CORE CONCEPT

Advanced Air Mobility and Vertiport Operations Course: eVTOL Certification and Airspace Integration

6 – 10 September 2027
London - Central London four-star

Advanced Air Mobility and Vertiport Operations Course: eVTOL Certification and Airspace Integration

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Introduction:

Advanced air mobility and vertiport operations, covering eVTOL certification, infrastructure and airspace integration, is the subject of this 1-week course for aviation authority units, vertiport developers, city transport planners and air taxi operators, ending with an AAM Launch and Vertiport Readiness Plan for a case city. Air taxi launches stall when aircraft approval, landing site design, charging power, low-altitude routes and community consent are planned by separate bodies. Nominees already manage aviation, infrastructure or urban transport projects, and work through case studies on site layouts, corridor maps and cost models. CoreConcept Training Center delivers this advanced air mobility course.

Course Objectives:

- Compare multicopter, lift-plus-cruise and vectored thrust eVTOL configurations against mission range, payload, noise and site needs
- Map the certification pathway for an eVTOL aircraft and its operator, from design objectives under the special condition for VTOL aircraft to air operator approval
- Specify a vertiport layout with FATO, TLOF, safety area, stands, passenger flow and charging power demand
- Plan low-altitude corridors and the UTM or U-space services needed to integrate air taxi flights with existing traffic
- Assess eVTOL operational hazards, noise exposure and community acceptance and set the mitigations a launch requires
- Build an AAM route business case covering demand, ticket yield, vertiport revenue and operating cost per seat

Target Audience:

- Aviation authority units that approve new aircraft categories, operators and landing sites for air taxi services
- Airport and real estate development units that plan, finance and build vertiports on rooftops, car parks or terminals
- City transport planning units that integrate air taxi routes with rail, metro, bus and road networks
- Operator launch units that prepare fleets, crews, maintenance and passenger services for first eVTOL routes
- Utility and energy units that assess grid connection and charging capacity for vertiport sites

Course Outline:

Day 1: Advanced Air Mobility Landscape and eVTOL Aircraft Families

- AAM Use Case Map for Intra-City, Inter-City and Cargo
- Multicopter, Lift-Plus-Cruise and Vectored Thrust Configuration Comparison
- Battery Energy Density, Range and Reserve Trade-Offs for eVTOL
- Hybrid-Electric and eSTOL Alternatives for Regional Air Routes
- AAM Readiness Baseline Scorecard for a City Region

Day 2: eVTOL Certification Pathways and Operator Approval

- Special Condition for VTOL Aircraft Design and Safety Objectives
- Powered-Lift Type Certification Basis and Means of Compliance
- Production Approval, Continuing Airworthiness and Maintenance Programme Setup
- Air Operator Approval Manual Set for Passenger Air Taxi Services
- Pilot Licensing, Type Rating and Simulator Training Pipeline for eVTOL

Day 3: Vertiport Site Selection, Design and Charging Infrastructure

- Vertihub, Vertibase and Vertipad Network Hierarchy Planning
- Rooftop, Ground-Level and Terminal Vertiport Site Screening Matrix
- FATO, TLOF and Safety Area Dimensioning With Obstacle Surfaces
- Stand Count, Turnaround Time and Passenger Flow Capacity Modelling
- Megawatt Charging, Battery Swap and Grid Connection Load Sizing

Day 4: Low-Altitude Airspace Integration, Safety and Noise

- UTM and U-Space Service Architecture for Air Taxi Traffic
- Low-Altitude Corridor Design, Separation and Approach Path Geometry
- Vertiport Emergency Response, Battery Fire and Rescue Planning
- eVTOL Noise Footprint Mapping and Community Engagement Plan
- Cyber Resilience of Digital Flight Authorisation and Data Exchange

Day 5: Case Study on an AAM Launch and Vertiport Readiness Plan

- Case City Air Taxi Demand and Route Network Selection
- Case Vertiport Layout, Charging and Capacity Specification Exercise
- Case Corridor and UTM Integration Concept for First Routes
- AAM Route Economics With Ticket Yield and Cost per Seat
- AAM Launch and Vertiport Readiness Plan Completion and Peer Defence

Skills You Will Gain:

- eVTOL Configuration Assessment
- Aircraft Certification Planning
- Vertiport Layout Design
- Charging Load Estimation
- Low-Altitude Corridor Planning
- Noise Impact Assessment
- Air Taxi Route Economics
- Stakeholder Consent Management

Why Attend This Course:

- Present an AAM Launch and Vertiport Readiness Plan for a case city to the aviation authority lead, the developer board and the city transport director
- Decide which vertiport sites, aircraft types and first routes to approve or fund, and in which launch sequence
- Avoid stranded vertiport investment, grid upgrades discovered late and corridors rejected by residents over noise
- Equip colleagues with the site screening matrix, charging load worksheet and corridor design checklist used in class

Conclusion:

Back at work, the participant hands the aviation authority lead, the vertiport developer and the city transport director an AAM Launch and Vertiport Readiness Plan that sets first routes, aircraft and operator approval steps, vertiport layouts, charging power, corridors and a community engagement plan. Authorities use it to sequence approvals, developers to commit site capital and operators to schedule fleet entry. After the first trial flights, the unit should compare turnaround times, energy use, noise complaints and load factors with the plan and revise it.

Frequently Asked Questions FAQ:

What should participants know before an advanced air mobility and vertiport operations course?

Participants should already work on aviation approvals, airport or real estate development, urban transport or airline operations. No pilot or engineering background is needed. Bringing an anonymised site plan, route idea or grid capacity note helps during the case study.

How does an advanced air mobility and vertiport operations course differ from a drone operations course?

It prepares passenger and cargo air taxi services with certified eVTOL aircraft, vertiports and corridors. A drone operations course sets up small unmanned fleets for inspection or survey, with risk cases and payloads, and does not cover passenger vertiports or air taxi economics.

Why do vertiports matter to advanced air mobility launches?

Vertiports set how many flights a city can handle. Their FATO, TLOF, stands, charging power and passenger flow decide turnaround time and capacity, and their location decides noise exposure, ground access and whether residents accept the service.

What do participants take back from the advanced air mobility and vertiport operations course?

Participants take back an AAM Launch and Vertiport Readiness Plan for a case city, with a site screening matrix, charging load worksheet, corridor design checklist, certification pathway map and route cost model ready to adapt to their own organisation.