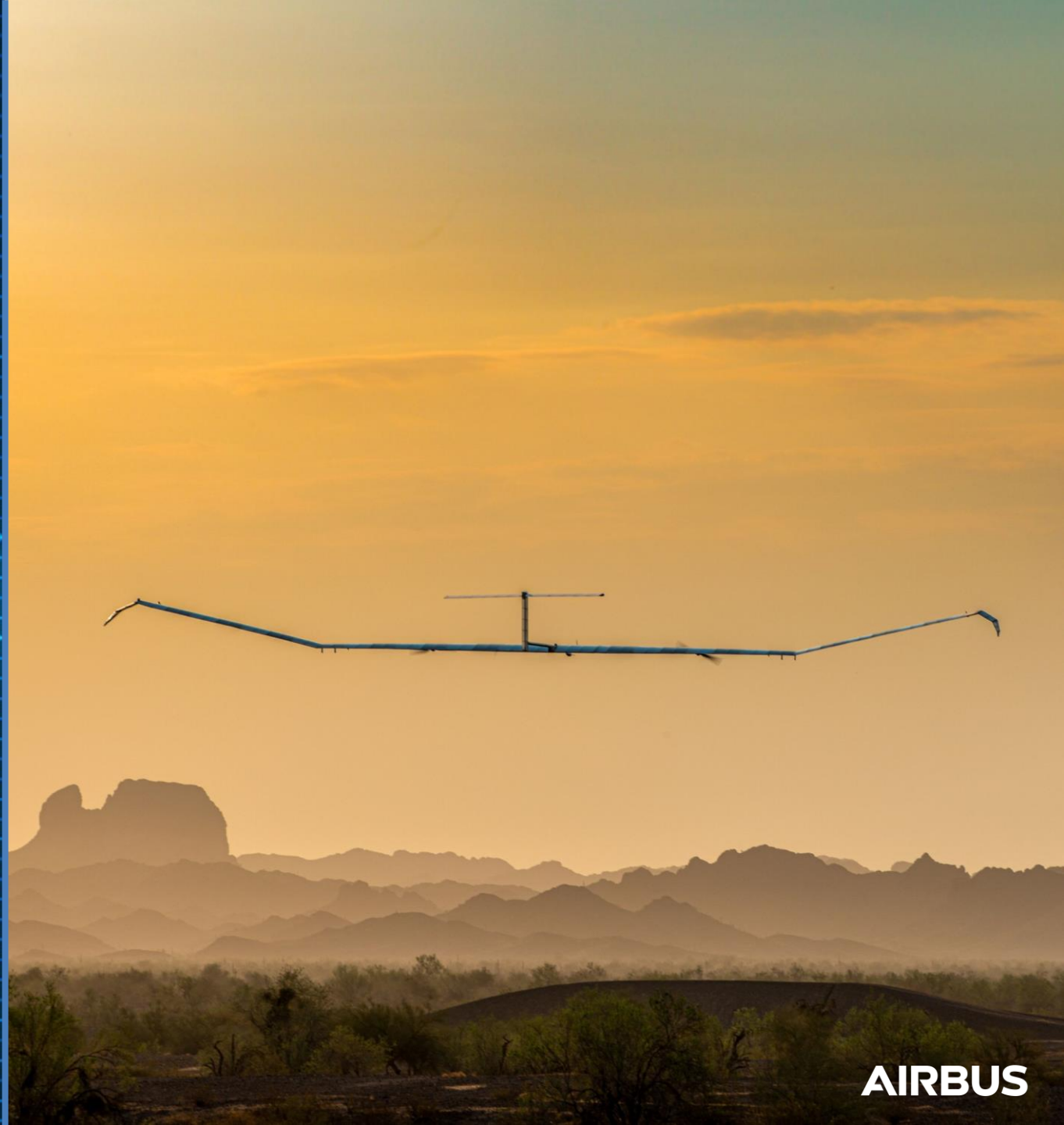
DEFENCE AND SPACE

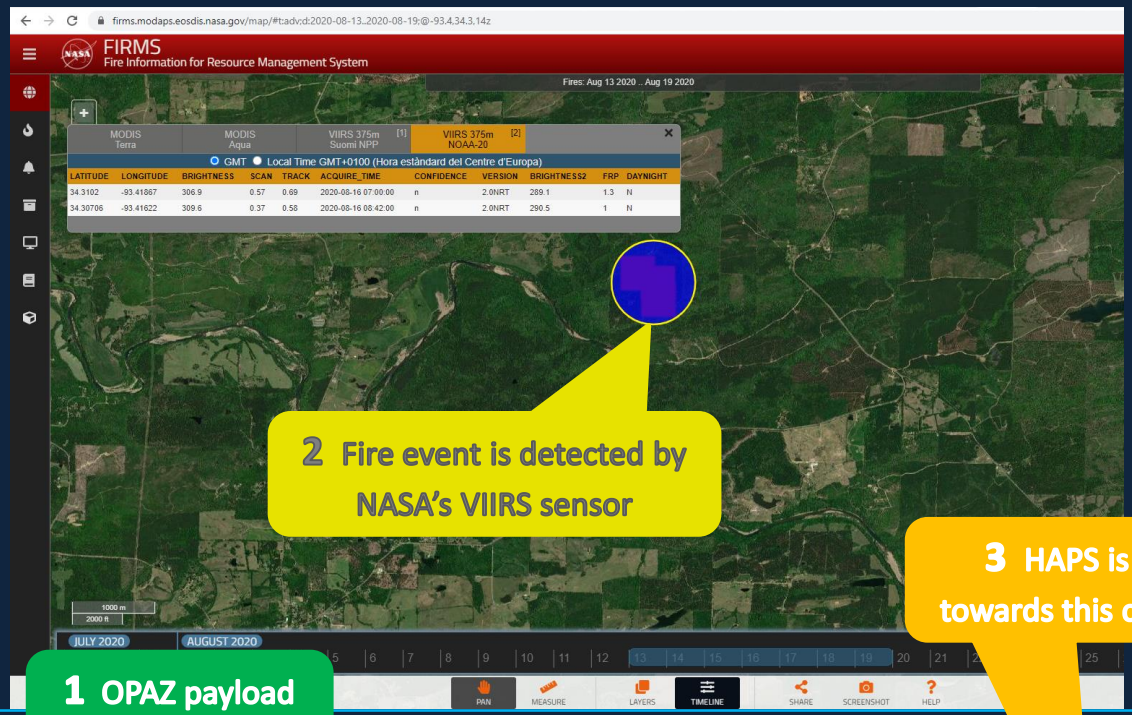
PREVENTING & FIGHTING Fire FROM THE Stratosphere

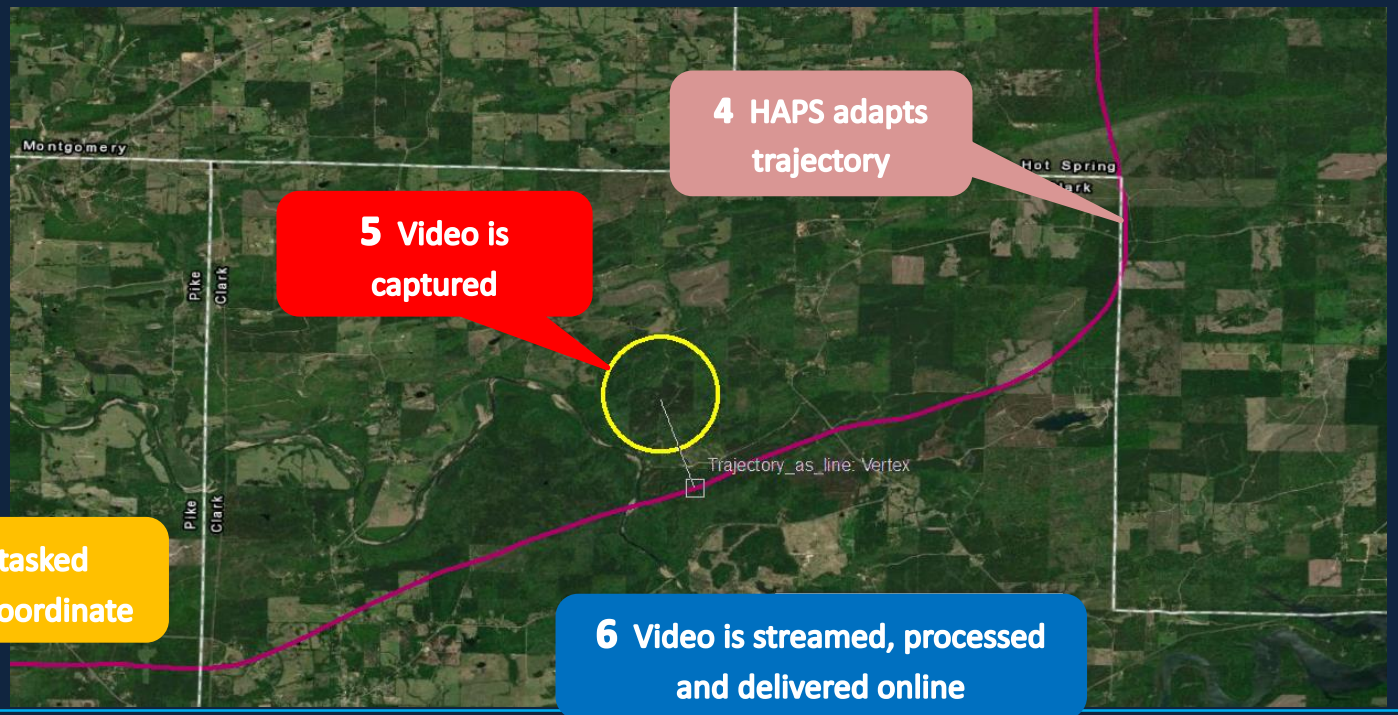
Pere Roca (Airbus)

HAPS Alliance Summit
15th Nov 2021



Loon & Airbus collaboration (August 2020)



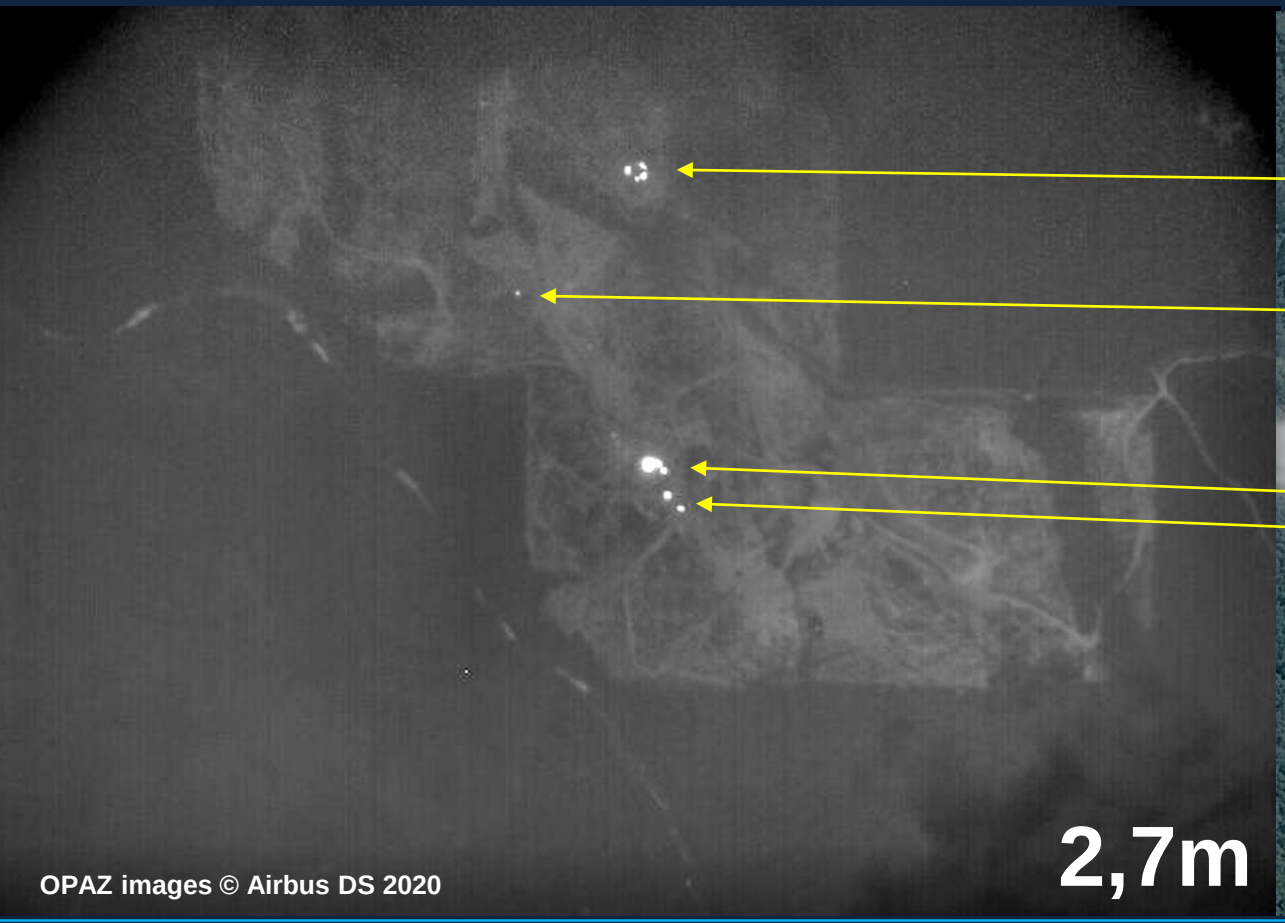


3 HAPS is tasked towards this coordinate

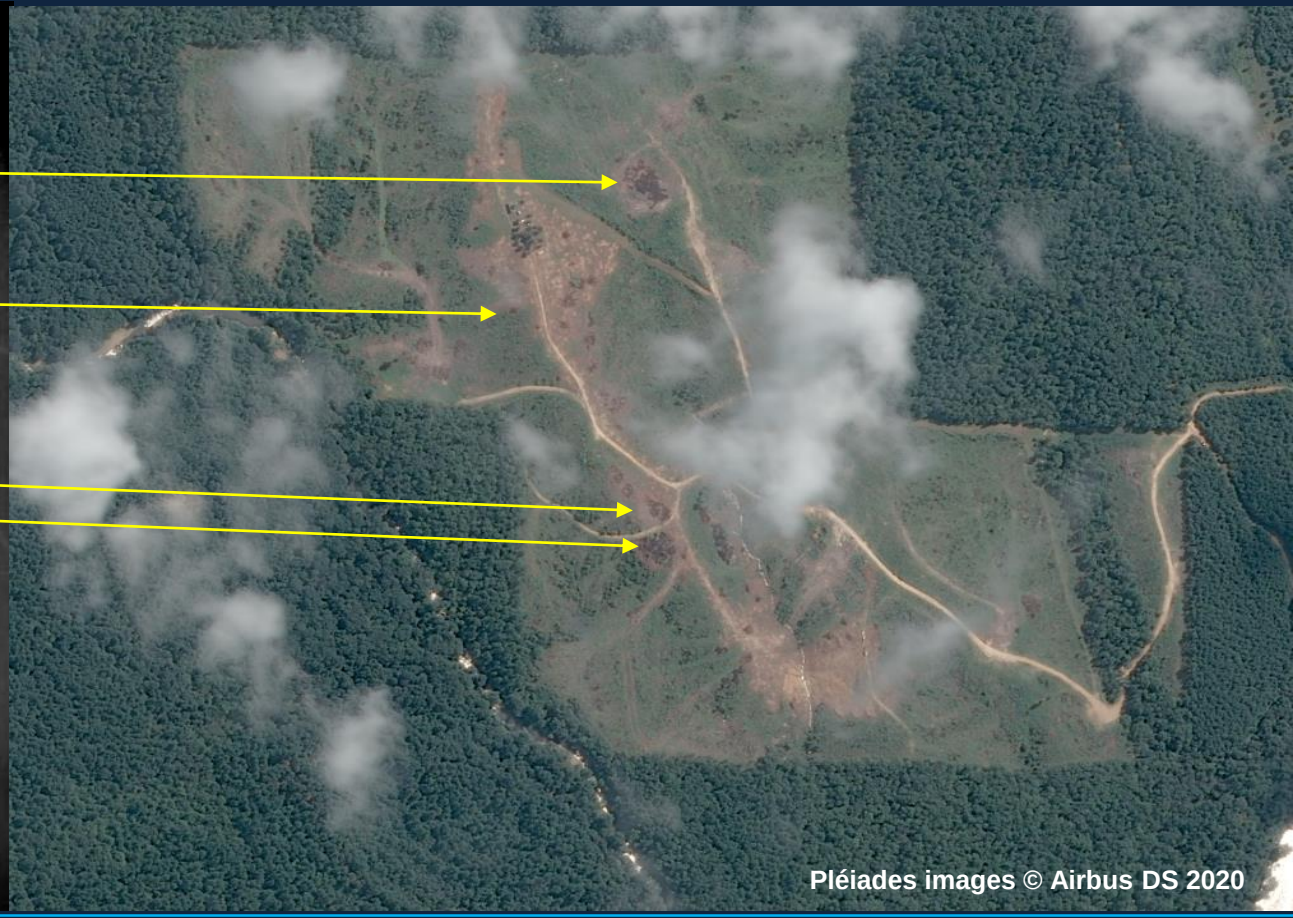
- ✓ Optical sensor: 0.18m
- ✓ MWIR sensor (with zoom):
  - 0.7m 336x448m
  - 17m 9x11km

- ✓ Live streaming
- ✓ Real-time processing, orthorectification and availability via WMS (OneAtlas)

AIRBUS



OPAZ images © Airbus DS 2020



Pléiades images © Airbus DS 2020

This is a still image extracted from a 5 fps video

GSD = 2.7m

1730 x 1300m

Variable cloud cover 0 to 75%*

* weather.us

Hot spots detected

in a recently harvested plot (wood industry)

Remaining hot spots are responsible of a significant number of burnt surface due to rekindle of supposedly extinguished fires (source: ADAI, Portugal)

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Zephyr campaign (July-September 2021)

Mobile ground station

Operations in US NAS (FAA approval)

20,000+ images
30 different use cases

Accurate trajectories and full station keeping

AIRBUS

FIRE-RES

European Commission

European nations, industry, scientists and fire professionals united with a common mission:

Making Europe resilient against extreme wildfires

- 35 partners
- 12 EU states and Chile
- 20 M€

Airbus - HAPS service definition
- Performance simulation
- Implementation roadmap

AIRBUS

DEFENCE AND SPACE

FIRE-RES

European Commission

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FIRE-RES

European Commission

Service units

Event sources

KPI definition

Fleet sizing

Deployment rules

Constraints

KPI assessment

Conclusions

Implementation roadmap

Flexible, persistent and accurate HAPS constellations are “taking off” to provide value to the wildfires community

Thank you !

AIRBUS