


'Smart' turboprop favoured by future design study

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Source: 

Researchers looking into increased-efficiency designs for medium-haul aircraft have favoured an advanced turboprop over box-wing concepts.

Hamburg University of Applied Sciences embarked on the study, in co-operation with Airbus, to explore a possible successor to the A320, as part of a project designated Airport 2030.

As well as an optimised conventional jet configuration, the study examined various box-wing designs – with differing wing and engine placement – as well as the option of a turboprop.

The study aimed to look at higher-efficiency aircraft designs which would avoid changing ground infrastructure.

“Success in this project meant looking at aircraft by adopting a holistic approach,” says the university’s Dieter Scholz.

It looked at families of single- and twin-aisle box-winged aircraft, from 126 to 218 seats. But while the box-wing concepts resulted in a reduction of drag, this economic advantage was countered by the increased weight of the wing.

The direct operating costs of the box-wing models was calculated to be some 20% higher than those of the A320.

But the “smart turboprop” economics have proven more promising, the study says, with a 17% lower operating cost and a 36% cut in fuel burn.

This is based on a twin-engined aircraft with a high wing, braced by struts, and T-tail configuration, featuring technologies including laminar flow. However, the study acknowledges that the turboprop concept does not match the speed and altitude capabilities of the Airbus.

Source:

<http://www.flightglobal.com/news/articles/-smart-turboprop-favoured-by-future-design-study-402952>