DESIGN AND ANALYSIS OF WING WITH WINGLET BARRIER

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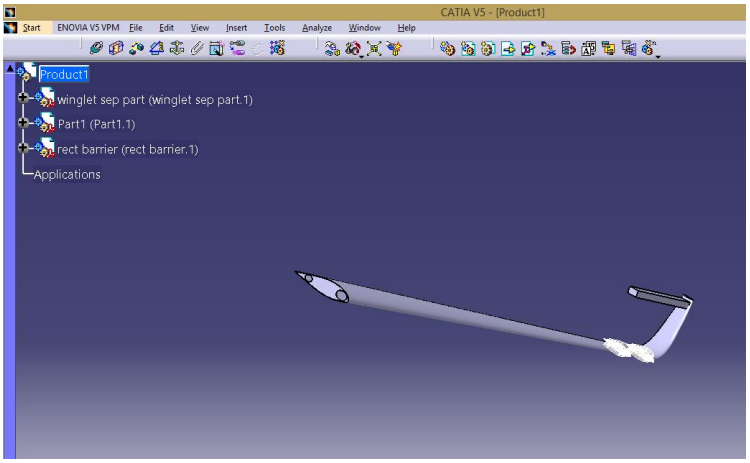
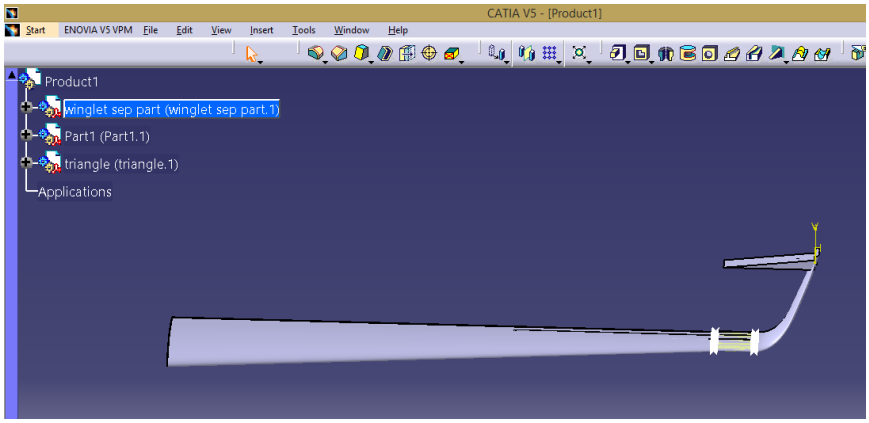
The main objective of the project is to design and analyze the effectiveness of providing a winglet barrier to the wing of the business jet aircraft. The specimen is designed in CATIA and is analyzed using OPENFOAM 2.0 software.

The model suggested in this paper includes winglet with a barrier. This modification helps to reduce the drag produced due to trailing edge vortices. Two shapes of barriers have been chosen and analyzed for the effective drag reduction.





The wing is designed with the above specification and is analysed using computational software for the following conditions :

Flow Model : Laminar, Steady, Compressible

Flow Conditions : Mach 0.735