Tray Stacker and Destacker(TSD)

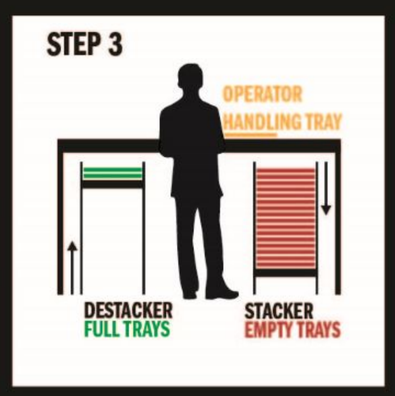
Created by STAX Engineering and Team Sostratous

Sponsored Masimosimo

San Diego State University

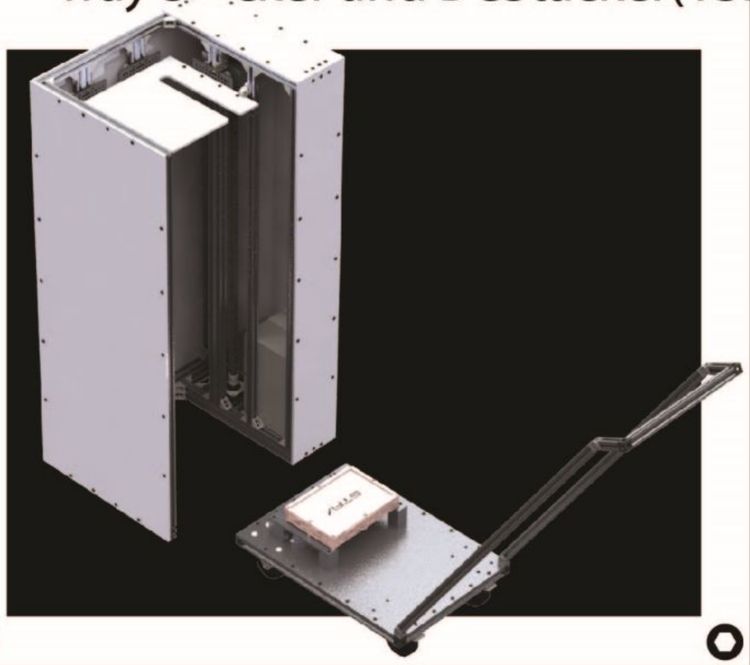
The Project

The Stax Engineering team, along with the sponsorship of Masimo, has developed the Automated Tray Tacker & De-stacker with the intent to improve the efficiency of Masimo's production line. The machine's design is similar to a 3D printer, where it utilizes rotational motion and converts it into linear motion through

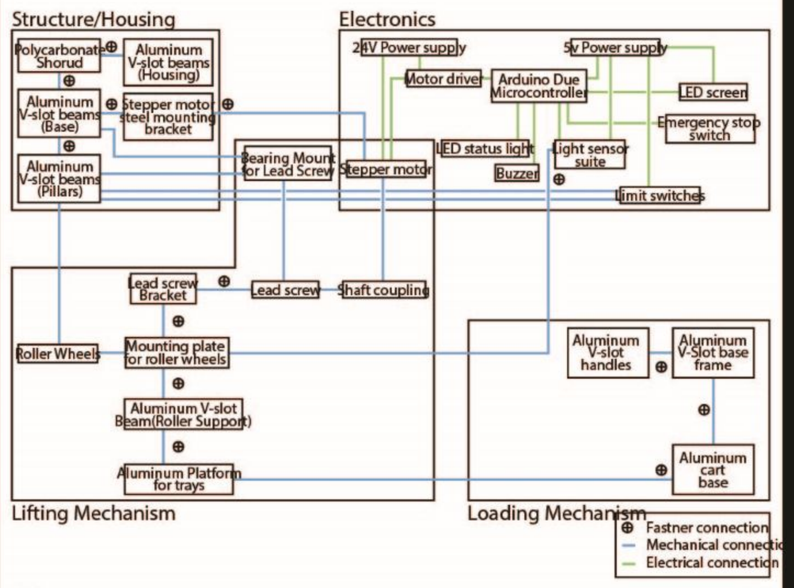


MAIN COMPONENTS

Tray Stacker and DeStacker(TSD

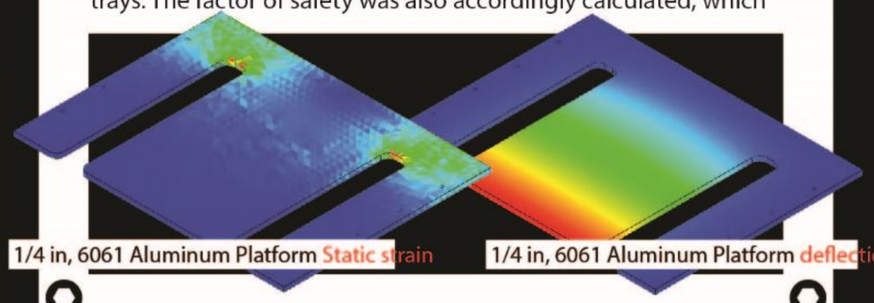


Systems Level Diagram



ENGINEERING ANALYSIS

Engineering analysis was conducted on the platform, which, is intended to hold a maximum of 100 N of force. Several different material options such as 7075 and 6061 aluminum in both 1/8 inch and 1/4 inch thickness were subject to Solidworks finite element analysis in order to determine the best possible material and thickness combination to support the maximum load of trays. The factor of safety was also accordingly calculated, which



THE TEAM

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