Implementation of Modular Measurement System

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What is the problem?
- Hologic Inc. would like to incorporate a CMM on the inspection line to automatically measure multiple parts at a time, and gather statistical data.

What is a CMM?
- Coordinate Measuring Machine
- An inspection tool used to measure the geometry of a part by touching it at multiple points with a probe.

Problem

Solution

Part Fixturing

Our team bought various components to assemble a modular fixturing kit.

Programming

Multiple parts with complex designs used for medical applications can be fixed for measurement with the kit, simultaneously.

Programming was done in PC-DMIS 2011 with the following principles in mind:
- Minimal user input
- Ability to measure multiple parts
- Consistent programming structure for all part programs

Statistical Analysis

Statistical analysis was done using DataPage+ 2011, which can interface with programs for the individual parts.

Measured dimensions can be recorded and historical trends can be tracked and displayed in a number of ways:
- Statistical Process Control (SPC) charts
- SPC variables
- Raw measurement data