

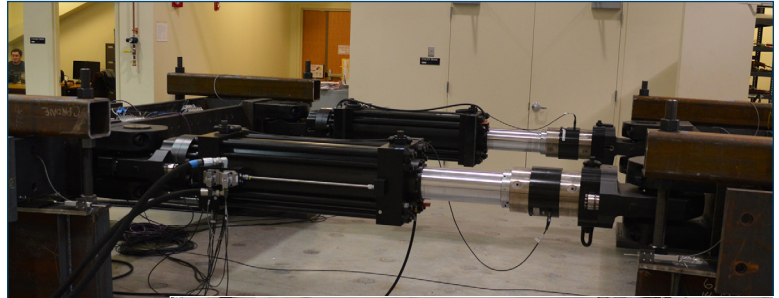
## The Challenge

The STReSS Lab at Northeastern University needed a turnkey data acquisition platform that was capable of configuring and acquiring time synchronized data from a distributed network of ethernet CompactDAQ chassis.

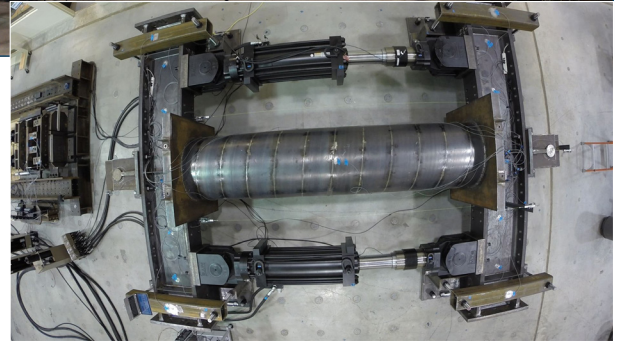
## The Solution

The Northeastern University Laboratory for Structural Testing of Resilient and Sustainable Systems (STReSS Lab) is a 4000 square foot facility located in Burlington, Massachusetts. The double-height STReSS Lab features a 2000 square-foot reinforced concrete strong floor to enable full-scale testing of buildings, bridges, and other structures to failure, as well as new techniques such as spiral welding.

Working with hundreds of strain and voltage gages, Northeastern chose Chameleon for NI Compact DAQ as the in-house data acquisition platform for all testing. Chameleon can seamlessly handle multiple distributed chassis and large numbers of voltage, strain, temperature, and other sensor signals.



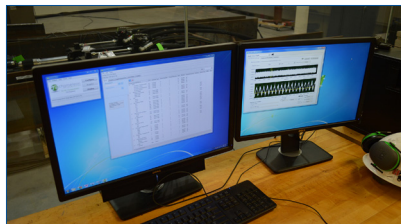
Front view (top) and  
overhead view (right)  
of lab test system



## System Features

### The Chameleon System –

- 280 Strain Channels
- 224 Voltage Channels
- 37 DIO Channels



Chameleon Data Screens

### Hardware:

- Seven (7) cDAQ-9188 Chassis
- Seven (7) NI 9469 Synchronization Modules
- Thirty (30) NI 9235 Strain Modules
- Four (4) NI 9205 Voltage Modules
- One (1) NI 9403 DIO Module



Working with so many sensors, Chameleon got the lab up and running, saving months of programming.



### Benefits of Using Chameleon

- Flexible, Scalable, Turnkey
- Time and Frequency Acquisition
- Live Signal Monitoring
- Data Display and Processing
- Data Export to .mat or CSV
- Easily Re-Configured
- Multiple Repeated Acquisitions
- Pre-Triggered Acquisition
- Rugged and Reliable

[www.ChameleonDAQ.com](http://www.ChameleonDAQ.com)



SYSTEM INTEGRATION