SDSU | San Diego State University

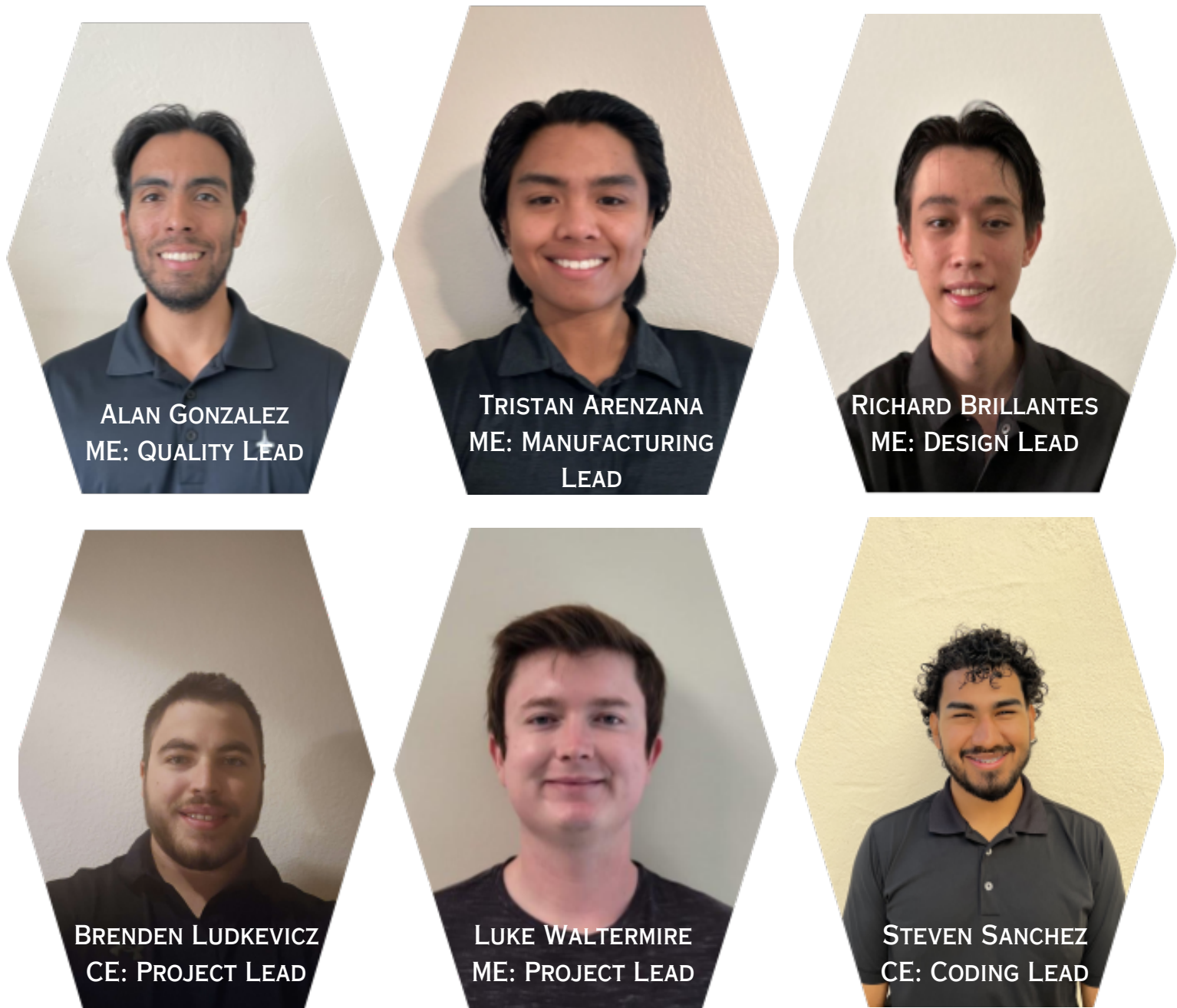# Autonomous Underwater Vehicle for Passive Sonar

AUV PATHFINDERS

PROJECT OVERVIEW

The completion of this AUV (Autonamous Underwater Vehicle) will allow for underwater research using long distance acoustic methods.
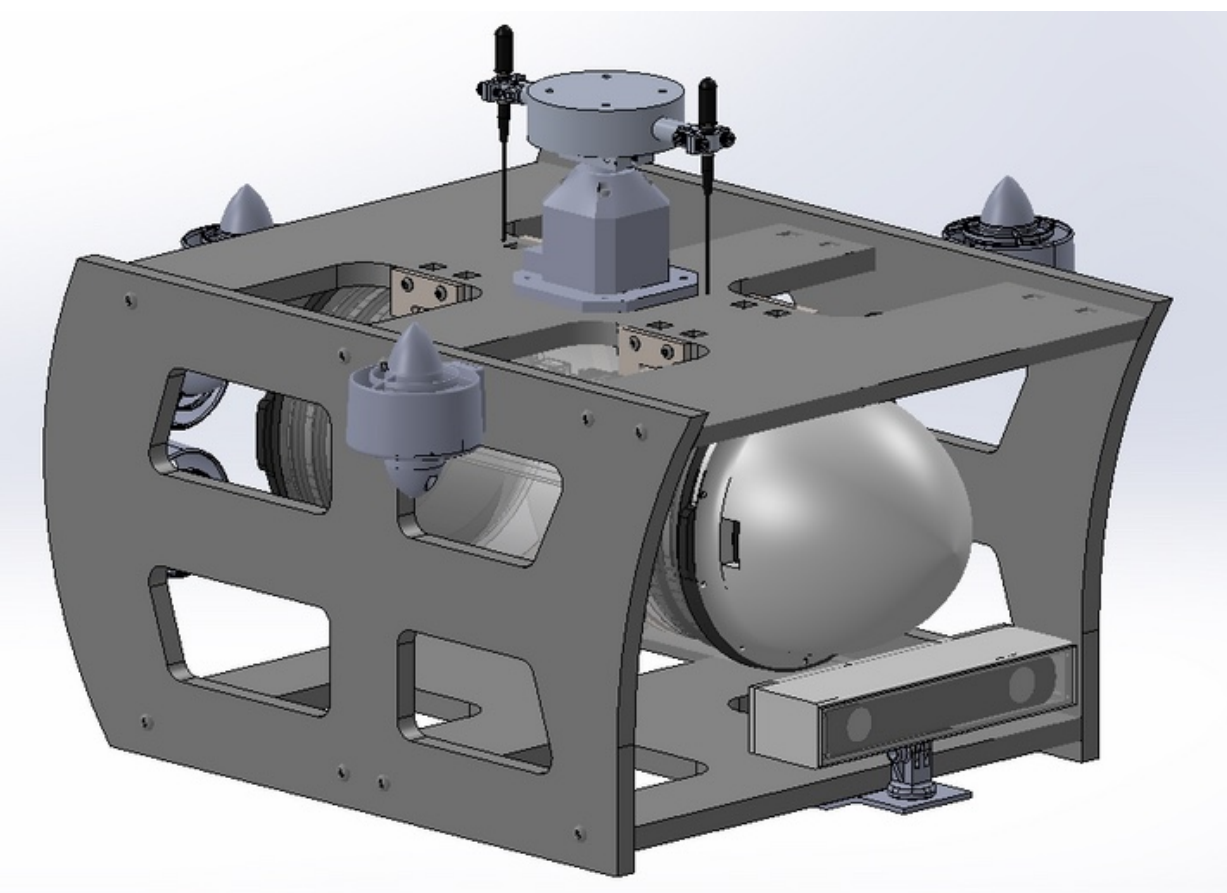
Requirements:

- AUV must have the ability to maneuver in 3D underwater space
- AUV must be autonomous and be able move on a predefined path using integrated sensors.
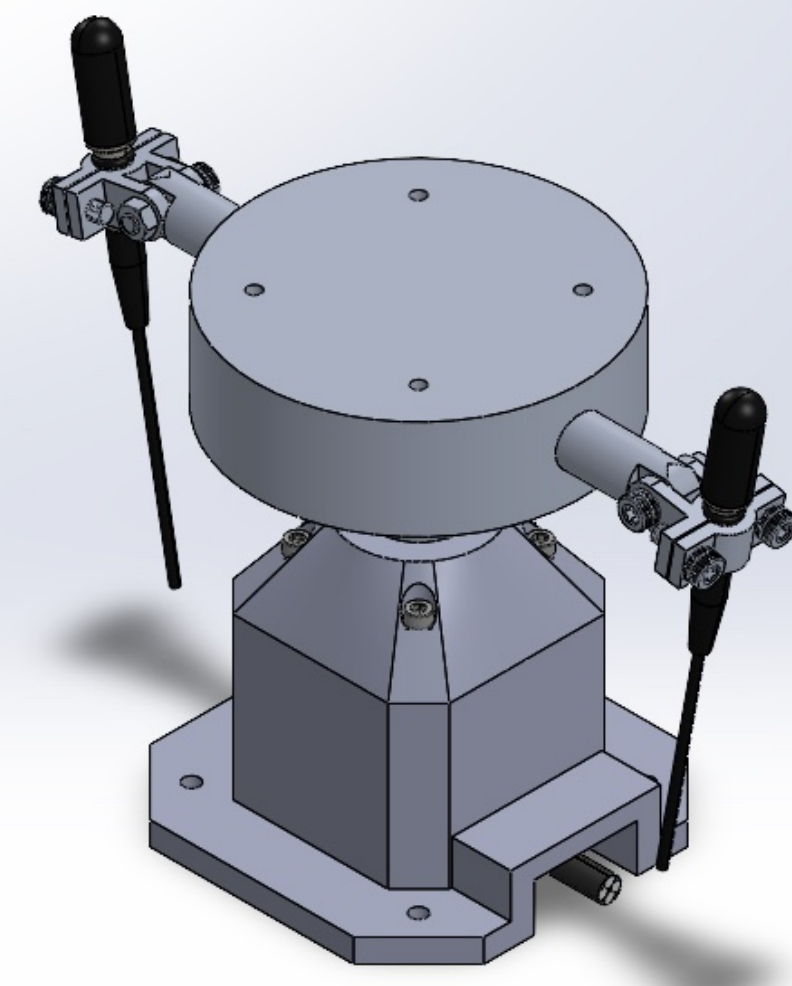- The AUV must have a rotating hydrophone array capable of acoustic research.

MEET THE TEAM: AUV PATHFINDERS

Alan Gonzalez — ME: Quality Lead
Tristan Arenzana — ME: Manufacturing Lead
Richard Brillantes — ME: Design Lead
Brenden Ludkevicz — CE: Project Lead
Luke Waltermire — ME: Project Lead
Steven Sanchez — CE: Coding Lead

ACKNOWLEDGEMENTS

Team AUV Pathfinders would like to thank Dr. Scott Shaffar and Proffesor Barry Dorr for advising us through this senior design project. We would also like to thank our sponsor, Dr. Zahra Nili Ahmadabadi for funding and providing guidance for our project.
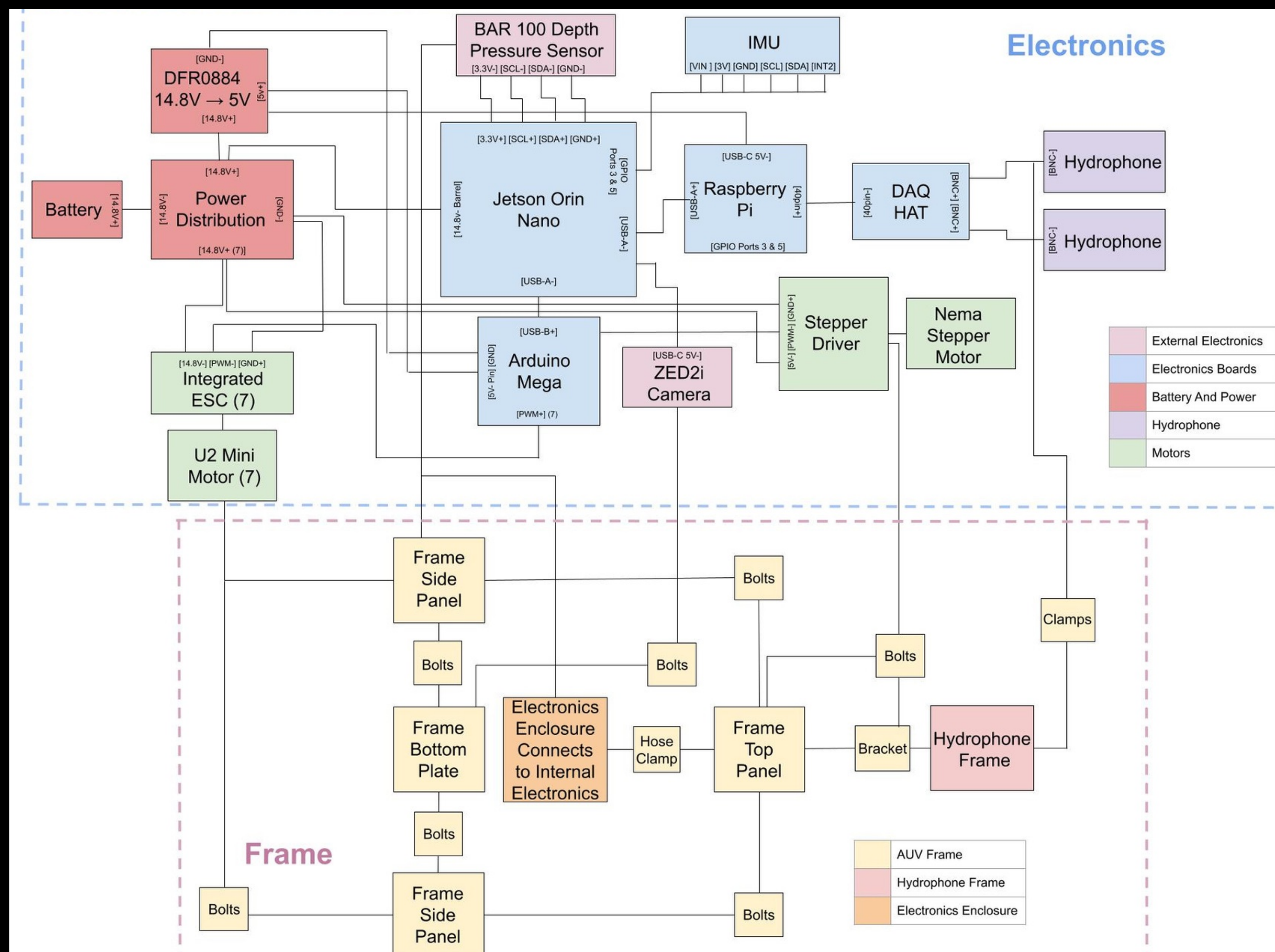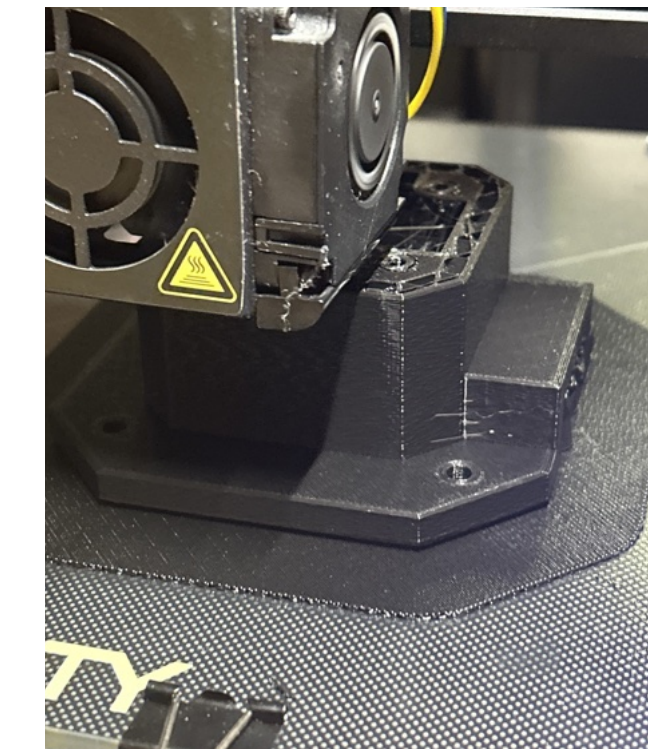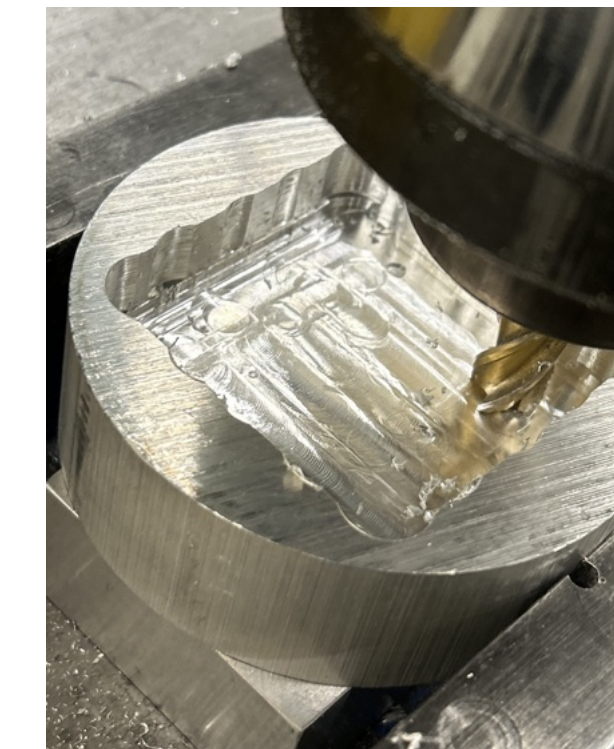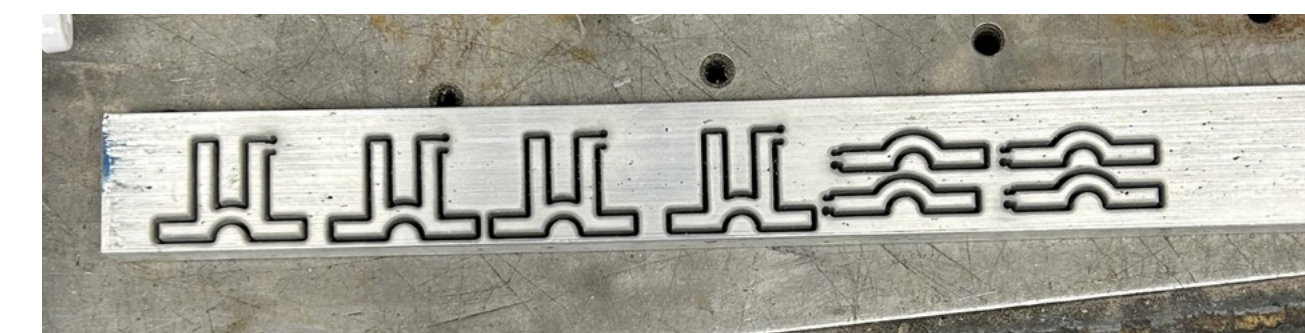
CAD MODELS

FULL AUV ASSEMBLY

ROTATING HYDROPHONE FRAME

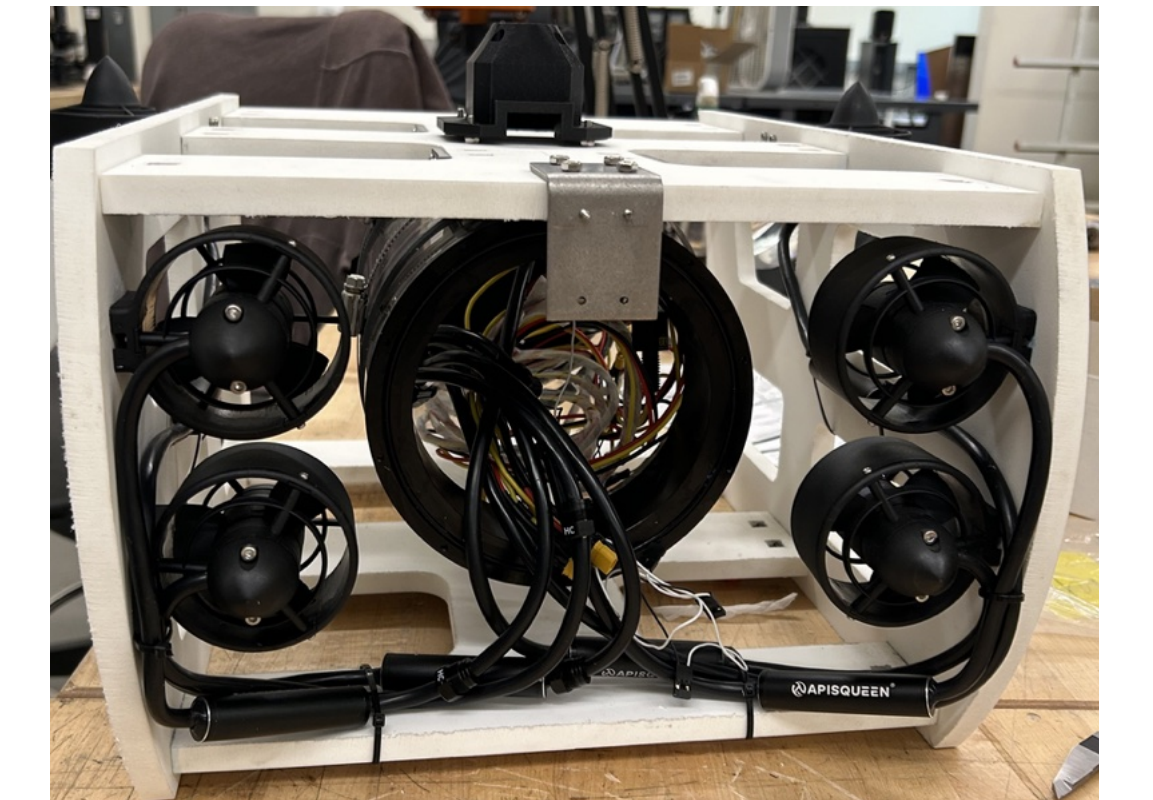## SYSTEM LEVEL DIAGRAM

ANALYSIS

Condition Created To analyze drag on the faces of the full AUV Frame Assembly.

.5 m/s = 20.4 N
1 m/s = 20.9 N
2 m/s = 22.4 N
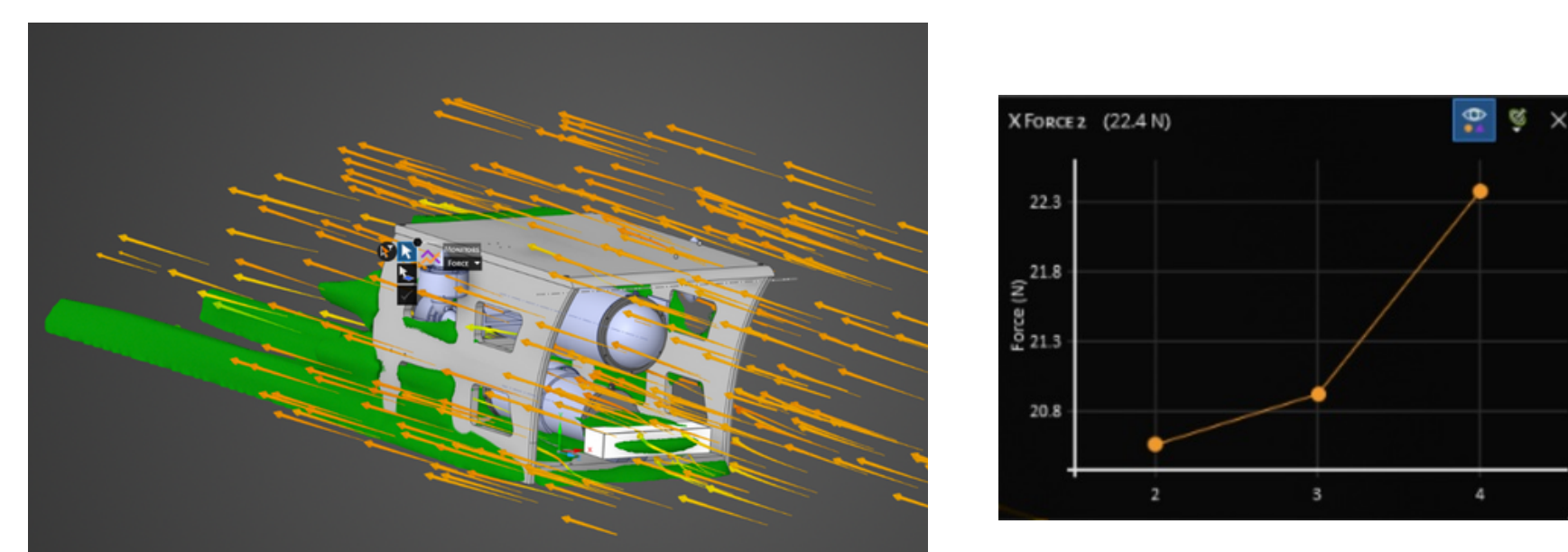
MANUFACTURING

ASSEMBLY
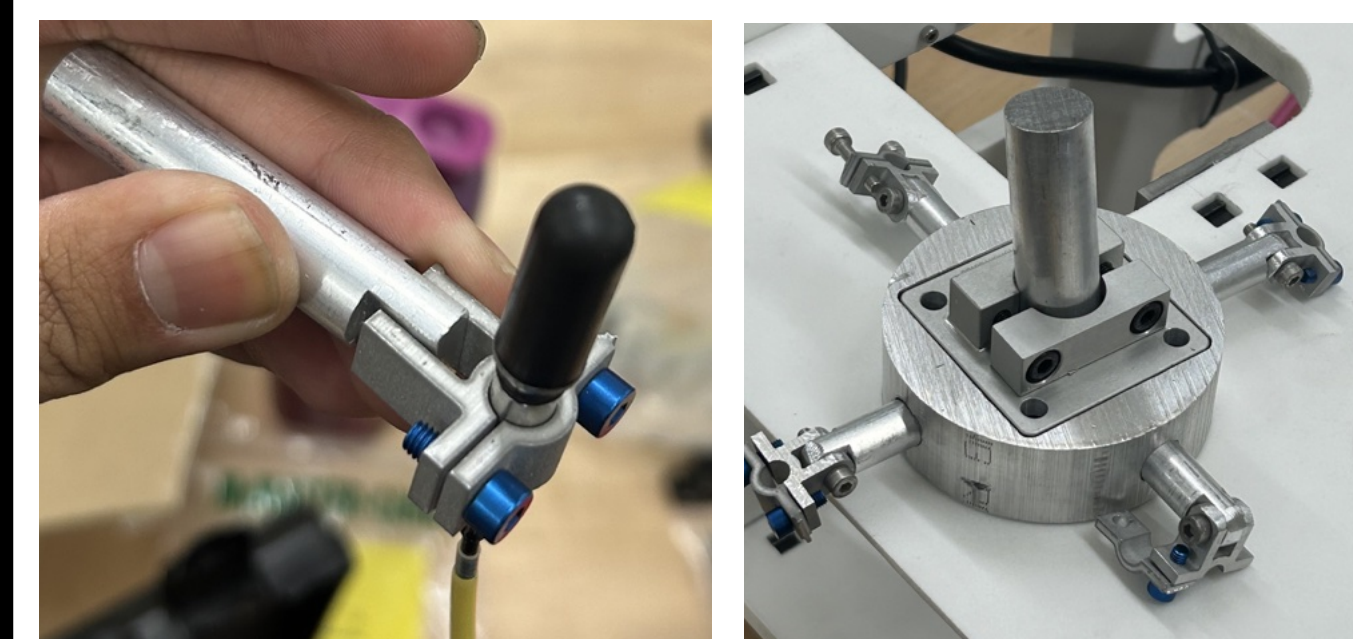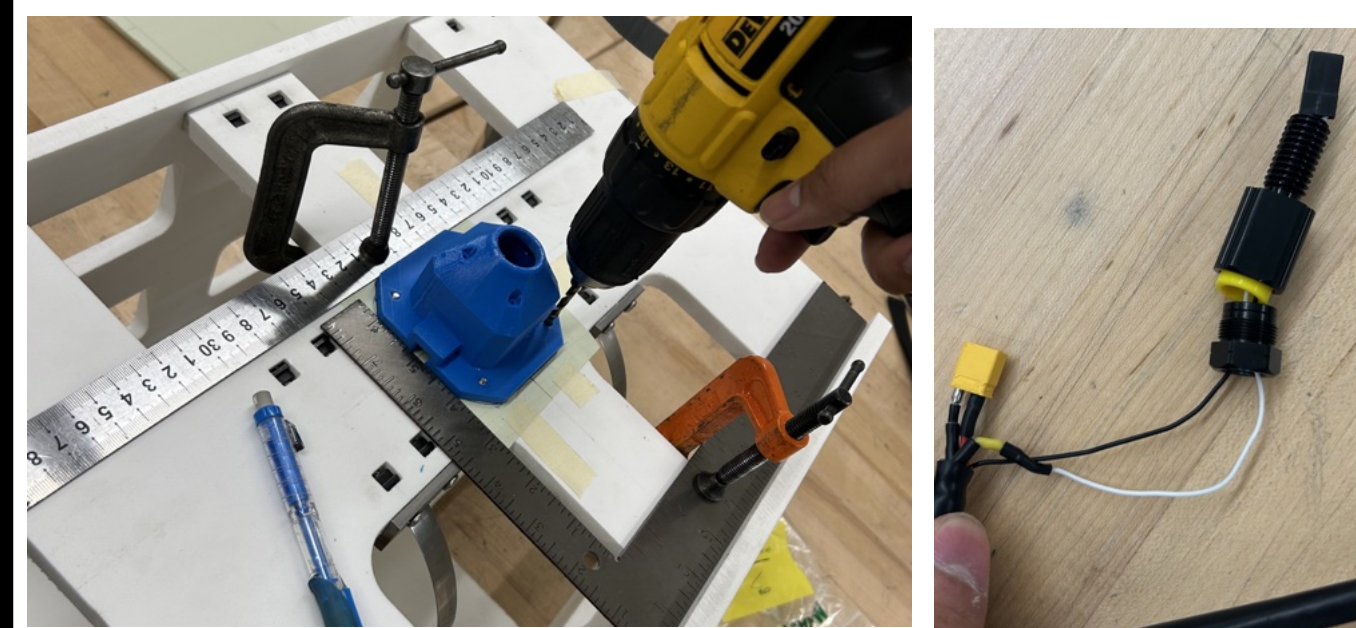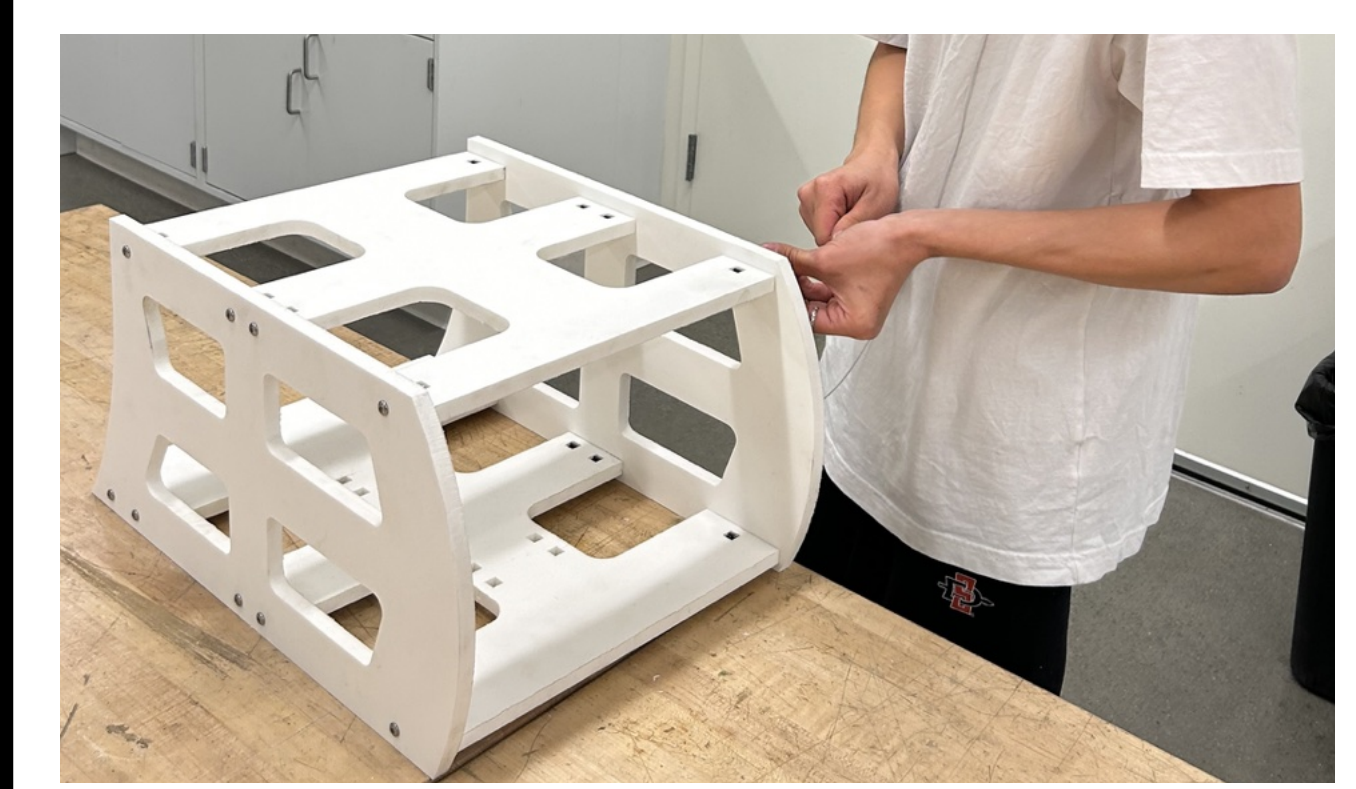
TEST METHODS

AUV Pre-Verification Test Plan

Testing methods include electronics testing and ensuring that all electronics are properly integrated. After all electronics are integrated, water proof and buoyancy testing is performed. These tests allow the team to verify all project objectives