

# Too little scope for development in today's aircraft technology

June 26 2007

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New technology can do much to improve certain aspects of aviation in terms of sustainable development over the next fifty years, but this will be nowhere near enough to compensate for the expected growth in air travel.

This is the view of researcher Alexander de Haan, who will receive a Ph.D. at Delft University of Technology in the Netherlands on Wednesday, June 27 for his research on this subject.

Ph.D. candidate Alexander de Haan has researched how new aircraft technology can contribute to sustainability in aviation. He has developed a model comprising a number of different scenarios that can be used to assess this sustainability in the coming fifty years.

De Haan concludes that, through technological development, progress can certainly be made with regard to aspects such as noise pollution and CO<sub>2</sub> emissions. There are potential benefits to be gained, for example, from increased scale, new landing and take-off procedures/routes, the use of lightweight materials such as Glare (a composite material developed at Delft University of Technology), and new aircraft design concepts such as the Blended Wing Body.

According to De Haan, the benefits of applying this new aircraft technology will amount to no more than tens of percents for a number of sustainability aspects. From the perspective of sustainability, therefore, technological advances will certainly not be able to keep pace with the

rapidly increasing demand for air travel over the next fifty years. This is even the case in the scenario with the lowest growth rate. De Haan predicts that the demand for air travel will at least double during that period.

In De Haan's view, fifty years after the advent of the jet engine, today's aircraft design models offer little scope for further development. He believes that, in order to make real progress/advances with regard to sustainability, a radically different aircraft concept is needed that incorporates not only the expertise of the various technical disciplines, but certainly also the behavioural disciplines and political aspects.

Source: Delft University of Technology

Citation: Too little scope for development in today's aircraft technology (2007, June 26) retrieved 23 April 2024 from <https://phys.org/news/2007-06-scope-today-aircraft-technology.html>

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