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QUANTUM3D THERMITE AND IDATA SELECTED BY CARNEGIE MELLON UNIVERSITY FOR USMC GLADIATOR TACTICAL UNMANNED GROUND VEHICLE OPERATOR CONTROL UNIT

Quantum3D COTS Thermite Tactical Visual Computer and IData COTS Human-Machine Interface Software Tool Suite Employed by CMU for Deployable Operator Control Unit for U.S. Marine Corps Gladiator Tactical Unmanned Ground Vehicle

WASHINGTON D.C., AUSA—OCTOBER 8, 2007—Quantum3D[®], Inc., a leading provider of Commercial off-the-Shelf (COTS), open-architecture, realtime visual computing solutions, today at the Association of U.S. Army (AUSA) 2007 Annual Conference, announced that the [Carnegie Mellon University \(CMU\) National Robotics Engineering Center](#) has selected the Quantum3D [Thermite[®] Tactical Visual Computer \(TVC\)](#) and [IData[®] Human-Machine Interface \(HMI\) Software Tool Suite](#) as key components for the [U.S. Marine Corps Gladiator Tactical Unmanned Ground Vehicle \(TUGV\) Operator Control Unit \(OCU\)](#).

The Gladiator TUGV will provide the USMC Air-Ground Task Force with a tele-operated, semi-autonomous vehicle specifically designed to increase human survival by neutralizing threats and reducing risks to Marines on the ground. The unit will be equipped with remote unmanned scout, reconnaissance and surveillance capabilities.

In support of the Gladiator TUGV program, Quantum3D is providing Thermite TVC systems and the IData HMI Software tool suite to CMU, which is using them to develop and deploy the Gladiator OCU, as well as to provide data display, storage and distribution capabilities. The Thermite TVC's light weight, small form-factor, ease of mounting, long battery life and advanced computational, storage, video and 2D/3D graphics capabilities—coupled with its support for a variety of display devices—will enable the Gladiator OCU to meet its mission objectives, including interactive mission-planning. With its IData-based HMI, the Gladiator OCU will provide tele-operators with an intuitive user interface that supports 2D/3D graphics, live video display and digital maps with Mil-Std-2525B Symbology for both the Gladiator platform and its mission payloads.

"Thermite and IData met the very specific, rigorous requirements that we needed to reduce the weight and increase the capability of the Gladiator OCU. We expect the OCU to be an effective remote-control unit that has the potential to save many lives," commented Dimi Apostolopoulos, Ph.D., Senior Systems Scientist at Carnegie Mellon's Robotics Institute.

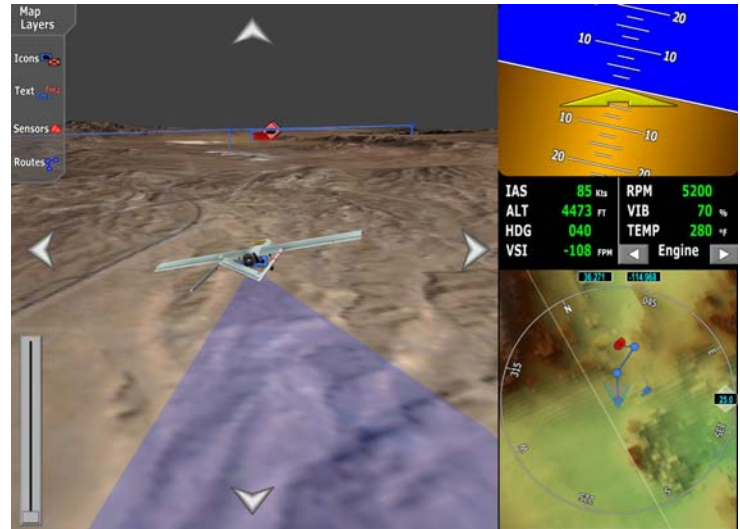
"Small to medium-size unmanned vehicles such as Gladiator are poised to revolutionize battlefield, homeland security and first-responder applications," said Ross Q. Smith, Quantum3D Co-founder and President. "Our efforts with CMU on the Gladiator to equip it with a Thermite and IData-based OCU will provide Marine Corps operators with a powerful, rugged, low-cost, COTS, man-wearable OCU solution that brings the power of PC-based workstations and the intuitive capabilities of IData-based HMIs to the battlefield. The net result should be an extremely powerful combination that enhances mission effectiveness—which will directly benefit our soldiers."



USMC Gladiator Tactical Unmanned Ground Vehicle
(Image Courtesy Carnegie Mellon University)

About IData

[IData](#) is an advanced, cross-platform, COTS realtime visual computing framework that uniquely enables developers to rapidly create and deploy model-based user HMIs for video- and graphics-intensive visual computing applications for embedded avionics, vetronics, weapon systems and industrial control systems. Designed for both FAA DO-178B Level A Safety-Critical Certified and non-certified mission-critical commercial and military Embedded Visual Computing (EVC) applications, IData is optimized for use with desktop and embedded OpenGL[®] variants on a wide range of microprocessor, graphics processor and operating system platforms, including Microsoft[®] Windows[®], Linux[®] and popular Real Time Operating System (RTOS) platforms. With its patent-pending Dynamic-Bytecode generation technology, IData developers are able to rapidly and easily create optimized, executable models of sophisticated graphics, text and visual images that are directly deployable across a broad spectrum of platforms.



Example Screenshot from Quantum3D[®] IData[®]-Based UAV Command-and-Control Application with 3D Synthetic-Vision, Moving-Map and Flight-Control Windows

For the Unmanned Vehicle (UV) market, IData's support for realtime 3D rendering and high-performance tactical digital map capabilities with integrated Mil-Std-2525B Symbology—combined with support for live video overlays, realtime data feeds, paging satellite and aerial photography imagery and tactical charts—provides an ideal foundation for OCU development and deployment, including interactive vehicle mission planning, execution and training. With its available IData178 Certification Kit, IData provides a unique cross-platform development solution that eliminates operating-system dependencies from the OCU software and supports safety certification of the OCU to rigorous FAA DO-178B Level A (and below) standards. IData is available for third-party hardware solutions as well as for the Quantum3D Thermite Tactical Visual Computer and Farsight[®] Tactical Handheld Display families, which together provide an optimized COTS solution for UV OCU applications, including integrated embedded training, without requiring additional equipment.

About the Thermite TVC Family

The [Thermite TVC](#) is the first multi-role, small form-factor, COTS family of tactical computers specifically designed to enable PC-based, 2D/3D graphics and video-intensive, network-centric C4ISR, C2, UV-control, embedded-training, maintenance and mission-rehearsal applications to be deployed in both vehicle-based and man-wearable applications in harsh environments. The Thermite TVC family supports open-architecture PC operating systems and features advanced embedded computing, 2D/3D mobile graphics, video capture-and-display, and low-power consumption for long battery life. Thermite TVC supports extensive commercial and military I/O options including GPS, wireless network and tactical radio support—packaged in a lightweight, conduction-cooled, alloy enclosure for operation in Mil-Std-810F, Mil-Std-461E and Mil-Std-1275 extended environments. The Thermite TVC-2.0 family includes a range of models tailored to meet the specific needs of man-wearable and vehicle-based ground, naval and airborne applications. The combination of these unique capabilities allows system integrators employing Thermite to rapidly bring the power of PC-based workstation applications to forward operations, which is why the U.S. military, as well as allied governments and leading international companies have selected Thermite TVC-2.0 and companion Farsight Tactical Handheld Displays for operational deployment in extended environment military and civilian applications.



Quantum3D[®] Thermite[®] TVC-2.0 Family (Shown with Optional Farsight[®] 3700TL THD Tactical Handheld Display)

Quantum3D Thermite and IData at AUSA 2007 Annual Meeting

IData, Thermite TVC, Farsight THD and other Quantum3D Embedded Visual Computing (EVC) and Embedded Training (ET) products will be on display in the Quantum3D booth (# 1561) and select partner booths at AUSA 2007, October 8th – 10th in the Washington, D.C., Convention Center. To schedule an appointment, please e-mail salesinfo@quantum3d.com.

Quantum3D Thermite and IData Product Pricing and Availability

International, single unit pricing for Thermite TVC-2.0 systems and the IData Pro Development Software Toolkit begins at well under \$10,000 USD and \$30,000 USD, respectively. Both products are available for delivery with standard COTS item lead times.

About Quantum3D

Quantum3D develops and markets COTS realtime, open-architecture realtime visual and high performance computing solutions including advanced Image Generators, Embedded Training (ET) platforms, development software and synthetic environments for institutional and deployed Visual and Sensor Simulation and Training (VSST) markets and Embedded Visual Computing (EVC) and deployable High Performance Computing (HPC) systems and subsystems, DO-178B Level A development software and support services for the avionics, tactical and industrial visual and high performance computing markets. Quantum3D is a privately held company headquartered in San Jose, California, with development centers located in Arizona, Alabama and Florida and sales in Europe via Quantum3D, Ltd., located in Reading, UK. For more information, please visit www.quantum3d.com.

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