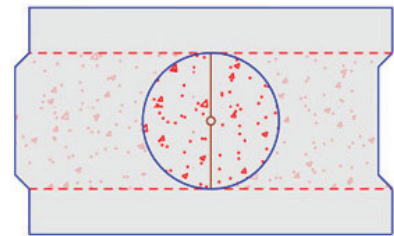


## MTII Measures and Controls Construction Block Manufacturing Facility

### Introduction

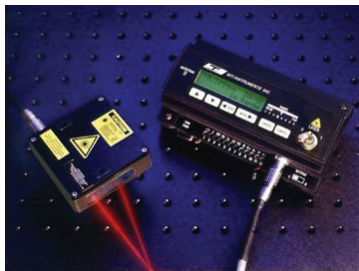
Structural building panels and acoustical tiles fit together like the toy building blocks you had as a kid. Remember when your set had a slightly larger or smaller block that caused your creation to collapse? Although not a life or death situation it sure was distressing to see your hard work end up in a pile. Today, block and panel manufacturers face similar problems, however, their liability is much greater. Continue to learn how MTII's Microtrak II reduced product liability and increased quality at a major construction block manufacturer.



### The Problem

As panels and tiles are assembled their structural integrity depends on how well each piece fits together. Tongue and groove type designs help account for slight variations in dimensional tolerances, however, their strength is weakened by the gaps and spaces created by odd size panels. In addition to the structural problem, exposed walls and ceiling can lose their "appeal" if they don't fit together properly. To reduce liability, improve appearance and minimize scrap, many manufacturers are looking to control product tolerances tighter than ever before.

### The Solution



A major manufacturer of highly engineered building blocks approached MTII looking for a system to automate and control their manufacturing process line. Their goal was to add an in-line dimensional inspection system that not only provided "real time" height and width measurements but also produced alarms and made logical decision based on measurement results. The sensors had to be non-contact, to eliminate wear and product damage, high speed and accurate to less than 0.005". The monitoring system had to accept inputs from a variety of sensors, calculate dimensional values, archive results for statistical process control and provide electrical contacts to interface with the existing plant control system.

MTII's Applications Engineering team went to work and created a system based on EVE, a highly customizable data acquisition and control platform that interfaces with virtually any commercially available sensor. EVE's "English language" programming software was easily modified to provide the functionality, reporting and calculations required to automate the process line. MTII's Microtrak II laser sensors were selected to provide the measurements because of their large standoff distance, low cost and their ability to accurately detect virtually any surface produced.

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## The Results

EVE and the Microtrak II laser heads were installed within 2 days without interrupting the customers' production process. Once brought on line, immediate savings were recognized by reducing scrap and eliminating the need for time consuming, off line measurements. EVE's feedback control provided information that allowed automated process adjustments to maintain dimensional tolerances within acceptable limits. Inspection data was acquired, archived and used to provide product traceability during customer quality control audits.

