

**DTC**

# Tactical IP Mesh Radio

Enhancing situational awareness



Domo – Video, IP and Sensors

# Tactical IP Mesh Radio

## Enhancing situational awareness

### The benefits of DTC IP Mesh

DTC's proprietary IP Mesh provides operators and commanders with significant capability through a system that:

- Facilitates automatic and rapid simultaneous video and voice communications over a fluid, self-forming, self-healing dynamic network.
- Significantly enhances situational awareness.
- Gives higher command the ability to take swift and decisive action.
- Provides G2/S2 intelligence analysts with the tools they need to quickly evaluate incoming information.
- Provides timely and accurate intelligence as it relates to the command's Intelligence Synchronisation Matrix and Decision Support Tool.
- Supports the commander's decisions during Course Of Action execution, helping him to quickly confirm or deny the assumptions used during Course Of Action development.
- Can be used to enhance operational training or after-action review and 'lessons identified, lessons learnt'.
- Has a proven pedigree and capability to provide government customers with a wireless video capability within a city infrastructure.
- Features a bespoke system architecture that has been designed to suit each customers' needs.
- Operates over the customer's own private AES encrypted IP Mesh network which is not reliant on any other commercial or shared infrastructure – eliminating on-going air time costs.
- Is frequency agile, with DTC's IP Mesh supplied to operate in the customer's available frequency allocation, making it less susceptible to interference.
- Can be implemented in a low-risk phased approach to provide step enhancements on the systems' core capability over time.

### Sniper System



- |                          |                            |
|--------------------------|----------------------------|
| 1 Schmidt & Bender Scope | 4 Video and Data Out Cable |
| 2 Third Eye Optics       | 5 MRTX                     |
| 3 Go/No Go Pressel       | 6 BA5590 Battery           |

DTC has experience in fitting third eye optics and COFDM transmission to the customer's in-service Sniper Rifle Scopes, which enables live video transmission from the scope back to the Sniper Team Commander and Command post. The sniper can also indicate when he is ready to take a shot, which is overlaid onto the video transmission as a green LED indicator, giving the Commander added command and control information. The DTC Sniper System utilises the SOLO MRTX transmitter, which enables extremely low latency video transfer.

### Spotter System



- |                            |                  |
|----------------------------|------------------|
| 1 Leupold Spotter Sight    | 4 Antenna 4      |
| 2 Third Eye Optics         | 5 IP Mesh Node   |
| 3 Video and Data Out Cable | 6 BA5590 Battery |

The same Third Eye Optics can also be fitted to the Spotter's Scope, whilst again maintaining the correct eye-relief for the spotter to use the scope. This provides additional live video transmission from the spotter's scope back to the Commander. The Spotter System utilises the DTC Tactical IP Mesh in order to provide robust video and other bi-directional data transfer.





## The Tactical IP Mesh solution

A standalone secure tactical C4i system, the Tactical IP Mesh Solution is deployable in both rural and urban settings for Special Forces, Specialist Police Forces and public order situations.

Utilising small, modular, lightweight and ruggedised components, it features DTC's ad-hoc IP Mesh radio system at its core. This incorporates proprietary Coded Orthogonal Frequency Division Multiplexing (COFDM) digital communications for secure simultaneous video, voice and data transfer in deployed environments.

DTC's IP digital mesh radios combine seamlessly to produce a self-forming, self-healing, fluid network to ensure rapid simultaneous video and voice communications over extended Line of Sight (LOS) ranges (>20km) and, importantly, Non Line of Sight ranges (NLOS) (400m to 2.2km ground-to-ground, dependent upon frequency selection and height of antennae).

Making efficient use of the RF spectrum for data, the IP Mesh Solution features the option of AES 256 encryption for operational security of extremely low latency transmitted data.

DTC's Solution comprises military and ruggedised COTS components, enhancing the operation of covert surveillance and assault teams. It provides the Operational Team with a rapidly deployable and flexible capability enabled and supported by a combination of:

- Airborne (down and uplinks) if operationally deployed
- Fixed Site Infrastructure
- Mobile Overt or Covert Vehicles
- Body Worn (Covert and/or Overt)

## In the field

The Mobile Command Vehicle and Assault Team IP Mesh provides the capability to automatically, rapidly exchange video, audio, voice and meta data between the tactically deployed Surveillance or Assault Team locations and a remote HQ, Ops Room, intelligence cell or mobile Command Post (CP), using highly secure IP data links. The Tactical IP Mesh is flexible, modular, robust and simple to configure and operate, providing the deployed force with:

- Secure video and still image capture and manipulation for target allocation and meta data:
  - DTG
  - Lat-Long or MGRS
- The ability to receive target data from HQ, such as mapping, sketched assault positions, snap orders, airborne asset imagery feed and satellite imagery for full situational awareness
- Secure Voice over IP (VoIP – "TalkBack")
- The ability to "Push & Pull Data"

Key:  Typical Configuration

- 1 Assault Helmet
- 2 Low Lux Camera
- 3 IR Illuminator
- 4 Tactical Overt Headset with Hearing Protection and Boom Microphone
- 5 GPS
- 6 Push To Talk Pressel (PTT)
- 7 Assault Rig
- 8 Omni Directional Antennae
- 9 IP Mesh NetNode Unit
- 10 BA5590 Battery

## Video capability

- COFDM has the capability to deliver multiple, high definition real-time video. It uses multipath to maximise NLOS transfer.
- DTC video is frequency agile (ranging from 350MHz to 8GHz) and less susceptible to interference when compared to frequency limited systems.
- Secure, AES 256 encrypted and low latency.
- IP Mesh offers a fluid, self-forming, self-healing dynamic network where multiple video streams can be handled; and there is true networked integration of video, audio and GPS.

## Infrastructure

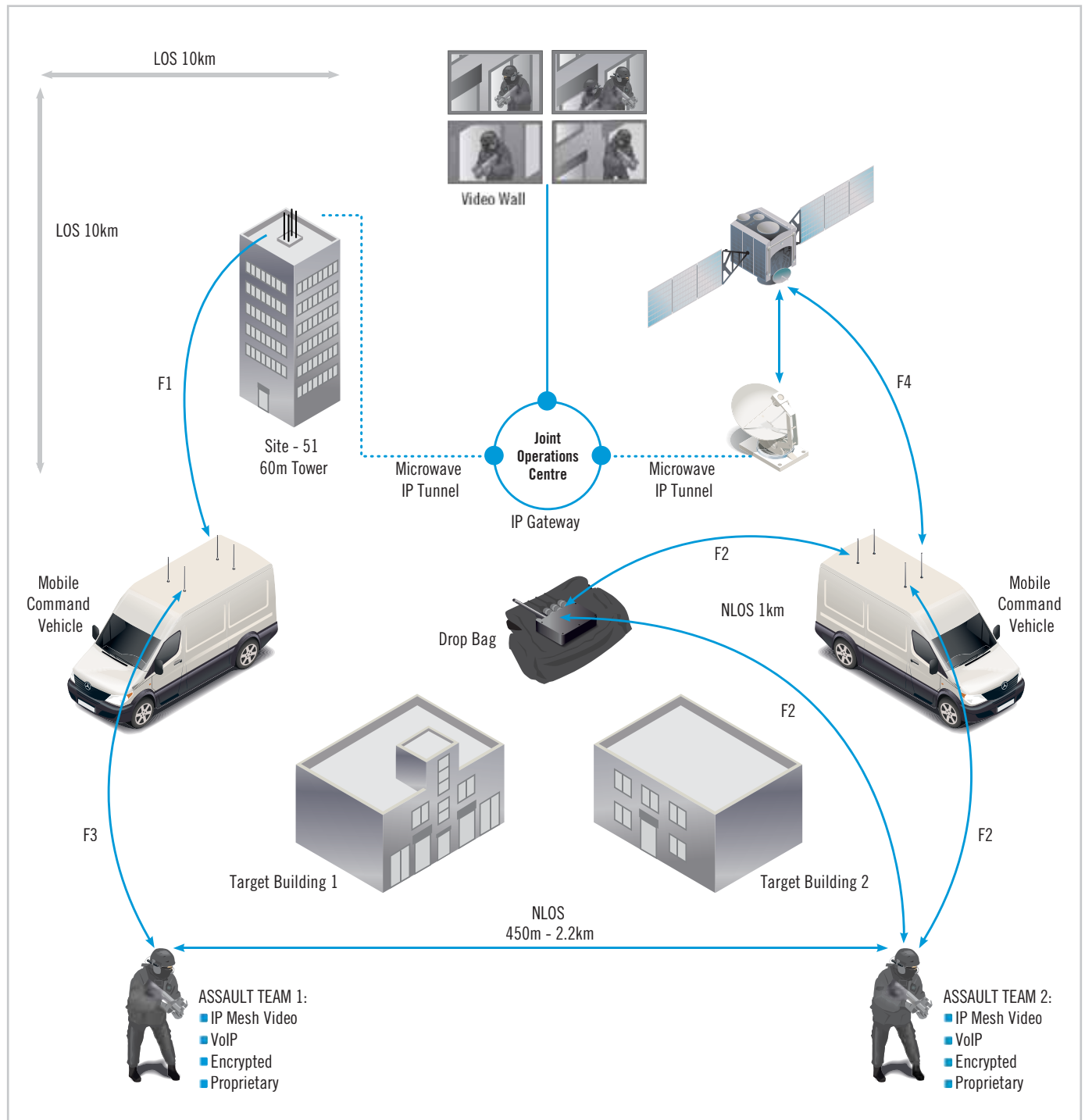
- Flexible and mobile.
- Running over a customer owned network, it is not reliant on shared infrastructure or commercial networks like GSM.
- The network ensures there is no single point of failure.
- Tailored for bespoke solutions, it is expandable with additional future phase expansions.
- No recurring network charges for data rates.

# Domo Tactical Communications (DTC) Limited

DTC has been at the forefront of innovation for over 50 years, developing leading edge surveillance and communication technologies for successful operations in demanding environments, from Safe Cities projects in ME&A to the digital battlefield.

DTC's mission critical solutions secure, share and communicate real-time situational awareness on land, in the water and in the air.

With a commitment to innovation and technological excellence, DTC has a strong heritage of R&D and long experience in video, which allows it to deliver high quality solutions, as well as to work in partnership with its customers on bespoke projects.





This brochure on DTC's innovative Tactical IP Mesh technology is part of a series of brochures of our core products: Video, Mesh, Broadcast, Audio, Tracking, Search and Rescue, City Wide Infrastructures.



## DTC Tactical IP Mesh Products

DTC's Tactical IP Mesh Solution is a standalone secure tactical communications and command and control system, which uses small, modular, lightweight and ruggedised components, and features DTC's ad-hoc IP Mesh radio system at its core.



For further information on DTC Tactical IP Mesh or any other of our range of surveillance solutions contact your Sales Account Manager or one of our Regional Sales Offices, or email [solent.info@domotactical.com](mailto:solent.info@domotactical.com)

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