AEEC Spectrum Symposium: Ensuring Future Spectrum Compatibility

Perspective from International Airlines

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Fundamental Challenges on Airline Spectrum Use

• **Safety is paramount**
  • Protection from harmful interference

• **Highly regulated aviation environment**
  • Stringent safety targets needed to be proven.
  • Continuing performance monitoring and oversight

• **Require standardization and Global harmonization**
  • Aircraft and avionics operate globally
  • Global technical interoperability
  • Harmonized global/regional deployments and transition plan
    • Often requires continuing commitments from many stakeholders

• **Require supporting business case**
  • Operational benefits need to outweigh the cost to stimulate transitions.
  • Streamlined and harmonized deployments at regional and global levels.

• **Long life-cycle and Limited in number**
Recent Lesson Learned from Case on 5G vs Radio Altimeters

- Spectrum is a scarce resource with competing interest.
  - Safety argument is being challenged.

- Unresolved issues resulted in cancellation of flights interrupting traveling public and flow of cargo.

- Safe co-existence between aviation and 5G is possible, but requires
  - Early coordination and active engagements between State aviation and telecom authorities
    - Open dialogue and sharing of technical information and implementation plan
  - Leadership within governments to facilitate the interagency and inter-industry dialogue
  - Different technical culture: Issues on Safety vs Speed must be addressed early
  - Appropriate codified conditions/regulations by telecom authorities under agreement between aviation regulators and operators prior 5G auctions/deployments
Moving Forward

• Necessary on-going collaboration between regulators, aviation and other spectrum stakeholders
  • Locally and internationally

• Medium-term: Through State regulation, mitigations needed to be in place:
  • ensure aviation safety and uninterrupted flight operations and services
  • supported by State aviation authorities
  • codified by State telecommunication authorities
  • provide stable, known implementation conditions to all stakeholders
Moving Forward

• Continuing engagements needed by both ITU and ICAO
  • Consistency and synchronization between ITU Radio Regulation and ICAO SARPs
  • Aligning ITU WRC Decisions with ICAO Assembly Resolutions
  • Linkage between the relevant works under ITU-R Working Parties and ICAO technical panels (CNS and Spectrum)

• Long-term: Known, stable and plannable global spectrum environment, particularly near frequency band allocated to aviation.