

EUROPEAN DAA

Live Demonstration

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BACKGROUND TO THE DEMONSTRATION

- A demonstration within the SESAR PJ 13 ERICA
 - Solution 111: Collision Avoidance for IFR RPAS
 - Solution 115: IFR RPAS accommodation in Airspace Class A to C
 - Solution 117: IFR RPAS integration in Airspace Class A to C



**“ENABLE RPAS INSERTION IN
CONTROLLED AIRSPACE”**

SAAB CONTRIBUTION WITHIN s111

Solution 111: Collision Avoidance for IFR RPAS

- Fast Time Simulations Full DAA – SAAB (EXE_111_001)
 - Statistical performance analysis related to safety and operational acceptability metrics
- Real Time Simulations - SAAB/LFV (EXE_111_002)
 - Operational evaluation with ATCO and Remote Pilot in the loop
- Flight Demonstration – SAAB (FD_111_001)
 - Demonstration of technology



Flight Demonstration – SAAB (FD_111_001)

A prototype of the European DAA has been integrated into the UMS Skeldar V-200 VTOL



WHY DAA?

2002 Überlingen



C130 & RQ-7 Shadow
over Afghanistan



2006 South America

LIVE DRONE DEMO DAY

05-10-22



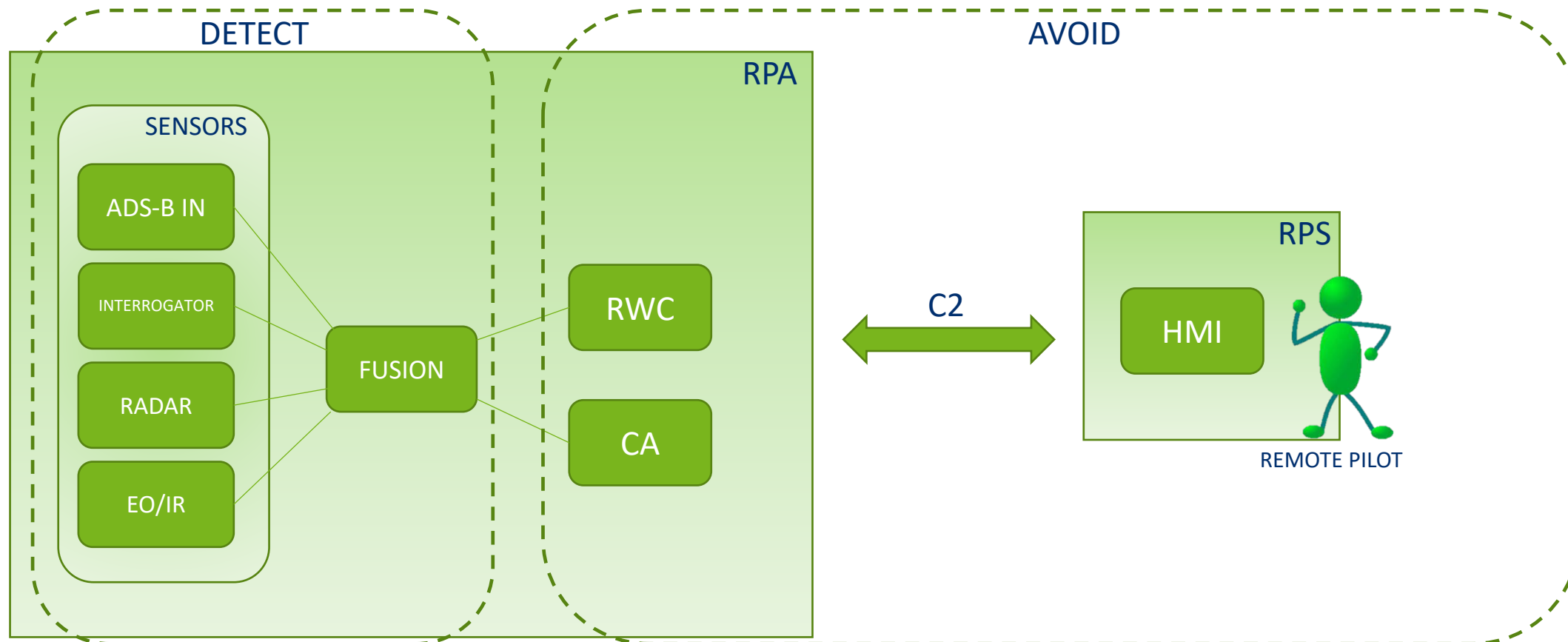
LUNA (UAV) over Afghanistan



SAAB

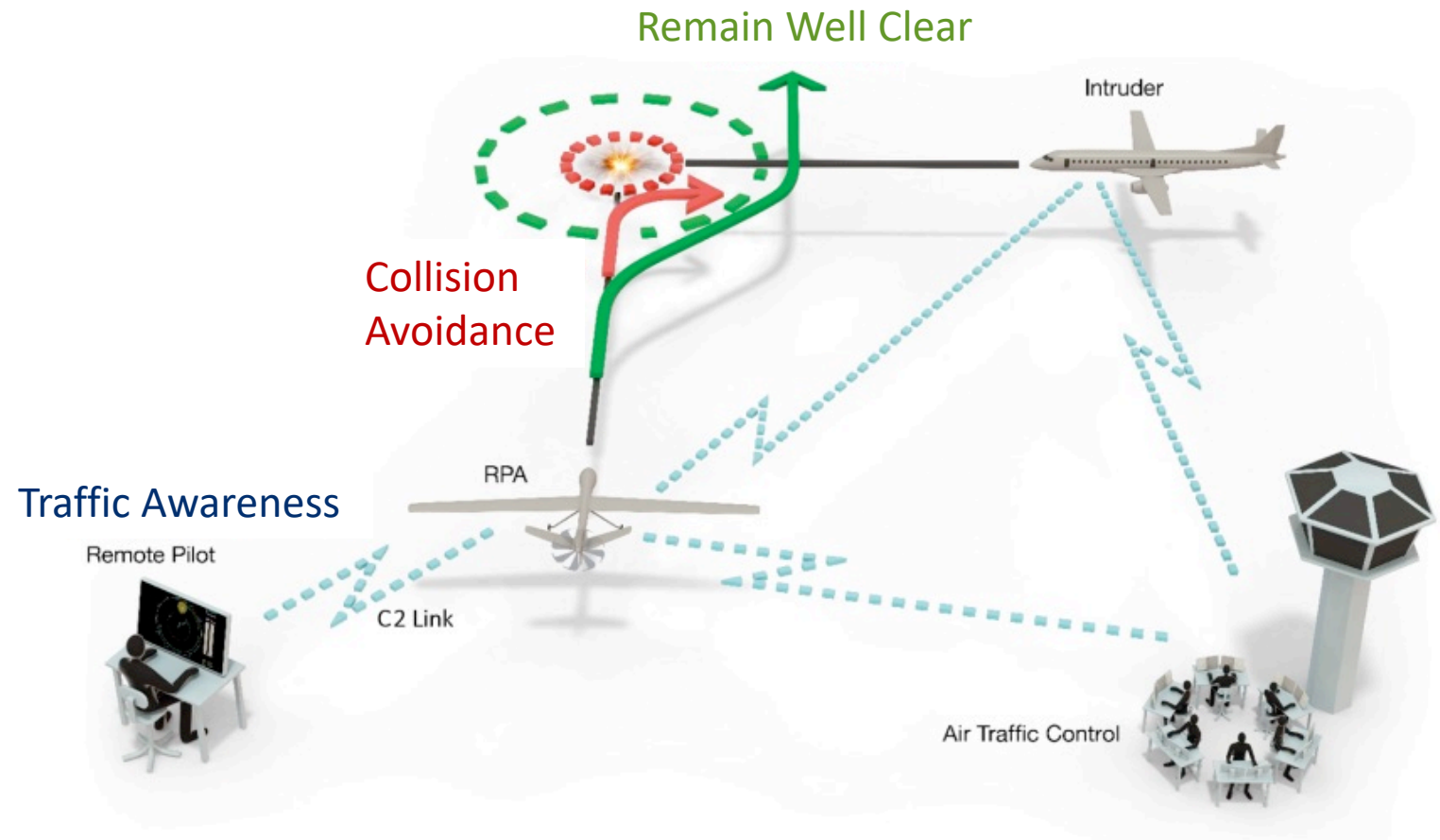
WHAT IS DAA?

A system to Detect and Avoid other traffic in the airspace



FROM AN OPERATIONAL PERSPECTIVE

- Traffic Awareness
 - "Be informed"
- Remain Well Clear
 - "Don't scare others"
- Collision Avoidance
 - "Don't collide"



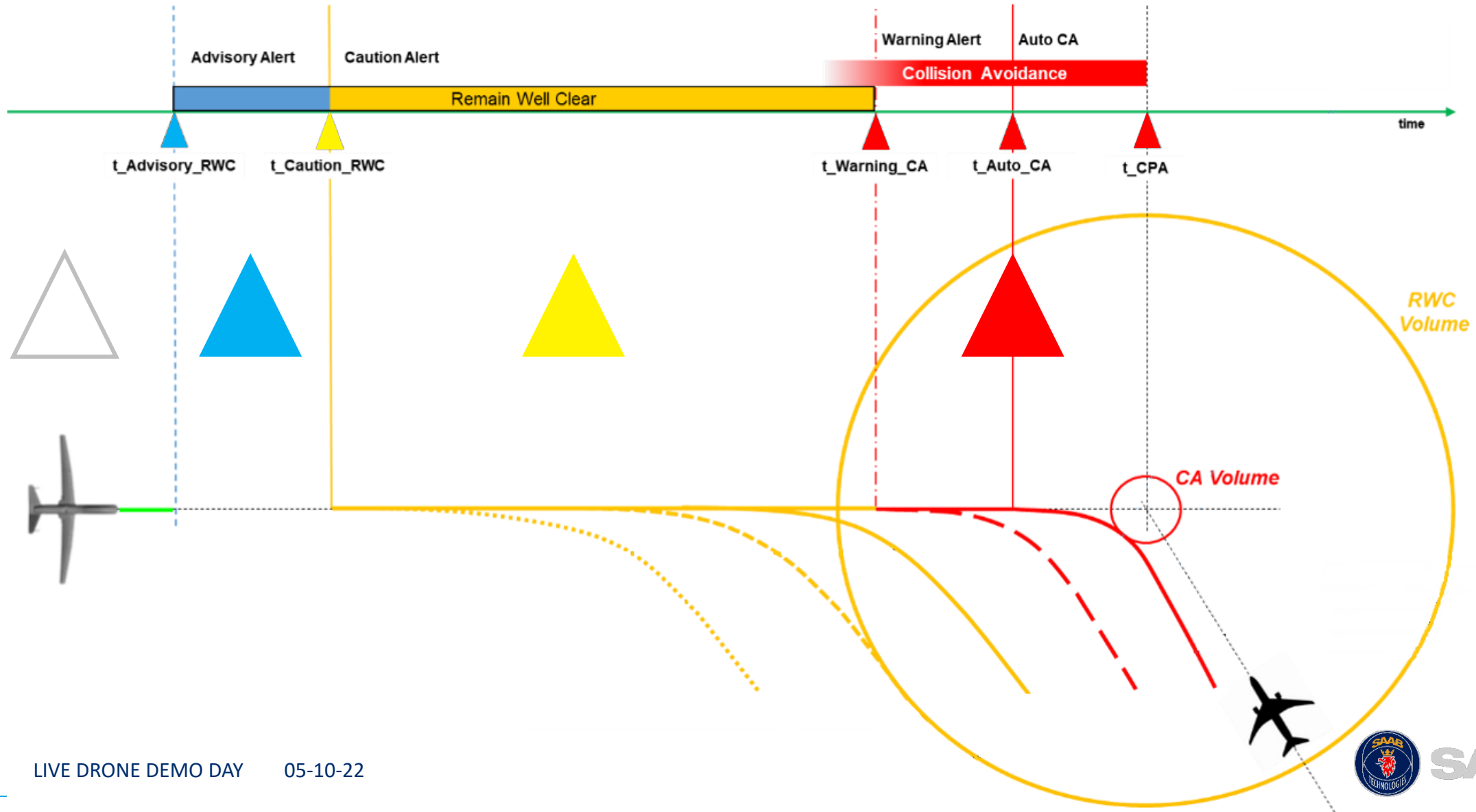
WHAT WILL YOU SEE NEXT?

Live demonstration of EU DAA prototype:

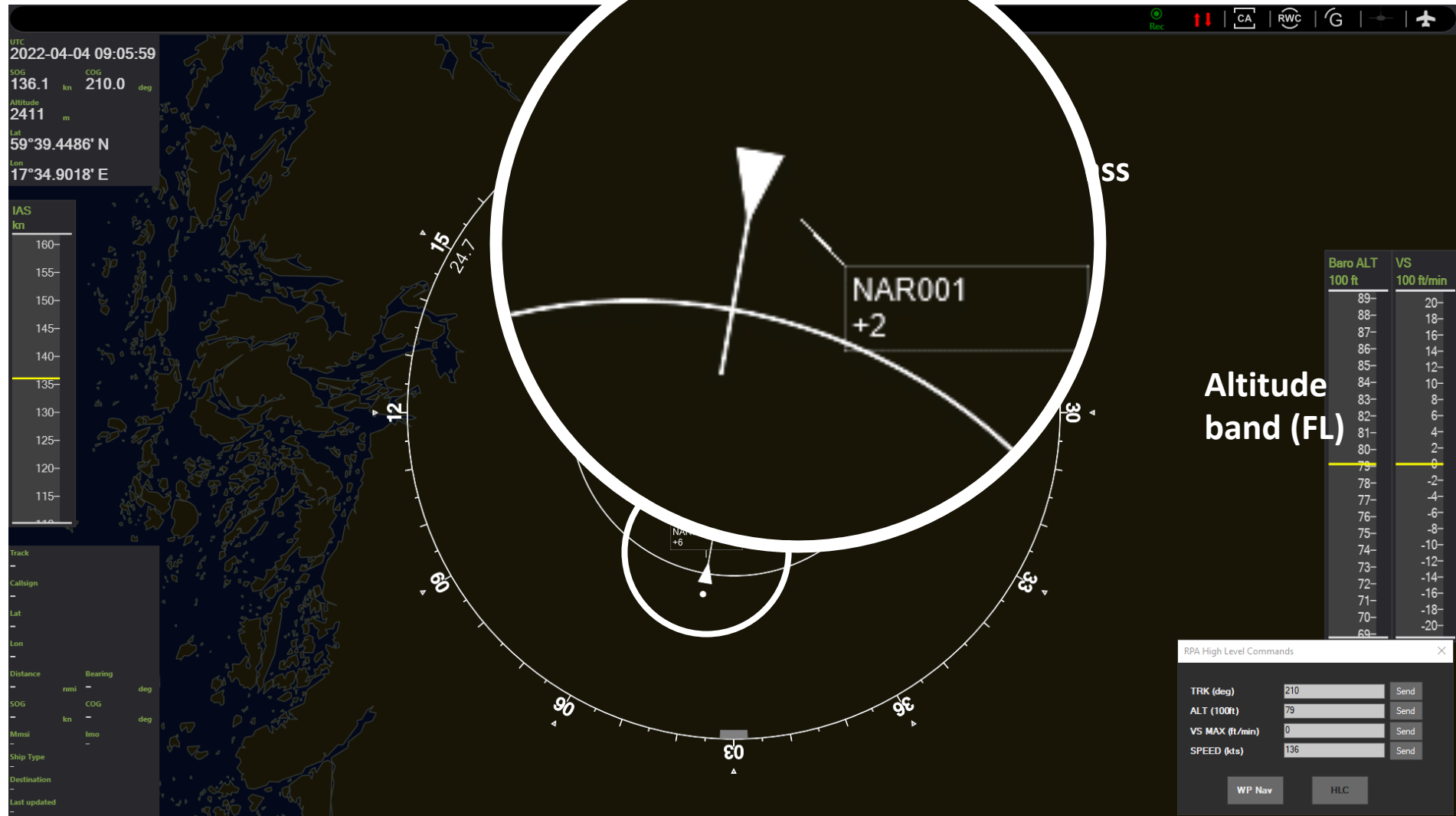
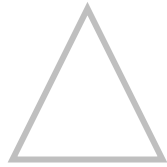
- Traffic awareness
- Remain Well Clear (RWC)
- Collision Avoidance (CA)



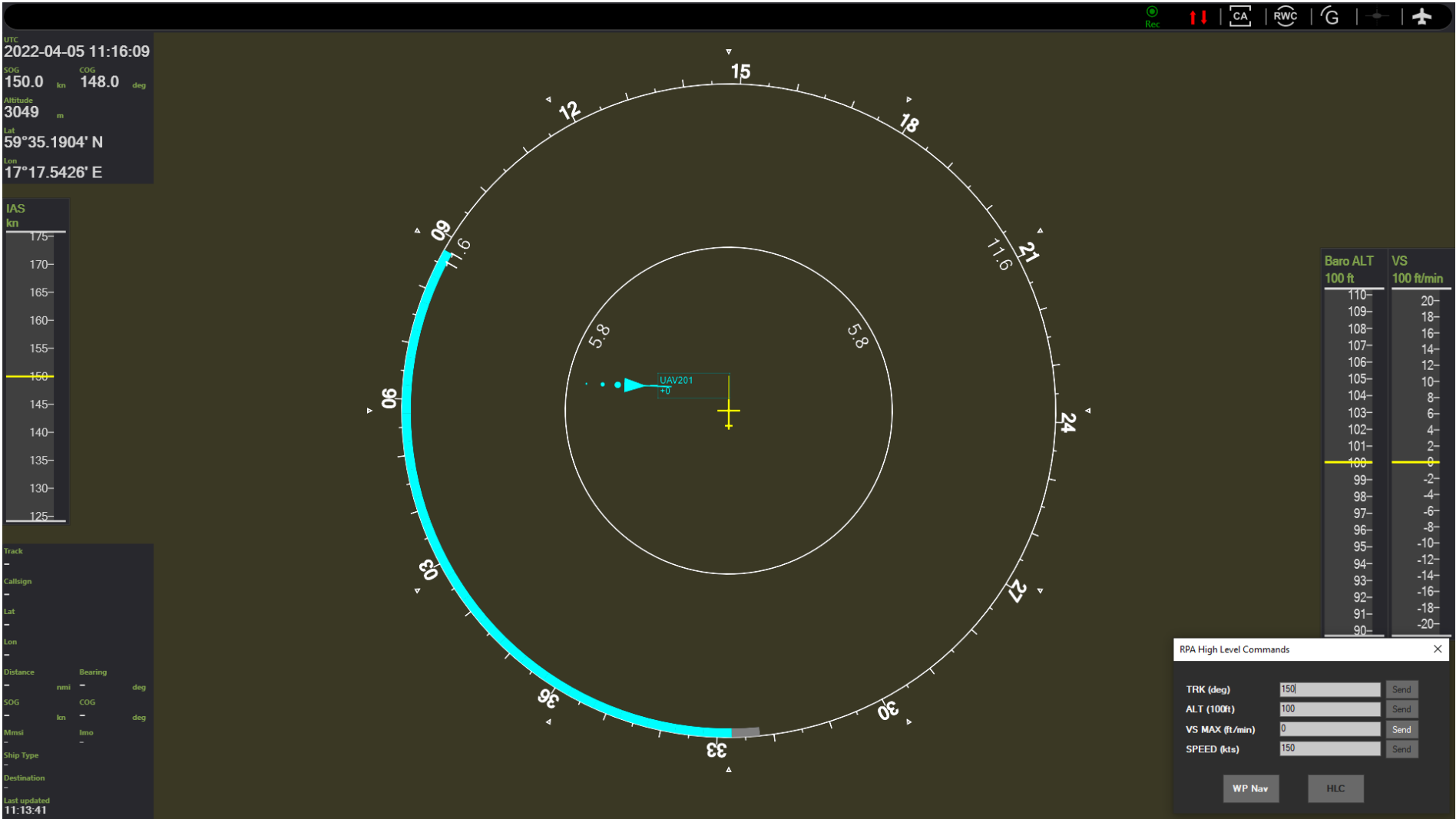
DAA ALERTING TIMELINE



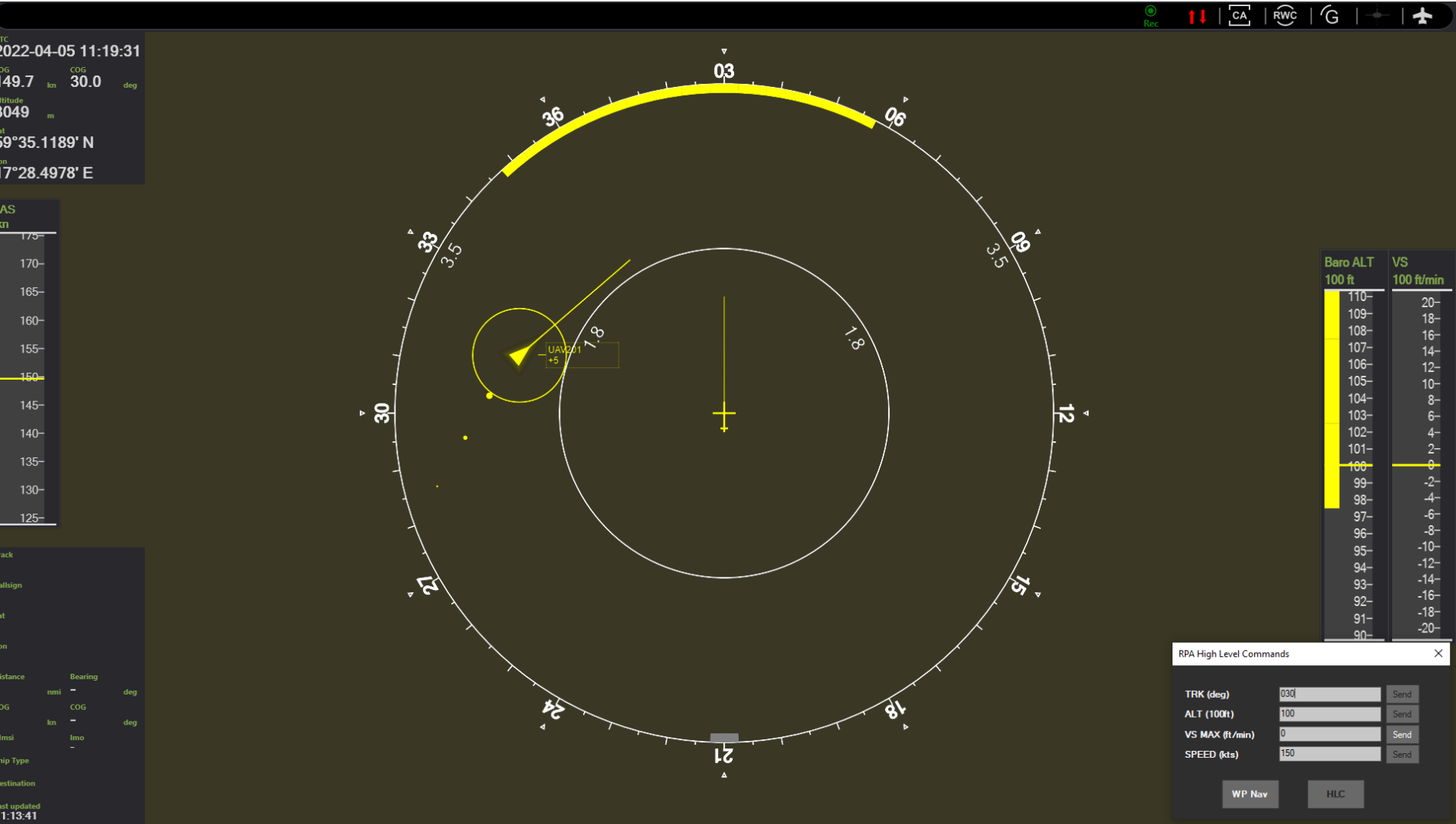
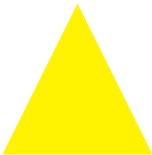
DAA HMI: Traffic awareness



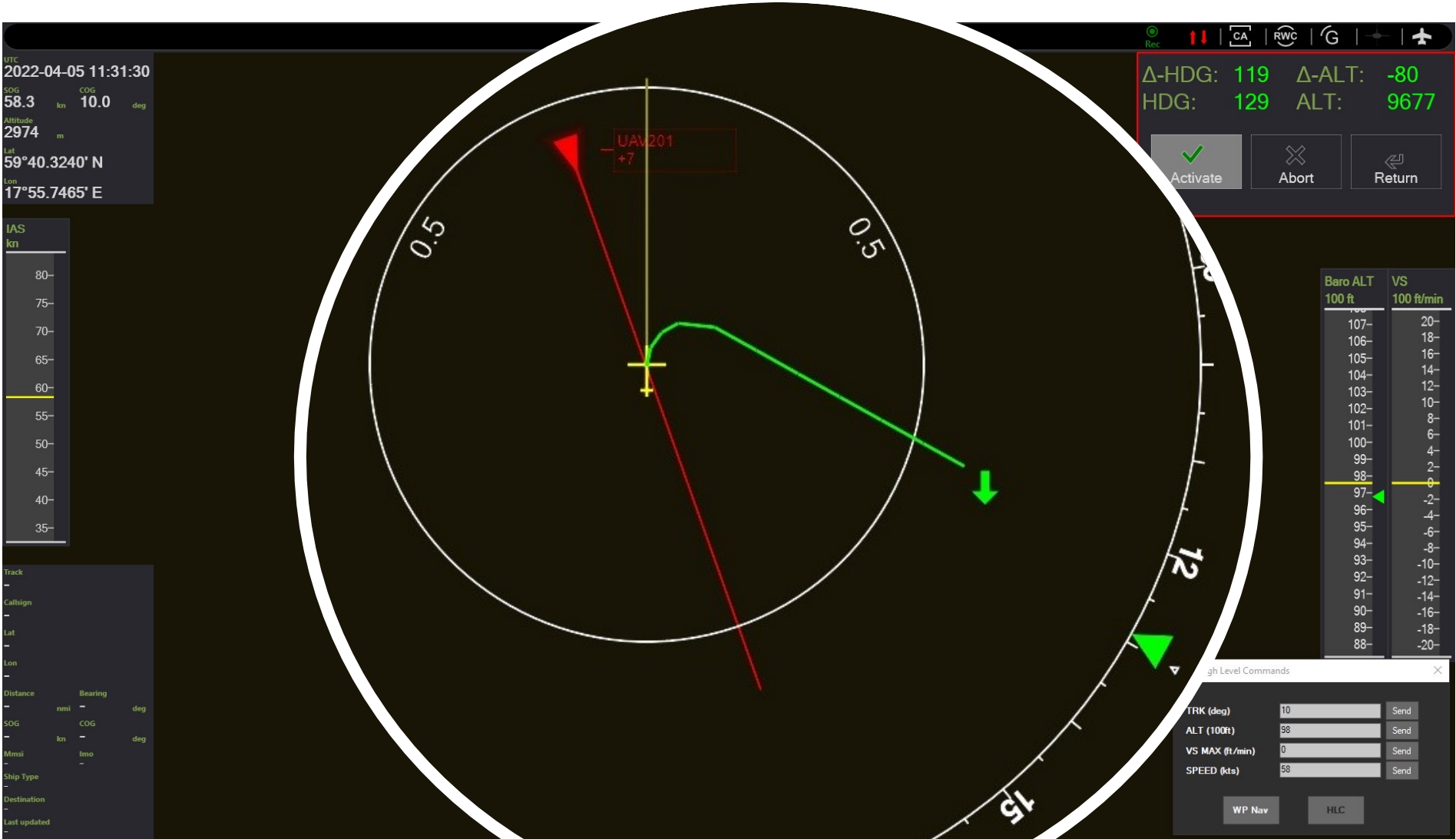
DAA HMI: RWC advisory



DAA HMI: RWC caution



DAA HMI: CA warning



LIVE DEMO: Aircraft

Intruder:

PIPER PA-28R-201T TURBO ARROW III
Mode-S ES (ADS-B)

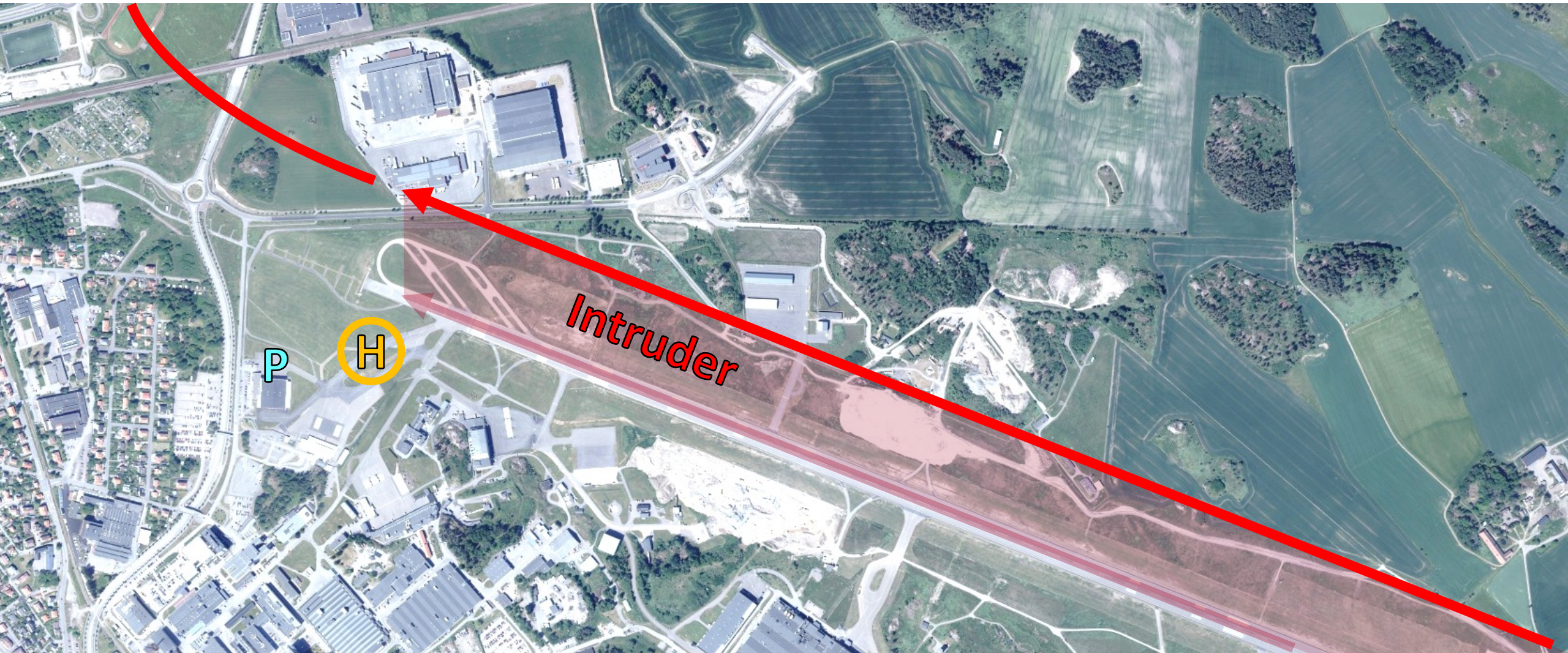


Ownship:

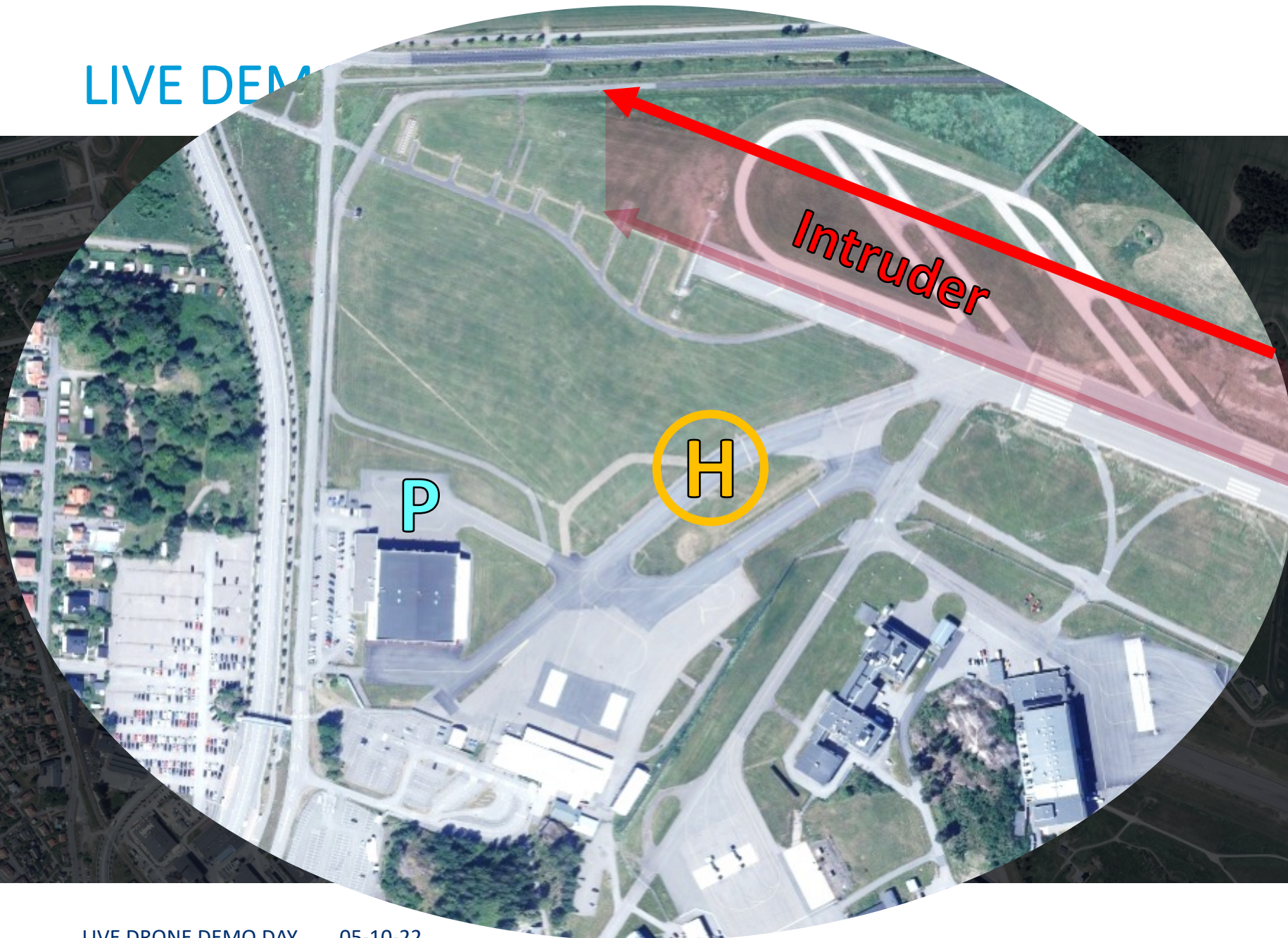
UMS SKELDAR V-200 VTOL
Equipped with EU DAA prototype



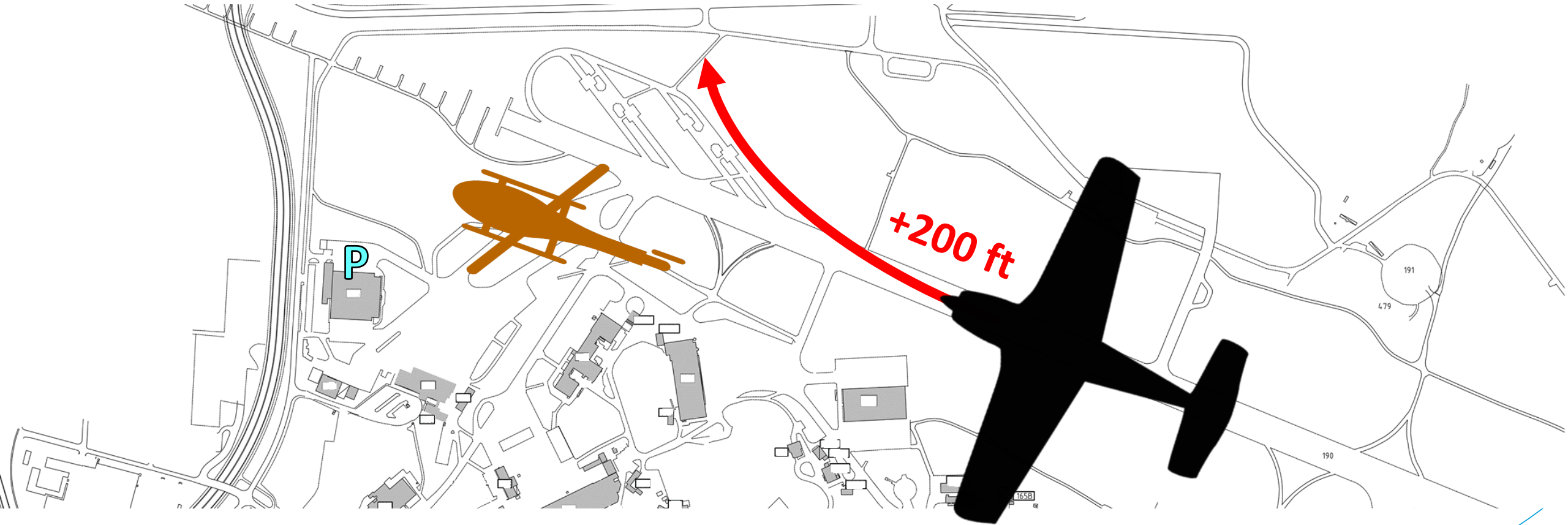
LIVE DEMO: Situation



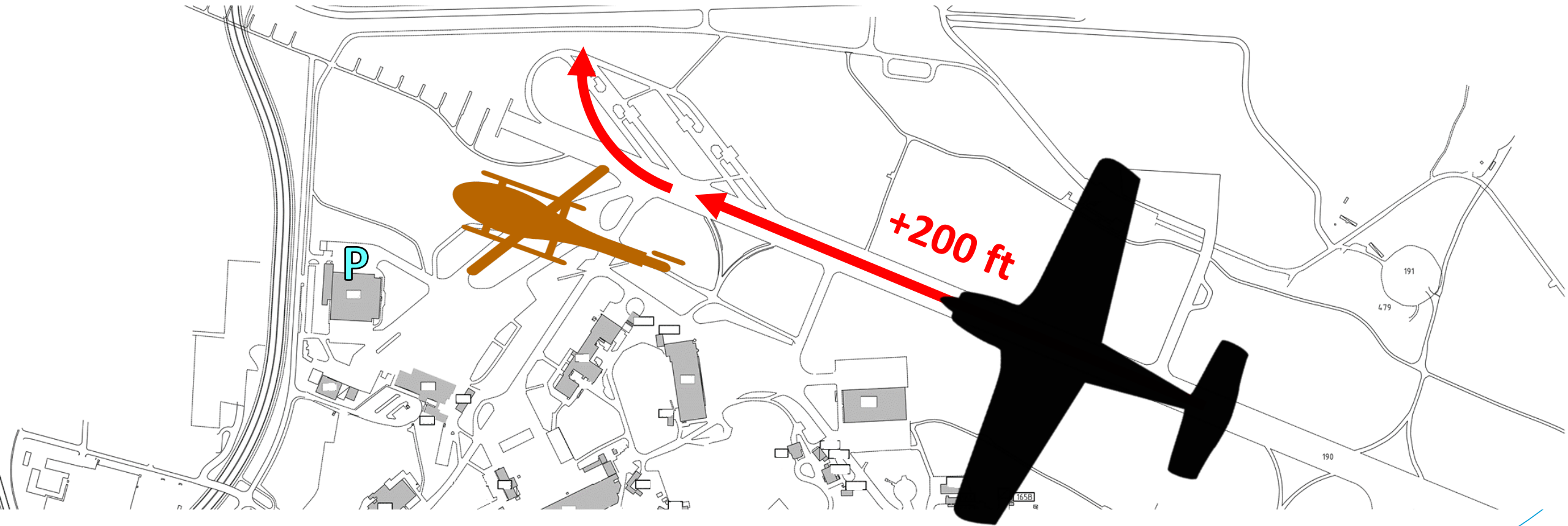
LIVE DEMO



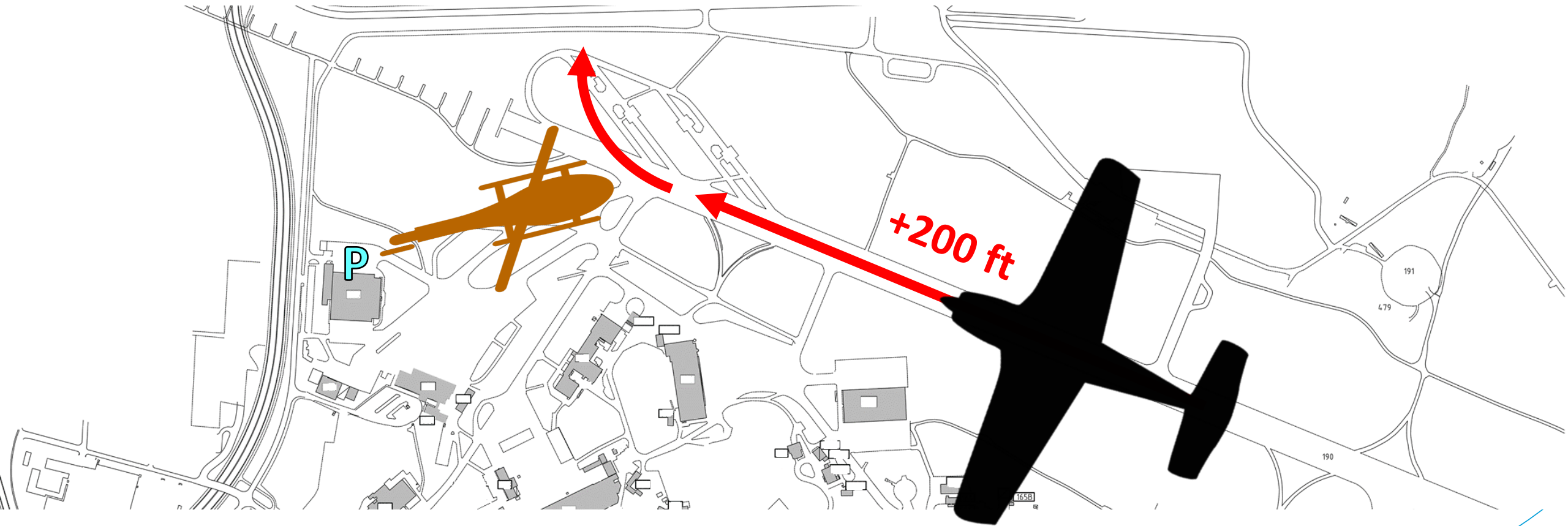
SCENARIO: Over-run encounter



SCENARIO: Over-run encounter



SCENARIO: Beam encounter



COMING UP NEXT

Debrief + presentation:

FLIGHT TESTING A DETECT AND AVOID SYSTEM

Johan Hellström (SAAB)

HOPE YOU ENJOY THE DEMO!

**PLEASE REMEMBER:
PHOTOGRAPHY IS NOT ALLOWED**