



# Communications Daily

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## Satellite, Airline Interests Divided Over Regulation of Unmanned Aircraft Systems

GENEVA -- Satellite operators are concerned that regulatory action on unmanned aircraft systems at the next World Radiocommunication Conference could unnecessarily affect their business models, executives said. Airline and spectrum regulators may press for special protection of certain satellite frequencies to spur safety when unmanned aircraft operate in civil airspace, an executive said.

The conference will try to find globally harmonized spectrum for unmanned aircraft system command and control, said Mark Lewellen, chairman of the ITU-R sub-group on the systems. The aim isn't to identify bands but to "propose ... new allocations or modifications to existing allocations," a related resolution said. The work doesn't cover transmission of sensor data, video or other information not critical to controlling the aircraft, Lewellen said.

Future operations won't be limited to government and military use, said an executive following ITU-R studies for the conference. A wide range of commercial applications using large aircraft is possible in the U.S. starting in about 2019, the U.S. said in a submission to the ITU-R working party coordinating studies. About 50 small commercial systems are expected to hit U.S. skies next year, the U.S. said. The systems could be used for a variety of applications, including broadcast services, communication relay, news media support and, around 2024, cargo, the U.S. said referring to a Teal Group forecast. Systems sharing airspace with manned flights need reliable communication links and spectrum to detect and track nearby aircraft, terrain and obstacles and to navigate, the resolution said.

Possible Aeronautical Mobile Satellite (Route) Service allocations to commercial Ku-band satellite frequencies now used for command and control beyond the line of sight has raised concerns, Lewellen said. Although commercial FSS operators want the business, he said, they don't want to harm their existing business plans.

More unmanned vehicle communications traffic will be good for business, said a fixed satellite service provider executive who wasn't authorized to speak to the press. The question is whether they need their own band for telemetry, tele-command and control, he said. A supra-primary allocation with the "route" service, which is considered a safety of life application, essentially means a dedicated band, said a FSS provider who wasn't sure if empty bands were available.

Fixed satellite interests are now supporting unmanned systems "and without the AMS(R)S designation," said an industry source following the studies. "Such a designation would adversely impact the ability of operators to use satellite transponders in accordance with commercial requirements," the source said.

"Spectrum for UAS for safety and regularity of flight, and in particular when the UAS operates in civil airspace, needs ... an allocation to the aeronautical mobile (R) service, aeronautical mobile satellite (R) service, or the aeronautical radionavigation service," the International Civil Aviation Organization said in a June policy statement. The provision will afford sufficient protection from harmful interference, it said.

"It's very likely, at least in my opinion, that the conference will have to make allocations to the route services, the protected aeronautical spectrum," Lewellen said. That type of regulatory tag asks administrations to give special protection related to safety of life, he said. Spectrum and airspace regulators likely won't settle for anything less, Lewellen said.

The sub-group is also starting to look at satellite allocations in Ka-band, Lewellen said. Not a lot of hardware is on orbit right now, he said. Changes to those allocations could be a lot easier than trying to lay a route safety service on top of an existing business, he said.

" The work on UAS also involves another agenda item to ensure long-term availability of and access to spectrum for AMS(R)S. A preliminary 2015 agenda item also will "consider spectrum requirements and possible additional spectrum allocations in the radio-determination service to support the operation of unmanned aerial systems in non-segregated airspace." -- **Scott Billquist**

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