

# 01 CASE STUDY

## Motor Drive Manufacturer



## Simultaneous engineering with the Wes-Tech team leads to value-added design.

Product design is an art in itself, but it can be difficult to ensure that the design is optimized for manufacturing automation. The Wes-Tech team are experts at simultaneous design, working with companies on the product and the automation equipment concurrently. This can help create a more sustainable design that is easier to produce, and can go to market more quickly. This case study is an example of one client that found a great deal of value when they worked with Wes-Tech.

### Challenge

A motor drive manufacturer needed to design a new, more efficient pump motor that was slightly different than anything they were already making, and a completely new line to manufacture and assemble the product. They also needed to integrate the ERP system into the new line to improve metrics and control of the process.

The European arm of the company gave them the design basics, but they were going to take ownership of their own process development for the first time. They wanted to partner with a U.S.-based company as a source for the manufacturing equipment, as well as a source of advice on how to make the product easier to assemble, and to create a more cost-effective design.

### Solution

Wes-Tech engineers worked concurrently to help the manufacturer develop their product while designing the line. Calling on our creative thinking abilities led to the development of a semi-automatic collaborative work station as part of a fully automated line that included standard and custom-designed features. For example, using our standard Tech Trak product as a base, we innovated to create two new modules: a pallet lift for improved ergonomics, and a side shuttle to remove pallets from the line for testing.

To solve the curing process inefficiency, Wes-Tech helped the company speed up the curing process with a novel heating method, and added robot tending on vertical racks where curing products could sit so they were not taking up floor space. Reduction in the size of the curing buffer also reduced the area and equipment required for containment – of volatile fumes emitted from curing process.

In addition, the company wanted to ramp-up production in phases, so the design needed to be flexible enough to add more volume as the product gains traction in the market.

When they learned about Wes-Tech's engineering skill, creative problem solving, and experience, from modular thinking, to cost effective design, to systems integration abilities, they were immediately interested. Partnering with Wes-Tech early in the process allowed them to take advantage of our engineering team's knowledge and experience **during the discovery phase and throughout the engagement.**

The design is modular, which kept the initial cost of equipment lower, but allowing easy modifications when needed. Phase one, already implemented, is expected to meet production volume for a few years, at which time they'll be able to add to the line and scale up production with minimum interruption to the business.

Wes-Tech was also able to add an interface to integrate the line into the plant network for automated management. Now the orders from the ERP system come directly to the machine, instructing it to produce any of four different variations of the drive, to change parts style on the fly, and to handle single parts produced to order or large batches depending on production volume requirements. At the end of the line, it can even track multiple pack-out locations so that **finished goods can be packed out and completed right at the line.**

## RESULTS / RETURN ON INVESTMENT

Part of Wes-Tech's comprehensive engineering solution is to design for assembly, with the goal to make the process and product more robust and reliable. The concurrent design process allowed vast improvements in the product and line designs that:



Made it easier and more cost effective to produce the product



Decreased potential health and safety hazards



Fit in a reduced footprint



Were part of a modular design for lower initial cost and easy scale-up



Integrated with the ERP system for more flexibility and control

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With decades of expertise solving complex manufacturing challenges, we will leverage more than 4,200 custom-engineered automation solutions to design the perfect one just for you. Experience the Wes-Tech difference.

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