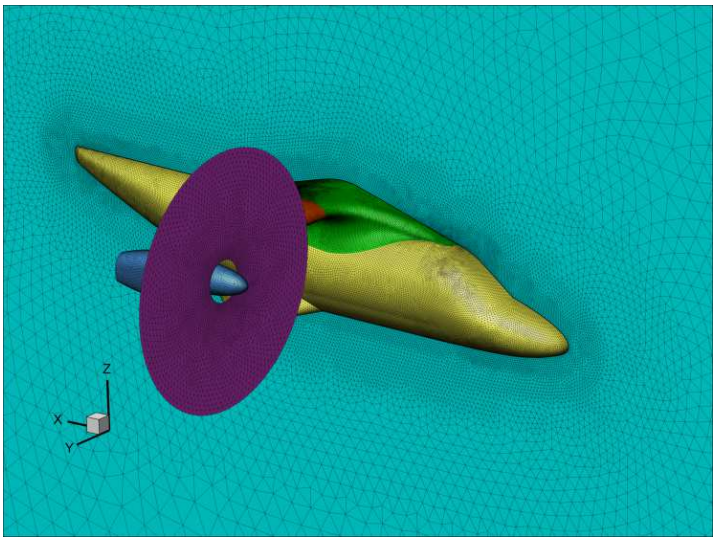

Figure 1: Computational grid for CFD calculations on the ERICA fuselage.

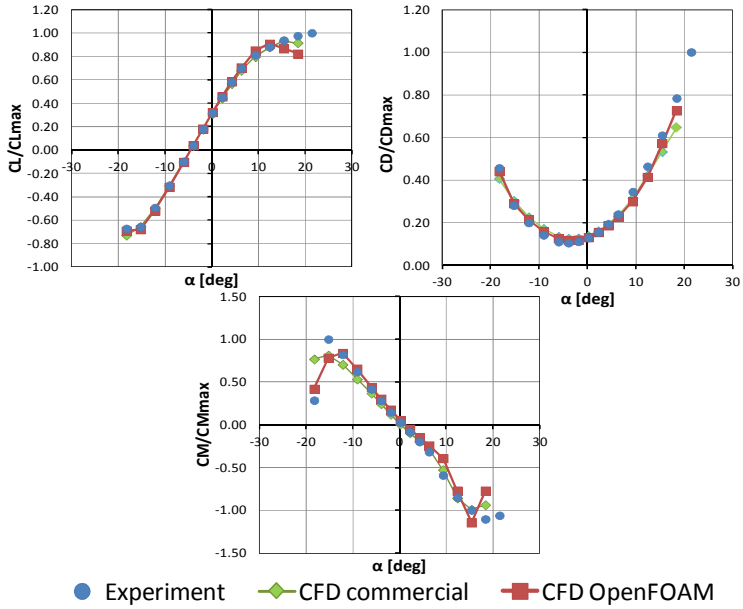

Figure 2: Aerodynamic coefficients of the baseline ERICA fuselage: numerical results (both using Fluent© and OpenFOAM©) against wind tunnel data on a 1/8th scaled model.

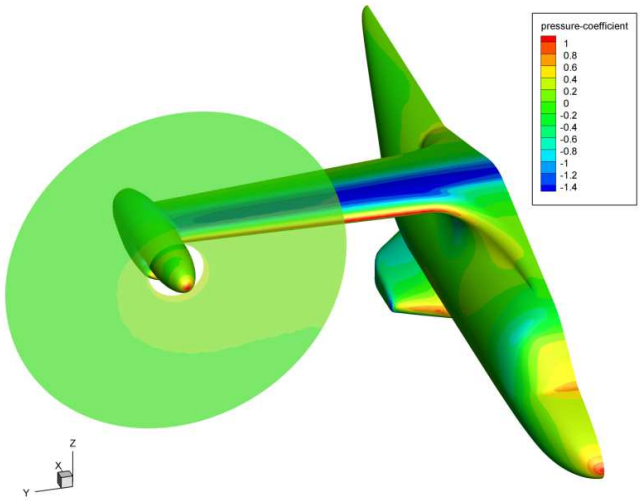

Figure 3: Contours of static pressure coefficient over the fuselage.

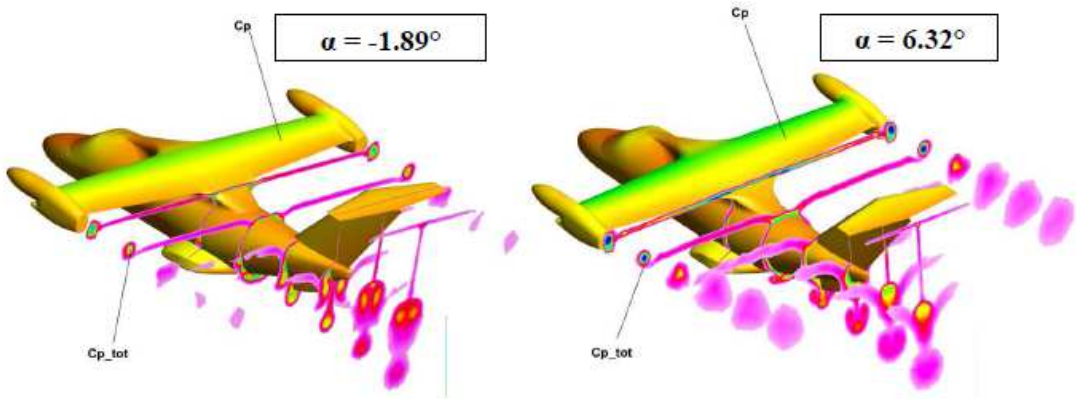

Figure 4: Visualization of total pressure losses downstream of the fuselage at various incidence angles.

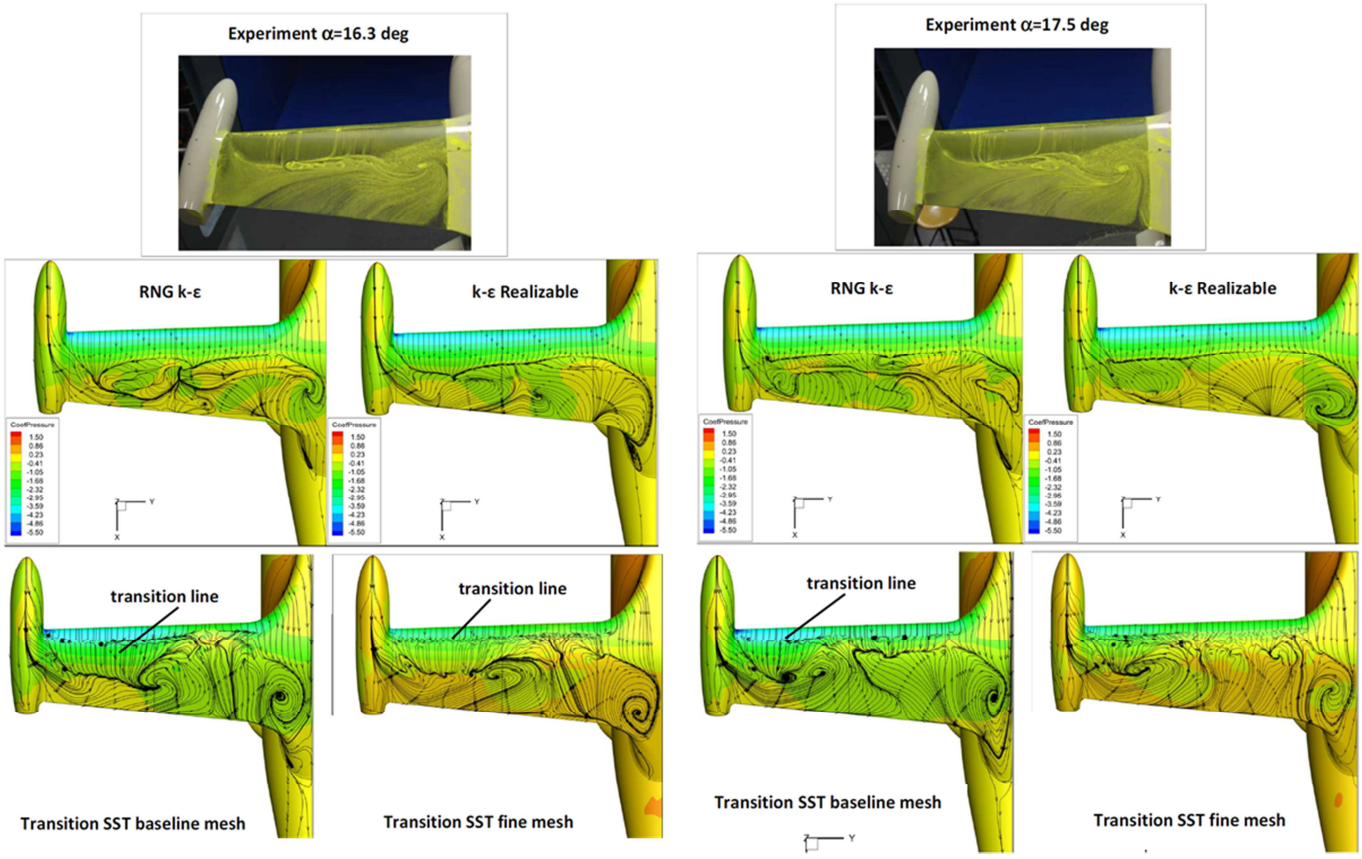

Figure 5: Comparison of CFD friction lines over the wing against experimental data for various angles of attack using different turbulence models.

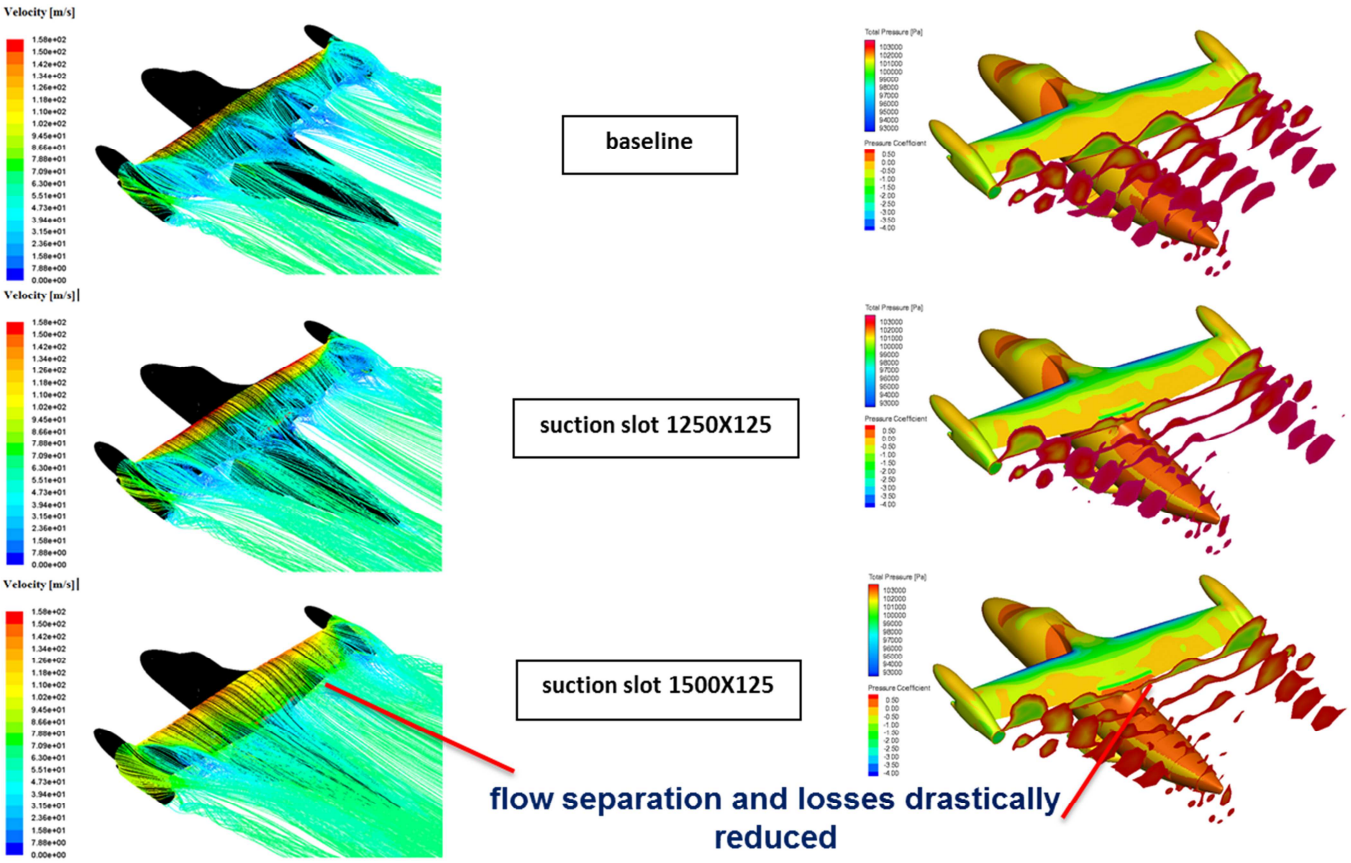

Figure 6: Effects of boundary layer suction on the wing/fuselage junction.

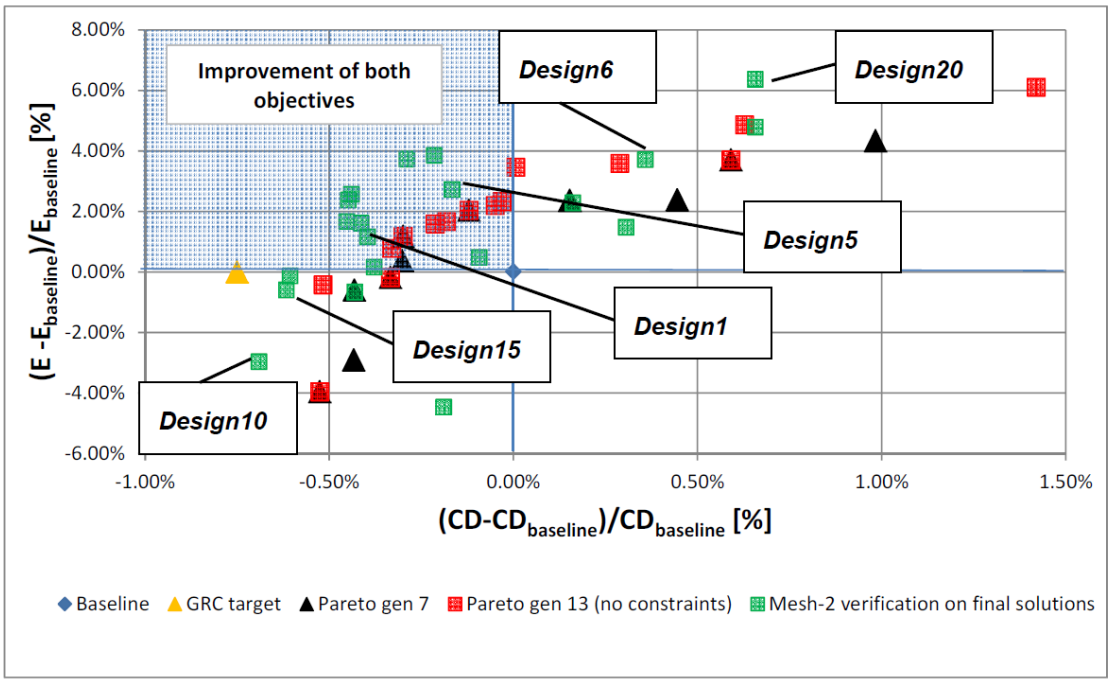

Figure 7: Final Pareto front for the wing/fuselage junction optimization.

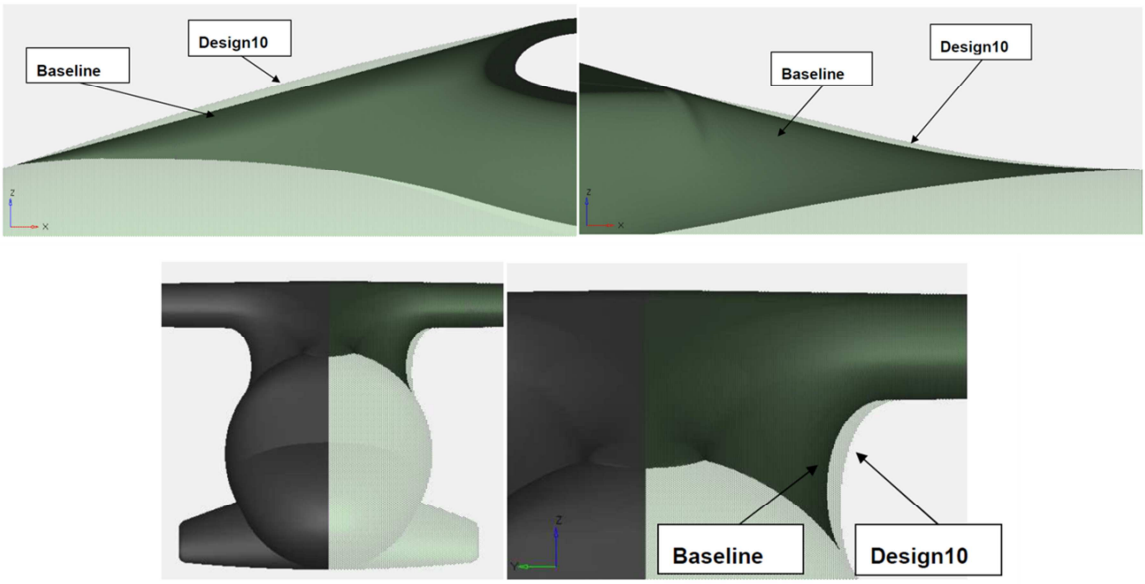

Figure 8: Optimized wing/fuselage junction compared against the baseline.

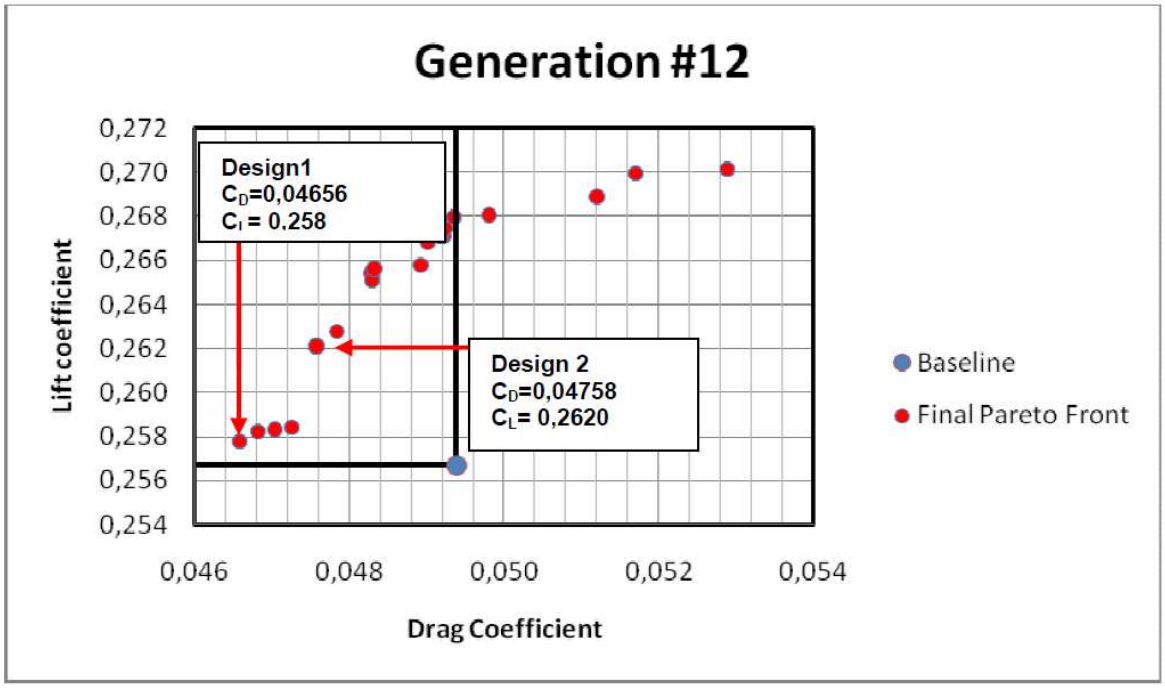

Figure 9: Final Pareto front for the landing gear sponson.

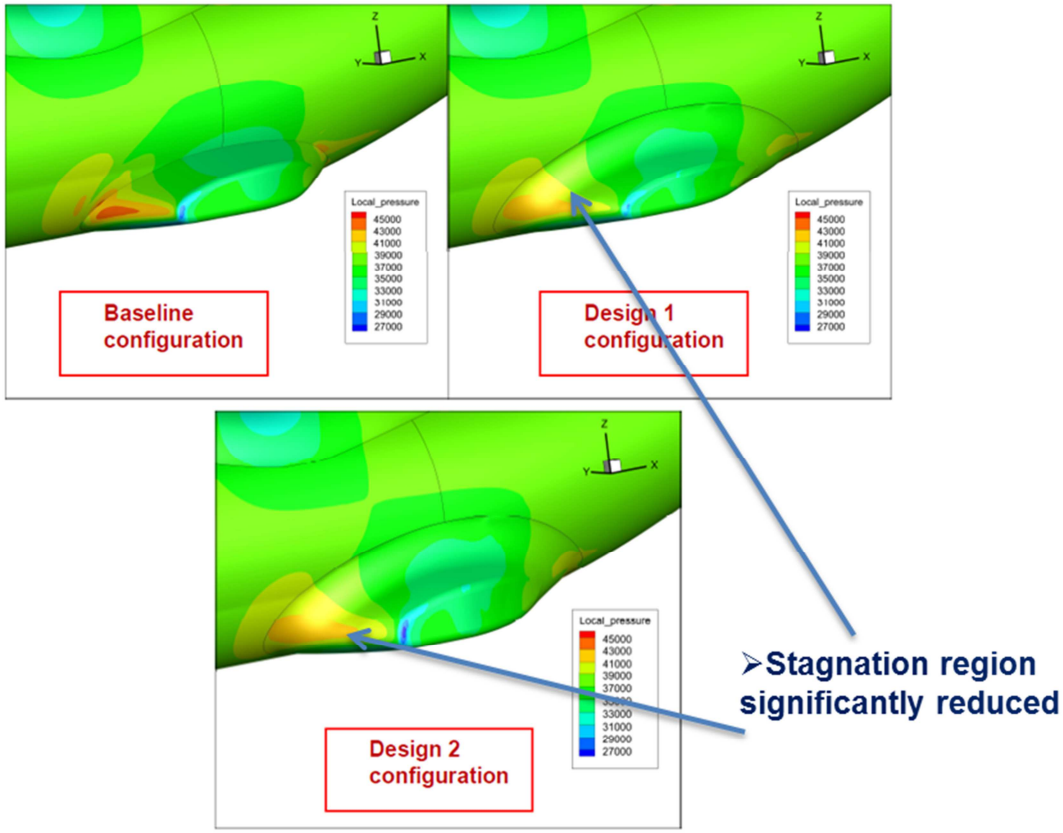

Figure 10: Static pressure coefficient contours over the baseline sponson and the two optimal configurations.

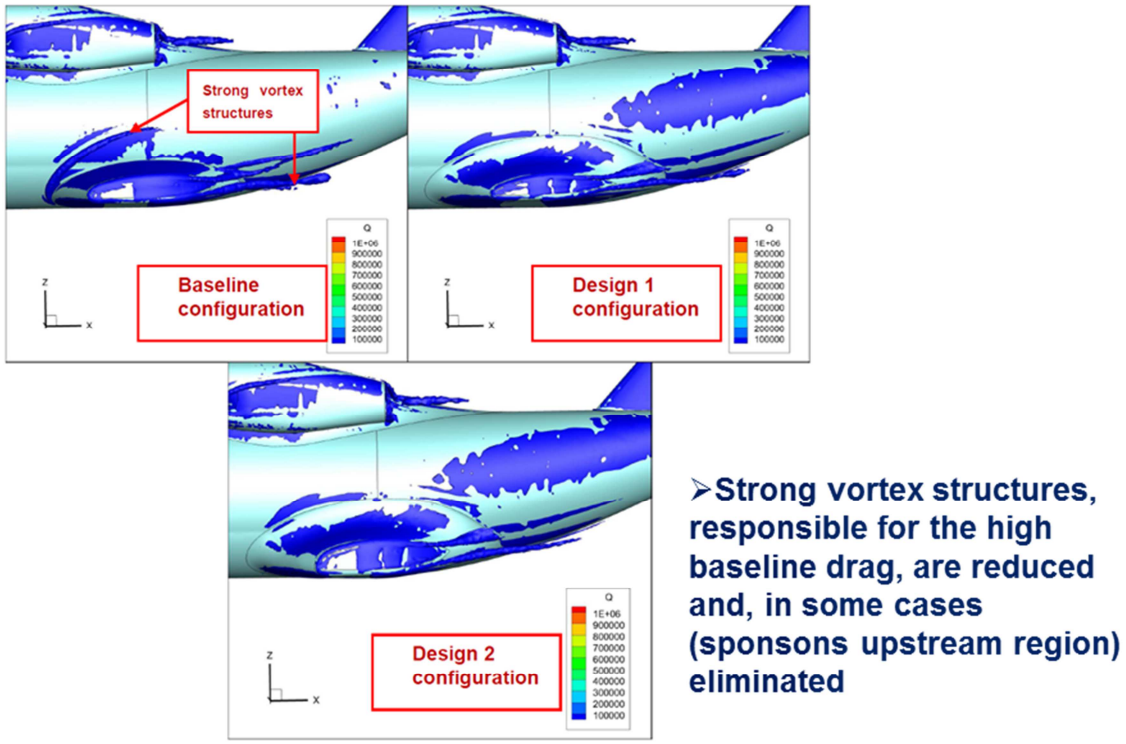

Figure 11: Vortex core structures visualization around the baseline sponson and the two optimal configurations.

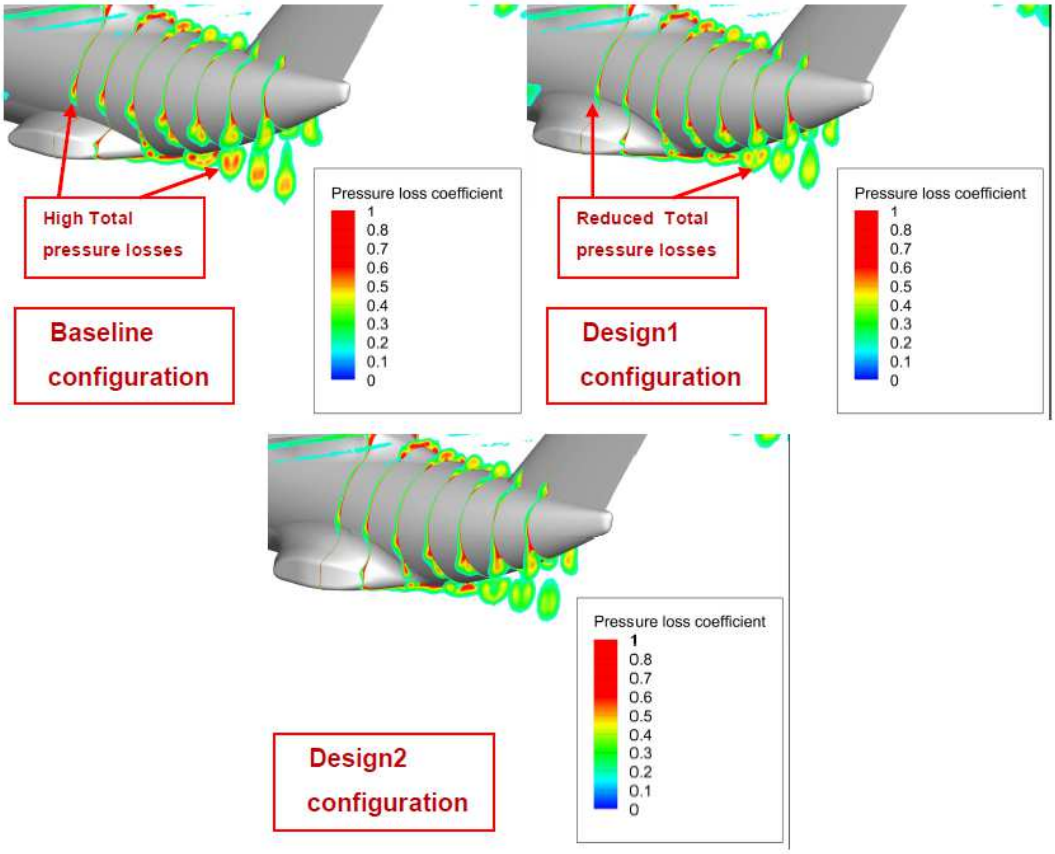

Figure 12: Total pressure losses visualization downstream of the sponson: baseline compared against the two optimal configurations.

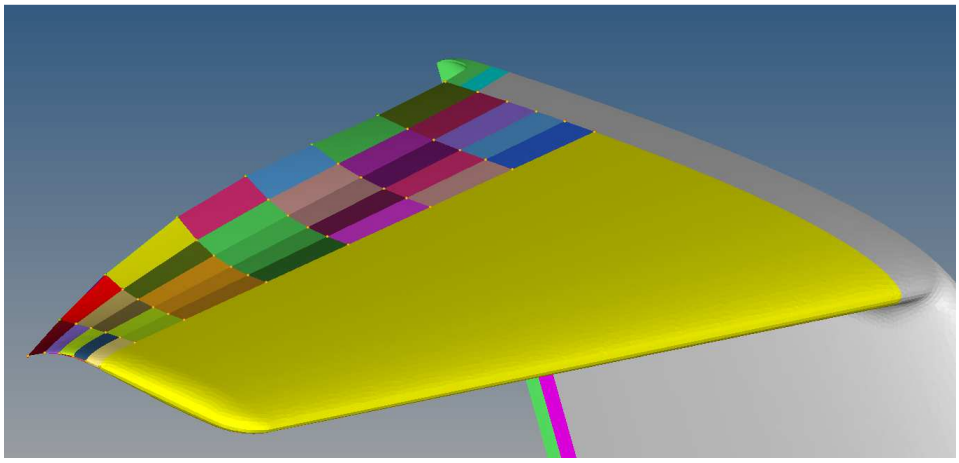

Figure 13: Shape parameterization for application of morphing wings concept to the horizontal tailplane.

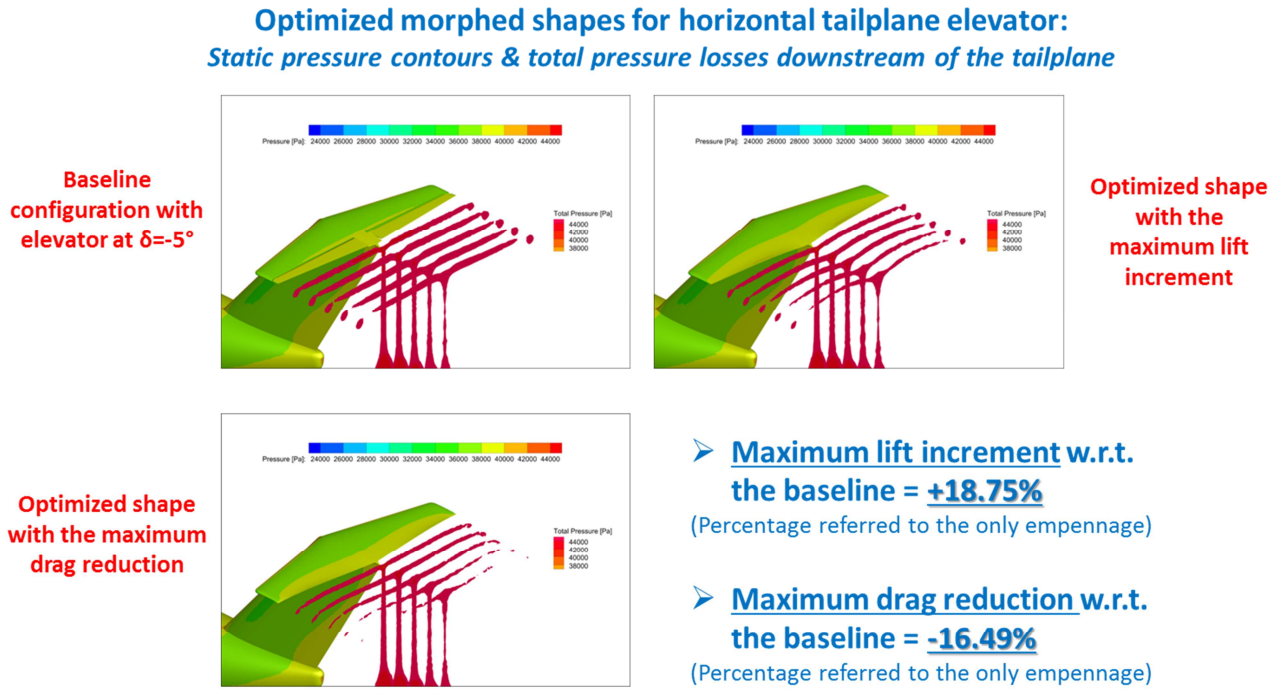

Figure 14: Results of the tailplane optimization in non-deflected configuration: maximum drag reduction and maximum lift increment solutions compared against the baseline.

Participating members	UNIVERSITY OF PADOVA	IT
	HIT09 S.r.l.	IT

Coordinator contact details: Ernesto Benini

✉ Via Venezia, no.1

35131 Padova

Italy

☎ +39 (0)49 8276767

ernesto.benini@unipd.it

Technical Leader contact details: Rita Ponza

✉ Galleria Storione, no.8

35100 Padova

Italy

☎ +39 (0)333 2900558

r.ponza@hit09.com