

# Docking Station - Technical Documentation

This folder contains all necessary documentation, code, and CAD files to understand, assemble, and operate the docking station. The materials are organized into the following folders:

## Assembly Instructions

This folder includes materials to assist with physical assembly:

- SolidWorks Exploded View Videos
  - Two videos demonstrating the full assembly process using exploded view animations.
- Docking Station Drawing (PDF)
  - Technical drawing with multiple views.
  - Includes an exploded view and a complete Bill of Materials (BOM) for fabrication and assembly reference.

## Arduino Programs

This folder contains the firmware required to run and calibrate the docking station:

- Calibration Program
  - Script used to calibrate the docking mechanism to ensure accurate alignment and positioning.
- Operation Program
  - Main script that controls the functionality of the docking system during normal use.

## STP Files

This folder contains the 3D CAD models needed for manufacturing or modification:

- Complete set of STEP files for all custom and standard components used in the docking station.
  - Suitable for 3D printing.