



Live Streaming for Police
and Law Enforcement

Getting a near-instant view on a situation, as it's unfolding, is critical for real-time decision-making.

For the police, live video streaming helps support surveillance operations, evidence gathering and operational awareness.

But getting a reliable solution under challenging environments isn't easy.

The challenge ...

Live streaming footage from drones provides police commanders with an 'eye in the sky', to help them better instruct and guide resources on the ground.

For instance, during COVID-19 restrictions, drones flew over open spaces and public parks to ensure the public follow social distancing and quarantine guidelines. They're also deployed at major public events, such as football matches and live concerts.



The police also require live-stream footage from body or helmet cameras, riot vans and even boats and helicopters.

Achieving reliable video streaming, from challenging environments, often with inadequate cellular coverage, is critical.

Encryption, low latency and mobility were also non-negotiable, along with the ability to integrate the new streaming solution into their existing video management system (VMS).

As a highly experienced system integrator working with many public organisations, **TranzCom** has already provided the police with traditional voice communication solutions for many years.

So, developing a secure live video solution was the natural next step.

To achieve this, **TranzCom** partnered with Soliton Systems. As a Japanese manufacturer, Soliton Systems creates innovative live streaming solutions for security, military, broadcasters, civil rescue teams and law enforcement. The Zao family of portable encoders enables secure live streaming from drones or from a mobile camera, such as an action cam or body-worn cam.

It utilises multiple bonded cellular networks to send encrypted video back to a command and control centre.

For **TranzCom** it became immediately apparent that the Zao family of portable encoders was an ideal fit.



Soliton Zao Streaming

Soliton's range of lightweight, ruggedised encoders use the latest H.265 HEVC compression technology in conjunction with their RASCOW protocol to optimise video based on available bandwidth.

The world's smallest H.265 mobile encoder (weighing in at just 400 grams) can also live stream reliably from any type of vehicle over multiple cellular networks. This feature solves the issue of networks providing low bandwidth and ensures reliable connections in the most demanding of environments.

Even when bandwidth is at a premium, RASCOW's optimised algorithm enables video and audio transmission to continue with the strongest encryption available (AES256).

Ultra-low latency is another considerable benefit offered by Soliton and the Zao-S.

An end-to-end bandwidth of 240ms over 4G connections is possible, and the new Zao-SH is capable of 65ms latency over 4G from the camera to screen, unheard of anywhere else.

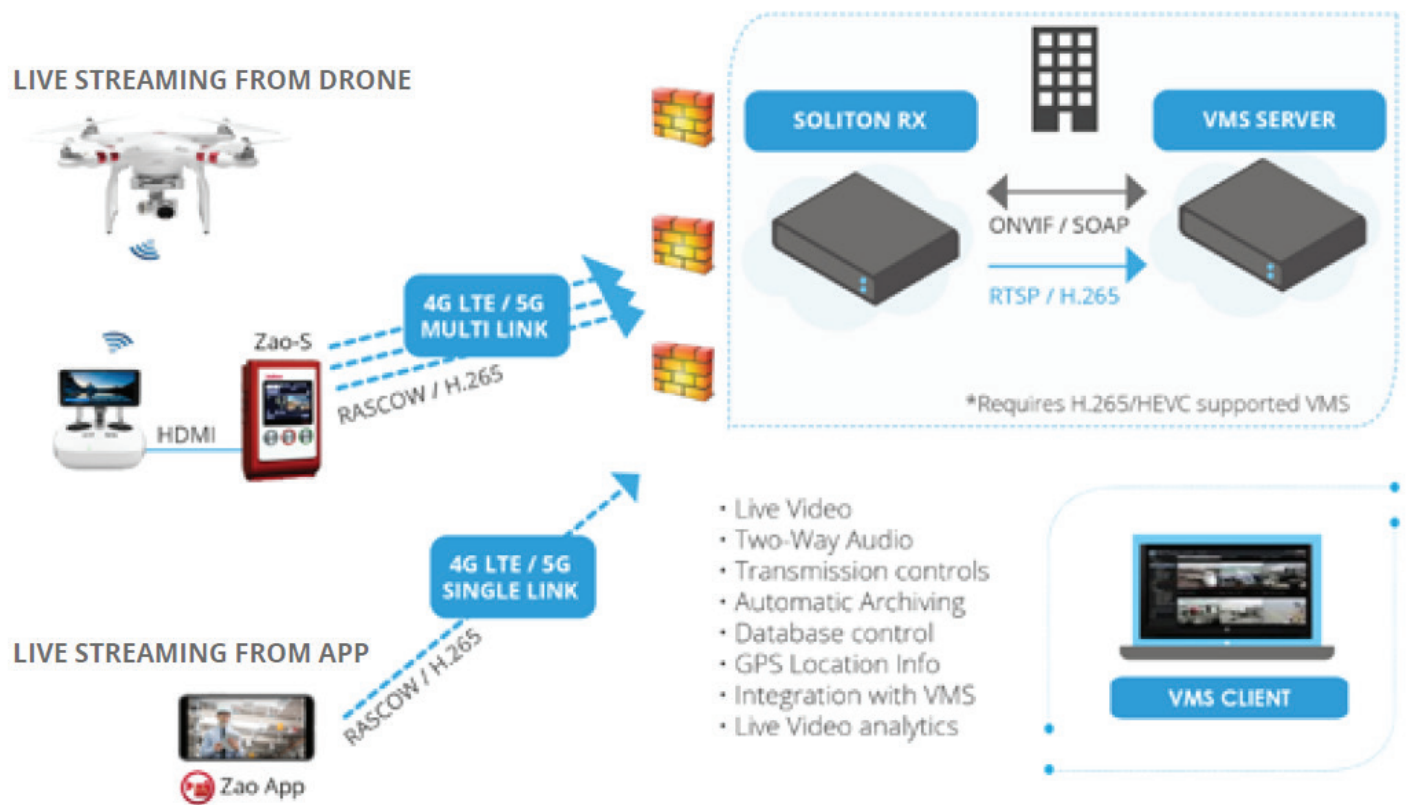
The command room

Many law enforcement agencies use a VMS system to monitor and view all their surveillance cameras within their operational control room. The Zao is fully compatible with Genetec, a significant supplier of VMS systems. Soliton provides a specialised decoding server, which can decrypt video streamed from multiple cellular operators.

At the receiving end, Soliton provides a specialised decoding server, known as VMS PLUS which debonds all the IP streams from the different cellular operators and decrypts the video.

This feature then provides an ONVIF compliant stream to the VMS system. Amazingly from the camera to the output viewing, live streams from the field takes less than 240ms when using Zao-S and VMS PLUS.

Using drone with SOLITON VMS PLUS



A successful partnership

We've been providing the police with voice communication solutions for many years. "Delivering secure live video over cellular networks was the next step for us. In Soliton, we've found a reliable and attentive partner whose bleeding-edge technology has enabled us to make that leap".

Go Ito, Managing Director at Soliton Systems Europe, adds that: "With their video and live streaming expertise, **TranzCom** is an ideal partner for Soliton. The police forces have unique challenges and our partnership has enabled us to deliver solutions that go beyond their expectations".

With the next generation of encoders on the horizon, Soliton will be developing video streaming solutions with even lower latency.

Combined with the rollout of 5G, this will enable the team to deliver a world-beating live streaming experience which is perfectly suited to mobile surveillance and law enforcement. The goal is to reach almost zero latency.