

PROJECT

ALFA

Advanced Laminar Flow tAilplane

Funding: European (Horizon 2020)

Duration: Sep 2016 - Oct 2020

Status: Complete

Total project cost: €2,129,109

EU contribution: €1,610,395



Call for proposal: H2020-CS2-CFP02-2015-01

[CORDIS RCN : 205574](#)

Objectives:

Project ALFA (Advanced Laminar Flow tAilplane) is initiated by an industrial partner (Fokker) and a research centre (NLR), in response to the 2nd Call for proposal of CS2, under the topic "Laminar Horizontal Tail Plane full scale ground demonstrator".

The objective of ALFA is to push forward laminar flow technology by developing, designing and manufacturing a full scale demonstrator of a Natural Laminar Flow (NLF) Horizontal Tail Plane (HTP). The reduction of the aerodynamic drag of the aircraft by application of NLF on the HTP will offer a potential of a 1% decrease of fuel burn.

ALFA will introduce advanced materials and manufacturing technologies to meet the stringent NLF surface quality demands. New structural concepts will be developed and discussed with the topic manager taking into account all requirements regarding operations, safety, cost and environmental impact, to ensure the implementation on future business jets. ALFA's NLF HTP demonstrator will validate the selected structural concept. This demonstrator is also prepared for future aerodynamic testing of NLF in a wind tunnel.

The comprehensive experience of the ALFA partners working on the demonstration of laminar flow in various R&T projects (e.g. EU AFLoNext, BLADE) and joint national and European collaboration on multiple aircraft programs motivate their common application. Fokker has a strong track record in designing and manufacturing complete tail sections for US and European Business Jets. As a former OEM of aircrafts, Fokker still engineers and manufactures with know-how of the entire aircraft. The complementary capabilities and competences of NLR to provide innovative solutions for composite structures and knowledge on wind tunnel testing, are keys to the project's success.

The ALFA total grant request to EC is 1,610,395 € for the whole consortium. The project will be conducted within 23 months in close alignment with the topic manager, and with related topics in LPA and other IADP's and ITD's.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Fokker Aerostructures Bv

Address:

Industrieweg 4
3351 LB Papendrecht
Netherlands

Organisation Website:

<http://www.storkaerospace.com>

EU Contribution: €1,210,332

Partner Organisations:**Stichting Centrum Voor De Ontwikkeling Van Transport En Logistiek In Europa****Address:**

Van Nelleweg 1
3044 BC Rotterdam
Netherlands

Organisation Website:

<http://www.cetle.org>

EU Contribution: €400,063

Technologies:

Computer-aided design and engineering
Improvement of transition-prediction tools for future laminar flow aircraft

Development phase: Research/Invention

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Air transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Societal/Economic issues

Geo-spatial type: Other