VITEC

German Police Helicopter Squadron

VITEC Gets Airborne with German Police Force

Mission-critical applications require informed decision-making and a fast response to operational challenges. One increasingly essential tool in achieving this is live, high-quality video of the on-going situation that can be simultaneously shared and viewed by all levels of a command structure. The encoding equipment required to deliver on this needs to be operationally proven, ruggedly constructed and require low amounts of power, while still being able to attain the high-quality, low latency output needed to achieve a successful mission outcome. In addition to these demands, public safety services such as the German Police Force also require airworthy solutions to allow its helicopters to gather video for enhanced awareness from the skies.

team 2 technologies

KMT
TRACER

The challenge

A German Police Helicopter Squadron decided to upgrade its video transmission system on its fleet of state-of-the-art Airbus EC135 helicopters. The helicopters' existing onboard video cameras had been connected to a rugged encoder for generating network video transport streams. These streams were then transported and encrypted by a team2applications MLX100 cell/satcom router over attached cell antennas, and transmitted via a mobile network provider to a field-proven video management system. At times, the existing DVB-T based video downlinks suffered from availability in rural landscapes and also involved the time-demanding installation of a ground-based receiving vehicle.

This situation had become increasingly unsatisfactory as the captured videos need to be used for situational awareness, patrolling information, and intelligence-gathering missions. The new system would need to be an airworthy-grade, certifiable solution. Furthermore, all products needed to be available off-the-shelf, but have the ability to encode video in a format that could be distributed on the IP-based KMT Tracer video management system.

The solution

team2 applications, a developer of electronic system solutions for aviation and security, KMT GmbH, a security service application specialist, and VITEC combined forces to design a new system to meet all the customer requirements. The bespoke solution features team2 MLX100/VRX211/NGR421 Routers, VITEC single channel HEVC/H.264 MGW Pico+ TOUGH Encoders or MGW Diamond TOUGH HEVC/H.264 quad-channel Encoders, and airworthy antennas designed by team2. All units are housed in ruggedised enclosures, and all products are airworthy-grade, designed specifically to support mission-critical intelligence, surveillance, and reconnaissance (ISR) from both manned and unmanned airborne platforms operating in extreme conditions.

Through the Airbus EC135 Retrofit program, all equipment is contained in a ruggedised roll-on-/roll-off rack, which can be installed in the helicopters within 5 minutes, with seat-rail quick-locks attached to the airframe, and easily connected to the helicopter's standard power outlet and the video-cameras to 3G-SDI video outlets.

Christoph Eder, General Manager, team2applications, commented: "Winning this contract demonstrates team2's position as a leading technology provider of mobile cell-based IP video streaming technologies and our successful strategy in designing and delivering high-quality, reliable and IT-security enabled networking and tactical video solutions that meet the most stringent specifications of governmental surveillance markets. The project required a rugged, reliable, and versatile end-to-end solution, for which the VITEC MGW Pico+ TOUGH and Diamond TOUGH Encoders are the perfect fit. They provide every capability for processing and distributing ISR or situational awareness video generated by surveillance helicopters."

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> Christoph Eder, General Manager, team2applications

The result

The solution meets the customer's requirement for two independent video transmission systems on the equipped helicopters, and provides a WLAN/Wi-Fi network access point that extends the German Police Force's IP-network to the helicopter cabin.

The VITEC Encoders provide up to four 3G/HD/SD-SDI or composite inputs for video capture and live streaming. In addition to providing H.264 encoding, the MGW Pico+ and MGW Diamond TOUGH Encoders offer options for advanced HEVC compression for streaming HD/SD video (up to 1080p60), with bandwidth savings up to 50 percent compared to current H.264 standards.

The team2/KMT/VITEC solution is the industry's first ruggedised roll-on/roll-off system to bring bandwidth-efficient HEVC compression technology into field video streaming applications.

Industry Leading Video Innovation

VITEC is a market-leading provider of IPTV, Video Streaming and Digital Signage Solutions that help organisations harness the power of video to engage, empower and evolve. VITEC is a pioneer in the design and manufacture of hardware and software for video encoding, decoding, transcoding, archiving and streaming over IP. Our end-to-end video streaming solutions enable customers to capture TV and video content directly from any source and manage its delivery, as channels or within digital signage screens, to any connected device via an existing network.

From corporate, broadcast and venues, to accommodation, government and military, VITEC has global expertise in delivering complex, proAV solutions.

VITEC's award-winning IPTV platform is a powerful suite of services for content management, digital signage, video archiving, and video wall processing. Our encode/decode solutions are 100% hardware based, including PCIe cards with SDK for custom design or OEM for high-performance video systems.

Headquartered in Paris, France, we have a global reach through our offices across the Americas, Europe, Middle East, Africa and Asia Pacific.

Making a difference with green initiatives, VITEC is the first Zero Carbon MPEG company and encourages customers to 'buy GreenPEG' for continued environmental efforts to reduce greenhouse gases.