NETWORK ROLLOUT
PROGRAM UPDATE

Years in the making, SmartSky 4G LTE goes live nationwide in mid-2018 for business aviation operators. Creating the technology that powers a more productive and entertaining flight experience has taken intense research and development, along with a portfolio of 30 granted patents.

PARTNERSHIPS BUILD THE FOUNDATION

SmartSky has also gathered a team of partners – the best of the best – to form the first 4G LTE-based network. Companies such as Satcom Direct (SD) and Equinix are bringing years of expertise in the telecommunications field to ensure customers receive the benefits, now and in the future. Distribution partners such as Duncan Aviation, Pentastar and Clay Lacy are ready to schedule installations on aircraft.

Each group is progressing to support their role in the deployment of the only air-to-ground (ATG) network capable of delivering multi-Gigabyte per hour data rates inflight, bi-directionally and with low latency, effectively redefining what it means to be able to stream, chat and text in real-time onboard a business jet.

Why is SmartSky's network better? How did it get to this point and where does the program stand now? Here are some examples of the continuing achievements from SmartSky and its partners, and some milestones the network has passed:

THREE DATACENTERS ARE GREATER THAN ONE

The brains of the network are housed in three massive datacenters, strategically located across the country for maximum efficiency and redundancy. Instead of spending unnecessary resources to build its own hardware, SmartSky works with Datapipe and Equinix to host its virtualized evolved packet cores (or software) at their facilities in California, Colorado and Virginia.

One big advantage: having three datacenters rather than one. The nearest datacenter to a customer's aircraft is used to send and receive data. Those close gateways to the internet mean low latency, which eliminates the lag time in communication and makes webpages load faster. Having three centers, as opposed to the current ATG provider's one, also makes the system more fail-safe. For example, it can provide backup, dynamically re-routing traffic in case a massive storm takes a center offline.

TOWERS BUILT, AGREEMENTS MADE

SmartSky needs a nationwide array of towers to house its beamforming radios, but not the red tape that comes with land acquisition, licensing, and tower construction. So SmartSky didn't build the towers, instead it's working with the three leading U.S. tower companies that already have: Crown Castle, SBA and American Tower.

Together, they own a vast majority of the existing towers across the country. SmartSky's field crews are experts in the final steps necessary for installation at each site, such as delivering high-capacity fiber optic backhaul links.

INTELLIGENT ANTENNA PERFORMANCE AND PLACEMENT MODELING

The design and placement of aircraft antennas present a challenge SmartSky has taken seriously. Antennas need to do more than fit on a plane; they need to complement the aircraft's existing antennas and other systems.

The Wireless Research Center of North Carolina uses its sophisticated test chamber to measure the detailed performance characteristics of SmartSky's antennas, then leverages 3-D CAD models of various aircraft types and super-computer analytics to calculate the antenna placement which maximizes performance.

SMARTCART SAVES FUEL AND TIME

SmartSky has created the technology to make installations easier – and much cheaper. With its exclusive SmartCart system, all connectivity verification and refinement happen while the aircraft is on the ground. That means fewer test flights that burn costly jet fuel.

As an installation tool for partners such as Standard Aero, SmartCart allows reduced aircraft downtime, making customers and technicians happier.

NETWORK SUPPORT BY THE EXPERTS

The point of support for connectivity and service will be a familiar name to SmartSky's customers – Satcom Direct (SD). This world-class airborne communications expert is SmartSky's exclusive business aviation service provider. SD offers many value-added services and products to customers, including some of the market's airborne router, as well as cybersecurity solutions to ensure each private aircraft can have a truly private network.

NETWORK PROGRESS CONTINUES

- The first Supplemental Type Certification (STC) is under development and on track to be submitted to the FAA shortly. FAA Parts Manufacturer Approval (PMA) and STCs for more than 40 popular business aircraft models will follow FAA approval of the first STC, based on commitments from leading MROs and OEMs.
- Field validation flights, including demonstrating seamless and instantaneous team handoffs, along with optimization of the ATG radios, antennas and network infrastructure, are ongoing.
- Nearly $250 million in equity financing from leading investment partners has been secured.
- Multiple commercial sites in diverse geographies have been deployed, covering airspace near Melbourne, FL; New York City, NY; Wichita, KS; Lincoln, NE; and Las Vegas, NV.
- Nearly all of the selected base station sites nationwide have already passed initial onsite viability testing. They are now in permitting and backhaul-connection phases. Final ground infrastructure is being installed and commissioned upon completion of local permitting.
- Production activities for radios, antennas and ancillary equipment for both ground stations and aircraft are well underway.

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