



Integrating Multiple UAS Operations into Controlled Airspace – Operation Zenith

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www.operationzenith.com

Presented by

NATS

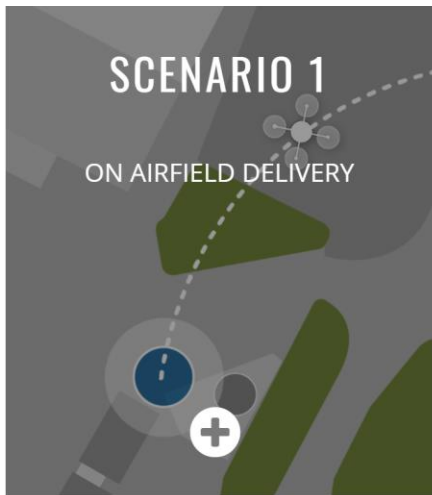


**ALTITUDE
ANGEL**



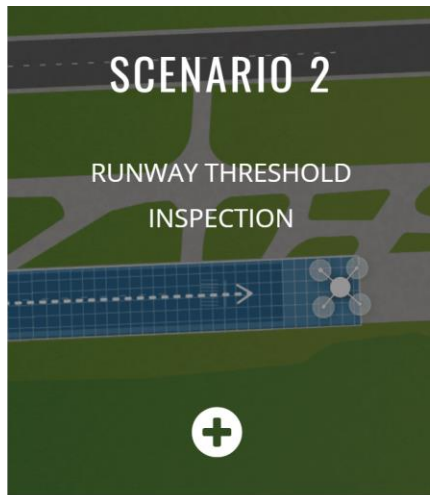
SCENARIO 1

ON AIRFIELD DELIVERY



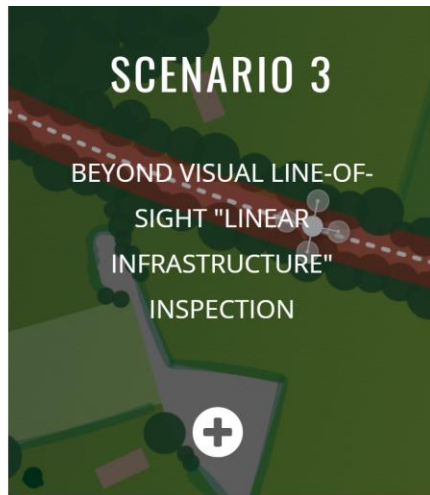
SCENARIO 2

RUNWAY THRESHOLD
INSPECTION



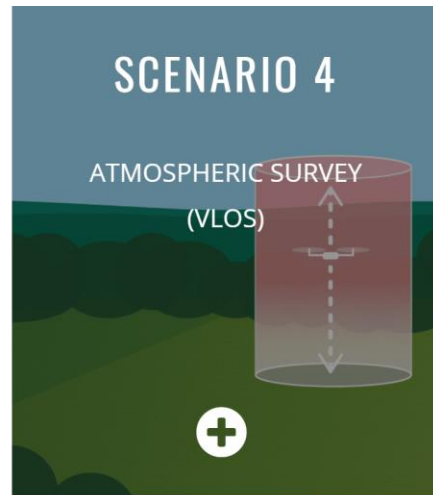
SCENARIO 3

BEYOND VISUAL LINE-OF-
SIGHT "LINEAR
INFRASTRUCTURE"
INSPECTION



SCENARIO 4

ATMOSPHERIC SURVEY
(VLOS)



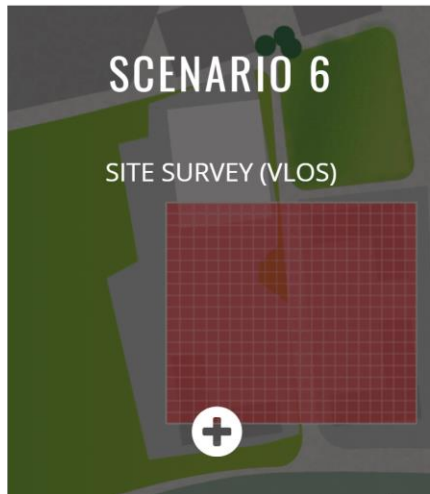
SCENARIO 5

COMMERCIAL VLOS
OPERATION



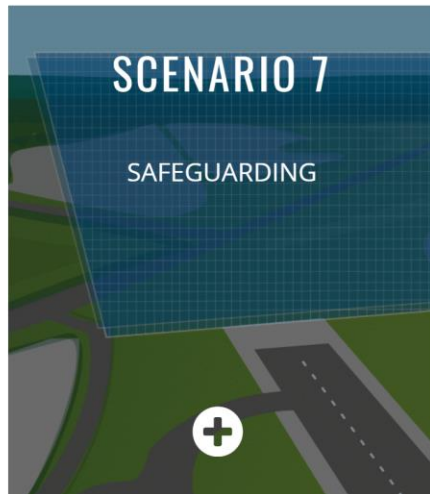
SCENARIO 6

SITE SURVEY (VLOS)



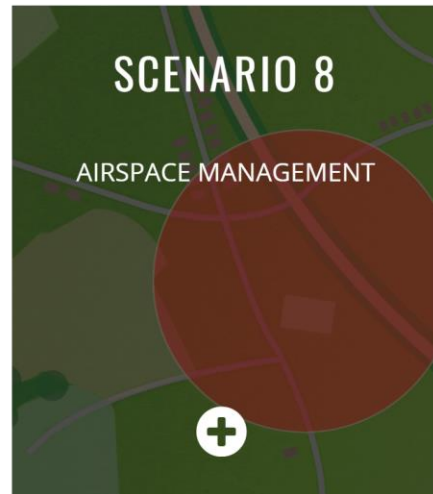
SCENARIO 7

SAFEGUARDING



SCENARIO 8

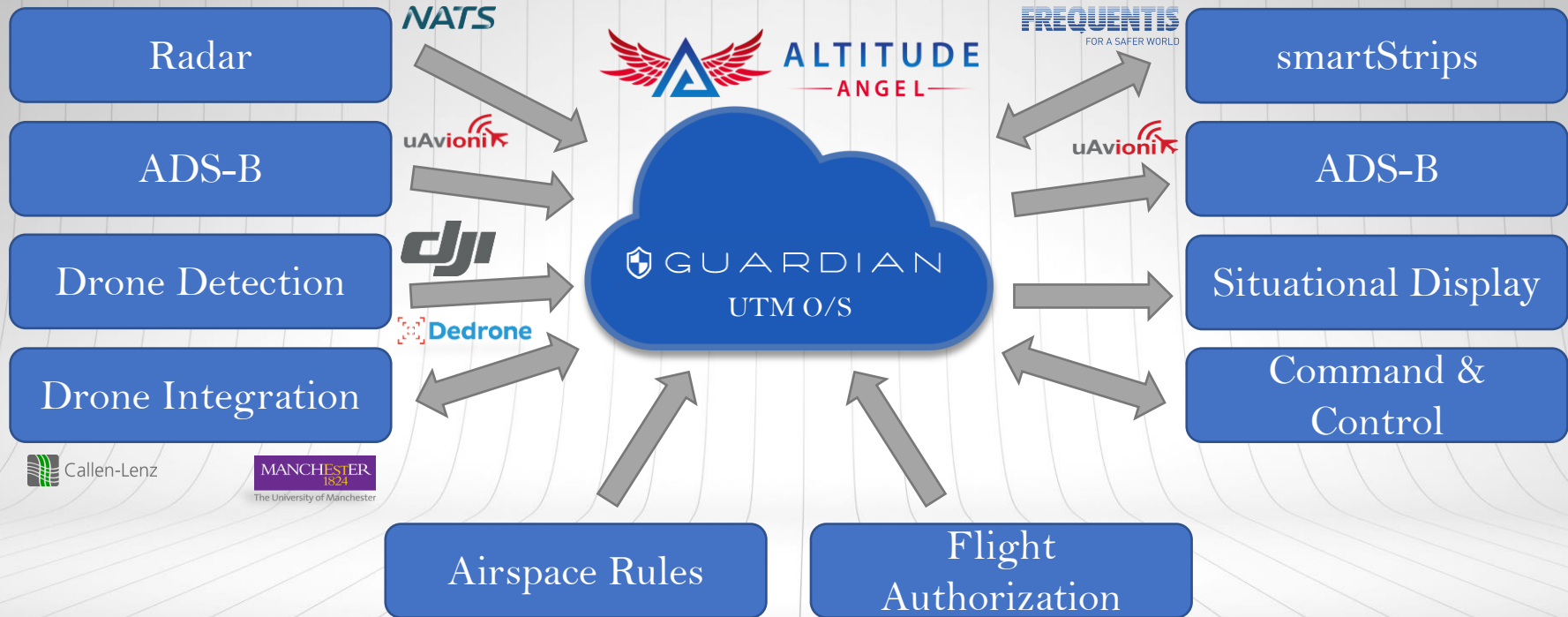
AIRSPACE MANAGEMENT





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UTM DEPLOYMENT



OPERATION ZENITH UTM DEPLOYMENT

National Aviation
Authority

ANSP

Manchester Airport

The image displays two screenshots of the NATS Airspace User Portal interface. The top screenshot shows the 'Delegated Authorities - Add new authority' page, which includes a progress bar with four steps: 1. AUTHORITY DETAILS, 2. DELEGATE AREA, 3. CONDITIONS, and 4. SUMMARY. The bottom screenshot shows the 'Create Flight Authorization Zone' page, which includes a progress bar with four steps: 1. CREATE ZONE, 2. FLIGHT PLAN RULES, 3. FLIGHT TAKEOFF RULES, and 4. CONFIRM. The 'CREATE ZONE' step is currently active, showing a map of the Manchester area with a red polygon defining the authorization zone. The map includes labels for various locations such as Manchester, Salford, and Stockport. The interface also features a sidebar with navigation links like 'Dashboard', 'Flight Authorization Zones', 'Authorization requests', 'ADA settings', 'Integrations', and 'Users'. The footer of the portal mentions 'GUARDIANUTM OPERATING SYSTEM' and copyright information for Altitude Angel Limited.

Manchester Airport configures authorisation zones for use by UTM

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ON-AIRFIELD DELIVERY

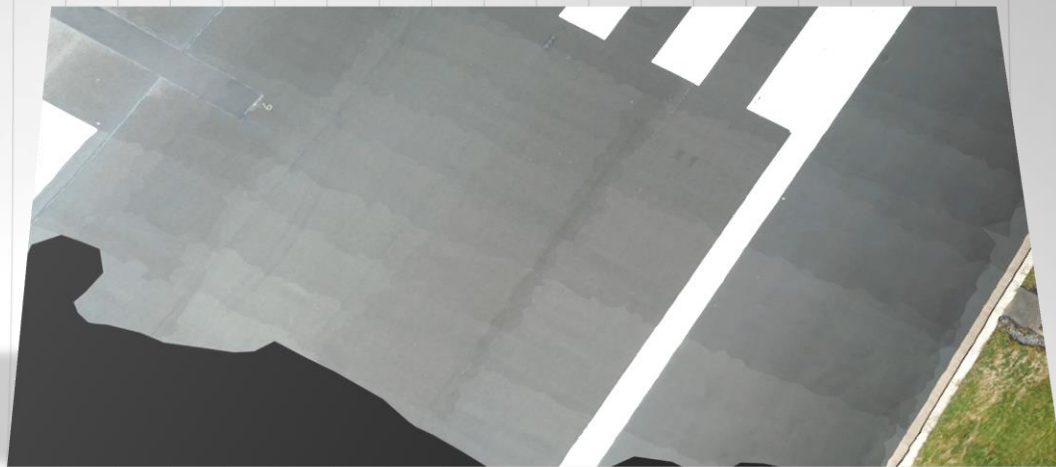
- ✓ Request to fly initiated by Ground Control Station of Callen-Lenz
- ✓ Pre-approved by NATS AUP
- ✓ GuardianUTM O/S routed take-off request to ATC via smartStrips® solution; take-off triggered
- ✓ Telemetry is relayed to GuardianUTM O/S in real-time via 4G and through ADS-B as back-up.



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RUNWAY THRESHOLD INSPECTION

- ✓ Real business value and minimised disruption for inspection
- ✓ Constantly monitored by GuardianUTM O/S
- ✓ Request to fly initiated GuardianUTM mobile app
- ✓ Fully integrated to ATC operations
- ✓ GuardianUTM O/S routed take-off request to ATC via smartStrips® solution; take-off triggered
- ✓ Telemetry is relayed to GuardianUTM O/S in real-time through ADS-B



OPERATION ZENITH

THE FUTURE OF U-SPACE IS COLLABORATION & COOPERATION

NATS



The background features a large, stylized graphic of wings on the left and a large, light blue letter 'A' on the right, both rendered in a lighter shade of the background blue.

Thank You

www.operationzenith.com

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