

WBU-ISOG May 2013

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WRC-15 Spectrum Threats to C-band

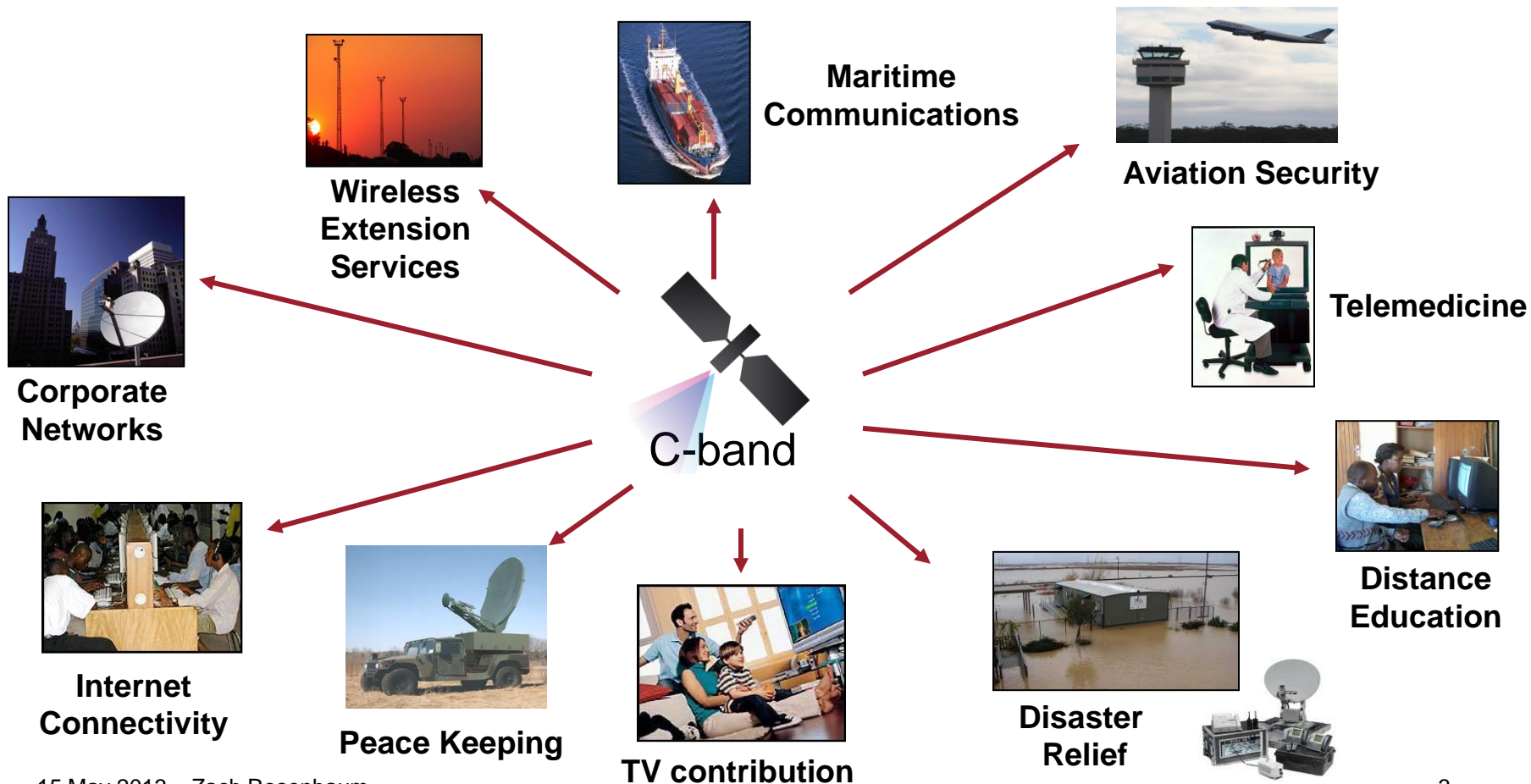


C-band Defense Agenda!

- ▲ **Why do I care about C-band?**
- ▲ **What interference are we talking about?**
- ▲ **How does this stuff affect my business?**
- ▲ **What can I do now?**
- ▲ **Example: changes in the U.S.**

Why do I care about C-band?

- ▲ C-band is the “bread and butter” spectrum for a lot of industries
- ▲ 3400-4200 MHz (↓) and 5850-6725 MHz (↑)

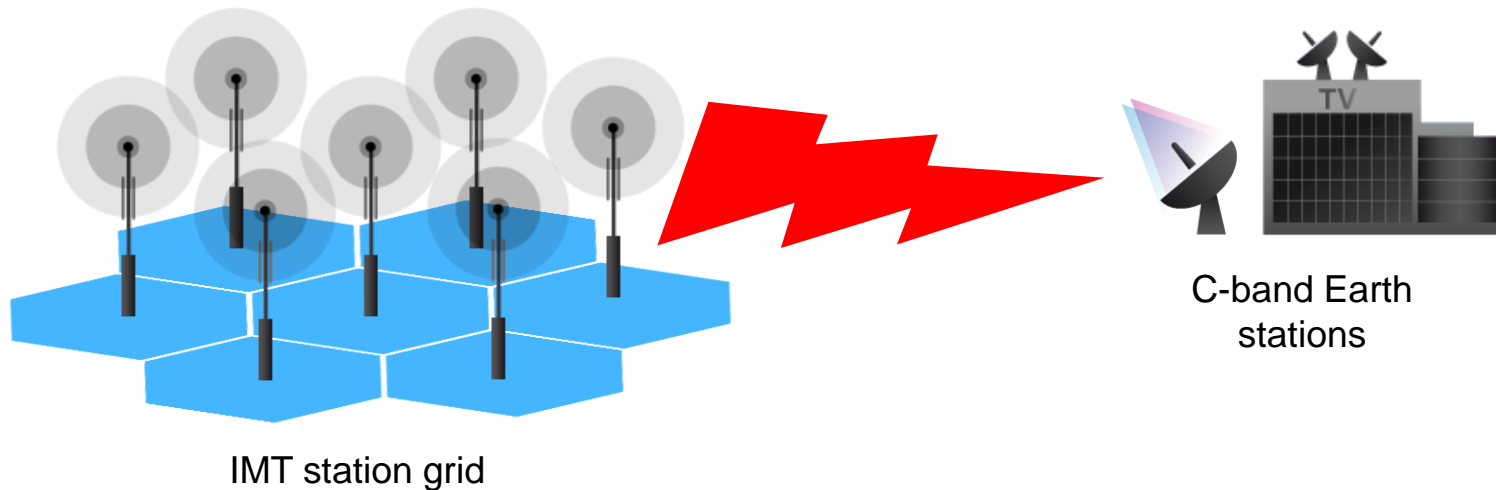


What interference are we talking about?

Terrestrial interference!

▲ Terrestrial interference from IMT

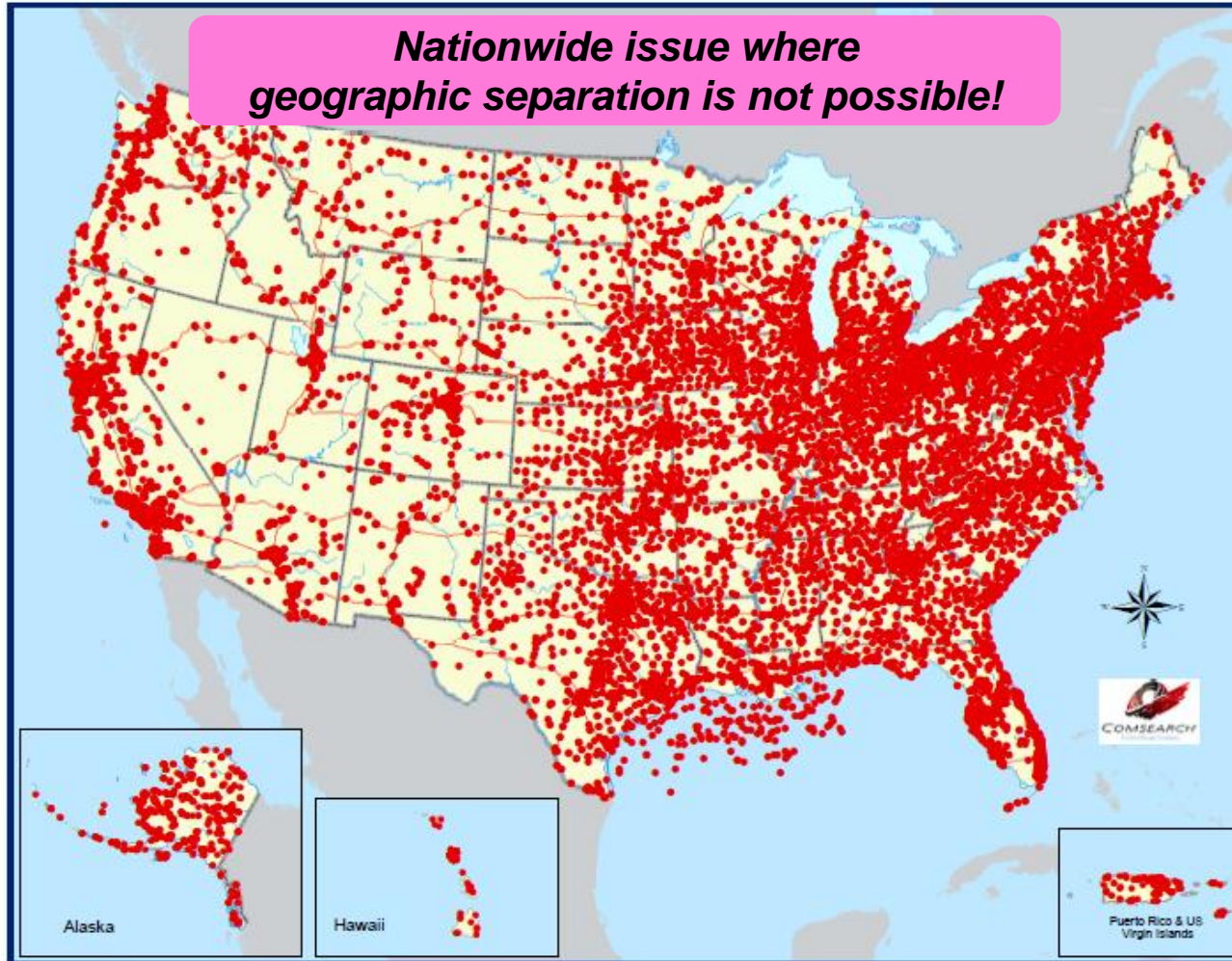
- WRC-15 Agenda Item 1.1 will consider additional spectrum generally for International Mobile Telecommunications (IMT) and other mobile broadband applications → *C-band is on the menu!*



The aggregate affect of all interfering terrestrial stations is a significant interference to a C-band receive earth station

Where are the C-band earth stations? *Everywhere!*

5000 earth stations registered...



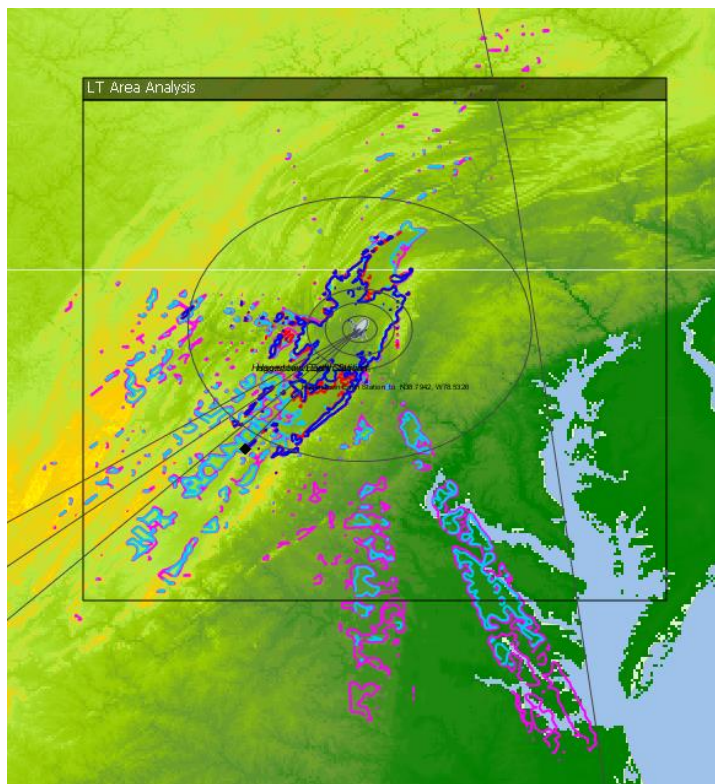
... another 2000 suspected but not registered!

Source: Comsearch

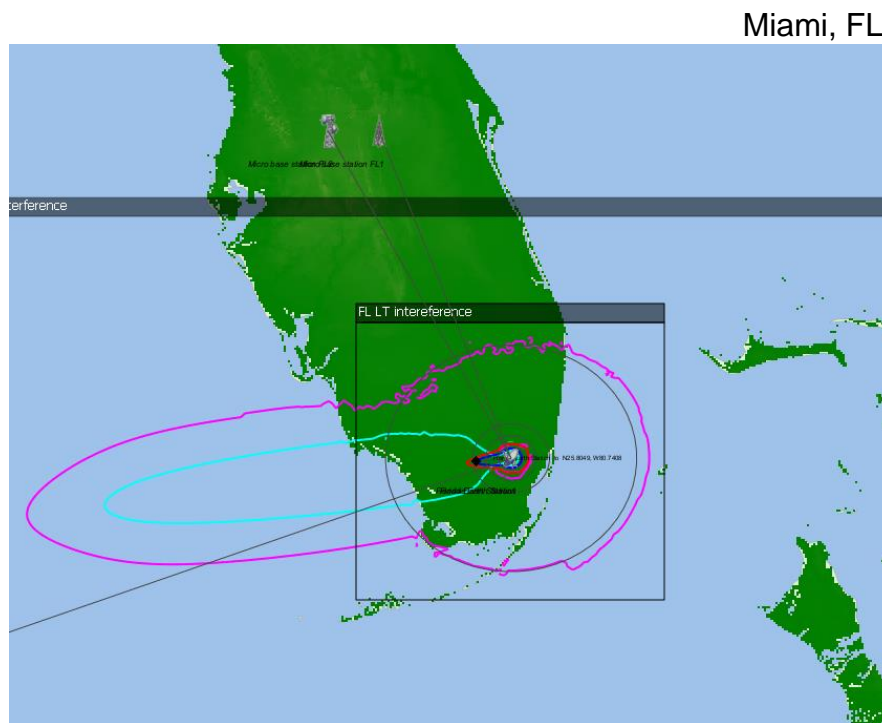
Example

Changes within the U.S.

- ▲ Most of the U.S. C-band use is in the 3700-4200 MHz however, the FCC is considering giving access to mobile systems in the 3550-3650 MHz
- ▲ The pictures below are examples of the interference to C-band receive earth stations from “*small cells*” (what are small cells?!)



Hagerstown, MD



Miami, FL

How does this affect my business?

Interference affects everyone...

- ▲ The interference into C-band receive earth stations can completely overpower the satellite's signal at the receiver
- ▲ 3 forms of interference:
 - Co-frequency interference
 - LNA and LNB overdrive
 - Out-of-band emissions (*think about the filter characteristics and the potential for 3550-3650 MHz interference!*)
- ▲ Most regulators only think about co-frequency interference when the second two forms of interference are just as significant!
- ▲ How does the ITU & WRC-15 come into this?
 - The studies and preparatory work we do today will impact the views and decisions of regulators when they make the final call: **C-band or IMT?**

What can I do now?

Get involved!

▲ Register your earth stations

- Both with the FCC (or local administration) and
- At the ITU – submit coordination and notification information

*Ask me about
FCC C-band
earth station
registration.*

▲ Participate and contribute locally (FCC)

- Joint-task-group (JTG) U.S. preparations and contributions
- US IWG preparation which steers the US position at the WRC-15 conference

▲ Participate and contribute internationally (ITU)

- Joint-task-group (JTG) with contributions
- Lobbying other countries where you work
- Follow through all the way to WRC-15

▲ Lobby your regulator

- Tell the FCC how IMT will affect your business!

Thank you!

More questions? Ask us!

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