



Development of electric motors for aircraft applications

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Abstract:

The trend toward the electrification of air transport is being driven by its positive contribution to a more sustainable future for aviation. Electric motors can help to increase efficiency, reduce emissions, and enable new concepts for the propulsion system of aircrafts.

The various applications in the field of aviation place different requirements on the propulsion system and the electric machine. Here, the design of the electric machines is influenced not only by the required propulsion power itself, but also by the torque and speed, as well as the overall concept of the aircraft. A general requirement for powerful, efficient, and lightweight propulsion systems places high demands on the materials in terms of electromagnetic, mechanical, and thermal behaviour. High power and torque densities of motors, even at high efficiency, lead to high power dissipation densities in the different sub-areas of the machine, which leads to special cooling challenges.

Curriculum Vitae:



2010 - 2014	Electrical engineering and information technology (B. Eng) Technical University of Applied Sciences, Aschaffenburg
2014 - 2016	Electrical engineering and information technology (M. Eng) Technical University of Applied Sciences, Aschaffenburg
Since 2017	Research and Development Engineer, Oswald Elektromotoren GmbH, Miltenberg

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