DocumentID	241315
Vortragstitel	Overview about Laminar Flow Activities at Airbus
Autoren	H. Hansen
Preisträger	
Vortragssprache	englisch
Seiten	10
Veranstaltung	Deutscher Luft- und Raumfahrtkongress 2011
Veranstaltungsort	Bremen
Veröffentlicht in	Deutscher Luft- und Raumfahrtkongress, Tagungsband - Manuskripte, 2011; Seite 45 - 55; DGLR e.V.; Bonn; 2011
Stichwörter	Laminar Flow Technology
	Structure Concepts

Abstract

Research in laminar flow has a long tradition and a lot of work has been performed by research organisations and aircraft manufacturers around the world. With a few exceptions (gliders, light aircraft or small business aircraft) this technology has not found its way into real industrial aircraft application.
Increasing fuel costs and the need for reduction of the environmental impact of airline operations have led to new efforts to apply this technology for the next generation of aircraft. A key element for application of laminar flow technology is a structure concept that fulfils the high aerodynamic surface requirements and that can be manufactured at acceptable costs and production rates at the same time. The paper will explain the experience Airbus has gathered within previous research projects on that topic and the steps which have been and will be performed to introduce this technology in the future transport aircraft.
The main focus of this overview presentation is on activities within the Airbus internal technology project LDA (Low Drag Aircraft) and the related studies in national and European research projects.
The presentation provides some examples of major results in the fields of aerodynamic design and testing but with the clear focus on finding the best compromise for structural concepts enabling laminar flow. Examples of such structure concepts are given. Part of that concept is a Krueger high lift leading edge device providing an insect shielding function which is a major constraint for laminar flow application. An outlook will be given about the next major steps on the route towards the future application of this promising laminar flow technology.