

FOR IMMEDIATE RELEASE
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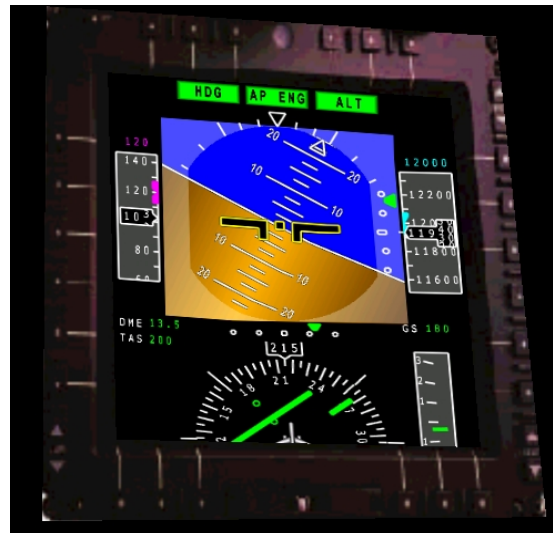
GABLES ENGINEERING SELECTS QUANTUM3D IGL178 AND IDATA178 FOR FAA DO-178B CERTIFIED RECONFIGURABLE MULTI-FUNCTION AVIONICS DISPLAY PROGRAM

Quantum3D COTS IGL178 Software-Based GPU and IData178 Model-Based HMI Development Tools Combine To Provide Innovative Display Platform Solution for FAA DO-178B Certified Flight Deck Applications

AMSTERDAM, NETHERLANDS, [Avionics 08 Conference](#)—March 6, 2008—[Quantum3D](#)[®], Inc., a leading provider of Commercial, Off-the-Shelf (COTS) open-architecture, realtime visual computing solutions, today announced that [Gables Engineering, Inc.](#) has selected Quantum3D IGL178[™] and IData178[™] for use in a new, reconfigurable, Multi-Function Display (MFD) system targeted at air-transport, regional and business-aviation flight deck applications.

IGL178 is the avionics and visual computing industry's first software-based Graphics Processing Unit (GPU) for FAA DO-178B Level-A certifiable [OpenGL](#)[®] Safety Critical (SC) and OpenGL Embedded Systems (ES) based applications and IData[®]178 is the avionics industry's leading FAA DO-178B Level-A certifiable model-based Human Machine Interface (HMI) and embedded visual computing application development and deployment software tool suite.

Developed by both companies in close cooperation, the Gables Reconfigurable MFD includes smart display technology that enables the system to support important flight deck functions including Attitude Direction Indicators (ADIs), Horizontal Situation Indicators (HSIs), soft controllers and other capabilities on a reconfigurable platform with significantly reduced FAA or other authority safety-critical certification expenses.



Quantum3D[®] IGL178[™] and IData178[™] Provide a Complete, FAA DO-178B Level-A Certifiable Graphics & HMI Development and Deployment Solution for Gables Reconfigurable MFD (Similar to Unit Shown Above)

The new MFD features dedicated, high-performance I/O processing that is reconfigurable for maximum flexibility and dedicated, CPU-based graphics processing that employs IGL178 to provide high-fidelity, high-performance, precision graphics. Gables' rapid-turn manufacturing capabilities offer the means to easily customize the smart MFD for multiple applications and to add any essential hard controllers, if required. The MFD includes a large LCD screen with optimized viewability and image-quality characteristics, aided by IGL178's unique image-quality enhancements including TrueStroke[™] precision anti-aliased lines, fonts and points. And because the smart MFD employs IData178, with its unique Model-Based Development capability, the MFD's HMI may be readily modified by Gables or Gables' customers to rapidly tailor the MFD for new applications with greatly reduced time to market and certification costs.

"All of us at Quantum3D are excited to be working in partnership with Gables to make this advanced, yet low-cost MFD project a reality," said Ross Q. Smith, Quantum3D President and Co-Founder. "The Gables reconfigurable MFD represents a watershed achievement in avionics by employing an open-architecture, software-based, OpenGL SC GPU and model-based development in a new class of reconfigurable flight deck device—which enables the system to address many market needs with one common platform."

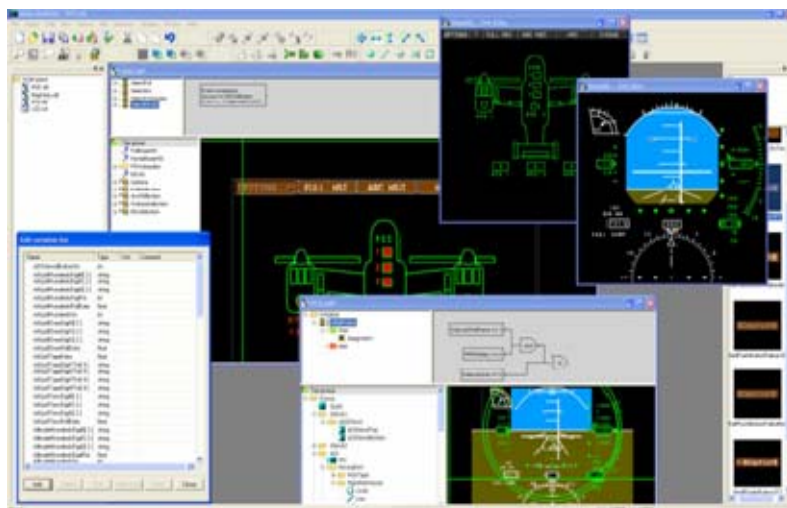
"We have been very impressed with Quantum3D's IData and IGL178 software technology and support," said Rick Finale, Gables Engineering VP of Business Development. "The IGL178-based reconfigurable MFD platform, coupled with the outstanding model-based development features of IData, make a package we think can rapidly address many requirements on the flight deck."

About Quantum3D IGL178

Quantum3D IGL178 is an efficient, small-footprint, COTS, FAA DO-178B Level-A certifiable, software-based GPU that implements the OpenGL SC and ES APIs (see www.kronos.org for more information). Designed to support the deployment of high-performance, precision, realtime 2D/3D graphics and video capabilities on embedded platforms with limited or no dedicated hardware graphics acceleration, IGL178 also intrinsically supports IData178's rich graphical capabilities. In addition to supporting traditional 2D/3D graphics and video applications, IGL178's unique software architecture enables advanced capabilities including ARINC 653 and similar partitioned operating environments to support Multi-Critical, Multi-Rate and Multi-Level-Secure Workstation applications.

About IData178 Model-Based HMI Development

IData178 is a COTS, open-architecture HMI development environment that features breakthrough Model-Based Development (MBD) technology that enables system developers to specify graphical and behavioral models of highly-interactive HMIs and deploy advanced realtime 2D/3D and video intensive, FAA DO-178B Level-A certifiable visual computing applications on a wide range of embedded display devices without the use of generated or hand-written code. IData178's unique MBD technology is a key component of the Gables Reconfigurable MFD since it enables key MFD functions including complex controller logic, intricate behavioral dynamics, response to events, page logic, etc., to all be specified and previewed within IData's MBD environment. IData features a rich graphical and logical specification capability which greatly decreases the requirement for hand-coded graphics and logic. Low-level requirements and traceability for each function are then directly captured within IData, drastically reducing the "paper trail" required for certification. IData178 produces the model in IData's HMI Specification Language (HSL) format, an optimized binary form of the model suitable for deploying the model to the embedded target. The qualified HMI Verification Tool (HVT) is then used to verify traceability and correctness of the generated HSL model before its use by the IData Rendering libraries. The HSL model, together with any user I/O code, is then used by IData178's rendering libraries to render the HMI using IGL178's OpenGL API without intermediate code generation. The resulting process is highly streamlined, and it offers the ability to rapidly reconfigure and recertify the MFD's content without writing code.



Quantum3D® IData178™ Model-Based HMI Development Environment

Both IGL178 and IData178 have been developed to be deployed in the most demanding embedded computing environments, and both feature small footprints and code bases, as well as unique optimizations for extremely fast and efficient performance on wide range of embedded platforms. Quantum3D offers FAA DO-178B Level-A Certification Kits for both IGL178 and IData178-- which enables developers to readily and economically pursue FAA and other authority certification of IGL178 and IData178 based applications for use in safety-critical avionics systems.

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IGL178 and IData178 at Avionics 08

Quantum3D will demonstrate IGL178 and IData178 at the Avionics 08 Conference in the Quantum3D Booth (#A24), March 5-6 in Amsterdam, Netherlands at the Passenger Terminal Amsterdam. To schedule an appointment at Avionics 08, please email salesinfo@quantum3d.com or contact Andy Pinkard, Quantum3D EMEA Director of Business Development at +44 798-938-2676.

About Gables Engineering

Gables Engineering, Inc. is the industry leader in custom avionic controls and related products. Operating with a high level of vertical integration, all aspects of design, qualification, manufacturing and support are performed in-house at a single location. This offers our customer rapid design-to-production cycles, and ensures the delivery of high quality, reliable products. Gables Engineering, Inc., founded in 1946, is a privately held company located in Coral Gables, Florida. For more information on Gables Engineering, Inc., please visit www.gableseng.com.

About Quantum3D

Quantum3D is an industry leading, small business supplier of COTS, open-architecture, realtime visual computing software and hardware products for the Embedded Visual Computing (EVC), Deployable High Performance Embedded Computing (HPEC), Visual and Sensor Simulation and Training (VSST) and Embedded Training (ET) markets. Quantum3D's VSST products include advanced Image Generation (IG) solutions, realtime scene management software and synthetic environment content. Quantum3D's EVC products include FAA DO-178B Level-A certifiable Human-Machine-Interface and visual computing application development and deployment software and tactical, embedded and industrial visual computing systems and subsystems for C2/C4ISR, machine vision, sensor processing, unmanned vehicle operator control and embedded training applications. Quantum3D is a privately held company headquartered in San Jose, California, with development centers located in Glendale, AZ, Huntsville, AL, and Orlando, FL and with European sales via Quantum3D, Ltd., located in Reading, UK. For more information about Quantum3D or Quantum3D EVC Products including IGL178 and IData178, please visit www.quantum3d.com or send email to salesinfo@quantum3d.com.

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