

5 February 2008

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Artistic impression of  
the A2 airplane  
Reaction Engines  
Limited

## **BAE Is Building Another... Concorde?**

*Son of Concorde may become operational as soon as 2015*

The new commercial passenger plane capable of supersonic flight, the so-called 'Son of Concorde' is thought to become the hypersonic airliner of the modern air travel. It will be capable of reaching 5,440 kilometers per hour, meaning that it will travel the distance from London to Sydney in only five hours, more than four times less than the duration of a flight with commercial airplanes today. Traveling at speed five times that of sound, the Son of Concorde could carry up to 300 passengers. Unlike most of the airplanes in the air today, that are powered by engines working on kerosen, Son of Concorde will run its engines on liquid hydrogen, an excellent fuel that will also cut the emissions of greenhouse gases into the Earth's atmosphere. The concept of the airplane originated from a project of the Reaction Engines Limited in Oxfordshire, called Lapcat, or Long-Term Advanced Propulsion Concepts and Technologies. The 'Hotol' engines, which will equip the aircraft, have been originally built by the British Aerospace agency, in order to develop aircrafts capable of sub-orbital flights, during the 1980s. Claustrophobic people may not enjoy this airplane design very much, as it doesn't have any windows. Alan Bond, senior engineer in the project, explains that the air plane could fly over the North Atlantic areas at speeds of about 0.9 Mach, before reaching the unpopulated areas above the North Pole where it would accelerate to Mach 5. When completed, the Son of Concorde, known as A2, will measure about 132 meters in length, and 400 tonnes in weight. It would reach Mach 3 speeds with the help of its engines by generating thrust through conventional ways. Speeds higher than Mach 3 would overheat the engines because of the friction of the air with the turbine. To keep them from melting, engineers designed a special pre-cooling unit that reduces the temperature of the air before entering the engine. In trips from Europe to the Australian continent, A2 may reach altitudes as high as 30,500 kilometers. The burning of hydrogen gas is non-pollutant, resulting in water, nitrous oxide gas and extremely small traces of carbon dioxide. When asked about the A2 designation in the name of the plane, Bond recognized that it was purely coincidental. The A2 represented a rocket precursor to the A4 rocket built by German scientist Wernher von Braun. During World War II, Nazi leader Adolf Hitler changed the name from A4 to V-2, or Vergeltung-2, which in German means vengeance.