Winglets@Airbus

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Winglets, the small "wings" at the tip of aircraft wings, have long been of particular interest. Do they only offer a convenient area for the airline logo, or are there any other good reasons for equipping a aircraft with winglets?

In fact, winglets have a global influence on the flow field and can thus make a significant contribution to reducing air resistance.

But how does a winglet work in detail? How can aerodynamic mechanisms be used to generate a noticeable effect on the aircraft system in a severely restricted parameter space? It also requires profound knowledge of various interactions with other disciplines.

Is the integration of winglets the real challenge? There are clear differences between retrofitting existing aircraft or a new design.

Finally, all solutions, along with their respective motivations, will be presented on the basis of the complete Airbus fleet.

After graduating from the Technical University of Munich with a PhD, Gerd Heller joined Dornier as an aerodynamicist in 1997 and in 1999 became Head of Aerodynamics. In 2003 he moved to Airbus in Bremen where he became Local Domain Manager, Airbus Deutschland. He then held various positions within the Aerodynamics Department before becoming Senior Expert Aerodynamics in 2014.