

June 2026:

Inside CIT's Labs and Testing Facilities



by Sara Mekideche on 06/25/2026

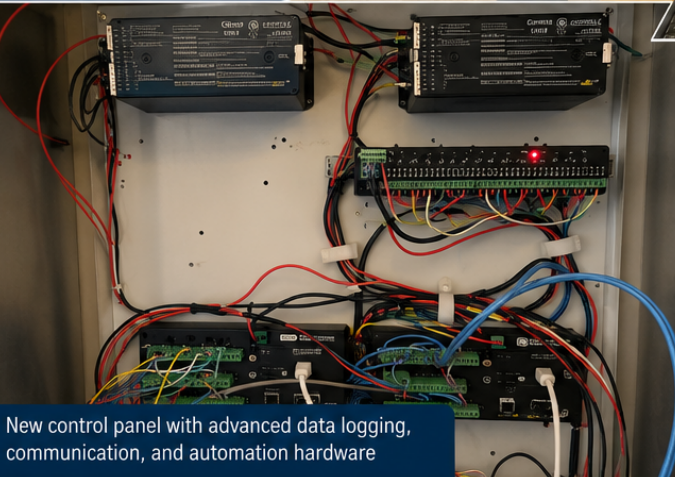
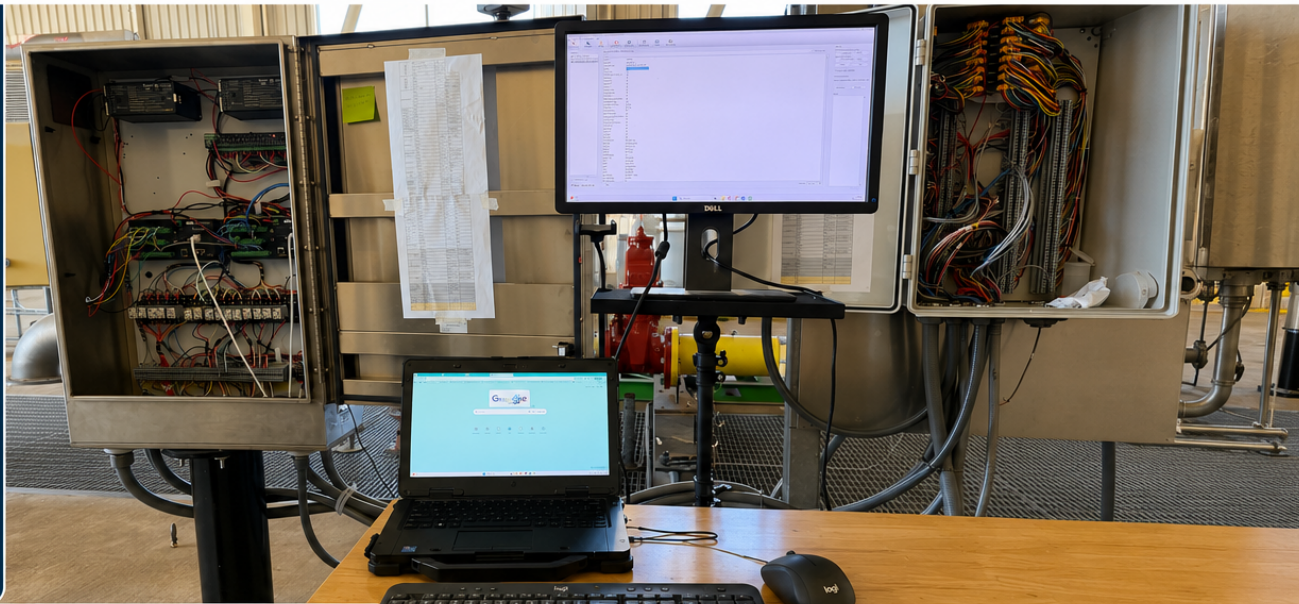
At the Center for Irrigation Technology (CIT), innovation goes beyond research. It is built into the systems and tools that power our testing capabilities. This month, we take you inside our labs to highlight a major instrumentation and automation overhaul that is transforming how we conduct testing and deliver results.

As irrigation technologies continue to evolve, so do the demands for precision, efficiency, and reliability. To meet these needs, CIT is upgrading its testing infrastructure with modern instrumentation designed to enhance accuracy, streamline operations, and support both research and industry partners.

Spotlight: Instrumentation Overhaul

MODERNIZED TESTING AND AUTOMATION SYSTEM

- Advanced data acquisition and control systems
- Automated testing with real-time monitoring
- Improved reliability and accuracy
- Integrated hardware, software, and networking



New control panel with advanced data logging, communication, and automation hardware



Calibrated pressure transducers, solenoid valves, and flow instrumentation for precise measurements

Building a Smarter Testing Environment

CIT's instrumentation overhaul includes the installation of new control panels, data acquisition systems, communication networks, calibrated sensors, and advanced flow-measurement equipment. In addition, a custom server platform is being developed to integrate and control testing hardware, including variable frequency drives (VFDs) and other systems.

These upgrades support a wide range of testing programs, including pump performance, water and flow meter testing, solenoid valve evaluations, drip irrigation product testing, and clogging susceptibility studies. By integrating automation and modern instrumentation, CIT is creating a more connected and capable testing environment.

Improving Accuracy and Efficiency

The new systems allow for automated data collection, real-time monitoring, and reduced reliance on manual processes. With upgraded sensors and fully calibrated instrumentation, testing results are more accurate, consistent, and repeatable.

Automation also improves efficiency by reducing setup time and enabling smoother testing operations. This is especially valuable for long-duration tests and research projects that require continuous monitoring and large volumes of data.

Expanding Impact Across Testing Programs

Nearly all CIT testing programs benefit from these upgrades. Key areas of impact include:

- Pump performance testing
- Water and flow meter evaluations
- Solenoid valve and pressure regulator testing
- Drip tape and tubing testing (ISO 9261)
- Emitter clogging and plugging studies
- Long-term research requiring automated data collection

These improvements strengthen CIT's ability to handle complex testing scenarios while maintaining high standards of quality and reliability.

Delivering Better Data to Industry

At the core of this overhaul is a commitment to providing accurate, reliable, and unbiased data. With enhanced instrumentation and automation, CIT can deliver higher-quality results that support product development, performance verification, and quality assurance for manufacturers and researchers.

Looking Ahead

This instrumentation overhaul positions CIT at the forefront of irrigation equipment testing. By investing in modern technology and infrastructure, CIT continues to strengthen its role as a trusted partner to the agricultural industry. Supporting innovation, improving efficiency, and advancing sustainable water management.

Stay Connected

We invite you to stay connected with CIT by following our updates on social media, exploring our research and testing services on our website, and reaching out to learn more about collaboration opportunities.

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 YouTube: <https://youtube.com/@fresnostatecit?si=ErN37ewuyHz7fsjS>

This monthly update is part of CIT's ongoing effort to share our work, impact, and vision for the future.