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## Airbus Group To Present Innovative Technologies At ILA 2016

Toulouse, 25 May 2016 – At the ILA 2016 airshow, Airbus Group will present its wide range of products and innovative technologies for sustainable flight. The Group is once again the largest commercial exhibitor at the International Aerospace Exhibition in Berlin.

Airbus, a leading manufacturer of passenger aircraft, will have three crowd-pullers at Schönefeld Airport. The A350 XWB will be on show on all four days and perform flights. An A380 from Emirates can be seen on the first two days, while the A320neo will be present on the first day. The A400M military aircraft, Eurofighter and A330 MRTT multi-role tanker aircraft will also be displayed. Visitors will have the opportunity to view models of the E-Fan 2.0 all-electric two-seater aircraft and the Perlan 2 experimental glider.

Since ILA is increasingly becoming a forum for innovation, Airbus Group and its Divisions are presenting a large number of new technical developments. One example is Thor, a 3D-printed flying model. The four-metre-long project aircraft consisting of around 50 individual printed parts was produced in less than six weeks. Only the two engines and the controls use conventional technologies. The project demonstrates the possibilities of 3D printing for aviation. This technology enables parts to be created in the desired shape by building successive layers of powder. This not only saves material; complex shapes can also be produced which are more stable and also lighter than conventionally manufactured components. This process significantly reduces development and manufacturing times and saves on both costs and weight. This is particularly important in aviation, where every gram less means a reduction in kerosene consumption. Airbus is also exhibiting the 'bionic partition,' a 3D-printed cabin partition wall with a bionic design, at ILA. This partition wall between the passenger cabin and the kitchen area must be able to bear high loads. With a bionic design copied from nature, it can be designed and printed in such a way that it is just as stable as conventional structures, but around 45 percent lighter.

Visitors will also be given the opportunity to discover the new 'Airspace by Airbus' cabin concept with virtual reality glasses. Signature design elements will be consistently recognisable throughout all Airspace cabins. Examples include the latest LED light technology for individual ambient lighting; clean, straight lines and shapes; clear surfaces and a customisable welcome area. Altogether, these aspects result in an aesthetically pleasing design combined with not just a feeling of space, but real space.

At the Future Lab, the booth of the German Federal Ministry for Economic Affairs and Energy located in Hall 2, Booth 303, Airbus Group will showcase innovative technologies that make flying cleaner and more sustainable. They present, among other things, a concept for the 'Hangar of the Future,' in which a robot capable of independent movement and equipped with sensors identifies areas requiring repairs, while a mini-Unmanned Aerial System inspects the aircraft cabin. The devices then send their reports to the control room so that maintenance technicians can quickly repair the damage with the help of augmented reality glasses and

robots. Replacement parts could be produced on the spot using a 3D printer on the basis of the collected data. This eliminates the need to transport parts long distances and therefore protects the environment.

At ILA 2016, Airbus Group together with the Heinrich-Böll-Foundation will present the publication "OBEN – IHR FLUGBEGLEITER". It contains the results of expert debates that were conducted over the past year, offering an insight into the technical progress and political debate regarding the sustainable future of aviation. The publication will be presented by Airbus Group CEO Tom Enders and the Chairman of the Heinrich-Böll-Foundation, Ralf Fücks, at the ILA Press Centre on 1 June between 10 a.m and 11 a.m.

At the ILA show, Airbus Helicopters will present the Bluecopter – a helicopter to test efficiency-increasing and noise-reducing technologies – for the first time. With the help of Bluecopter, the Division wants to further consolidate its global leading position as a provider of the quietest, most efficient and safest helicopters in the future. Airbus Helicopters will also be providing an update on its contribution to the European Clean Sky 2 programme, with a strong focus on sustainability, cost-efficiency and mission performance. The state-of-the-art, multirole twin-engine H145 will be on static display as a police helicopter. Its unsurpassed flight performance, reliability and state-of-the-art connectivity technologies for fighting crime make the H145 by far the most cutting-edge police helicopter on the market. In the area of military products and technologies, Airbus Helicopters is presenting innovative support concepts for high fleet availability in the cooperation tent of the German Armed Forces (Bundeswehr), such as the cooperative full service for the new H145M of the Bundeswehr special forces. At the Bundeswehr's static displays, the company is presenting the further development of the tried-and-tested interiors for the NH90 Forward Air MedEvac helicopter of the Bundeswehr.

Alongside the operational launcher Ariane 5, Airbus Defence and Space will showcase the new Ariane 6. This new family of competitive, versatile, high-performance and reliable launchers will be offered in two configurations. The two versions, A62 and A64, will be able to transport both light and heavy satellites.

One of the highlights in the space hall, which Airbus Defence and Space is hosting as a key partner together with the European Space Agency (ESA), the Ministry for Economics Affairs and Energy, the German Aerospace Center (DLR) and the German Aerospace Industries Association (BDLI), will be the European Service Module (ESM) currently being constructed by Airbus Defence and Space for the American 'Orion' capsule. This module is based on the design of and the experiences with the automated transfer vehicle (ATV) which was developed and constructed by Airbus Defence and Space for the International Space Station. The ESM is a cylinder with a height and a diameter of around four metres, and will be attached below the Orion space capsule. In addition to its propulsion function for the Orion spacecraft, when it is docked with the crew module, the ESM will be responsible for orbital manoeuvring and adjusting position, providing the crew with water and oxygen, supplying power and regulating the temperature.

Together with the German Armed Forces and Diehl BGT Defence, the guided missile manufacturer MBDA, in which Airbus Group holds a 37.5 percent share, is highlighting the progress made in the MEADS programme for the first time at the ILA. This includes five vehicles with command post, 360-degree fire-control radar with mobile power supply, the launcher for the high-performance PAC 3 MSE guided missile and the IRIS-T SL launcher. MBDA is also displaying a modular system concept for short-range and very short-range defence against threats from the air. As the future defence system for the very short range, a new laser system that can be used on land and sea will also be exhibited by MBDA. The most important system in the area of battlefield engagement is the Enforcer. It is a precise, light-weight and cost-effective small missile for use by the infantry and special forces. MBDA is also presenting at its exhibition booth the Meteor, Brimstone and Taurus guided missiles for arming aircraft; the guided missiles of the PARS family for arming helicopters as well as the reliable MILAN system for the infantry. The MBDA booth can be found at Display G3 / 001.

The supplier Premium AEROTEC, which is a subsidiary of Airbus Group, will showcase its technological capabilities at ILA. At the company's booth (Hall 2, Booth 201), hands-on exhibits of metallic 3D printing and advances in the processing of tomorrow's materials such as CFC and GLARE will be shown. In addition, the company is participating in the Future Lab of the Ministry for Economic Affairs and Energy with a CFC door frame and is presenting its machining capabilities at the Machining Innovation Network (MIN) booth (Hall 6, Booth 306.)

As the pioneer in the industry with regard to 3D printing, Premium AEROTEC is the first company to mass-produce certified structural components. Until now the double-walled pipe elbow for the tanker version of the A400M had to be made using complicated casting and welding techniques. The use of 3D printing technology significantly reduces the time required for the manufacture of these titanium components. In the next step, the company will be concentrating on the development and manufacture of bionic structural components made of metal. CFC has long been used for large fuselage shells such as for the A350 XWB. Premium AEROTEC has now taken a big step forward by using CFC for the first time in door and archway frames for the A350-1000. To fully exploit the associated weight and cost advantages, the company has intensively developed the manufacturing process. The production process centres around the automatic application of CFC strips in confined spaces and complex structures. Premium AEROTEC is displaying part of a door frame rib at its booth, while the entire CFC frame is being exhibited as a key innovation at the Ministry for Economic Affairs and Energy's booth. As is the case with metallic 3D printing and CFC technology, Premium AEROTEC possesses all the capabilities for using GLARE along the entire value chain from development up to delivery.

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## About Airbus Group

Airbus Group is a global leader in aeronautics, space and related services. In 2015, the Group – comprising Airbus, Airbus Defence and Space and Airbus Helicopters – generated revenues of € 64.5 billion and employed a workforce of around 136,600.

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