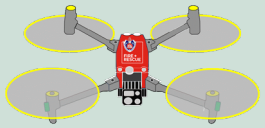
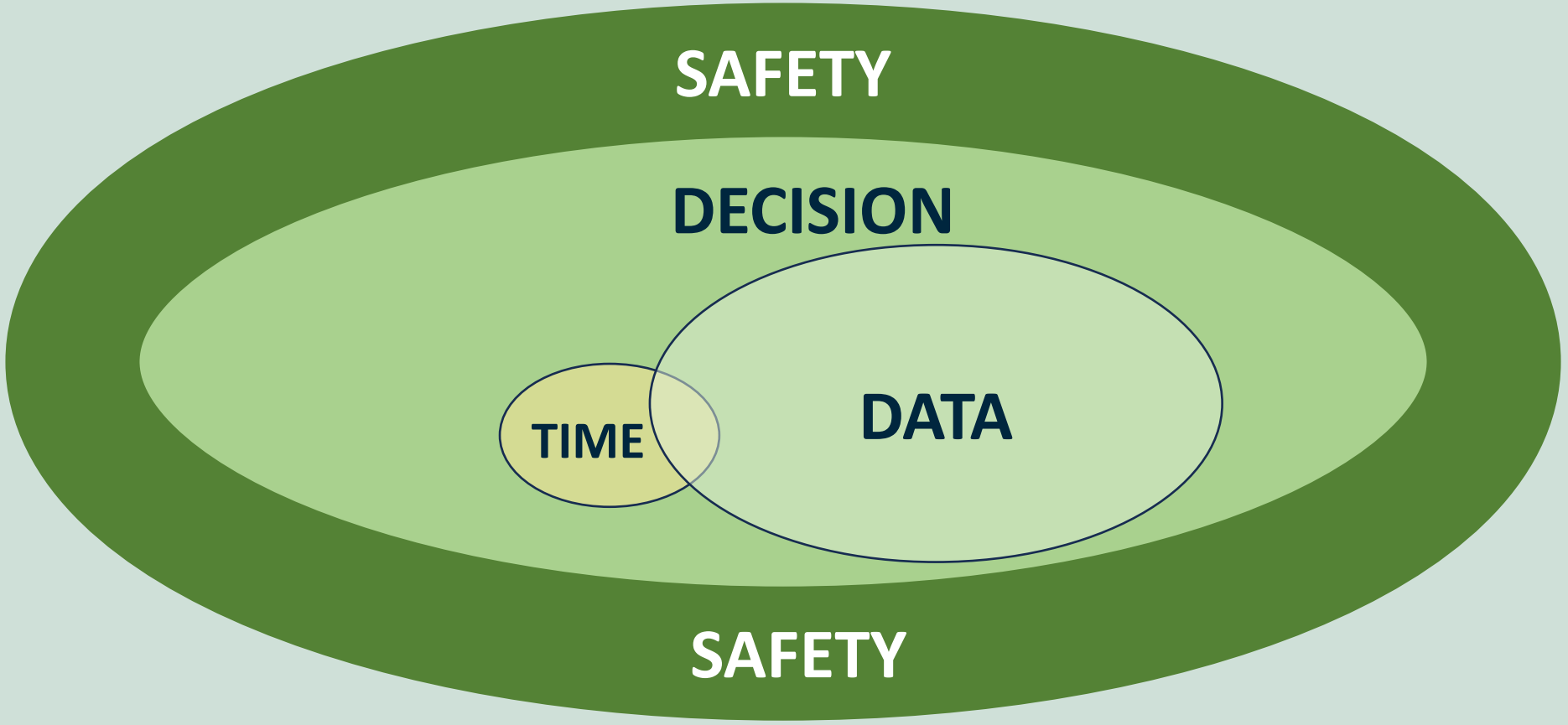


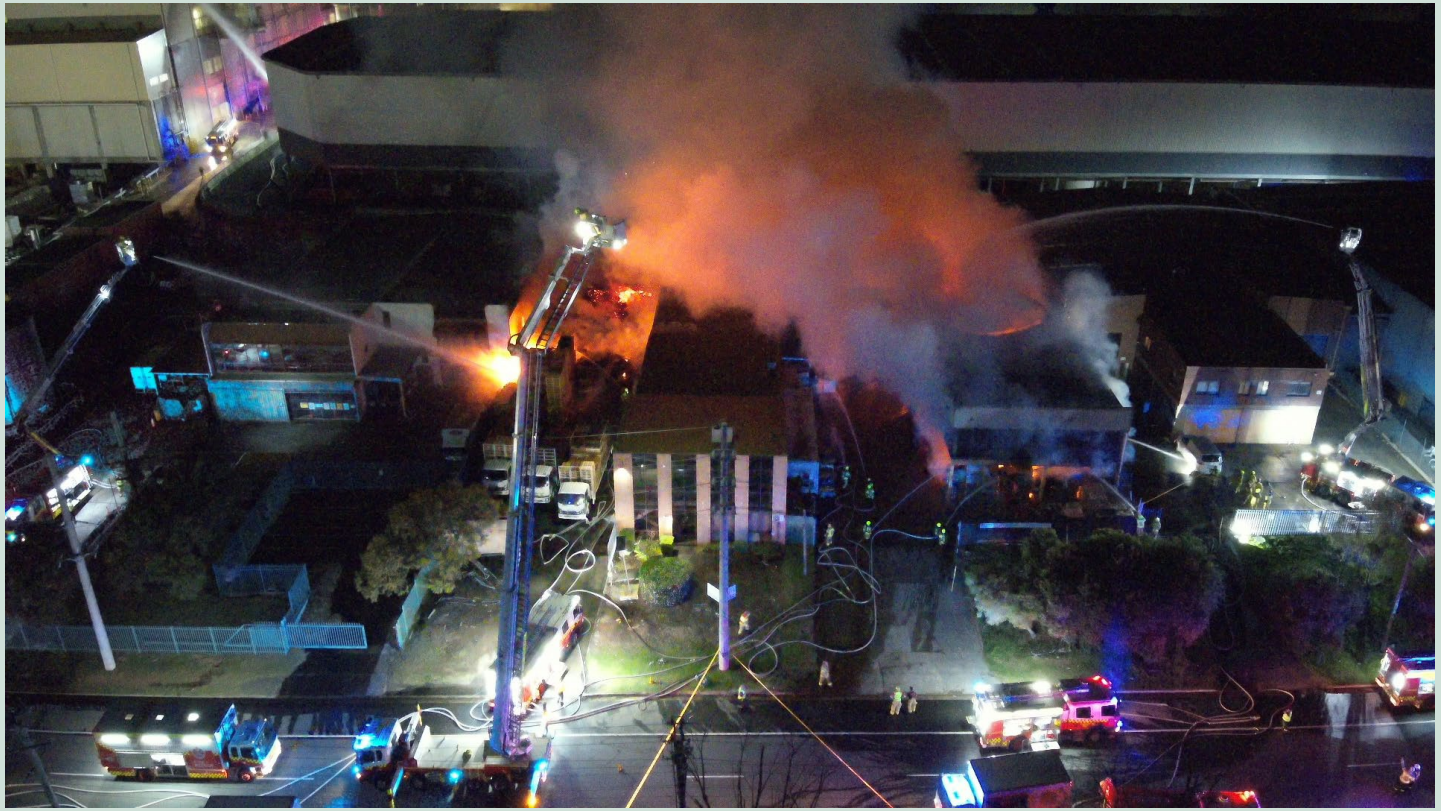
“When imagination takes flight, we can explore the unreachable…”

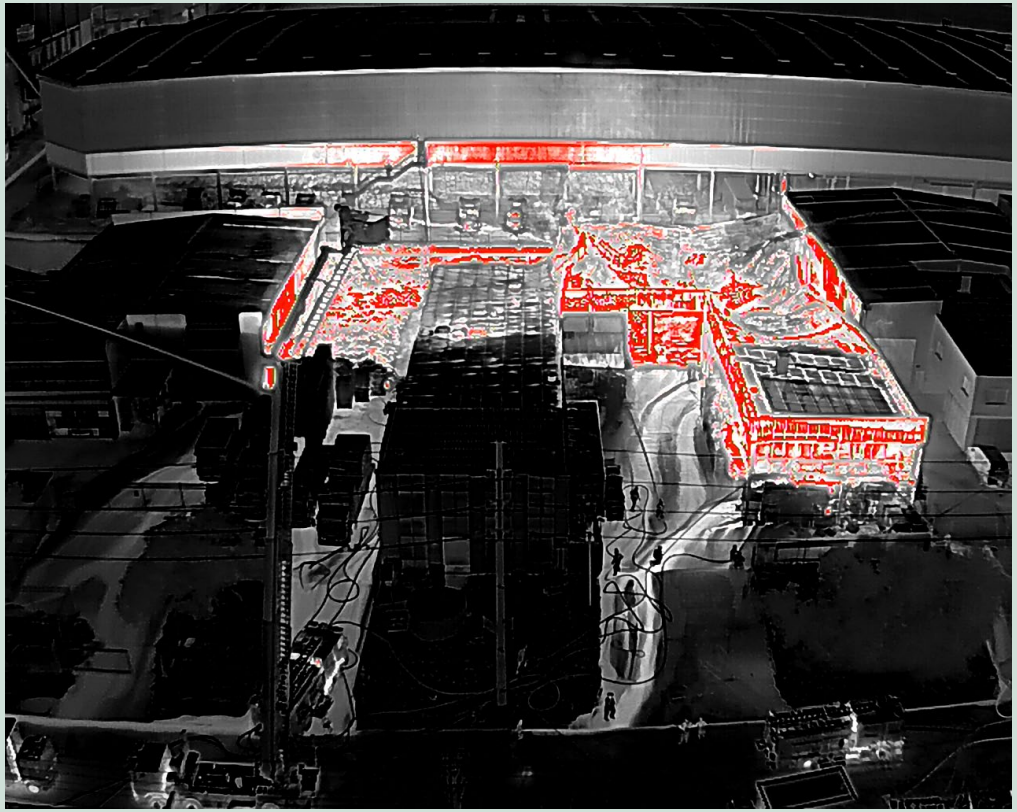
How Fire & Rescue NSW is adapting drone technology to keep its people safe and speed up operations

The Turner model of emergency service decision-making relativity ™ ©

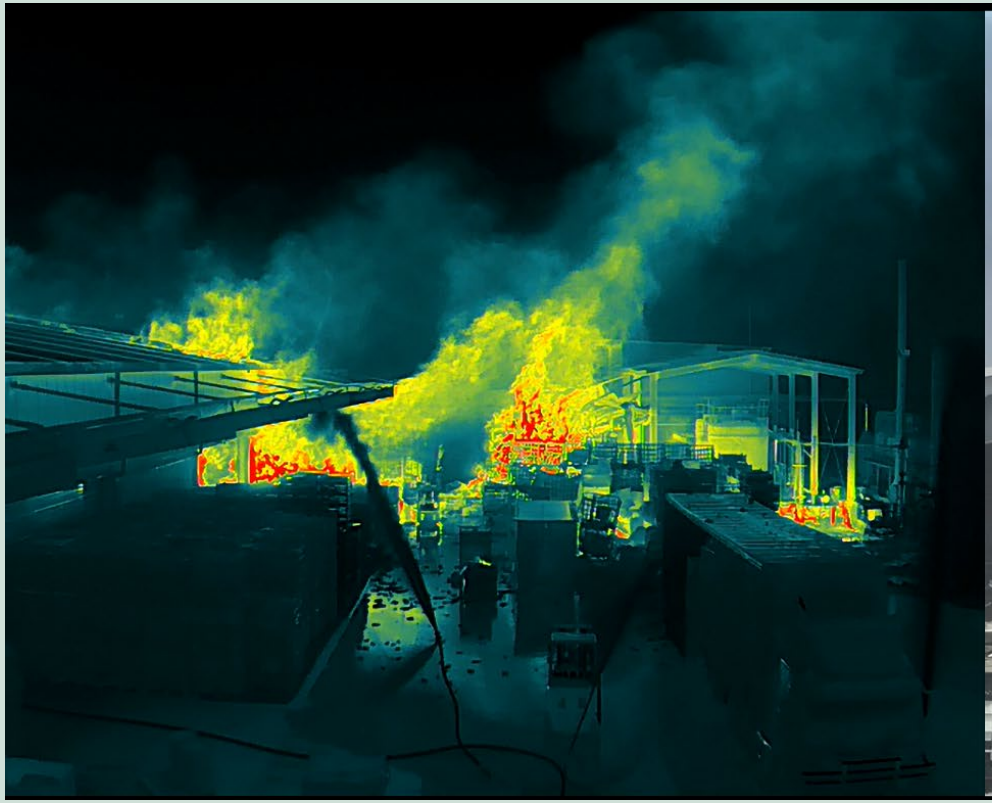


‘BAU’ use case: Situational awareness/Eye in the sky

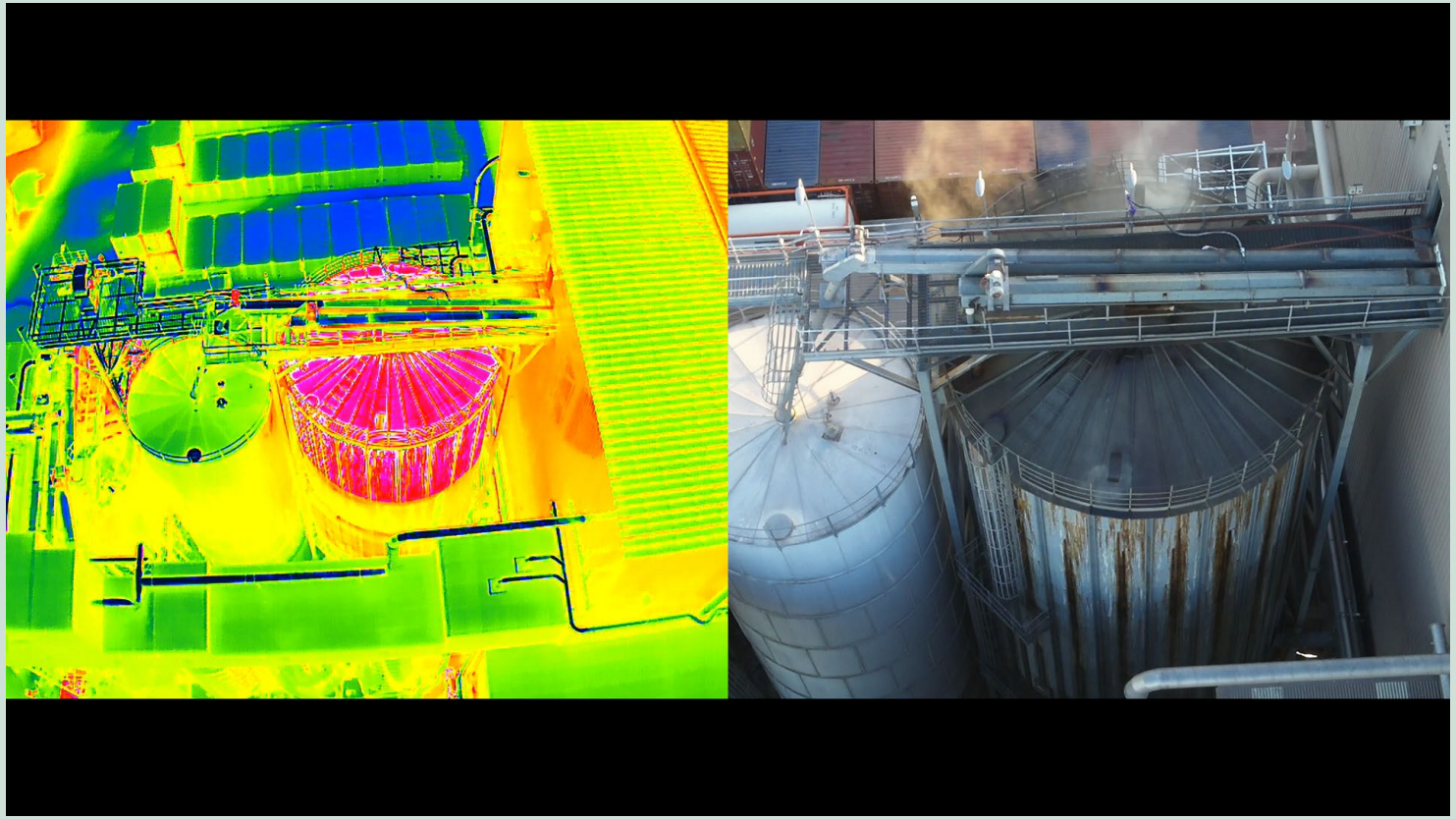




‘New’ use case: Resource management



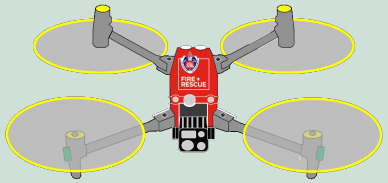
‘New’ use case: Sending a drone instead of a fire crew



FRNSW RPAS Capability

Program started

2016



110

platforms

280

Remote Pilots

946

operational responses

(2023/24)

1,412

mission approvals

(2023/24)

Our ‘fleet’

Matrice

Indoor/ danger zone

Small payloads

Mavic

Our ‘fleet’

Large payloads

Question…..

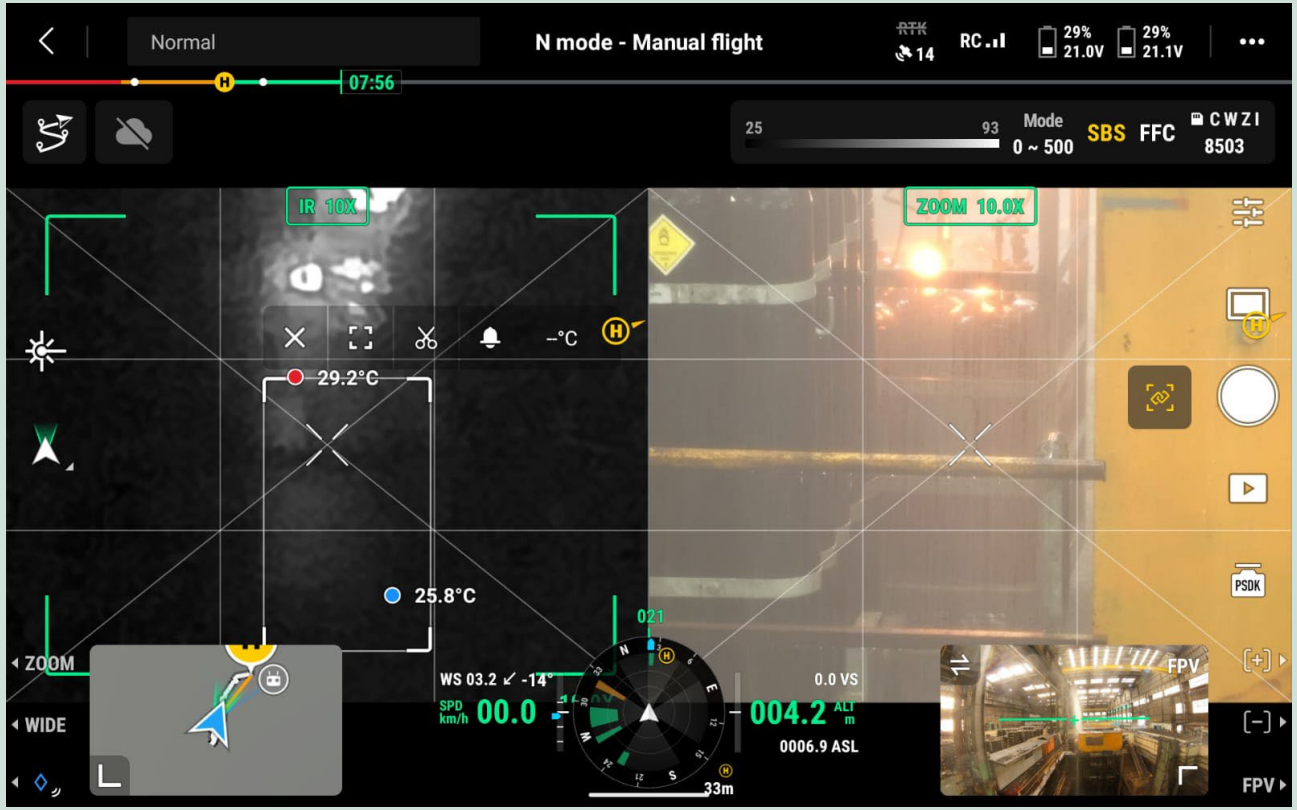
What price a drone?

vs

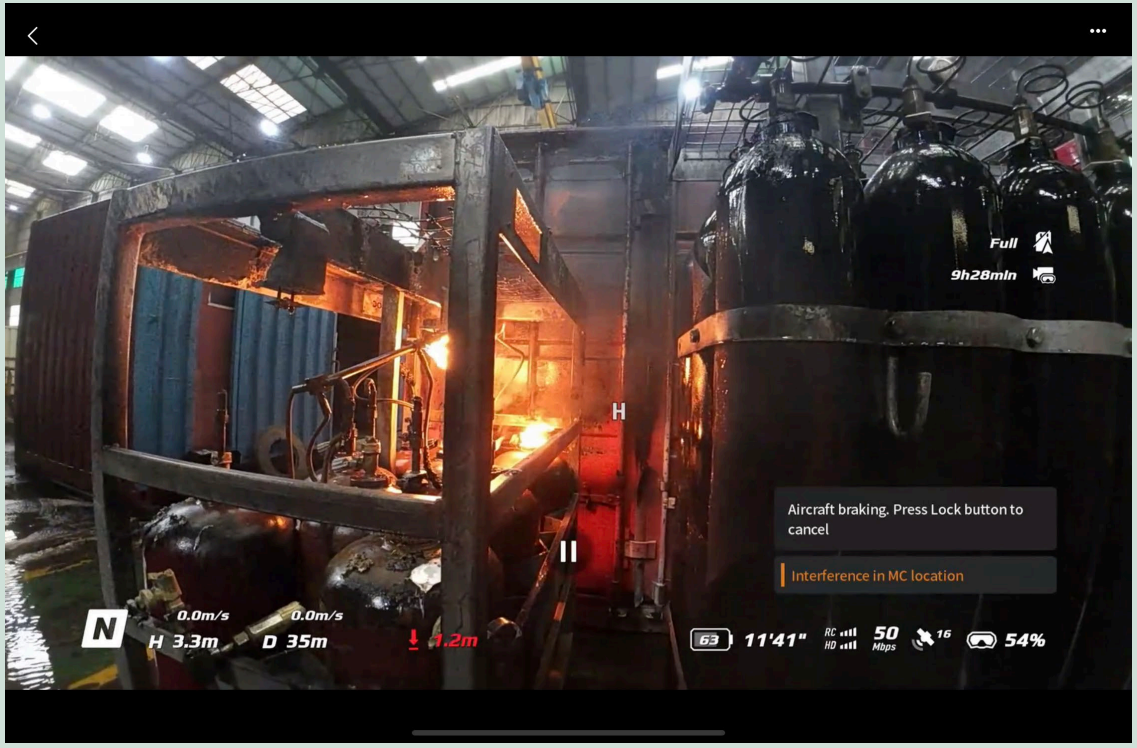
What price a life?

Our ongoing inspiration…

Industrial acetylene fire - as seen by the traditional RPAS



Industrial acetylene fire - as seen by the indoor FPV RPAS

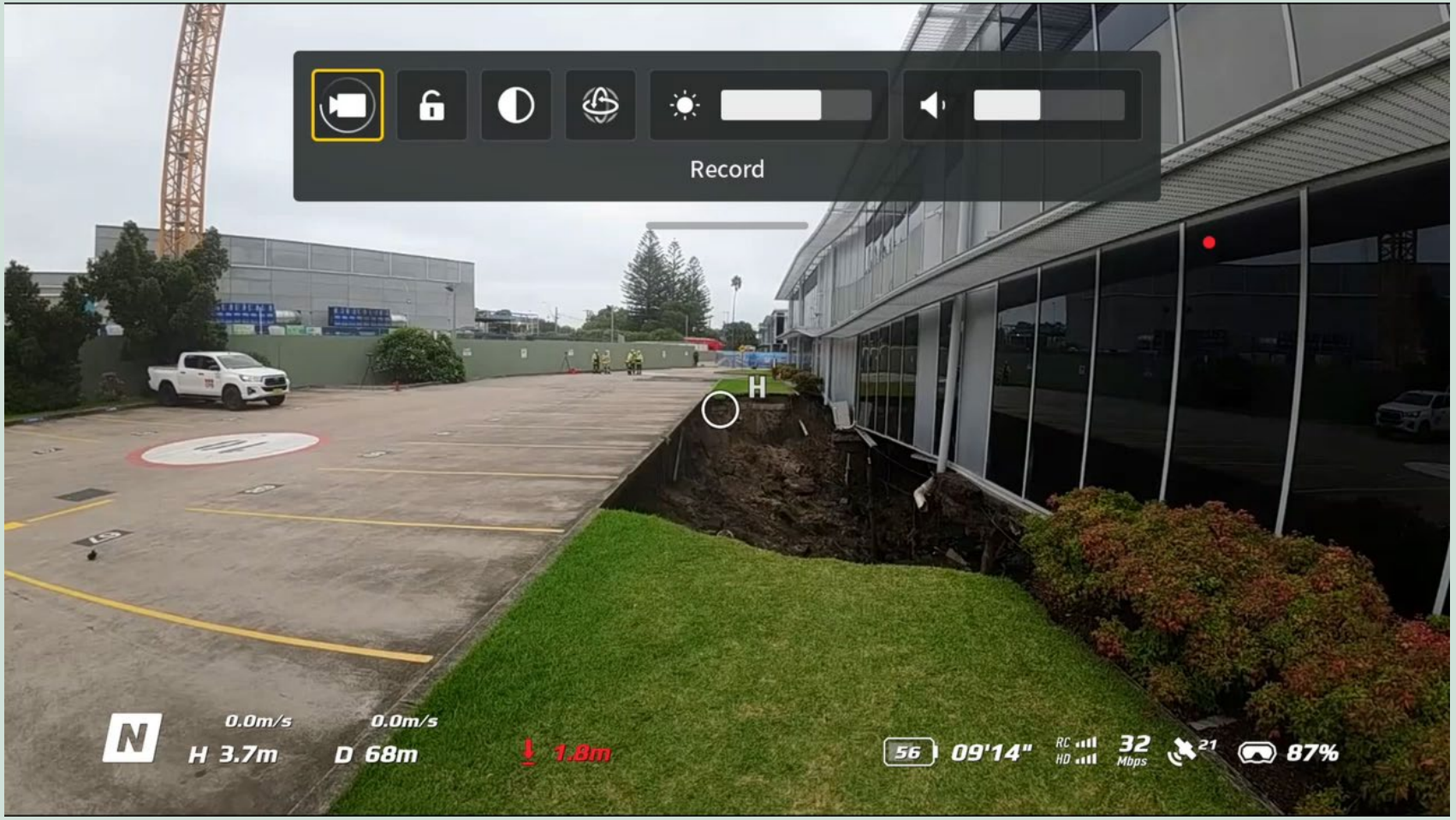


Building subsidence incident:

Situational Intel
Engineer checks
Volumetrics
Keeping firefighters safer

Building subsidence incident:

Situational Intel
Engineer checks
Volumetrics
Keeping firefighters safer



Building subsidence incident:

Underground (tunnel) recon flights

Building subsidence incident:

Recovery phase

Industrial building fire:

Structure assessment

Fire investigation

Domestic building fire:

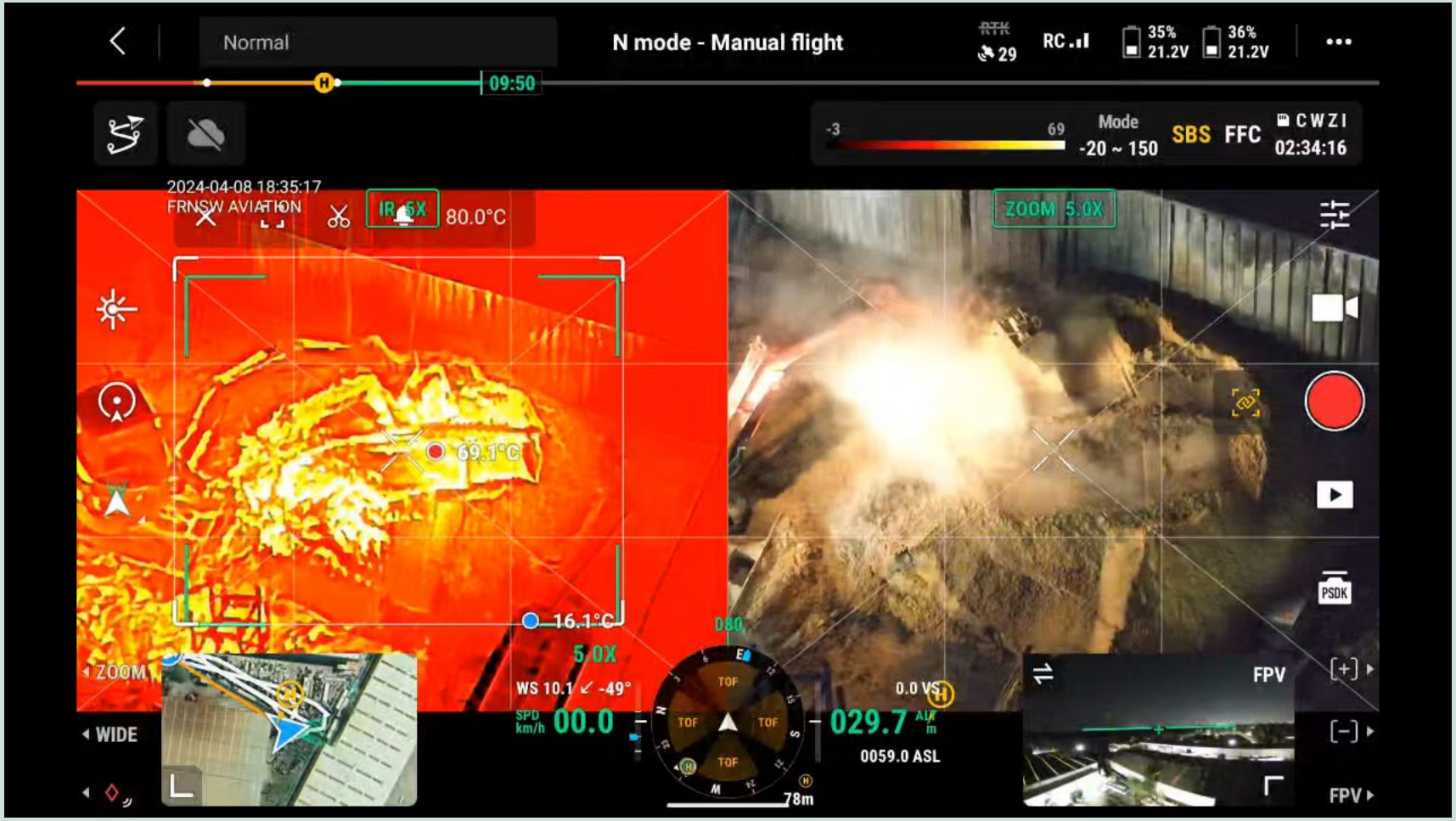
Missing person SAR
Fire investigation
Structure assessment
Keeping firefighters safer

USAR incident:

Situational awareness
Emergency lighting
Keeping firefighters safer

USAR incident:

Situational awareness
Emergency lighting
Keeping firefighters safer



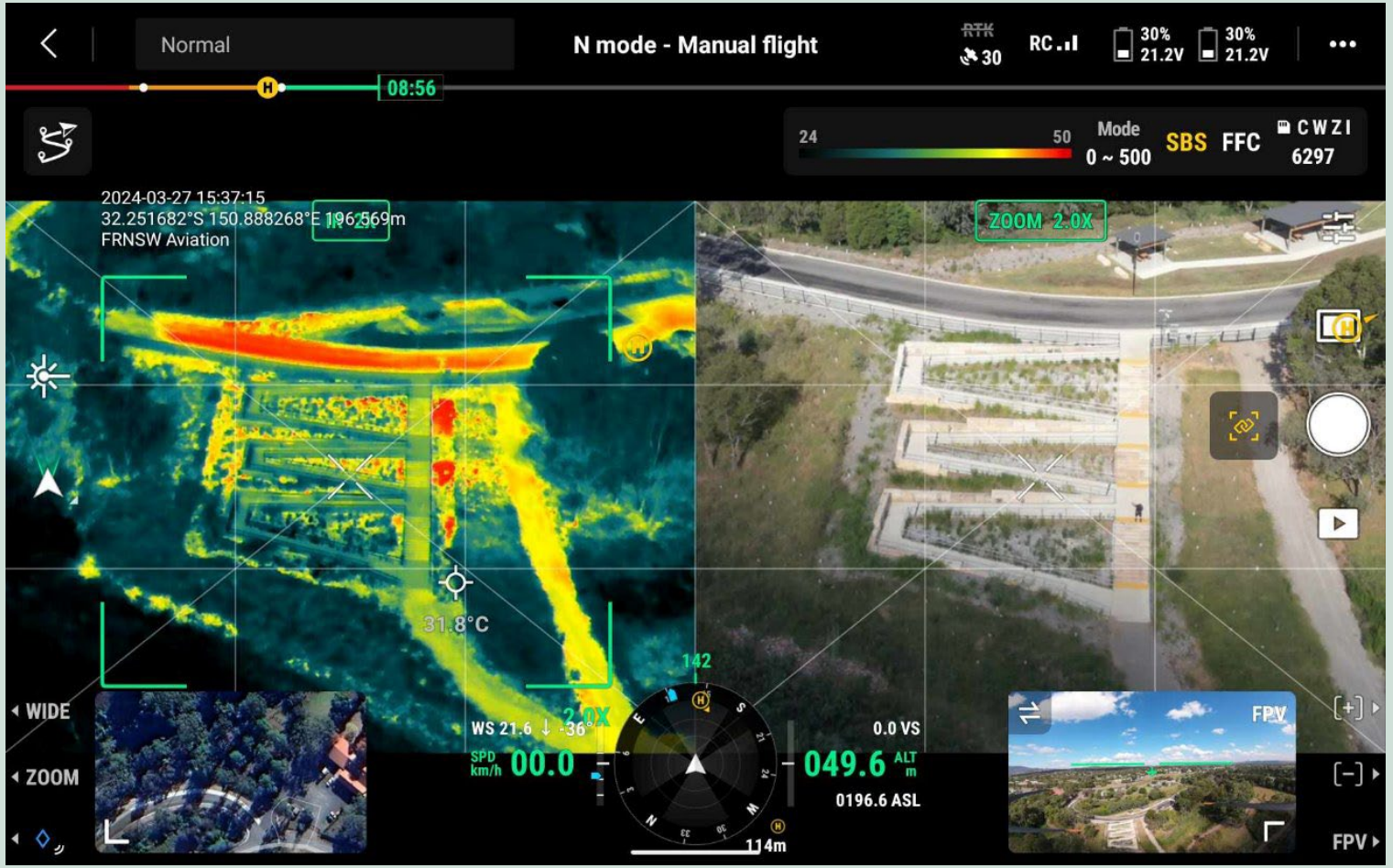
Battery fire:

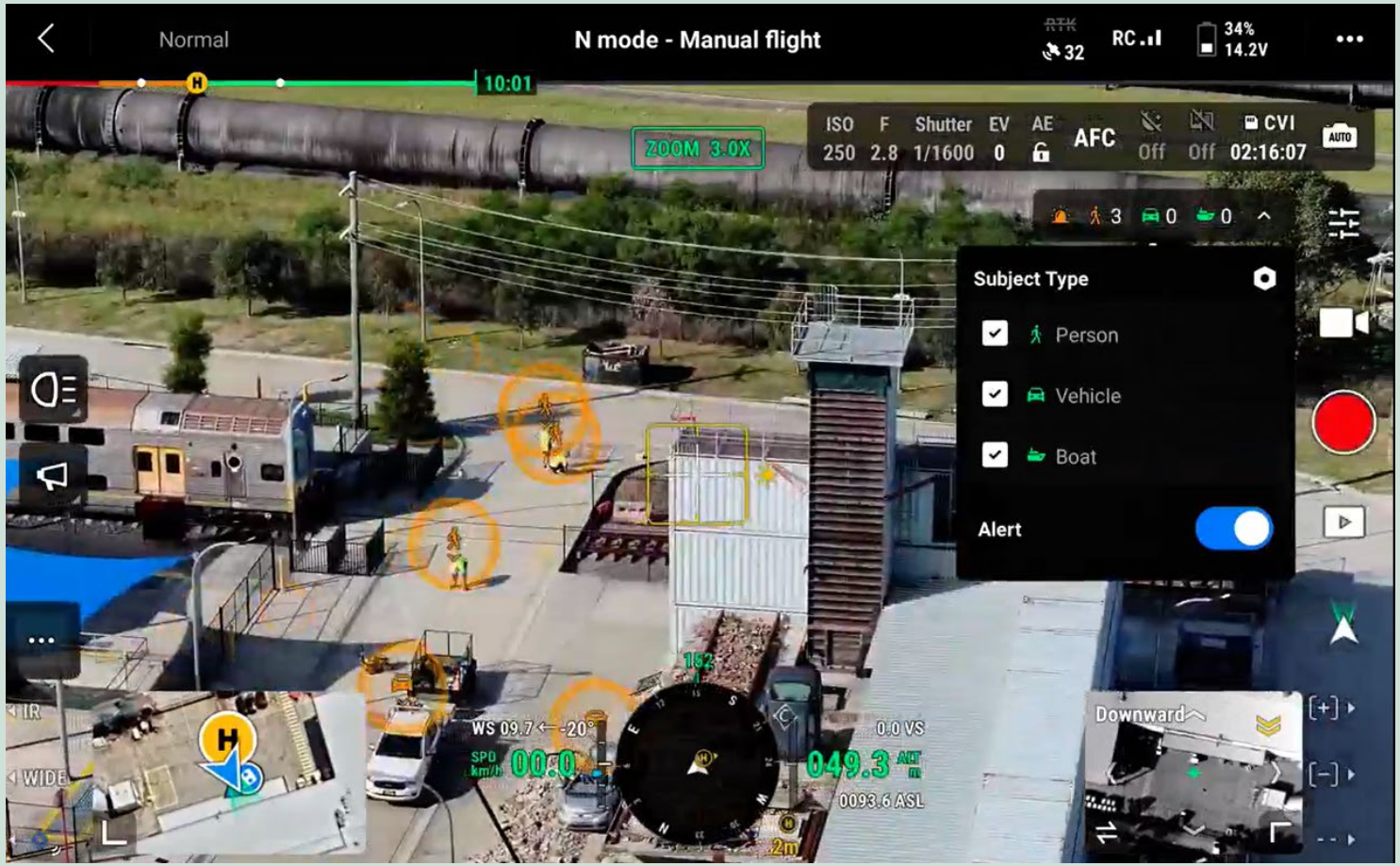
Situational intel
Thermal monitoring
Contractor safety
Aerial gas detection

Bushfire impacting urban interface

Situational intel
Working with crewed aircraft
Aerial incendiary
Keeping firefighters safer

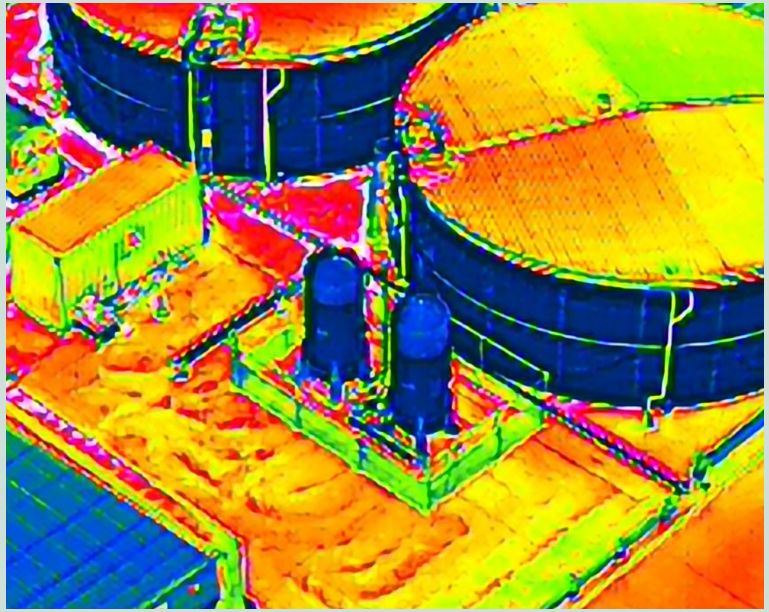
Wide area search: Research - Best practice Training





Wide area search: New innovation: Artificial intelligence

Hazmat incidents



Hazmat incidents

Community resilience

What are the challenges?

Legislation keeping up with technology

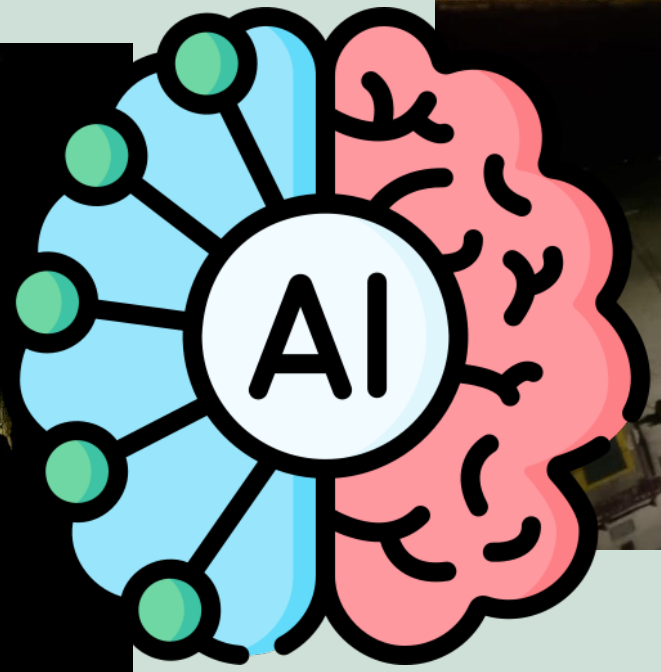
Data management and storage

Acceptance and multiagency integration

Skills maintenance

What’s next? Payload

What's next?

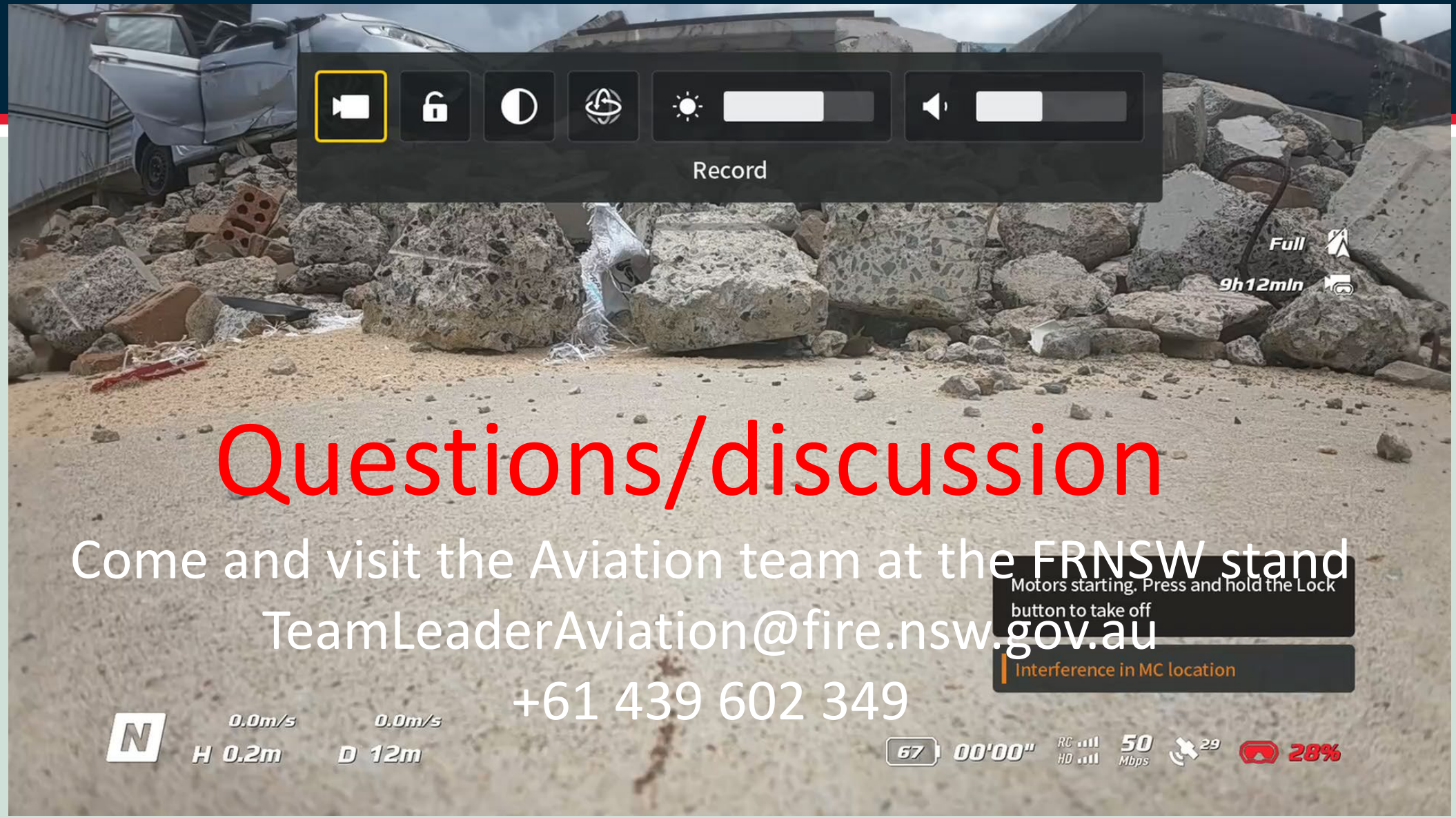


Key messages

- RPAS provide more than just an eye-in-the-sky
- Drones can be deployed in high-risk environments to:
  - Keep our people safe
  - Collect data that can be used to assist decision making and more efficiently manage incidents

Key messages

- Technology moves fast!
- Are there opportunities for this tech to be incorporated into fire protection processes?



Questions/discussion

Come and visit the Aviation team at the FRNSW stand

TeamLeaderAviation@fire.nsw.gov.au

+61 439 602 349