Surface Mesh

CFD Simulations

CAD Model

Engine Database

Geometry Database

Surface Triangulations

Trim Analysis (Figure 3.9)

Centre of Gravity Positions

Inviscid Aerodynamic Coefficients

Aerodynamic Databases \begin{figure}[ht]

\centering

\includegraphics[width=0.6\linewidth]{figures/3\_vehicle\_design/Pointwise}

\caption{Surface triangulation of the Baseline SPARTAN.}

\label{fig:Pointwise}

\end{figure}

Thrust Moment

Untrimmed, Propulsive, and Flap Aerodynamics

Viscous Correction

Viscous Aerodynamic Coefficients

Engine Outlet Conditions

Surface Pressure Distributions

PS Solver

External Modules

Evaluation of Optimality ie.

Trajectory Data

Vehicle Data

New Iteration