



# Automated Chemical Wiping System

A joint project ME/ECE  
SDSU 2024  
Team - (M.A.C.W.E.R.P.)



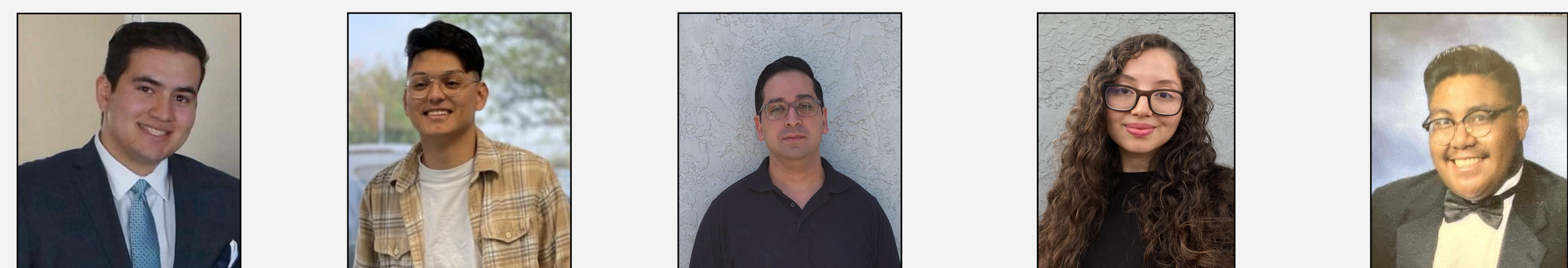
## Project Overview

Team - Masimo Automated Chemical Wiping Engineering Related Project - (M.A.C.W.E.R.P.) is tasked to design a device with a fluid delivery system, wiping arm, cleaning cloth, control panel screen, and photo camera. The machine will perform a set number of wipes at a constant pressure to the product's surface. The wipe cycle can be adjusted on the control panel screen and the machine has onboard memory to store the cycle test used. The machine will also capture the cycle process through the photo camera. The device is designed to maintain constant pressure, endure over 100k cycles, and be accessible for maintenance and replacement of the cleaning cloth.

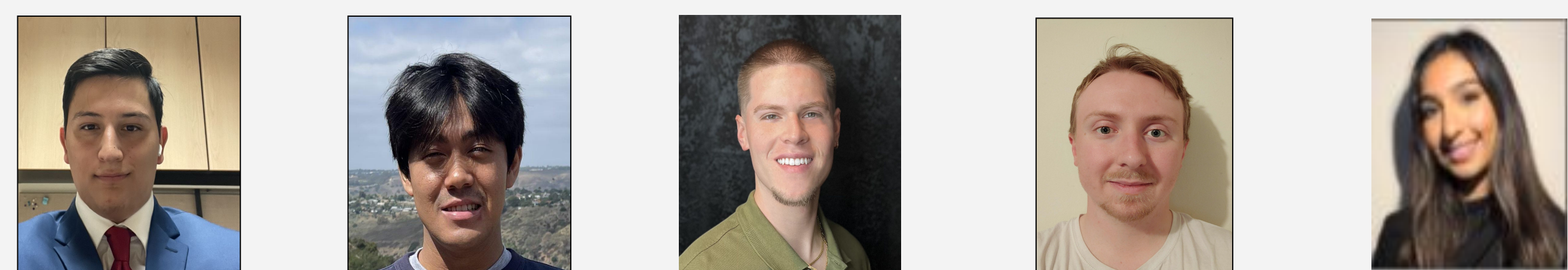
## Meet The Sponsor

Masimo (NASDAQ: MASI) is a global medical technology company that develops and produces a wide array of industry-leading monitoring technologies, including innovative measurements, sensors, and patient monitors. Our advisor Glenn Pohly, and his team provided any necessary advice and assistance, and through Masimo, he provides the funding and budget for the project.

## Team Members



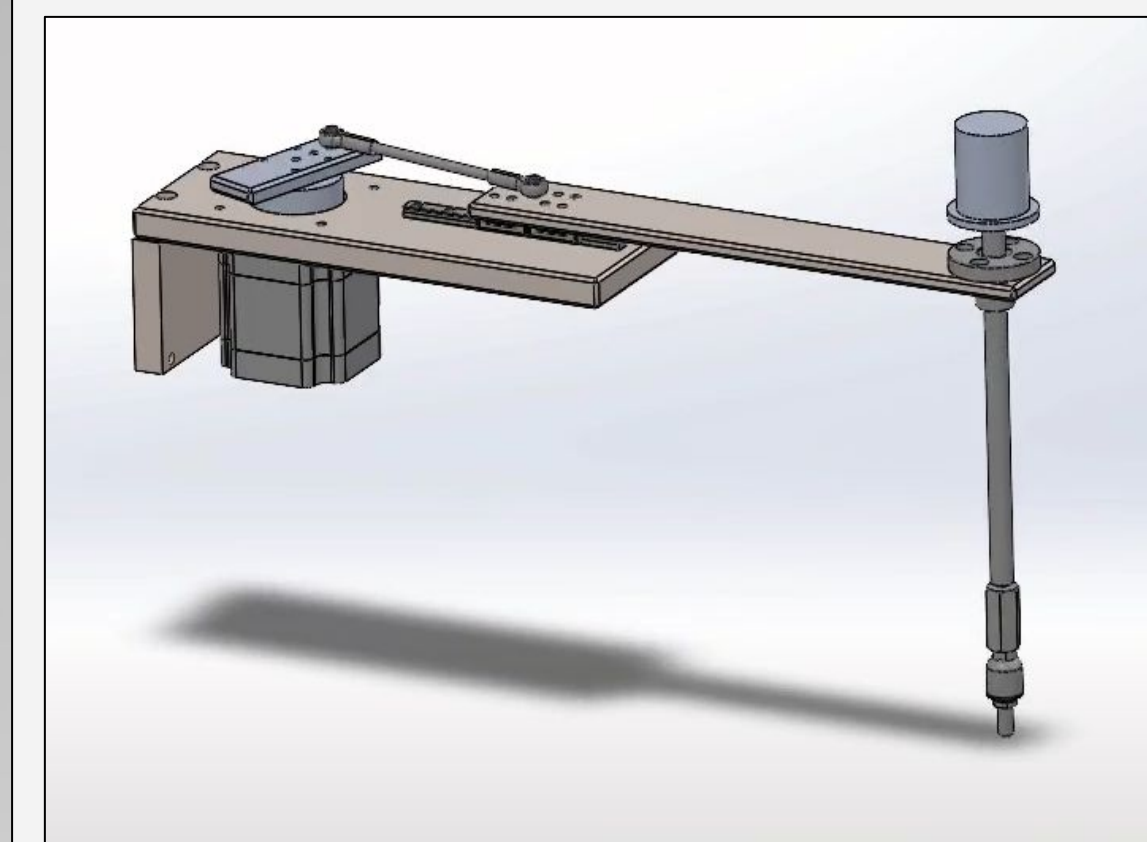
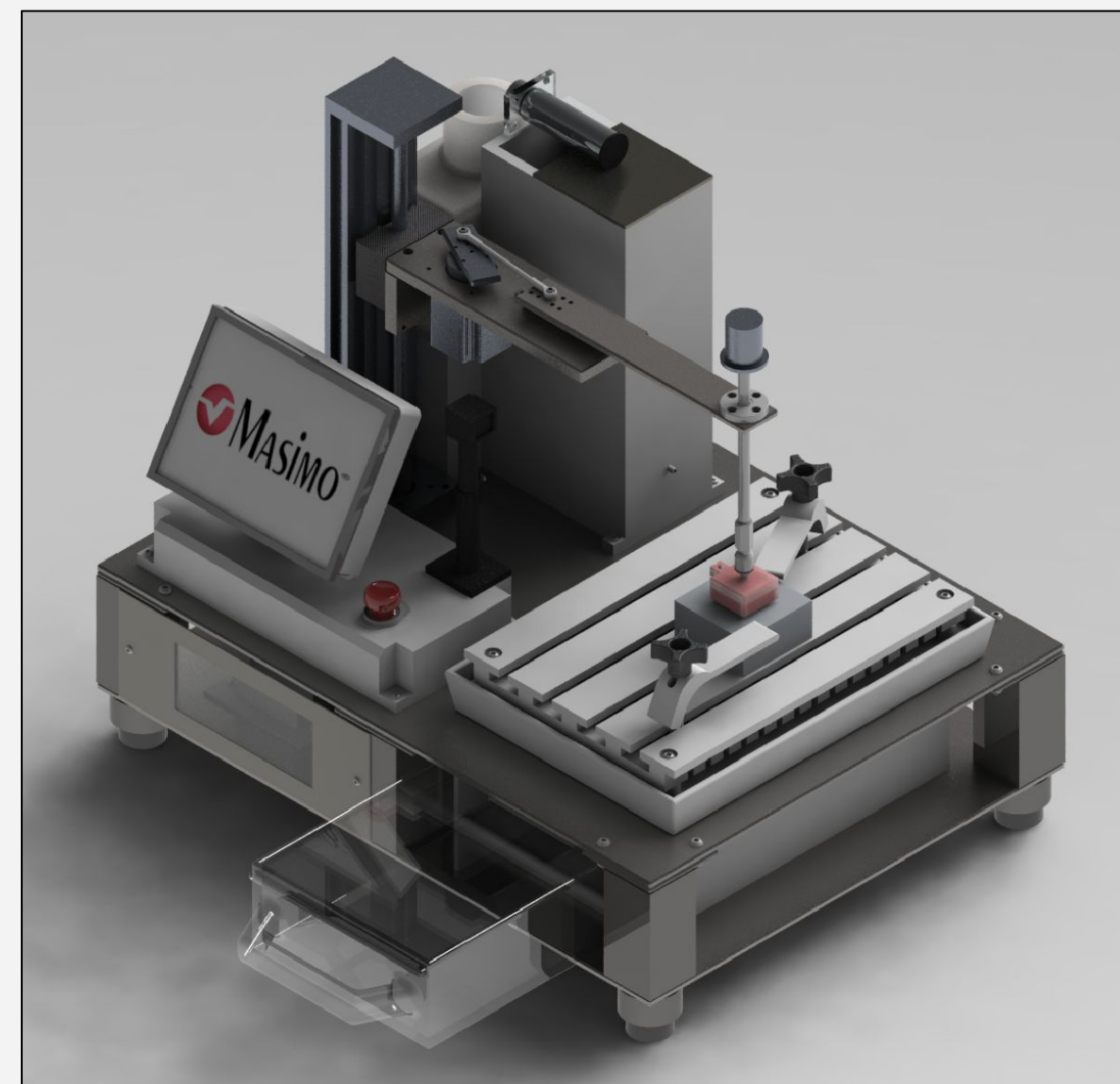
Aaron Ayala; Cesar Casas; Jason Ramirez; Jeanette Arratia; Allen Juliano



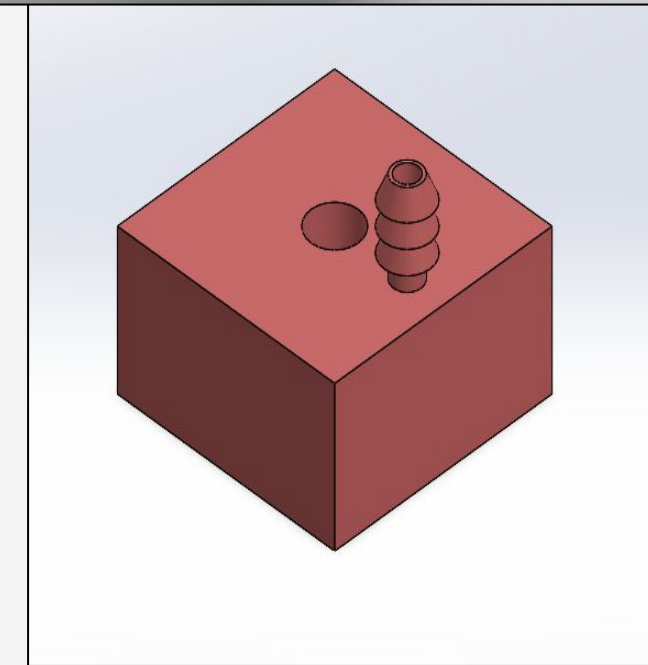
Abraham Arana; Donald Luu; Samuel Martinez; James Burton; Seba Alkandari

## CAD Models

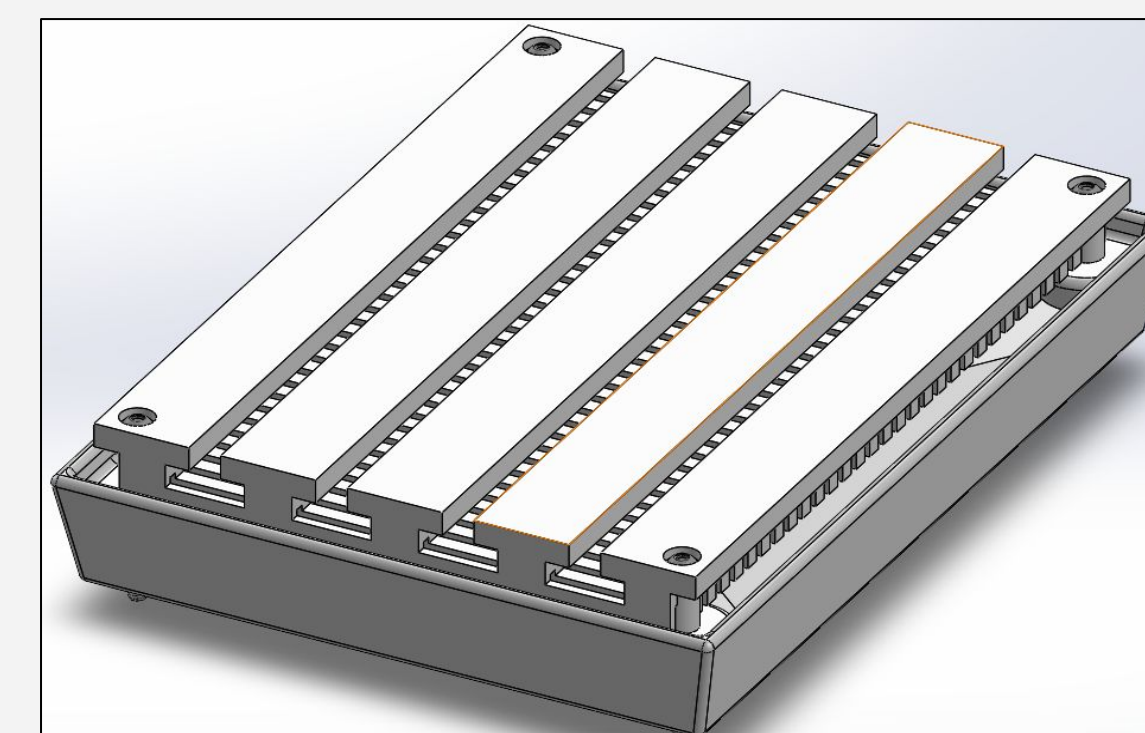
### Main Components:



Linear Motion Arm

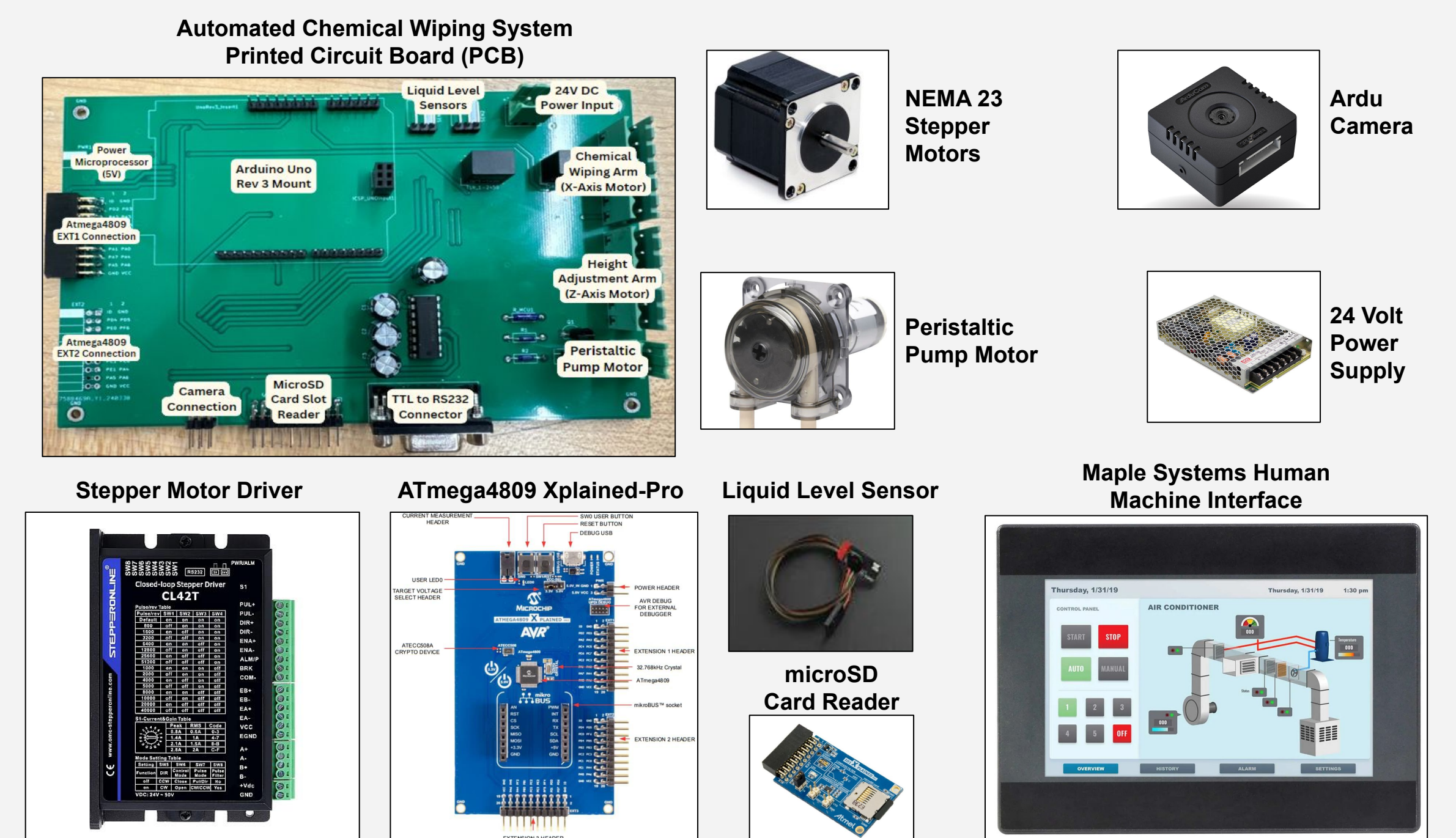


Sponge Holder

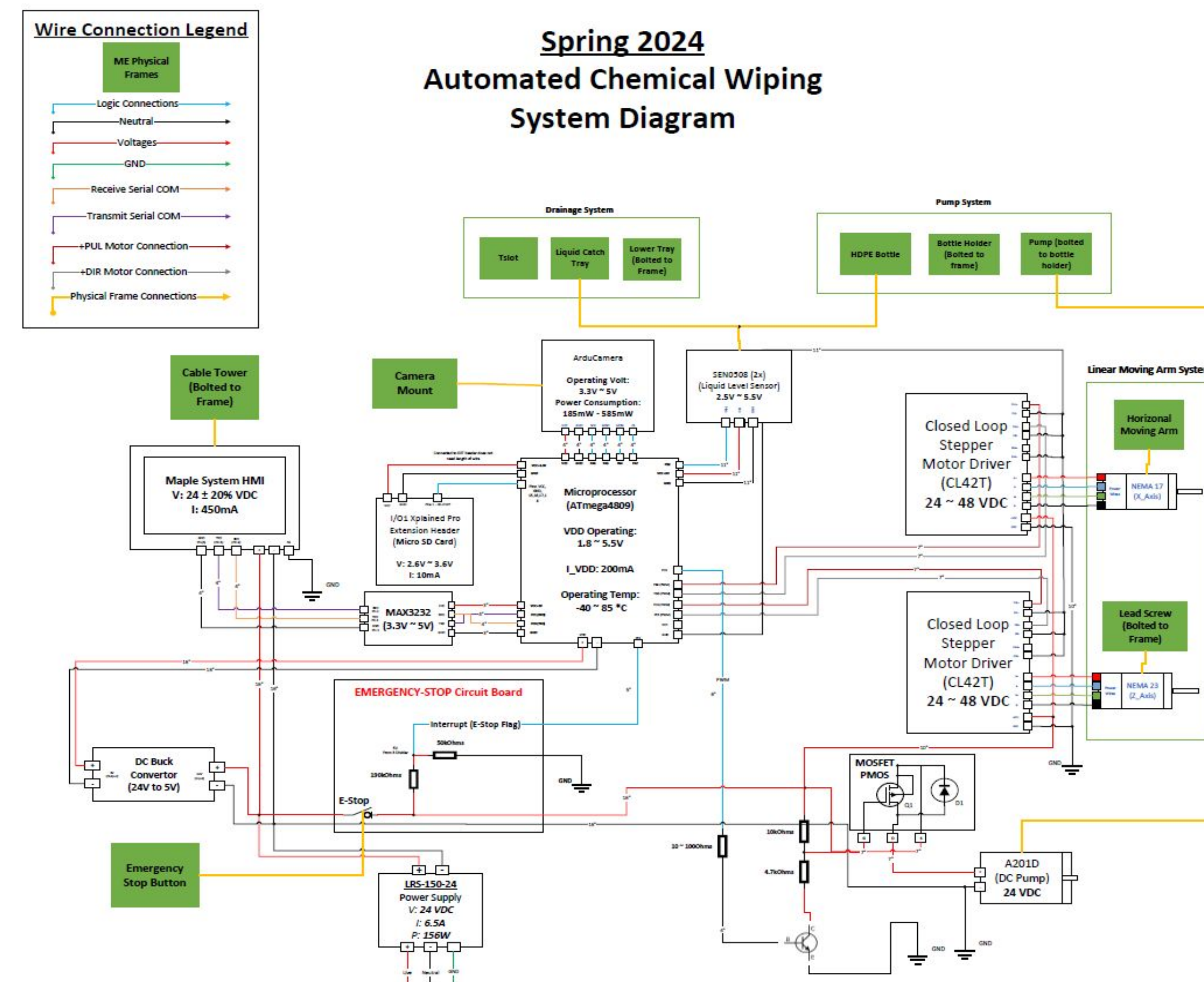


T-Slot Table

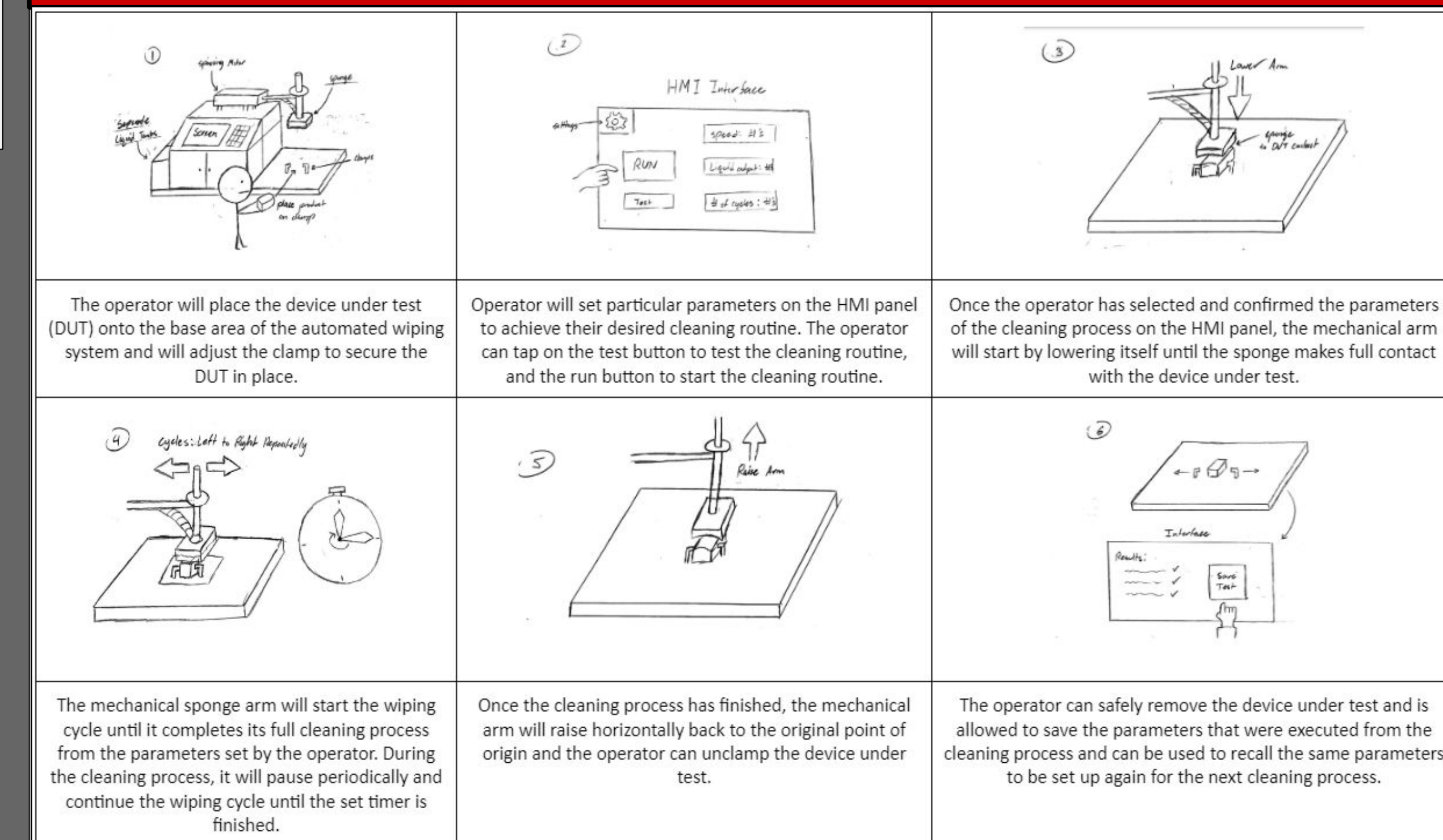
## Hardware



## System Level Diagram



## Use Case



## Acknowledgements

The team would like to thank Dr. Shaffar and Professor Dorr for arranging and advising this project. The team would also like to thank Masimo, specifically Glenn Pohly, Desmond Mok, Jack McCorkle, Jonathan Truesdell, and fellow employees for supporting us as the project advisors and sponsors.

Spring 2024