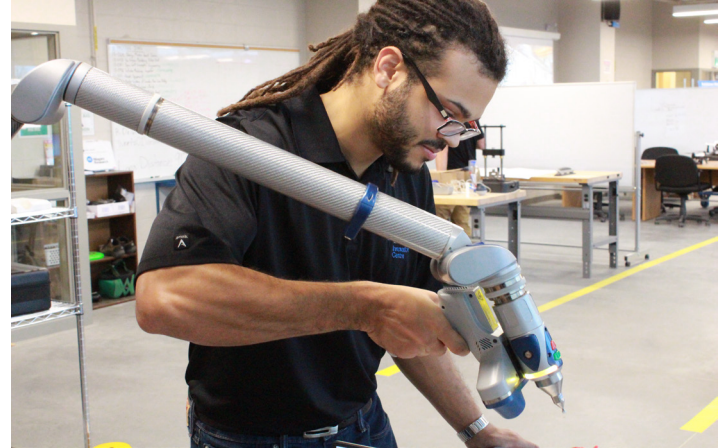


Technical Service Bulletin

Service For: Airbus Helicopters **Sector:** Aerospace



Airbus Helicopters is part of Airbus Group, a global leader in aeronautics, space and related services. Airbus Helicopters is the world's leading helicopter manufacturer offering the most comprehensive range of civil and military helicopters in the world. Employing approximately 23,000 people worldwide, the company's fleet in service includes 12,000 helicopters operated by more than 3,000 customers in approximately 150 countries.

TECHNICAL SERVICE CHALLENGE:

Airbus manufactures composite components for various platforms within the group. Some legacy programs designed prior to the advent of 3D design system relied on a Master Tooling reference. Therefore Catia data for use in their CAD systems was not available.

DELIVERABLES:

The Walker Advanced Manufacturing Innovation Centre utilized our 3D laser scanning and software to scan the master tooling, providing fully parametric 3D models for direct import into Airbus Catia CAD software.

EQUIPMENT USED:

- Faro Scanarm HD with Blue LLP
- Faro Laser Tracker
- Trackarm Kit

SOFTWARE USED:

- Innovmetric Polyworks
- 3D Systems Geomagic Design X
- Autodesk Inventor

RESOURCES:

- 2 Research Leads
- 3 Student Research Assistants

DURATION:

3.5 months (300+ hours)

BENEFITS TO INDUSTRY PARTNER:

Niagara College was instrumental in assisting Airbus with technology adoption via the acquisition of fully parametric 3D CAD data of their legacy master tooling. Now that the tooling exists in a digital environment, slight modifications can be made to the geometry to create new tooling reflecting as built or as required conditions. This proof of concept can now be applied to future applications through technology adoption. Niagara College provided the necessary testing and technology derisking which allowed Airbus to acquire their own 3D laser scanner for future development.

BENEFITS TO NIAGARA COLLEGE:

This opportunity provided real world job experiences for our students, exposing them to the challenges which manufacturing companies face each day working with legacy tooling. These experiences foster further learning opportunities utilizing advanced manufacturing technologies and brings further value to a student seeking full time employment after graduation with companies like Airbus.

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.

