

# **VOLVO AERO**

## **Press Information**

### **Volvo Aero participating in major programme for environmentally sound aircraft engines**

**Volvo Aero is playing a major role in the newly started EU development project, VITAL. VITAL is a four-year programme with 53 partners and a total budget of EUR 90 M (slightly more than SEK 800 M), including EUR 50 M (SEK 450 M) in funding from the EU. Volvo Aero is investing about SEK 85 M in the project.**

VITAL, an acronym for Environmentally Friendly Aero Engine, shall deliver the technological breakthroughs required for the industry to meet the goals of lower fuel consumption and lower noise set by the European aerospace industry for 2020. These goals are a 50% reduction in noise and carbon dioxide emissions as well as an 80% reduction in nitrogen oxides (NOx).

Lower noise levels (reduction by 5 to 8 dB) will be achieved and a 7% reduction in CO<sub>2</sub> emissions as a result of lower fuel consumption. The reduced fuel consumption is a result of increased propulsion efficiency due to the larger fans. Simply stated, a lower amount of air will be accelerated to unnecessarily higher speeds in the flow through the engine. Lower fuel consumption is achieved both as a result of the enhanced efficiency of the engine as well as by developing components in lightweight materials.

Chalmers is participating in the project by evaluating what effect the different technologies that are developed will have when assembled into a complete engine.

Volvo Aero is leading a subproject within VITAL with 14 European partners that involves development and testing of load-bearing structures in the engine. Volvo Aero will produce a fan frame in polymer composite material and test it in a full-scale fan rig.

An important partner for Volvo Aero is SICOMP, the Swedish Institute of Composites. Volvo Aero will be responsible for design, while SICOMP will contribute with specialist expertise in production simulation and damage tolerance.

Within the structures subproject, Volvo Aero will also develop automation concepts and new production technology for titanium, as an alternative technology for lighter components. In this area, Volvo Aero will cooperate with the University of Trollhättan/Uddevalla.

“As the result of our efforts here and in combination with the expertise network we develop with our partners, we strengthen our position as a leading company within aircraft engine structures,” says Anders Sjunnesson, project leader for Volvo Aero’s efforts in VITAL.

In another subproject within VITAL, Volvo Aero is involved in the design of the engine’s booster compressor. In this area, the company is applying its expertise from the military segment to develop a high-performance, low-pressure compressor for commercial engines. An important partner for Volvo Aero in this subproject is FOI (Swedish Defense Research Agency) where the compressor will be tested.

Volvo Aero’s subsidiary in Kongsberg, Volvo Aero Norway (VAN) is participating in yet another subproject in VITAL, involving the development of technologies for stiffer engine shafts, which is required for future higher fan torques.

Volvo Aero’s total share of the project is EUR 8.4 M (of which EUR 4.2 M from the EU). Sweden’s total share in the project is EUR 10 M (of which EUR 5.4 M from the EU). Volvo Aero’s budget is EUR 1.065 M, with an EU contribution of EUR 0.54 M.

VITAL was launched officially at a ceremony in Paris on January 18, 2005. VITAL aims to develop the technologies to meet the industry’s environmental standards in 2020. However, Volvo Aero foresees great possibilities that the subproject results and concepts studied in VITAL can lead the way to engines for the next generation of short-haul aircraft, the successors to the Boeing 737 and Airbus 320.

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*For further information, please contact:*

**Volvo Aero**

*Anders Sjunnesson +46 520-93577, Robert Lundberg, + 46 70-5775375*

**Volvo Aero Norge**

*Jan-Erik Torjusen +47 32 289482*

**Chalmers**

*Tomas Grönstedt, +46 31 7721409*

**HTU**

*Per Nylén, +46 520 47 50 61*

**SICOMP**

*Anders Holmberg +46 911 74408*

**FOI**

*Bengt Hultqvist, +46 8 55 50 4339*

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