UCI Samueli School of Engineering | Department of Mechanical and Aerospace Engineering

EDI Engineering Design in Industry

Astrobotics

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Company Liaisons: Jesse Gillespie, Lee Wu, Susan Moran
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FANUC ROBOTICS

ADVANTEST®

Contact Information

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Astrobotics Team

Left to Right: Jess Gillespie, Jose Pereida, Christopher Khacherian, Jin Cho, Jennifer Tran, Kevin Wong, Frank Vu, Isabelle Cecillia, Lee Wu

Mechanical Development Tasks

- Design a workstation support the robot, and compatible with SST
- Design an end of arm tool with the ability pull/push the BIB tray, transfer DUT's, and workplace vision
- Design safety barriers to protect operators
- Design Pneumatic System which enables the end of arm tool to pick up DUT's using a suction cup

Electrical Development Tasks

- Design Electrical System/Wiring Diagram
- Source Electrical Components

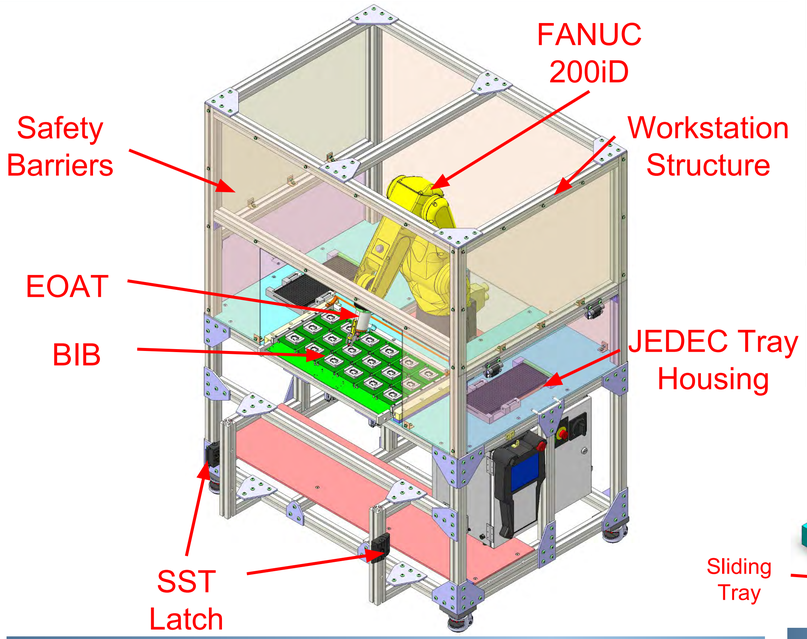
Software Development Tasks

- Program FANUC 200iD Robot Movements
- Integrate iR Vision into Robot Movement Program
- Develop Test Codes

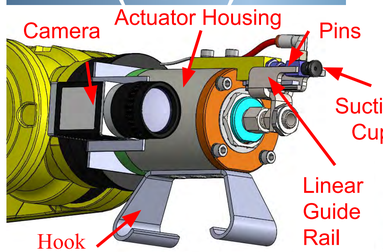
Market Demanded Solution

Advantest has developed a semiconductor test system, the Single Slot Tester (SST), to meet the demand of low throughput test systems in industry. However, the current SST requires a technician to individually place DUT's (Device Under Test) into the BIB (Burn In Board) from the JEDEC tray and vise versa. This results in hours of medial work. As a result, the goal of this project is to integrate Astronic's existing SST with a mobile FANUC six axis robot to fully automate the testing process.

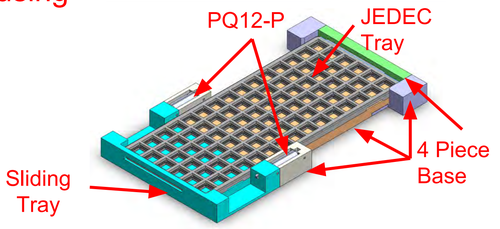
Automated SST



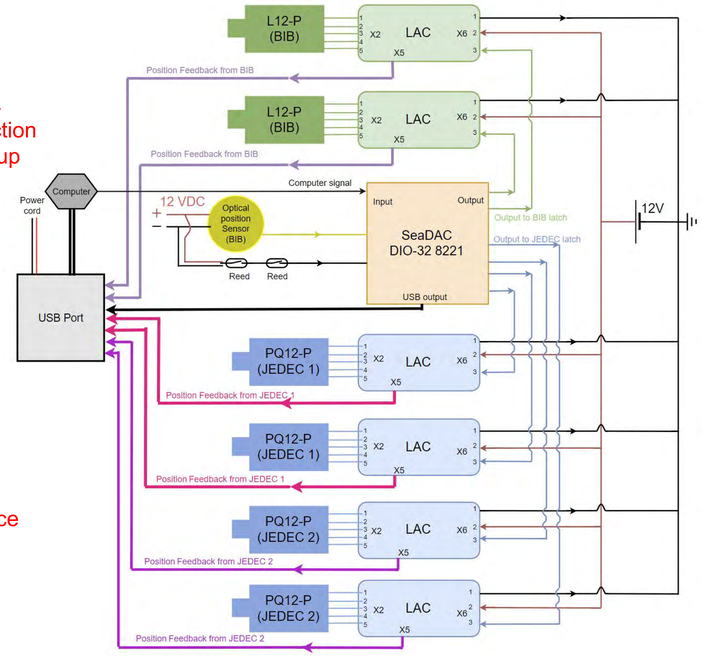
End of Arm Tool (EOAT)



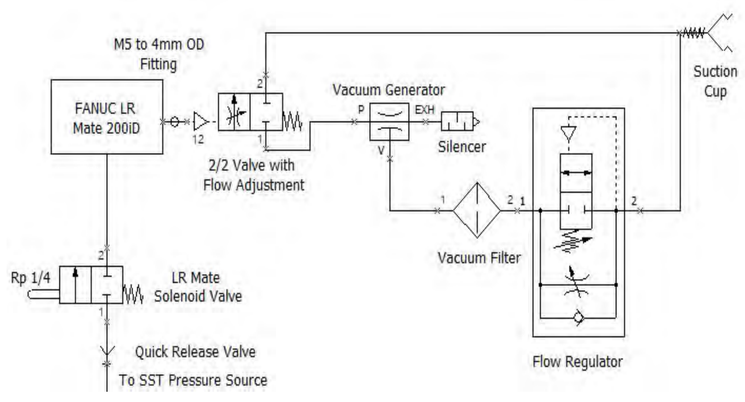
JEDEC Tray Housing



Workstation Electrical System Diagram

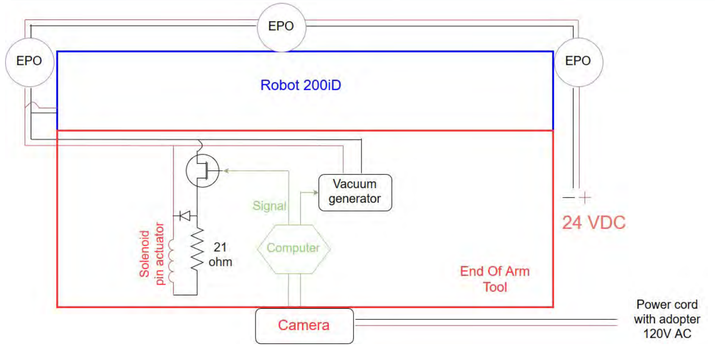


Pneumatic System Diagram



iR Vision

Robot Electrical System Diagram



Robot Programming Block Diagram