

# Emergency Communications Solution

# LTE Portable Solution

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- ZXIMCU P200 / P300 Portable Emergency Command System highly integrate base-band unit, radio unit, core network and multimedia dispatch, quickly implement the on-site deployment of LTE emergency network, provide LTE-based rich services such as professional trunking voice, multimedia dispatch, real-time video transmit, GIS location, audio/video full duplex conversation etc.
- The portable system is widely adopted in case of fire emergency, earthquake rescue, urgent police deployment and other scenarios where a quick set-up of emergency command platform is needed.
- The system supports various backhaul modes such as satellite, Mesh, optical fiber, microwave and public network etc.
- With direct link to the ongoing mission, the system significantly improves the efficiency of mission commanding and dispatching.

# LTE Portable Solution



# LTE Portable Solution Highlights

## Light weight, High integration

- Light weight design, one or two person backpack
- High integration, including all NEs and servers

## Fast deployment

- Uniform power, start with one touch, ready within 10 minutes

## Diverse Terminal Range

- Support handheld, manpack device, UAV, portable dome camera, intelligent glasses, etc.

## Rich Services

- Support professional trunking voice, video transferring, video forwarding, text message, media message, GIS location, audio/video record and playback, etc.

## High reliability

- Based on mature and stable SDR platform, IP67 protection
- $-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$  working temperature
- Aluminum alloy material, reinforce and anti-vibration design

# LTE Ad-hoc Solution

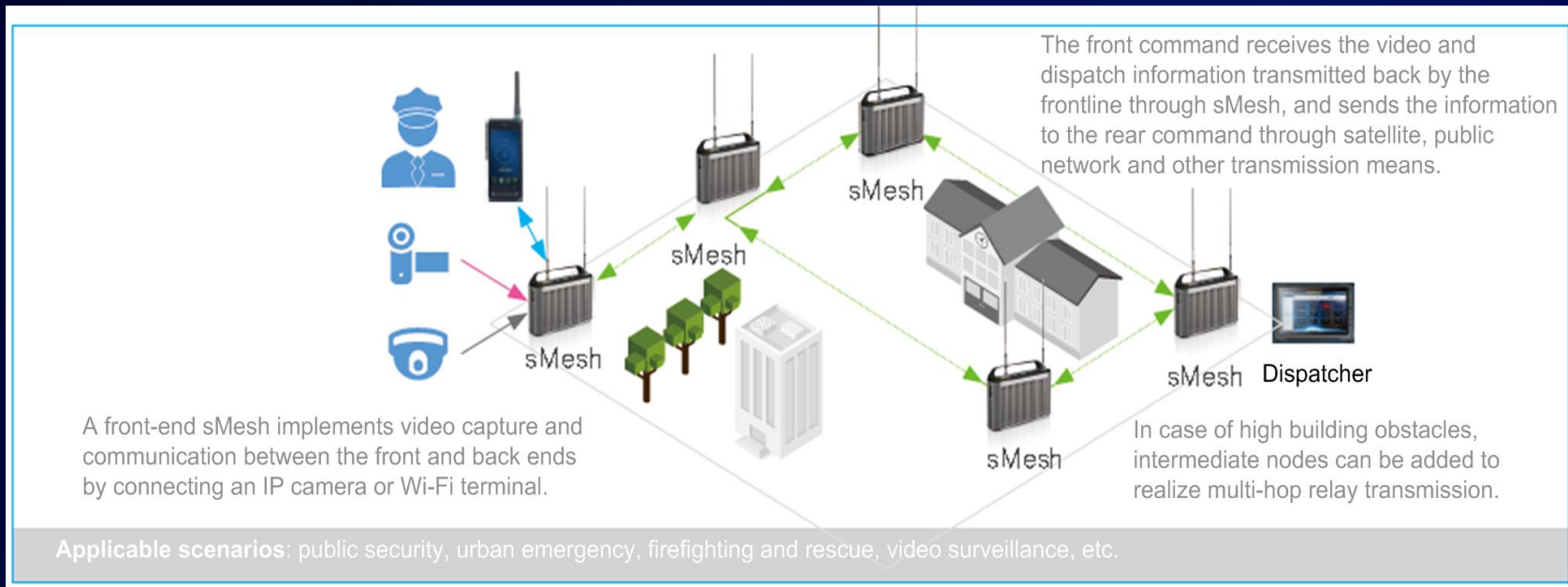
# Ad-hoc Solution

The sMesh ("s" standing for smart) broadband Mesh Manpack system adopts center-less co-frequency Mesh network technology and distributed network architecture. The system supports any network topology and multi-hop relay, and provides users with reliable, fast-responsive, efficient, and secure multimedia integrated services, like All IP clear voice, broadband data under non-line-of-sight and fast-moving scenarios.

It is widely adopted in sectors such as public safety, fire brigade, electric power, petroleum, transportation, water conservancy, forestry, medical etc. to meet user demands for wireless broadband communication daily or in an emergency case to achieve "on-demand communication anytime and anywhere".

# Independent Networking of Ad-hoc Solution

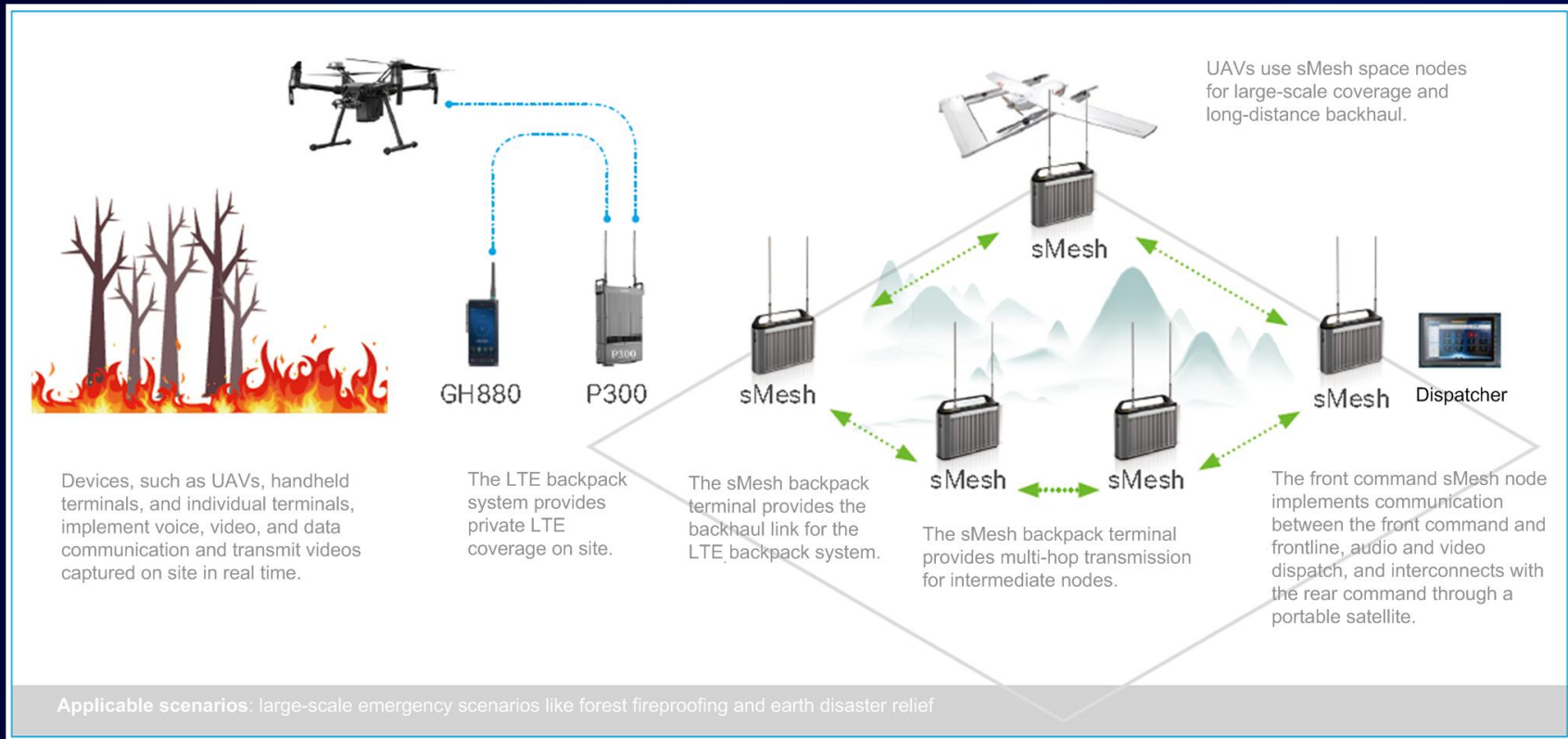
This scenario uses sMesh system to rapidly establish Multi-node IP interconnection and link backhaul





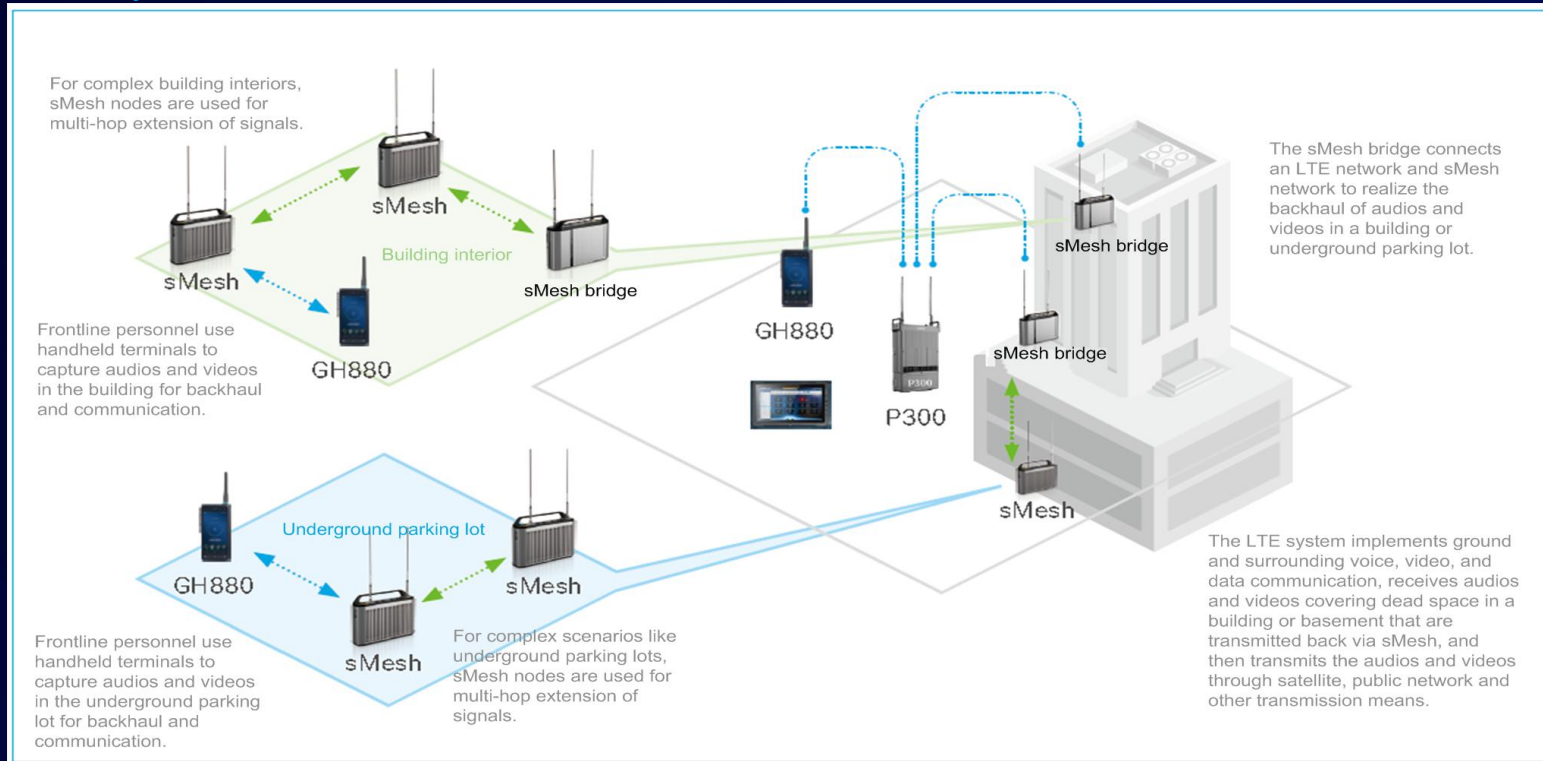
# Ad-hoc Solution as Backhaul

The sMesh system acts as the backhaul link between the spot and the command center.



# Ad-hoc Solution as Extension

The portable LTE system provides ground coverage. For LTE coverage blind spots, the sMesh system acts as an extension to LTE network and realizes service backhaul



# Ad-hoc Solution Highlights

## Quick Startup

The system does not require any configuration, starts up after pressing one button, accesses network and works in "seconds".

## High Reliability

With IP67 waterproof and dust proof, high anti-vibration performance, and temperature range of  $-40^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$ , the system is comprehensively applicable to harsh environment.

## Services Diversity

The system supports rich services such as voice video, and location, and support VPN connection and support to connect with satellite, public network, and LTE station systems.

## One system, Multi-purpose

The system can be flexibly deployed as required, such as man pack, onboard (vehicle or vessel) or fixed at one position. It can meet the requirements of communication support for users on land or on board, and can realize wireless networking coverage during parking or travel of vehicle or vessel.

## Flexible Networking

The system adopts centerless and co-frequency Mesh network and flexibly configured bandwidth of the carrier. It supports point-to-multipoint, chain relay, star network, and hybrid network, as well as multi-hop relay and relay forwarding.

# COW and ECV

# COW and ECV Solution

- Caltta Emergency Command Vehicle (ECV) / Communications on Wheels (COW), integrated with the LTE multimedia broadband trunking system, can provide various services such as voice/video trunking, high-definition (HD) video, data collection, video conferencing, location and encryption.
- The vehicle provides a secure and stable working environment for personnel and equipment, featuring high integrity and mobility, including vehicle body, mast system, power system, air-conditioning system, monitoring system and lightning protection & grounding system, centralized control system, etc.
- Large-, medium- and small-sized vehicles of multiple brands, such as IVECO, Benz, ISUZU and Toyota, customized to meet different customer demands.
- The satellite communication system provides reliable communication links between the vehicle and the fixed commanding centers, ensuring stable operation of communications, command and dispatch. It includes satellite ground station, vehicle-mounted satellite and backpack satellite etc. Aside from VSAT system, the ECV / COW supports other ways of transmission, such as optical fiber, E1, IP. and NLOS Bridge.

# COW and ECV Solution



Large Truck



Medium Truck



Semi-trailer



Minibus



SUV



Truss tower type



Natural disaster



Accident



Abrupt traffic



Important event



Public safety emergency



Network breakdown



# COW and ECV Solution Highlights

## Professional trunking

- ◆ Professional trunking functions with unified commanding and dispatching ability, supporting multi-party response and quick access (within 300ms).
- ◆ Data rate up to 100 Mbps due to the use of LTE technologies, supporting high-definition video transmission.
- ◆ High security and confidentiality, professional encryption for voice, data and video.

## Diversity

- ◆ Abundant services: voice/video trunking, video transmission, data acquisition etc, configurable according to actual applications.
- ◆ Various transmitting mode: satellite, optical fiber, IP, 3G/4G PSTN and NLOS Bridge etc, ensuring smooth transmission.
- ◆ Diversified application scenarios: Single or multiple ECV can work independently for local network coverage or access to the existing network as an extension.

## Wide coverage

- ◆ Small-sized vehicle: coverage radius >2km (HD video signal).
- ◆ Medium- and large-sized vehicle: coverage radius > 8km (HD video signal).

## Fast deployment

- ◆ The mast, antenna feeder and support legs can be deployed automatically within 30 minutes.
- ◆ The VSAT system can capture the satellite rapidly to ensure emergency communication.

## Deep customization

- ◆ Bullet-proof modification available on the entire vehicle to provide allround protection.
- ◆ Optional configuration with daily necessities to improve work efficiency.