The Global AAM/UAM Market Map

# Europe
## AAM/UAM Routes and Programmes

**Version 3.6.3 – Sample pages**

**A guide to advanced and urban air mobility projects in European countries**

*Thank you for downloading these sample pages of the **Europe AAM-UAM Routes and Programmes** report. If you have any queries, please get in touch with us – contact details are below.*

# Introduction

The **Europe AAM-UAM Routes and Programmes** report is aimed at advanced air mobility/urban air mobility (AAM/UAM) industry OEMs and supply chain partners, transport planners, finance companies, consultants and local authorities who need a detailed understanding of what programmes are underway around the world and the market opportunities that exist within these programmes. It provides a unique guide to competitive industry information, global/regional market size and trend analysis, with a specific focus on routes, route lengths, host cities/regions and eco-system suppliers.

It is based on many months of research by the worldwide editorial team and the sources of each entry are referenced.

While most AAM/UAM market intelligence studies are focused on the value and forecast for eVTOLs and associated industry suppliers, the **Europe AAM-UAM Routes and Programmes** report analyses operational plans and confirmed industry participation broken down into geographical areas.

The European report gives details on plans to develop passenger AAM/UAM services in 27 European countries and 96 cities, with timelines and descriptions along with details on industry participation, broken down into the following areas:

- Cities and routes (with route lengths)
- eVTOL manufacturer partner
- Electric fixed wing platform manufacturer
- AAM/UAM aircraft operators
- AAM/UAM training
- AAM/UAM aircraft operator maintenance and support
- AAM/UAM aircraft charging and power supplies
- Vertiport/airport developer/operator
- Vertiport/airport safety and security
- Airspace integration
- Local authority partner/client
- Others

Information is validated and updated regularly – the sources for all information are outlined in the report.

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# Norway

**Country introduction**

In December 2024 a Letter of Intent (LOI) was signed among key aviation stakeholders to participate in an International Test Arena for Zero- and Low-Emission Aviation in Norway. This landmark agreement — which involves the Civil Aviation Authority of Norway (CAA Norway), Avinor AS, BETA Technologies, and Bristow Norway AS (a subsidiary of Bristow Group Inc). According to a press release, the parties will work together to build a Concept of Operations for demonstrating cargo transport, with the aim of carrying out demo operations in a 'regulatory sandbox' in Norway by late summer or early autumn 2025. By facilitating demonstrations, the project will contribute to the development of critical knowledge and experience for a broad range of key stakeholders, said the companies in a press release. The goal of this process is to test, learn, prepare, and prove the viability of advanced air mobility operations in a controlled environment.

In April 2024, Avinor and the Norwegian Civil Aviation Authority entered into a cooperation agreement on the establishment of Norway as an international test arena for zero- and low-emission aircraft.

"The test arena will, in principle, cover the entire country," said Abraham Foss, CEO of Avinor. "Specific geographical locations for the establishment of test facilities will be decided in dialogue with market participants, based on their needs, as well as assessments of technological maturity. Interested producers and operators must be able to submit an operating concept and respond to predefined qualification criteria. Dialogue with the market has already started,"

"The establishment will be a key measure for achieving the goal of fossil-free Norwegian aviation in 2050," said the two companies in a press release.

Avinor will provide infrastructure, airspace and access to energy, and the Civil Aviation Authority will provide regulatory facilitation.

This can help ensure an early introduction of relevant solutions for the Norwegian market and will be an important step towards development of zero-emission aviation on a larger scale globally, said the press statement. "There is currently no equivalent test arena in an operational environment in the world."

"The green transition in aviation can contribute to Norwegian business development, including by creating new business areas in areas where the Norwegian supplier industry possesses valuable expertise, such as battery-electric propulsion systems, charging infrastructure and hydrogen technology. This expertise will also be of great importance to the global aviation industry," says Foss.

"The purpose of the agreement is to facilitate accelerated phase-in by reducing barriers to testing and demonstration of zero and low emission aircraft. The test arena will provide the market with a common point of contact in Avinor and the Civil Aviation Authority, as well as a joint process from concept to test and demonstration flight – which includes infrastructure, airspace, energy, and regulatory facilitation – for national and international players who want to test and demonstrate zero and low emission aircraft in Norway," said Director General of Civil Aviation Lars Kobberstad in the Civil Aviation Authority.

“The extensive network of airports in Norway and close and good cooperation between Avinor as airport operator and responsible for the airspace, and the Civil Aviation Authority as regulator means that Norway is in a unique position to facilitate testing of new technology at an early stage,” says Kobberstad.

A test arena will be an instrument for achieving the goal of fossil-free Norwegian aviation by 2050.

The government’s “Zero Emission Regional Aviation Northern Norway – ZERA-NN” has been set up to develop a climate neutral aviation area in the Arctic region centring around Northern Norway, within the timeframe 2030-2035. The project centres around two regional based programmes: Bodø Airport development Agency and "Lofoten -Green Islands 2030".

The North Norwegian project has the following goals:

- The region’s 26 airports will be launched as a network for testing and approval of new climate-neutral aircraft and the corresponding ground-based infrastructure.
- The region is to be developed into a leading energy producer in Europe, for sustainable aviation fuels, hydrogen or clean electric power.
- The Lofoten Region will be launched as a pilot area for the practical introduction of climate-neutral suitable aircraft, energy supply to the airports and with operational procedures.

In March 2023 Airbus Helicopters announced it had partnered with the Norwegian Air Ambulance Foundation to develop CityAirbus NextGen’s future missions for medical services in Norway. “The parties will jointly measure the added value of electric vertical take-off and landing (eVTOL) aircraft for a selection of medical services use cases across the country to integrate the operational requirements right into the configuration of Airbus’ eVTOL,” says an Airbus press release.

“Focusing on how eVTOL aircraft can be used for different types of air medical missions, Airbus Helicopters and the Norwegian Air Ambulance Foundation will elaborate a comprehensive roadmap toward reducing emergency response time through the researched scenarios in Norway. In order to improve patient outcome and the overall performance of the Norwegian Emergency Medical Services system, the signatories will follow a long-term strategic approach to research the complementarity of existing assets, such as conventional helicopters, and eVTOLs when the technology enters into service. This approach could be further expanded in the region through collaboration with other countries to optimise operations beyond the national healthcare system.

As a result, the first step toward the creation of a medical eVTOL ecosystem will be the evaluation of the efficiency of the current emergency medical system in Norway, to then simulate different air medical services scenarios, integrating advanced air mobility assets, says Airbus. To develop the right concepts of operations for these complementary air medical missions, Airbus Helicopters and the Norwegian Air Ambulance Foundation will drive the definition of the foundational elements of the eVTOL ecosystem in the country, including for infrastructure, traffic management and energy sourcing and distribution.

There are several industry-led consortia planning to develop UAM services in Norway. The country relies on a network of regional airline routes and plans to evolve to develop all-electric short-haul services there by 2040.

In March 2020, EHang announced that the company obtained an operational flight permit for its two-seater passenger-grade AAV, the EHang 216, from CAA Norway. "This is the first operational flight permit for long-term testing of flight of the EHang 216 in Europe, laying a solid foundation for future urban air mobility (UAM) operations in other EU countries," said the company. "After the assessment of test flight plans and contingency plans, the CAA Norway issued an operational flight permit for EHang 216 to conduct flights together with a local customer for the purpose of testing and certification. According to CAA Norway, it believes the country's geographic conditions suit the testing of unmanned aircraft well. Covered with a long strip of land with an abundance of sparsely populated areas and free airspace, the country has started to build a network of small airports since the 1960s, connecting most territories throughout the country. For the test flight of EHang 216, CAA Norway looks forward to witnessing it at Elvenes Airport."

In November 2021, Embraer's Eve Urban Air Mobility Solutions (Eve) and Widerøe Zero, announced they had signed a Memorandum of Understanding (MoU). This partnership plans to develop UAM solutions, with a focus on deployment of eVTOL operations. Andreas Kollbye Aks, CEO at Widerøe Zero, said: "We expect these highly flexible vehicles to be interesting in a variety of applications including for use in rural areas whether cargo or passenger transportation. Our partnership with Eve is part of our plan to accelerate the development of sustainable aviation, particularly in Norway." By 2026, the company aims to have at least one zero-emissions plane in commercial service. By 2030, Widerøe will start putting into service the zero-emissions plane that will replace the Dash8 fleet currently serving the Norwegian short-haul network. (See also, Östersund (Sweden)/Röros (Norway)).

In June 2023 at the Paris Air Show Eve Air Mobility announced the extension of its partnership with Widerøe Zero; the agreement involves up to 50 eVTOLs, a service and operation solutions package, as well as the implementation of Eve's Urban Air Traffic Management (Urban ATM) software solution. Eve says it will provide comprehensive services to meet Widerøe Zero's needs and specifications. These include eVTOL maintenance, repair and overhaul (MRO), component repair management, spare parts management programs, battery lifecycle management, and data integration solutions, alongside operations solutions, such as training services, consultancy services, and on-site support for fleet Entry Into Service (EIS).

Additionally, the company says the LOI involves implementing Eve's Urban ATM software to optimise the efficiency of Widerøe Zero's UAM flight operations by integrating its eVTOLs with other airspace users in low-level airspace, ensuring optimised performance and safety. Eve's Urban ATM solution offers tailored solutions, including integration with vertiport automation systems, vertiport resource availability management, flight planning and coordination services, and more.

In late April 2023 Nordic research agency Nordregio published a report which identified the most viable regional/commuter electric aircraft routes.

*Image below: Nordregio*


The primary focus of this project was to assess route viability based on a fully electric airplane with a 19-passenger capacity, flying a maximum distance of 200 km for a duration of one hour. According to the report:

"In Norway, Bodø is an interesting case study to investigate as a local junction for electric aviation with connections to, e.g., Mo i Rana, Mosjøen and Narvik airports, which are all located

close to planned power grid projects operated by Statnett. Additionally, Narvik and Bodø airports have the potential to accommodate routes to Kiruna airport in Sweden."

In June 2023 Norway's Elfly Group has unveiled its design of its pure, all-electric commercial seaplane, dubbed NoEmi (for No Emission) in Oslo.

According to a company press release:

"Noemi is being designed for flexible mobility in Norway with a design inspired by a boat, whose hull will enable the aircraft to take off using little power. The prototype (non-passenger version) of NoEmi is being readied for flight in 2025. Elfly is being designed for 200km air journeys, flying at up to 250kmh speed, from Year 2030. The seaplane, with a non-pressurised cabin, will be powered by two electric motors with up to 1MW combined output.

"Elfly's design is part of a research project, funded by private investors and the Research Council of Norway (RCN).

"The group is working to obtain certification for its EG1A test vehicle to CS23 Level 4, which will enable the aircraft to evolve up to a 19-seat seaplane. Noemi, however, is being offered in three cabin layouts. First and foremost, as a business/executive cabin with nine seats, plus luggage; complemented by a VIP layout with six seats, wherein the whole aircraft could be chartered. A tourist pleasure flight model with 13 seats, minus baggage, will also be offered. In a nod to its flexible functionality, a cargo version is also planned, plus a medevac version. Unlike other electric aircraft developers, Elfly intends to pursue an operator's certificate and bring the first aircraft into service, initially connecting the fjords of Norway. The desire is to have the first 15 seaplanes flying along the west coast of Norway by 2030.

"Thereafter, we could expand into other short hop markets, considering that 80% of the world's population live by the sea," said Eric Lithun, CEO of Elfly.

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# Stavanger-Bergen

**Timeline**
Imminent – *to be launched within the next three years*

**Route(s):**
Stavanger – Bergen (160km)

**Programme description**

The first test flights of the BETA ALIA conventional take off and landing (CTOL) cargo electric aircraft between Stavanger and Bergen in Norway are set for the third quarter of 2025. On March 4, 2025, the first agreement for test flights, with aircraft manufacturer BETA Technologies and operator Bristow Norge, was signed at Bergen Airport, Flesland. The test flights will be flown by Bristow Norge. The cargo flights will operate between Stavanger Airport Sola and Bergen Airport, planned from Stavanger in summer 2025, while the entire route will be launched in Q4 2025.

**Partners**

**eVTOL manufacturer:**
BETA Technologies

**AAM/UAM aircraft operator:**
Bristow Norge

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# Spain

**Country introduction**

Spain is developing as one of the key initial UAM markets in Europe, with cities and industry both engaged in early planning for eVTOL operations. The Urban Air Mobility Commission of the Madrid City Council held the first meeting of its six working groups in May 2024 (see "Madrid" below) while airport management company Aena, UrbanV, Volocopter, have entered into a collaboration agreement to launch a pilot program to develop a UAM ecosystem. The programme consists of a feasibility study for the deployment of UAM and a potential proof of concept of commercial operations (CONOPS) of a vertiport at an airport within the Aena flight network.

The pilot program will progress in two steps: the first two years will focus on a feasibility study of UAM use within the Aena network, identifying potential customers, vertiport locations and commercial routes, infrastructure needs, and possible connections with other modes of transport. The next step will be to evaluate the possibility of conducting flights test on Aena facilities (subject to funding, availability of resources, permits to fly etc.) in order to proof the concept of operations.

In May 2024 ENAIRE announced that through its digital platform, it will provide the Common Information Services (CIS), which are essential to facilitate U-space services to drones and air mobility in cooperation with local air traffic services, so that all types of aircraft can fly safely in the same airspace. It entered into a partnership with SIAM, whose members include Ineco, Expodrónica, ITG, NTT DATA and Pinsent Mason, to promote innovative air mobility and, in particular, with the Administrative Liaison Committee, analyse issues "presented to it by the coordinators of the projects to promote air mobility, or by any of its members."

ENAIRE has taken part in several eVTOL research projects, including CORUS-XUAM and EVERIS' AMU-LED.

Also in May 2024 Volatus Infrastructure & Energy Solutions (VI&E) partnered with Spanish eVTOL manufacturer, Crisalion Mobility to jointly develop and analyse AAM projects including cargo, emergency medical services (EMS), UAM, regional air mobility (RAM) and tourism. The company says teams will study the required aspects needed for successful and efficient operations of Crisalion Mobility's Integrity eVTOL at VI&E Solutions' vertiports to further enhance the efficiency and safety of AAM operations.

Meanwhile, China's EHang sees Spain as a key strategic European market and over the last few years has signed agreements with local authorities, industry and infrastructure providers to build a network of city development programmes in the country.

In June 2022 EHang reported it had entered into a collaboration agreement with ENAIRE to promote research, development and innovation in the fields of U-Space and UAM in Spain and Europe. According to an EHang Press release: "The parties seek to collaborate in national and international innovation initiatives on U-Space and the development of AAV operations for the execution of activities of common interest in U-Space and urban air mobility in Spain and Europe. The collaboration will, among other things, focus on the research of solutions and development of potential procedures, use-cases, digital tools and prototypes.

In July 2021 EHang announced it was collaborating with Globalvia on UAM projects in the Iberian Peninsula and Latin America regions.

In May 2021 EHang signed an agreement with Aeroports de Catalunya group, a public company of the Generalitat de Catalunya, in the north-eastern region of Catalonia. Both parties aim to develop a trial area and showroom at the Lleida-Alguaire Airport, conducting test studies related to autonomous flight technologies and airspace management, "transforming Lleida-Alguaire Airport into an innovative platform for UAM in Europe".

In April 2021 EHang announced that it had established a strategic partnership with Zaragoza in Spain, EHang's fourth UAM pilot city partner in Europe and in March 2021 EHang announced that it had established a strategic partnership with Llíria City Council to develop "a 3D air mobility solution for smart cities and launch a pilot operation programme of passenger-grade AAVs designed to explore different application scenarios including tourism". In addition, EHang and Llíria City Council will work together with the Spanish Aviation Safety and Security Agency to establish relevant systems and standards to support this new transportation ecosystem.

In February 2021 Ferrovial Airports launched a project to develop a network of more than 20 interconnected vertiports in Spain, in cooperation with Spanish companies IDOM and DatActionS.

In April 2022 Spain's Airport Gurus reported it was working with Ferrovial on the Conceptual Design of all the vertiport systems and digital infrastructure platform, which will support their vertiports network operation both at USA and Europe."

Meanwhile in December 2022 Spanish airlines Air Nostrum and Volotea acquired a minority stake in Dante Aeronautical, which is working to market electric propulsion conversions of turboprop aircraft such as the Cessna Caravan, the DHC Twin Otter, the Beechcraft King Air, and the Casa C212. According to press reports: "The partners are seeking a supplemental type certificate to convert the battery-powered Caravan and aim to start deliveries in 2025. By the following year, they aim to get approval for another version of the aircraft powered by hydrogen fuel cells and then add retrofits for the King Air, Twin Otter, and C212 to its portfolio between 2027 and 2028."

The Spanish cities of La Coruna, Madrid, Malaga and Zaragoza are part of the Europe Union's Urban Air Mobility Initiative Cities Community.

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# Barcelona

**Timeline**
Planned – *to be launched within two to five years; funds have been committed and key industry partners identified*

**Route(s):**
Barcelona – Valencia (303km)
Barcelona – Balearic Islands (209km)
Valencia – Balearic Islands (309km)

**Programme description**

Spain's air traffic management company ENAIRE has managed two eVTOL projects – financed by Horizon 2020 European funds through the SESAR Joint Undertaking on U-Space and urban air mobility – Eurocontrol's CORUS-XUAM and EVERIS' AMU-LED, with air taxi demonstrations in 2022 in Barcelona and Santiago de Compostela.

At the 2021 Expodronica event, Spanish eVTOL manufacturer Umiles, now Crisalion, announced its aim to launch Spain's first all-electric air taxi connecting Barcelona, Valencia and the Balearic Islands between 2026 and 2030.

**Partners**

**eVTOL manufacturer:**
Crisalion

**Airspace integration:**
ENAIRE

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