

ME, ECE, BE Capstone Design Programs

TEAM#1: Hyperloop Braking and Propulsion Wheel Deployment

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Background

The SpaceX Hyperloop competition is to design a pod to operate within SpaceX Hyperloop Track. LSU's competition team needs both a braking and propulsion wheel deployment sub system in order to finish their pod.

Objective: To design and build both a braking and propulsion subsystem for the LSU Hyperloop Team that meets both the constraints set by the LSU team and SpaceX

Potential Customers

- Future Hyperloop Teams
- SpaceX
- General Public

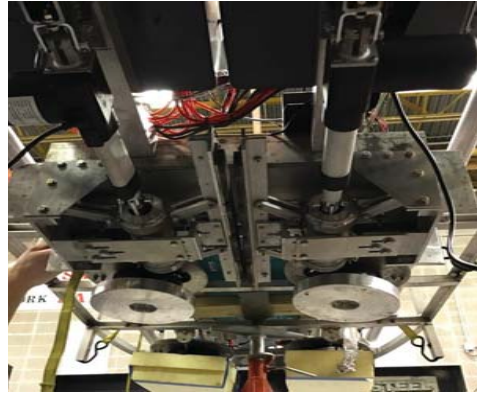


Engineering Specifications

Braking	Design Criteria	Tested Result
Deceleration	Between 0.5 and 1.5 G's	0.22
Weight	< 75 lbs	45 lbs
Force	510 lbs	221 lbs

Propulsion Wheel Deployment	Design Criteria	Tested Result
Applied Force	> 400 lbs	580 lbs
Weight	< 50 lbs	30 lbs

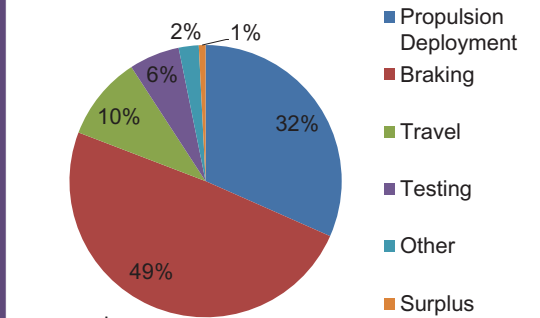
Braking Subsystem



Propulsion Wheel Deployment Subsystem



Budget



Total: \$5000

Analysis

