

## EADS, Siemens enter long-term research partnership and sign MoU with Diamond Aircraft on electric propulsion system

- **CEOs sign Memorandum of Understanding (MoU) for cooperation on electric propulsion technologies to lower fuel cost and emissions**
- **EADS and Siemens to cooperate long-term to introduce hybrid power plant technologies in helicopters and large airplanes**
- **Successful maiden flight of second generation test airplane demonstrates large savings potential for airlines**

EADS and Siemens are entering a long-term research partnership to introduce new electric propulsion systems that could help airlines lower their fuel bills and drive environmental performance. Together with their partner, Austria-based Diamond Aircraft, the companies showcase a second generation serial hybrid electric airplane at Le Bourget.

EADS Chief Executive Officer (CEO) Tom Enders, Siemens CEO Peter Löscher and Diamond Aircraft owner Christian Dries signed a MoU in Le Bourget to set the course for their future cooperation on electric aircraft development.

"Today, aviation goes electric as we embark on the journey towards future electric propulsion. Electric aircraft are a key element in our research for the future of aviation," EADS CEO Tom Enders said. "Only over the decades to come we will

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The logo for Diamond Aircraft, featuring a stylized blue diamond shape to the left of the word "Diamond" in a bold, sans-serif font, with "AIRCRAFT" in a smaller font below it.

Diamond Aircraft  
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learn where the journey will take us, what shape and form electric propulsion will take. But we know we have no time to lose in terms of testing alternatives to fossil fuel. One thing is clear though: aviation will need to continue to fly with ever less fuel, less emissions and less noise. Working together on future propulsion systems is the best our industry can contribute to greener skies."

Total fuel costs will amount to a third of operating expenses of the airline industry this year, according to the International Air Transport Association (IATA). Air transport as a whole currently emits 2 percent of global carbon emissions and is set to increase to 3 percent by 2050, according to the Intergovernmental Panel on Climate Change (IPCC).

„Only with innovation we can solve the conundrum of rising fuel costs, rising passenger demand and rising environmental regulations. This makes the research partnership between EADS and Siemens so important," Peter Löscher, CEO of Siemens AG, said. "Innovations used in this hybrid plane will be instrumental in making transportation more sustainable in the long run, whether in the air, on land or at sea."

The research partnership aims to ultimately introduce hybrid drive systems for both helicopters and large airplanes, while the airworthiness certification of full-electric and hybrid aircraft in the General Aviation category is to be achieved within the next three to five years. Already today, Siemens generates sales in the upper three-digit million euros range from industrial software that is helping plane makers develop their products more quickly and efficiently, but also with state-of-the-art production technologies or infrastructure solutions for airports.

Siemens developed an integrated drive train for the second generation of the airplane DA36 E-Star 2. It consists of two main components: The electric drive and a

generator, which is powered by a small Wankel engine. The hybrid motor glider made a successful 1-hour maiden flight at the Wiener Neustadt airfield in Vienna, Austria on June 1, 2013.

„The serial electric propulsion allows us to design airplanes with totally different characteristics than today. Vertical take-off and high-speed cruise can be realized in a much more efficient way. The DA36 E-Star 2 was the next step to prove this technology and through its positive results to continue further developments”, Diamond Aircraft owner Christian Dries said in Le Bourget.

The new propulsion technology leads to drastically reduced noise emissions during take-off and will cut fuel consumption and overall emissions by about 25 percent compared to today's most efficient aircraft drivers. This first MoU between the three companies confirms the collaboration on the project which has existed since 2011.

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Further information, video footage and press pictures are available at

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