

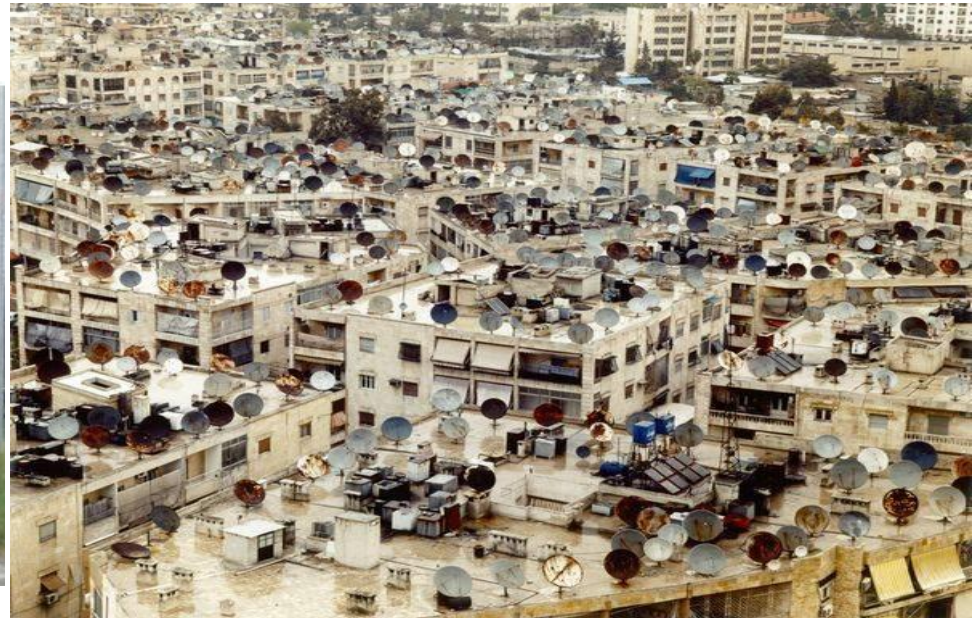
# RFI report



# Interference Growth

---

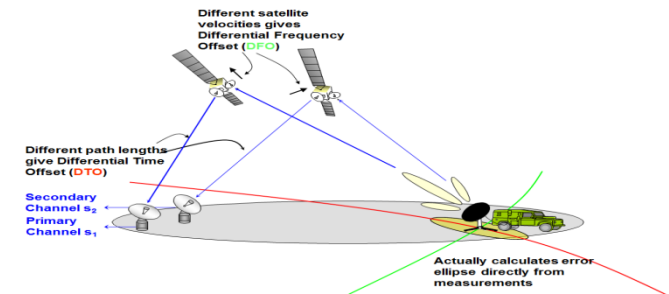
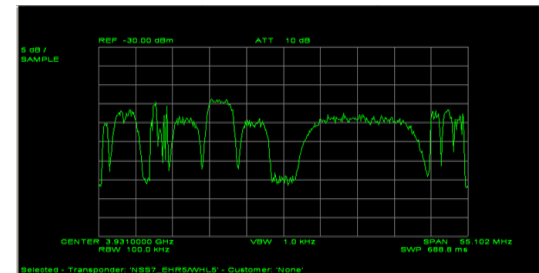
- ▲ Deregulation; loss of PTT training infrastructure and best practice
- ▲ Lower barriers to market entry
- ▲ Cheaper and more powerful equipment
- ▲ Smaller antennas. Growth of VSAT and complexity of networks
- ▲ Growth of Industry; Dynamic environment
- ▲ Uncontrolled WIMAX deployment affecting C-band
- ▲ Scarcity of capacity; 2 degree spacing environment



# Managing Interference

▲ Many Tools at our disposal:

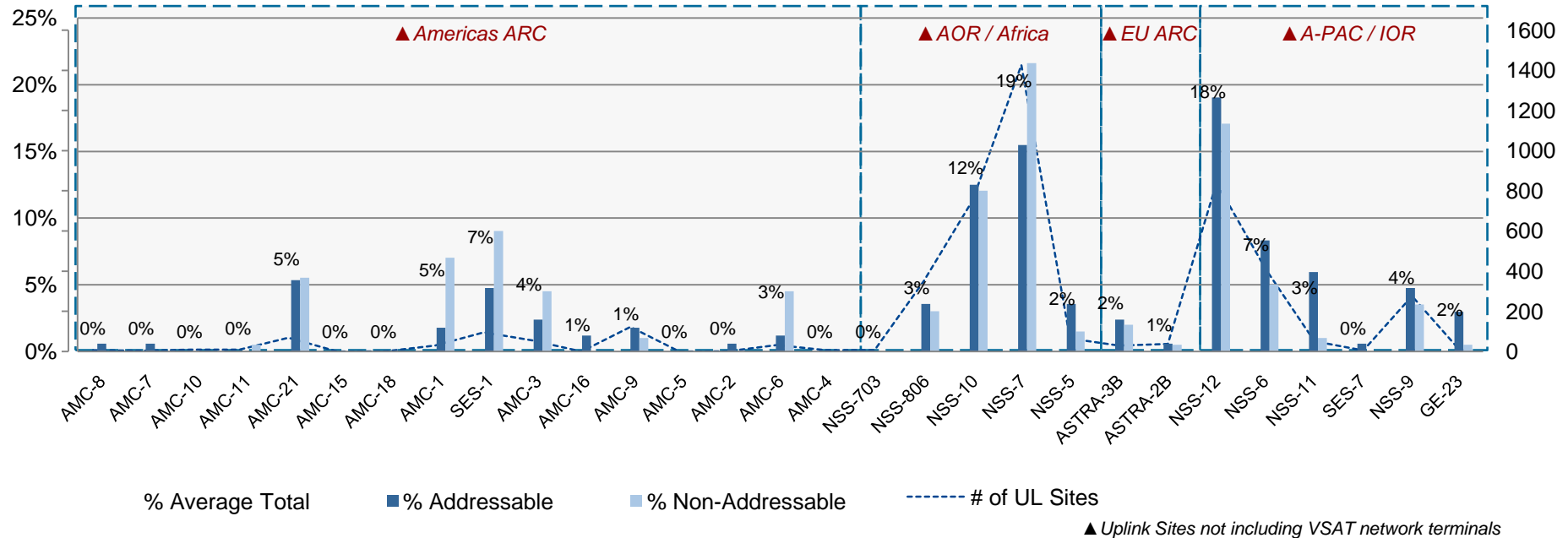
- Experienced Operational staff
- Global Spectrum Monitoring Systems
- Geolocation Systems



# SES RFI (radio frequency interference) Statistics – Problem



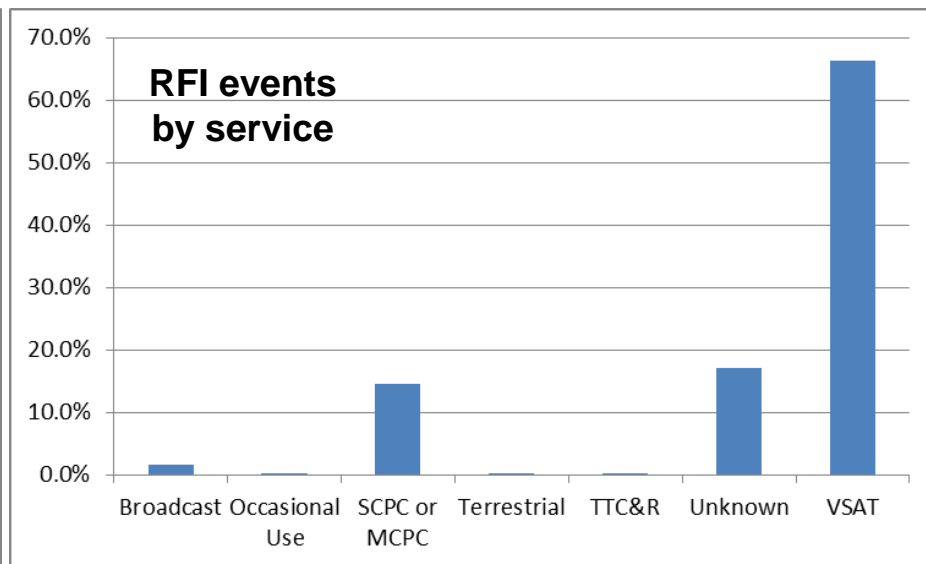
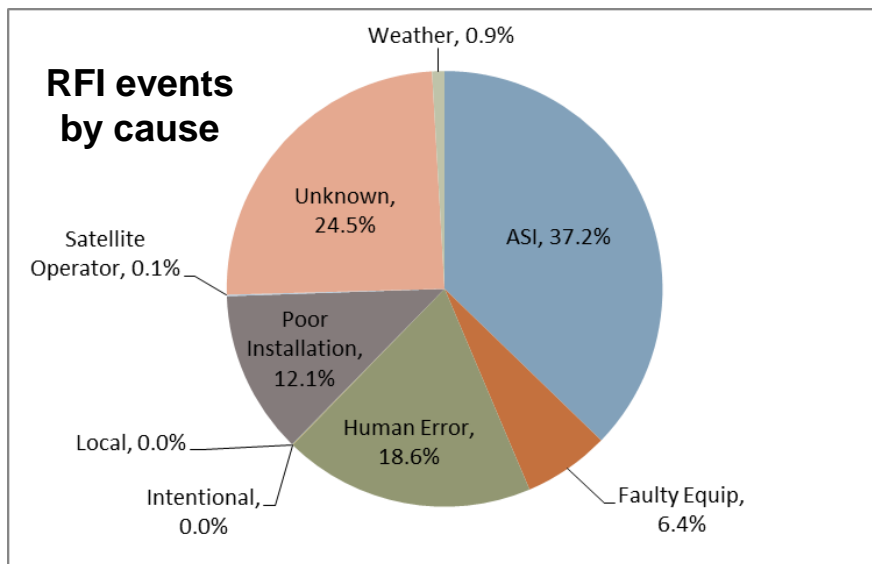
## All Interference Tickets



▲ Regional coverage, satellite complexity and application drivers key contributors.

▲ Strong correlation between the number of uplink terminals and number of interference events

# SES RFI Statistics – Offenders



- ▲ The amount of bandwidth affected by RFI at any time is very small as a percentage of total fleet capacity
- ▲ Interference can lead to a poor quality of service, impacting revenue, relationships and credibility

▲ ASI Adjacent satellite interference

the operator is key person who controls the events

▲ SAT ID Geolocation

Data source: SES Ticket System

# Carrier ID

---

## ▲ Another weapon in the arsenal

- Not a complete solution
- Addresses issues within some market segments

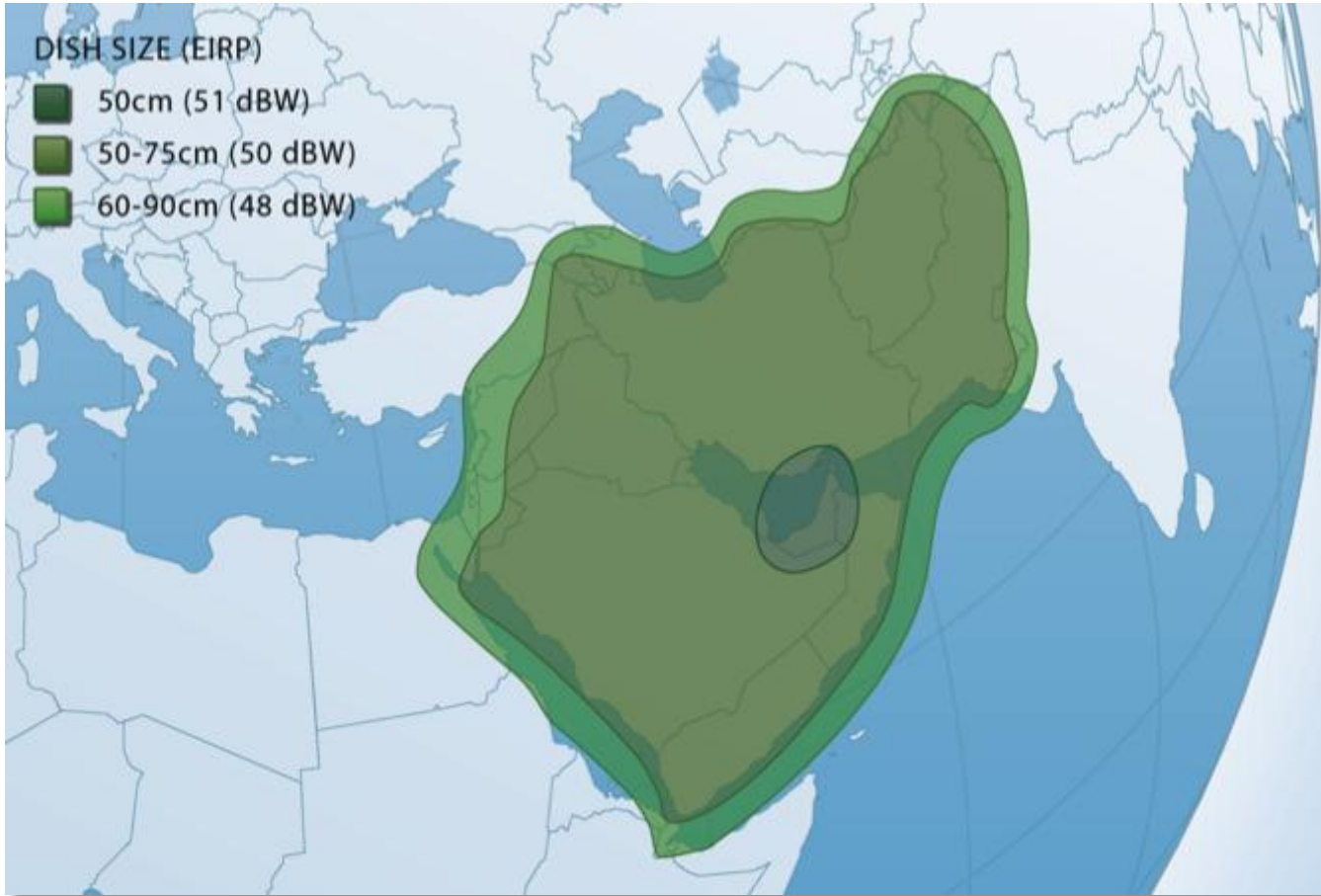


## ▲ The target

- All digital carriers uplinked to every satellite convey a unique identifier that can be used to help identify its source



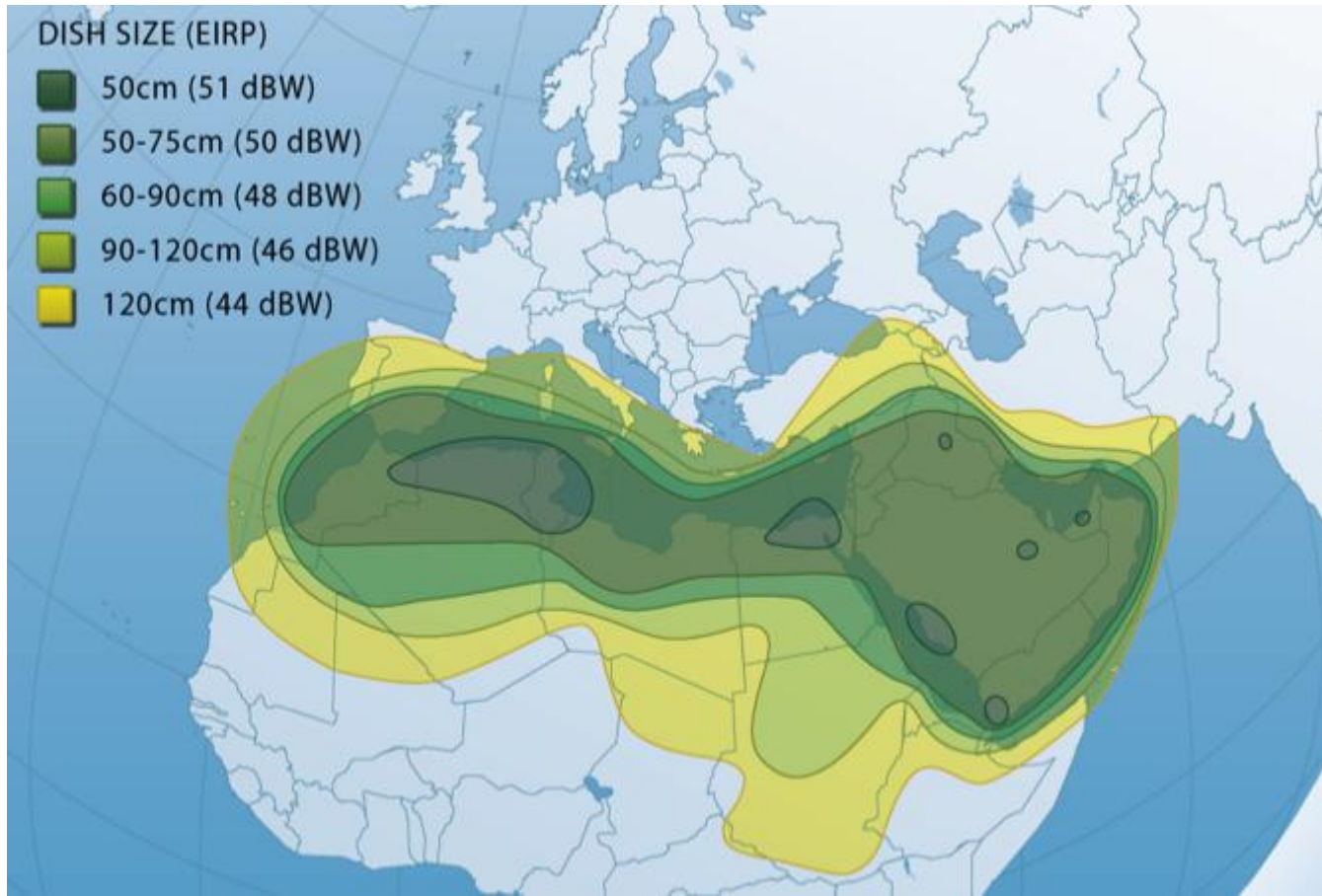
# YahLive Footprint – East (South West Asia)



## East Beam Features

- Up to 53dBW high-power downlink beam
- Excellent look angle
- Ideal coverage for the region

# YahLive Footprint – MENA (Middle East North Africa)



## MENA Beam Features

- Targeting all Arab speaking countries with one high-power beam
- Favorable look angle giving unobstructed service to small dishes