Urban Air Mobility by Airbus

Increased urbanization and congestion is pushing the transport systems of our cities to the limits, costing valuable time and money. Airbus believes the solution lies in the sky. From flying vehicles to helicopters on demand, its portfolio of ground-breaking projects is helping to make urban air mobility a reality.

Airbus is focusing its attention on a part of the city that remains congestion-free: the sky. Adding a third dimension to urban transport networks would revolutionise the way we live, air pollution would be cut dramatically and we would have more free time.

Solutions to the urban mobility problem are certainly required. Urbanisation is a dominant trend around the globe and by 2030, more than 60% of the world’s population will be living in cities, stretching struggling ground transportation networks even further. In the EU, traffic congestion currently costs almost €100 billion a year. By 2030, it could be closer to €300 billion. American drivers lose an average of over a week a year in traffic jams.

Autonomous city flight

Airbus has already carried out a successful trial in São Paulo of its helicopter ride-hailing service Voom, which aims to ease congestion by making helicopter travel more accessible and affordable. The service is now also available in Mexico since March 2018. Elsewhere, teams are working to create entirely new vehicles. CityAirbus is an electric vertical take-off and landing (VTOL) vehicle for up to four passengers, while Vahana aims to create a similar mode of transport for individual travellers or cargo. In Singapore, the company is working with the country’s National University on the Skyways project to test a parcel transportation system using autonomous drones.

New possibilities for urban planning

Alongside these engineering and manufacturing hurdles lie an array of other challenges. New vehicle types require certification, pilot training and air space regulation. Airbus is also working on consumer-facing tools, air traffic management systems and on how to integrate the necessary ground infrastructure, such as charging stations and places to get on and off, into existing cityscapes. In this light Airbus launched Altiscope, a simulator for evaluating policy options and operational models for air traffic management systems that can service all forms of airborne traffic in a wide range of geographies and jurisdictions.
Voom:

Voom is a wholly-owned subsidiary of Airbus Helicopters that was launched in 2016 as an on-demand helicopter booking platform allowing passengers to request a seat on a helicopter within minutes. Voom now offers its services in Sao Paulo and Mexico City. By providing a more efficient transportation option to daily commuters, it aims to address challenges associated with rush-hour traffic by offering an alternative form of transportation in some of the world’s most congested cities.

Voom provides travelers both convenience and reliability in the most affordable and accessible way available today. Riders can book and take off in as little as 60 minutes or plan their trip up to seven days in advance, and only need to arrive at the helipad 15 minutes before boarding time. Offering several boardings per hour, the service’s convenience pairs with a significant savings in commute times.


City Airbus

CityAirbus is a multi-passenger, self-piloted battery-powered vertical take-off and landing vehicle designed for urban air mobility. It is designed to carry up to four passengers over congested megacities in a fast, affordable and environmentally friendly way. In December 2017, The CityAirbus programme reached another important milestone: the completion and “power on” of the “iron bird” ground test facility in Taufkirchen, Germany. This enables the verification of the entire electric propulsion system of CityAirbus, developed by Airbus’ E-Aircraft Systems unit. Meanwhile the development of the CityAirbus demonstrator itself is on-going. The first structural parts have already been produced and are on the way to being assembled. These important development steps pave the way to the CityAirbus’ first flight before the end of 2018.

Vahana:

Project Vahana is a vehicle project focusing on advancing self-piloted, electric VTOL flight. It is being developed at A³, the advanced projects outpost of Airbus in Silicon Valley, USA. Vahana is a single-passenger or cargo, all-electric, fully-autonomous, vertical-takeoff-and landing demonstrator. It uses eight electric motors and a tilt-wing configuration to enable both hover and cross-city range on battery power alone.

On 31 January 2018 Vahana successfully completed its first full-scale flight test, reaching a height of 5 meters (16 feet) before descending safely.

More info: https://vahana.aero/
Skyways

Skyways is an experimental project with the Civil Aviation Authority of Singapore (CAAS) launched in February 2016 to develop an urban unmanned air system to address the safety, efficiency, and sustainability of the air delivery business in cities such as Singapore. The collaboration was subsequently extended in April 2017 with Singapore Post (SingPost) becoming the local logistics partner to the project.

In February 2018, Skyways unmanned air vehicle successfully completed its first flight demonstration at the National University of Singapore (NUS). The drone took off from its dedicated maintenance centre and landed on the roof of a specially designed parcel station where a parcel was automatically loaded via a robotic arm. Once successfully loaded with the parcel, the Skyways drone took off again and returned to land, demonstrating its automatic unloading capability.

Altiscope:

Altiscope is a project to help define air traffic management (ATM) in a way that will allow the different types of flying vehicles to share airspace safely and efficiently.

Altiscope is building a simulator to evaluate ATM policy options and operational models that can enable all forms of airborne traffic in a wide range of geographies and jurisdictions. In collaboration with partners around the world, Altiscope is safely enabling new uses of our airspace through deep analysis, policy simulation, and decision-modelling.