TESTING TIMES FOR SKYFIVE

The New Zealand Police and Auckland Rescue Helicopter Trust have been putting SkyFive's direct air-to-ground (A2G) in-flight communication solution through its paces as part of a technical evaluation and proof-of-concept trial in New Zealand.

Germany-based SkyFive teamed up with local engineering company Broadtech Group and Flightcell for the trial, with plans for a subsequent rollout. Flight tests, which started in April, have involved helicopter operators, as well as the Royal New Zealand Air Force and private carriers.

The SkyFive solution comprises base stations featuring upward-pointing antennas optimised for airspace coverage, connected to a centralised core network that manages data traffic. One base station can typically cover the airspace within a 100 km radius and can support up to 100 Mbit/sec per aircraft using 4G/5G products and purpose-built A2G components and software algorithms. It makes use of Flightcell communication systems already installed on the aircraft.

While SkyFive's progress has been impacted by the pandemic, with New Zealand in lockdown in late August, the flight trials have provided valuable input for system configuration and design, according to Zoltan Losteiner, its director of APAC business development. The solution for helicopters is different to that for fixed-wing aircraft, he says, with a greater focus on data uplink and a more compact solution required.

For the initial flight trials of the technology, the antennas were mounted inside or at the back of the helicopters, but this was not ideal for performance. "The commercial installation will have the antenna mounted to the belly of the aircraft so there is good line of sight," Losteiner explains.

SkyFive has been using the flight trials on the NZ Police Bell 429 and Auckland Rescue's Leonardo AW169 to fine-tune the solution. "We have done several flight tests with a varying configuration of speed, altitude and bandwidth utilisation," he reports.

Losteiner says there is "a very strong appetite" from helicopter operators to "finally step into the 21st century". The flight test results have been impressive, he indicates. On the Bell 429, for example, HD video was successfully streamed from the helicopter's camera, supporting speeds of up to 50 Mbit/sec. Subsequent trials will focus on increasing throughput and coverage.

SkyFive is also planning a trial in Australia, where it has many interested operators, followed by one in Papua New Guinea.

Auckland Rescue Helicopter Trust has been testing SkyFive's air-to-ground communication solution. (Photo: Auckland Rescue Helicopter Trust)

Blue Sky Network's new SkyLink connectivity solution will utilise the Iridium Certus satcom service. (Image: Blue Sky Network)

Blue Sky Network is launching its Iridium Certus solution, SkyLink, by the end of the third quarter of this year. "This solution combines Iridium Certus satellite IP data connectivity with broadband LTE connectivity to provide enhanced aircraft operations and crew capabilities," explains Kelly Musgrove, Blue Sky's marketing design manager.

"SkyLink enables satellite voice, VoIP, PTT, application hosting, edge computing, higher throughput telematics and data analytics all in one compact terminal. With SkyLink, you can achieve total connectivity for all assets, in every location across the globe," she adds.

Complete package

Blue Sky has been working with Iridium for more than 13 years, offering satellite-based tracking, two-way communications, short codes, forms and sensor data services, with 60% of its business being helicopters. Musgrove says it is a one-stop-shop, turnkey solutions provider, which is particularly appealing to operators. "Not only do we manufacture the hardware, but we also provide the Iridium service, SkyRouter command and control software and 24/7 technical support."

The integrated cellular and satcom systems of New Zealand-based Flightcell have proved successful with helicopter operators worldwide, particularly first responders. Some 75% of Flightcell's voice, data and tracking solutions are installed ▶