For stability analysis 3 constraints were iterated and finally the dimensions that gives a Static margin of 12% was selected for a stable flight.

Final Plane Dimensions were as follows:

chord	Area	Cl	Alpha	Lift(Kg)	A.R	Xcg	Xnp	SM
19	2869	0.7616	5	4.424687	7.947368	7.8	10.1	0.12105
TAL TAIL								
Ch	Α	Leading D	Lh	Vh	C/4			
15	750	46	42.95	0.590936	4.75			
TAIL								
Cv	Α	Leading D	Lv	Vv				
15	180	35	31.95	0.013275				
	TAIL Ch TAIL CCH TAIL CV	19 2869 TAL TAIL Ch A 15 750 TAIL Cv A	19 2869 0.7616 TAL TAIL Ch A Leading D 15 750 46 TAIL Cv A Leading D	19 2869 0.7616 5 TAL TAIL Ch A Leading D Lh 15 750 46 42.95 TAIL Cv A Leading D Lv	19 2869 0.7616 5 4.424687 TAL TAIL Ch A Leading D Lh Vh 15 750 46 42.95 0.590936 TAIL Cv A Leading D Lv Vv	19 2869 0.7616 5 4.424687 7.947368 TAL TAIL Ch A Leading D Lh Vh C/4 15 750 46 42.95 0.590936 4.75 TAIL Cv A Leading D Lv Vv	19 2869 0.7616 5 4.424687 7.947368 7.8 TAL TAIL Ch A Leading D Lh Vh C/4 15 750 46 42.95 0.590936 4.75 TAIL Cv A Leading D Lv Vv	19 2869 0.7616 5 4.424687 7.947368 7.8 10.1 TAL TAIL Ch A Leading D Lh Vh C/4 15 750 46 42.95 0.590936 4.75 TAIL Cv A Leading D Lv Vv



- CFD analysis in Ansys Fluent is performed to demonstrate the real world physics applied on the aircraft and validate our XFLR results.
- The results show that there is a flow separation at 16.5 cm from the leading edge on the wing while at 12cm from the leading edge on the tail.

