High-Fidelity Simulation Systems
Mission-Focused Training Solutions

High Fidelity Sensor Simulations
As a leading mission system integrator, SNC understands sensors and their complexity. From the multiple camera and laser payloads of modern EO/IR sensors to the operating characteristics and modes of Synthetic Aperture Radars, SNC models all characteristics in the Horus family of sensor simulations. Horus merges image generation with full-feature user interfaces creating detailed, high-fidelity simulations for the MTS-A, MX-15, MX-20, TSS, ASQ-236 Radar and SIGINT sensors. Emulated data is suitable for all aspects of operator and mission system training. Horus trains how and more importantly, what the sensor detects. To this end, SNC has modeled detailed sensor simulations and integrated with third-party image generators and scenario engines. This delivers realistic training systems achieving portability across training platforms operating richly simulated environments. The Horus architecture is also modular and scalable allowing for rapid development of new sensor simulations to support evolving platforms.

Simulation Framework and Instructor Controls
Disparate simulation systems require a common framework to link them all together, and SNC has developed the Manticore simulation framework to do exactly that. Scalable from a single computer to a distributed network, Manticore’s message bus supports high-speed transfer of massive quantities of data between its various and specialized plug-ins, integrating flight simulations, real mission system hardware, simulated mission systems and scenario engines into one coherent training system. Systems status and trainee actions are linked to Instructor Situational Awareness displays, system indicators and simulation controls. Aircraft and vehicle platform navigational data is emulated and output to mission systems. Scenario entities are mapped to 3D models within each image generator. Simulated and real weapons systems are linked to simulated weapon models with accurate flight profiles, guidance logic and damage-effects modeling providing realistic visualization and damage effects on scenario entities. Furthermore, Manticore’s plug-in architecture allows new capabilities to be easily integrated into existing systems with the relatively simple addition of new plug-ins.
High-Fidelity Simulation Systems

Tightly Integrated Real-World and Simulated Systems into Operationally Relevant Training Environments

SNC is a systems integrator that offers true Quick Response Capability, selecting Best of Breed solutions to meet our customer's needs. SNC excels in combining a variety of off-the-shelf and internally developed products seamlessly together, demonstrating excellence on a broad scope of training projects:

**Mission Training Devices** – These are the flagships of SNC’s training systems. MTDs maximize student immersion by utilizing actual platform-specific mission systems, equipment racks and operator consoles. SNC blends a mixture of real and simulated devices to provide training on all mission tasks such as communications, navigation, sensors, datalinks, computers, networks and power systems.

**Flight Training Device Integration** – Aircraft platforms exist to accomplish a mission, but standard Flight Training Devices or Full Flight Simulators don’t always provide full mission training. SNC specializes in the integration of mission training systems into larger training environments, providing full crew indications and controls of all installed mission payloads. This increases the utilization of the training system while reducing the differences between the simulation and the aircraft.

**Partial Task Trainer** – When a full-scale training device isn’t available, Partial Task Trainers provide coverage of high-priority skills without the costs associated with complex systems integration. Utilizing the same core software framework and system simulations as the larger training devices, PTTs serve as affordable alternatives, providing low-cost training systems that prepare trainees to maximize their time in more expensive training devices or aircraft.

**Desktop and Classroom Trainers** – The utility and affordability of PTTs are scaled further into desktop and Classroom trainers. These provide simulated systems for use in Instructor-led and self-paced lessons and rehearsal. These simulations may also be coupled with computer-based training to lower demands on training assets and instructors.

**Role-Player System** – When it comes to advanced C4ISR systems, training isn’t just necessary for the systems operators, but for the commanders and staffs that manage the assets, analyze the feeds and make decisions. A Role-Player system provides consolidated platform and sensor controls to simulate various platforms to stimulate a student or a battle staff with realistic data link feeds.