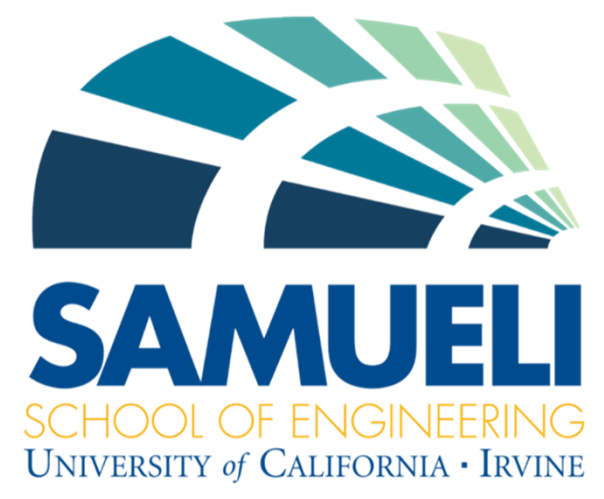




HYPERXITE

Changing the Future of Transportation



GOALS

- To win first place at the SpaceX Hyperloop Pod Competition II in both overall point total and speed.
- To accelerate the development of a fast, economical, and sustainable transportation system.

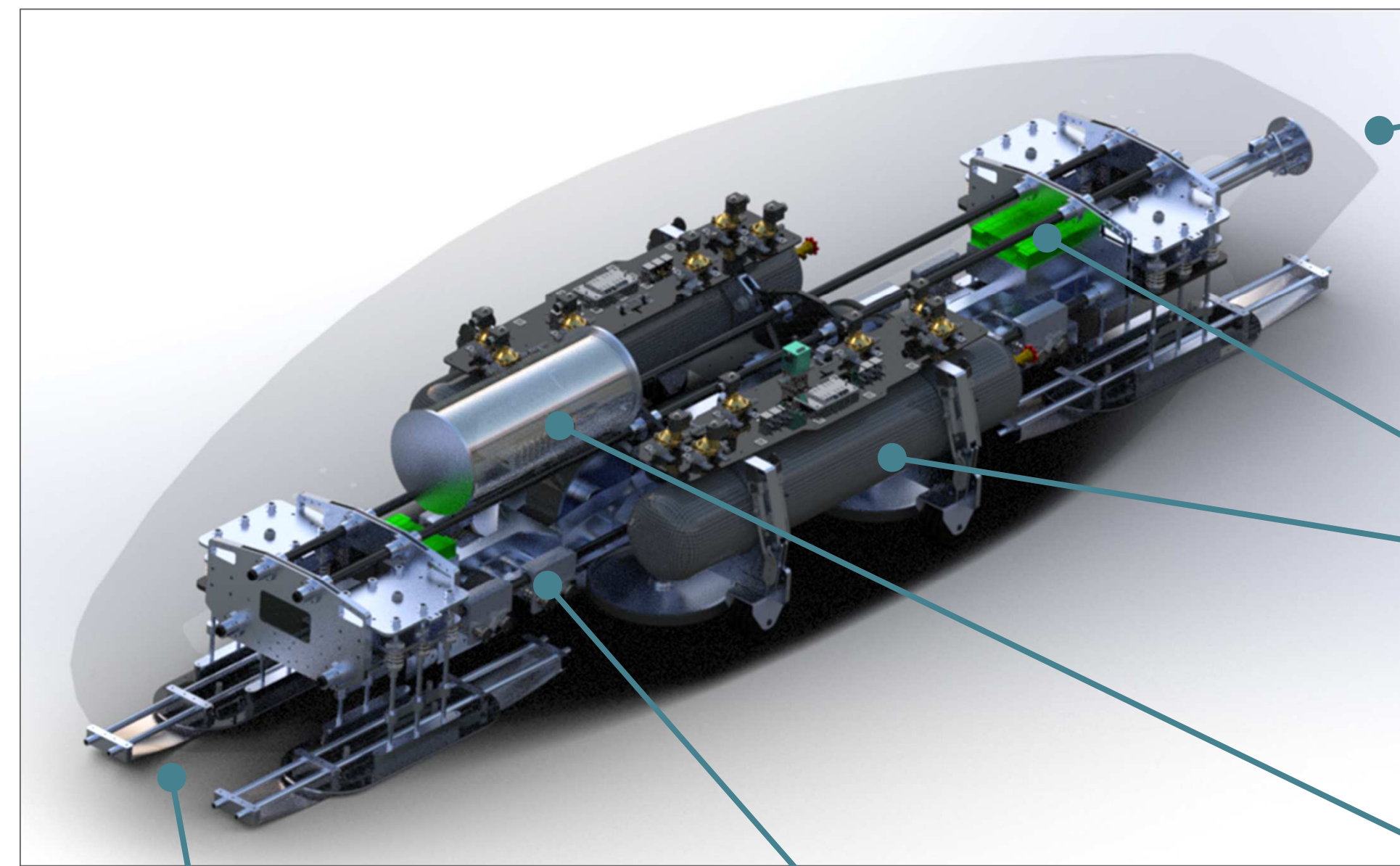
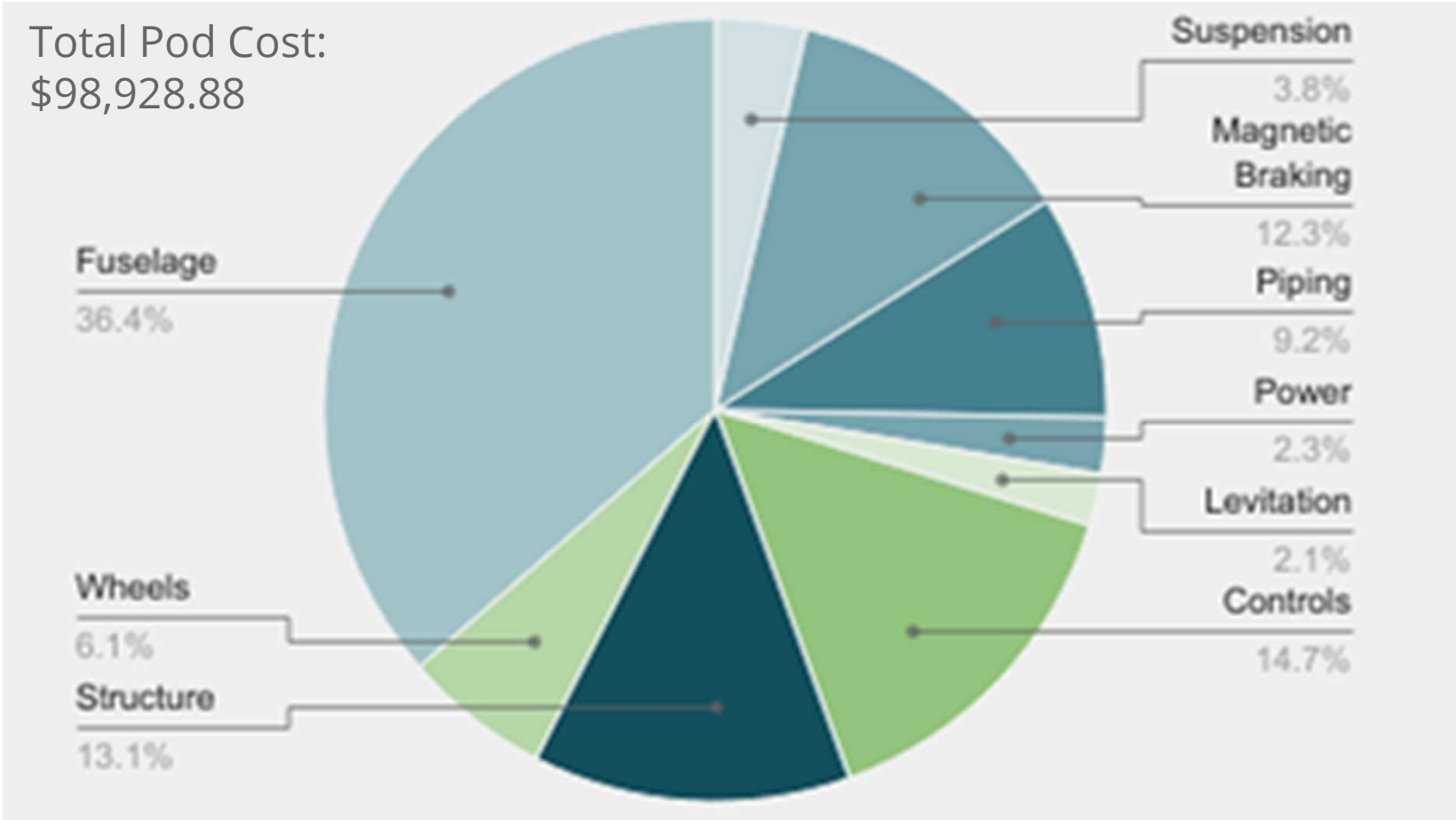
OBJECTIVES

- Design and build a 1:2 scale Hyperloop pod that utilizes air based levitation and is optimized for a one mile test track.
- Educate and train students in simulation and advanced manufacturing.
- Collaborate with industry partners and students from many disciplines.



Mile long Hyperloop tube at SpaceX headquarters in Hawthorne, CA

TOTAL POD COST



STRUCTURES

The structure of the frame is designed to include a strong inner core from which carbon sandwich plates and aluminum are extended to support other systems.

POWER

The power system consists of two compressed air tanks, one auxiliary tank, and two rechargeable battery packs.

LEVITATION

The air based levitation system consists of four skis, each with a flexible bottom skirt and a carbon fiber top ski, that allow the pod to levitate on a cushion of air 2.5mm above the surface of the track.

MAGNETIC BRAKING

The brakes use non-contact permanent magnets to induce eddy-currents in the aluminum rail. If there is a loss in power or air pressure, the brakes will engage.

CONTROLS

The controls system manipulates actuators and valves to control the velocity, lateral stability and levitation of the pod.



Elon Musk with the HyperXite pod at Competition Weekend I

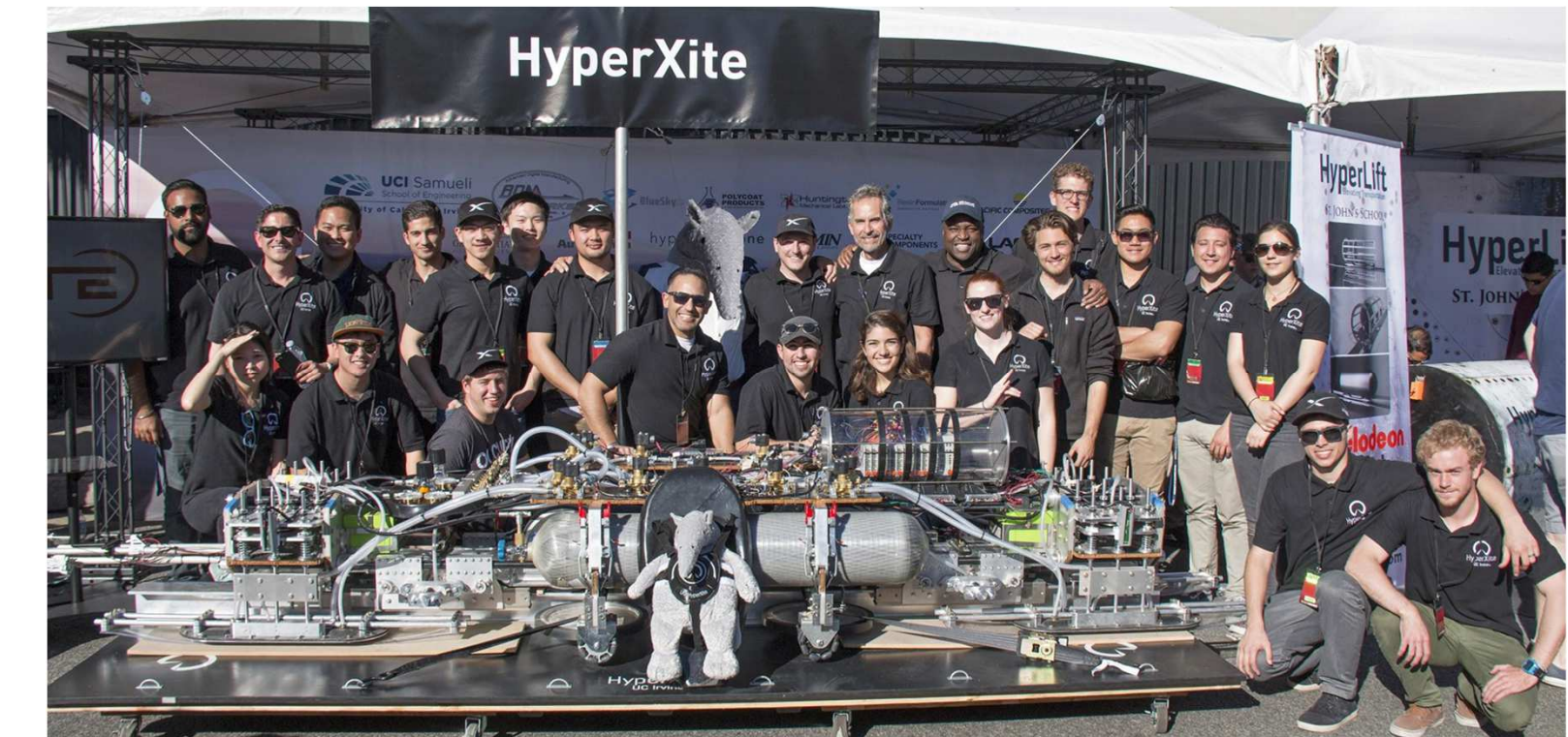
The HyperXite team with our pod on the external subtrack at Competition Weekend I



TIMELINE



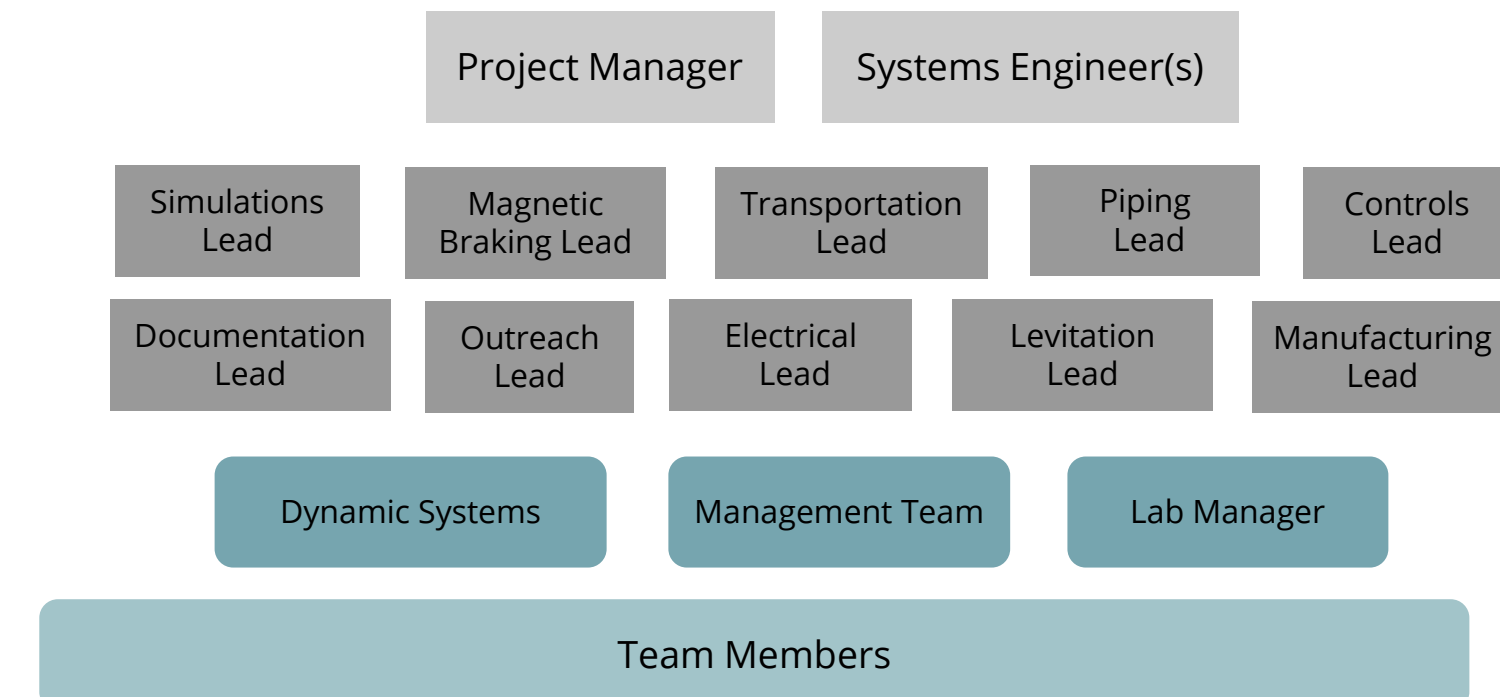
TEAM PHOTO



TEAM MEMBERS

- | | | | |
|----------------------|------------------------|------------------|-----------------------|
| Arwa Tizani | Arjuna Rathnayake | Zhen Chen | Youssef Iskander |
| Mackenzie Puig-Hall | Mudiyansele | Carol Reyes | Matt Casper |
| Brian O'Sullivan | Christian Aboga-a | Larry Smith | Kelly Quach |
| Kamran Sadaghiani | Wesley Hsiao | Dongheng Jing | Mark Mekittikul |
| Nick Parks | William Conner Farrell | Richard Hoang Le | Sreeja Bhashyam |
| Leslie Hsiao | Kristen Okano | Derek Cheng | Miles Richman |
| Maral Abbasnik | Lauren Fleming | Calvin Belcher | Kyle Monahan |
| Khaled Takwa | Lisheng Wang | Andrew Tec | Adora Tadros |
| Charleston Tran | Georges Hatem | Miguel Escobar | Adith Narayan Shankar |
| Robert Chavez | Shreshth Kumar | Dong Kim | Youngun Lee |
| Devin Pozas | Nicholas Oune | Kim Ngoc Tran | |
| Chanceleir Schilling | Allen Chang | Woo Yoong Chong | |
| Calvin Borchers | Sergio Linares | Jessica Ma | |
| Mazen Alkhatib | Jason Lee | Colin Brannigan | |
| Anthony Long | Kyle Ferreira | Enpei Wu | |

TEAM ORGANIZATION



ADVISORS

Primary Advisor: Roger Rangel **Advisors:** Jack Brouwer, Kenneth Mease, Mahshid Fardadi, Khalid Rafique, Lorenzo Valdevit, Farzin Zareian, Manuel Gamero, Daniel Mumm, James Bobrow