This Intriguing Aircraft Concept Aims to Eliminate Airport Lines and Terminals

While the Germans are busy developing the world’s first vertical takeoff and landing electric jet, the Swiss are looking to revolutionize the air travel industry with a promising new modular approach.

Conceived by Switzerland’s École Polytechnique Fédérale de Lausanne, Clip-Air proposes a plane with a single flying wing encompassing the airframe, cockpit, and three engines, attached to a maximum of three interchangeable capsules—each 98 feet long and 29.5 tons heavy—which would serve as passenger cabins or cargo holds.
Supported by two long metal legs that flank the space occupied by the elongated containers, a single wing would be able to carry up to 450 people—150 per self-contained fuselage—or an infinite number of combinations of passengers and goods. That’s equivalent to the payload of three A320 planes—using half the engines.

The capsules would be easily detachable from the airframe, allowing for quick rotations on the ground.

The project envisions five capsule sizes that correspond to four wing spans (below).

Capable of being transferred onto trucks, they could double as autonomous railroad cars, allowing travelers to board their flights at local train stations or railway yards.
The freights would shuttle passengers to the airport where they would then attach to an assigned wing, transforming into planes without requiring travelers to disembark. The seamless transition would eradicate the need for airport terminals, since boarding and queuing would occur offsite.

Touting a more flexible and efficient method of fleet management and a faster loading rate, Clip-Air would drastically cut traveling time and costs and reduce the likelihood of vacant flights. The system would also be more eco-friendly than existing technology, with a trio of pods flying beneath one wing set to generate fewer emissions and consume less fuel than three individual planes with the same capacity flying at equal altitude and speed. EPFL is also exploring the idea of using cleaner fuel types such as liquid hydrogen and biofuels in lieu of traditional gasoline.

The ambitious notion still has a long way to go before it can be fully realized, with further development requiring more advanced aerodynamic simulations to test its true
practicality. And there are still a million questions left unanswered, such as how such a configuration would affect air travel security procedures.

Still Clip-Air boasts immense potential, with the project team ensuring its technical feasibility every step of the way. And even if it remains a fantasy for a few more decades, it's bound to become a reality well before hypersonic vehicles take flight.

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