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PRESS RELEASE

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Announcing NI myRIO and Quanser QUBE-Servo, a Complete Controls Teaching Bundle

Press Release, June 2014 – National Instruments and Quanser announced the availability of the Quanser QUBE-Servo through NI. The NI myRIO device paired with the new Quanser QUBE offers educators a turnkey, lab-ready solution to teach control concepts by doing engineering. Featuring modular, customizable courseware that adapts to most modern controls curricula, NI myRIO and the QUBE seamlessly integrate with NI LabVIEW Real-Time for high-performance, real-time control applications. Together they form a platform that scales across multiple courses—from introductory control concepts to mechatronics and embedded control systems—using one toolchain.

The QUBE is a brushed DC servomotor developed specifically as a control plant for teaching undergraduate control theory. Its compact form factor is paired with two magnetically connected accessories—an inertial disk for introductory concepts such as PID control and an inverted pendulum for advanced concepts—to form a flexible and complete solution for controls labs.

Educators can use NI myRIO and the QUBE to teach controls right out of the box. Designed specifically to integrate with NI myRIO, the QUBE plugs directly into the MXP port on the NI myRIO with included cabling. The software experience is similarly integrated. The Quanser Rapid Control Prototyping (RCP) Toolkit works seamlessly within NI LabVIEW software. Combined with the NI LabVIEW Control Design and Simulation Module and NI LabVIEW Real-Time Module, the Quanser RCP Toolkit simplifies all the programming needed to interface with hardware. Students benefit from the ability to focus on learning controls, not on developing drivers.

This hardware and software bundle includes ready-to-run courseware as well, furthering its out-of-the-box functionality. Quanser and NI have ensured that this courseware is relevant to a majority of undergraduate controls laboratories by taking steps to map each exercise to specific sections of eight commonly used controls textbooks. Not only is the courseware ready to teach out of the box, it is also modular and digital for easy customization.

The courseware includes guidelines for modifying modules or developing additional modules, so instructors can alter it to address their specific course needs. Learn more, including the topics covered, by downloading a sample of the [QUBE courseware](#).

Bundling the NI myRIO and the QUBE means students can gain hands-on experience with LabVIEW and NI's industry-standard reconfigurable I/O (RIO) platform while simultaneously obtaining a rigorous introduction to control theory. Honing skills in embedded programming and control system design prepares students for the challenge of embedded system design, whether they face it in final year design with NI myRIO or in industry with the NI CompactRIO platform. The experience that these students have "doing engineering" with NI myRIO and the QUBE helps them develop more complex and precise control algorithms and gain a deeper understanding of how to program embedded systems. Given that control systems in industry are trending toward increased complexity, a controls education that offers students a deeper understanding is invaluable.

The QUBE was designed with an undergraduate laboratory setting in mind, including all of the wear and tear that comes with that. The QUBE is fully supported by NI and Quanser and is durable enough to be used semester after semester with minimal maintenance. Quanser's lowest priced controls plant decreases the student-to-station ratio, so universities can outfit complete labs at less than half the cost of traditional controls plants.

Visit ni.com/qube or contact your local NI representative to learn more about NI myRIO and the Quanser QUBE-Servo.

About National Instruments

Since 1976, National Instruments (www.ni.com) has equipped engineers and scientists with tools that accelerate productivity, innovation and discovery. NI's graphical system design approach provides an integrated software and hardware platform, speeding the development of any system needing measurement and control. NI ensures customer success with an ecosystem of services, support and more than 700 Alliance Partners worldwide. The company's long-term vision and focus on improving society through its technology also enables the success of its employees, suppliers and shareholders.

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