Flying in capsule mode could signify new day for air travel

July 11 2016, by Nancy Owano

Credit: EPFL

(Tech Xplore)—Are we looking at a future change in aircraft or at a future change, even, in the overall way we get around? Clip-Air is all about a concept for modular aircraft.

The team believes their concept could revolutionize the way we think of air transport. The flying wing is decoupled from its load. The future

could involve capsules that can carry passengers, freight, or fuel are pods affixed to an elevated craft.

Sebastian Modak, *Condé Nast Traveler*, in talking about these capsules, said, "interiors are entirely customizable, meaning they can be, for example, a multi-class passenger cabin that you would find on your run-of-the-mill airliner today, an ultra-luxurious First Class-only cabin, or—and this one's important—a hold for cargo."

Planes, trains, automobiles—and this, a future in pods for transport.

Carrying passengers or goods would no longer be confined to rail and road or sky and runway. We could have it all. Think about it. Once you land, airport personnel can taxi the pod to a rail station and you wake up where you wanted to go.

This is a Switzerland-based Federal Polytechnic Institute of Lausanne concept (École Polytechnique Federale de Lausanne, or EPFL).

The EPFL transportation site describes Clip-Air as modular aircraft with detachable load units that enable to adjust at best capacity according to demand. "The capsule is the equivalent to a conventional airplane's fuselage, but without motors, without a cockpit, without fuel, without landing gear, or any of the other parts that usually make up a plane. The premise behind Clip-Air is to bring rail transport's flexibility to air transport and to make airports reach all the way into railway stations."

Miquel Ros in CNN noted its core elements. Clip-Air has two: (1) flying component, including airframe, cockpit and engines (2) the capsules, or pods, which are detachable and behave as cabin or as cargo holds, depending on what is the chosen configuration.

In theory it does not mean your journey would be longer; it would

instead be streamlined.

"The decoupling of the load (capsules) and carrying units (wings) allows for simplified fleet management and maintenance operations for airlines and is expected to improve the ground operations for airports. Clip-Air also provides effective possibility of combining commercial freight and passengers on the same flight without any compromise in comfort."
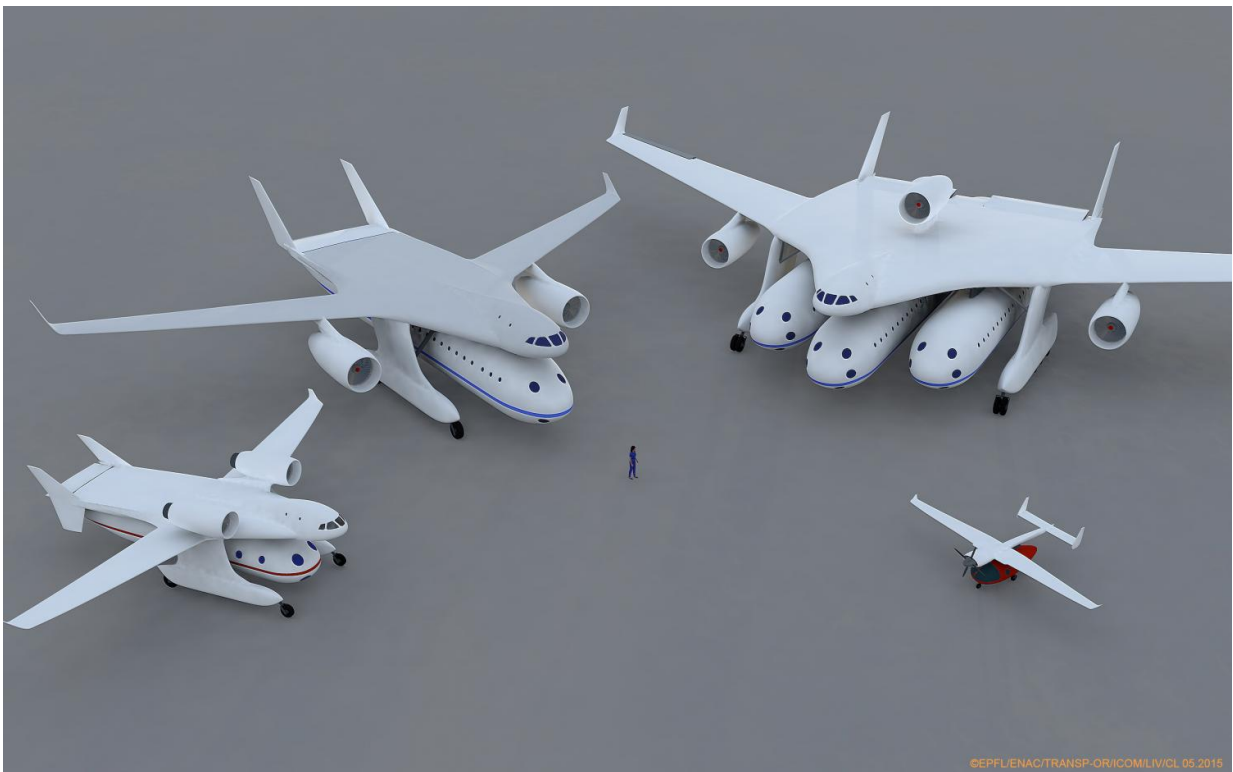
Credit: EPFL

Joe Carmichael, writing in *Inverse*, weighed in: "Clip-Air's concept is currently heavier on the cons than the pros. It would only be convenient in a world with vastly different infrastructure. That said, the idea is

straightforward and sensible in theory. Clip-Air wants to make planes without built-in fuselages. That makes total sense."

Another observer who is unwilling to laugh off the concept is Sebastian Modak: "The idea is built around one timeless concept: modularity. The technology that enables the modularity has its roots in the shipping container, an innovation that first changed the cargo industry when it was introduced 60 years ago."

Credit: EPFL

And just how 'green' is this modular concept? According to Modak, "Clip-Air is experimenting with using alternative energy, like biofuels

and liquid hydrogen, but even if fossil fuels are used, Clip-Air would carry a smaller carbon footprint, as one flight with three capsules could carry as many people as three Boeing 737s."

Credit: EPFL

More information: transport.epfl.ch/cms/site/tra … /en/clip-air-concept

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