

Q&A With Chief Operating Officer of UMILES Next



Óscar Lara, the Chief Operating Officer (COO) at UMILES Next, talks about the business's partnership with TECNALIA and the current test flights carried out with the Concept Integrity eVTOL model. (Photo: UMILES Next)

In late October, the electrical air taxi model Concept Integrity performed its 2nd effective test flight. The electrical vertical liftoff and landing (eVTOL) airplane was developed by UMILES Next and was geared up with FlyFree innovation that was established by TECNALIA. The test flight becomes part of a European presentation job called USPACE4UAM that supports the combination of manned and

unmanned airplane into the airspace in city environments.

Concept Integrity's very first flight happened in Toulouse in September. This 2nd test flight was performed at the ATLAS Test Flight Centre in Spain. Another eVTOL designer, Lilium, has actually likewise been carrying out flight tests at the ATLAS center given that April. This fall, Lilium effectively attained a complete shift from hover to wing-borne flight with its Phoenix 2 innovation demonstrator

According to the statement from Umiles Next, the 3rd website where the group is carrying out test flights of the Concept Integrity is Lugo, Spain.

In a composed interview with *Avionics International* today, Óscar Lara, the Chief Operating Officer (COO) at Umiles Next, shared some insights into the collaboration with Tecnia and advancement of the Concept Integrity airplane.



Óscar Lara, COO of UMILES Next

Avionics: What is USPACE4UAM and how does Umiles Next take part in this job?

Óscar Lara: USPACE4UAM is a European Union task that includes presenting brand-new kinds of airplane (drones, unmanned airplane, air taxis) in an airspace suitable with the existing airspace. Within this context, Umiles Next and Tecnalía have actually performed a number of flight tests, checking how our air taxi can be consisted of in these airspaces, consisting of coordination with other stars within the airspace and recognizing our capacity particular requirements in these brand-new environments.

What is the level of the collaboration in between Umiles Next and Tecnalía? How do the 2 business gain from collaborating?

Lara: Umiles Next got the innovation established by Tecnalía for the advancement of brand-new flight systems relevant to the air taxi principle Integrity. Presently, Tecnalía is an engineering provider of Umiles Next that is assisting us in the brand-new advancements oriented to the application of the innovation in Integrity 3 (2 +1), a brand-new airplane in style procedure that represents an advancement with regard to Concept Integrity and in which all the requirements are being taken into consideration for the Type Certification of the exact same.



Pictured above is the Concept Integrity group at the ATLAS. Honeywell is leading the USPACE4UAM job, which likewise consists of the business Vertical Aerospace, CATEC, and ENAIRE. (Photo: UMILES Next)

Can you share any information about the Concept Integrity airplane and the test flights?

Lara: The Concept Integrity airplane has actually up until now carried out 3 outside flights in the cities of Toulouse, Jaén, and Lugo in which the outcomes gotten formerly, in the indoor flights carried out,

have actually been proven.

The goal of these flights has actually been to confirm the various elements of the automobile, its flight envelopes, and, in specific, to confirm its own distinguishing innovations. The outcomes up until now have actually been really acceptable given that we have actually had the ability to confirm that the habits of the airplane fits with a high accuracy to the simulations carried out. For this function, we have actually evaluated various flight circumstances, with various varieties, maneuvers, ecological conditions, and air traffic.

An essential conclusion of the flights has actually been the presentation of the high security and stability of the airplane and, by extension, of Umiles Next's exclusive innovation (FlyFree), which provides a clear competitive benefit in the air taxi market, where this requirement is plainly a business chauffeur.

What are a few of the business's short-term goals?

Lara: The objectives we have for the future can be divided into 2 parts.

On the one hand, we have the goal of continuing to carry out flights with the Concept Integrity airplane to additional confirm the innovation and with it the flight envelope of the airplane.

On the other hand, we intend to continue establishing the brand-new Integrity 3(2 +1), which will be the airplane that will finish the accreditation procedure.

All this together with our self-governing ground lorry advancements will make our vision of "Changing How The Planet Moves" a truth.



” The Concept Integrity was flanked at the screening occasion by other unmanned airplane at various layers with a view to showing that this brand-new traffic type can be securely and effortlessly incorporated into metropolitan locations in the future.” (Photo: UMILES Next)

Could you inform us more about the screening of automated flight control and self-governing liftoff and landing systems at Umiles Next?

Lara: Our Concept Integrity airplane is developed to be self-governing, which implies executing crucial developments in the various flight control and navigation systems.

This method has a strong ramification in standard air traffic management, which is exactly among the points we have actually been dealing with in all these European jobs.

However, we understand that in the future, self-governing airplane for traveler transportation will not be certifiable due to an absence of guideline. That is why we have actually chosen to develop the Integrity 3 (2 +1) airplane consisting of a pilot as an intermediate action to a future self-governing airplane.

Within the self-governing systems we have actually checked in the numerous flights we have actually made the self-governing landing and liftoff systems, with success.

As everyone understands the landing and take-off stages can be the most tough of a flight and for that reason the awareness of these tests indicates an essential action towards the self-governing future of air travel.

What about detect-and-avoid innovation?

Lara: We think about that detect-and-avoid systems will be a crucial component to present this kind of brand-new airplane in the airspace, both manned and particularly self-governing, as increasingly more airspace will consist of a higher number of airplane. The truth of increasing the variety of airplane in the airspace will suggest a higher requirement for autonomy in sense and prevent scenarios.

Without these systems, that we are checking together with other business, such as Honeywell, this automation would be made complex. That is why in the flights we have actually currently made, among the components we have actually checked is various situations in which our eVTOL has actually dealt with scenarios of prospective accident with other users of the airspace, the response being extremely favorable.

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