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## **VACUUMSCHMELZE anticipates an increased trend towards electric drives in aviation for 2017**

Press contact:

No.: 02/17

Hanau, 07 February 2017

**Norman Lemm**  
VACUUMSCHMELZE GmbH &  
Co. KG  
Tel. +49 (0)6181 / 38-0  
Fax +49 (0)6181 / 38-2645  
norman.lemm@  
vacuumschmelze.com

**Konzept PR**  
**Simon Federle**  
Tel. +49 (0)821 / 34300-19  
s.federle@konzept-pr.de

**Contact address for reader enquiries:**  
VACUUMSCHMELZE GmbH &  
Co. KG  
Postfach/P.O.B. 22 53  
D-63412 Hanau  
Tel. +49 (0)6181 / 38-0  
Fax +49 (0)6181 / 38-2645  
info@vacuumschmelze.com



Permanent magnet rotor/stator stack

**Hanau – Goodbye hydraulic, hello electric: electric drive systems and motors are becoming increasingly widespread in all kinds of areas, from robotics to motor racing. Aviation is no exception. VACUUMSCHMELZE GmbH & Co. KG (VAC) has been monitoring these developments closely. As the developer and manufacturer of advanced magnetic materials and related products, VAC anticipates long-term growth in the use of these systems, in applications ranging from small-scale motors to electric aircraft.**

“The aviation industry will undergo a technology shift towards electrification over the medium to long term”, predicts Dr. Robert Brand, Head of Strategic Marketing in VAC’s Materials and Components division. However, the expert notes that “fly by wire” technology will initially be limited to smaller components. As resources become increasingly cost-intensive, the more economical operation of small-scale motors and generators (depending on lifespan and required output) will readily compensate for their higher purchase prices. Environmental considerations are naturally also adopting a more important role. “Lighter motors result in more dynamic systems”, advises Dr. Brand.

One possibility of reducing weight is to use VAC’s soft magnetic materials VACOFLEX<sup>®</sup> and VACODUR<sup>®</sup>, which offer greater power density. The electrical steel from which components are usually made can be replaced by a soft magnetic Cobalt/Iron (CoFe) alloy, resulting in components that are lighter in weight, yet still deliver the same performance standards. Components like these are used in high-end applications in automation, automotive and aviation. Dr. Brand explains, “Weight has a direct impact on costs – particularly in aviation. By using VACOFLEX and VACODUR, we can achieve weight reductions of one-quarter to one-third, depending on the product and application involved. A key

factor in achieving this result is that we not only manufacture the materials ourselves, but also operate the entire production chain – up to complete stator and rotor stacks – in-house, customizing our products in line with application specific requirements.”

### **VACUUMSCHMELZE GmbH & Co. KG**

VACUUMSCHMELZE (VAC), based in Hanau, has 4300 employees worldwide, 1,450 of whom are in Hanau. The company designs, produces and markets advanced materials, particularly with magnetic, but also with other physical qualities as well as related products. In 1914, the first vacuum furnace laid the foundation for today's VACUUMSCHMELZE. Industrial vacuum melting techniques for alloys have been in operation since 1923.

VAC Group today achieves annual sales of approx. 365 million euros in over 50 countries and is holder of around 800 patents. The company is among the world's most highly innovative developers of advanced industrial materials.

VAC's range of products comprises a broad array of advanced semi-finished materials and parts, inductive components for electronics, magnets and magnet systems for use in a wide variety of fields and industries spanning watch-making and medical technology, renewable energies, shipbuilding, installation technology, automotive and aviation. VAC's custom solutions are developed in close collaboration with the customer, reflecting the company's expertise in materials, applications and state-of-the-art production technology.

For more information, visit [www.vacuumschmelze.com](http://www.vacuumschmelze.com)

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