

# **FUTURE SPECTRUM REQUIREMENTS**

AFC Spring 2014 Meeting  
Vancouver, BC

# Intent

- To review current spectrum usage by commercial aviation
- Examine future systems and requirements to provide an indication of spectrum usage
- Advise ASRI BoD on opportunities to expand aviation's spectrum
- Provide material for WRC-18 agenda items

# Structure

- Split requirement into three sections:
  - Current systems
  - Short-term future systems
  - Long-term future systems

# Current Systems

- Existing trend extrapolation combined with maturing of known technology.
  - Voice (VHF and HF)
  - ACARS/VDLM2
  - VDLM2
  - Radar
  - SATCOM
  - NavAids

# Short-Term Future

- Predicted usage from current planning and development work
  - VDLM2/Datacomm for NextGen
  - AeroMACS
  - WAIC
  - UAVs
  - Aircraft Internet (Ku band terrestrial network)

# Long-Term Future

- Long-range theory based on topics of interest and concept development.
  - Multi Static Primary Surveillance Radar
  - ???

# VDL

- ARINC predictions for VDL
  - 70/30 split for ACARS and VDLM2
  - 10 years for VDLM2 to become dominant
- ACARS: 5% growth for next 3 years
  - Estimated 20yr lifetime with capability upgrades
- VDLM2: 7% growth and accelerating
  - Will require 2 additional channels

## Indication of trends

- Growth of AM(R)S
  - WAIC
  - AeroMACS
- Growth of AMS(R)S
  - UAS command and control
- Growth of AMSS
  - Satellite broadband to aircraft
- Consolidation of ARNS
  - FAA radar program
  - Migration of airborne weather radar
  - New PSR technologies
  - Mode-N



## Action for AFC

- Investigate future spectrum requirements in respective areas
  - Combine with 2014 equipage survey
  - Request for support from avionics sections
- Combine with IATA and ICAO work

**ASRI**

Aviation  
Spectrum  
Resources, Inc.

# Questions?