



## German-Dutch research in composite structures

17 June 2013

### **DLR and NLR sign agreement on joint development of Composite Structures**

The lightweight construction of aircraft with carbon fibre reinforced polymers (CFRP) is a dynamically developing field of research. On 17 June 2013 at the Paris Air Show, the German Aerospace Center (Deutsches Zentrum für Luft- und Raumfahrt; DLR) and the National Aerospace Laboratory of the Netherlands (NLR) signed a Cooperation Agreement in the field of Fibre Reinforced Composites. Together, both partners will develop production techniques for lightweight components for use in the aviation and transport sectors, which will contribute to a reduction of fuel consumption and the associated carbon dioxide emissions.

### **From research to prototype**

"The expansion of our partnership with NLR in the strategically important research area of lightweight production technology is a great asset to DLR," says Rolf Henke, DLR Executive Board Member for Aeronautics research. "The focus of the cooperation will be in the areas of automated fibre placement/tape laying techniques, robot assisted manufacturing processes, autoclave technology, high-volume components, and virtual process planning and control." Both partners operate laboratories and large research facilities for the development and production of lightweight components. Within the cooperation agreement, the partners agree to the mutual opening and provision of research facilities for further development of CFRP technology. Close cooperation is also envisaged in the field of computer simulations of fibre reinforced polymer production processes.

DLR and NLR have a long-standing partner relationship. Both partners are working together in the German-Dutch Wind Tunnels (DNW). Together, DLR and NLR operate a total of 11 wind tunnels in Germany and the Netherlands, including the European Transonic Wind Tunnel (ETW) in Cologne. In addition, DLR and NLR have established AT-One, the ATM research alliance, which focuses on issues in air traffic management in the context of growing global air traffic.

CFRP research at DLR is conducted at the Institute of Composite Structures and Adaptive Systems. Research on the economic production of lightweight structures is concentrated at the DLR Center for Lightweight Production Technology (ZLP), a national organisation located at the sites of Stade and Augsburg. The research focus of the sites complement each other in their technologies and complete the process chain from materials to automated production. Basic research and applied research through to prototype production go hand in hand.

### **About NLR**

NLR is the independent knowledge enterprise in the Netherlands in aerospace. The overall mission is to make air transport and space exploration safer, more sustainable and more efficient. NLR's multidisciplinary approach focuses on developing new and cost-effective technologies for aviation and space, from design support to production technology and MRO. With its unique expertise and state-of-the-art facilities, NLR is bridging the gap between research and application.

### **About DLR**

DLR is the national aeronautics and space research centre of the Federal Republic of Germany. Its extensive research and development work in aeronautics, space, energy, transport and security is integrated into national and international cooperative ventures. In addition to its own research, as Germany's space agency, DLR has been given responsibility by the federal

government for the planning and implementation of the German space programme. DLR is also the umbrella organisation for the nation's largest project execution organisation.

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## Signing of the Memorandum of Understanding



At the Paris Air Show, the German Aerospace Center (DLR) and the National Aerospace Laboratory of the Netherlands (NLR) signed an agreement for future collaboration in research on carbon fibre reinforced polymers (CFRP). From left to right Bas Oskam (NLR Division Manager), Rolf Henke, Michel Peters (General NLR), Horst Hüners (DLR aeronautics programme director).

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