



BACHMANN ACHIEVES RECORD EFFICIENCY WITH WIND RIVER VxWORKS

Wind Power Automation Leader Meets Stringent Goals for State-of-the-Art, Next-Generation Controller System

Company Profile Bachmann electronic

Industry

- Industrial automation

Solutions

- Wind River VxWorks
- Wind River Professional Services

Results

- Reduced time frame, costs, and risks while developing a state-of-the-art controller system operating environment
- Met stringent real-time determinism requirements
- Developed compatible replacement products for legacy components

Bachmann electronic is the No. 1 supplier in wind automation, with more than 60,000 installed systems and more than 50% market share. The company also offers innovative solutions in the renewable energies, machine tools, and marine business sectors. Bachmann works with open systems and provides holistic automation solutions.

THE CHALLENGE

In 1998, Bachmann began its search for a platform vendor to help develop its next-generation M1 controller system.

“This was a complex industrial system and we had a short time-to-market window,” recalls Martin Greif, head of Bachmann’s R&D and Automation units. “Our challenge was to shorten the software-development life cycle and reduce expenses while maintaining high quality. We knew it would be a balancing act to achieve greater speed, increased efficiency, and lower cost within an acceptable level of risk.”

To meet these stringent goals, Bachmann needed an open, PC-based, high-quality real-time operating system (RTOS) and a system architecture for real-time networking. The project required low latency, high performance, and networking protocols. Only a state-of-the-art open environment would enable Bachmann to easily configure the system and get its end customers up and running quickly.

THE SOLUTION

After extensively evaluating OS vendors and in-house solutions, Bachmann selected Wind River® VxWorks®. Now, 14 years later, Bachmann continues to be very satisfied with the Wind River solution and services.

With Wind River VxWorks, Bachmann gained end-to-end development and run-time platforms based on open standards that make it possible to consolidate, integrate, and manage complexity while mitigating risk. Wind River solutions enabled the company to meet stringent real-time determinism requirements while taking advantage of the flexibility and cost benefits of open standards.

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— Martin Greif, Head of R&D and Automation Units, Bachmann

“With Wind River, we achieved a robust off-the-shelf foundation featuring OS agnosticism; safety and security solutions; and pre-integrated, industry-specific platforms with a rich set of middleware,” Greif says. “In addition, Wind River offers an independent software vendor (ISV) partner ecosystem and services practice that help us speed up, build out, and customize our solutions.”

The M1 controller system, standardized on Wind River VxWorks, includes a wide range of modules for digital and analog I/O, network connectivity, fieldbuses, safety, and processor modules. The processor modules provide a robust, scalable, and flexible solution and leverage a range of Intel® processors, including Intel Atom. By combining the processing suite offered by Intel and Wind River, the M1 can be used in applications requiring any combination of programmable logic controllers (PLCs), motion controllers, connectivity, and data management. The M1 is used in wind turbine applications but can also be used in a range of energy applications that require a safe, secure, and reliable intelligent device.

“As our devices expand beyond the traditional embedded device to intelligent devices, our challenge is to cost-effectively develop solutions that meet safety, security, and reliability requirements while still meeting time-to-market goals and containing operational expenses,” Greif says. “This was certainly the case with the M1 project, and Wind River helped us meet all of these goals.”

RESULTS

Wind River offered a complete solution, including the products, support, and services Bachmann needed to address all aspects of its product development life cycle. With Wind River, Bachmann had a state-of-the-art operating environment installed and up and running for its customers within a short time frame.

“The open-standards-based M1 system is highly flexible and configurable to meet specific customer needs,” Greif says. “We provide outstanding value to our customers by delivering a higher-quality product that can be implemented very efficiently and with no failures.”

In the automation solutions industry, it’s important to seamlessly introduce replacement components to systems when legacy components are no longer produced. Many production plants run the same systems for 10 to 15 years and they want to minimize the expense of new system components. Support from Wind River in developing compatible follow-on products for end-of-life components is crucial to Bachmann.

“By using Wind River VxWorks, Bachmann achieves 100% compatible replacement products for systems, which greatly reduces costs,” Greif says.

Wind River Professional Services played a key role in Bachmann’s success, enabling Greif’s team to stay focused on core competencies and ultimately deliver a market-leading system.

SUMMARY AND FUTURE PLANS

Wind River enables Bachmann to deliver innovative, reliable products in shorter time and at reduced cost.

“We view Wind River as a long-term, trusted, risk-free partner and plan to extend our collaboration by getting Wind River involved earlier in the development process,” Greif says. “Together, we will share roadmaps and identify new opportunities.”

WIND RIVER