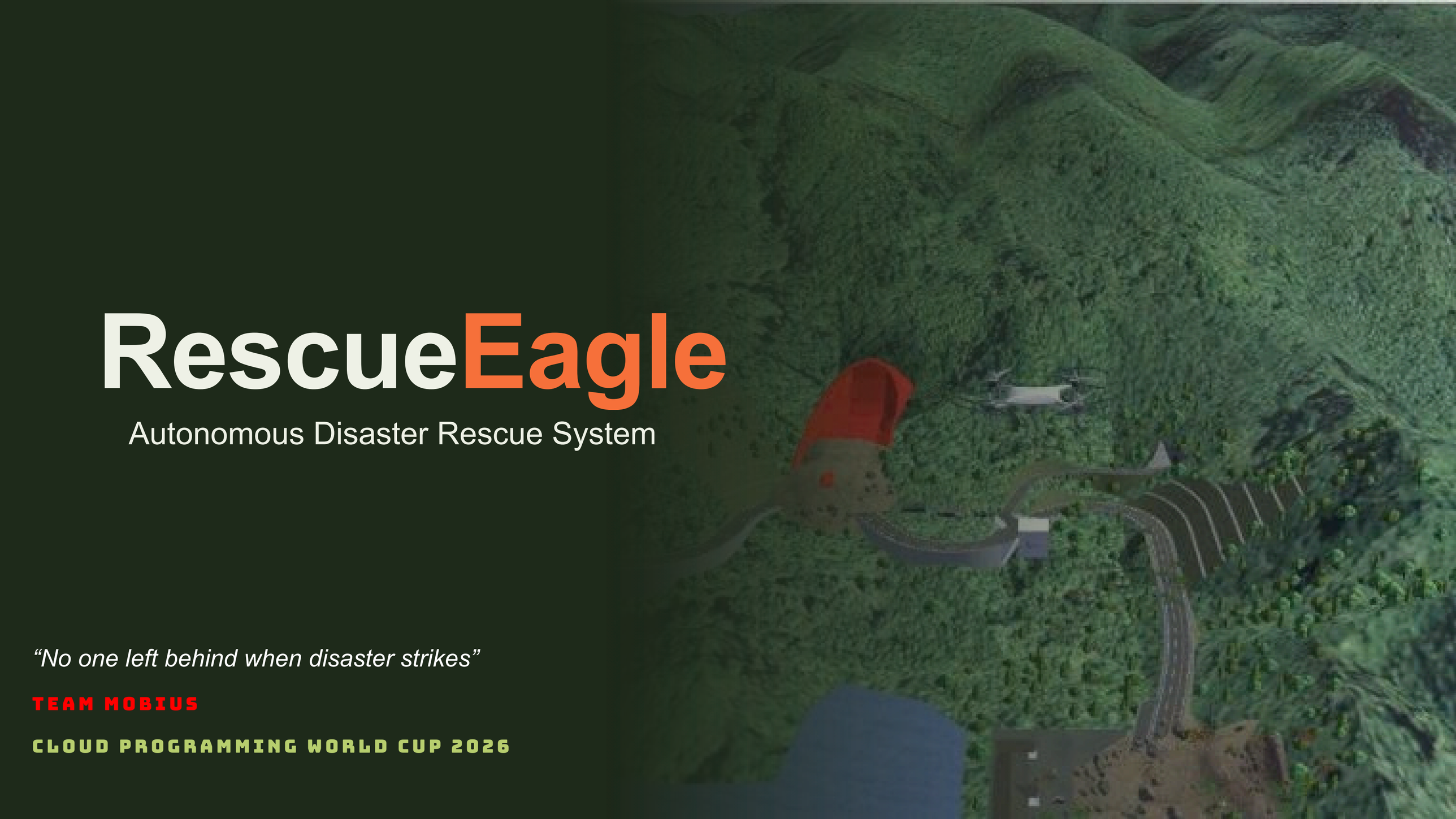
RescueEagle

Autonomous Disaster Rescue System



“No one left behind when disaster strikes”

TEAM MOBIUS

CLOUD PROGRAMMING WORLD CUP 2026

PROJECT FLOW

1. The problem
2. The solution
3. System architecture
4. Scenario
5. Simulation
6. Roadmap

01 - THE PROBLEM

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Disasters cut off every path to rescue



Lang Nu, Lao Cai, Vietnam

Flash flood after Typhoon Yagi, 09/2024



Son La, Vietnam (07/2025)

8 suspension bridges swept away, the only road blocked



Papua, Indonesia (11/ 2025)

Located deep in the remote regions of Papua

Communications down

Roads cut off

Can't locate victims

02 - THE SOLUTION

RescueEagle reaches victims from the sky



NO ROAD ACCESS

→ Flies straight in - on site in a **few minutes**

NO WAY TO LOCATE

→ A **4-sensor array** finds people under rubble

NO COMMUNICATIONS

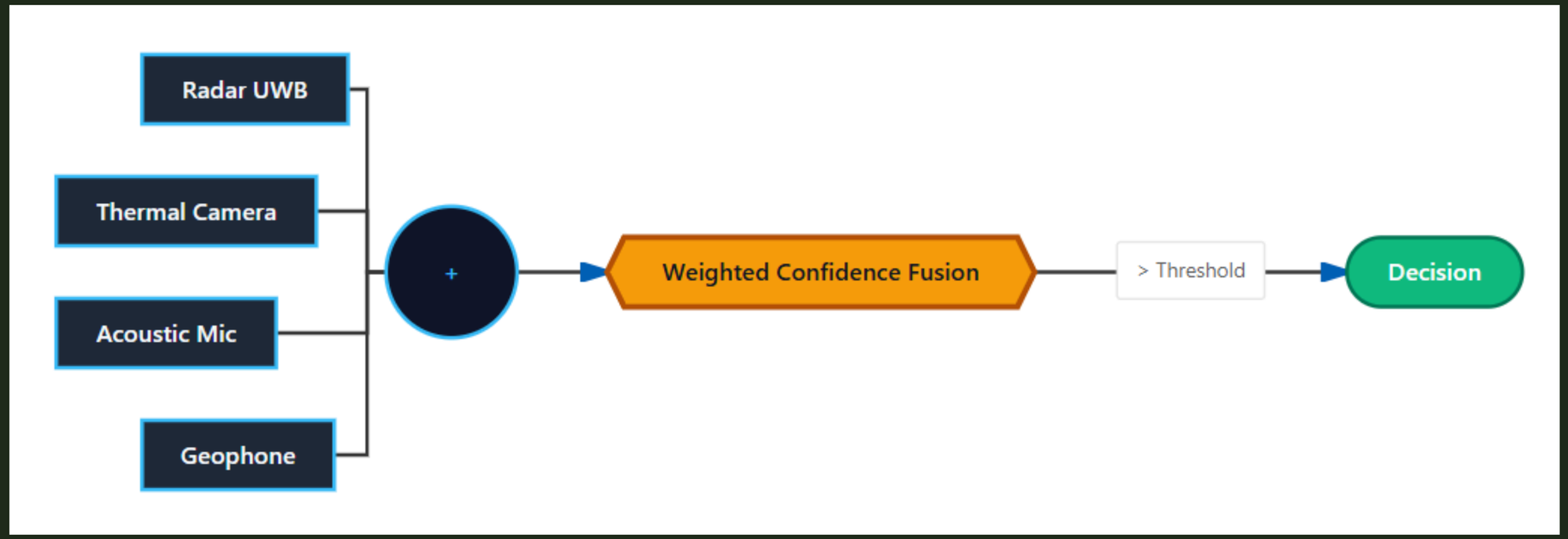
→ Drops supplies, opens an **emergency comms channel**

MULTI-DRONE DEPLOYMENT SUPPORT

→ Supports **simultaneous deployment** of multiple drones

All coordinated from a single Command Dashboard

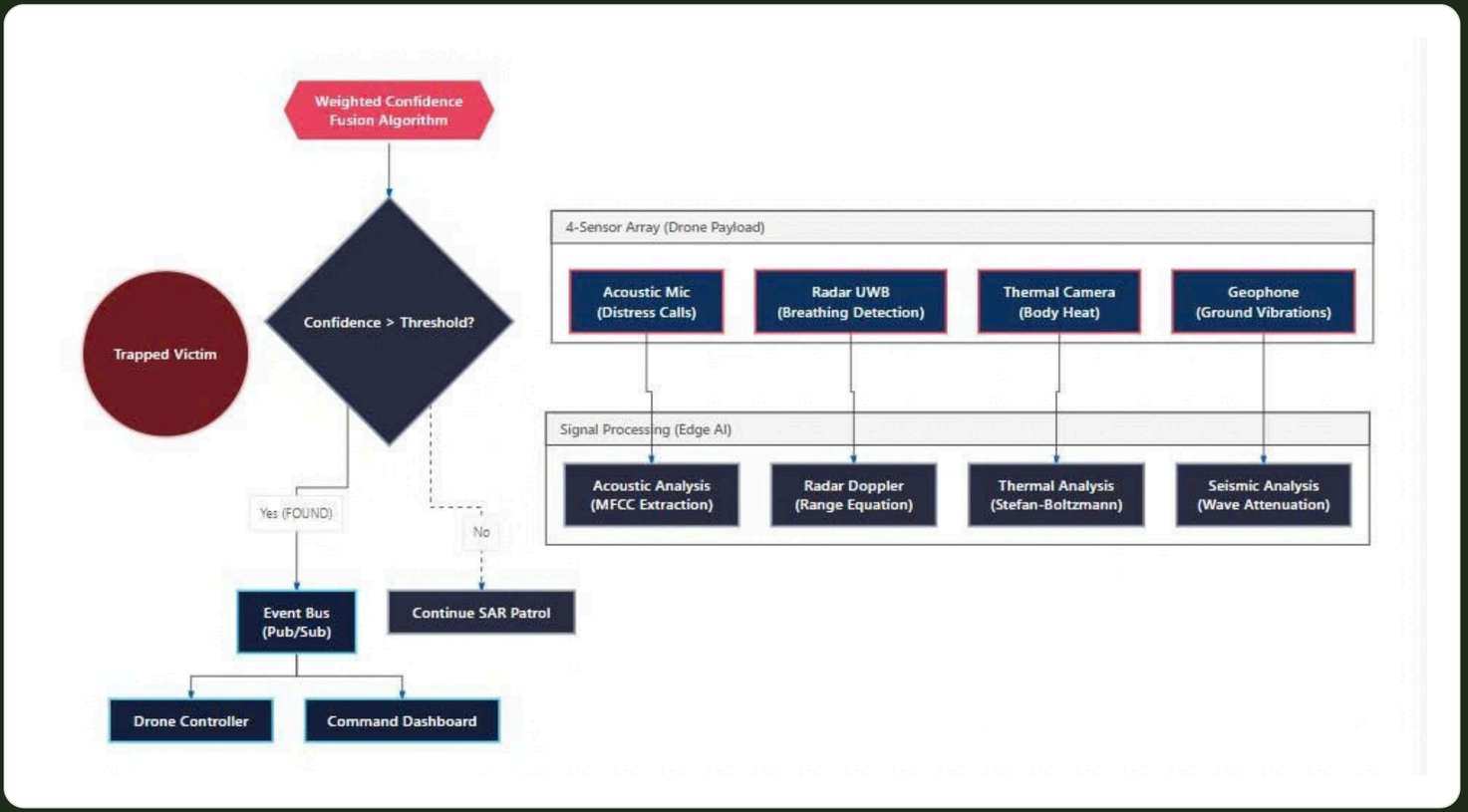
Four signals, one decision



A decision is triggered only when fused confidence exceeds the required threshold.

03 - SYSTEM ARCHITECTURE

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- **Pub/Sub Event Bus**

Decoupled modules that talk through events

- **Scale without rewrites**

New drone or sensor = one more publisher

- **Multi-drone operation**

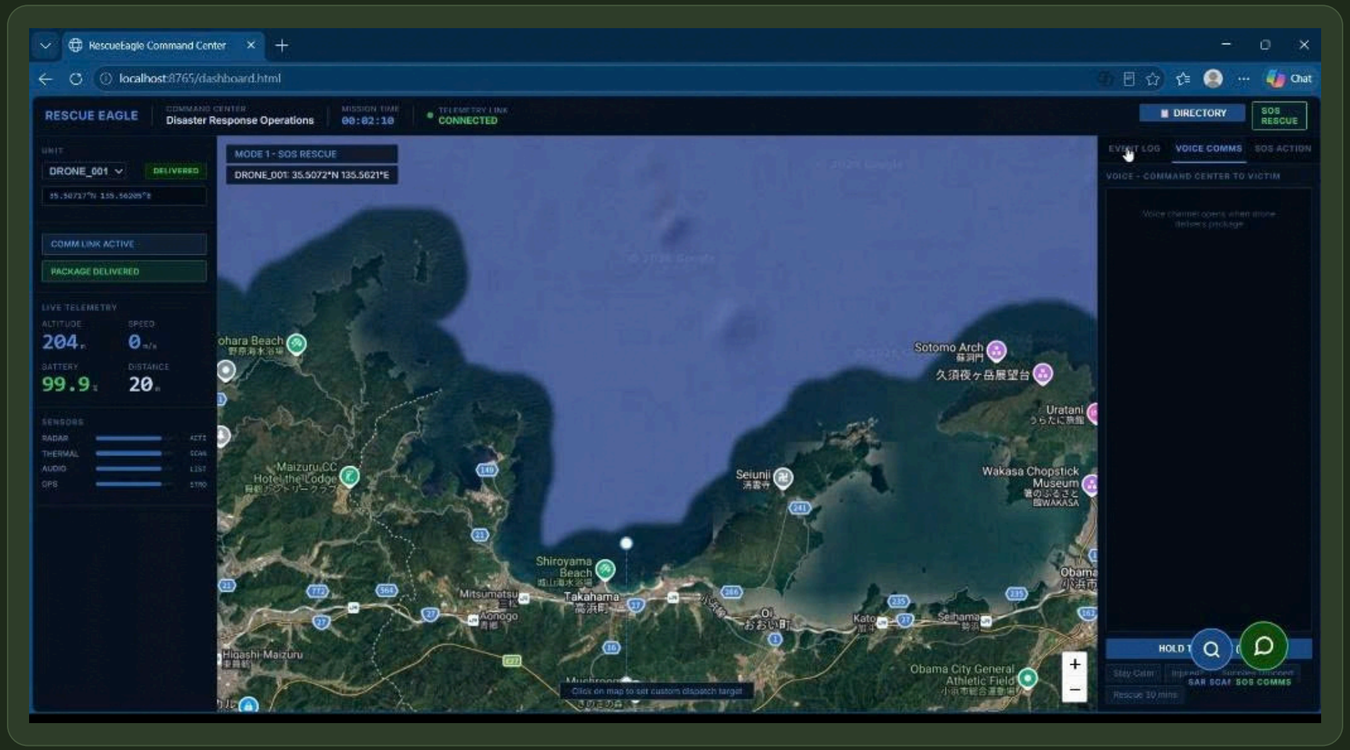
DRONE_001 and DRONE_002 run side by side on the Dashboard

04 - SCENARIO

SCENARIO 1: SOS EMERGENCY RESCUE

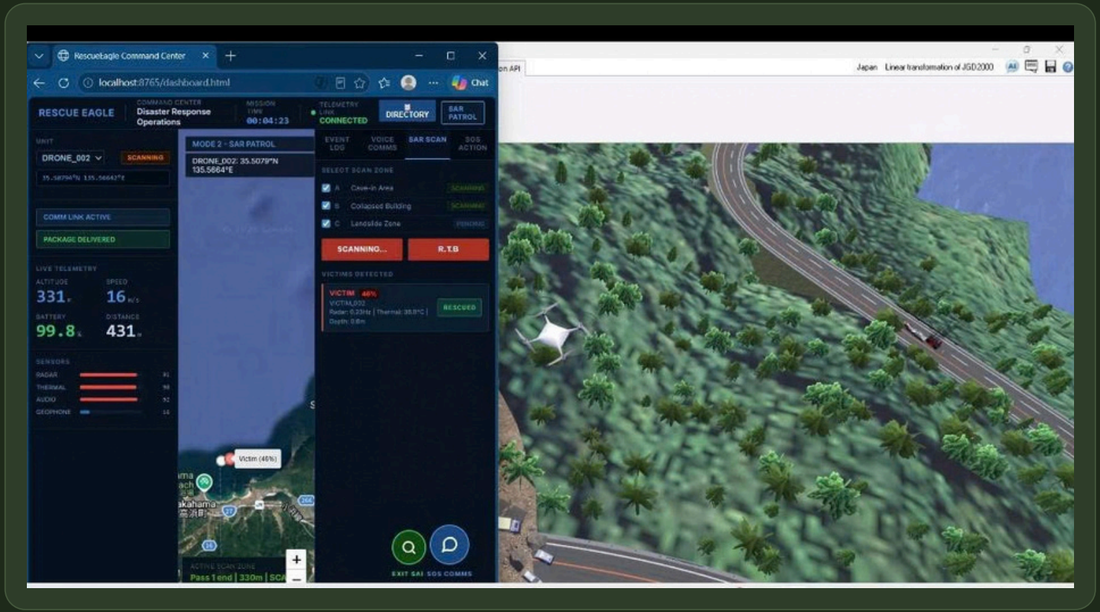
Victim presses SOS, the drone arrives

1. **Press the physical SOS button**
   The alert appears on the Command Dashboard
2. **Flies straight to the target**
   Unaffected by cut-off roads
3. **Orbits and drops supplies**
   The relief box lands right at the victim
4. **Opens Voice Comms**
   Hold to speak · Stay Calm · Rescue 30 mins



SCENARIO 2: SAR AREA PATROL

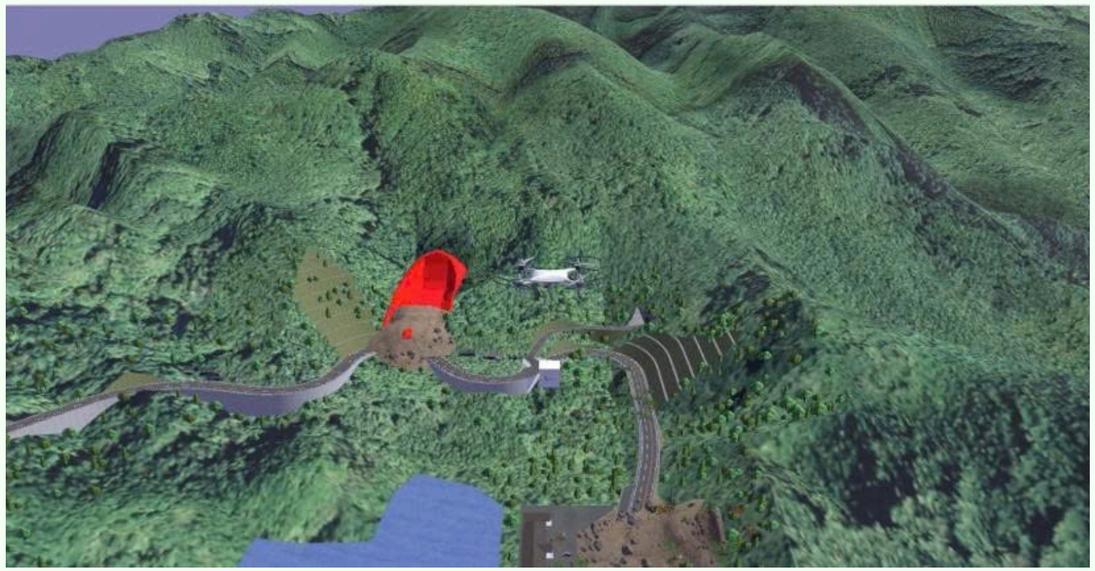
The drone finds people on its own



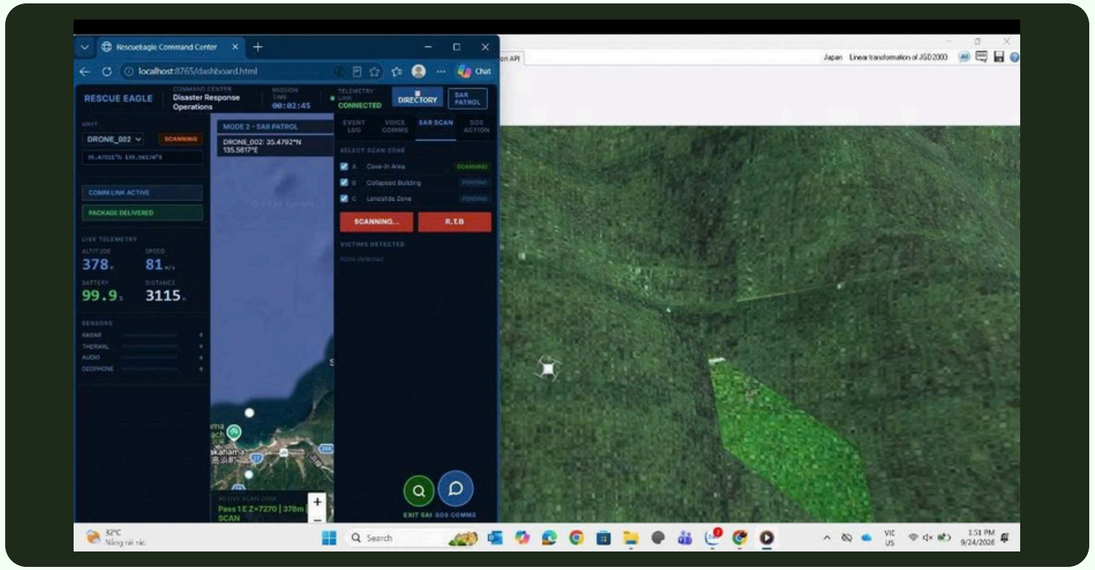
1. **Select a scan zone**
   Landslide · Collapsed building · Cave-in
2. **Zig-zag flight (boustrophedon)**
   Full strip-by-strip coverage, no gaps
3. **Signal > threshold → verification orbit**
   Auto-reports location, depth and readings to the Dashboard

05 - SIMULATION

Validated in 3D simulation on UC-win/Road



UC-win/Road - terrain, floods and landslides in 3D physics simulation



Python Core SDK ↔ real-time Command Dashboard

Recreate dangerous scenarios and rerun them without limits

Validate the full end-to-end workflow

Sensor data is currently simulated - PoC stage

06 - ROADMAP



06 - ROADMAP

01 Refine the algorithm in simulation

02 Field tests with real sensor hardware]

03 Coordinated drone fleet linked to rescue teams

No one left behind when disaster strikes

Team Mobius - Bringing hope from the sky



❤️THANK YOU!