Press Release

EADS to Showcase Innovative Hybrid Helicopter Concept at ILA 2010

- **Diesel-Electric Hybrid Propulsion System**
- **Up to 50 Percent Less Emissions**
- **Lower Noise Levels and Improved Safety Margins**

Berlin, 8 June 2010 – EADS a global leader in aerospace, defence and related services, is presenting an innovative hybrid helicopter concept at ILA Berlin Airshow 2010.

EADS Innovation Works, the corporate research and technology network of EADS, develops diesel-electric hybrid concepts as part of the Group's research to make helicopters more environmentally friendly. Highly efficient electrical motors driving the rotors, combined with diesel engines, reduce fuel consumption and emissions by up to 50 percent. The EADS Innovation Works Eco2Avia research platform will open up new possibilities for cleaner, safer and more quiet helicopter and aviation operations", says Dr. Jean Botti, Chief Technical Officer (CTO) of EADS. Take-offs and landings are possible on electrical power alone, resulting in lower noise levels and improved flight safety.

The main components of this patented hybrid system are multiple diesel-electric motor-generator units, a pair of high-performance batteries and a power electronics unit controlling the energy flows for best efficiency. The OPOC (Opposed Piston, Opposed Cylinder) diesel engines offer a fuel economy improvement of up to 30 percent compared to today's helicopter turbine engines. The OPOC engine's power output shafts are fitted with advanced, weight-optimised generators delivering electrical current to the power electronics unit. This unit manages the distribution of the electricity to the electrical motors driving the main rotor and the tail rotor, to and from the batteries as well as to the other user systems on the helicopter.

The four independent energy sources of this kind of propulsion system ensure very high levels of flight safety and efficiency. Several different kinds of combustion engines could be integrated into such a hybrid system.

The hybrid system architecture allows the main rotor and its electrical drive to be tilted forward during cruise flight. This enables the helicopter's fuselage to remain at its optimum alignment with the airstream, minimizing aerodynamic drag and thereby reducing the power demand and the fuel consumption. Since the tail rotor has no mechanical linkage to the main rotor and its power

source, it can be turned off at higher speeds. During these flight phases, stability and control as well as balancing of the rotor torque are provided by the aerodynamic properties of the helicopter's tail fin and rudder.

The model of a concept helicopter, showcased at ILA, exemplifies EADS Innovation Works' research towards eco-efficient propulsion system solutions for future helicopters.

This is one of the projects that are grouped under the name of eCO_2avia by EADS Innovation Works. The patented EADS Innovation Works hybrid propulsion technology combined with the improved helicopter aerodynamics will lead to impressively improved characteristics in terms of fuel consumption and emissions. The concept is one of many examples of the research efforts undertaken by the EADS Group towards achieving the aviation industry's climate protection goals.

EADS is a global leader in aerospace, defence and related services. In 2009, the Group - comprising Airbus, Eurocopter, EADS Astrium and EADS Defence & Security – generated revenues of € 42.8 billion and employed a workforce of more than 119,000.

Contacts:
Gregor von Kursell
(+49) 89 607 34255