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DLR presents the Airbus A320 as modernisation of the research fleet continues

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Cologne/Braunschweig – The new Airbus A320 from the German Aerospace Center (DLR) was introduced to the public today at Braunschweig's research airport. The purchase of the used A320 (built in 1997) is part of DLR's ongoing activity to upgrade its fleet of civilian research aircraft.

"In around two years' time, the A320 will replace the ATTAS research aircraft, which is now over 30 years old and DLR's last VFW 614 still flying," says Prof. Dr Sigmar Wittig, Chairman of DLR. The A320 will be refitted to meet the special requirements of a research aircraft.

The gradual replacement of the fleet of research planes is well underway. In 2005 DLR acquired a Gulfstream V for climate research, the successor to the Falcon which by that point was more than 25 years old, while the world's most advanced helicopter, the Eurocopter EC135 FHS, went into service in 2001 - signalling a key step forwards in the transition from older planes to the next generation of modern research aircraft. "Germany is paving the way to innovation and excellence and reinforcing its leading position in European aviation research in the long term," says Prof. Wittig.

Air transport expertise across the board



DLR's new A320 aircraft will replace VFW 614 "ATTAS"

DLR's 'new' Airbus A320 is set to become an indispensable part of German and European aviation research. The new research plane will help scientists perform vital future research in their bid to develop efficient, environmentally-compatible air transport. In the face of a growing volume of air traffic, the aim is to achieve lower noise and emission levels while simultaneously increasing the capacity of airports and air routes and raising safety standards.

The passenger plane will firstly spend two years at Airbus being refitted to carry out inflight experiments and being used in joint projects. The first actual DLR missions are scheduled to commence in 2008. These include the testing of low-noise take-off and landing procedures and the integration of comprehensive noise-reducing measures, with a view to turning this new research aircraft into a 'quiet aircraft demonstrator'. Researchers will also be trialling new instrument displays as part of HMI (human-machine interface) research and stepping up research into wake vortices. There will also be an opportunity to push forward the development of new inflight experimental techniques, for example the measurement of wing deformation and the flow of air around the wings using lasers.

Looking further into the future, there are also plans to carry out research missions to test active flow control, new types of high-lift flaps and flight control concepts. Another task is the integration of the next generation of engines. Improving the efficiency of new engines demands larger engine diameters, which is causing growing problems in integrating the engines beneath the wing.

The use of the new aircraft is the result of a shared interest between DLR and its partners in sustainable cooperation in research and development for the 'aircraft of tomorrow'. The A320 will benefit not just academic research, but industrial research as well. Most of the key representatives of the German and European aviation, engine and supplier industries, in particular EADSA, Airbus, Rolls-Royce, MTU, Liebherr und Diehl, have already expressed their interest in using DLR's new airborne experiment carrier.

The project planners for the German government's fourth aviation research programme have already lined up a number of tasks for the aircraft; it has also been proposed as a platform for the planned 'Clean Sky' Joint Technology Initiative by the German Ministry of Economics and Technology as part of the European Commission's Seventh Framework Programme (with a budget of €800 million) .

For DLR, the Airbus A320 means another important step closer to its self-defined goal of achieving expertise across the board in air transport. As refitting begins on the A320, DLR pilots are starting their training for the new aircraft. The training should be finished at the end of 2006. From 2008, the Airbus will be stationed at the Braunschweig-Wolfburg airport, completing the transition from ATTAS to its successor.

100 years of German aviation research



Germany has a tradition of aviation research going back almost a century. With its research institutes, its active involvement in German-Dutch Wind Tunnels (DNW) and the European Transonic Wind Tunnel (ETW) and its fleet of research aircraft, DLR has access to the most wide-ranging air transport expertise of any establishment in Europe. DLR's research into air transport covers landside and airside operations at airports, the aircraft as a complex system, and flight management activities.

It has set itself the challenge of making the fast-growing air travel industry efficient, environmentally-friendly and sustainable. DLR's technology portfolio is geared towards the objectives of the European strategic paper 'A Vision for 2020' and Germany's national equivalent, 'Luftfahrt 2020'. The main objectives are as follows:

- Reduce the cost of air travel by 30%
- Raise safety standards
- Increase the volume of European air traffic to 16 million flights per year
- Reduce carbon dioxide emissions by 50% and nitrogen oxide emissions by 80%
- Reduce noise levels by 50%

DLR at a glance

DLR is Germany's national research centre for aeronautics and space. Its extensive research and development work is integrated into national and international cooperative ventures. As Germany's Space Agency, the German federal government has given DLR responsibility for the forward planning and implementation of the German space programme as well as international representation of Germany's interests. DLR employs around 5100 people in 31 establishments at Cologne, Berlin, Bonn, Braunschweig, Göttingen, Lampoldshausen, Oberpfaffenhofen and Stuttgart. DLR also maintains offices in Brussels, Paris and Washington D.C.

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