

ADVANCED AIR MOBILITY WEBINAR

GEBLERTOOTH

FOR LOCAL AUTHORITIES



Droneports and Vertiports
Design and Development

David Tooth
05.12.2024

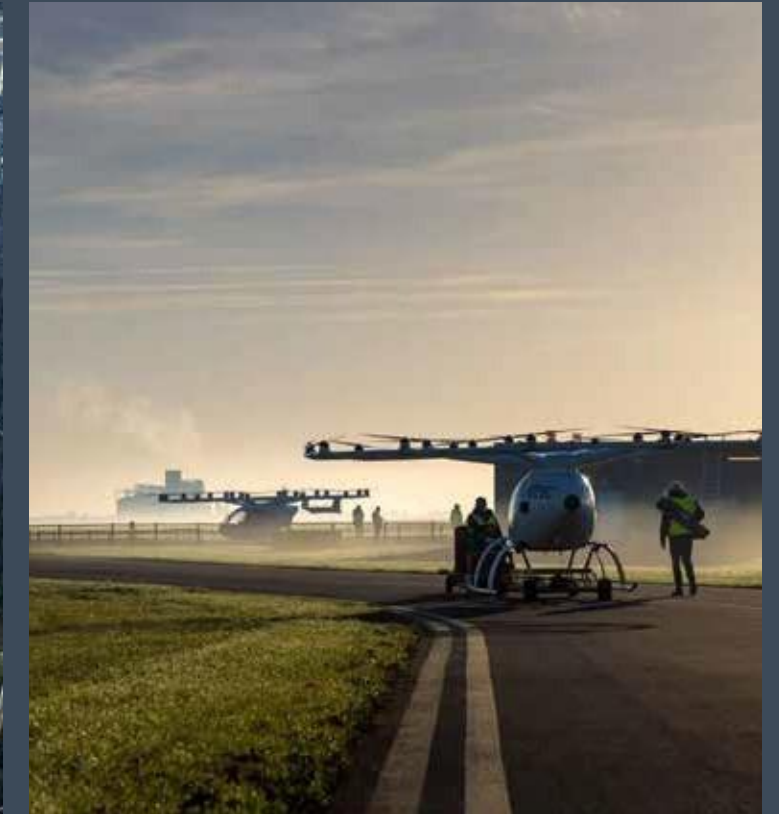
KEY FACTORS

1. REGULATORY AND LEGAL

2. INFRASTRUCTURE

3. ENVIRONMENTAL IMPACT

4. PUBLIC SAFETY AND SECURITY



REGULATORY AND LEGAL:

- What are the current Civil Aviation Authority (CAA) regulations governing drone deliveries and vertiports, and how do they impact local planning?

INFRASTRUCTURE:

- Where are the most suitable locations for vertiports, considering safety, proximity to delivery hubs, and public acceptance?

ENVIRONMENTAL IMPACT:

- What will be the environmental impact of vertiports and drone deliveries, including noise pollution and effects on wildlife?

PUBLIC SAFETY AND SECURITY:

- What safety measures and protocols need to be in place to prevent collisions and manage risks?
- What emergency response plans do we need in case of accidents or drone malfunctions?



DENSITY & CONNECTIVITY

HEATHROW TO CITY OF LONDON



- ROAD
- RAIL
- HELICOPTER



USE CASES

	SUPER-RURAL	RURAL	SUB-URBAN	URBAN	SUPER-URBAN
PAX					
TYPE		COMMUTERS	COMMUTERS	COMMUTERS EVENT GOERS TAXI DELIVERY	COMMUTERS EVENT GOERS TAXI DELIVERY
MODE	SPOKE	SPOKE	HUB & SPOKE	HUB & SPOKE	HUB & SPOKE
FREQUENCY	LOW	MID	MID	HIGH	VERY HIGH
OTHER					
TYPE	MAIL PHARMA FRESH FOOD SMALLS GENERAL FREIGHT SURVEYS MONITORING	MAIL PHARMA FRESH FOOD SMALLS GENERAL FREIGHT LOGISTICS LINK SURVEYS MONITORING	MAIL PHARMA FRESH FOOD SMALLS GENERAL FREIGHT SECURE LOGISTICS LINK SURVEYS MONITORING	MAIL FRESH FOOD SMALLS PHARMA SECURE LOGISTICS LINK SURVEYS MONITORING	MAIL FRESH FOOD PHARMA SURVEYS MONITORING
MODE	SPOKE	SPOKE	HUB & SPOKE	HUB & SPOKE	SPOKE
FREQUENCY	LOW	MID	HIGH	HIGH	MID
					
	SUPER-RURAL	RURAL	SUB-URBAN	URBAN	SUPER-URBAN



CONSTRAINTS



*Scale describes nature of provision, not degree of impact

CASE STUDIES



RURAL

SMALL AIRFIELD

USE CASE:

- Mail, parcel and medical deliveries
- Chilled food shipments
- Pax movements

FREQUENCY:

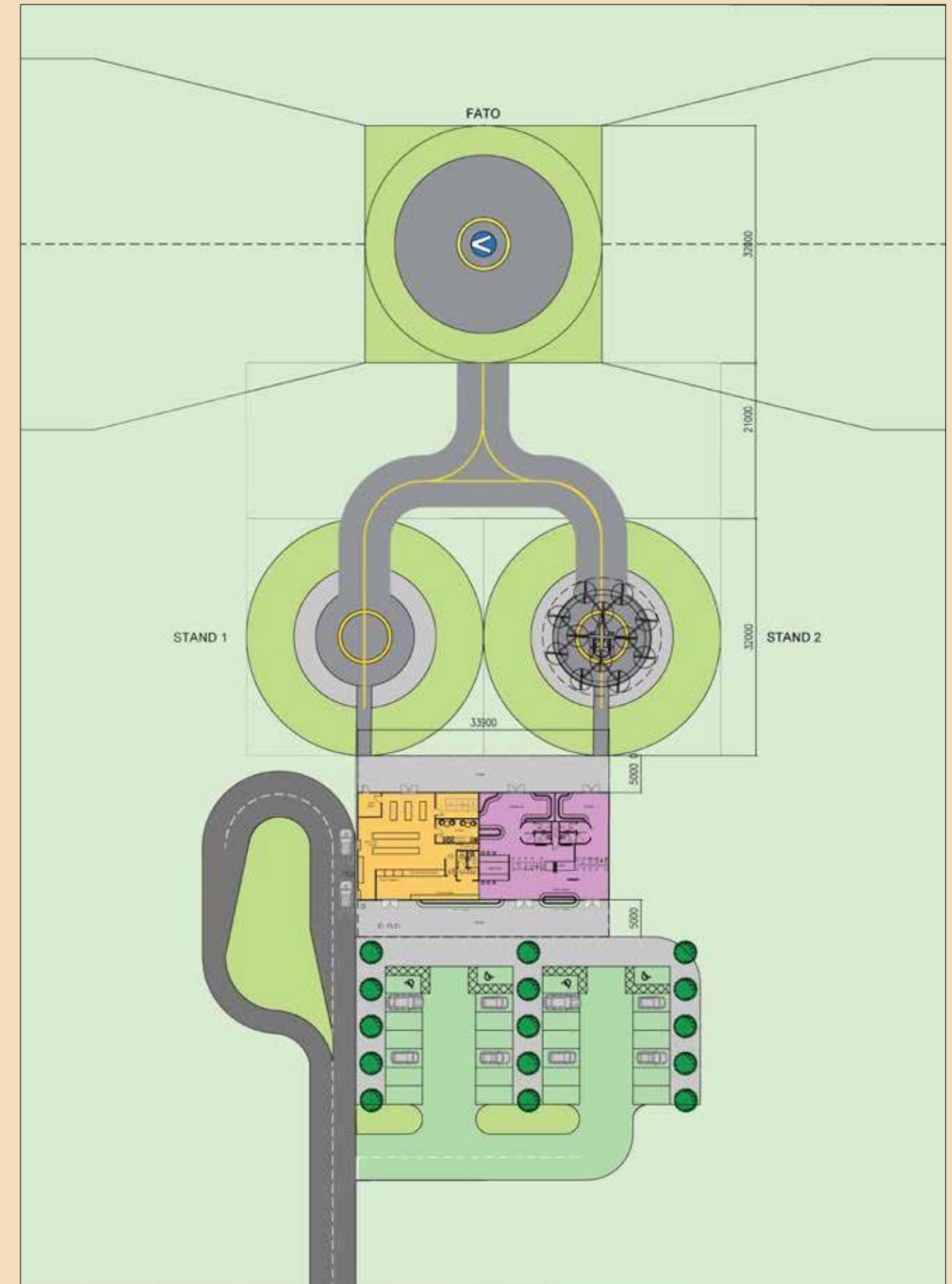
- Limited /unscheduled / infrequent

INFRASTRUCTURE REQUIREMENTS:

- FATO and clearance zones
- Aircraft stands and taxiway areas
- Aircraft refuelling
- Aircraft storage and maintenance
- Airfield equipment
- Consignment storage and shipping
- Operations and management suites
- Pax suites
- Fire support
- Surface access
- Landscaping
- Utilities

CONSTRAINTS:

- Weather exposure
- Prevailing wind
- Noise and light pollution
- Ecology
- Proximity to surface access
- Availability of utilities



ROYAL MAIL X SKYPORTS



SURVEYS



SKYPORTS - EUROPEAN VERTIPORT TERMINAL TESTBED



SKYPORTS - EUROPEAN VERTIPORT TERMINAL TESTBED

SUB-URBAN

INDUSTRIAL PARK, BROWN FIELD CAR PARK, RETAIL PARK

USE CASE:

- Mail, parcel and medical deliveries
- Chilled food deliveries
- Final mile logistics link
- Pax movements

INFRASTRUCTURE REQUIREMENTS:

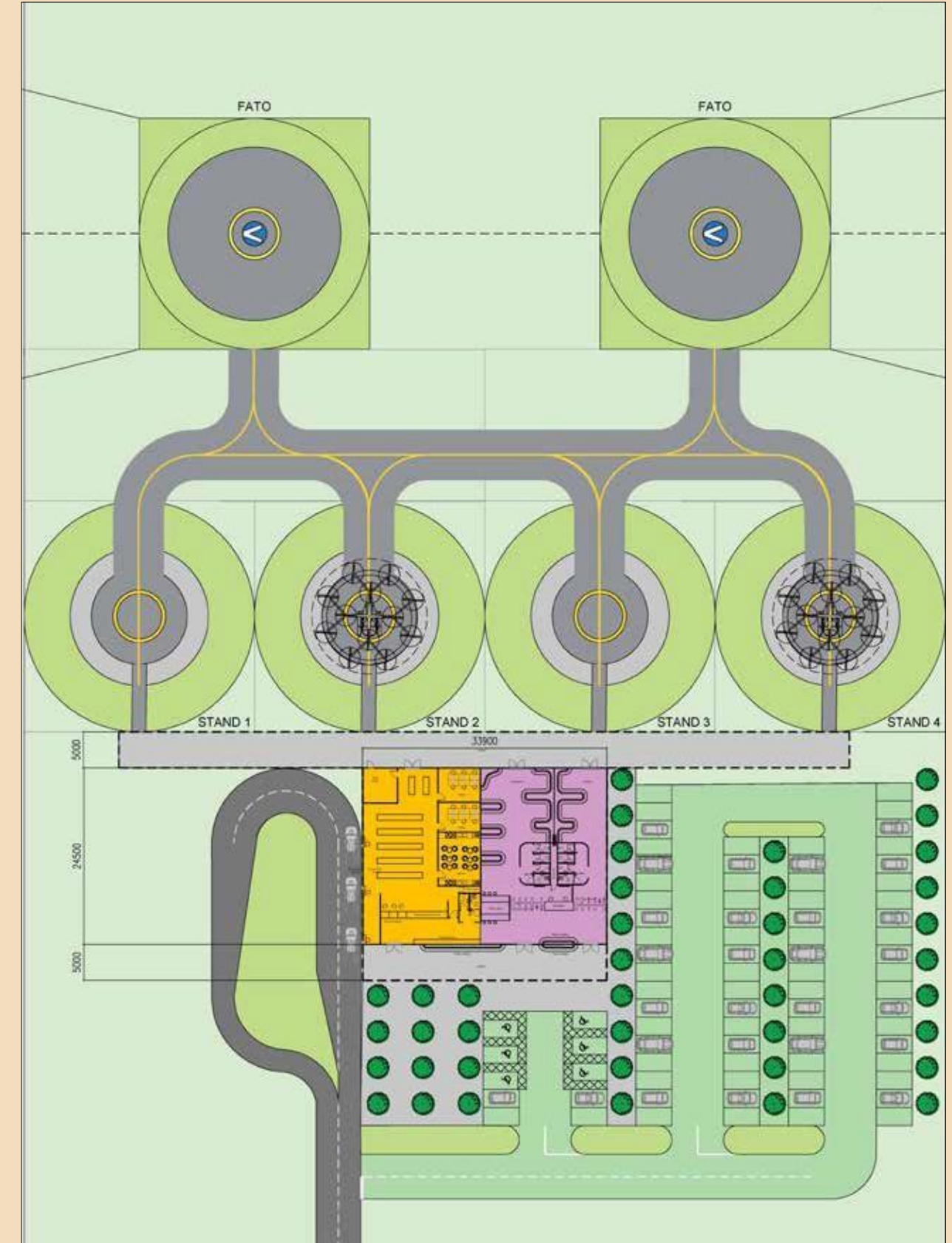
- Multi FATO and clearance zones
- Aircraft stands and taxiway areas
- Aircraft refuelling
- Aircraft storage and maintenance
- Airfield equipment
- Consignment storage and shipping
- Operations and management suites
- Fire support
- Surface access
- Landscaping
- Utilities

FREQUENCY:

- Cargo: Frequent /unscheduled
- Pax: Infrequent

CONSTRAINTS:

- Prevailing wind
- Noise and light pollution
- Proximity to surface access
- Availability of utilities
- Disruption caused by future growth
- Proximity to significant population





SUPER URBAN

USE CASE:

- Mail, parcel and medical deliveries
- Chilled food shipments
- Pax movements

INFRASTRUCTURE REQUIREMENTS:

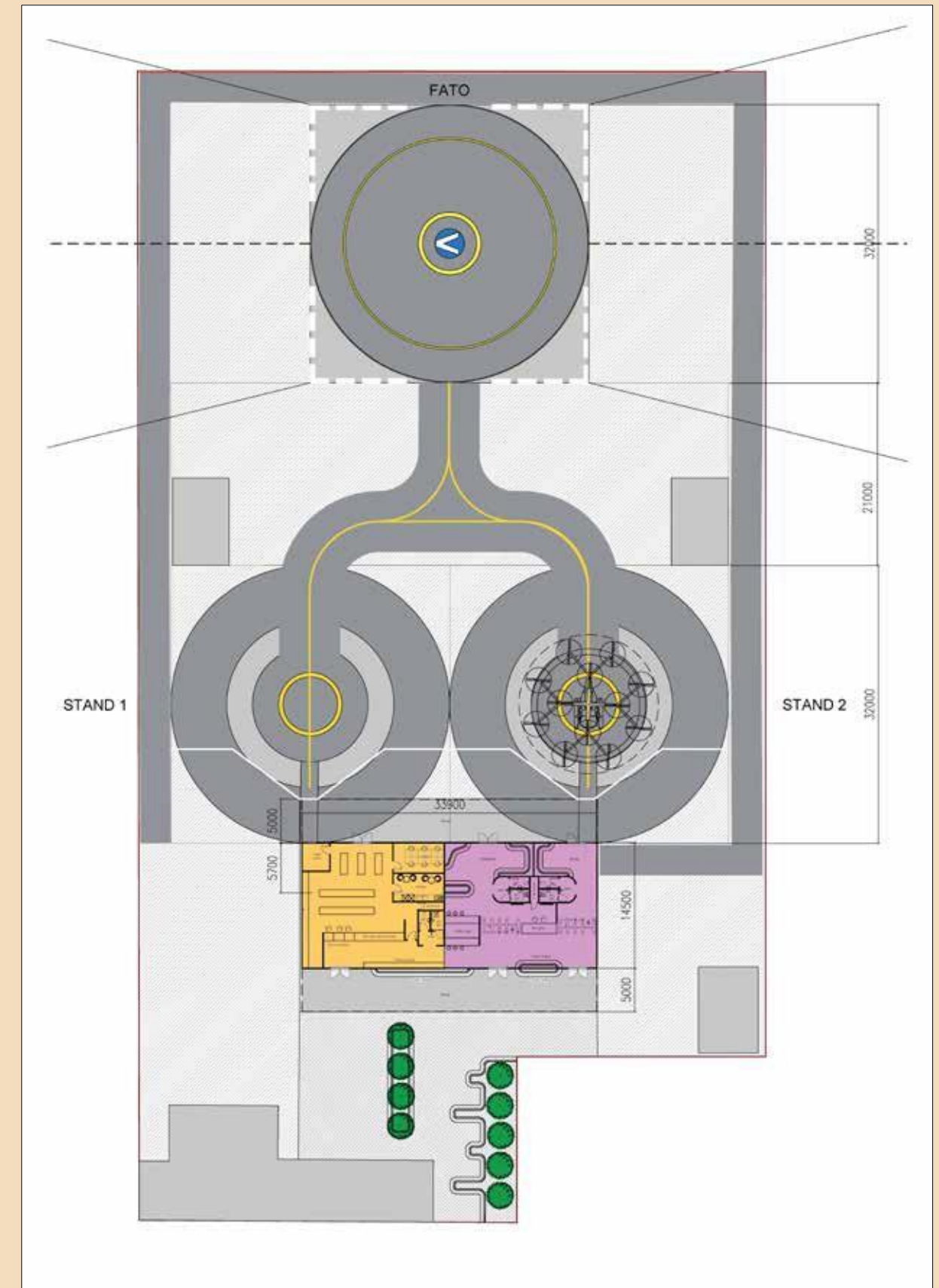
- FATO and clearance zones
- Aircraft stands and taxiway areas
- Aircraft refuelling
- Aircraft storage and maintenance
- Airfield equipment
- Consignment storage and shipping
- Operations and management suites
- Pax suites
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- Surface access
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- Utilities

FREQUENCY:

- Cargo - Frequent/Unscheduled
- PAX - Frequent

CONSTRAINTS:

- Weather exposure
- Prevailing wind
- Noise and light pollution
- Surface access modes and quantum
- Availability of utilities
- Fire Suppression
- Proximity to significant population
- Intensity of use
- Disruptions caused by future growth





WHAT YOU NEED TO CONSIDER

When councils are considering droneports and vertiports in the UK, the following key factors need to be taken into account.

1. REGULATORY AND LEGAL FRAMEWORK:

- Civil Aviation Authority (CAA) Regulations
- Planning and Land Use Permissions
- Air Traffic Management

2. INFRASTRUCTURE REQUIREMENTS:

- Vertiport Location
- Facilities Design and Standards
- Integration with Existing Transport Systems

3. ENVIRONMENTAL IMPACT:

- Noise Pollution
- Carbon Footprint
- Wildlife and Ecosystems

4. SAFETY AND SECURITY:

- Collision and Risk Management
- Data and Cybersecurity
- Emergency Response Planning

5. COMMUNITY IMPACT:

- Job Displacement vs. Creation
- Accessibility



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