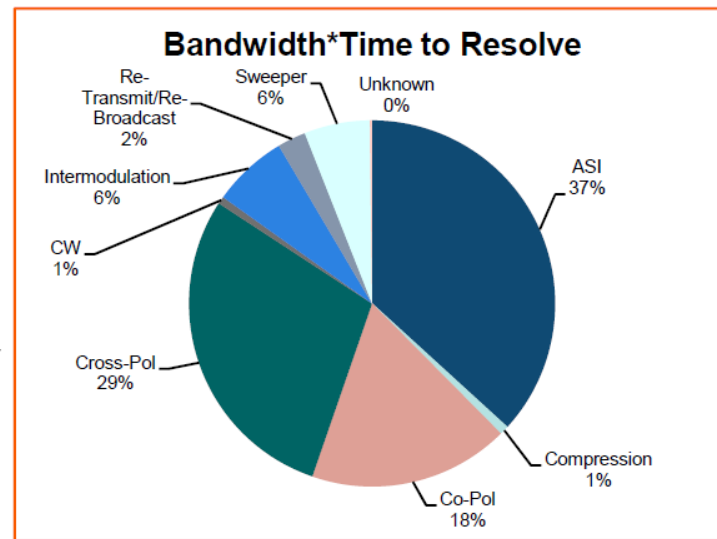
Source of data: SES Tickets Dec 2010-May 2011

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

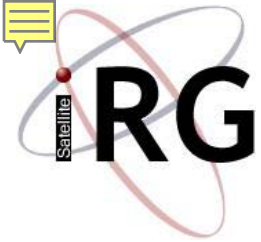


Source of data: SES Tickets Dec 2010-May 2011

SES Proprietary – Not for Public Release

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## 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

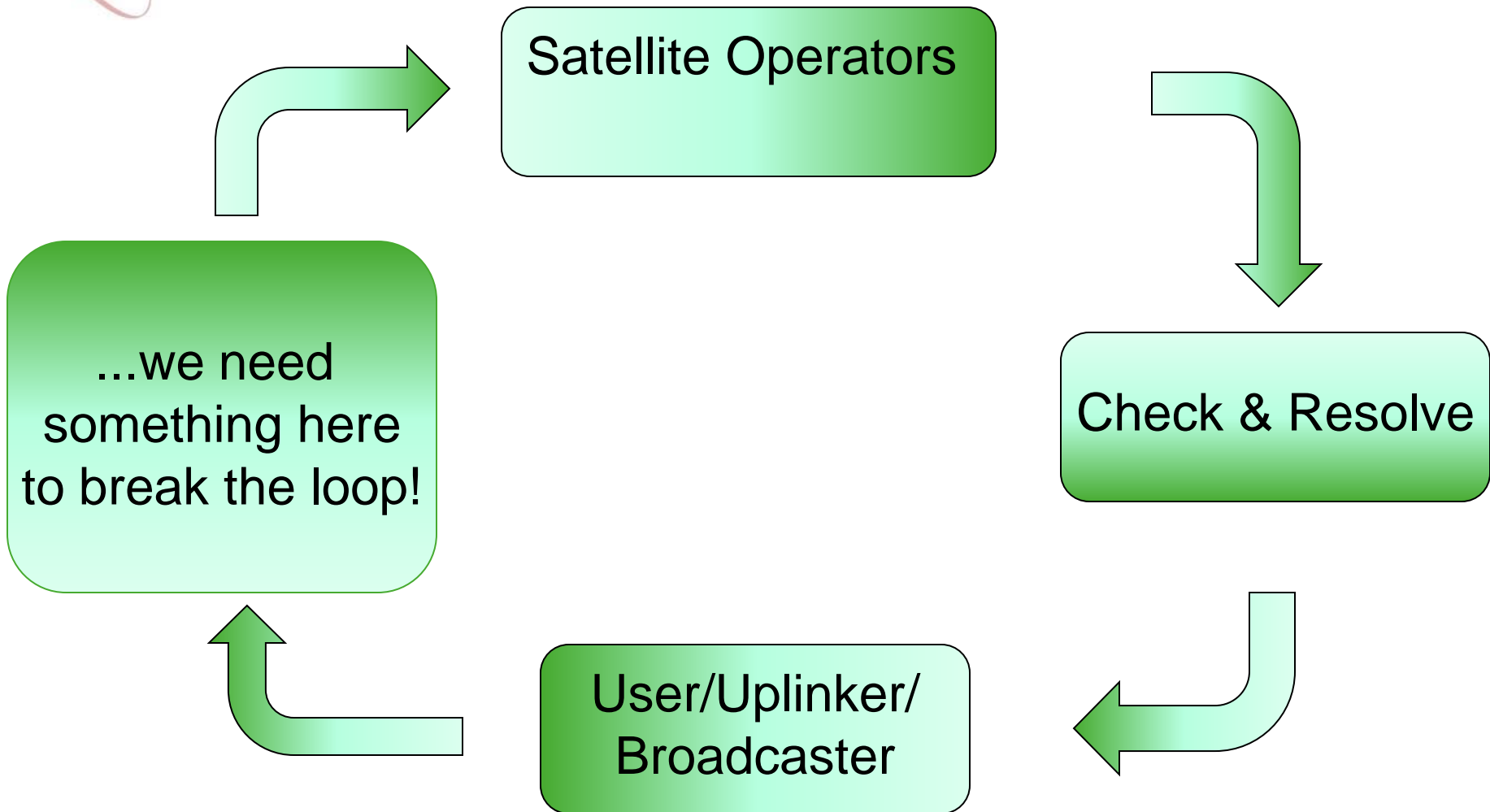
*...the CID Process allows these issues to be fully coordinated,  
using CID as the Key!*

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...where we are!

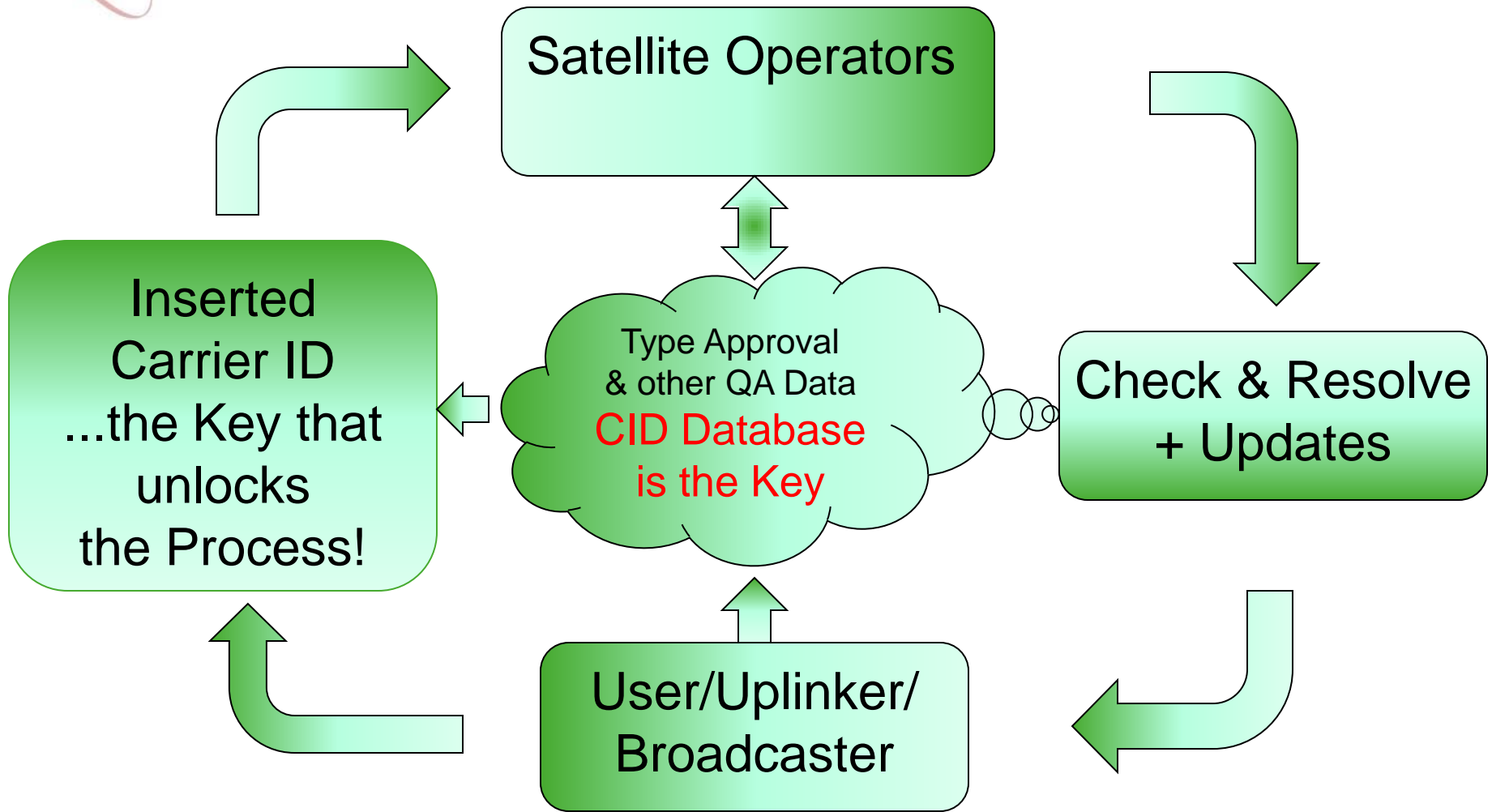


**STOP Interference Now!** (it's a SIN!)



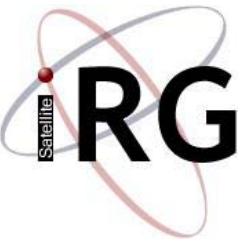


# Carrier ID & the QA Process...



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# CID for the Olympics - the Process...

Each Satellite Operator (e.g. Intelsat, SES & Eutelsat) ensures the NIT contains the...

- **Manufacturer's Code**
- **Carrier ID # (Serial No/MAC Address –12 Characters max)**

Optional - Satellite Operator name and contact info in to the User Field

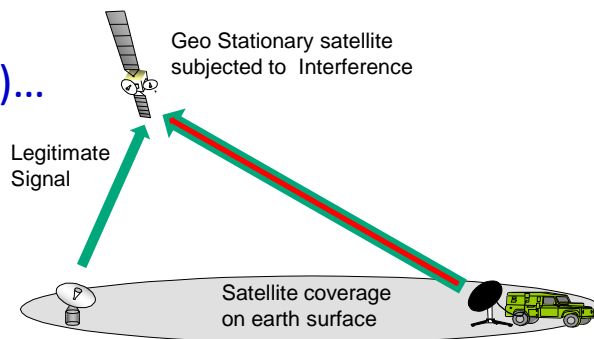


E.g. Sat Ops #1 detects & reports an Interfering Carrier  
Carrier ID extracted & examined (e.g. User Info = Sat Ops #2)...

Then using a simple common Database System...

Sat Ops #2 contacted & provided with **Carrier ID#**...

Sat Ops #2, using the reported Carrier ID#, determines  
**Customer** and contacts for **corrective action!**

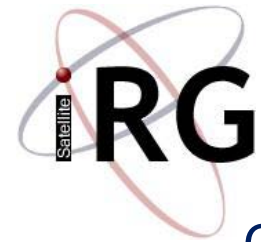


This ensures Customer Data stays **secure** with the responsible Satellite Operator!

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## ...the Carrier ID Database...

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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...

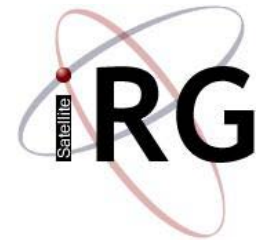
- Transmit Chain Equipment data;
- Approvals, Transmit Power, ESVA/Test data;
- Installer/Integrator & Certification data.

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...

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### 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 **ALL** data to the CID Database;

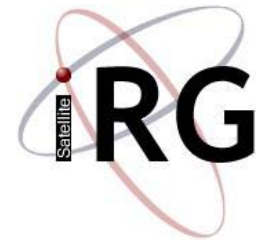
### On Transmission of any carrier the following takes place...

- 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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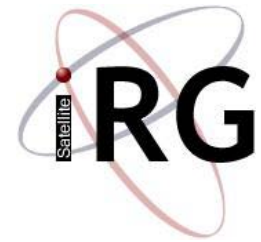
## ...advantages to the Satellite Operator

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- 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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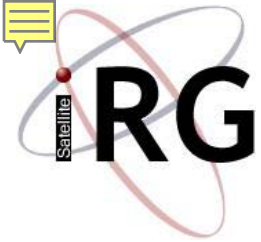
## ...advantages to the Uplinker

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- 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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## Carrier ID Goals...

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

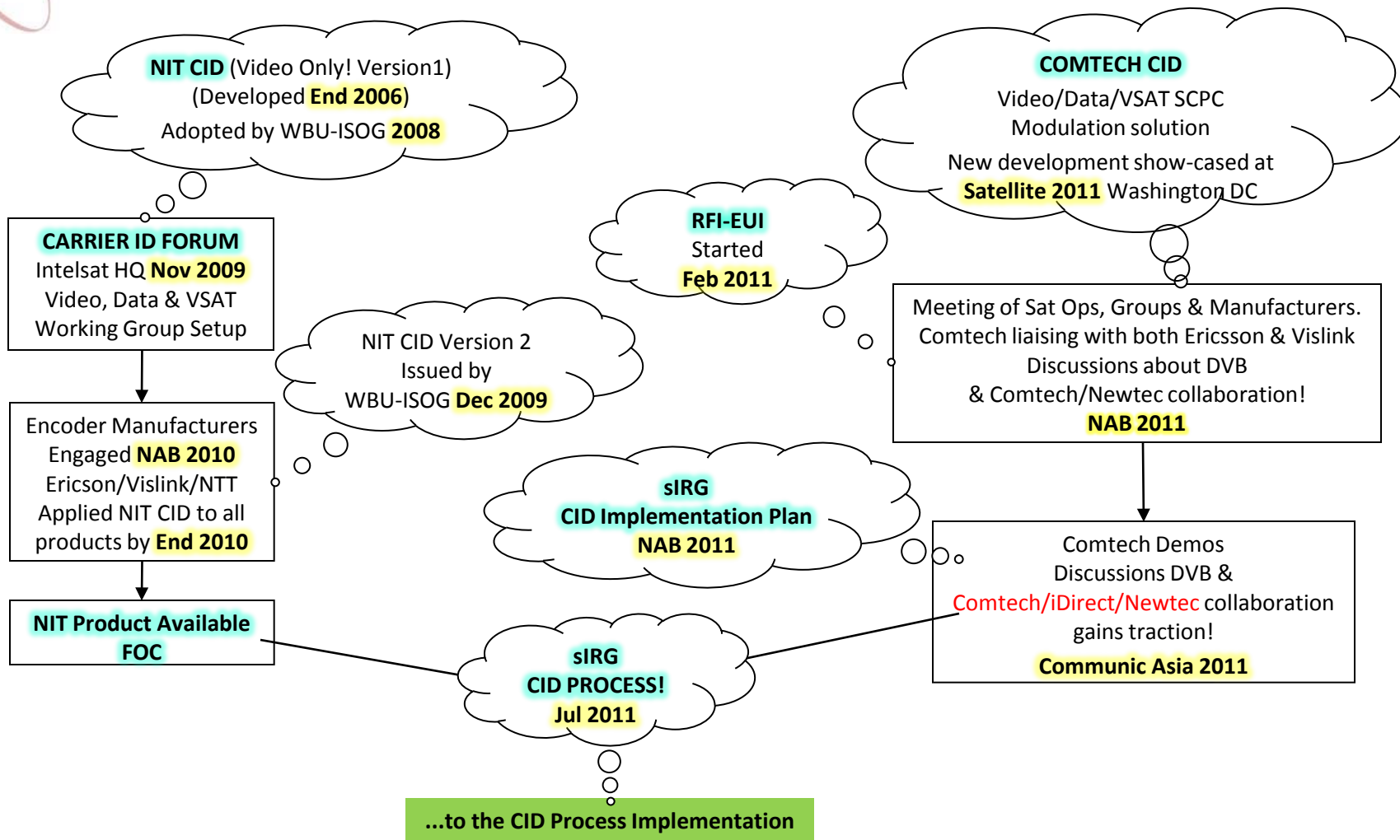
- New MetaCarrier™ Modulation Technology initially developed by Comtech for SCPC (Video, Data, Etc.) released at the 2011 Washington Satellite Show
- Eutelsat announces (IBC 2011) using NIT CID by 30<sup>th</sup> Jun 2012 with Intelsat & SES support!
- With help from Newtec & Ericsson, DVB approved 5<sup>th</sup> Oct 2011 to the next phase to standardise CID!
- DVB Commercial Module completed 5<sup>th</sup> Feb 2012
- DVB Technical Completion and Ratification expected by Q4 2012!
- **sIRG, GVF, WBU-ISOG, RFI EUI & SDA working together to make this happen!**

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# Carrier ID Process “Road Map” – how it began



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# Carrier ID Process "Road Map" - way forward

Timeline...

2011

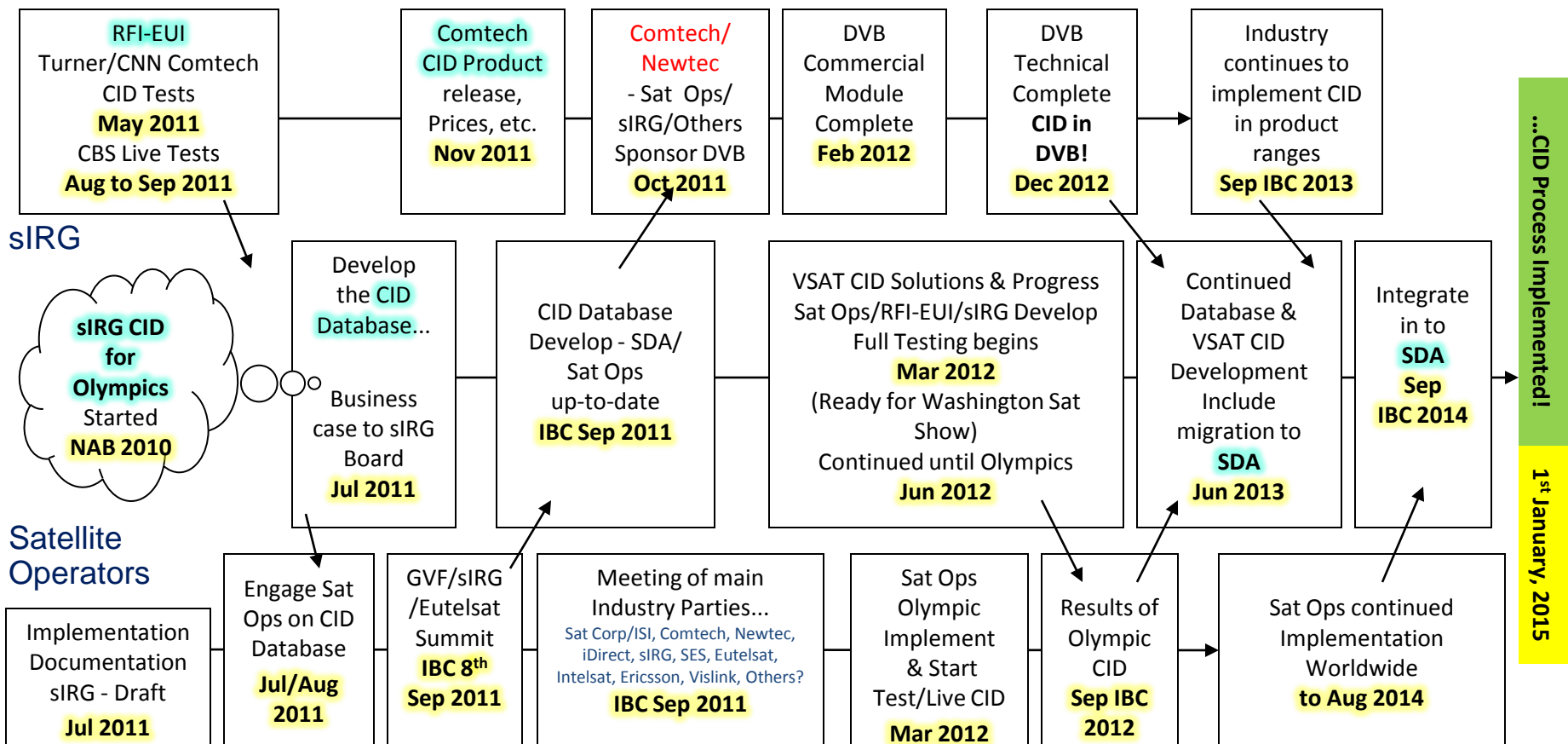
2012

2013

2014

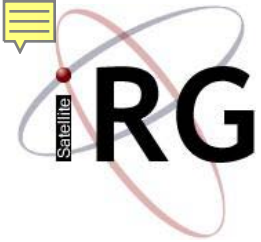
2015

Broadcasters/  
Users/Industry



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## In Conclusion...

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- **“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 !!!**

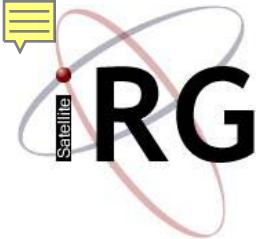
**Many Thanks**

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## For More Information - Contact...

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- sIRG: Exec Director, Martin Coleman

Email: [martin.coleman@satirg.org](mailto:martin.coleman@satirg.org)

- GVF: Secretary General, David Hartshorn

Email: [david.hartshorn@gvf.org](mailto:david.hartshorn@gvf.org)

- WBU-ISOG: Chairman, Dick Tauber

Email: [dick.tauber@turner.com](mailto:dick.tauber@turner.com)

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

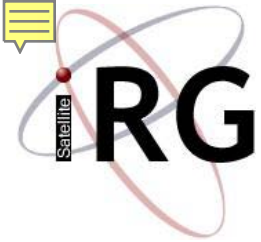
Rich Wolf (ABC)

Email: [richard.p.wolf@abc.com](mailto:richard.p.wolf@abc.com)

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## ...background on sIRG

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- 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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