BİLDES GROUP partners has leaded safety-critical software development in many defence projects in the world whereas Bildes with its subsidiaries has supported many local projects at various levels of technologies and in different defense categories like avionic, research & development, air-electronics warfare, rocket & missiles systems, army communication, aircraft, helicopter and UAV Systems. Group Company ATEGO , which has been incorporation of many software companies like Aonix, Select etc. Provided intelligent System Engineering and Software Development Services to many Defence Groups and Projects as follows sample customers

ATEGO is provider of the tools that has been used in Agusta Westland which is generic model of TSK ATAK Helicopters.

GreenHills Integrity RTOS is the main operating system running in ATAK Helicopters.

GreenHills RTOS has been used for UAV controls since 2008

Green Hills Software has announced its Integrity RTOS (real-time operating system) for Saab's Skeldar UAV (unmanned aerial vehicle in 2008), which features the MULTI debugger and the Probe that was based on the Freescale MPC5554 microcontroller. The integrated debugging and monitoring facilities within the operating system were particularly useful, and the supplied board-support package formed the basis for BSP. The Skeldar is a fully autonomous and lightweight unmanned helicopter. It can hover and perform VTOL (vertical take-off and landing) with a minimum of field preparation or additional equipment. It is designed to support military as well as civil operations in national and international missions and can operate in both day and night conditions. Weighing 150kg, it has a maximum speed of 100km/h, a 4h operating endurance and a range of up to 100km. The RTOS provides reliability for embedded applications, allowing multiple applications to safely and securely operate on the same embedded computer. Memory partitioning prevents one application from accessing, stealing, or corrupting another application's memory or data. Time partitioning prevents a low-criticality application from stealing CPU time away from high-criticality applications on the same computer.

Tech focus

This month's focus is on avionics technology, programs, and maintenance.

Green Hills enables avionics aboard Boeing 787, Airbus A380

Green Hills Software's INTEGRITY-178B operating system has been selected for multiple flight-critical systems—including flight controls, surveillance system, and engine monitoring—to be deployed aboard the **Boeing** 787 Dreamliner aircraft, which is expected to enter revenue service in 2008.

Honeywell has selected the operating system for the 787 flight control electronics, which include the autopilot and the fly-by-wire system that conveys commands from the pilot to the control surfaces, such as the rudder and elevators. **Rockwell Collins** has chosen INTEGRITY-178B for the 787 surveillance system, which warns the pilot about traffic, collision avoidance, terrain, and weather.

The system was also selected by the Digital System Sciences (DSS) group of **Vibro-Meter** for its vibration and health monitoring systems for the jet engines that will be used on the 787—the **General Electric** GEnx and **Rolls-Royce** Trent 1000. The advanced units monitor the health of jet engines while in flight for vibration and adverse events. When such an event occurs, the system can automatically inform the pilot to take appropriate corrective action. Under normal operating conditions, the data is logged to guide later maintenance actions. These engine monitoring units are unique in the avionics industry, according to the company, in that they are physically mounted on the engine, where the environment is severe compared to most avionics environments.

In June at the Paris Air Show, Green Hills Software announced that the **Airbus** A380 took flight with its INTEGRITY-178B operating system in the engine monitoring system and in the plane's navigation system. The DSS group's monitoring system for the Rolls-Royce Trent 900 engines used on the A380 also features INTEGRITY-178B. Vibro-Meter's engine monitoring units with the operating system have already been certified to the **FAA**'s RTCA/DO-178B standard for flight-critical software.

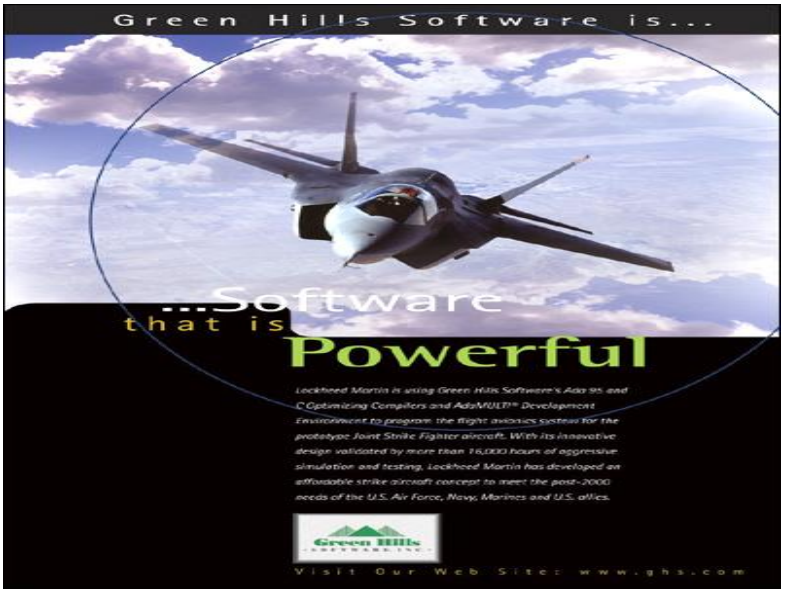
Northrop Grumman selected INTEGRITY-178B over an in-house-developed operating system for its LTN 101E Global Navigation Air Data Inertial Reference Unit (GNADIRU) for the A380 and other Airbus aircraft. The LTN-101E integrates inertial and GPS measurements to provide highly accurate aircraft position information.

The selection of INTEGRITY-178B by multiple 787 and A380 suppliers for a diverse range of applications illustrates how avionics equipment manufacturers are taking advantage of commercial, off-the-shelf technology to reduce the time, cost, and risk of safety-critical software development and certification—particularly in light of the increasing sophistication and complexity of modern avionics, said Dan O'Dowd, founder and Chief Executive Officer of Green Hills Software.

The INTEGRITY-178B operating system was designed to meet the demanding safety and performance requirements of flight-critical systems. It complies with the aviation industry standard ARINC 653-1 applications software interface and has been used in numerous systems certified to the RTCA/DO-178B Level A avionics software safety standard.

Ryan Gehm

Both the Boeing 787 Dreamliner and the Airbus A380 make extensive use of Green Hill Software's INTEGRITY-178B operating system for flight-critical applications such as flight controls and engine monitoring.



F-35, Airbus A380 and Boeing 787 has been selected Integrity-178B for critical flight control systems, engine monitoring and surveillance

Green Hills Software products have become the leading choice for the avionics industry. They are being used in almost every current and next-generation aircraft. BAE Systems has selected Green Hills products for the JSF F-35 fighter, new Hawk trainer and the UH-60M Black Hawk aircraft.

The list of aircraft using Green Hills Software products for development also includes: the Airbus A380, Boeing 777, Boeing 787, Lockheed Martin F-35 Joint Strike Fighter, F/A-22, Eurofighter Typhoon, Lockheed Martin F-16, Airbus A400M military transport, T-6B trainer aircraft, Boeing C-17, Boeing B-1B, Boeing B-52, Boeing X-45C Joint Unmanned Combat Air Systems and Sikorsky S-92 and H-92 helicopters, amongst others.

The list of avionics suppliers that have selected Green Hills Software solutions is the who's who for this industry and includes: BAE Systems, Boeing, CMC Electronics, EADS, General Electric, Honeywell, Lockheed Martin, Northrop Grumman, Rockwell Collins, Smiths Aerospace, and others.

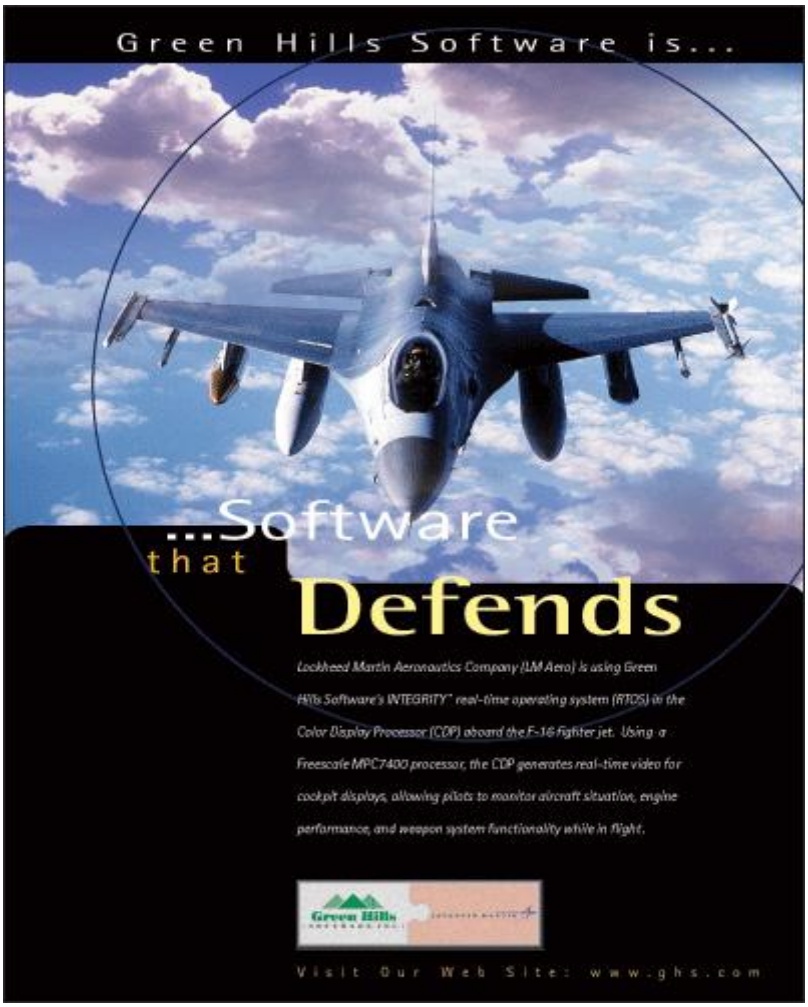
Absolute Reliability, Time and Memory Partitioned Real-Time Operating Systems

These provide absolute reliability for your embedded applications, allowing multiple applications to safely and securely operate on the same embedded computer. Memory partitioning prevents one application from accessing or corrupting another application's memory or data. Time partitioning prevents a low criticality application from stealing CPU time away from high criticality applications on the same computer. Applications can be deployed at multiple safety levels and new applications can be seamlessly added over time.

DO-178B Level A, The Highest Safety Critical Level Accepted by The FAA

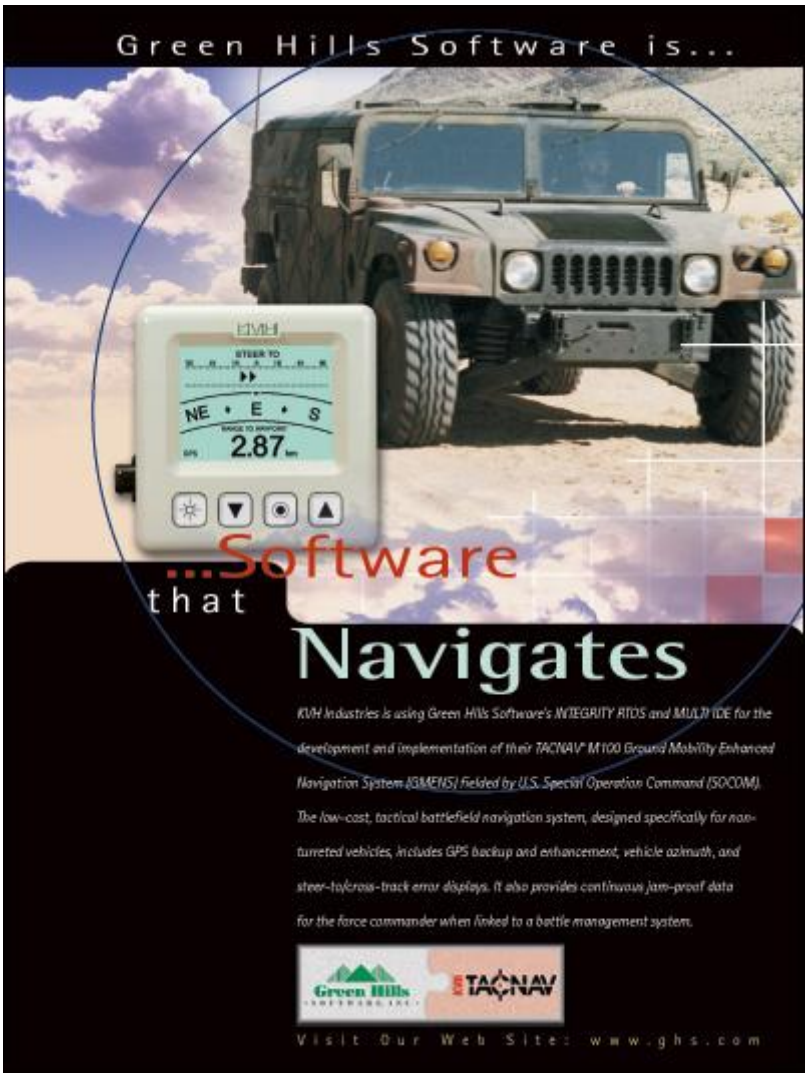
RTCA

INTEGRITY-178B has proven itself many times by being certified to this top safety critical level in multiple applications. It is now the leading RTOS choice for the avionics industry for current and next generation aircraft. Along with the INTEGRITY-178B operating system Green Hills Software also offers single application execution environments with its Ravenscar and SPARK compliant GSTART and GMART Ada kernels. These kernels have also been certified as a part of avionics applications multiple times to RTCA DO-178B / EUROCAE ED-12B.

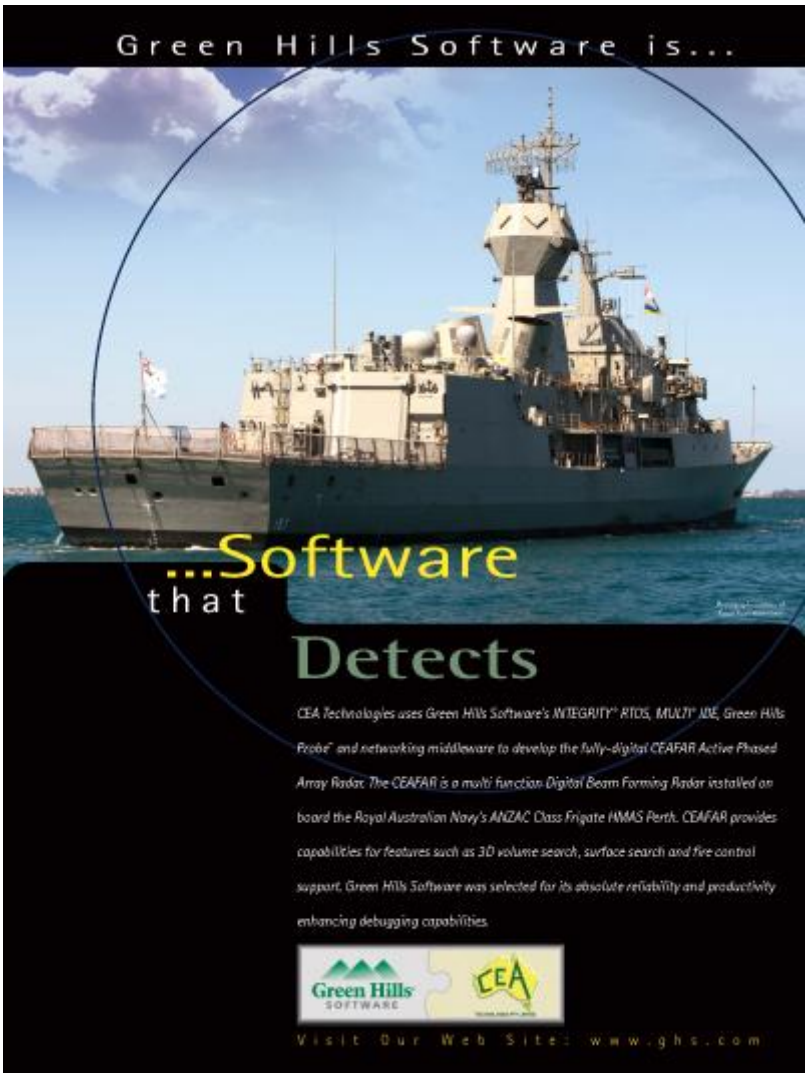


Lockheed Martin Aeronautics Company (LM Aero) is using Green Hills Software's INTEGRITY real-time operating system (RTOS) in the Color Display Processor (CDP) aboard the F-16 fighter jet.

Using a Freescale MPC7400 processor, the CDP generates real-time video for cockpit displays, allowing pilots to monitor aircraft situation, engine performance, and weapon system functionality while in flight.



KVH Industries is using Green Hills Software's INTEGRITY RTOS and MULTI IDE for the development and implementation of their TACNAV® M100 Ground Mobility Enhanced Navigation System (GMENS) fielded by U.S. Special Operation Command (SOCOM). The low-cost, tactical battlefield navigation system, designed specifically for non-turreted vehicles, includes GPS backup and enhancement, vehicle azimuth, and steer-to/cross-track error displays. It also provides continuous jam-proof data for the force commander when linked to a battle management system.



CEA Technologies uses Green Hills Software's INTEGRITY RTOS, MULTI IDE, Green Hills Probe and networking middleware to develop the fully-digital CEAFAR Active Phased Array Radar.

The CEAFAR is a multi function Digital Beam Forming Radar installed on board the Royal Australian Navy's ANZAC Class Frigate HMAS Perth. CEAFAR provides capabilities for features such as 3D volume search, surface search and fire control support. Green Hills Software was selected for its absolute reliability and productivity enhancing debugging capabilities.

Engineers at General Dynamics United Kingdom chose the Integrity RTOS from Green Hills Software as the operating system for the British Army's Scout Specialist Vehicle (SV) mission-critical computers.

"Due to higher system complexity and compressed system budgets, an RTOS with commercial off-the-shelf (COTS) certification evidence is the wisest choice," Downing says. "COTS certification evidence removes significant certification risk whilst lowering program costs."

The availability of verification evidence, proven through successful certifications, and extensive product pedigree, demonstrated by the number of systems in use in the market, are critical when selecting an RTOS for safety-critical applications, admits Greg Rose, vice president of marketing and product management at DDC-I in Phoenix.