

Technical Service Bulletin

Service For: Epic Golf Concepts (EGC) **Sector:** Sport and Leisure – **Product Development**



Epic Golf Concepts is a hole-in-one fundraising company that utilizes its own proprietary technology to remotely record golf shots as downloadable videos for private, corporate, or fund-raising events. EGC president Frank Maddalena created this technology, which involves the setup of wireless video cameras on the sponsored holes, recording video footage of each golfer's shot, both on the tee and just beyond the pin, insuring the integrity of the challenge. Then, through accessing the EGC website, golfers are able to download clips of their respective shot and placement on the green.

TECHNICAL SERVICE CHALLENGE:

Epic Golf Concepts had an alpha prototype, however it was in need of design improvements. The goal was to achieve self-contained units that are portable, weather resistant, easy to set up, have longer operational times, and are solar powered, all within a set target price.

DELIVERABLES:

The research team at the Walker Advanced Manufacturing Innovation Centre proposed Epic Golf Concepts with a two-part solution. A much-improved beta prototype was developed in partnership with EGC, with a full parts list and manufacturing drawings generated. Once the design and engineering was complete, using the Centre's leading-edge 3D technologies, including 3D design, 3D scanning and rapid prototyping, a final beta prototype was quoted for production. Epic Golf Concepts agreed to have the system built as a second project. After final testing and

“as-built” updates to all documents, the complete design build with documentation was delivered to the EGC.

EQUIPMENT USED:

Autodesk Design Suite Software - 3D Printing - Fortis 400mc, which was acquired thanks to an NSERC ARTI grant.

RESOURCES:

2x Niagara College TAC Staff, 1x Niagara College Faculty, 2x - 4 year Niagara College Mechanical Engineering Technology students.

DURATION:

4 months

BENEFITS TO INDUSTRY PARTNER:

Epic Golf Concepts now has a fully functional self-contained, weather-resistant, solar-powered, wi-fi video system complete with a full set of manufacturing drawings and instruction manuals to further commercialize their products and services.

BENEFITS TO NIAGARA COLLEGE:

Having the ability to create, design, build, and learn on a single project created an ecosystem of research and innovation which will foster further learning opportunities for the centre in advanced manufacturing. This project provided real-world job experiences in the area of commercial product development for our students, creating innovative solutions using advanced technologies. This in turn better prepares them for employment after graduation.

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.

