



## Video applications

The Fire-Ground Solution provides vital situational awareness information for command personnel, reducing the need for firefighters to describe the scene and significantly improving health and safety. Utilizing latest digital 'non line of sight' (NLOS) video transmission technology, the system typically comprises four rapidly deployable video cameras with self-contained power supplies, and can be attached to standard street furniture or mounted on top of an elevated fire platform.

A command vehicle controls camera functions via a digital telemetry system, whilst making available four camera feeds to the on scene commander and also distribute these via a satellite up-link to the Fire Service Headquarters.

In addition the system can work with a combination of rapid deployed PTZ and mobile body worn cameras.

- ▷ Color, low light and thermal camera compatibility
- ▷ Improved health and safety
- ▷ More detailed post-incident analysis
- ▷ Range 2-5km (dependent on environment and antenna height)
- ▷ Quad receiver with 4 PTZ cameras
- ▷ Robust and waterproof construction
- ▷ Unique ultra narrowband system enabling operation inside license-exempt frequencies.



Rapidly deployable video camera ▷

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# Underground Fire Solution



## Video applications

In some fire-ground scenarios, assessing the incident is further complicated by the fact that the fire is underground, in a basement or a tunnel. Because this makes the operation more dangerous, it is even more vital to be able to see live images from a thermal camera within the hazard zone.

On-scene commanders need to be able to receive clear, stable audio and video from a body worn transmitter up to three floors below ground, beaming back to a nearby command location. Each transmitter transmits one video channel, two audio channels and one data channel.

Implementation of the COFDM standard is highly resistant to interference and reflection and uses a very narrow bandwidth (1.25MHz) to transmit the images. The narrower the bandwidth, the greater the transmission range and penetration ability to reach surface receivers from underground locations.

The system can work with a combination of rapid deployed PTZ, thermal and mobile body worn cameras, feeding back via a digital telemetry system. All camera feeds go to the same bank of displays/recorders in the command vehicle where they are available to the on-scene commander and can be distributed via a satellite up-link to the fire services headquarters.

The Underground Fire Solution has been tested by Avon Fire and Rescue within the UK's longest underground rail tunnel. Video was successfully transmitted from outside the River Severn tunnel entrance in Wales to a receiver located outside the entrance on the England side - a non-line of sight distance of 7km, through a tunnel with many curves and differences in elevation. In a typical fire service operation, the video transmitter would be located within the tunnel, at the incident, and would transmit to a command vehicle located outside.

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