Scenarios - All Focus Group

Scenario A

An autonomous rescue drone has **one flotation device** and sees **two people in distress**. It can only drop the device to **one** person before battery constraints force it to leave.

Options:

1. Deploy flotation to Person A (steadier, further from hull)
2. Deploy flotation to Person B (struggling, closer to hull)

Scenario B

In heavy smoke, a drone detects **two possible locations** of trapped people. It can reach only one location immediately. One location has stronger sensor signal but higher risk due to nearby fire; the other has weaker signal but appears safer.

Options:

1. Go to Location 1 (stronger signal, higher nearby hazard)
2. Go to Location 2 (weaker signal, lower nearby hazard)

Scenario C

During a flood, communications are unreliable. The drone receives **two conflicting directives** about where to deliver a limited-capability relay device/assistance: a central coordination point requests delivery to a community site, while a direct message indicates an isolated household needs urgent help. The drone can only act on **one** directive now.

Options:

1. Follow the coordinator's directive (community site, force multiplier?)
2. Follow the direct request (isolated household, immediate benefit?)

Scenario D

A drone locates a missing hiker who appears conscious but signals they do not want assistance or to be tracked. Weather is worsening, and rescuers are concerned about safety.

Options:

1. Initiate a helicopter response
2. Record a confirmed refusal and execute the ‘assist-without-evacuation’ protocol (drop kit + coordinates + periodic recheck)
3. Log and continue search if risk is low and refusal is confirmed.

Scenario E

A drone identifies two possible survivor locations in a partially collapsed building.

- Location 1: **85%** chance of survivor; **40%** collapse risk within an hour.
- Location 2: **45%** chance of survivor; **15%** collapse risk within an hour.

Rescuers can prioritize **only one** now

Options:

1. Mark Location 1 as priority (higher survivor confidence, higher collapse risk)
2. Mark Location 2 as priority (lower survivor confidence, lower collapse risk)

Scenario F

A drone has located survivors in a collapsed building and begun transmitting their positions. However, the drone's structural analysis is still processing and shows early indicators of secondary collapse risk in a section rescue teams would traverse.

Options:

1. Immediately transmit current survivor locations so rescue teams can begin approach now, before structural analysis completes.

2. Delay transmission until structural analysis completes (estimated 2–4 minutes), providing rescue teams with both survivor locations AND validated safe/unsafe approach corridors.

3. Transmit survivor locations now with a preliminary "caution" flag on the suspect structural section, noting that analysis is incomplete and will follow.

Scenario G

A drone could provide critical situational awareness for responders, but doing so requires entering restricted airspace set by incident command or aviation authorities.

Options:

1. Enter restricted airspace to support response immediately.
2. Remain outside restricted airspace and provide only indirect support.

Scenario H

A drone supporting wildfire evacuation has suffered partial sensor damage. It can operate in one of two modes for the remainder of its mission:

Options:

1. High-Fidelity Mode: Accurate detection with low false-positive/negative rates, but covers only ~40% of the assigned search area before battery depletion.

2. Wide-Coverage Mode: Covers the full search area, but with degraded accuracy: higher false-positive rate (may flag non-persons as potential victims) and higher false-negative rate (may miss actual persons in cluttered environments).

Scenario I

After a fatal triage outcome, the operator’s organization must explain why one victim was prioritized. It must decide how much of the system’s decision logic to disclose to the family

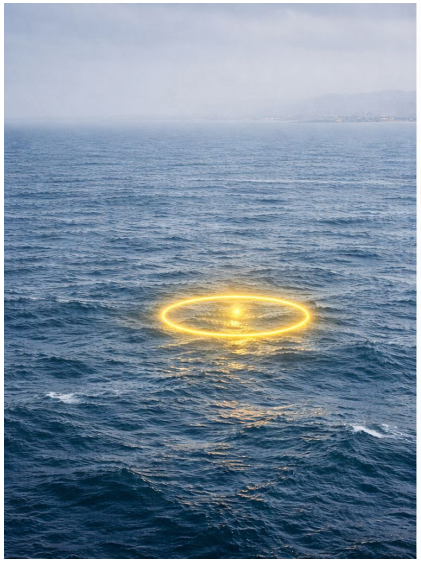
Options:

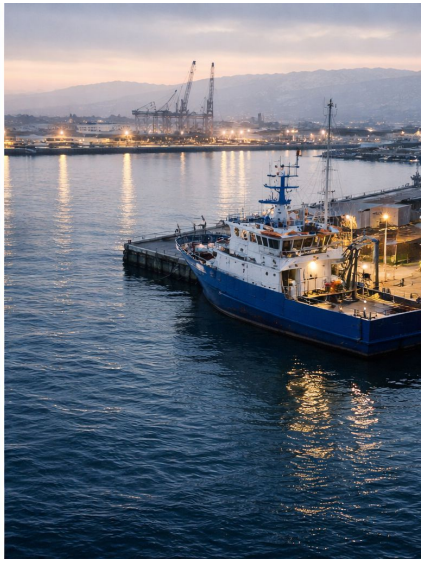
1. Full transparency. Share the decision log and the key factors (and their relative influence), including uncertainty notes.

2. Structured summary. Explain the goal (maximize chance of survival), cite the main observed cues, but omit weights and detailed scoring.

3. Minimal disclosure. Provide a general statement and no substantive details about the algorithm or its inputs.

Scenario J





A search-and-rescue drone receives an automated distress signal from open water. However, it is registered to a ship that AIS (Automatic Identification System) shows docked in port, and the signal pattern is intermittent in a way that could indicate malfunction or could indicate a vessel in distress with damaged equipment.

Options:

1. Respond immediately to the signal location, committing 45+ minutes of flight time and temporarily suspending patrol of the assigned coastal zone.

2. Request ground-based verification (port authority check on the registered vessel) before responding, which will take 10–15 minutes but may confirm or rule out false activation.

3. Continue current patrol while flagging the signal for Coast Guard review, providing the anomaly data but not diverting.