AEEC Spectrum Symposium: Ensuring Future Spectrum Compatibility

Perspective from International Airlines

Noppadol Pringvanich
Head (Global), Air Traffic Management Engineering and Aviation Radio Spectrum
International Air Transport Association

IATA

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**

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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

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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

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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: <u>Known, stable and plannable global</u> spectrum environment, particularly near frequency band allocated to aviation.

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