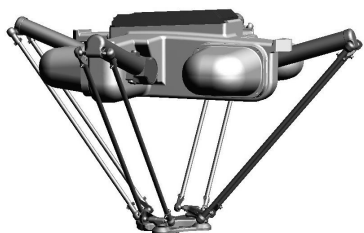


SOLAR PHOTOVOLTAIC INDUSTRY

THIN FILM CELL HIGH SPEED SORT AND BIN

■ The Situation

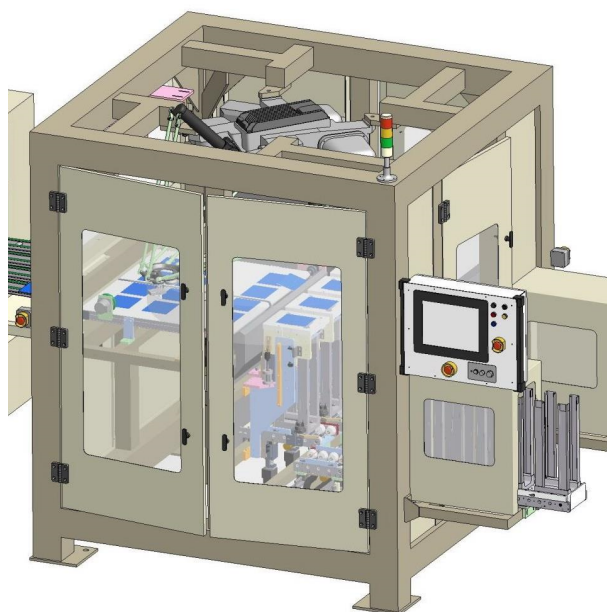
As a leading cell manufacturer's line throughput requirements continued to increase, the load and unload requirements for their PV inspection tools became more stringent. Higher throughputs require greater capacity and faster cycle-time, yet increasing yield demands gentle handling. Unique cell characteristics required innovative handling approach.



Delta Style 4 Arm Robot is
Extremely Fast for Light Payloads

■ The Challenge

Achieving the target cost of ownership required a line throughput of 7,200 cells per hour. Given the high throughput, fully automated cassette exchange to interface to factory automation was needed. Every cell and cassette must be individually tracked using RFID and barcodes.



High Speed Sort and Binning System for Thin Film Cells

■ The Solution

Owens worked closely with the customer to architect an automation solution to meet the unique handling requirements while still achieving 7,200 cells per hour. The fully custom solution utilized a delta style

robot for rapid cell transfer, multiple machine vision systems for identification and alignment, and a high capacity cassette exchange module. The system software provided full cassette and cell tracking.



Fully Automated Cassette Transfer
System Interfaced to Factory
Material Handling System



Cells Sorted Into Output Bins