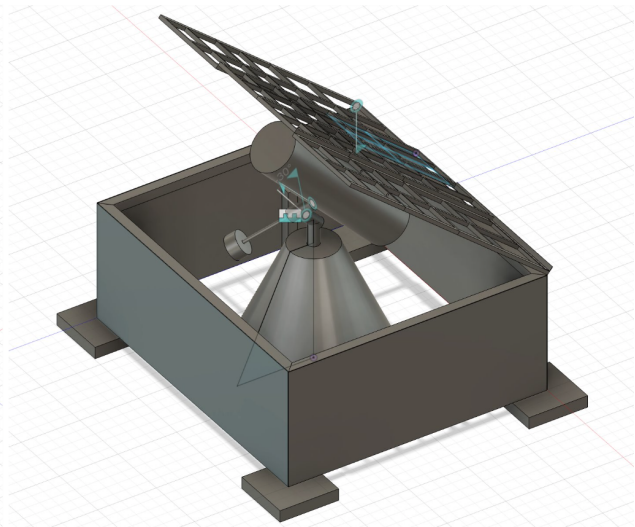
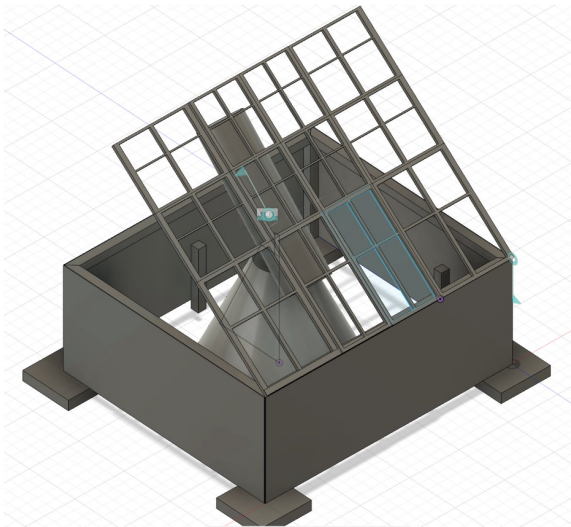




Space
Situational
Awareness

SEMESTER PROJECT
DESIGN OF A CUPOLA
AUTUMN 2024



EPFL

Project overview

- **Type of Project:** Semester project
- **Duration:** 14 weeks (Official start/end date: September 9-December 20)
- **Submission of final report:** January 13
- **Final Presentation:** TBD
- **Recommendation:** This project is suitable for students with a background in building facilities and 3D modeling.

Context

The number of objects orbiting Earth, such as satellites and debris, is increasing at an unprecedented rate. This proliferation poses significant hazards to space traffic and various fields related to space activities.

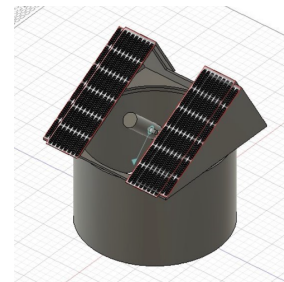
The main goal of the [SSA EPFL Team](#) is to build an open-access catalog of orbiting objects. This catalog will provide complete transparency, allowing anyone to access detailed information about these objects. To gather this information, the SSA EPFL Team will use two telescopes housed in protective domes.

Last year, a prototype of a dome was designed and built. It is currently being tested at Cubotron's rooftop to identify any potential issues. This will help SSA refine the final design of the cupola that will be located at Vallée de Joux.

Project Scope

In this project, a student from GM and another from GC will team up to design a new cupola. They'll take the existing prototype, scale it up, and fix any issues. This new cupola will run completely on its own energy and in a remote location where quick human help isn't an option.

By the end of the semester, the design should be done, and then the actual building of the cupola will start. If the students want, they can also participate to the construction.



Tasks

- Taking note of the report done for the prototype and finding solutions for any improvements that need to be made.
- Designing the new cupola considering the report and the different constraints.
- Building the new cupola (if desired).

- Skills in building facilities
- Familiarity with a 3D design program

Contact

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- **Supervision** : TBD