

ASRI

Aviation
Spectrum
Resources, Inc.

FUTURE SPECTRUM REQUIREMENTS

AFC Study
2013-2033

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

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

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Questions?