

# PRODUCTS & LAB SOLUTIONS



## QUANSER DIGITAL EXPERIENCES

Quanser believes that hands-on laboratory experiences are a pillar of effective engineering education. Quanser Digital Experiences are designed to supplement physical hardware by empowering students to explore and validate complex theories at their own pace, at home or where ever they are.

### QUANSER INTERACTIVE LABS



Quanser Interactive Labs are credible, high-fidelity virtual lab experiences based on Quanser physical systems.

QLabs Virtual Experiments leverage MATLAB®/Simulink® to interact with dynamically-accurate virtual representations of a suite of essential Quanser systems. QLABs Controls includes a self-contained experiment console with integrated introductory Controls curriculum.



Look for the Quanser Interactive Labs symbol to see which hardware has a Quanser virtual equivalent

### EXPERIENCE CONTROLS



Quanser's interactive Experience Controls textbook app is designed to introduce students to control systems fundamentals using dynamic simulations based on real-world systems.

Available for free on the App Store, Google Play, and HUAWEI App Gallery.

## LEADERS IN RESEARCH VALIDATION

Quanser offers researchers complex platforms for bridging the gap between advanced theoretical concepts and real-world implementation. With open-architecture design and turnkey, flexible studio solutions, Quanser systems are the only platforms that allow you to quickly establish research-ready labs in an academic setting.



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### SELF-DRIVING CAR RESEARCH STUDIO

Quanser's Self-Driving Car Research Studio is the ideal platform for enabling cutting-edge autonomous vehicle research and development. Consisting of QCar autonomous vehicles, ground control station, and studio workspace with reconfigurable floor panels and traffic signs.



### AUTONOMOUS VEHICLES RESEARCH STUDIO

Quanser's Autonomous Vehicles Research Studio is the only way to build a multi-vehicle research program in the shortest amount of time. Consisting of QDrone quadrotors, QBot 2e ground vehicles, ground control station, localization system, and safety equipment.






 Rotary Servo Base Unit



Linear Servo Base Unit



 Ball and Beam




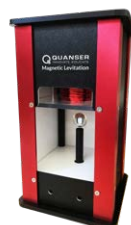
Rotary Inverted Pendulum



Rotary Flexible Joint




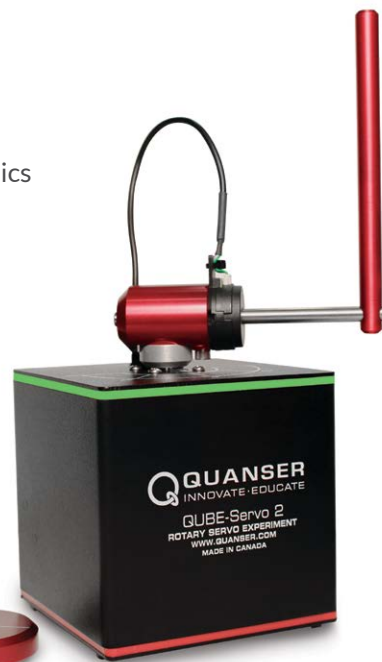
 Rotary Flexible Link




Magnetic Levitation




 Coupled Tanks



 QUBE-Servo 2



 Quanser AERO

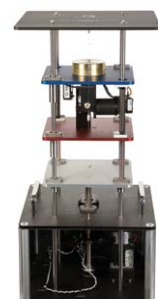
Flight Dynamics  
Attitude Control  
Coupled Dynamics  
Satellite Orientation  
Auto-Pilot Systems



3 DOF Hover  
Stationary Quadcopter



3 DOF Helicopter



Active Suspension



## ROBOTICS & MECHATRONICS



QDrone

Task-Space Automation  
Singularity Avoidance  
Image Processing  
Obstacle Avoidance

Localization and Mapping  
Multi-Agent Systems  
Heterogeneous Swarms



QArm



OMNI Bundle



QCar

Mapping and Navigation  
Object Recognition  
Machine Learning  
Neural Networks



QBot 2e

## MOTION SIMULATION



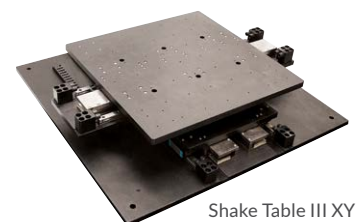
Shake Table II



Shake Table I-40



Hexapod



Shake Table III XY

Frequency Response Analysis  
Structural Health Monitoring  
Payload Stabilization  
Structural Dynamics

## TRANSFORMATIONAL ENGINEERING LABS

Quanser is the world leader in progressive technology for engineering educators and researchers. Over 2,500 academic institutions rely on Quanser lab solutions to help them educate a new generation of engineering leaders, and make exciting discoveries in controls, robotics, and autonomous vehicle research.

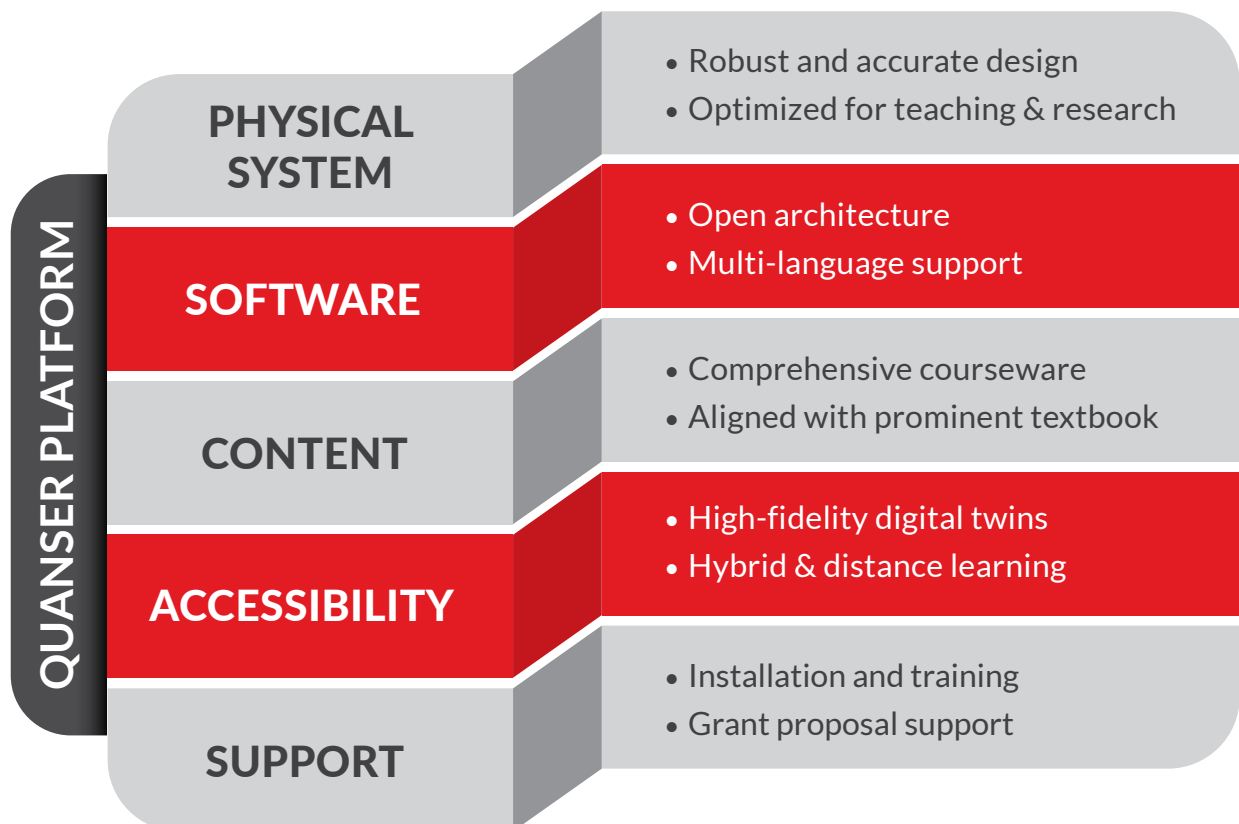
## A VALUED ACADEMIC PARTNER

With a history spanning 30+ years, Quanser has established itself as a valued partner in the global academic community. Institutions trust Quanser to strengthen their reputation through transformative teaching and research labs that faithfully bring engineering concepts to life.

## PASSION FOR ENGINEERING EDUCATION

With an in-house team of curriculum specialists and workflows that are highly optimized to the academic setting, each Quanser platform works in tandem with comprehensive curriculum resources designed to be academically-appropriate and increase student skill and understanding.

# GLOBAL STANDARD IN ENGINEERING LABS





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