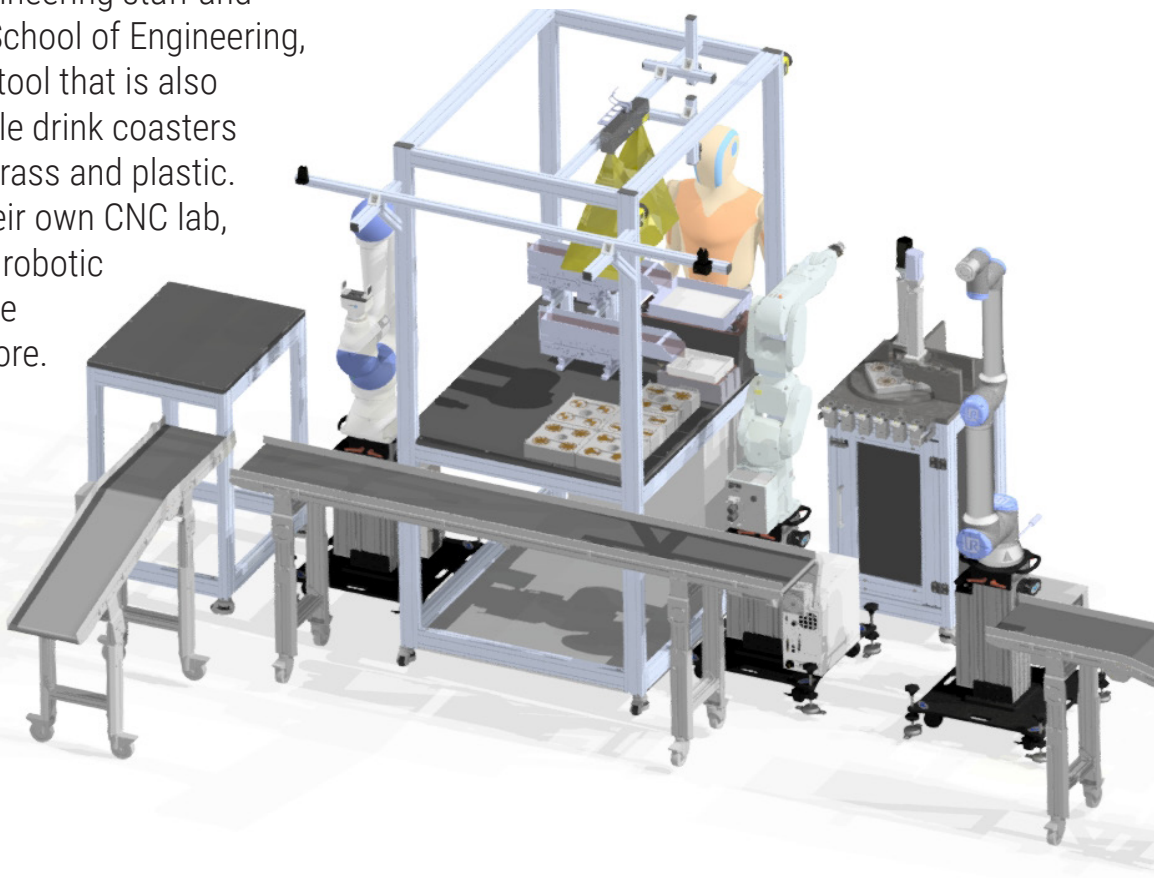
IMPACT AUTOMATION IA

PURDUE UNIVERSITY | Edwardson School of Industrial Engineering

Impact Automation has teamed up with one of the leading engineering schools in North America to create a student experience like no other.

In a collaboration of our engineering staff and the staff at the Edwardson School of Engineering, we have created a teaching tool that is also a production tool to assemble drink coasters machined from aluminum, brass and plastic. All parts are machined in their own CNC lab, to later be assembled in the robotic assembly cell and sold online and in the University bookstore.



Flexible Production Assembly Cell (Flex-PAC)

VENDORS & PRODUCTS USED:

Epson
Industrial Robots

Universal Robots
Collaborative Robot

Motoman
Collaborative Robot

Epson
Intelliflex Feeders & Vision

MechMind
3D Bin Picking

Cognex
2D Vision

Maytec
Aluminum Extrusion

Schunk
Grippers & Tool Changers

Yaskawa
Servo Motors

Opto22
EPIC Controller

Dorner
Conveyors

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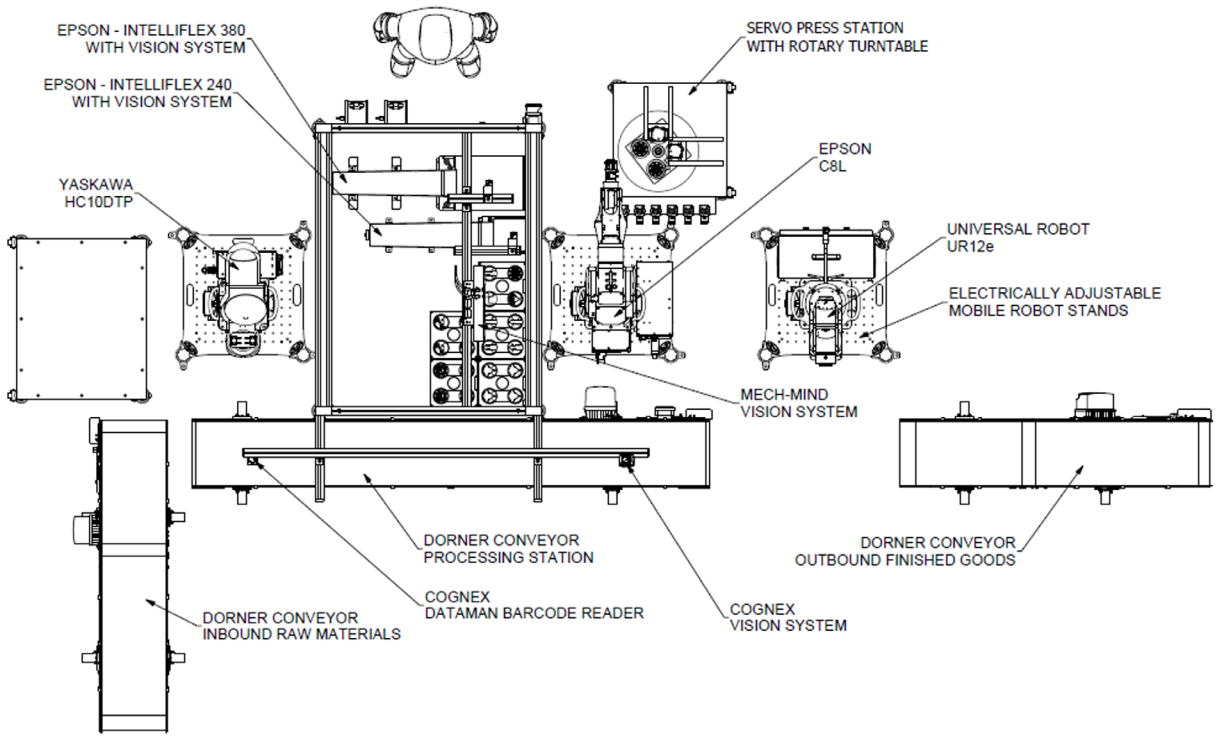

Objective

Create a flexible smart work cell capable of fully-autonomous, collaborative, or fully manual operations to be used across several IE undergraduate and graduate courses.

1. Machined raw pucks and various components from different areas are delivered via AGVs
2. Buffer inventory stored until needed
3. Control system determines requested product and verifies correct puck design via vision system and starts assembly operations
4. Cobot w/vision system picks corresponding required inlays located in shaker tables & bins
5. Cobot arranges inlay into puck and assembles via automated press
6. Finished pucks are palletized and transferred to VLM via AMR
7. Empty dunnage is returned to proper area via AMR

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