

Blog Post 8: Tech for the Front Lines: Drones, Wearables, and AR

When first responders enter a disaster zone, whether it's a blazing wildfire or a collapsed building, they need tools that enhance their senses and protect their lives. PANTHEON is integrating "hard" technologies that have been battle-tested in previous EU research projects.

Eyes Everywhere

Building on the **AIDERS** project, PANTHEON utilizes AI-powered algorithms for Remotely Piloted Aircraft Systems (RPAS). These aren't just cameras in the sky; they are intelligent agents capable of automatically mapping disaster areas in real-time and identifying objects of interest (like survivors) without needing constant human monitoring.

The Connected Responder

Drawing from **FASTER** and **RESPOND-A**, we are looking at a future where responders are nodes in a high-tech network:

- **Wearable Sensors:** Smart textiles that monitor a responder's vitals and detect dangerous chemical agents.
- **Augmented Reality (AR):** Heads-up displays that can overlay navigation routes or thermal imaging directly onto a responder's visor, allowing them to "see" through smoke.
- **5G portable networks:** Ensuring that even if local cell towers fail, the response team has its own high-speed, mission-critical communications bubble.

By feeding data from these frontline tools directly into the PANTHEON Digital Twin, commanders get an unprecedented, real-time view of the operational landscape.