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Study backs 'smart turboprop' design

Researchers looking to increase medium-haul aircraft efficiency favour an advanced turboprop over box-wing concepts.

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

As well as an optimised conventional jet configuration, the study examines various box-wing designs, as well as the option of a turboprop. The team aims to consider high-efficiency aircraft designs which would avoid changing ground infrastructure.

The project involves studying families of single- and twin-aisle

box-winged aircraft of 126-218 seats. However, while box-wing concepts offer a reduction in drag, this economic advantage is countered by the increased weight of the wing.

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

However, the "smart turboprop" design's economics prove 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 a T-tail configuration featuring technologies including laminar flow. ■



Hamburg University of Applied Sciences

The project aims to explore a possible successor to the A320

Online: 'Smart' turboprop favoured by future design study (22/08/14)

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

For more information see: <http://Airport2030.ProfScholz.de>