

Simulation, Training, and Mission Rehearsal Technologies

SDS' Advanced Technologies Division specializes in providing leading-edge products and services associated with low-cost, PC-based simulation and training systems resulting in cost-effective training and mission rehearsal solutions tailored to meet individual customer needs.

Products include a full suite of PC-based host simulation (first-person-shooter, manned aircraft and unmanned vehicles), image generation (IG) and virtual testbed systems with air, space, land and maritime research and development, test and evaluation and operational training/mission rehearsal applications. Services include visual system design and integration (including multi-channel, tiled high-resolution and dome solutions); manned and unmanned simulator design, development and integration; virtual testbed design and development; network (DIS, HLA, etc.) design and implementation; and custom application programming.

AAcuity® PC-IG

AAcuity® IGs support correlated OTW, HUD and sensor views for space, flight, ground (including MOUT) and sea-based sims using COTS PCs. Includes realistic humans, 2D/3D water, dynamic vegetation (trees/grass), real-time damaging of 3D buildings and terrain cratering, plus shadows, lights and high-fidelity day, night, weather and special effects. Uses OpenFlight, Terrapage and GeoSource-RTB terrains.



AAcuity® Hero-FPS (First Person Shooter)

Hero-FPS provides the capability to observe/interact with virtually any distributed exercise and employ a variety of items (weapons, chem-sticks, lights, etc) while moving throughout the scene. FPS includes a robust visual/sensor (NVG) environment provided by SDS' AAcuity® PC-IG.

ROVATTS™ Adaptable UVS Simulators (Ground)

ROVATTS™ provides a low-cost, PC-based simulation capability with a robust, adaptable architecture allowing development of virtually any (air, ground or sea-based) Unmanned Vehicle System (UVS) simulator for R&D, T&E, and Training/Mission Rehearsal applications; whether stand-alone or distributed (DIS/HLA). Initial ground-based systems include the Small Unmanned Ground Vehicle (SUGV) and Unmanned Ground Sensors (UGS) / UGS Server.



ROVATTS™ Adaptable UVS Simulators (Air)

ROVATTS™ initial Unmanned Aircraft System (UAS) versions include high-fidelity MQ-1 Predator and MQ-9 Reaper simulators available in either COTS Laptop or Tabletop versions. Customers include the Air National Guard (ANG), AF Distributed Mission Operations Center of Excellence (DMOC), Air Force Research Lab (ARFL), and other research centers and Universities.

LiteFlite® Reconfigurable Flight Simulators

Low-cost, PC-based manned simulators that allow aircrews to train and practice in individual and networked (DIS/HLA) team training environments. Current versions include F-16, F-18, A-10, SH-60, and C-130. Available in laptop and cockpit versions.

Typical applications Include: the Virtual component of the I-FACT; Instrument Procedures Instructional Simulator (USAF); and Airborne Tactical Laser research simulation platform (AFRL).



RavenView™

RavenView™ provides an affordable "plug-and-play" capability that adds significant tactical training realism, increases training flexibility and improves usability for Warfighters operating the Raven-B and other Small Unmanned Air Vehicle (SUAV) Sims controlled by the Raven's common Ground Control Station (GCS), all while preserving SUAV system capabilities and operator functions.

Real-World Visual/Sensor Databases

PC-focused geo-typical and photo-realistic geo-specific visual and sensor databases using aerial/satellite imagery and real-world elevation data. Includes GeoSource, and OpenFlight/Terrapage formats with high-fidelity 3D cultural features, material encoding and correlated CTDB.



Real-World Visual Models

Cross-platform compatible (OpenFlight format) aircraft, spacecraft, ship, vehicle, building (including MOUT) and human models. Includes multiple levels-of-detail, high-fidelity photo-realistic texturing, and fully articulated surfaces.