Wind River Speeds to Victory With Formula One; VxWorks is the First Software Platform to Achieve FIA Approval

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16 April 2002 - London, UK - Wind River, a leading provider of software and services for connected devices, has announced that its VxWorks embedded real-time operating system (RTOS) has been officially approved by the Federation Internationale De L'Automobile (FIA) for use in the Formula One World Championship.

The FIA is the worldwide governing body for motor sport including the Formula One World Championship, World Rally Championship, Formula 3000 International Championship, GT Championship, European Touring Car Championship, and Sportscar Championship. To ensure safety and a level competitive environment amongst the racing teams, the FIA conducts one of the most rigorous inspections of engine system software in the world. This is the first time a commercially-off-the-shelf operating system has been approved for Formula One or any type of motor sport.

"Approval of the use of VxWorks in the Formula One cars shows both that a commercial off-the-shelf operating system can meet the stringent demands of the FIA organisation and that Wind River is meeting the needs of the Formula One motor sport car manufacturers," said Tom St Dennis, president and CEO of Wind River. "Our involvement with Formula One racing is just one example of Wind River's innovative work in the automotive industry worldwide."

Approved Use of Commercial Embedded Technology Brings Innovation To Motor Racing

The FIA approved the use of programmable electronics, or embedded systems, to aid the driver in Formula One racing, subject to exact traceability of the source code. For the 2002 season the FIA has allowed two-way telemetry between the car and pit lane, enabling the electronics set-up of the car to be modified during a race.

A Formula One car contains dozens of microprocessors, or embedded computers. Until now Formula One teams have had to develop their own operating system and application software for each of these microprocessors and submit each system to FIA scrutiny. Now that Wind River's VxWorks operating system has been FIA approved, teams will be able to focus solely on the development of applications to improve the performance of the car.

Wind River Partnership with Magneti Marelli Motor sport

Magneti Marelli Motor sport, the supplier of engine and vehicle management systems to the leading Formula One teams, collaborated with Wind River to assist the FIA in reviewing the VxWorks source code. The inspection was carried out at Wind River offices in Turin, Italy.

"Magneti-Marelli telemetry systems, powered by the VxWorks operating system, are currently used by the Ferrari, Renault, Toyota, and Minardi Formula One racing teams," said Giancarlo De Angelis, director, Magneti Marelli Motor sport. "Our development teams chose Wind River's technology because of its proven functionality, reliability, and value. In order to quickly develop systems to be used in Formula One, we needed a strong, robust solution that would allow us to be up and running quickly and easily, while providing the technology needed such that we could leverage off the shelf components."

"VxWorks' built in networking connectivity enabled systems monitoring and control of different sub-units on the Formula One car, making data automatically available to the race engineers in real-time through the standard and open TCP/IP protocol," said De Angelis. "This connectivity may be via a wired connection between sub-units on the car, a radio link between the car and the race engineers located in the pit lane, or even through the use of a satellite from the garage to the design group at the team headquarters."

Wind River's development tools are already widely used in the development of software by many teams competing in Formula One. Wind River software can also be found in a wide range of commercial applications including engine control and in-car infotainment.

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About Wind River

Wind River is a worldwide leader in integrated embedded software solutions for creating reliable and innovative connected devices. Wind River provides development tools, real-time operating systems, and advanced connectivity software for use in products innetwork infrastructure, digital consumer electronics, automotive, industrial, and aerospace/defense markets. Wind River is How SmartThings Think. Founded in 1983, Wind River is headquartered in Alameda, California, with operations worldwide.

Additional notes for non technical press

Wind River develops operating systems and tools that allow customers to create complex, robust, real-time software applications for embedded computers. An embedded computer is a microprocessor that is incorporated into a larger device and is dedicated to responding to external events by performing specific tasks quickly, predictably and reliably. Embedded systems provide an immediate, predictable response to an unpredictable sequence of external events. Wind River's products enable customers to enhance product performance, standardise designs across projects, reduce research and development costs and shorten product development cycles.

Supporting Materials

The following materials are available to support this announcement. Please e-mail windriver@rainierco.co.uk for copies of any of the materials.

* image of a Formula One car

* schematic diagram showing telematic system within a Formula One car

* article discussing Wind River's role within Formula One and broader automotive applications

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