

Press release

Air taxis, a dream becoming reality!

Air travel seems to be an increasingly feasible and promising solution to the major challenges of reducing congestion in overcrowded urban areas. The transition of urban transport to this third dimension raises many questions, particularly about regulatory aspects, societal acceptance, infrastructure deployment or the technological maturity of vehicles. But could we expect air taxis to become more widespread in the medium term? Alcimed, a consulting firm specializing in innovation and development of new markets, takes a look at the barriers facing this market and its potential evolutions!

Paris, 17 May, 2019 – After Ehang (Ehang 184 concept) in 2016 and Airbus (Pop.up concept) in 2017, Bell Helicopter took the opportunity of the last CES to unveil its Nexus air taxi concept in partnership with Uber. For its part, Uber has also announced that it will launch first demonstration flights in 2020. These strong signals suggest that air taxis are much more than just a dream!

What is the context for air taxis?

Manufacturers are exploring the use of air taxis in different situations and over varying distances. In the mid-term, three use cases may be possible:

- **Urban air taxis**, on demand, to go from point A to point B at any time of the day. This will be a faster equivalent of the various existing land mobility services (Uber, Kapten or Taxify).
- **Intercity air taxis**, at regular times, between cities, as a means of public transport. The added value of this alternative is its speed compared to the currently used solutions (car, bus or train)
- **Air taxis between airports and city centers** or other points of interest (e.g. a popular tourist destination such as an amusement park) at pre-determined times during the day.

In the first phase, these options are aimed at wealthy populations ready to pay for a premium service allowing them to save time. In the longer term, they should become accessible to a wider audience, thanks to the automation of the manufacturing process and low operational costs when compared to helicopters.

Major barriers have yet to be overcome

At this time, European regulations are not adapted to the new "drone-type" aircraft, often falling halfway between helicopters and airplanes. There is currently no certification applicable to them, meaning that for the time being they cannot be used in European airspace. The European example is also true at the global level where civil aviation agencies have not yet defined appropriate regulations.

In addition, traffic regulation must be adapted to accommodate the significant increase in the number of aircraft in the airspace. This will mean defining priority rules, traffic lanes, and many other aspects. Finally, as in the case of land vehicles, autonomous operation and all the associated problems (liability, accident management, etc.) must be regulated. As a matter of fact, discussions are underway at the EASA (European Aviation Safety Agency), with the agency publishing a proposal for a regulatory framework for the certification of these aircraft in October 2018. Cities such as Dubai and Singapore are also working on defining the regulatory aspects.

Opinions on the deployment of air mobility are still divided. According to a study conducted by Airbus in early 2019, only 44% of respondents "support" or "strongly support" the implementation of air mobility. The main issue is safety according to 55% of respondents followed by the noise generated by the vehicles. Regulations associated with the certification and operation of these devices are therefore essential to limit the noise level of the devices and control their operating conditions.

Finally, the use of air taxis will only be possible with the establishment of a complete infrastructure network, which for the time being does not exist. Cities in which major mobility players own their own infrastructure (MTA, RATP, Transport for London) will play a strategic role in the integration of this new form of mobility. Companies are positioning themselves in the field, buying up roofs of buildings in urban areas on which they will build their infrastructure. One example is Skyports, which has acquired roofs in London, Los Angeles, and Singapore. The areas of interest considered by these actors are thus roofs (of buildings, car parks or stations), rivers or parks. Their positioning and integration into existing mobility networks are key to reducing connection times and ensuring the speed of this mode of transport.

The technology appears to be mature

Among the various actors positioned on the subject, several have already carried out tests in real conditions. The Volocopter made its first autonomous flight to Dubai in 2017. Lillium also flew their prototype the same year. Airbus, for its part, carried out a test flight with its Vahana concept in 2018 and scheduled its first test flight for the CityAirbus for the end of 2019. Boeing and Bell Aviation are also carrying out tests in real conditions. The technology, therefore, seems to be mature and the launch of these concepts seems conceivable within a few years.

Apart from Lillium, all other concepts are 100% electric and currently have an announced operating range of fewer than 30 minutes. The main reason is the low energy density of the batteries. Some players are bypassing this obstacle by opting, in the first instance, for hybrid propulsion. An example of this solution is the Nexus concept, which Bell Helicopter developed in partnership with Safran.

A reality in the short term?

In view of recent regulatory developments, the initiatives surrounding the creation of infrastructure and the technological maturity of the designs, air taxis should gradually take their place in the global urban mobility ecosystem.

"Before the transition to on-demand taxis, which will be complex in terms of traffic management, it is likely that inter-city air taxis and shuttles between airports and city centers will be the first to be introduced. Uber is also planning to launch its first commercial inter-city taxi service in 2023" concludes Jakub Rams, head of the mobility unit at Alcimed.

About Alcimed - www.alcimed.com

Founded in 1993, Alcimed is an innovation and new business consulting firm specialized in life sciences (healthcare, biotech, agri-food), chemicals, materials, energy and mobility; as well as in aeronautics, space & defense, and public policies. Today Alcimed works with major industrial groups, SMEs, private equity players, start-ups, and institutional players. ALCIMED relies on a team of 180 highly-skilled individuals to help its clients in the exploration and development of their uncharted territories: new technologies, new offers, new geographies, possible futures, and new ways to innovate. Alcimed is headquartered in Paris and has offices in Lyon and Toulouse in France, as well as in Germany, Belgium, Switzerland, the United-States and Singapore.

Alcimed is a member of CroissancePlus and the ACI (Association des Conseils en Innovation – Association of Consultants in Innovation).

Press Contact: Agency ComCorp

Muriel Martin | mmartin@comcorp.fr | +33 1 58 18 32 58 | +33 6 70 45 66 46