

## **“Ce-Liner” concept study for electro-mobility in aviation**

*Universally-electric aircraft concept provides sound outlook on potentially emission-free future air travel*

**Berlin, (11 September 2012)** – At this year’s International Berlin Air Show (ILA), Bauhaus Luftfahrt for the first time ever exhibits its newest concept for a future aircraft, the “Ce-Liner”. The concept’s world premiere also marks the first time for the interdisciplinary aviation think tank to highlight a fully-electric approach to achieve the European Commission’s ambitious “Flightpath 2050” goals or even surpass them by far with the potential to operate entirely emission-free (in case electricity is produced from renewable sources).

Challenged by this huge task, all four research groups at Bauhaus Luftfahrt worked closely together by utilizing most modern, so called “agile” collaboration methods derived from software engineering. The entire spectrum of research tasks in the group design process ranged from the initial definition of requirements and the evaluation of potential future technology options on to the conceptual design and detailed operational analysis of the final aircraft concept.

“Meeting or even exceeding the European Commission’s Flightpath 2050 goals more and more evolved into a key driver for research activities at Bauhaus Luftfahrt,” explains Prof. Dr. Mirko Hornung, Executive Director Research and Technology. “Out of the numerous identified technologies and ideas in our multiple disciplines the strong wish evolved to join all those ideas into the conceptual design and detailed assessment of a zero-emission transport aircraft.”

The aircraft concept incorporates numerous innovative technologies and ideas envisioned by researchers at Bauhaus Luftfahrt strictly keeping technology availability towards the aircraft’s projected entry into service in 2035 to 2040 in mind. A strong research focus was laid on the universally-electric systems and propulsion architecture. In this field, the interdisciplinary team identified several step-change technology improvements potentially bringing electric flight in commercial air transport much closer to reality than generally assumed.

In addition, the fully-electric approach was integrated in an airframe concept which itself is developed according to most-modern design principles, such as the distinctive “C-wing” significantly improving the aerodynamic efficiency. The basic design parameters, such as the capacity of 189 passengers, were defined in accordance with detailed market studies in order to fulfill the requirements of the projected entry-into-service date as good as possible. A detailed operational assessment finally indicated that the potentially emission-free flight could possibly come without any operating cost penalty.

With the “Ce-Liner” concept, Bauhaus Luftfahrt hence for the first time offers a scientifically sound and analytically detailed outlook towards electro-mobility in future commercial aviation. Two highly-detailed scale models of the resulting concept aircraft are presented in Hall 2 at booth 2407.

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**About Bauhaus Luftfahrt:**

Bauhaus Luftfahrt is a joint research institution of the four aerospace companies EADS, Industrieanlagen-Betriebsgesellschaft (IABG), Liebherr-Aerospace and MTU Aero Engines supported by the Bavarian Ministry for Economic Affairs, Infrastructure, Transport and Technology. The non-profit association is an internationally-oriented think tank. The team of around 35 scientists deals with the future of mobility in general and the future of air travel in particular. The goal of the research work is to consider the complex system of aviation from different points of view. In every project, the technical, economic, social and ecological aspects are considered holistically.

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