TJ UNMANNED AERIAL VEHICLE CLUB

SPONSORSHIP PACKET

2024 - 2025

ABOUT US

We are **Thomas Jefferson's High School's Unmanned Aerial Vehicle Club**. At TJUAV, we are dedicated to advancing our knowledge in **aeronautical engineering**. Each year, we design and manufacture an **Unmanned Aerial System (UAS)** to compete in the **SUAS Competition by RoboNation**, an internationally recognized event that simulates a search and rescue operation.

Through TJUAV, students can...

- Explore aviation and engineering concepts through **large-scale, hands-on projects**
- Gain hands-on experiences through:
  - Proposing ideas
  - Testing designs
  - Refining prototypes
- Develop solutions to competition challenges in a **collaborative environment**

THE COMPETITION

SUAS by RoboNation is an international, collegiate competition that has hosted **over 75 teams** in recent years. SUAS's mission is to simulate an unmanned search and rescue situation.

The competition is held at **St. Mary's County Regional Airport (2W6)** in St. Mary's County, Maryland.

More information about the competition can be found here:
https://suas-competition.org/

ACCOMPLISHMENTS

2019:

This year was our **first year competing** at the SUAS competition. We developed the **Razgriz**, a Skywalker X8 airframe that was modified to fit radios in the fuselage and a camera in the nose of imagery.

- We placed **23rd overall out of 75 teams** and **18th in Mission Demonstrations.**

2020 & 2021:

For 2020, we developed the **Hyperion**, a Skywalker Titan airframe that was modified to fit a UGV payload drop mechanism, radios for communication, and a camera gimbal for the imagery system.

For 2021, we constructed the **Avalon V1**, the first plane that me made **completely from scratch**.

- Due to the COVID-19 pandemic, the 2020 and 2021 SUAS competitions were cancelled.

2022:

For **Avalon Mk 2 and Mk 3.5**, we modified the Avalon Mk 1 by interchanging its foam board wings for a monokote covering and a plastic shrink wrap material.

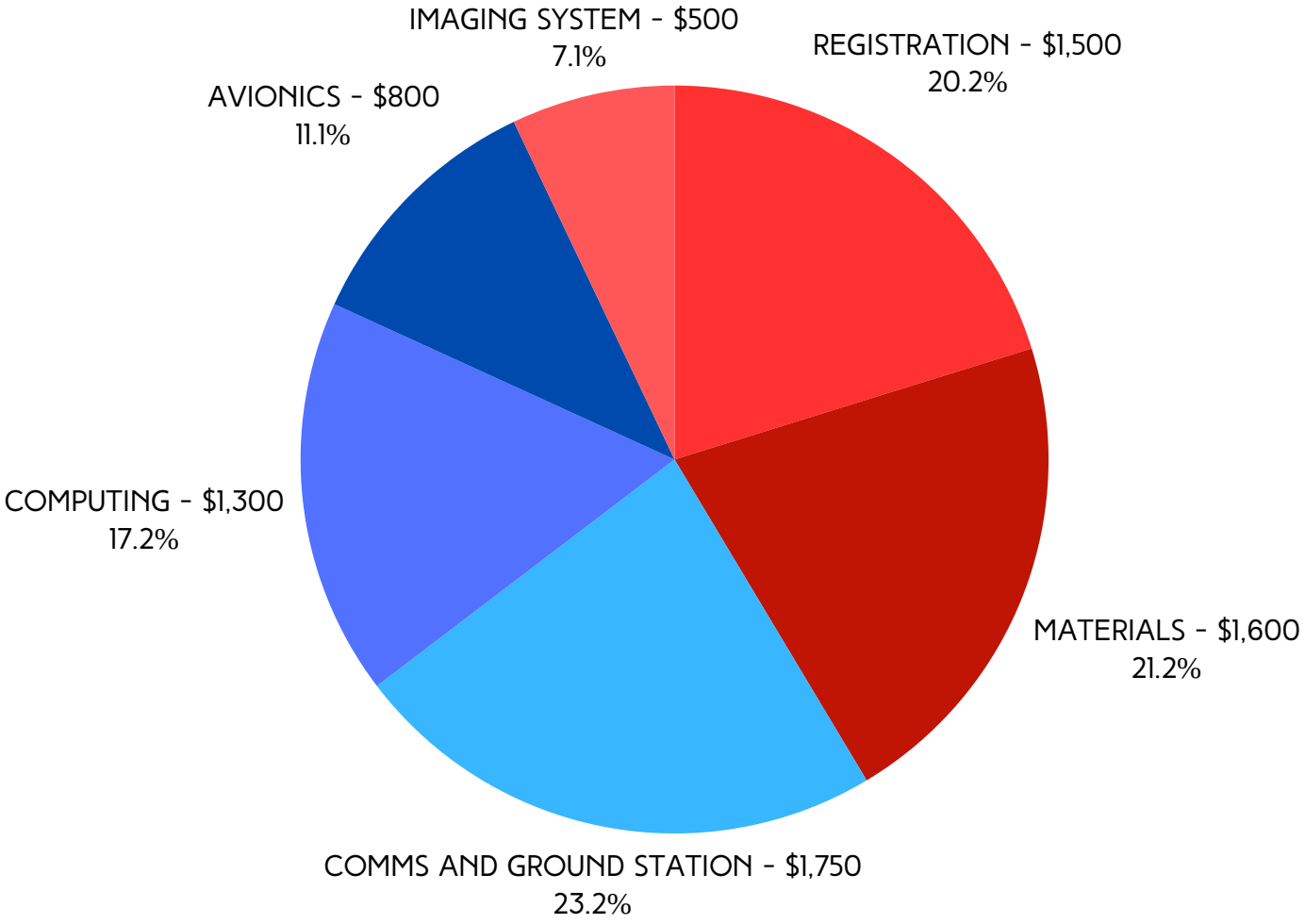
- We placed **23rd overall out of 71 teams** and **18th in Mission Demonstrations.**

2023 & 2024:

We created **Avalon Mk X and Mk XI**, we altered Avalon Mk 3.5 with 3d printed bulkheads, covered with foam panels, larger battery, and a more compact electronics bay and payload section.

- We placed **14th overall out of 72 teams** and **2nd in Mission Demonstrations.**

EXPENSES



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