

Hagan Electronics Stays in Game with Wind River

Industrial Leader Meets Current, Future Customer Demands with Wind River Engineering Solutions and VxWorks

Industry leader Hagan Electronics, which has been in business for 46 years, develops computerized sizers that measure the dimensions and quality of fruits and vegetables for manufacturing operations. Hagan's products are used around the globe, and many customers have depended upon the same Hagan machinery for consistent, reliable results for more than 30 years.

The company's cornerstone product is the Hagan Computerized Slide Ejection Photo Sizer—a versatile, fast, accurate machine that can be programmed to sort and pack various fruits and vegetables by size, shape, and quality. This translates into higher profit margins for manufacturing organizations because they can sell more products at higher prices when they are packaged and presented in an eye-pleasing manner and avoid expensive return shipments due to poor quality.

Key Hagan products that interface with the sizer include an ejection system that carefully distributes produce to the proper stations and an inline X-ray that automatically detects "hollow hearts," or pockets of decay, in potatoes. The X-ray display shows the total number of scanned products, the total number rejected, and the percentage rejected.

Hagan Sizes Up Business-Critical Problem

When a Hagan hardware supplier discontinued its legacy target hardware running VxWorks 5.4, the company found itself in a serious quandary. With a key communication card that needed to be replaced in more than 800 sizers in the field, new customer orders flowing in, and a lack of internal engineering resources, Hagan needed to find a new supported VxWorks solution—fast—to keep existing machines running and meet time-to-market demands for new products.

"With Wind River engineering solutions, we were able to solve a problem that, left unsolved, would have ended our company. We also gained a partner that will help us be more successful in the future as we upgrade systems in our product line."

—Jim Hagan Jr., Operations Manager,
Hagan Electronics

Company Profile: Hagan Electronics

- Industry leader in computerized produce sizers for manufacturing organizations
- Headquarters in Reno, Nevada
- Privately held

Industry

- Industrial

Solutions

- Wind River General Purpose Platform, VxWorks Edition 6.7
- Wind River Engineering Solutions

Results

- Enabled the delivery of new products as well as fixes for 800 machines in the field, saving the company from closure
- Delivered products ahead of schedule—within 53 days in a critical 90-day window
- Reduced overall cost of the required engineering solution; no need to hire engineering staff
- Inherited an extended staff of reliable, qualified experts to be leveraged as needed to meet future business requirements

"The timing couldn't have been worse," says Operations Manager Jim Hagan Jr. "If we didn't deliver before harvest time, our customers would go elsewhere. Basically, failure to deliver would have been fatal to our company. There would no longer be a Hagan."

With only 90 days to deliver, Hagan first turned to local engineering resources, but none of these individuals could handle all aspects of the project within the aggressive time frame. At that point Hagan turned to Wind River engineering solutions at the recommendation of a Hagan engineer who had worked with the company in the past.

Wind River Engineers Arrive on the Scene

"Wind River engineers quickly arrived onsite to discuss the challenges at hand," Hagan says. "We were pleased with the way they handled the initial meeting. They were knowledgeable and confident. They explained their approach and stressed that it would be an easy fix, which at that point was music to our ears."

Wind River engineers got down to business. First they upgraded Hagan to Wind River General Purpose Platform, VxWorks Edition 6.7 to support next-generation boards and business needs. The migration from version 5.4 to 6.7 was completed in a short time frame with minimal risk. Then they addressed other Hagan requirements, including multidrop serial network challenges. For example, a key part of the project involved replacing an obsolete communication card between the electronics and PC and making software modifications so the card would function with the hardware.

Another challenge was that the Hagan system combines Windows and VxWorks. The Wind River team carefully swapped out VxWorks pieces without changing the pieces that run on the Windows host computer.

Within 53 days, the system was updated and new products were ready for release—well ahead of the critical 90-day deadline.

"It would have been impossible to find a local engineering resource that could handle all these aspects of the job," Hagan says. "Wind River understood our complex requirements and delivered remote and onsite resources to quickly address our issues."

Hagan Gains Cost-Effective Engineering Arm

Hagan says the lead Wind River engineer was worth his weight in gold—and left a legacy with technology and knowledge transfer designed to benefit Hagan not only today but into the future.

"The lead engineer was extremely intelligent and easy to work with," Hagan says. "He explained the patches he was making and why they needed to be made. He was careful to explain every step of the process so we would know what to do if anything went wrong in the future."

Initially, Hagan was concerned about the expense of using Wind River engineering solutions. But he quickly realized that Wind River offered not only the most viable solution but also the flexibility to get staffed quickly and pay for services only as they were needed. Hiring Wind River for a small window of work was far more cost-effective than hiring an entire engineering staff to upgrade and maintain the new system.

"With Wind River engineering solutions, we were able to solve a problem that, left unsolved, would have ended our company," Hagan says. "We also gained a partner that will help us be more successful in the future as we upgrade systems in our product line. We're constantly challenged with the need to evolve to meet customer needs. With Wind River at our side, we have the confidence that we'll be able to deliver."



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