Facilitation in Advanced Air Mobility

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ENAC
ENTE NAZIONALE PER L'AVIAZIONE CIVILE

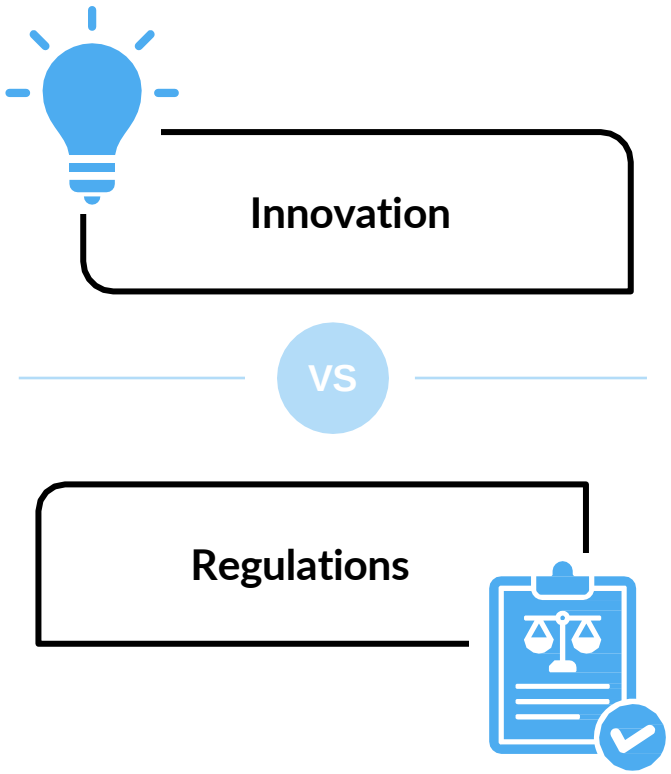
Emerging Aviation Technologies

A New Era

- AAM reimagines services, business models & ways to move people and cargo
- **How might facilitation-related regulations and tools evolve?**

A **balanced strategy** must promote technology, protect rights, ensure security, and understand people's needs

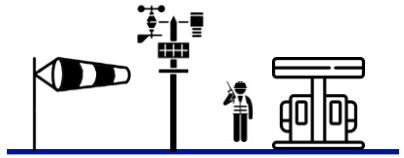
The Pace Problem

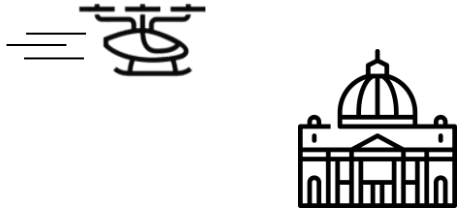


Italian Strategy

- A national AAM ecosystem in line with EU policy
- Integrate sustainable air mobility services in the traditional transport network (Mobility as a Service)
- Public & Private investment model

Regulatory Framework | A set of measures to address AAM challenges and ensure safe operations





UAS & Manned VCA | **VERTIPORTS** | **AIR OPERATIONS** | **AIRSPACE**

EU-EASA

Reg EU 2019/945
Reg EU 2019/947
Framework U-Space

UAS operations

PTS-VPT-DSN

Prototype Technical Specifications for the Design of VFR Vertiports for Operation with Manned VTOL-Capable Aircraft Certified in the Enhanced Category

SC-VTOL
Reg EU 2024/1111

- New VCA category
- Flight operations
- Inter/regional/ Urban environment
- Interaction with other manned and unmanned traffic

IT – ENAC

National Manned VCA Regulation

- **Part 1:** Airspace Design Criteria (Flight Corridors - VCA enhanced)
- **Part 2:** VCA enhanced operator requirements
- **Part 3:** Requirements for the construction and operation of vertiports *(ref. EASA Opinion 03-2023 and the PTS-VPT-DSN)*

Sandbox Regulation

The Sandbox benefits from a simplified transitional framework

Pilot Project| Air Taxi in Rome

URBE Airport

CITY VERTIPORT

FCO Airport

FCO VERTIPORT

TEST VERTIPORT

CIA Airport

- Commercial service, aimed at citizens and tourists
- It should be available during the 2025 Jubilee year
- It also aims to demonstrate the benefits that can be obtained from AAM in the passenger transport and tourism sectors and also healthcare applications.

Pilot Project| Air Taxi in Rome | First Steps to Facilitation

Enhanced passenger experience → increased social acceptance

Vertiports in airports: passengers and luggage flow

Smooth security controls, proportional to the real risk

Pilot Project| Air Taxi in Rome | Existing Passengers Experience

An efficient passenger experience, supported by sustainable, mature and stable solutions, can increase social acceptance

Challenges

- INCREASING DEMANDS OF TIME AND SPACE
- DOCUMENT CHECKS HAVE BECOME MORE HI-TECH BUT COMPLEX (E.G., HEALTH STATUS, VISA ELIGIBILITY ETC.), NOW PHYSICAL IDENTITY VERIFICATION
- SHARE TRAVELER DATA IN ADVANCE
- STAFF SHORTAGE
- WELL DEFINE AND CLEAR REGULATORY UPDATES

QUEUES AND DELAYS AT THE AIRPORTS

POOR TRAVELLER EXPERIENCE

INEFFICIENT AND EXPENSIVE PROCESSES

AN INCREASE IN FRAUD AND SECURITY ISSUES

Global trends shaped by customer expectations

WILLINGNESS TO USE BIOMETRICS AND FACIAL RECOGNITION TECHNOLOGY

SAFER, SEAMLESS & TOUCHLESS BORDERS

DIGITAL IDENTITY FOR MORE SECURE AND EFFICIENT TRAVEL BASED ON ABSOLUTE CERTAINTY

CONTACTLESS INTERACTIONS IN A HYGIENE CONSCIOUS WORLD

Pilot Project| Air Taxi in Rome | Passenger experience

Only an efficient passenger experience, supported by sustainable, mature and stable solutions, can increase social acceptance

DISCOVER | **TRAVELLING PROCESS** | **END-TO-END**


I want to travel


I am traveling


At the Vertiport


During my flight


During my stay


Arrival Station

PLANNING & BOOKING | **PREPARE** | **VERTIPORT** | **IN-FLIGHT** | **INSTAY** | **POST FLIGHT**

Experiences

1. Flight booking on App
2. **Arriving from a commercial flight*** or city centre origin
3. Transferring to the Vertiport
4. Entering the Vertiport
5. Enjoying the Vertiport
6. Checking-in to the AAM Boarding Area
7. Waiting at the AAM Boarding Area
8. Boarding an AAM aircraft
9. Taking-off
10. Inflight / Passenger communication
11. Landing/ Arriving on Vertiport
12. Offboarding the AAM aircraft/ Getting luggage
13. Entering the Vertiport
14. Enjoying the Vertiport
15. Requesting a multi-modal connection
16. Leaving the Vertiport
17. Transferring to the final destination
18. Arriving at the final destination

Lesson Learned- What is necessary!

VALUE DRIVERS – IDEAL SITUATION

Efficiency

Process large volumes of travelers without requiring manual intervention

- **No manual document checks** at vertiport
- As many passenger **information** as possible are **handled online in advance**
- Travelers can **check in online** as normal
- Online process also **connects to immigration authorities** avoiding carrying documents
- **Low cost** to VTOL operators using the platform thanks to **efficiencies of scale**

Security

Minimize the frequency of fraudulent identification

- Passenger **information** is **confirmed** against **government databases**
- **Minimal** need for **manually reviewing** paper documents
- Where **paper documents** are used, **best efforts** are made to **ensure validity**
- Creation of **sanctions** for attempting to use **fake documents**

Safety and Privacy

Improve/ reduce interaction between airline/vertiport staff and travelers

- Travelers are **largely self-service** throughout vertiport journey
- **Ineligible travelers** do **not come** to the vertiport
- Travel provider systems and staff do **not directly handle fake information**
- Travel provider systems do **not improperly store** passenger **information**

Simplicity

Make the process of traveling as simple as possible to drive business

- Travelers can **validate** their **information** (e.g., ID, weight, health status) **with minimal work** – even automatically based on information already held by the VTOL operator, and can enable interline travel with one validation
- **Minimal complexity** (use of separate websites, multiple forms, re-entering data, etc)
- Repeat travelers can **reuse existing credentials**
- **Simple digital technology/system** solutions by travel provider

Case study: Passenger and luggage flow in Fiumicino airside vertiport

The passenger and luggage flow was studied in order to enable direct connections at FCO airport between conventional flights and eVTOL flights from/to Rome city vertiport.

Passenger with hand luggage only

Pax arriving at FCO from an international airport located in a country or departing from FCO towards one country:

	Schengen & EU	*Schengen & Extra EU*	*Extra Schengen & EU*	*Extra Schengen & Extra EU*
Custom checks	✓	✓	✓	✓
Border checks			✓	✓
Security checks		✓		✓

In case of hold luggage

Can the hold baggage be transported in the eVTOL's cargo hold?

ARRIVING

YES

Custom checks required at airport

NO

Collect lugagge at airport arrival carousel

Custom checks at airport arrivals area

Luggage transfer service by road

DEPARTING

In the vertiport there is no personnel available representing the carrier for the onward flight; beyond the problem of transporting luggage in the hold of the plane, it is therefore necessary to consider the issue of checking in the hold luggage which must be carried out at the airport.

✓ *Between EU countries, custom checks are required in case of special products or big quantities of specific items only*

Considerations for ICAO Annex 9

Coordination between facilitation and aviation security	Art 1.6.1 **A security risk based approach is necessary in order to support the new AAM industry.**
Designated custom vertiports	Article 10 & Aeronautical Information Services (Doc 7383). **It may be necessary to introduce the concept of "designated custom vertiport" for cross border operations where the vertiports area are located near country borders.**
FAL Programme	**National FAL programme to be updated in order to consider AAM** **It may be necessary to introduce the concept of a "Vertiport FAL Programme".**