EXPLOITING UAS FOR

COMBAT ENGINEERS & LOGISTICS

PRESENTED BY

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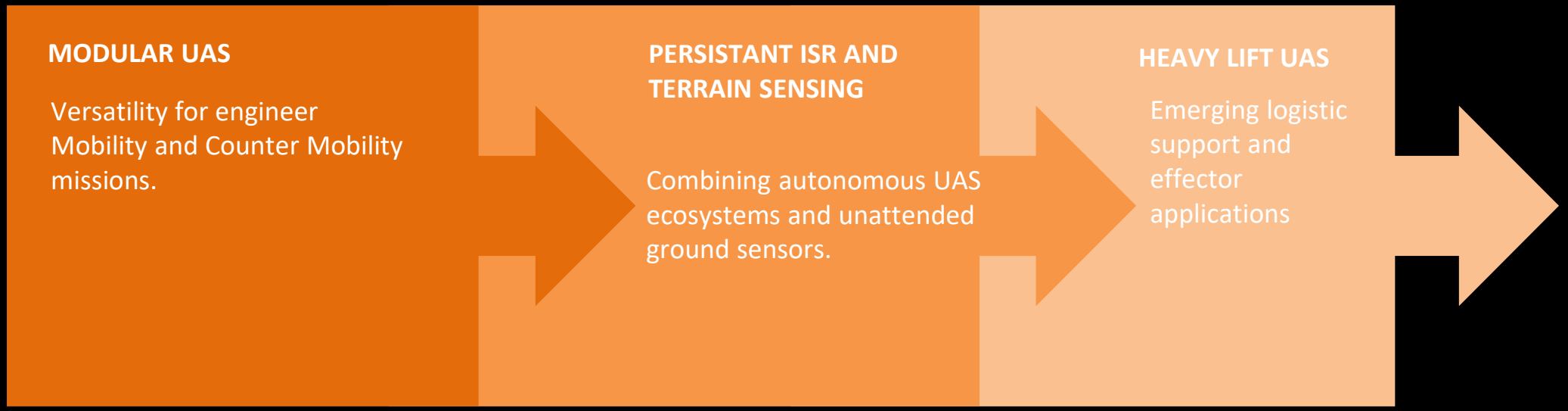
Exploiting UAS for combat engineers & logistics



Modular UAV = Versatility

TACTICAL FLEXABILITY

Supports a broad range of engr Mob & CMob missions.

Multiple, easily configured payload options.

Substantial data collection and edge processing.

COMMONALITY

One core platform or family of platforms.

Minimises training and maintenance burden.

Easily adaptable user interface and software to keep pace with rapid technology evolution

INTEROPERABILITY

Open system architecture.

One system to integrate into information and C2 environments.

Easily task organised to support different force elements or changing main effort.

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Modular UAS

- MOTS/ COTS payload agnostic
- Up to 25kg payload
- 30/ 90 minute endurance (LiPo/ H2 fuel cell)
- BVLOS capable
- Swarm capable
- GNSS/RF denied capable
- Edge processing
- Open architecture

Mob & Cmob Applications

Find/Understand	Terrain sensing and Geo Int; border security; pattern of life and change detection; integration with unattended ground sensor networks; route recce and ground assurance; UXO detection; CBRN detection; gap crossing surveys
Fix/Block/Disrupt	Rapid situational obs; cueing/targeting CMob effectors; health monitoring of smart mines; deception; UAS loitering munition
Exploit	Digital twin and synthetic training; build AI/ML data library; threat detection and classification; BMS integration

Leveraging remote area industry applications

- Leverages civil industrial applications
- Remote operator – one to many. BVLOS.
- Minimal human interaction with deployed UAS ecosystem.
- Automated battery charging. High autonomy

Border Security & Change Detection

- **Concept:** Autonomous ecosystem of UAS covering a broad swath (c.20km) along the length of a border
- Pre-conflict data collection informs 3D terrain modelling and engr int for geomatics and reactive obstacles
- Long range sensors backed with AI/ML for change detection and early warning

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Border Security & Change Detection






Remote monitoring for ‘sensitive’ sites

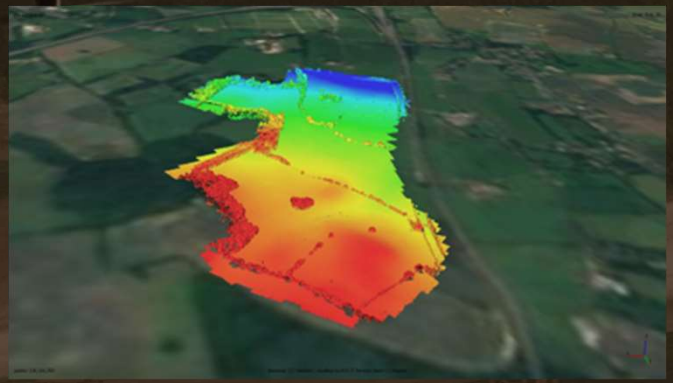
Use cases:

- Critical national infrastructure
- Forward operating bases
- Sensitive sites

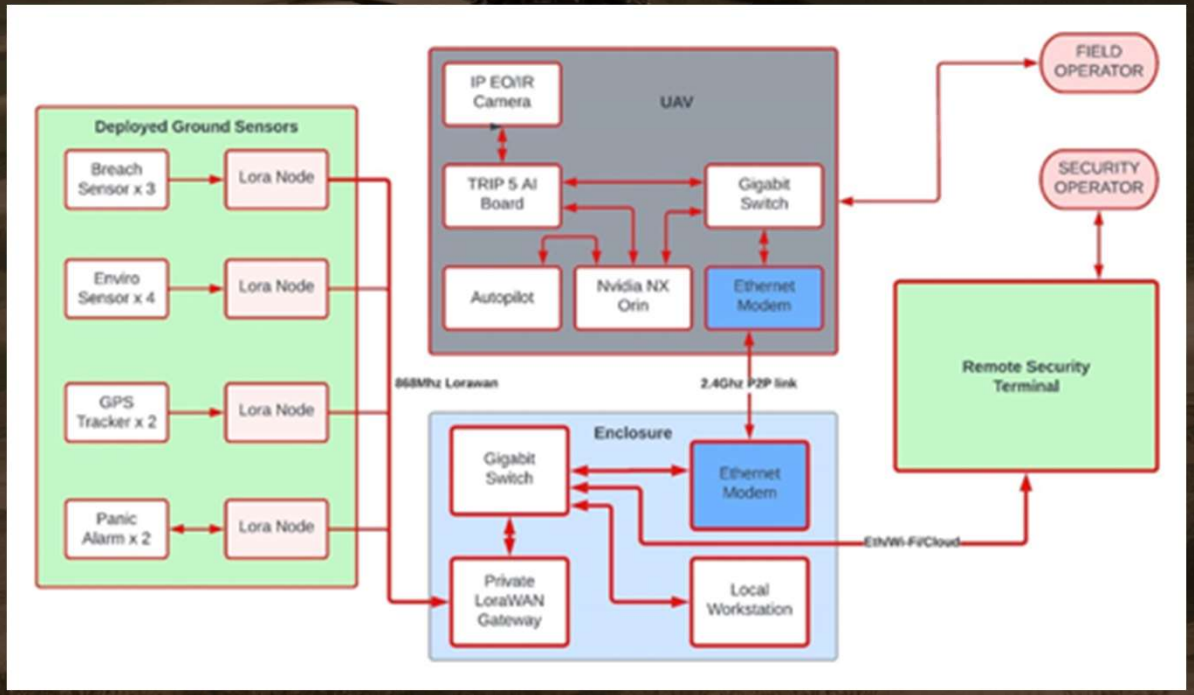
Benefits:

- Better integrated PIDS and man-guarding resources
- Improved detection and quicker reaction
- Quicker and better information for decision makers
- Improved security at lower cost

Remote monitoring for sensitive sites



Remote monitoring of sensitive sites



Heavy Lift Multi-Rotor UAS

- Emerging capability - payload 150 – 450kg (+)
- Real substitute for manned aviation

Use cases

- Logistic support between echelons and ship to shore
- CasEvac
- Long range ISR
- CMob effector – integrated with missiles, mines or torpedos

Challenges

- Safety case
- Endurance

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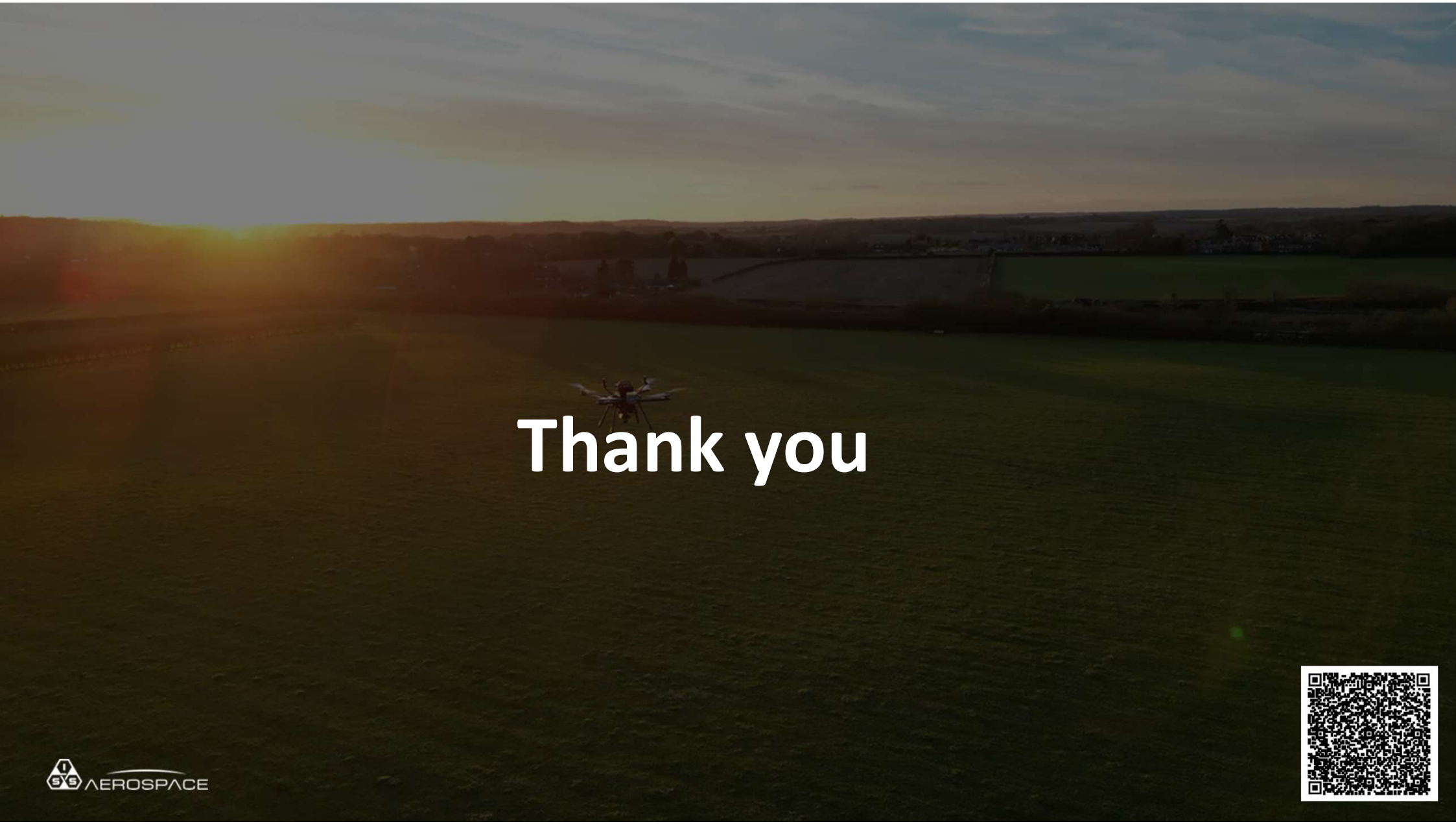
Heavy Lift UAS Concept

Heavy Lift UAS Evaluation Factors

- Certification
- Payload carriage system
- Interoperability
- Endurance


Thank you
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