

## GENERIC Smart Indirect fire Simulation v2.4

Initially sponsored by the Smart Weapons Management Office (now referred to as Weapons & Technology Management Office) of U.S. Army Materiel Command and the U.S. Army Materiel Systems Analysis Activity (AMSAA), **GENESIS** version 2.4 is the latest in a series of **GENESIS** software products provided to the defense community through WSTIAC.

**GENESIS** is a many-on-many indirect fire, smart munition systems effectiveness model used to evaluate various smart weapons in the context of a generic simulation.

**GENESIS** was designed to model many different smart munitions within one model.

**GENESIS** is an end-game model—it simulates those processes that occur after dispense from the delivery vehicle.

Once the target is encountered, the simulation checks for clear line of sight, target engagement, detection, hit and kill.

**GENESIS** is generic from the standpoint that it can model many different kinds of weapons. Sensors are represented through multi-parameter probability lookup tables.

### Typical Users

**GENESIS** is for project engineers, weapon system designers, system program analysts and anyone who needs to perform “what if” or parametric studies of weapons system effectiveness.

### Applications

A typical **GENESIS** application is a sensitivity analysis in which weapon effectiveness is evaluated as a function of an input parameter, such as the probability of detection. Other applications include:

- Operational requirements definition
- Concept development
- System design
- System evaluation
- Operational effectiveness support

### Benefits

While there are several smart weapon many-on-many simulations in the community, **GENESIS** offers a unique capability. Its menu driven interface makes it very easy to learn and to use. Its flexibility allows the model to simulate a wide variety of weapon concepts. These range from unguided bomblets to submunitions with complex processing techniques dispensed from smart delivery systems. The simulation graphics provide the user with an understanding of exactly is happening in the end game. **GENESIS** also provides the most extensive reporting options of any many-on-many effectiveness model available.

In 1990, **GENESIS** version 1.3 was adopted by the Joint Technical Coordinating Group on Munition Effectiveness (JTCEG-ME) as the tri-service standard many-on-many effectiveness model. Version 2.4 is the latest version and has undergone verification and validation by AMSAA, and has been accepted as the standard for effectiveness modeling of indirect fire precision guided munitions.

**GENESIS** is available to US Government Agencies and their contractors.

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**GENESIS** may be purchased by contacting WSTIAC at 315.339.7047, Fax: 315.337.9932 or email: [wstiac@alionscience.com](mailto:wstiac@alionscience.com).