


Vendor Consolidation Means Production Efficiency for Packaging Solutions OEM

A global manufacturer of semi-automatic and fully automated flexible packaging machines tapped EmbedTek to improve the design of two embedded systems in one of their high-volume machines. The results helped them transform an error prone manufacturing process into a quality-controlled environment with increased production.

EmbedTek was already engaged with the customer on an inventive engineering project that will create a competitive advantage in the packaging industry when this new opportunity presented itself. Our team of talented mechanical, electrical, and software engineers had demonstrated our ability to solve complex problems and develop unique solutions, so the customer asked if we could help tackle a few challenges on a packaging machine already in production.

The machine had two embedded systems – a human-to-machine interface (HMI) and a Printer Control Box – that consisted of multiple purchased components. Many off-the-shelf components were difficult to source, and the systems were time consuming and labor intensive to build. This combination of sourcing challenges and build time was impacting the entire operation, ultimately limiting the number of full machines the company could produce to keep up with demand.





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A More Elegant Solution

The HMI system was a touchscreen computer housed inside a Hoffman enclosure with additional controls and hard-wired push buttons for functions such as emergency stop. The HMI operates a bagging machine that fills and seals bags. EmbedTek replaced the unavailable off the shelf panel PC and separate enclosure with a fully integrated customer-specific HMI featuring a software-based programmable logic controller (PLC). The new HMI is a more elegant, branded solution manufactured by EmbedTek and delivered reliably as an easy-to-install sub-assembly. The solution consolidates multiple vendors and components into one SKU from EmbedTek to improve overall supply chain management.

Risk Reduction

The Printer Control Box consisted of a variety of off-the shelf and proprietary components, terminal blocks, and required hand wiring that was fraught with risk of error. Assembly was complicated and labor intensive. EmbedTek saw an opportunity to design a custom printed circuit board assembly (PCBA) to eliminate components and simplify the assembly process by converting the bare wiring that was hand-assembled to cable harnesses that are easily connected via bulkheads to the main PCBA. EmbedTek manufactures the Printer Control Box and supplies the cable harnesses, allowing our customer to focus on the proprietary components and streamlining production.

EmbedTek's engineering acumen helped our customer improve their established HMI and Printer Control Box designs to position them for scalable manufacturing. Our supply chain expertise will ensure we can deliver the sub-assemblies on time and as promised. Our lifecycle management program keeps the components – and bills of material – up to date throughout the life of each product.

Partnering with EmbedTek enabled our customer to remove the assembly of two systems from their production workflow and critical path, allowing them to utilize resources more effectively and get back to building more machines.

EmbedTek designs, invents, and manufactures computers, software, sensors, cameras, and displays for original equipment manufacturers. Our systems improve the quality of imaging in healthcare, simulation programs in the military, video analytics in security, and much more. Throw any challenge at us, from demanding environment and ergonomic requirements to High Level Assembly and nonstandard I/O. We'll evaluate it, carefully attack it, and solve it.