

THE VALUE OF PERFORMANCE.

**NORTHROP GRUMMAN**



## *IR/EO Simulation Systems*

*RISS - Real-time IR/EO Scene Simulator*

*Covering all bases from requirements definition to installed system testing*

**W**hy invest in a tool that is used in test and evaluation if you're still defining requirements or just starting the initial design phase?

- Because it would streamline development, reduce costs, and keep your program on schedule.
- Because it would eliminate the costly fire/fix/fire approach to live range testing.

Our Real-time IR/EO Scene Simulator (RISS) provides these advantages for missile seekers, missile warning systems, FLIRs, andIRST systems throughout the program life cycle:

- It helps requirements definition teams to specify systems accurately and economically.
- It enables contractors to design, develop, and produce systems - on time and within budget - that meet performance requirements.
- It allows end-users to verify system performance while it's still cost-effective to do so - with confidence

that live range tests will validate simulated results.

RISS provides unrivaled spatial, spectral, and temporal fidelity. Our physics-based approach, along with the use of validated models and the newest graphics technology, offers a level of performance that cannot be obtained using simulators designed for training or other vis-sim applications.

### **Complete Simulation Solutions**

Integrated software and hardware tools provide high-fidelity, real-time, reactive imagery for test and evaluation systems in hardware-in-the-loop and man-in-the-loop configurations. The complete simulation process is supported, starting with synthetic environment database development, test scenario lay-down, image generation, and sensor effects modeling. For developmental purposes, the applications can be synchronized to the system-under-test to run at real-time rates, or run faster or slower than real time.

## RISS Components Include:

**Model Builder** — Supports import, attribution, and management of 3D target, object, and terrain databases. Extensible, open database standards are used for model import and run-time database creation.

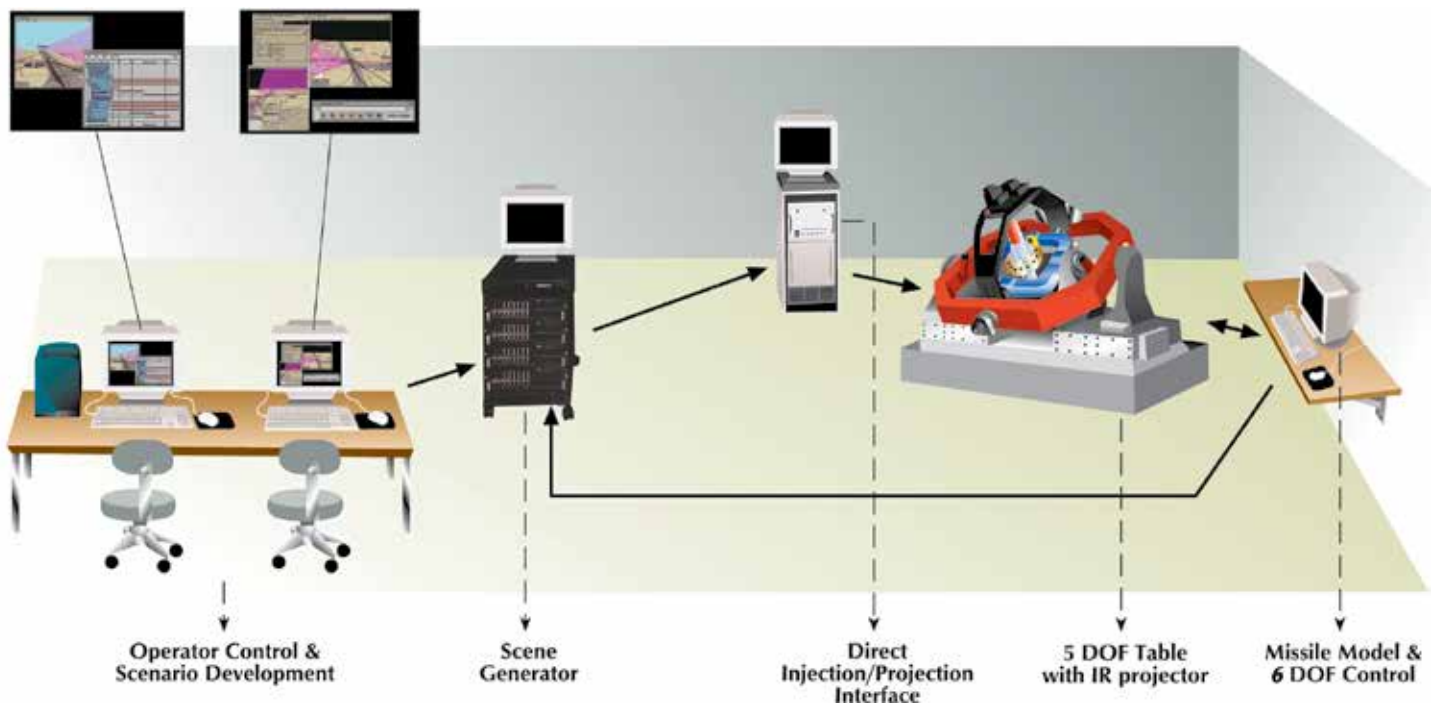
**Model Toolkit** — An integrated tool set for building real-time databases from high-fidelity, validated, EOIR signature and phenomenology models including MODTRAN, SPIRITS, RadThermIR, SPURC, DISAMS.

**Scenario Builder** — An interactive environment for scripting operational test scenarios. Provides GUIs for event sequencing, gaming area and event visualization, and test previewing.

**Controller** — The interface for configuration of simulation assets and real-time control of the simulation. A graphical situation display provides visualization of simulation events.

**Scene Generator** — A high fidelity, real-time EOIR image generator. Uses advanced graphics technology and commercial interface standards. Scalable for all applications.

**Programmable Sensor Emulator** — A real-time image processing system, providing an interface between an image generator and a scene projection device, a sensor, or display hardware. It provides post image generation processing for EOIR sensor emulation and direct signal injection formatting.



## For more information, please contact:

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