



Success story

Environmentally-friendly aircraft stretches its wings with modeFRONTIER

Aerodynamic performance enhanced by 2.5% and wing weight reduced by 4%

*In an ambitious collaborative venture, Leonardo is heading the Green Regional Aircraft (GRA) design team of the **The Clean Sky Joint Technology Initiative**, committed to developing **environmentally-friendly aircraft**. The future of domestic air travel lies in: weight reduction, aerodynamic efficiency, high level operational performance, compliance with emission standards and respect of noise limits.*

Challenge

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modeFRONTIER has proven to be an effective tool for the design team, identifying feasible solutions.

Targeting multiple objectives such as **lowering aircraft drag**, wing weight and environmental impact of lower speed conditions (i.e. take-off and landing), enhances **overall environmental performance**, measured by fuel consumption and noise generation.

Seeking the most promising solution for this **new generation aircraft**, two wing shapes were studied using modeFRONTIER optimization. A “thin” configuration was selected to analyze **aerodynamic performance**, without any structural restrictions to airfoil thickness; a “thick” configuration was chosen reduce the weight of the wing.

