**Company Profile**

**Comau Robotics**

**Industry**
- Industrial robotics

**Solutions**
- Wind River Platform for Industrial Devices
- Wind River Professional Services
- Wind River Education Services

**Results**
- Achieved 30% better performance, 20% higher quality, and improved integration
- Reduced development time by 30%
- Reduced testing and qualification costs
- Stayed within original budget

Comau Robotics designs automated integrated solutions, offering a complete range of high-performance, innovative industrial robots. The company has four decades of experience in advanced manufacturing systems, sustainable automation, and service solutions.

With a strong history in the automotive industry, Comau has continued to expand. Today the company’s technology is applied in a range of industries and applications, including industrial automation, body welding, machining and mechanical assembly systems, and a broad offering of industrial robots and solutions.

**THE CHALLENGE**

SMART5 is the latest generation of Comau robots, covering all payload categories and applications. Robotized cells and process-integrated solutions employ the latest technology, ensuring reduced overall dimensions, larger working volume, high-precision movements, and positioning accuracy. They also offer extreme flexibility as they can be customized to fit the specific goals of customers. Applications include welding, foundry, handling/palletizing, and sealing/gluing.

When launching the C5G project, the fifth-generation SMART5 control unit, the Comau robotics design team faced several challenges. It needed to control costs to remain on budget while delivering extremely high levels of quality, performance, and reliability. High-precision movements and positioning accuracy were crucial.

**THE SOLUTION**

“We selected Wind River® Platform for Industrial Devices because VxWorks® delivered the required levels of performance, reliability, safety, and security for our industrial robots and solutions,” says Luca Lachello, software engineering manager, Comau Robotics. “We had a long-standing relationship with Wind River going back to 1999 when we standardized on a commercial off-the-shelf solution, and we were confident the company could help us face our challenges.”

In addition, Comau’s automation devices provider, B&R, suggested that Comau work with Wind River to customize the board support package. Comau was using B&R as its industrial PC provider based on a multi-core Intel® processor. This established partner ecosystem was further proof that Wind River offered the best combination of hardware and software solutions to meet the project requirements.
During the engagement, the Comau design team also used Wind River Professional Services and Wind River Education Services. The team received security training and relied upon the Wind River team’s technical skills and knowledge base.

“Wind River’s global footprint and strong technology heritage in the industrial control automation and robotics market segments set them apart from the rest,” Lachello says. “By implementing VxWorks, we laid the foundation for a technological relationship that will provide us with long-term competitive advantages.”

RESULTS
The C5G is 50 times faster than the previous version. Using VxWorks, it runs peripherals control software, application software, and real-time functions on an advanced multi-core architecture. The C5G modular hardware architecture has been designed to simultaneously manage several robots, running a variety of advanced motion algorithms.

The system’s high processing power, low power consumption, and power failure recovery functionality are made possible by VxWorks, and demonstrate Comau’s practice of building highly innovative and reliable automated solutions for the market.

“With Wind River, we reduced development time by 30%, offered differentiated value to our customers by providing 30% better performance and 20% higher quality product and improved integration, and reduced testing and qualification costs,” Lachello says. “We accomplished all of these goals within our original budget, which was lower than the previous-generation product.”

SUMMARY
Wind River helped Comau focus on delivering differentiated and powerful robot control units by providing the foundational technology required to successfully introduce a complex product to market.

“We would recommend Wind River as a strong partner with a strong link to the semiconductor ecosystem and a reputation for technology leadership in the industrial control automation and robotics market space,” Lachello concludes. “Wind River also has a strong local presence with team members who speak our Italian native language, and they are all well-trained, professional, and focused on problem solving.”