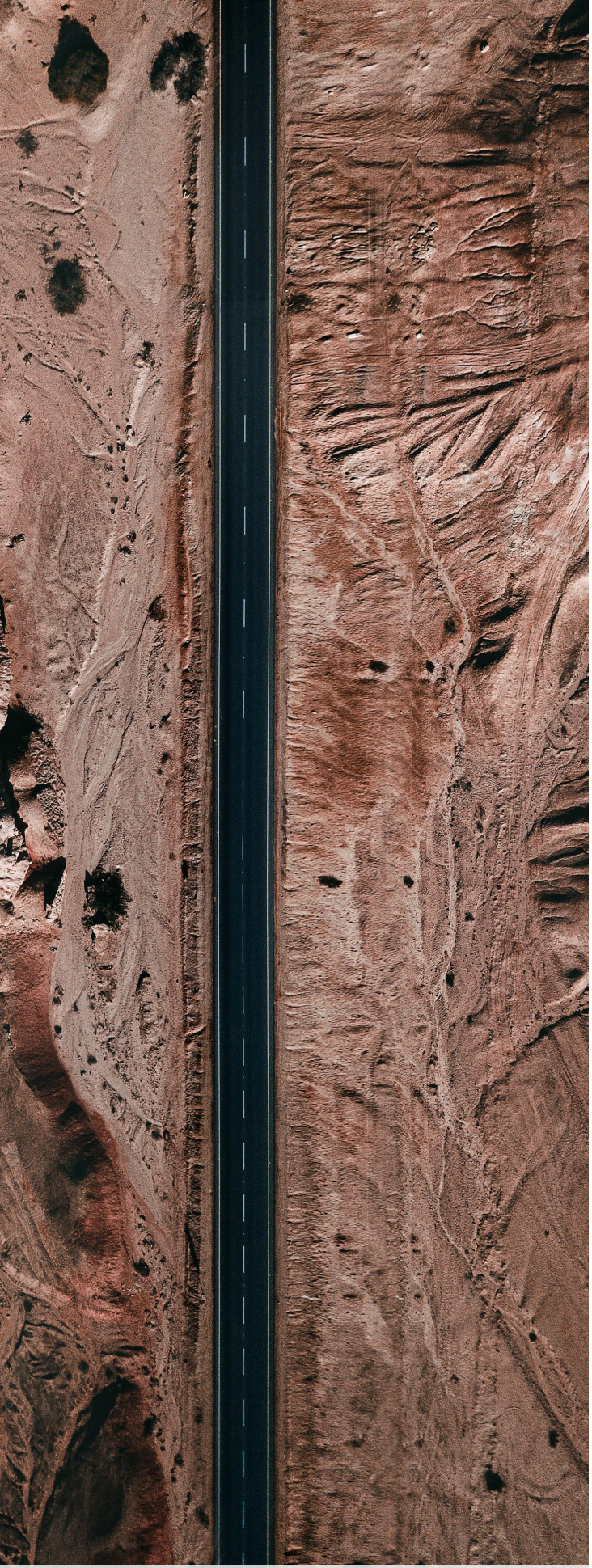

Airborne COFDM

ISR

Real-time tactical information to deployed assets using a COFDM link

Specialised Technologies and Services (Pty) Ltd.

www.specialised-tech.com

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In tactical operations, accurate and real-time intelligence can be the difference between success and failure

Our technology brings intelligence to deployed assets in real-time

Operational Challenges

In military ISR applications, the challenge is often to disseminate information (video and imagery) quickly and effectively from airborne ISR platforms to troop assets on the ground, deployed vehicles and other airborne assets.

Each of these assets are deployed in completely different manners, often in terrain where receiving radio signal from ISR platforms is poor to nearly impossible. Failure to receive timely ISR information can lead to delays, loss of life and mission failure.

“Failure to receive timely ISR information can lead to delays, loss of life and mission failure.”

Airborne ISR

using COFDM

Why COFDM?

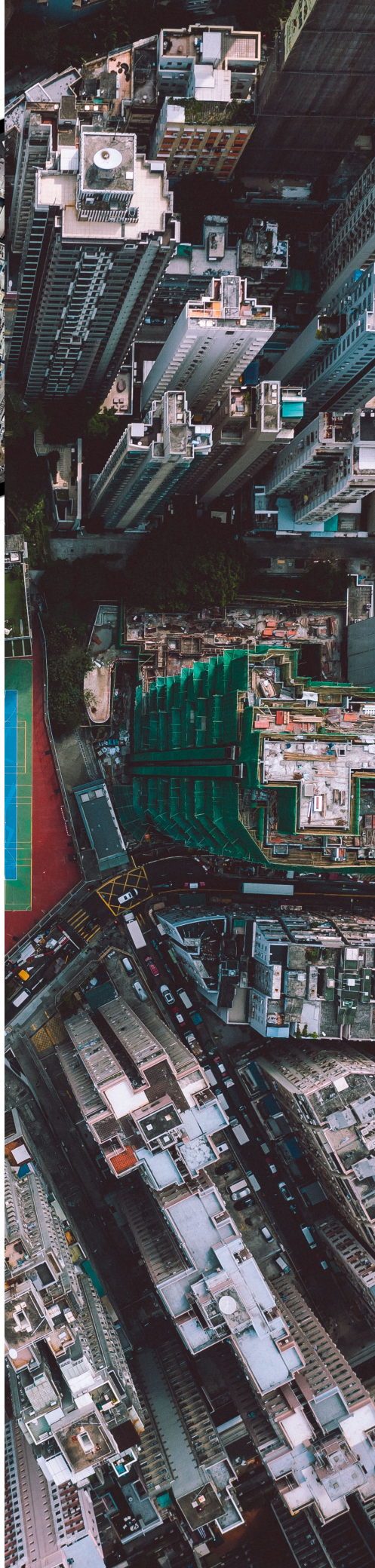
COFD, or Coded Orthogonal Frequency-Division Multiplexing, is a modulation scheme that divides a single digital signal across 1,000 or more signal carriers simultaneously.

When signals are being transmitted, they are often met with environmental obstructions such as canyons, buildings or even people, these obstructions scatter the signals causing them to take two or more paths to reach the receiver. This results in signal interference, the late arrival of scattered portions of the signal.

COFDM, because it uses multiple carriers to transmit the same signal, is resistant to multipath effects. Instead of scattering when met with an obstacle, it flows around the obstacle, making it a robust and exceptionally reliable modulation scheme. Proven to be very resilient in airborne ISR applications.

COFDM, being a robust and reliable means of modulation enables deployed forces (foot soldiers, vehicles, vessels and air assets) to receive the modulated signal from the ISR platform, ensuring error free delivery of the transmitted information for timely, informed decision making.

COFDM is a robust and exceptionally reliable modulation scheme



Advantages COFDM for ISR

Robust and Reliable

Instead of signals scattering around obstacles, signals flow around obstructions making message delivery robust and reliable

Self Forming, Self Healing Mesh Network

The COFDM system acts as a full-mesh network that is self forming and self healing, if one node in the system does not see it's next node it will automatically receive signal from another adjacent node in real-time

Cost-Effective

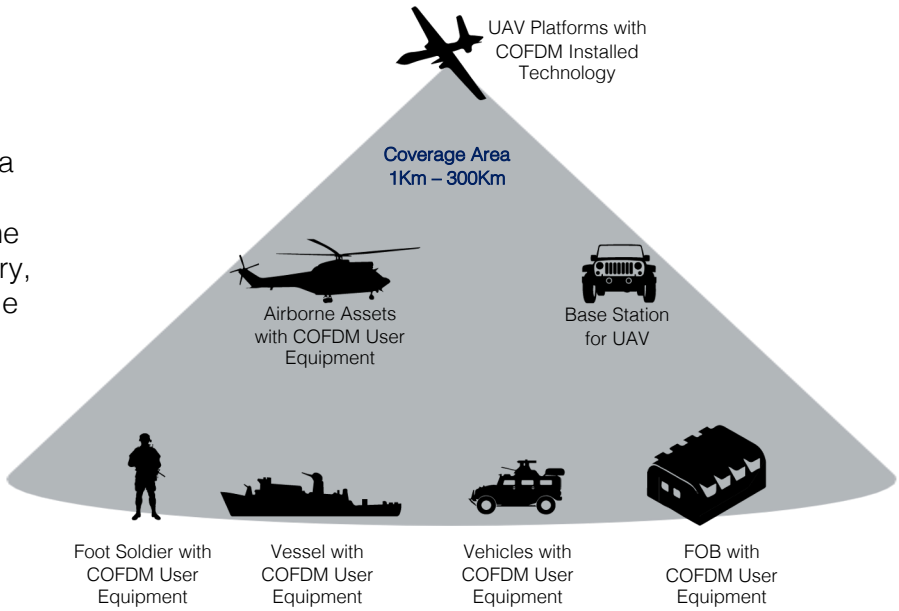
Once the system is deployed, there are no additional associated operational costs for bandwidth or airtime

Small, Lightweight Form Factor

COFDM end-user devices are small enough to easily fit into the battledress of a soldier, into a backpack or be carried by hand

COFDM transmitters for UAV platforms are available in **various SWaP options** to suit coverage needs and UAV payload capabilities.

How it works

Assets within the coverage area equipped with COFDM user equipment can receive real-time tactical intelligence, live imagery, video and sensor feeds from the transmitting UAV platforms.

Connected assets also benefit from bi-directional voice and tactical push-to-talk.