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BLAZING BROADBAND EXTREME INFLIGHT CONNECTIVITY

YOU COULD USE OUR 100 MEGABITS PER SECOND FOR -

Real-time black box monitoring • Online operational performance info
Enhanced engine trend monitoring • Electronic flight bag uploads live weather updates
Affordable high-volume cockpit data transfer • Online passenger service amenities
Inflight Internet connection for passengers • High-volume IFE content uploads in flight

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IT IS POSSIBLE TO UPLOAD A TWO-HOUR MOVIE FROM THE GROUND TO A PLANE IN APPROXIMATELY TWO-AND-A-HALF MINUTES



FEASIBLE AND AFFORDABLE

Grant Sharp, President, Wi-SKY Inflight



The challenges of black box recovery at crash sites may soon be a thing of the past thanks to new radio technology, which will transfer huge data volumes quickly and easily.

Just seven years ago it was estimated that the cost of moving to a flight-data transmission system would be \$300 million annually for a US carrier flying a global network—and that was assuming a 50% reduction in satellite transmission costs.

However, that figure no longer holds true. Technology now exists that will not only help drastically reduce the cost of a flight-data transmission system but also bring significant new flexibility to inflight entertainment models.

As with so many innovations, it is the small start-up companies that are thinking outside the box. The next generation wireless technology (4G) has been developing for several years now. It is known for surpassing 3G wireless in both throughput and range and, sure enough, it is a low-budget boot-strapping start-up that has found a way to make it work with an airborne jet.

Throughput at the demonstrated distance of 55 miles is currently achievable at 45 Megabits per second (Mbps) and will soon reach 100 Megabits per second. That's a whole lot of data bytes going a very long way to a very fast moving plane. Naturally the achievement has a lot of people in the radio community scratching their heads and asking, "how did they do that?"

Moreover, what makes this so unusual is that it was done with a license-exempt spectrum. Although license-exempt frequency is readily available, it's also very cluttered and restricted to low-power radios. So whatever is achievable with a weak radio in cluttered spectrum can easily be bettered using a dedicated spectrum with no power limits on the transmitter.

At 45Mbps, it is possible to upload a two-hour movie from the ground to a plane in approximately two-and-a-half minutes. One gigabyte of operational data could be transferred from the plane to the ground in just under three minutes.

At this data rate an aircraft could easily transmit:

- » real-time black box data
- » online operational data, such as crew management, flight plan revisions, e-tech log
- » live aircraft performance information, such as enhanced data reporting
- » enhanced electronic flight bag data uploads, such as live weather updates
- » and many passenger Internet applications

And, of course, 100Mbps—over twice as fast means over twice the data rate—promises even more. Even better, this new technology will serve multiple aircraft from a single terrestrial base station simultaneously without signal degradation. The handoff tower-to-tower nationwide country-to-country is seamless—coverage never drops.

The technology has attracted plenty of attention and deals are in the pipeline with aircraft technology firms to develop new software applications which take advantage of the real-time link between onboard data and the ground.

Wi-SKY Inflight, purveyor of this patent pending radio technology, also offers some excellent pricing deals. There is a menu of services to fit every appetite and budget, and demo flights are always free. ■

For more, see www.wi-skyinflight.com or WAEA booth #1805