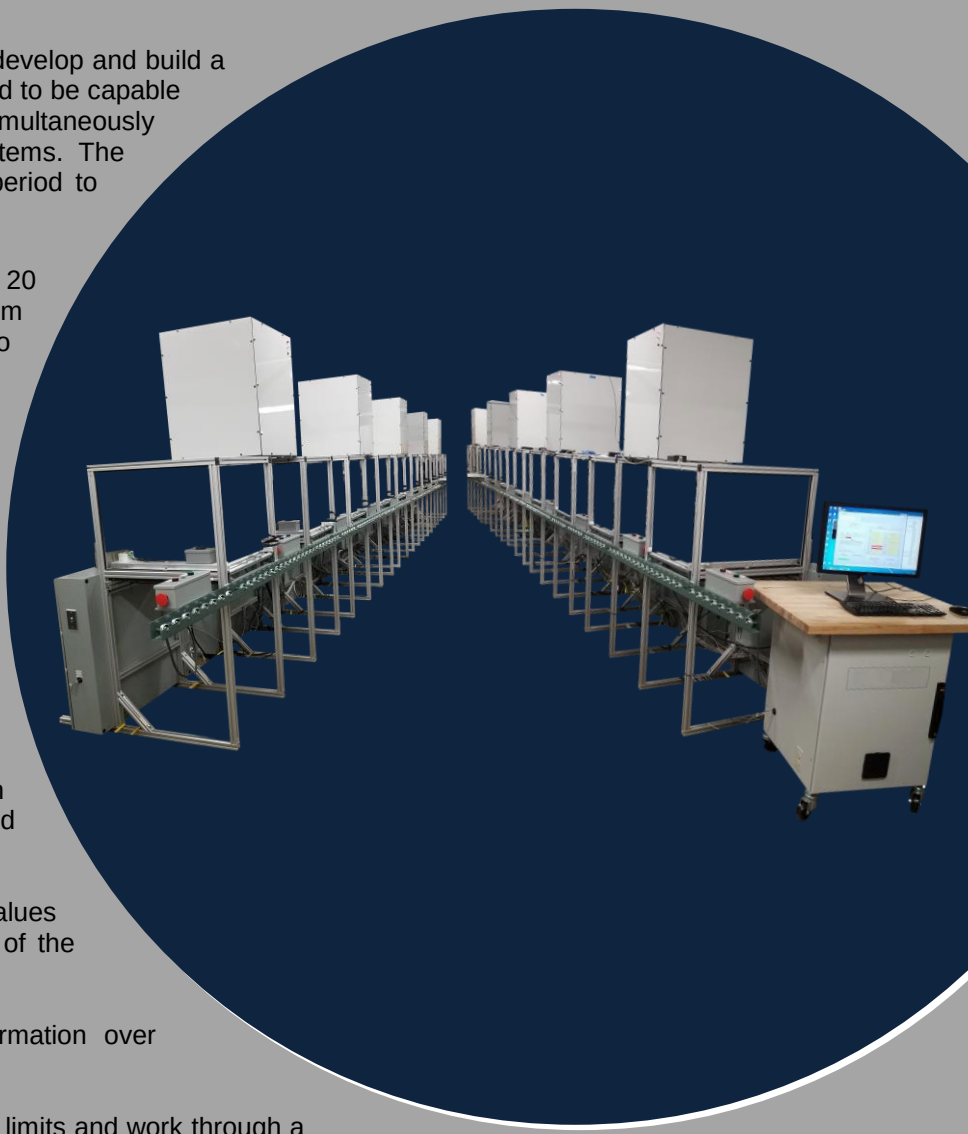
Application Brief
2020

Emerging Technologies

Burn-in Test System

Brief Description:

Emerging Technologies, LLC. was called upon to develop and build a 20 Station Burn in Test system. The System needed to be capable of running 10 Pairs of DUTs. All 20 tests run Simultaneously while each pair sharing a load between the two systems. The system is capable of running over a multi-hour period to validate the DUTs.



The test system is controlled by one computer with 20 PLCs controlling each individual station. The system is designed to run with a 50 percent duty cycle to allow the maximum usage of the shared load.

Multithreaded programming is used to support autonomous operation of each station.

Customer Benefit:

The customer is able to start and stop each test individually without stopping the other stations.

Limit files have the capability to be changed on a per station basis allowing different types of tests to be ran on each station.

System has the capability to be continued tests in the case of the system being shut down at the end of the day.

Results are stored for each check including the values they are tested to the actual data and the result of the check.

System has the capability to send results information over Ethernet using Json to remote network locations.

Authorized personnel have the ability to adjust test limits and work through a manual screen to troubleshoot issues with a DUT.

ET Responsibilities:
- ✓ Functional Specification Generation
- ✓ Design / Engineering
- ✓ Fabrication
- ✓ Programming - Software
  Programming – Firmware
  Circuit & PCB Design
- ✓ On-Site Commissioning
- ✓ Post Commissioning Support

Technologies:
- Microcontrollers
- ✓ Visual Software
- ✓ Control Software
- ✓ Data Acquisition
- ✓ Computer Based Control
- ✓ PLC Based Control
- ✓ Communications – RS485,
  Ethernet, Modbus, CAN
- ✓ System Integration

Special Features:
- ✓ Dynamic Load
- ✓ PLC Control
- ✓ Two Hand Control boxes to interface each station
- ✓ Multicolored light to display test status at each station
- ✓ CAN Communication
- ✓ Voltage Bleed Circuits
- ✓ Pneumatic Movement
- ✓ Motion Safety with Two Hand Controls
- ✓ Shared center Conveyor to reduce footprint
- ✓ Self-contained nest to help simplify connections
- ✓ Sensors to determine when motion is safe

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