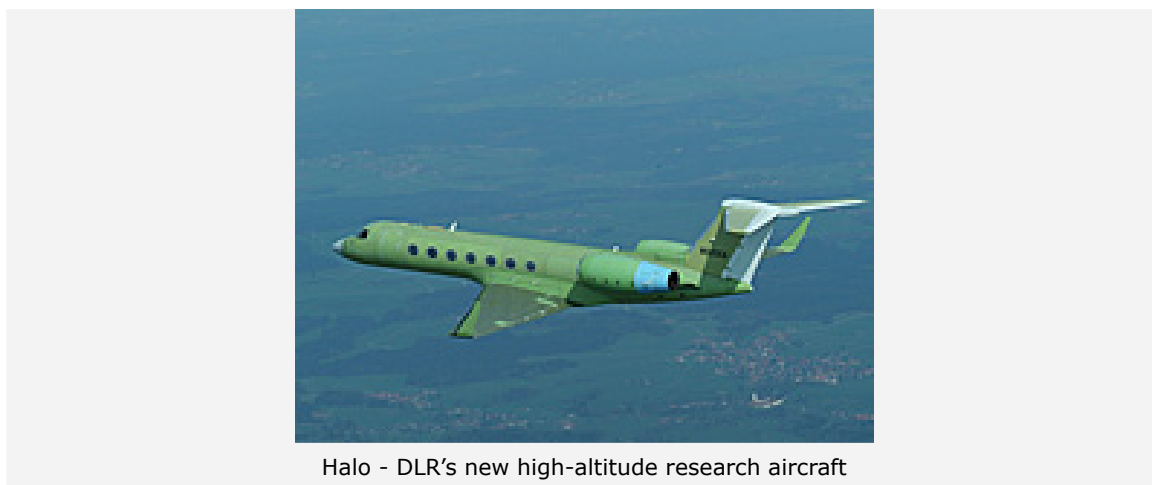


News Archive 2007

Reconstruction of the new research aircraft HALO successfully completed

6 December 2007



Halo - DLR's new high-altitude research aircraft

DLR's new research aircraft HALO (High Altitude and Long Range Research Aircraft) is complete. To create the aircraft, a Gulfstream G550 business jet was converted in Oberpfaffenhofen. From 2008 the research aircraft will belong to the DLR aircraft fleet. HALO's primary objective is to explore the atmosphere and its carbon cycle.

During a 20-month reconstruction phase RUAG Aerospace Services converted the brand new Gulfstream G550 from a standard business jet into an extremely modern and highly specialised high-altitude research aircraft for DLR's atmospheric research work.

From business jet to research aircraft

Among other things, the extensive modifications of the Gulfstream G550 included placing openings in the fuselage to which various probes and measuring sensors can be attached. In addition, a nose mast and a modified rear cone were also installed. Six locating points for external loads (sensor and spray containers) were integrated into the wing area. A separate on-board electricity supply and an independent cable network were installed in order to operate the equipment for the mission. Furthermore, extensive provisions for re-tooling of the research unit were also fitted.

The research aircraft will become a new member of the DLR aircraft fleet as of 2008. From summer 2009 HALO will take off on research flights around the globe departing from Oberpfaffenhofen's special airport. Following this the aeroplane will be used for research flights by a national consortium of users. HALO is an excellent example of high-technology projects at the Oberpfaffenhofen location.

HALO is a globally-unique research aircraft. With a flying altitude of more than 15 kilometres, a range of more than 8000 kilometres and a load capacity of three tons, for the first time measurements are able to be taken at every latitude from the tropics to the poles and from high altitudes down to the lower stratosphere.

HALO will be primarily used for the following focuses of atmospheric research:

- Investigating the methods of formation of extreme weather events,
- Ozone destruction in the polar stratosphere,
- Exploring the effects of air traffic in the transitional area between troposphere and stratosphere,

- Self-cleaning processes in the atmosphere,
- Chemical and dynamic processes in the transitional area between troposphere and stratosphere,
- Earth and remote sensing with special focus on carbon circulation.



The HALO project commenced in 2005 with the signing of contracts between Gulfstream Aerospace Corporation, Savannah (USA) and the German Aerospace Center (DLR). At the same time RUAG Aerospace Services was subcontracted to make modifications to the standard aircraft. RUAG Aerospace Services will continue to service HALO beyond the modification phase.

The HALO project was created from a joint proposal by the Max Planck Society and DLR with the other members of the Helmholtz Association of German Research Centres as well as additional scientific institutes from the branch of atmospheric research in Germany. A total of 31 research institutes took part in the preparation of HALO. The Federal Ministry for Education and Research (BMBF) contributed 47.5 million euro, covering 70 per cent of the total costs for the new altitude research aircraft. The Helmholtz Association and the Max Planck Society are splitting the remaining 19.5 million euro between each other. The Free State of Bavaria also took part, contributing 1.8 million euro to the enterprise.

Related Contacts

Miriam Kamin

German Aerospace Center
Public Relations
Tel: +49 8153 28-2297
Fax: +49 8153 28-1243
E-Mail: Miriam.Kamin@dlr.de

Contact details for image and video enquiries as well as information regarding DLR's terms of use can be found on the DLR portal imprint.