



Conceive and predefine a suborbital vehicle, which main characteristics are given below, by studying mainly propulsion aspects.

Address one of the following topics:

1.

Use of an existing engine or accommodation (by changing propellants, changing operating point ...) of an existing engine to the needs of the manned suborbital vehicle. Maintenance constraints linked to reusability will be identified and addressed,

2.

Integration of the propulsion system to the vehicle:

- Management of liquid propellants, consequences on the suborbital vehicle and on the ground operations, taking into account specific constraints related to the vehicle (commercial use or leisure activities),
 - Systems associated to primary propulsion (thrust frame, start-up/shut down, pressurization, equipment for control, ...),
 - System integrating other types of propulsion necessary for the mission, such as attitude control - nozzles to control roll, pitch and yaw - and/or the propulsion for the carrier aircraft.
- Study how to mutualise components, equipment, propellants and pressurization system of the different types of propulsion (Refer to previous works related to attitude control or design).



General characteristics for the reference vehicle:

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