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I am making this submission as	Emergency services
Submission type	Personal
Organisation making the submission (if applicable)	
Your position in the organisation (if applicable)	
Consent to make submission public	Public
Your story	<p>I am an RFS Captain and have been an active member for 26years joining in January 1994.</p> <p>In recent years I have watched closely as spatial technology has improved. One of the most fundamental challenges in bushfire management is knowing where the fire is located in real time. On the ground we often talk about 'hurry up and wait'. A process where we arrive somewhere and then sit around while they decide what to do.</p> <p>The vast majority of this is related to uncertainty about where is the fire.</p> <p>As an example we attended a town that had fire nearby, it was anticipated to reach the town. It had reportedly overnight crossed a containment option A. During the morning the aircraft stopped the fire. As fire fighters we then sat for 12 hours because no one was sure where the fire was. In reality it had stopped and we should have mopped it up and then implemented the plan A</p>

containment strategy. Instead we wasted a whole day with two strike teams of volunteers.

We need to know where the fire is so that we can manage a wide range of issues. For example. Fire location, current fire behaviour, anticipated fire behaviour, threatened assets, depth of backburn/HR, containment options, community messages, mitigation effectiveness, weather impacts etc.

The stakeholders for this location information are almost everyone from the truck on the ground to the sector leader, to the logistics functions to the ICS command functions, media and community.

We need real time visual and IR imaging. It needs to integrate to our mapping solutions and be available to all resources in real time.

The technology exists today for both fixed wing and rotary wing drone style UAV to achieve this. With simple artificial intelligence such devices can stay with and follow the fire as it moves over the landscape.

I see two use cases.

First being a small incident managed locally. Here a set of UAVs would exist in each region or area office and would be launched locally in the field. They would transmit over the GRN data network and provide real time feedback. The device would be controlled by the Ops officer who would modify the flight track accordingly.

The second scenario is for large scale events where a larger fixed wing UAV would be deployed and managed by a specialist operator. This would fly beyond visible sight range and could use AI to stay with the fire whilst also identify spot fires.

In both scenarios the UAV and other fire fighting aircraft would need to operate together. This has both real and perceived issues however we must work to surpass these.

The safety of fire fighters, community and the environment depends on us knowing where the fire is. We can then manage the fire effectively and the days of waiting will be a part of our history.

1.1 Causes and contributing factors

1.2 Preparation and planning

1.3 Response to bushfires

1.4 Any other matters

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