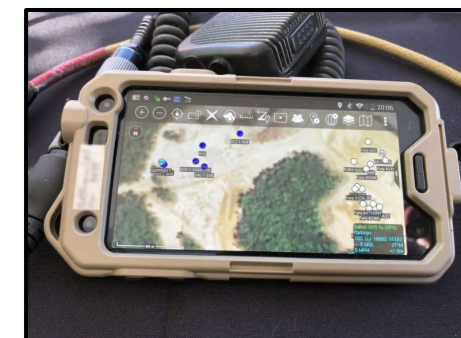
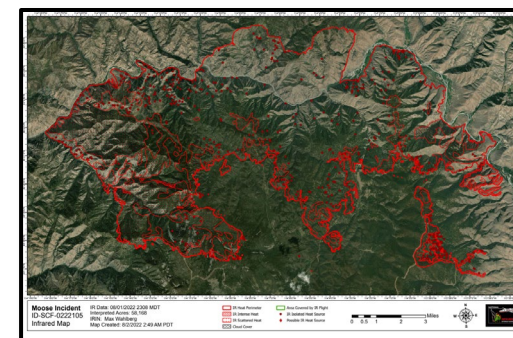
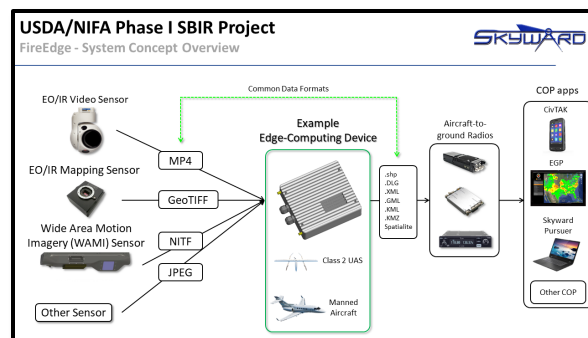
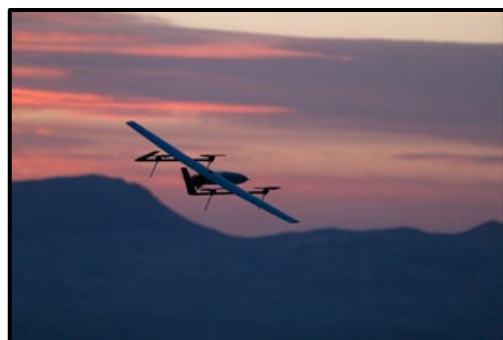


FireEdge

Fire & Hotspot Detection & Mapping at the Edge

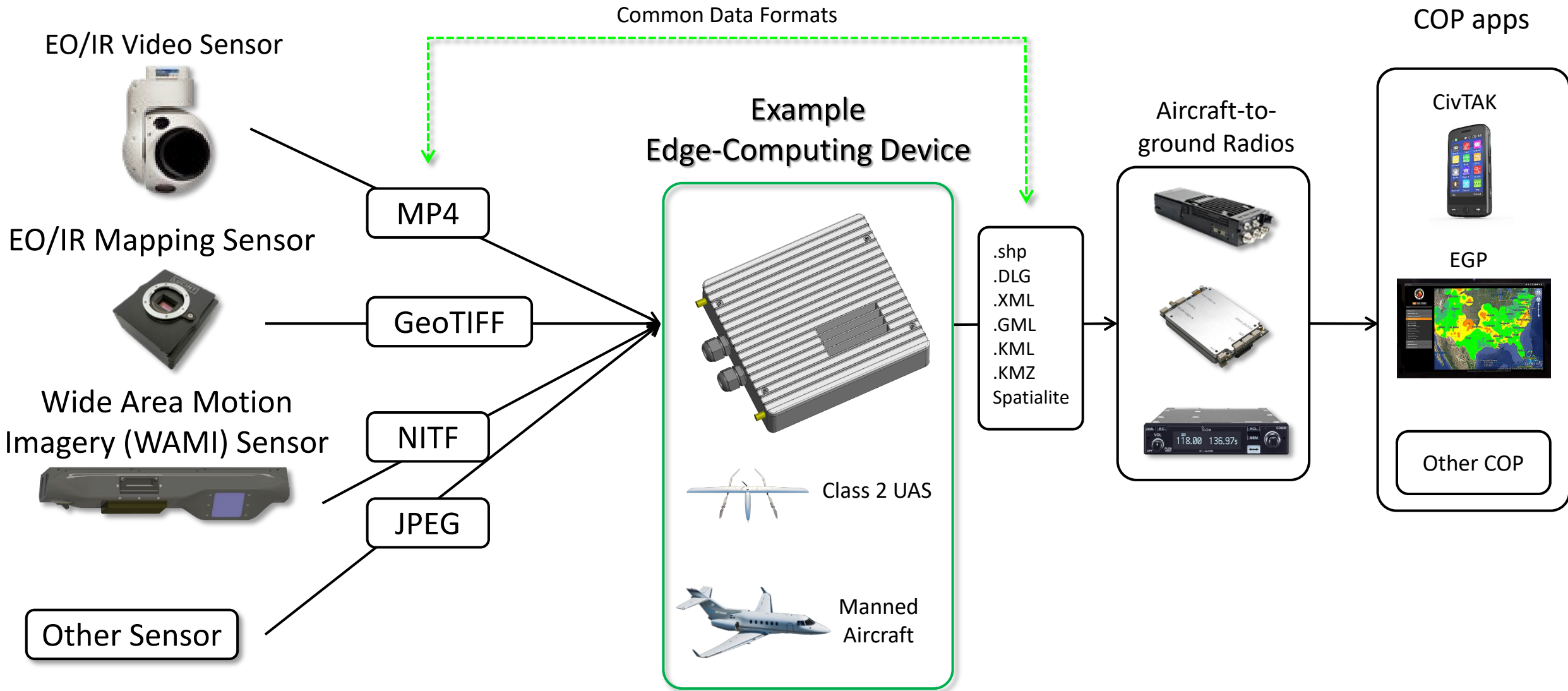
Phase I SBIR Program Demonstration
29 NOV 2022

Christopher Rowley, Director of UAS & Geospatial Solutions at Skyward, Ltd.



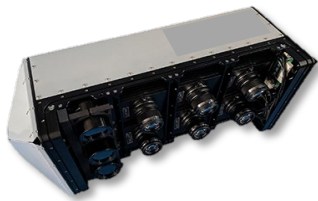
USDA/NIFA Phase I SBIR Project

FireEdge – System Concept Overview

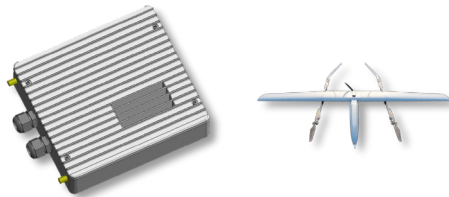


USDA/NIFA Phase I SBIR Project

FireEdge – Project Approach & Focus



EO/IR Mapping Sensor



UAS-Mounted Detector



Persistent Systems
Wave Embedded Relay Module
(MESH/MANET)



CivTAK &
FreeTAKServer

5-channel MSI

- VIS
- NIR
- SWIR
- MWIR
- LWIR

GeoTIFF

Detector Unit

- Based on current hardware design
- SWAP for Class 2 UAS
- ML-based Fire Detections
- Software conversion to vector files for output
- Vector files formatted according to standards currently used on fire maps

.shp
.KML
.KMZ

Air-to-ground Comms

- Have on hand
- Ground-based sector antenna
- Serial/ethernet/USB
- Tested at 50 miles & 10K ft AGL / enables BVLOS testing in Phase II
- Fast/high data throughput

Common Operating Picture

- ATAK-based architecture tested and in use by fire community
- Developing a field deployable TAK Server / data usable by analysts and firefighters



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