

Technical Service Bulletin

Service For: I-Cubed Industry Innovators Inc. **Sector:** Industrial Automation



Established in 2008, I-Cubed Industry Innovators provides high tech machinery integration based on robotics, waterjet and ultrasonic cutting, and inspection sensors. Main applications include contoured acoustic panel shape cutting, injection moulded chair assembly, agricultural seeding, and automotive inspection.

TECHNICAL SERVICE CHALLENGE:

Although repeatable, robots require calibration so that cutting and other paths commanded through three dimensional space are accurately achieved. Assembly and inspection fixtures are built up from multiple components, and tolerance stack ups must be determined.

DELIVERABLES:

To provide I-Cubed with spatially accurate measurement of robot paths and fixture feature locations either before delivery or as a follow-up at the end client site.

EQUIPMENT USED:

Faro Laser Tracker and InnovMetric Polyworks® Inspection software

RESOURCES:

2x Niagara College TAC Staff, 1x 4-year Niagara College Mechanical Engineering Technology student

DURATION:

5 days on various sites

BENEFITS TO INDUSTRY PARTNER:

As a result of working with the Walker Advanced Manufacturing Innovation Centre, I-Cubed was able to get two robots calibrated to acceptable accuracy, and fine tune inspection fixture geometry to come within tolerance limits. Measurement reports were provided for documentation.

BENEFITS TO NIAGARA COLLEGE:

Real world job experience with the state-of-the-art laser tracker and metrology software, developing a climate of collaboration and innovative thinking that prepares students for post-graduation employment in advanced manufacturing.

For more information, contact Charles Lecompte, Senior Application Specialist, at 905-735-2211, ext. #7173 or clecompte@niagaracollege.ca

Access Technical Services at the Walker Advanced Manufacturing Innovation Centre, your company's R&D partner, located at the Welland Campus of Niagara College. We provide a key competitive advantage to industry, offering access to cutting-edge equipment – and related services – for the development of products and manufacturing processes.

We specialize in

TECHNICAL SERVICES

Including: 3D Printing, 3D Design, 3D Measurement and Scanning

AUTOMATION

Mechanizing a process to decrease human labour and increase efficiency

PRODUCT DESIGN AND DEVELOPMENT

Creating a new product for deployment within your business or to be sold to a customer

REVERSE ENGINEERING

Discovering the technological principles of a device, object or system through analysis of its structure and functions

LEAN MANUFACTURING ASSESSMENT

Analyzing and improving an existing process within your operations

PRODUCT RE-DESIGN AND IMPROVEMENT

Revamping an existing product to improve quality and/or adapt to changing market conditions

Resources & Capabilities

- *Rapid Prototype Machine*
- *Laser Scanners (small-scale and room-size)*
- *Vision System*
- *Hand Measurement Tools*
- *3D Computer-Aided Design*
- *3D Factory Design*
- *Physical Simulations and Modelling*
- *Engineering Design*
- *Electronics and Electrical*

“Niagara College brings youth, enthusiasm and knowledge to a tough playing field where every dollar is critical to the survival of many small businesses.”

~Bob Benner, Hamill Machine Company Inc.

