



# Connected Vest

AI-Powered IoT Vest for  
Mission-Critical Safety & Operations

Capgemini 

## AI-powered connected vest for operator safety and situational awareness

The Connected Vest is an AI-powered IoT wearable for security forces and operational workers in mission-critical environments. Its objective is to improve safety, security and operational efficiency.

The vest is built around a central processing element, the “brain”, to which all embedded IoT sensors connect. It was initially designed to support man-down detection, enabling it to rapidly identify isolated or incapacitated operators.

Fully integrated into the MCX ecosystem, the brain aggregates data from environmental and biometric sensors, an integrated bodycam and advanced geolocation capabilities. This data is stored in a decision database in a public or private cloud, providing a reliable foundation for real-time alerting, incident analysis and decision support.

The brain then feeds this sensor, video and geolocation data into a dedicated AI application which analyzes it in real time. The AI application leverages this analysis to generate qualified alerts, which are shared with dispatchers to enable faster decision-making and more effective coordination of interventions in critical situations.

The Connected Vest is already deployed in secure transport operations (e.g. SOS Cash & Value) and demonstrated within the Paris 5G Lab. It is particularly suited to public safety use cases, such as protecting firefighters during firefighting operations. It is also useful in other critical environments, including ports and airports (e.g. protecting ground staff working around aircraft) and transport and infrastructure projects, where it improves construction site worker safety. The Connected Vest demonstrates how combining IoT, AI and MCX unlocks new levels of situational awareness and operator protection in high-risk environments.

### Key features

#### Smart connected vest:



- IoT sensors & MCX integration for real-time monitoring
- Advanced geolocation for precise tracking
- Multi-purpose design adaptable to police forces, military units, industrial workers, and firefighters

#### Real-time alert:



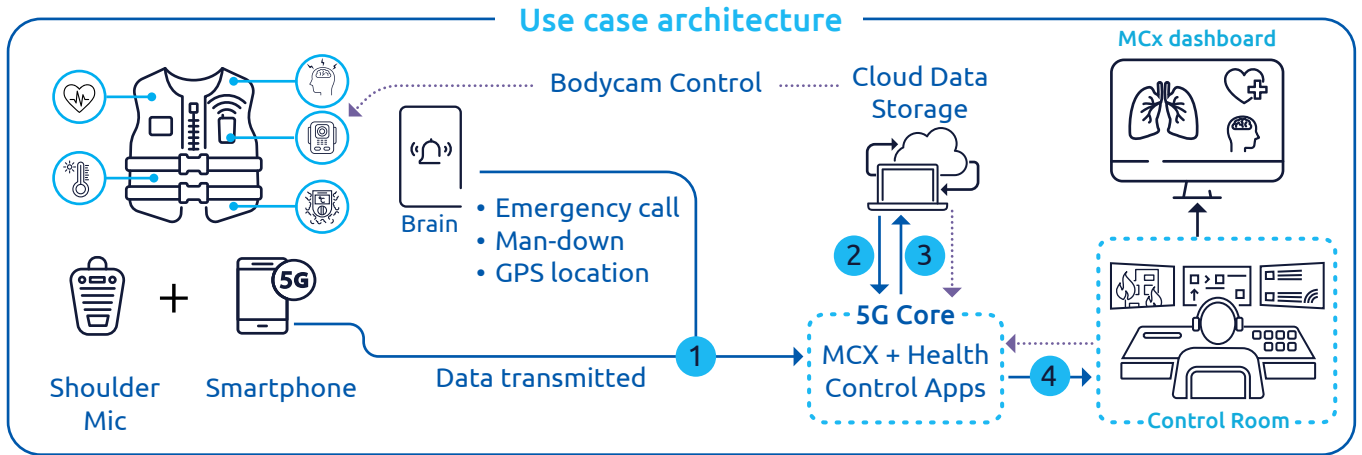
- Automated emergency alerts triggered by sensors with AI-driven risk detection
- Live tracking and sensor-based notifications for immediate awareness
- AI-enhanced emergency messaging for faster understanding and response

#### Centralized monitoring:



- Bodycam activation with live video streaming and remote monitoring
- Advanced geolocation for accurate positioning in operational contexts
- Biometric and environmental monitoring combined with early warning systems to support proactive operator safety

## Solution architecture & operations

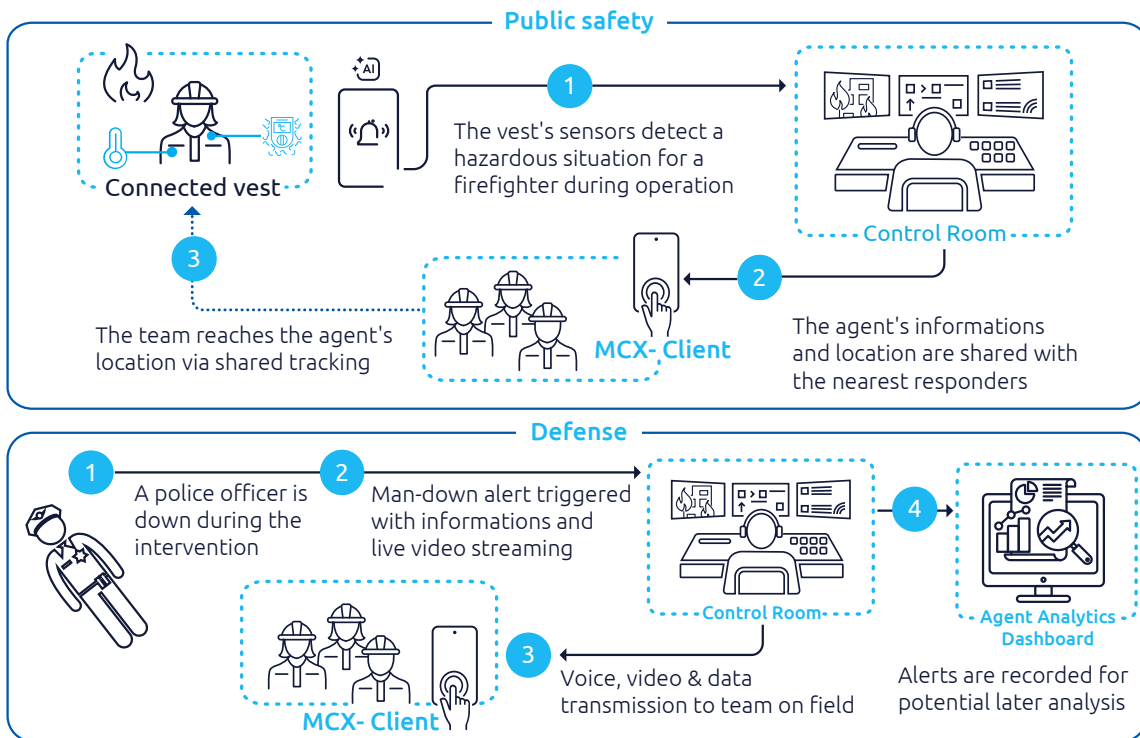


### How it works in practice

The Connected Vest continuously collects sensor and bodycam data from the field and transmits AI-enriched alerts, real-time video and precise geolocation to the MCX

platform via APIs. This allows dispatcher users to instantly detect incidents, track operators and coordinate nearby responders.

### Sample use cases in public safety and defense



### Connected Vest in action

A demonstration video illustrates the Connected Vest in operational conditions. It shows how IoT sensors connect to the central brain, how the AI layer analyzes

data in real time and how qualified alerts are delivered to dispatcher users through the MCX ecosystem.

## To find out more, get in touch



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