

Compact VXI Modules Increase Flexibility and Performance of Military ATE System



DRS Test & Energy Management, LLC (DRS TEM), located in Huntsville, Alabama, designs, integrates and produces diagnostic, test and energy management systems for combat vehicles and weapon systems for the United States Army, Air Force, Navy and Marine Corps, as well as various Allied Nations. To help service its dynamic customer base, DRS TEM developed a scalable ATE system that can meet a diverse set of test requirements.

DRS TEM's Scalable Common ATE (SCATE) is an open architecture platform utilizing VXI-based COTS instrumentation to provide multiplatform capability. To achieve the goal of scalability and high performance, DRS-TEM knew it was critical to provide as much functionality as possible in a reduced footprint. Therefore, the VXIbus architecture was selected. Since the target customers are primarily DoD, it was important for DRS-TEM to provide systems that utilize industry standard VXI plug & play and IVI software interfaces as well as open architecture hardware platforms such as IEEE-Std-1505-2006.

DRS TEM selected VTI's (formerly VXI Technology) SMIP series of switching for the core of its universal switching system. The SMP400x matrix modules were chosen because of their ability to switch 2 A of current while delivering the required density (864 crosspoints in only two VXI card slots). The flexibility of a crosspoint matrix helps minimize the TPS development effort for DRS TEM's customers.

VTI's VMIP series of instrumentation was also selected to provide a mix of functionality including programmable resistors and serial interfaces as well as multiple channels of D/A. The ability to mix three different functions in a single VXI module further helped to lower hardware costs while meeting the target of footprint reduction to provide flexibility for future expansion.

Dave Droste, principal engineer for automated test systems at DRS TEM, commented, "During the development of the SCATE, it was critical for our team to maximize functionality in a minimal footprint while managing our hardware costs. The modular technology employed in the VMIP and SMIP series was instrumental in helping us reach our goals."

As a leading provider of ground vehicle diagnostic and test equipment, VTI continues to develop defense electronics for the enhancement of combat vehicle performance, mobility, readiness, fuel efficiency, stealth capability, electric power and survivability.

About VTI Instruments Corporation

VTI Instruments delivers precision instrumentation for electronic signal distribution, data acquisition, and monitoring. The company continues to lead in the development of open standards for test and measurement along with scalable, modular products that maximize performance in a small footprint. With nearly two decades of experience primarily in the aerospace, defense, and energy and power generation markets, VTI helps customers maintain a competitive edge and preserve the integrity of their brand.