PS Solver

6DOF Dynamics

Trajectory Evaluation

Aerodynamic Database

Vehicle Model

C-REST Engine Model

Third Stage Data

Trajectory Approximation

Vehicle Aerodynamics

Vehicle Properties

Thrust

Fuel Flow

Aerodynamic Coefficients

Payload Mass

Control Data

Cost

Trajectory

Derivatives

Cost

Fuel Flow

Constraints

Constraints

Conical Shock Model

Engine Inlet Conditions

Inputs

Atmospheric Data

Path constraints

Initial and end constraints

Initial guess

PS Solver

External Modules

Evaluation of Optimality ie.

Trajectory Data

Vehicle Data

New Iteration