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CIVIL AVIATION DEPARTMENT

Handling of UAS Operations in Hong Kong China

Workshop on UAS Integration in National and High Seas Airspace

4-6 November 2025





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Overview

- Development of Low-altitude Economy
- Regulatory Framework in Hong Kong China
- ATC's considerations on UAS OPS
- SUA Applications in the vicinity of HKIA
- Way Forward

Low-altitude Economy (LAE)

Approach undertaken to Safeguard Aviation and Public Safety Throughout the Process

- Developing Low-altitude Economy – A New Growth Engine
- Enhancing Legislation for Low-altitude Flying Activities to Facilitate Low-altitude Economy Development
- Ensuring that Safety is a Top Priority in the Low-altitude Economy Development, while Low-altitude Flying Activities Continue to Flourish

LAE Development Strategy

In the 2024 Policy Address, the formulation of low-altitude economy development strategies and inter-departmental actions was announced

An inter-departmental **Working Group on Developing Low-altitude Economy** led by the Deputy Financial Secretary, has been established in 2024, to formulate development strategies and inter-departmental action plans for the development of LAE

A **Project Facilitation Task Force** has also been set up under the WG to address the technical matters relevant to the implementation of LAE-related work

LAE – A New Potential Area of Development

Advantages of developing low-altitude economy

- Low carbon and environmentally friendly transport
- Innovation breakthrough
- Economic benefit

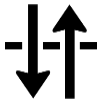
Low-altitude Economy Regulatory Sandbox

- **Proposals Accepted From November 2024**

- Aim to enable industry stakeholders **to test and conduct trials** on various project concepts **within pre-defined air routes and in a controlled and safe manner,** with a view to safeguarding aviation and public safety

- Enable members of the public **to "see and feel"** the tangible benefits of the LAE, and Allow the Government and relevant sectors to simulate various **application scenarios and multiple air routes management**, while accumulating data and experience to guide the work on multiple fronts including regulations, infrastructure, and applications


Local delivery


Cross-boundary delivery


Infrastructure maintenance


Medicine


Fire fighting & rescue

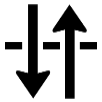

Surveillance

Low-altitude Economy Regulatory Sandbox

- **38 pilot projects** selected and being operationalized upon evaluation by the Working Group on Developing Low-altitude Economy during Phase 1, **with 28 pilot projects anticipated to be operationalized** by late October 2025 subject to the readiness of the applicants

- Pilot projects being trialled covering various fields and application scenarios such as **emergency and rescue, drone delivery, inspection and safety maintenance, surveillance and low-altitude infrastructure**


Local delivery


Cross-boundary delivery


Infrastructure maintenance


Medicine


Fire fighting & rescue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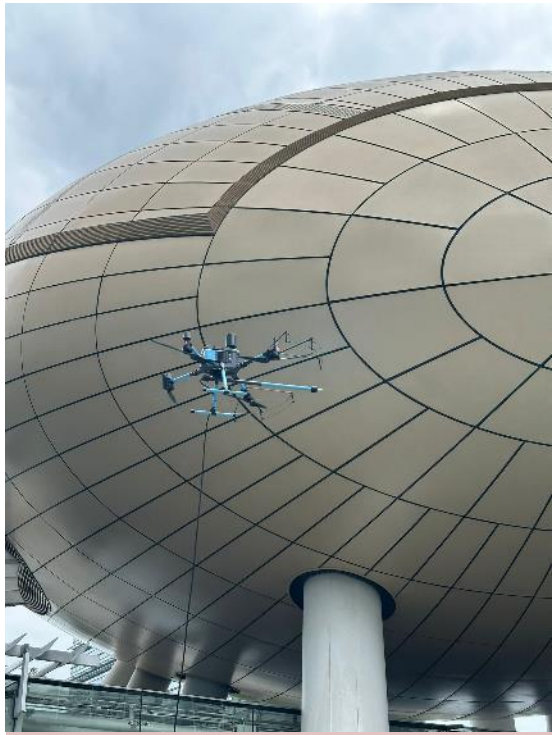
Low-altitude Economy Regulatory Sandbox

Low-altitude Economy Regulatory Sandbox - Launch Event (March 2025)



Facade cleaning (May 2025)

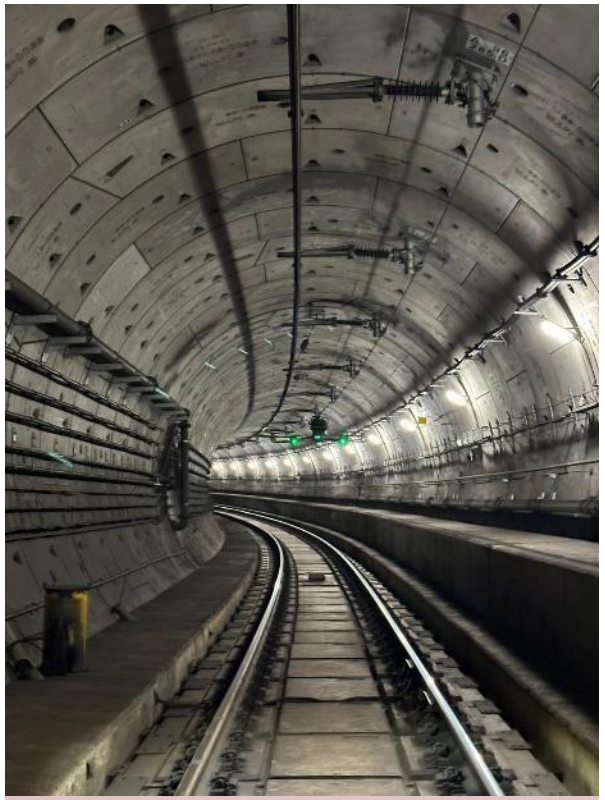
Safety inspection (April 2025)

Local delivery (April 2025)

LAE Regulatory Sandbox
The First Pilot Project Operationalized (April 2025)

LAE Regulatory Sandbox Pilot Projects Proceed Progressively

Local delivery (June 2025)



Safety inspection (June 2025)

LAE Regulatory Sandbox Pilot Projects Proceed Progressively

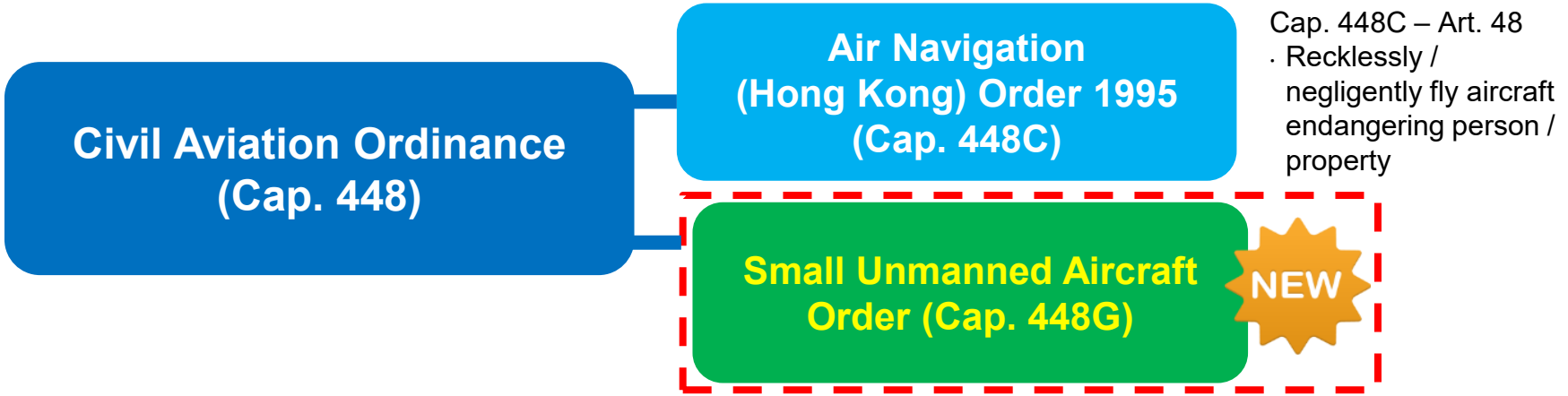
Emergency and Rescue (July 2025)

Local delivery (August 2025)

Medical delivery (August 2025)

LAE Regulatory Sandbox
Medical Delivery to Outlying Islands (August 2025)

Regulatory Framework for Small Unmanned Aircraft (SUA)



- a forward-looking regulatory regime to allow room for innovative development and applications of SUA while safeguarding aviation and public safety
- Regardless of recreational or commercial purposes of the SUA operations
- Risk-based Classifications and Regulation
  - Weight
  - Operating requirements (e.g. maximum height, lateral separation, speed, etc.)

Legal Footing

The Air Navigation (Hong Kong) Order 1995 (Cap. 448C) was designed for regulating **conventional aircraft operations with pilot(s) on board**

Small Unmanned Aircraft Order (Cap. 448G) has applied to **small unmanned aircraft** weighing **not more than 25kg** since 2022

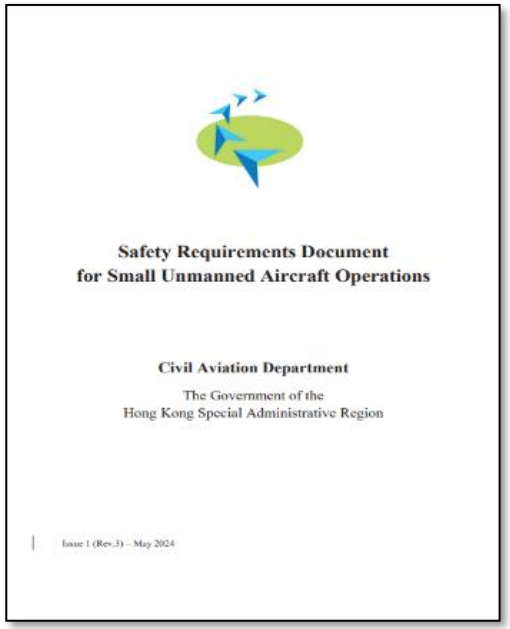
Regulatory Regime From 18 July 2025

The amended Air Navigation (Hong Kong) Order 1995 (Cap. 448C) provides for a permission for **unconventional aircraft**, including e-VTOL, to conduct trial operations in Hong Kong

The amended Small Unmanned Aircraft Order (Cap. 448G) caters for **unmanned aircraft weighing over 25kg up to 150kg**

A Flexible Regulatory Regime

- Overarching regulatory framework in legislation under the SUA Order, with detailed requirements and guidelines set out in **Safety Requirements Document** and **Advisory Circulars** (ACs)


Safety Requirements Document
for Small Unmanned Aircraft Operations

Civil Aviation Department

The Government of the
Hong Kong Special Administrative Region

Issue 1 (Rev.3) - May 2024

Updated Safety Requirements Document


Small Unmanned Aircraft
Approved Training Organisation

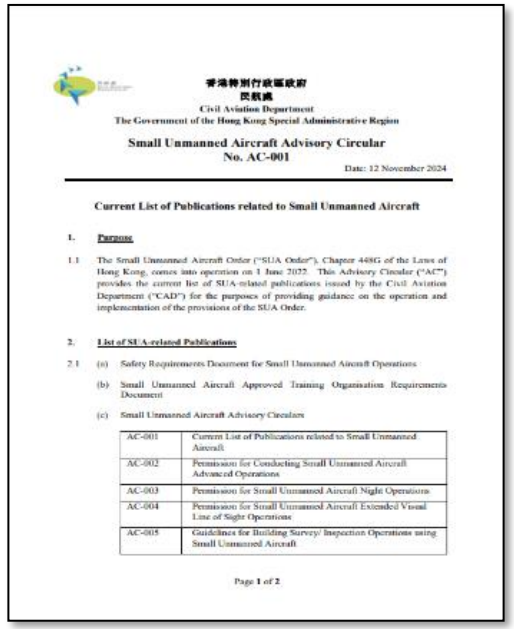
Requirements Document

Civil Aviation Department

The Government of the
Hong Kong Special Administrative Region

Issue 1 (Rev. 2) - Nov 2024

Updated Training Requirements Document


Civil Aviation Department
The Government of the Hong Kong Special Administrative Region

Small Unmanned Aircraft Advisory Circular
No. AC-001

Date: 12 November 2024

Current List of Publications related to Small Unmanned Aircraft

1. Purpose

1.1 The Small Unmanned Aircraft Order ("SUA Order"), Chapter 448G of the Laws of Hong Kong, comes into operation on 1 June 2022. This Advisory Circular ("AC") provides the current list of SUA-related publications issued by the Civil Aviation Department ("CAD") for the purposes of providing guidance on the operation and implementation of the provisions of the SUA Order.

2. List of SUA-related Publications

2.1 (a) Safety Requirements Document for Small Unmanned Aircraft Operations

(b) Small Unmanned Aircraft Approved Training Organisation Requirements Document

(c) Small Unmanned Aircraft Advisory Circulars

AC-001	Current List of Publications related to Small Unmanned Aircraft
AC-002	Permission for Conducting Small Unmanned Aircraft Advanced Operations
AC-003	Permission for Small Unmanned Aircraft Night Operations
AC-004	Permission for Small Unmanned Aircraft Extended Visual Line of Sight Operations
AC-005	Guidelines for Building Survey/ Inspection Operations using Small Unmanned Aircraft

Page 1 of 2

Updated and Introduced Advisory Circulars

Categorisation of SUA

SUA ≤ 250 g (Category A1 SUA) (~27%)

Tello by DJI (80 g)

Mini 4 Pro by DJI (249 g)

250g < SUA ≤ 7kg (Category A2 SUA) (~72%)

Phantom 4 Pro by DJI (1.4 kg)

Mavic Pro by DJI (730 g)

Anafi by Parrot (320 g)

Typhoon H by Yuneec (1.7 kg)

7kg< SUA ≤ 150kg (Category B/C SUA) (~ 1%)

M600 by DJI (9.6 kg)

SUA means "*any **power driven** unmanned aircraft, **weighing 150 kilograms or less** including **everything** installed in, carried with or attached to the aircraft at the commencement of its flight.*"

Regulatory Requirements

Category of Operations	Standard Operations		Advanced Operations
Requirements	**Cat. A1**	**Cat. A2**	i. Cat. A1 or A2 SUA exceeding the applicable operating requirements ii. Cat. B SUA iii. Cat. C SUA NEW iv. Cross-boundary Operations (Note 1) NEW v. Operations involving carriage of dangerous goods vi. Operations in RFZ
Registration	×	✓	✓
Labelling	×	✓	✓
Equipment	×	✓	✓
Awareness / Training	×	✓	✓
Insurance (Note 2)	×	×	✓
Permission	×	×	✓
Information Recorded by a Safety System	×	✓	✓ (6 months and accessible within HK) NEW

Note 1: Applicable to all SUA categories
Note 2: Effective date for insurance requirements for Cat. A2 SUA to be determined

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Operating Requirements

Requirements	Standard Operations		
	Cat. A1	Cat. A1 under exemption / Cat. A2	
Time of operations	Daylight only		
Maintain full-time visual line of sight required	✓		
Maximum flying altitude [Above Ground Level (AGL)]	100 ft	300 ft	
Minimum lateral separation from uninvolved people / structures / vehicles / vessels	10 m	10 m	30 m
Maximum speed	20 km/hr	20 km/hr	50 km/hr
Maximum number of SUA to be operated by a remote pilot at the same time	1		
Maximum dimensions of SUA	1 m, except that the longest distance between any two rotor blade tips can be up to 1.2 m		
Carriage of person or animal	Not allowed		
Nothing to be dropped from SUA	Unless with permission		

Advanced Operations Permission (AOP)

Prior permission from CAD is required

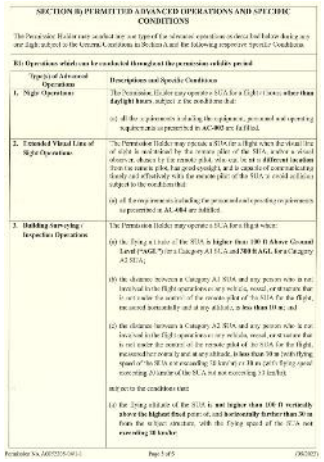
More stringent safety requirements

Higher risks involved


SMALL UNMANNED AIRCRAFT
ADVANCED OPERATIONS PERMISSION

THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

CIVIL AVIATION DEPARTMENT


SECTION B) PERMITTED ADVANCED OPERATIONS AND SPECIFIC CONDITIONS

- Operations of Cat. A1 or A2 SUA exceeding the applicable operating requirements, e.g. flying altitude exceeding 300 ft
- Operations of Cat. B and C SUA (7kg < SUA ≤ 150kg)
- Beyond Visual Line of Sight Operations (e.g. Drone Delivery)
- Operations involving carriage of dangerous goods
- Operations of any SUA within a Restricted Flying Zone, except wholly within an enclosed area

Registration

Labelling


Training & Rating


Equipage

Permission

Insurance

Insurance Requirements

- Safety Requirements
- Risk Assessment
- Site Safety Survey
- Emergency Procedures

→ Risk Mitigating Measures

Business Viability

Balanced Approach

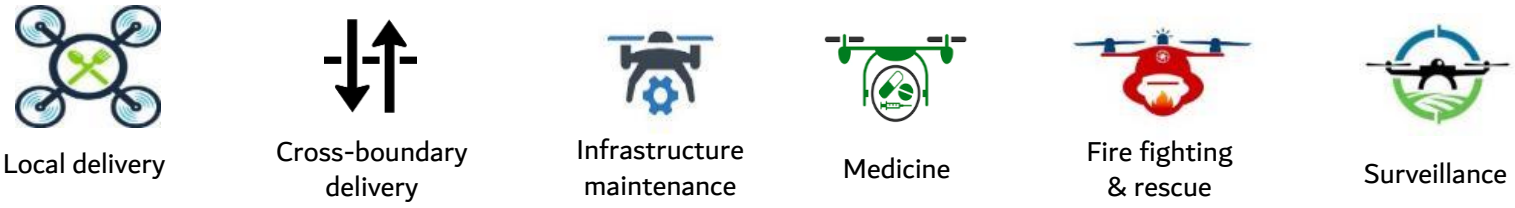
Category of Operations	Cat. A1 (≤ 250g)	Cat. A2 (> 250g, ≤ 7kg)	Cat. B (> 7kg, ≤ 25kg)	Cat. C	
				(> 25kg, ≤ 75kg)	(> 75kg, ≤ 150kg)
Min. coverage for 3rd party liability for bodily injury / death	-	**HK$5 million^ (~USD 640,000)**	**HK$10 million * (~USD 1.28M)**	NEW **HK$15 million (~USD 1.92M)**	NEW **HK$20 Million (~USD 2.56M)**

^ Effective date for insurance requirements for Cat. A2 SUA to be determined

* Also for operations of Cat. A1 or A2 SUA exceeding the applicable operating requirements

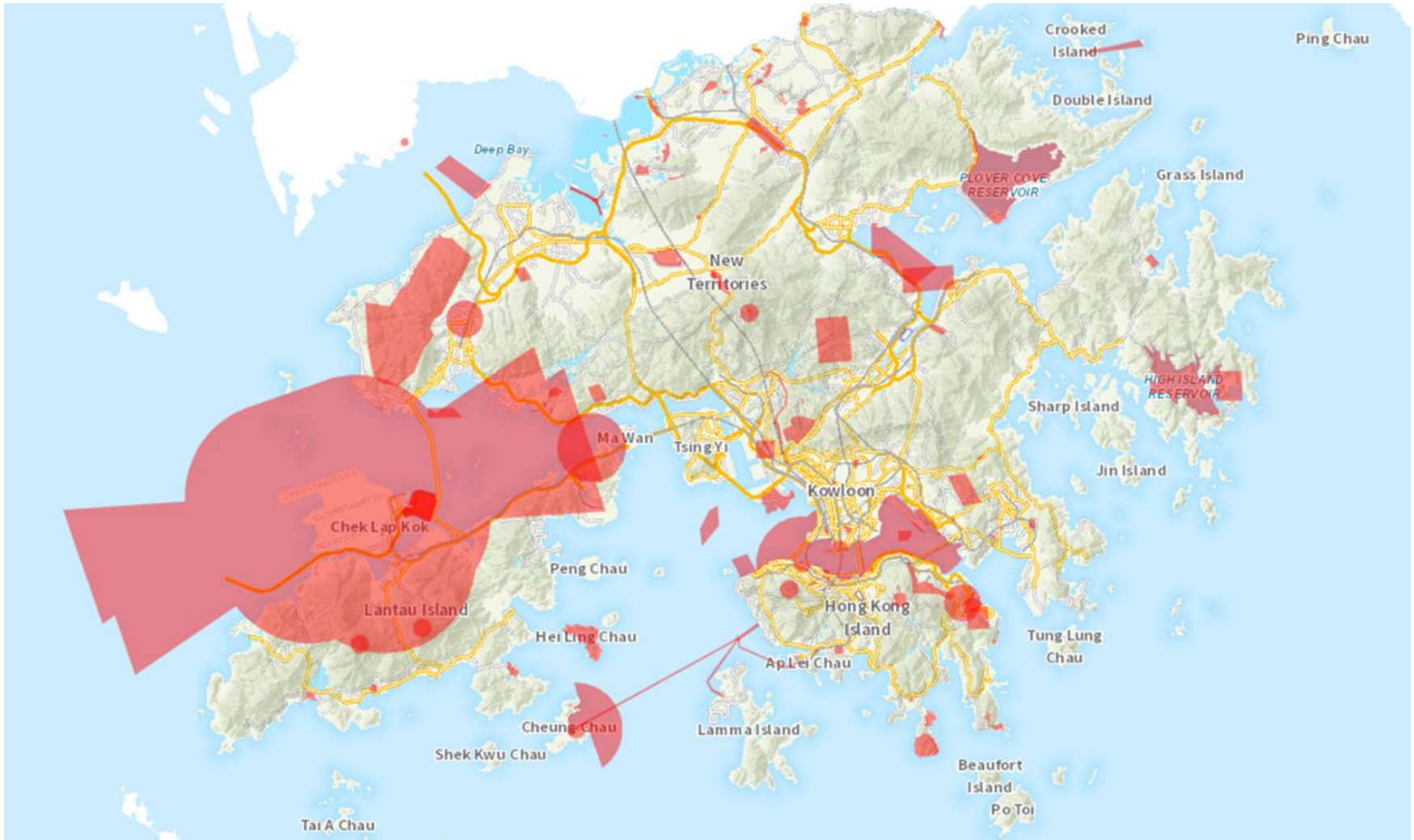
Considerations for Advanced Operations

- Operational Justifications
- Application Documentation (e.g. Application Form, Operations Manual, Risk Assessment, etc.)
- Flight Demonstration
- Requirements set out by other authorities, government departments, etc. set out in relevant SUA advisory circulars (e.g. AC-002 “Permission for Conducting SUA Advanced Operations”)



Restricted Flying Zones (RFZ)

- Additional Restricted Flying Zones designated for small unmanned aircraft according to the flight routes or locations of LAE regulatory sandbox pilot projects



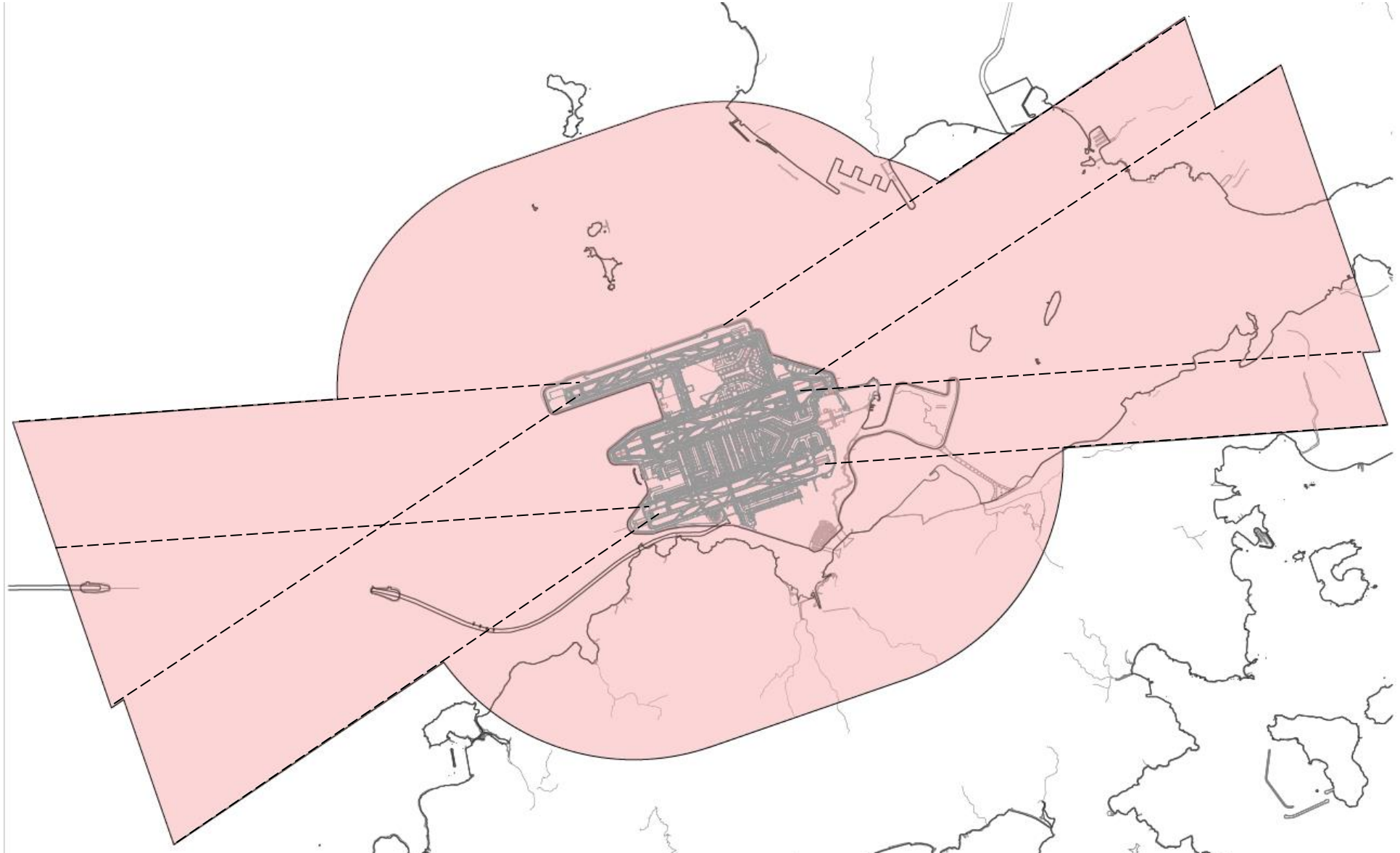
UAS OPS subject to ANSP's assessment

- Within HKIA RFZ
  - Aerodrome Traffic Zone (ATZ)
  - Control Zone (CTR) along departure/approach flight path

- Excessive height (above 90m/300ft AGL)
  - normally restricted in local VFR environment (i.e. CTR zones and uncontrolled airspace) to segregate with IFR traffic
  - for NOTAM / AIP Supplement issuance

- Drone Show
  - for NOTAM issuance

Hong Kong International Airport (HKIA) RFZ



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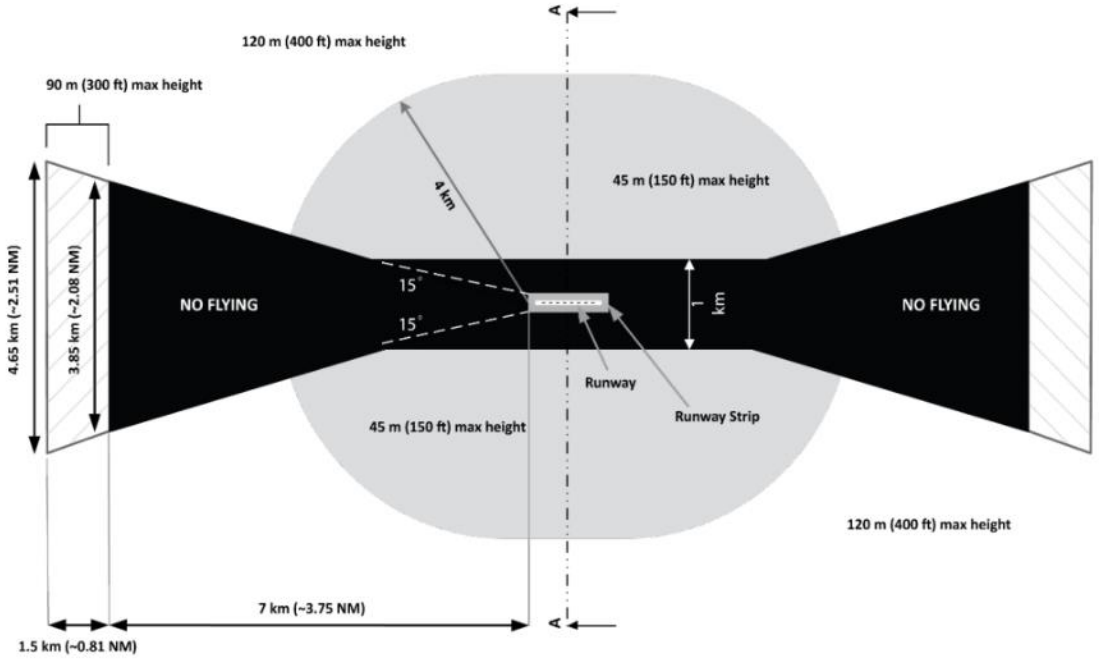
ATZ and CTR Ma Wan Zone

ANSP's Considerations

- Pending development of ICAO SARPs
  - Reference is made to international practices
- Case-by-case considerations
  - Risk assessment
  - Operating conditions imposed
    - e.g. during runway closure period
  - Other airspace users' comments to be sought
    - e.g. helicopter operators
  - Prior coordination on timeslot (for UAS within HKIA RFZ)
    - one-at-a-time principle
    - Aerodrome Supervisor's final approval



Source: Part 101 (Unmanned Aircraft and Rockets) Manual of Standards 2019, CASA, Australia

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Risk Control Measures

20-Oct-25 Mon	21-Oct-25 Tue	22-Oct-25 Wed	23-Oct-25 Thu	24-Oct-25 Fri	25-Oct-25 Sat	26-Oct-25 Sun
UAS @ North Commercial District & Airport Tung Chung Link (North) (90m AGL) Daybreak - 06:55		UAS @ Landside area from Centre RWY to North RWY (120m AGL) 06:56-07:55		UAS @ Landside area from Centre RWY to North RWY (120m AGL) 06:56-07:55	UAS @ Landside area from Centre RWY to North RWY (120m AGL) Daybreak - 07:30	UAS @ Landside area from Centre RWY to North RWY (120m AGL) Daybreak - 07:30
UAS @ Landside area from Centre RWY to North RWY (120m AGL) 06:56-07:55				UAS @ North Lantau Expressway (30m AGL), Hong Kong Disneyland (90m AGL) 10:00-14:00		

27-Oct-25 Mon	28-Oct-25 Tue	29-Oct-25 Wed	30-Oct-25 Thu	31-Oct-25 Fri	01-Nov-25 Sat	02-Nov-25 Sun
UAS @ Landside area from Centre RWY to North RWY (120m AGL) Daybreak - 07:30	Heliservices @ Tung Chung New Town Development + water treatment (1500ft AGL) 10:00:11:15	UAS @ Landside area from Centre RWY to North RWY (120m AGL) 06:56-07:55	UAS @ Tung Chung New Town Extension Area (90m AGL) Daybreak - 07:45	UAS @ Landside area from Centre RWY to North RWY (120m AGL) 06:56-07:55	UAS @ North Commercial District & 3RS Zone D (90m AGL) Daybreak - 06:55	UAS @ Tung Chung New Town Extension (East) (50m AGL) 06:45-07:45
UAS @ Tung Chung Valley (300ft AGL) 10:00-12:00	UAS @ Tung Chung River (300ft AGL) 12:00-16:00		Heliservices @ Tung Chung New Town Development + water treatment (1500ft AGL) 09:00:10:15 (backup)	Heliservices Check Flights @ HKIA 10:30-12:00	UAS @ Landside area from Centre RWY to North RWY (120m AGL) 06:56-07:55	
UAS @ Tai Lam Chung & So Kwun Wat (90m AGL/700ft AMSL) 13:00-15:00			UAS @ Chung Mun Road, Tung Chung (DD1TC) (90m AGL) 10:30-12:30	UAS @ Pillar Point (Tuen Mun Area 38 Fill Bank TM38) (70m AGL) 13:00-15:00	UAS @ Ngong Ping (300ft AGL) 08:00-15:00	
			UAS Operation at Tai Lam Chung (DD385) (90m AGL) 14:30-16:00			

One operation at a time
Seek Aerodrome Supervisor for final approval

UAS Operations in the vicinity of HKIA

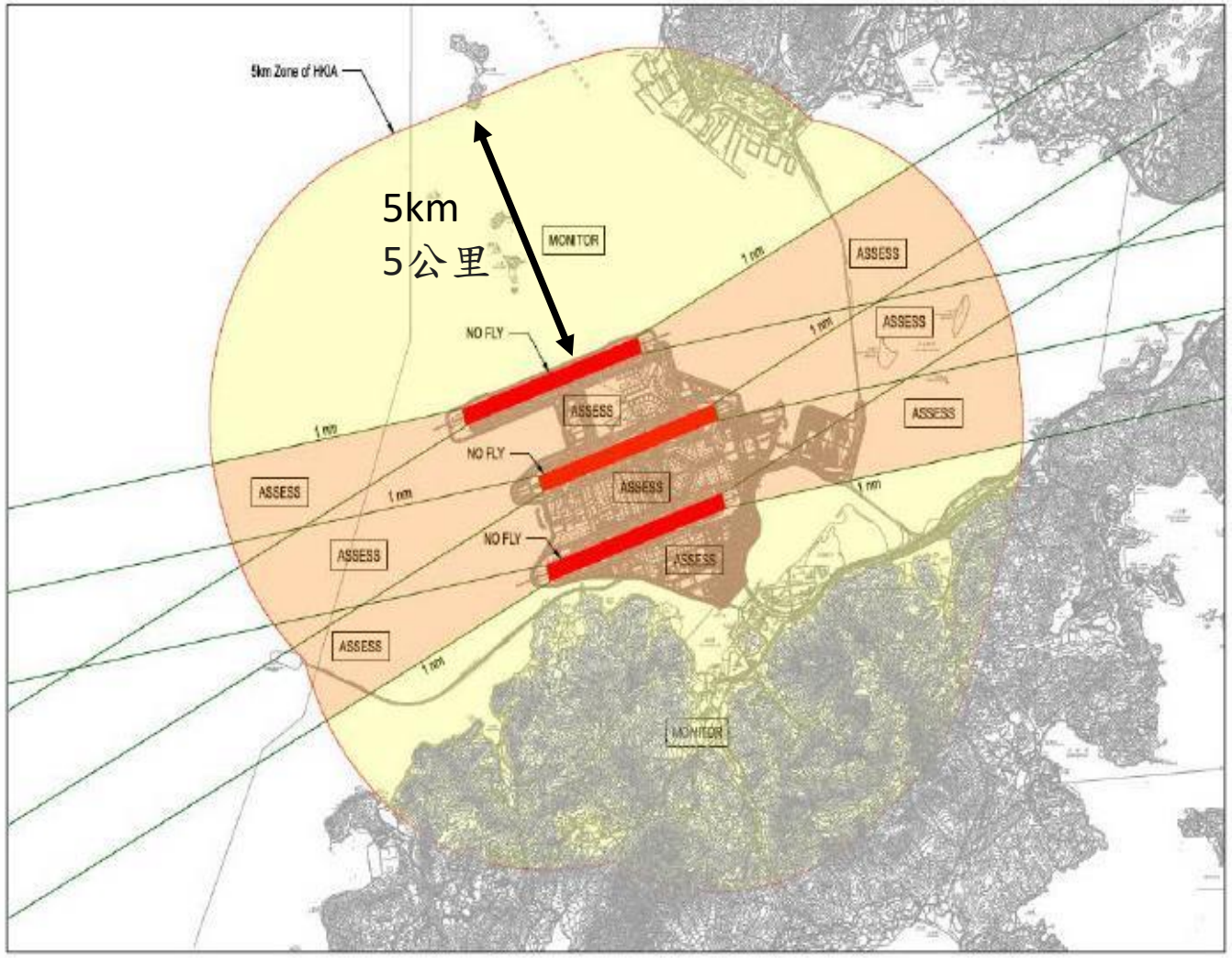
- At the aerodrome
  - Trial Flight Calibration for ILS and PAPI
  - Aircraft Exterior Inspection at Parking Stand in Maintenance Apron
  - Construction survey for the Three-Runway System
- Within ATZ
  - Building Inspection of Residential Towers in Tung Chung
  - Shoreline Cleanliness Inspection near HKIA
- At the outskirt of RFZ
  - Drone shows at Big Buddha and Gold Coast

Handling of Unauthorized UAS

- UAS Detection System installed by the Airport Authority to detect unauthorized UAS operations around the airport

- UAS Threat Assessment Group (UTAG)
  - Consists of Airport Duty Manager (chairperson), ATC Watch Manager and Airport Police
  - On receipt of reports of unauthorized UAS movements, decide on the overall UAS Threat Alert Level based on each member's initial risk assessment and location of the UAS
  - RED / ORANGE / YELLOW / GREEN threat levels
  - Actions according to respective Threat Alert Level, e.g. suspension of air traffic movements of affect runway(s) to contain the risk

Unmanned Aircraft Detection System



Way Forward

Continual Safety Enhancement Through the Support of Innovative Solution

- Advanced LAE **"Regulatory Sandbox *X*"** pilot projects
  - further expand and enrich the scope of application of low-altitude flying activities
  - cover application scenarios that are technically more complex, such as **cross-boundary routes** and passenger-carrying low-altitude aircraft

- Continue to improve civil aviation legislation and regulatory framework
  - make dedicated legislation for **"unconventional aircraft"** weighing above 150kg (including passenger-carrying aircraft)
  - lay the foundation for developing the standardization of LAE

- Implement the provision of core infrastructure facilities
  - facilitate early planning and deployment of facilities such as vertiports, air route networks, satellite positioning, three-dimensional spatial data systems and a smart low-altitude traffic management system, etc.

Way Forward

- Transitioning from segregation to integration

- Solutions to these questions are evolving
  - separation standards between UAS and manned aircraft
  - reliability of track/altitude-keeping and geofencing of UAS
  - certification standard of UAS
  - flight rules
  - UAS Traffic Management (UTM)
  - identification of UAS - Remote ID?

- An exciting journey ahead

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Thank you!

We look forward to sharing your experience!