

Application for Low-altitude Economy Regulatory Sandbox 𠂇

(For the trial operations of unconventional aircraft (“UCA”))

1. Before completing the application form, please read the practical guidance document “Permission to Conduct Trial Operations of Unconventional Aircraft in Hong Kong” (“Practical Guidance”) for detailed requirements. The Practical Guidance is available on the CAD website (https://www.cad.gov.hk/english/uca_trials.html).
2. The completed form and all the required documents shall be submitted to LAE.sandbox@tlb.gov.hk

1. MODULES
Please choose the modules to be applied under Sandbox 𠂇: <input type="checkbox"/> UCA - Local operations <input type="checkbox"/> UCA - Cross-boundary operations
2. APPLICANT’S PARTICULARS
Name of the Organisation (in full) : _____ Type of Organisation Registration Document and Reference No.: (e.g. Business Registration Certificate and No.) _____ [Note: The organisation shall demonstrate its local nexus (such as be registered in Hong Kong under the Business Registration Ordinance (Cap. 310)).] Registered Address: _____ _____ Name of Accountable Manager (in full) : _____ Post Title: _____ Contact Tel. No.: _____ Email Address: _____ Name of Contact Person (in full): _____ Post Title: _____ Contact Tel. No.: _____ Email Address: _____ Collaborating Organisation (in full, if applicable) [Note: Applicant who cannot fulfill the eligibility requirements as stated in (a) of the part of “Eligibility” on the LAE Regulatory Sandbox 𠂇 web page (http://www.tlb.gov.hk/eng/highlights/transport/low-altitude.html) can collaborate with organisations who possess the relevant qualifications.] (1) _____ Place of Registration: _____ (2) _____ Place of Registration: _____ (3) _____ Place of Registration: _____ (4) _____ Place of Registration: _____

3. DESCRIPTION OF THE PROPOSED TRIAL OPERATIONS

Note: The applicant is required to provide the detailed test plans and flight plans separately (see item (5) of Required Documents below).

I. Brief Description of the Proposed Application Scenario:

(e.g. cargo/passenger carrying operations, delivery/scenic applications, manned/unmanned operations, etc., attach additional sheets if required)

II. Justifications / Objectives of the Proposed Trial Operations *(Attach additional sheets if required):*

III. Proposed Aircraft Type to be Deployed and Corresponding Certification Status:

IV. Proposed take-off / landing site, flight route, location of hangar and remote pilot station, if applicable:

(Please attach relevant map(s) and layout(s) with dimensions, and refer to paragraph 5 of the Practical Guidance for details)

V. Duration: From _____ To _____

VI. Details of the Proposed Trial Operations including Timelines, Methodology and Scenarios to achieve the Objectives of Regulatory Sandbox in 6 to 12 months' period:

(Please refer to <http://www.tlb.gov.hk/eng/highlights/transport/low-altitude.html> for the objectives, attach additional sheets if required)

4. REQUIRED PERMISSION TO BE OBTAINED		
<p>I. Site Permission:</p> <p><input type="checkbox"/> Yes Site owner / Government B/D concerned: _____</p> <p><input type="checkbox"/> No / Already obtained from site owner Please explain why site permission is not required. _____</p> <p>II. Permission / Licence / Authorisation from other Government Bureaux / Departments / Other Regulatory Authorities, where applicable: <i>(e.g. Customs and Excise Department, Office of the Communications Authority, Civil Aviation Administration of China, etc.)</i></p> <p><input type="checkbox"/> Yes Outstanding Permission / Licence / Authorisation: _____</p> <p>_____</p> <p>Permission / Licence / Authorisation already obtained by the applicant: _____</p> <p>_____</p> <p><input type="checkbox"/> No</p>		
5. REQUIRED DOCUMENTS		
<p><input type="checkbox"/> The applicant undertakes to accept all the conditions and requirements imposed by the Working Group on Developing Low-altitude Economy and/or the Project Facilitation Task Force, including those related to privacy and other relevant concerns (e.g. permission from land owners or other stakeholders where necessary).</p>		
Required Document	Name of Attachment/ Number of the relevant section(s) or paragraph(s) of the Operations Manual (OM) (Note: For electronic submissions, the document's name should be equivalent to the file name.)	Submitted ? (Yes/No/ N.A.)
I. GENERAL INFORMATION		
(1) A copy of the applicant's Business Registration Certificate in Hong Kong under the Business Registration Ordinance (Cap. 310)	<i>[e.g. Attachment "BRC"]</i>	
(2) Description of the applicant's nature of work	<i>[e.g. Attachment "Company Background"]</i>	
(3) Applicant's Organisation Structure	<i>[e.g. Attachment "Organisation Structure"]</i>	
(4) Contact details, role in organisation and resume (CV) of the Accountable Manager	<i>[e.g. Attachment "CV of AM"]</i>	

(5)	Detailed concept of operations, including the test plan(s) ¹ and flight plan(s) ²	<i>[e.g. Attachment “Test Plans” and “Flight Plans”]</i>	
(6)	Details of the aircraft to be used for the proposed operations, with details such as the name of the manufacturer, model name or model number, maximum take-off weight and other technical specifications of the aircraft	<i>[e.g. Attachment “Description / Technical Specifications of the Aircraft”]</i>	
(7)	A copy of the certification document(s) issued by the State of Design and/or the State of Registry of the aircraft to be used for the proposed operations (e.g. Type Certificate, Production Certificate, Certificate of Airworthiness, etc.)	<i>[e.g. Attachments “Type Certificate”, “Production Certificate” and Certificate of Airworthiness”]</i>	
(8)	Proposed location for the identification marking on the aircraft	<i>[e.g. Attachment “Marking Location”]</i>	
(9)	List of members of the flight crew (pilots and visual observers, if any) involved in the proposed operations, with a copy of their applicable licence and a summary of their qualifications and experience	<i>[e.g. Attachments “List of Flight Crew” and “Licences of Pilots” and “Summary of Qualifications”]</i>	
(10)	List of other supporting crew members and maintenance personnel involved in the proposed operations, with a copy of their applicable licence and a summary of their qualifications and experience	<i>[e.g. Attachments “List of Maintenance Personnel and Supporting Crew”, “Licences of Maintenance Personnel” and “Summary of Qualifications”]</i>	
(11)	List of external services involved in and external service provider(s) engaged by the applicant for the proposed operations, and demonstration that the performance and availability of the services are adequate for the proposed operations	<i>[e.g. Attachment “List of External Services and External Service Providers”]</i>	

¹ Test Plan shall define, at a minimum, scenarios (e.g. vertical flights, dummies on board) and objectives/deliverables (e.g. feasibility of emergency manoeuvres, detect-and-avoid methodologies) of one or a series of test phases, and specific test cases to cover normal operations and emergency scenarios for the purpose of demonstrating the robustness of the trial operations.

² Flight Plan shall include, at a minimum, times and duration of operations, take-off/landing sites, flight route, planned emergency landing sites, location of remote pilot station, buffer zones along the flight route, number and location of observers, if any, etc.

II. TECHNICAL COMPETENCE		
(12)	<p>The applicant shall demonstrate its capability and experience in safely operating UCA to conduct the proposed operations, for example, with the operational approval issued by major civil aviation regulatory authority to conduct such operations.</p> <p><i>[Note: The application of an applicant without specific experience for the proposed operations may still be considered, provided that it can demonstrate its competence to conduct the proposed operations are commensurate with its level of experience.]</i></p>	
(13)	The applicant shall demonstrate its solid understanding of the technology and systems involved in the proposed operations, and relevant regulations, standards, and industry best practices.	
(14)	If the applicant has expertise in the design, development, and testing of UCA, and have access to necessary testing facilities and equipment, please provide further information.	
III. OPERATIONAL EXPERIENCE		
(15)	The applicant shall prove its prior experience in conducting the proposed operations (including but not limited to their ability to monitor flight routes, maintain accurate navigation, and ensure secure payload handling).	
(16)	The applicant shall demonstrate its strong commitment to safety and proven track record in safe operations, including regulatory compliance and safety standards, for example, supported by operational approval issued by major civil aviation regulatory authorities for the proposed operations.	

<p>(17) Safety data and records listed below:</p> <p>(a) Operational stations in China and overseas;</p> <p>(b) Trial or demonstration flight performed;</p> <p>(c) Commercial flights conducted; and</p> <p>(d) Accidents, incidents and violations, if any, and the corrective actions taken to prevent recurrence.</p>		
<p>IV. INNOVATION</p>		
<p>(18) If the applicant considers operationalizing innovative trials not conducted before locally with viable and sustainable applications beneficial to the development of low-altitude economy, please provide further information.</p>		
<p>(19) If the organization considers adopting locally developed technologies, please provide further information.</p>		
<p>V. CONTRIBUTION TO THE DEVELOPMENT OF LOW-ALTITUDE ECONOMY</p>		
<p>(20) If the applicant considers trialing viable and sustainable applications conducive to enhancing the understanding of various practical aspects of low-altitude economy (such as design of air route network, requirements for infrastructure / facilities, response to emergency situations, development of relevant operational parameters of the regulatory regime), please provide further information.</p>		
<p>VI. ECONOMIC BENEFITS</p>		
<p>(21) The applicant shall demonstrate the commercial value of the proposed trial operations, and outline the expected economic and commercial benefits.</p>		
<p>VII. SAFETY MANAGEMENT AND RISK ASSESSMENT</p>		
<p>(22) The applicant shall demonstrate its ability to manage safety, identify, assess, and mitigate risks associated with the proposed UA operations and sufficient experience with hazard analysis and risk assessment methodologies (such as the Specific Operations Risk Assessment (SORA)).</p>		

<p>(23) Risk assessment conducted by the applicant identifying hazards specific to the proposed operations and the corresponding risk mitigating measures.</p> <p><i>[Note: For cross-boundary applications, the risk assessment should include, inter alia, network coverage and stability across the border]</i></p>		
VIII. INSURANCE COVERAGE		
<p>(24) The applicant shall undertake to maintain in force a policy of insurance that complies with the Civil Aviation (Insurance) Order (Cap.448F).</p>		
IX. OPERATIONAL MANUAL		
<p><input type="checkbox"/> An Operations Manual (“OM”), which fulfils the requirements set out in the Practical Guidance, has been submitted along with this application form.</p> <p><i>[Note: To provide guidance for applicants to draft the OM, a template has been uploaded to the following web page: https://www.cad.gov.hk/english/uca_trials.html]</i></p>		
A. Applicability		
<p>(25) Compliance statement and applicability, document control and amendment of the OM</p>	<p>Section / Paragraph Number: _____</p>	
<p>(26) Type(s) and descriptions of the proposed operations</p>	<p>Section / Paragraph Number: _____</p>	
<p>(27) Operating restrictions and conditions</p>	<p>Section / Paragraph Number: _____</p>	
B. Organisation and Personnel		
<p>(28) Definition of flight crew and supporting crew involved in the proposed operations, and the minimum number of flight crew and supporting crew for each operation</p>	<p>Section / Paragraph Number: _____</p>	
<p>(29) Responsibilities and duties of the Accountable Manager</p>	<p>Section / Paragraph Number: _____</p>	
<p>(30) Responsibilities and duties of the pilot in command (“PIC”) and other members of the flight crew</p>	<p>Section / Paragraph Number: _____</p>	
<p>(31) Responsibilities and duties of other supporting crew members</p>	<p>Section / Paragraph Number: _____</p>	
<p>(32) Competency and/or qualification requirements of the PIC, members of the flight crew, and members of the supporting crew, which shall include specific trainings for trial operations and the emergency procedures</p>	<p>Section / Paragraph Number: _____</p>	

(33) Policy and procedures for the maintenance of a list of flight crew and supporting crew members involved in the proposed operations	Section / Paragraph Number: _____	
(34) Details of any external services involved in the proposed operations, and the respective roles and responsibilities of the applicant and any external service providers in the performance of the services	Section / Paragraph Number: _____	
C. Overview of the Aircraft, Relevant Systems and Equipment		
(35) Brief technical description of the aircraft and its controlling system (e.g. for unmanned aircraft, its ground station, remote controller, flight controlling software, etc.)	Section / Paragraph Number: _____	
(36) Overview of the command and control Link (“C2L”)	Section / Paragraph Number: _____	
(37) Brief description of C2L signal latency	Section / Paragraph Number: _____	
(38) Description of the flight recording system	Section / Paragraph Number: _____	
(39) Description of the navigation and positioning system (including the geospatial and map data), their accuracy, and means to ensure that they are timely updated	Section / Paragraph Number: _____	
(40) Description of the on-board detection and avoidance system and its accuracy	Section / Paragraph Number: _____	
(41) Description of the Geo-fencing mechanism and/or other containment system	Section / Paragraph Number: _____	
(42) Description of the fail-safe mechanism	Section / Paragraph Number: _____	
(43) Description of any other safety systems that will assist the flight crew to carry out the operations safely	Section / Paragraph Number: _____	
(44) Aircraft operating limitations and conditions	Section / Paragraph Number: _____	
D. Operational Control		
(45) Real-time flight data monitoring by the applicant	Section / Paragraph Number: _____	

(46) Means of communications between the PIC, other members of the flight crew and: (a) supporting crew members; (b) on-board passengers (if applicable); (c) other relevant personnel (if applicable); and (d) the CAD and other relevant parties and authorities, for normal flight operations and for emergency (e.g. flyaway, system failures, etc.)	Section / Paragraph Number: _____	
(47) Requirements on the area of operations	Section / Paragraph Number: _____	
(48) Means of surveillance enabling the aircraft to: (a) detect and avoid other aircraft, terrain, obstacles and moving objects; and (b) continuously monitor nearby air traffic information.	Section / Paragraph Number: _____	
(49) Site management policies and procedures for: (a) ensuring adequate security provisions to protect the aircraft (and any such installation for its sources of energy) against unlawful interference or unauthorised access; and (b) arranging cordoning as appropriate.	Section / Paragraph Number: _____	
(50) Personnel and equipment Redundancy	Section / Paragraph Number: _____	
(51) Energy management policy and procedures	Section / Paragraph Number: _____	
(52) C2L management policy and procedures	Section / Paragraph Number: _____	
(53) Policy and procedures to ensure that crew members are in sound physical or mental conditions to enable safe operations	Section / Paragraph Number: _____	
(54) Go / no-go criteria	Section / Paragraph Number: _____	
(55) Emergency abort criteria	Section / Paragraph Number: _____	
(56) Policy of documentation and records	Section / Paragraph Number: _____	
E. Operational Procedures		
E1. Flight Planning		
(57) On-site survey and assessment	Section / Paragraph Number: _____	

(58) Selection of operating area, including take-off and landing sites, flight route, emergency landing sites and/or alternates, areas designated as buffer zones along the flight route, and area cordoned off for operations	Section / Paragraph Number: _____	
(59) Procedures to conduct safety risk assessment and management	Section / Paragraph Number: _____	
(60) Policy on liaison with other Government Bureaux / Department / other Regulatory Authorities and seeking relevant permission(s) (if applicable)	Section / Paragraph Number: _____	
E2. Pre-flight Checks		
(61) Cordoned areas	Section / Paragraph Number: _____	
(62) Weather / adverse space weather conditions checks	Section / Paragraph Number: _____	
(63) Equipment readiness	Section / Paragraph Number: _____	
(64) Aircraft weight and balance and loading schedules	Section / Paragraph Number: _____	
(65) Aircraft Conditions	Section / Paragraph Number: _____	
(66) C2L, navigation and positioning system and calibration	Section / Paragraph Number: _____	
(67) Geo-fencing and/or other containment mechanism	Section / Paragraph Number: _____	
(68) Return-to-home position / maximum altitude	Section / Paragraph Number: _____	
(69) Procedures to conduct pre-flight safety briefing (for persons on-board operations)	Section / Paragraph Number: _____	
(70) Pre-flight checklist	Section / Paragraph Number: _____	
E3. Flight Procedures		
(71) Normal operating procedures including flight procedures at different phases	Section / Paragraph Number: _____	
(72) Abnormal, contingency and emergency operating procedures	Section / Paragraph Number: _____	
F. Quality Assurance		
(73) Quality assurance policy	Section / Paragraph Number: _____	
(74) Training policy and programme	Section / Paragraph Number: _____	

(75) Support to oversight activities by the CAD	Section / Paragraph Number: _____	
G. Accident / incident reporting and investigation		
(76) Accident or incident reporting policy, procedures and timeframe	Section / Paragraph Number: _____	
(77) Investigation policy and procedures	Section / Paragraph Number: _____	
H. Appendices		
(78) Template of various forms and records	Section / Paragraph Number: _____	
X. OTHER TECHNICAL DETAILS / SUPPORTING INFORMATION		
(79) The maintenance programme and maintenance arrangement made, or proposed to be made, by the applicant		
(80) Details of the C2L, in particular, the applicant shall demonstrate that the C2L is: (a) designed to protect against electrostatic lightning and electromagnetic hazards; and (b) capable of preventing unauthorised access or seizing of control		
(81) Supporting information on GNSS / C2L stability ³ , including: (a) how the applicant ensures adequacy of GNSS and mobile network signal strength, coverage and integrity for C2L throughout the intended operating areas; and (b) the fail-safe mechanism, including any equipment on the aircraft, to counter any degradation / loss of GNSS (e.g. by GNSS jamming / spoofing) and C2L		

³ On the use of public mobile networks and private radiocommunications network for C2L purpose, the applicant should comply with the guidelines and requirements of the Office of Communications Authority (“OFCA”), which are available at the following link:
https://www.ofca.gov.hk/en/industry_focus/industry_focus/uas_private_licence/index.html

<p>(82) Details of the real-time flight data monitoring mechanism:</p> <p>(a) Means of maintaining real-time flight data monitoring of the UCA by the applicant, and the data transmitted, data format, transmission frequency, etc.; and</p> <p>(b) Means of making provision for such real-time flight data monitoring by the CAD and other relevant authorities if necessary</p>		
<p>(83) A copy of all permission, licence, and/or authorisation that have <u>already been</u> obtained from other Government Bureaux, Departments and/or other Regulatory Authorities, for conducting the proposed operations</p>		

<i>Declaration and signature</i>

I, as the applicant, declare that:

- The information given in this application form is correct to the best of my knowledge and belief;
- I have the authority for ensuring that the operations are to be in compliance with all the statutory requirements and the conditions of the permission if granted; and
- I am accountable for all matters relating to the application as well as coordination with relevant Government Department(s) when needed.

Name

Signature & Company Chop

Position in Organisation

Date

Personal Data Collection Statement

1. Purposes of Collection

The personal data provided by means of this form, including all the supporting documents included in the application, will be used by Civil Aviation Department / Government Bureaux and Departments under the Project Facilitation Task Force for the following purposes:

- a. Processing of your application in this form;
- b. Carrying out relevant provisions of the Civil Aviation Ordinance (Chapter 448) and its subsidiary Orders / Regulations;
- c. Assisting in the enforcement of any other Ordinances and Regulations by other Government Bureaux and Departments;
- d. For communication purposes between Civil Aviation Department / Government Bureaux and Departments under the Project Facilitation Task Force and yourself;
- e. For validation and verification of authenticity of your supporting documents in association with the application;
- f. For statistics and research purposes on the condition that the resulting statistics or results will not be made available in a form which will identify the data subjects.

It is obligatory for you to supply the personal data as required in this form. If you fail to supply the required data, we may not be able to process your application.

2. Classes of Transferees

The personal data you provided by means of this form may be disclosed to:

- a. Other Government Bureaux and Departments for the purposes mentioned in paragraph 1 above;
- b. Other Contracting States of the International Civil Aviation Organisation and Civil Aviation Authorities for the purpose mentioned in paragraph 1 above;
- c. Other organisations or agencies for execution of their duties as required by Civil Aviation Department.

3. Access to Personal Data

You have a right of access and correction with respect to personal data as provided for in Sections 18 and 22 and Principle 6 of Schedule 1 of the Personal Data (Privacy) Ordinance. Your right of access includes the right to obtain a copy of your personal data provided by this form.

4. Enquiries

Enquiries concerning the personal data collected by means of this form, including the making of access and correction, should be addressed to:

Flight Standards Office
Flight Standards and Airworthiness Division
Civil Aviation Department Headquarters
1 Tung Fai Road
Hong Kong International Airport
Lantau, Hong Kong