

## Howell Instruments



Since 1951, Howell Instruments Inc is an engine design company who pioneered the development of accurate cockpit digital instruments. Howell has been the industry leader for improving the safety and performance of military and commercial aircraft cockpit engine instrumentation. With a diverse product line ranging from airborne engine monitoring systems to portable test sets and engine trimmers, Howell is a company striving for quality, innovative equipment in domestic and international markets.

The U.S. Army selected Howell to create the H5900H-60 Advanced Engine Instrumentation (AEI) for the Black Hawk Helicopter, providing an advanced, intuitive and unique instrument upgrade. Howell then requested DiSTI, creator and developer of GL Studio, to implement the precise software and display visuals necessary for this complex system.

GL Studio is DiSTI's key software product for developing real-time 3D human to machine interfaces for use in computer based training, maintenance, and cockpit displays, among others. By combining the expertise of Howell Instruments and DiSTI's GL Studio, the future of flight crew safety with smart engine instrumentation systems will provide pilots with critical situational awareness and immediate flight performance data.

Empowered with GL Studio Safety Critical Embedded Code (SCEC++) to create the upgraded visual display systems of the cockpit, Howell was able to engineer the AEI patented system for the UH-60 Black Hawk. GL Studio's high fidelity output, aesthetically pleasing graphics, and real-time playback performance guided Howell to employ a system for military personnel with the best resources and best possible outcomes. GL Studio was the main component to seamlessly combine the aircraft's indispensable piloting features. The Enhanced Digital Source Collector (EDSC), Multi-Function Central Display Unit (MFCDU), and Multi-Function Pilot Display Unit (MFPDU) work exceptionally together as one cohesive unit. Because of the GL Studio SCEC++ code generation application, the

AEI boasts a compact memory footprint for ultimate portability, increased pilot efficiency and unbeatable reaction performance.

DiSTI's GL Studio is a suite of powerful, intuitive object-oriented interface design tools that enable programmers in any industry to create state-of-the-art, reusable 2D or 3D graphical user interfaces for simulation and safety critical applications.

With the installment of the AEI, the Black Hawk is the latest helicopter vehicle of the military industry, enabling immediate access to crucial flight mission parameters and calculations for flight crews. Including the overall enhancement of each display unit, the AEI provides real-time performance and mission management, dynamic hover and cruise torque targets, and critical in and out-of-ground power setting.

Through the GL Studio tool, the pilot and central display units gained real-time performance data and one engine inoperative data, digital map view capability, FLIR or TVS capability, maintenance and mission planning data, and several other enhancements.

With the assistance of Howell Instruments' AEI and DiSTI's GL Studio, the U.S. Army will continue to utilize the UH-60 Black Hawk to accomplish a variety of missions, save lives, and advance forward into modern warfare.