

Signal.X
TECHNOLOGIES LLC

We deploy software products and engineering services in the most demanding production and laboratory environments.

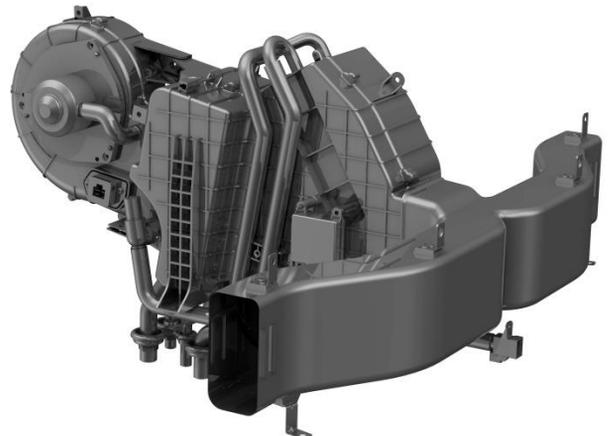
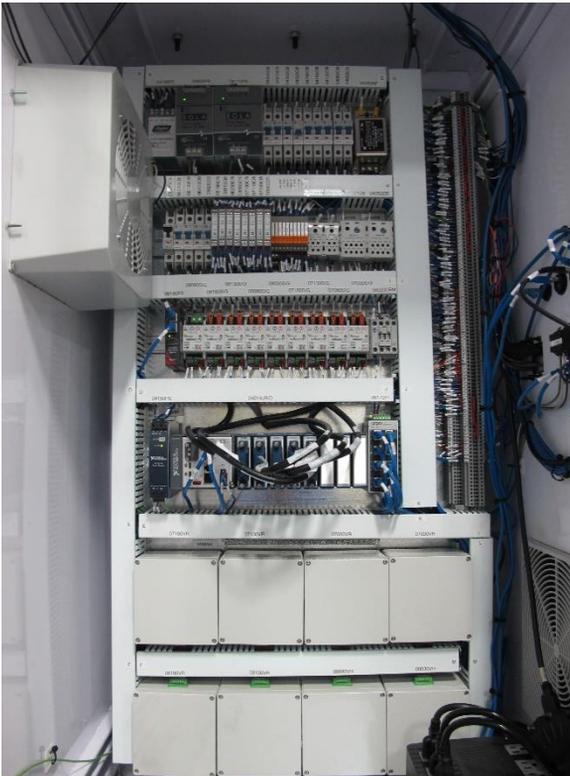
Project Spotlight: **STAX and Shield Production Test Machine**

Objective:

Deploy a production end-of-line (EOL) test machine for a vehicle HVAC unit. Enable customer to deliver high-quality parts using advanced signal analysis to detect failures. Deliver a test machine that is flexible and easy to maintain.

Solution Benefits:

- Detects device-under-test (DUT) failures while operating the test part. The machine integrates a full suite of sensors including airflow and current to cover a wide range of detectable failures. Detects many more defects than the previous generation tester.
- Signal.X STAX and Shield for cRIO: A purpose-built EOL test platform that covers automation, data acquisition, and signal processing.
- Signal.X noise, vibration, and harshness (NVH) expertise ensures machine is designed from the ground up for repeatability and reliability.



Technology Highlights:

Machine Construction

- The machine is designed to run up to 8 servos and several blower motors in a user-defined test sequence.
- Servo speed detected through the current signal.
- Product defects are found using the Signal.X Shield™ NVH assessment tool. Functional performance is tested using dynamic data and metric-based decision making.
- The Signal.X Trove™ database allows the user to easily search historical data as well as return a set of data that can be used for analysis (e.g., return all tests that failed metric 5 over the last month).



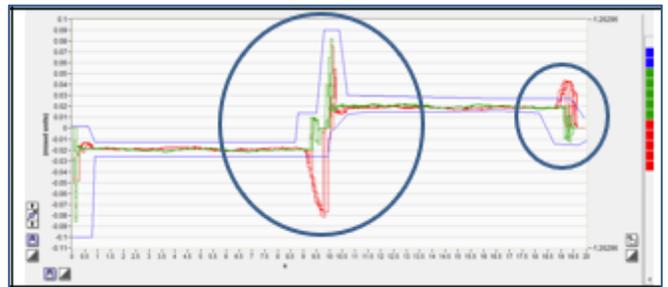
Defect Analysis

- Finds 10 defects not detected on the previous generation tester along with the original set.
- Limit and metric adjustments can be completed by the customer.
- Additional defect detection metrics can be added by the customer, with or without Signal.X's assistance.



Machine Control & Acquisition

- A single National Instruments CompactRIO controller running the STAX automation platform handles all machine automation. This solution replaces a traditional PLC.
- The same controller is running the Shield for cRIO NVH assessment platform. Shield acquires accelerometer, load cell and current sensor data and performs advanced signal processing for pass/fail determination on the DUT.



About Signal.X:

Since 2004, Signal.X has specialized in test & measurement products for noise, vibration & harshness (NVH), production and laboratory test automation, functional test design, large data management, and custom application development.