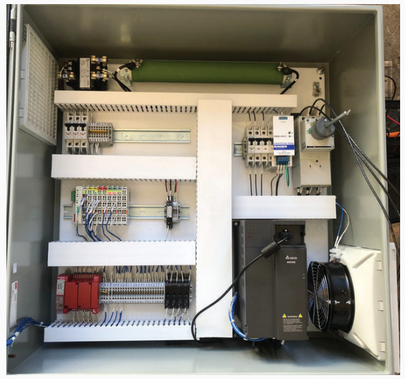
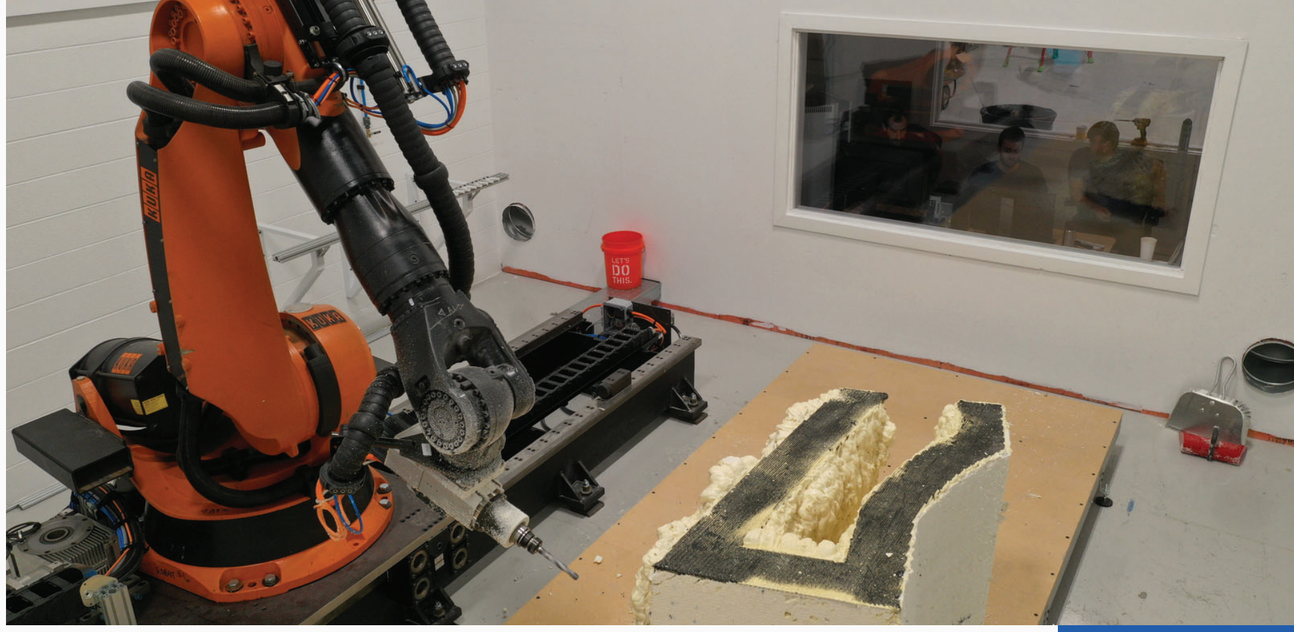
PROJECT HIGHLIGHT

5D ROBOTIC MILLING



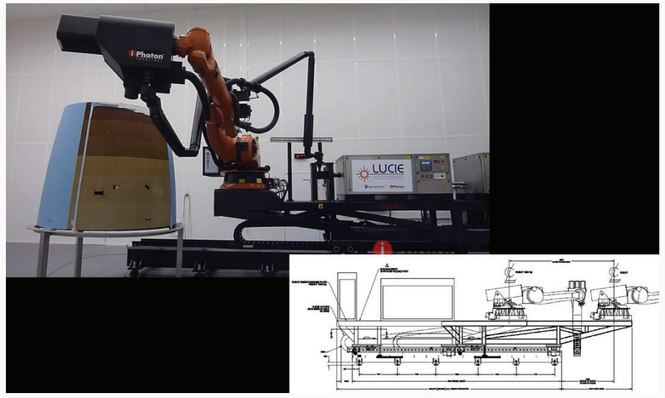


PROJECT OVERVIEW

Robotic high-speed cell is capable of milling unique, custom large-scale work-pieces from a CAD model. Working envelope is roughly 25' wide by 6' deep by 8' tall.

PROJECT HIGHLIGHTS

- Repurposed KUKA Robot
- Refurbished 9m rail
- Wago Remote IO
- Rockwell Programmable Safety
- HSD Spindle with Delta High Speed Drive



PROJECT BRIEF

This project involved the Design and Integration of a 5D Robotic Milling cell for a customer. The robotic cell is capable of milling unique, custom large-scale work-pieces. The milling envelope is roughly 25' wide by 6' deep by 8' tall. This allows the customer to mill and surface finish large-scale work-pieces from a 3D CAD model.

Arrington Automation was responsible for the full mechanical and electrical design of the system including selecting and locating a 7th linear axis for the existing customer robotic asset, mechanically designing and fabricating all tooling and fixtures to adapt the axis for use, and electrical design of all control and integration hardware. Setup and commissioning of CAD-to-Path software was also required to allow robotic program and toolpath creation from 3D CAD Models.

Full mechanical design and modeling of the entire robotic system was completed to provide a fully integrated robotic milling system including automated spindle/milling tool change. The designed and fabricated spindle drive panel included a Rockwell 440C Programmable safety relay for personnel safety and Devicenet Remote IO for full automation control via the KUKA internal software PLC.