

Hawai'i Cloud Innovation Summit 2023

# Building a Resilient Hawai'i

Reducing the Barriers to Cloud Technology in Disaster Response

**Maurice “Mo” Ramsey**

Leader, Disaster Response and Humanitarian Affairs

Amazon Web Services (AWS)



# AWS Disaster Response

As a pillar of the AWS Social Responsibility & Impact team, our program's mission is to philanthropically support communities throughout the disaster lifecycle by improving access to AWS technologies, technical expertise, and volunteerism.



*“We innovate by starting with the customer and working backwards.”*

**Jeff Bezos**

*Founder and Executive Chair, Amazon*



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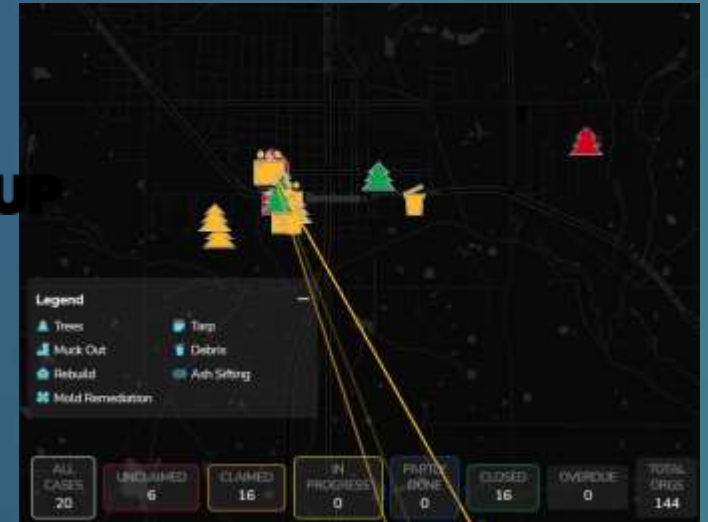
# Solution incubation and prototyping



- Technical focus: addressing capability gaps in humanitarian assistance and disaster response (HADR) space
- Develop technical Proofs of Concept (POCs) using AWS technology and commodity hardware
- Examples: situational awareness, live drone footage streaming, Snowball Edge clustering

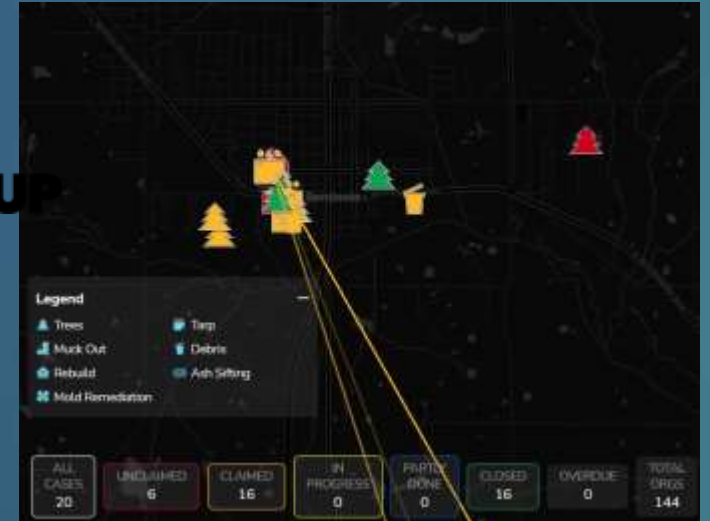
# Employee Volunteerism

- Disaster Response Team (DRT)
- Fielding hotline calls
- Ongoing partnership with Humanitarian OpenStreetMap Team (HOT)



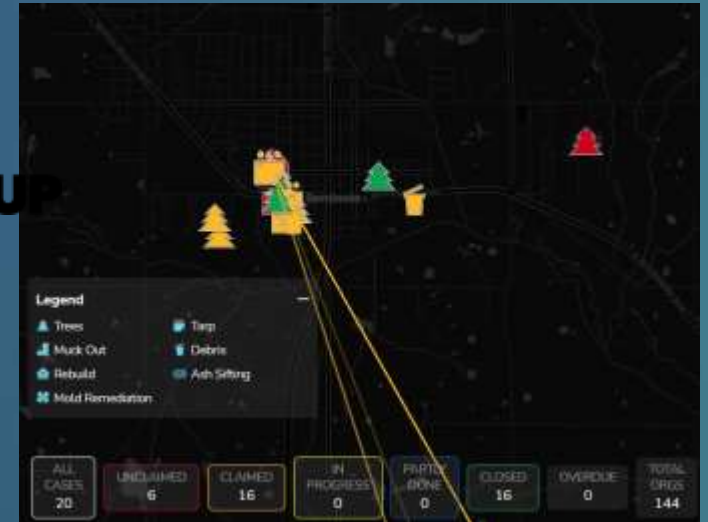
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# Gain Alignment

re:Invent 2019, Andy Jassy



*“When you think of the first element of a digital transformation like adopting cloud, it turns out it’s not technical, it’s all about leadership. There are differentiators between companies that are successful versus those that just talk about it.”*



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# Consider the Following

-  Ensure your 'house' is in order
-  Keep communities connected and engage volunteers
-  Embrace the power of partnership
-  Appetite and maturity for technology
-  Innovation with flexibility
-  Preparation is key

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# Field Test Exercise (FTX) Program

- 2-3 day events
- Open airspace
- Private property
- Failure safe environment
- Increased collaboration with a focus on building



# FTX-A (Anywhere)



During the first three days of re:Invent2022, the AWS Disaster Preparedness and Response team collaborated with WWPS teams, APN partners, and Help.NGO to demonstrate emerging humanitarian, first responder, and military capabilities in a disconnected/remote location ~17 miles from Las Vegas.



# Vehicle Program

- Rolling lab(s)
- Package edge devices, comms gear, and IoT sensors into repeatable mobile platforms
- Augment response operations with AWS technologies



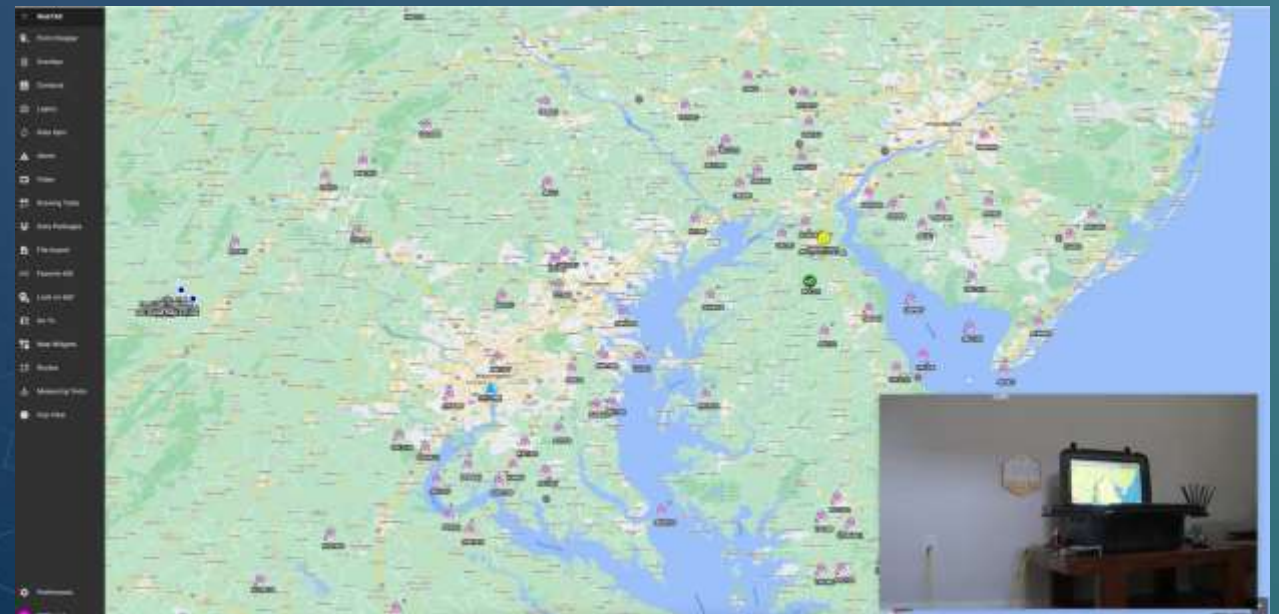
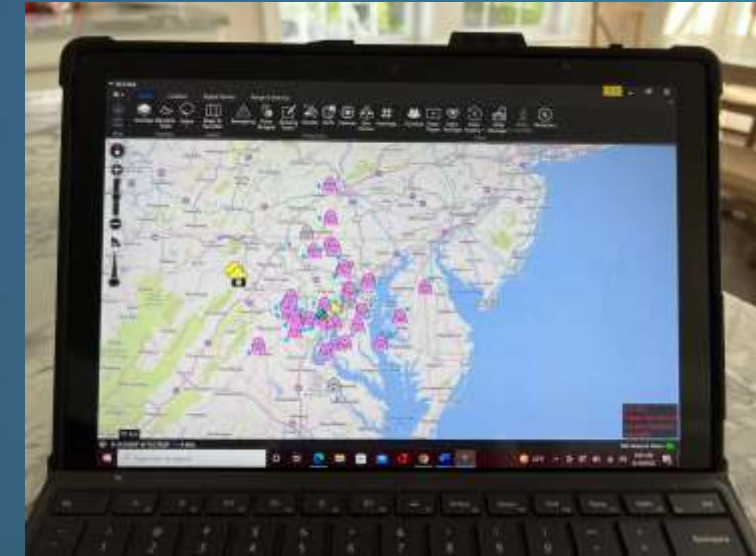
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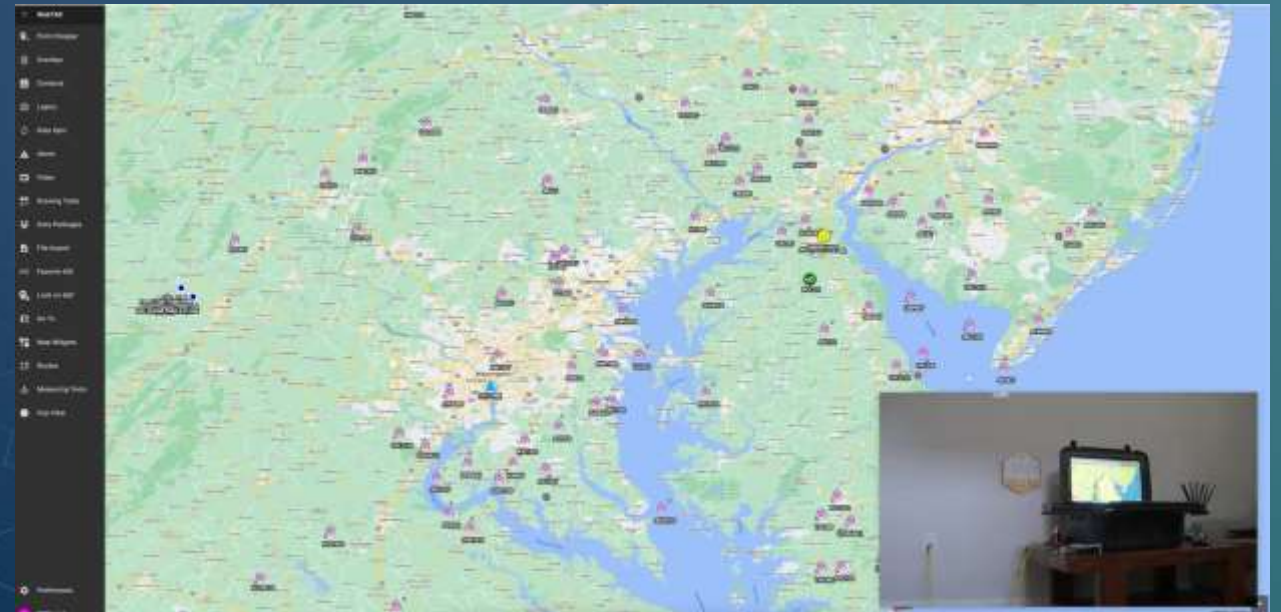
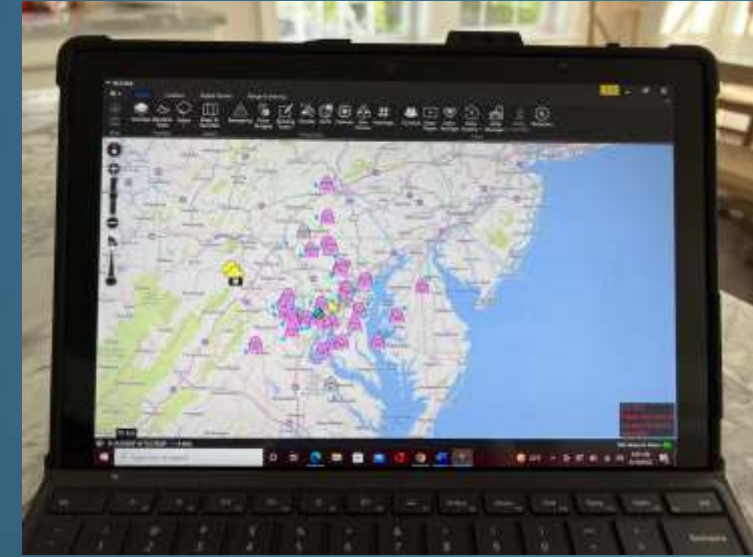
# Augmented Situational Awareness

- Locations of commercial aircraft, UAS, vehicles, and ground teams
- Data streamed to an open source common operating picture



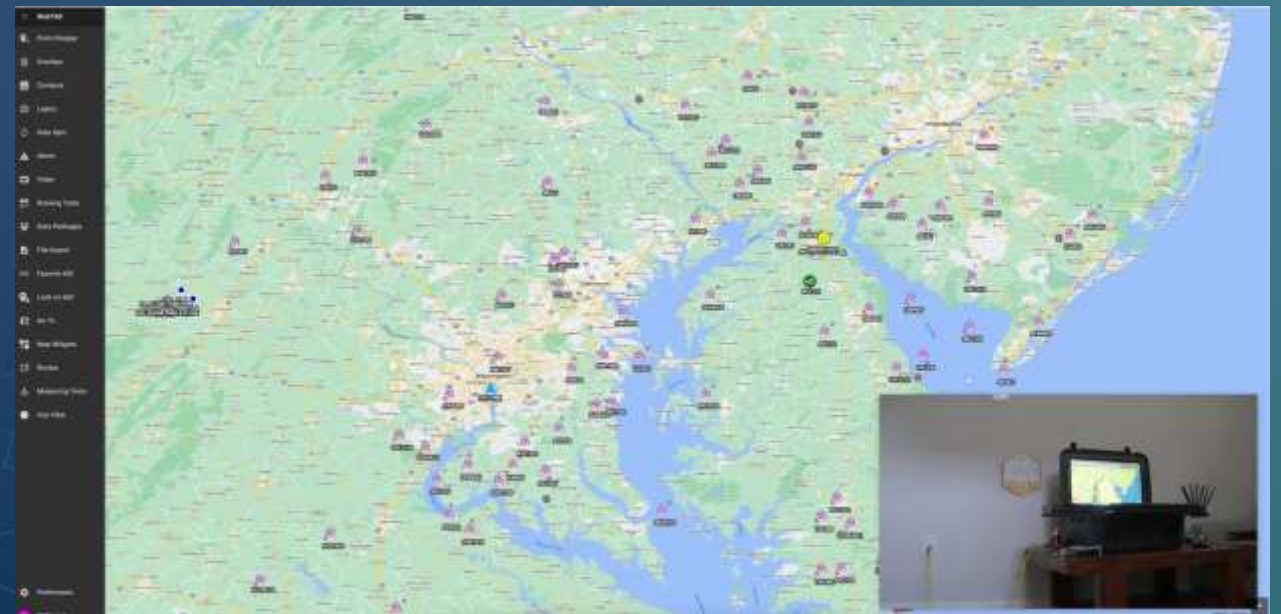
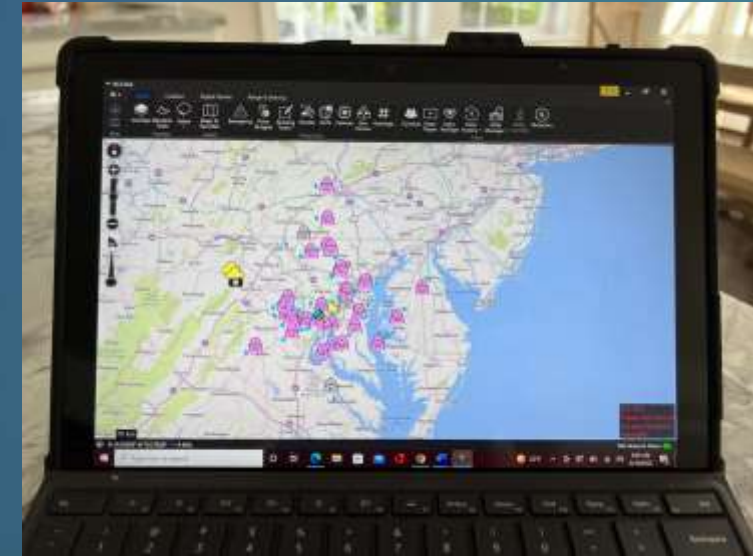
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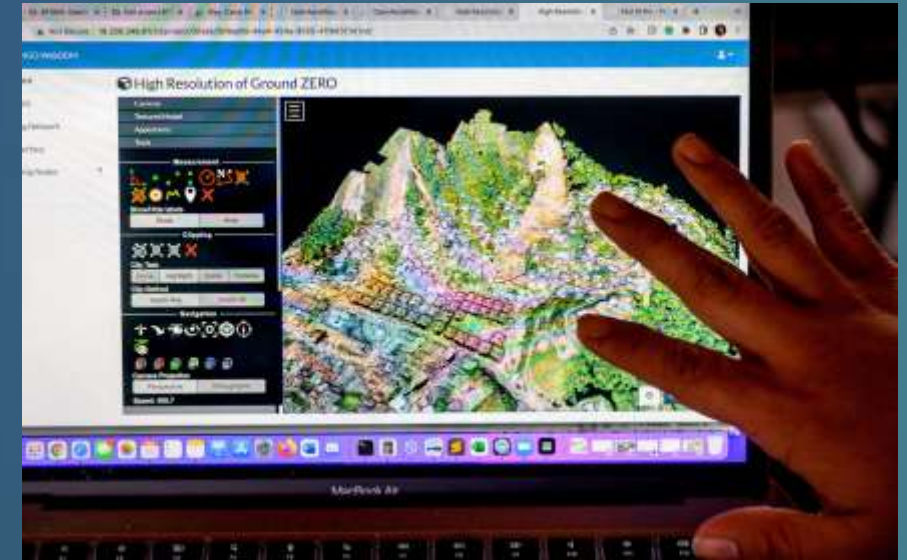
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# UAS Mapping at the Edge

- Deliver 2D & 3D maps without connectivity
- Scales to multiple UAS pilots quickly
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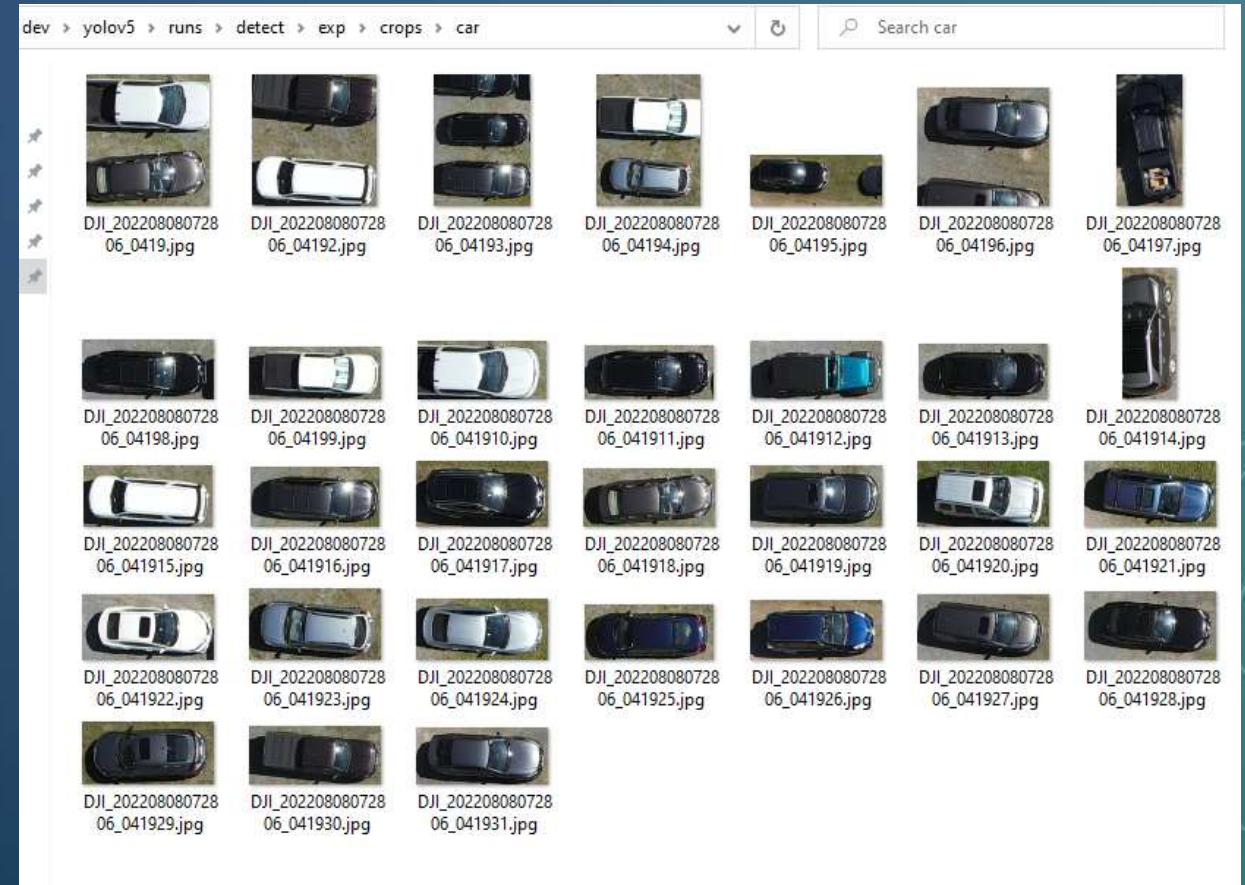
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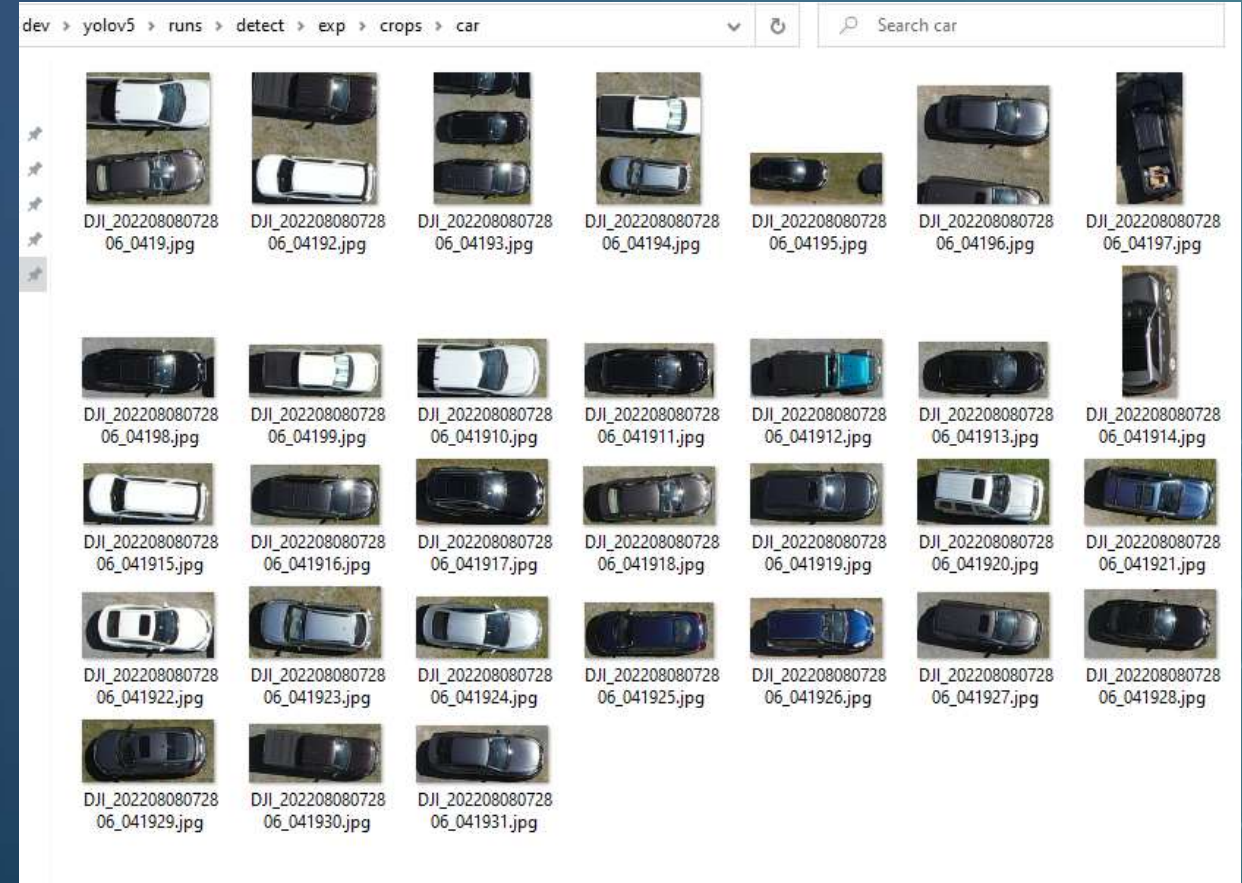




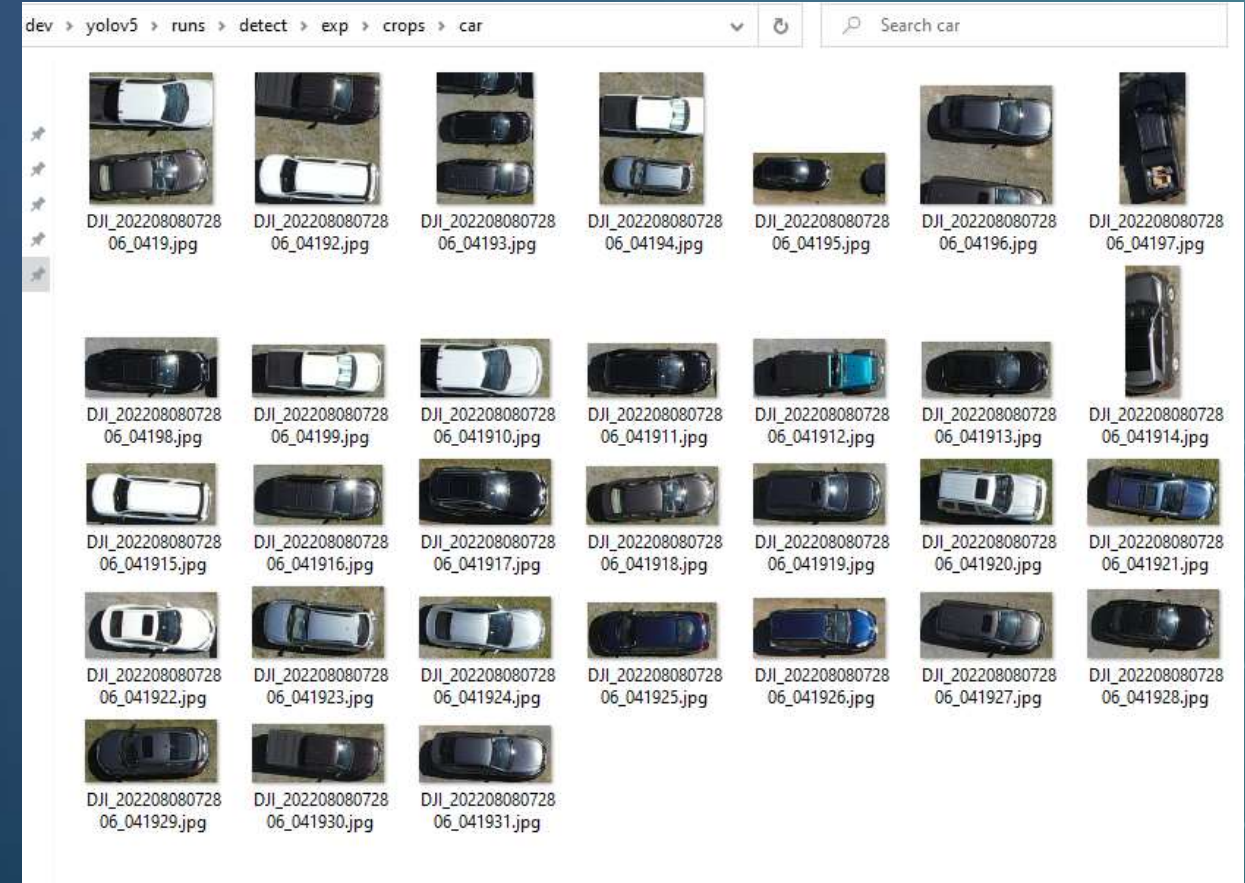
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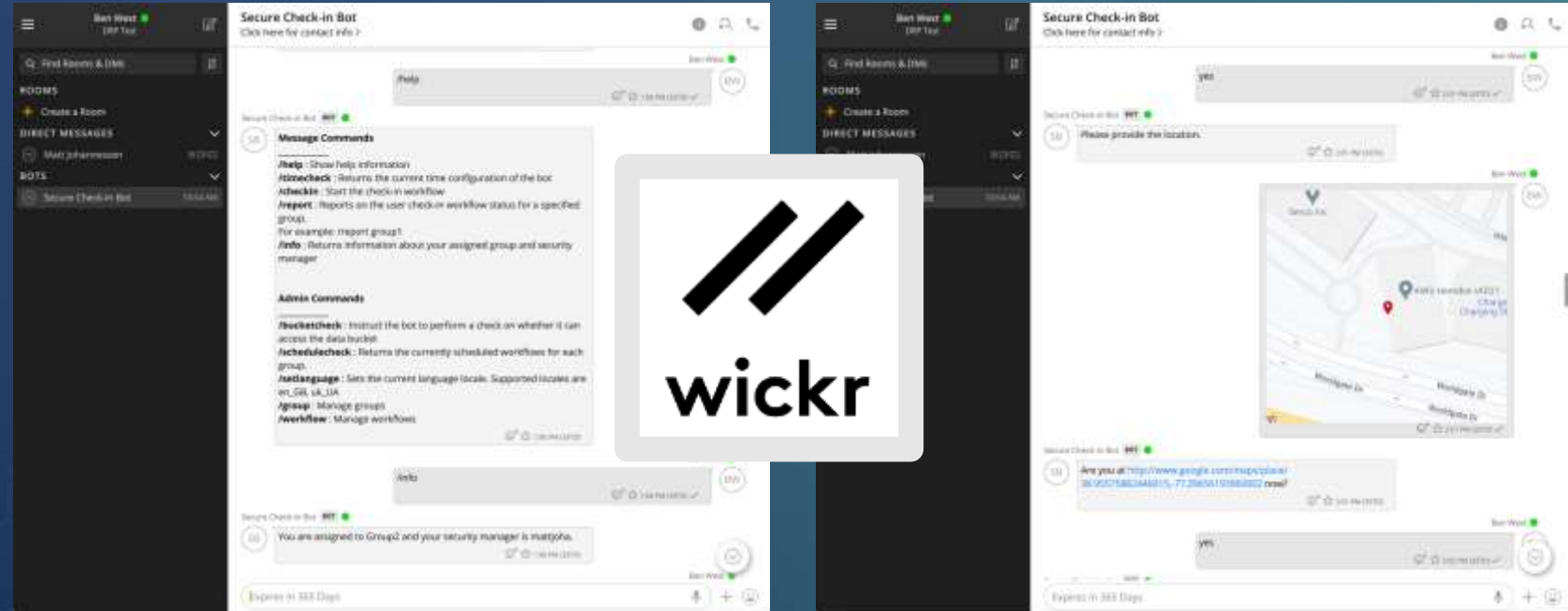
# UAS Object Detection

- Live UAS feed captured at a forward location
- Local mesh over IP to Snowball Edge
- Re-stream to multiple clients
- Low latency, despite being 0.75 miles away from the edge device



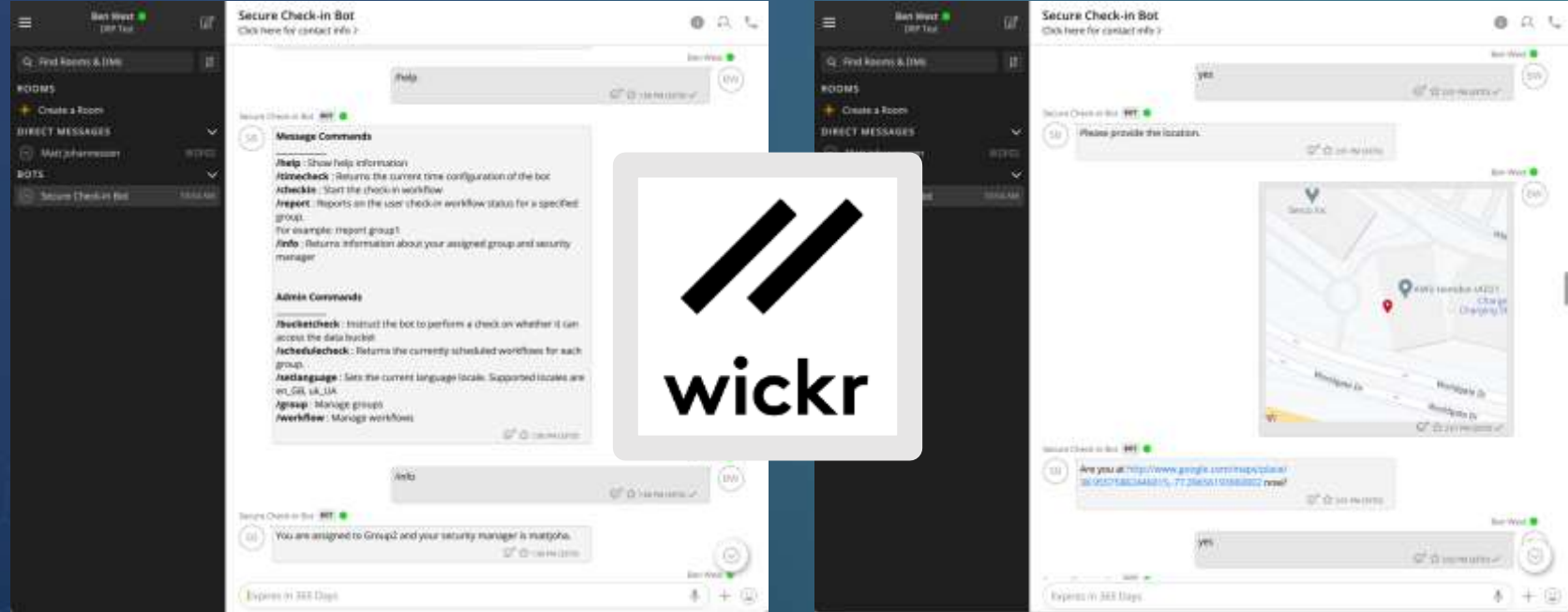
# Secure Communications

- Wickr for field teams to communicate
- Automated safety bot for daily check-ins



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# How Can We Help You Innovate?



# Keynote 5 - Building Resilience and Collaboration in Disaster Response: Harnessing Technology for Hawaii's Preparedness and Recovery



<https://www.pulse.aws/survey/2VQRTSXJ>

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# Thank you!

