# Freescale and Partners Launch Reference Platform to Streamline Development of Programmable Logic Controllers

The Associated Press

BEIJING--(BUSINESS WIRE)--Aug 13, 2012--Freescale Semiconductor (NYSE: FSL) has collaborated with industrial technology partners to develop an advanced programmable logic controller (PLC) reference platform based on Freescale's dual-core QorIQ P1025 processor. The reference platform integrates well-established EtherCAT ® protocol software from KPA, PLC Firmware from ISaGRAF©, and the QNX ® Neutrino ® real-time operating system (RTOS) to boost the functionality, reliability and performance of control applications communicating via the EtherCAT protocol.

"PLCs automate critical systems that clean our drinking water, process food, create and distribute energy, synchronize transportation and manufacture a multitude of important products. We see PLC demand growing fastest in developing regions," said Alexandra Dopplinger, industrial segment director for Robotics and Automation at Freescale. "This comprehensive new reference platform is based on the latest technology from industrial technology leaders and will speed and simplify creation of advanced PLC equipment." A demonstration of the PLC solution is on display at the QNX booth during this week's FTF China event in Beijing.

The PLC reference platform delivers millisecond response times for EtherCAT tasks, while using just one percent of one core in the dual-core QorIQ P1025 processor. This leaves ample performance headroom to run both the communications protocol and the control application in a single device. Customers may also choose to distribute processing functions across two cores, or isolate real-time control functions on one core while running maintenance and communications functions on the other core. And for more complex control algorithms, Freescale's QorIQ P1 processor family offers pin-compatible single-core variants for cost reduction, and dual-core variants that scale up to 5,700 million instructions per second (MIPS).

The ISaGRAF PLC Firmware allows developers to easily create feature-rich control systems based on industry-standard control languages such as IEC 61499 and IEC 61131-3. This allows easier migration of existing applications to new platforms based on QorIQ processors and the QNX Neutrino RTOS. ISaGRAF provides a complete control application development environment called the ISaGRAF 6 Workbench, which features plug-ins for features such as IEC 61131-3 compliant languages, an integrated HMI, and the KPA Studio for integrated EtherCAT slave management. ISaGRAF's modularity allows customers to create a customized Workbench, with only the functionality required for their control product.

The QNX Neutrino RTOS has a proven track record in programmable logic controllers, train-control systems, wind turbines, nuclear plants, building

management systems, process automation systems and other mission-critical environments. It offers both adaptive CPU partitioning and multicore support and brings key qualities to automation and control systems, including process isolation, scheduling predictability, and self-healing mechanisms.

“OEMs in industrial control applications are challenged by increasingly compressed time-to-market windows and the need to cost-effectively maintain and evolve these systems over long product lifecycles,” said Bob Monkman, director of Business Development for QNX Software Systems. “QNX Software Systems provides an ideal operating system platform for reliability and easier programming of industrial control systems. A pre-integrated reference design platform combining the QNX Neutrino RTOS with Freescale, KPA, and ISaGRAF solutions represents an extremely compelling offer to meet these challenges.” The KPA EtherCAT master and slave modules daisy-chain to eliminate switches and routers for reduced complexity and cost for factory automation, process control, industrial drives, motion control and safety devices. The KPA EtherCAT Master offers easy-to-use hard real-time performance, configuration and network activity monitoring capabilities. It is implemented in C for high performance, with scalable EtherCAT features such as cable redundancy, hot connect and multiple master. The KPA EtherCAT Studio tool is available to help developers easily configure and debug the EtherCAT network, with features such as data logging with triggering, timing analysis without external tools, project comparison and topology viewer.

The PLC reference design is based on Freescale’s QorIQ processors, which include single-, dual- and many-core options, with integrated support for communication protocols such as EtherCAT, EtherNet/IP™, PROFINET and PROFIBUS. Freescale control and network processor solutions are engineered to meet the challenging safety, security and reliability requirements of manufacturing, processing and critical infrastructure facilities. Ruggedized Freescale processors are frequently selected for industrial control, sensing, networking and human-machine interface (HMI) applications in smart grid and smart metering, health care, factory automation and drives, motor control, home appliance, building control, point-of-sale and kiosk, aerospace and defense and industrial transportation markets.

The PLC reference platform is supported by powerful development tools from all four companies, including the KPA EtherCAT Studio, ISaGRAF 6 Workbench, QNX ® Momentics ® Tool Suite and Freescale CodeWarrior Development Suite.

Pricing and availability The PLC Reference Platform is based on the Freescale Industrial Tower System, available for purchase directly from Freescale and distribution partners for $199 (USD) (suggested resale price).The complete reference platform, including hardware, software and evaluation tools is available now, as described at www.freescale.com/goPLC.

About Freescale Freescale Semiconductor (NYSE: FSL) is a global leader in embedded processing solutions, providing industry leading products that are advancing the automotive, consumer, industrial and networking markets. From microprocessors and microcontrollers to sensors, analog integrated circuits and connectivity – our technologies are the foundation for the innovations that make our

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