

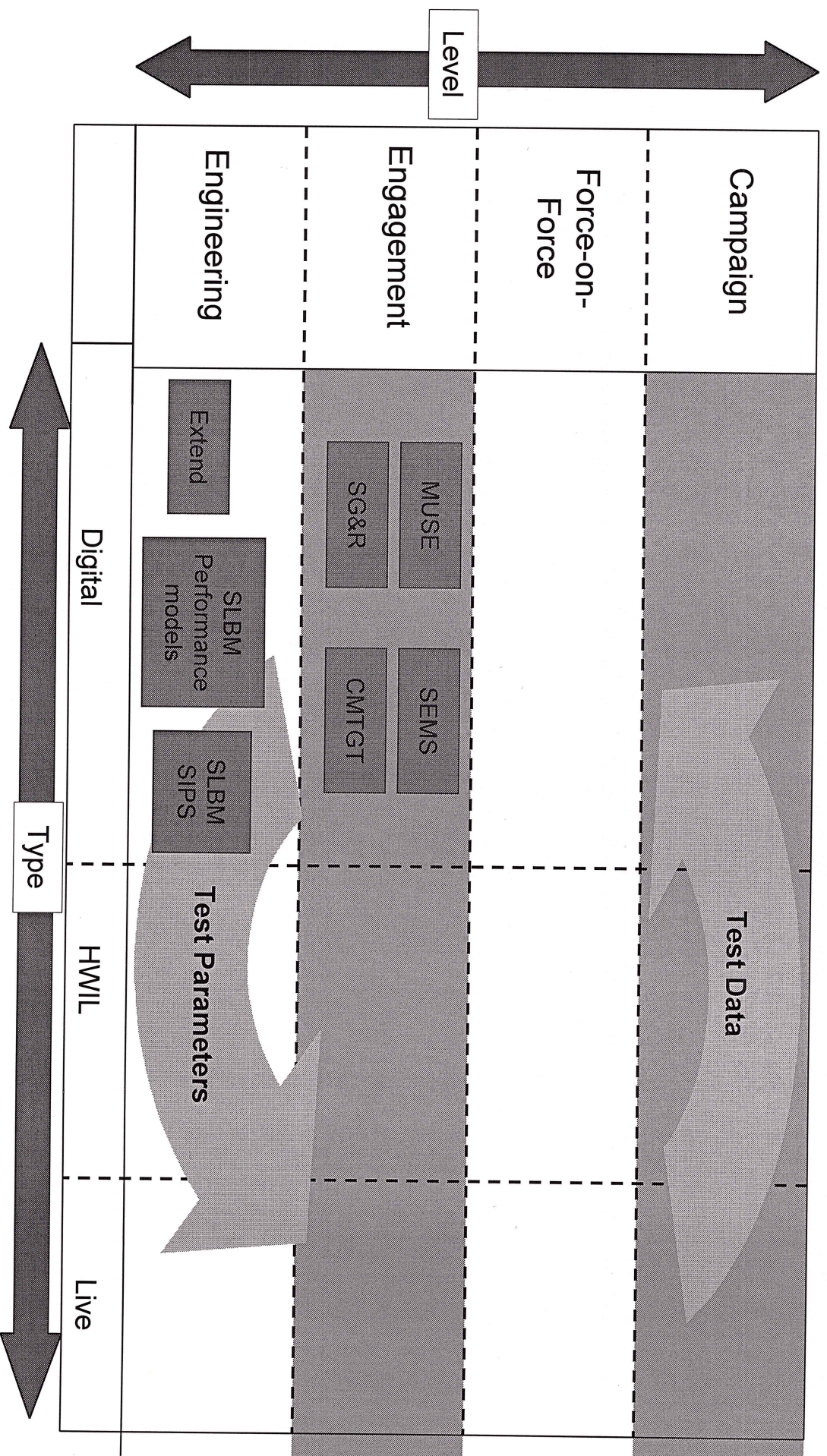


CURRENT K-DEPT M&S EFFORTS

T. Gemmill

30 Nov 99

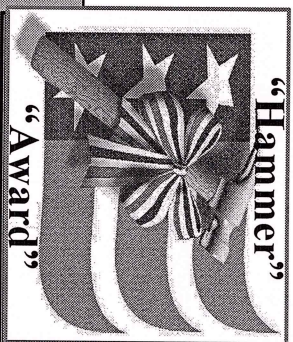
M&S HIERARCHY CHART



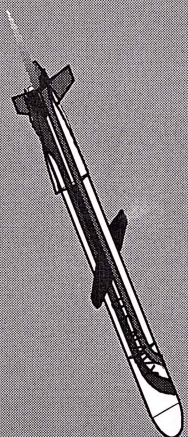
SIMULATION TYPES

SIMULATION Type	NAVY	
<ul style="list-style-type: none"> ■ Performance Prediction & System Analysis ■ Architecture Evaluation & Requirements Analysis 	<div>Extend</div> <div>SLBM Performance models</div> <div>SLBM SIPS</div>	
<ul style="list-style-type: none"> ■ Wargames ■ Training//Exercises 	<div>SG&R</div> <div>CMTGT</div>	
<ul style="list-style-type: none"> ■ Integration ■ Testing 	<div>SEMS</div> <div>MUSE</div>	

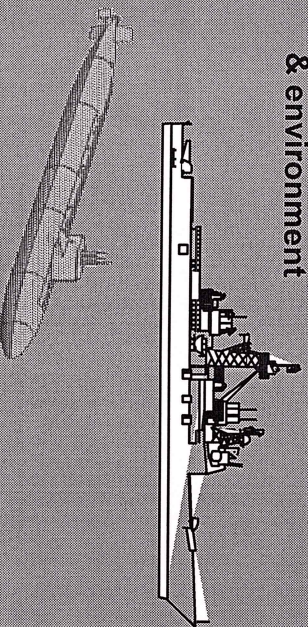
SHIP / SUB ENVIRONMENT AND MISSILE SIMULATION (SEMS)



Tomahawk missile

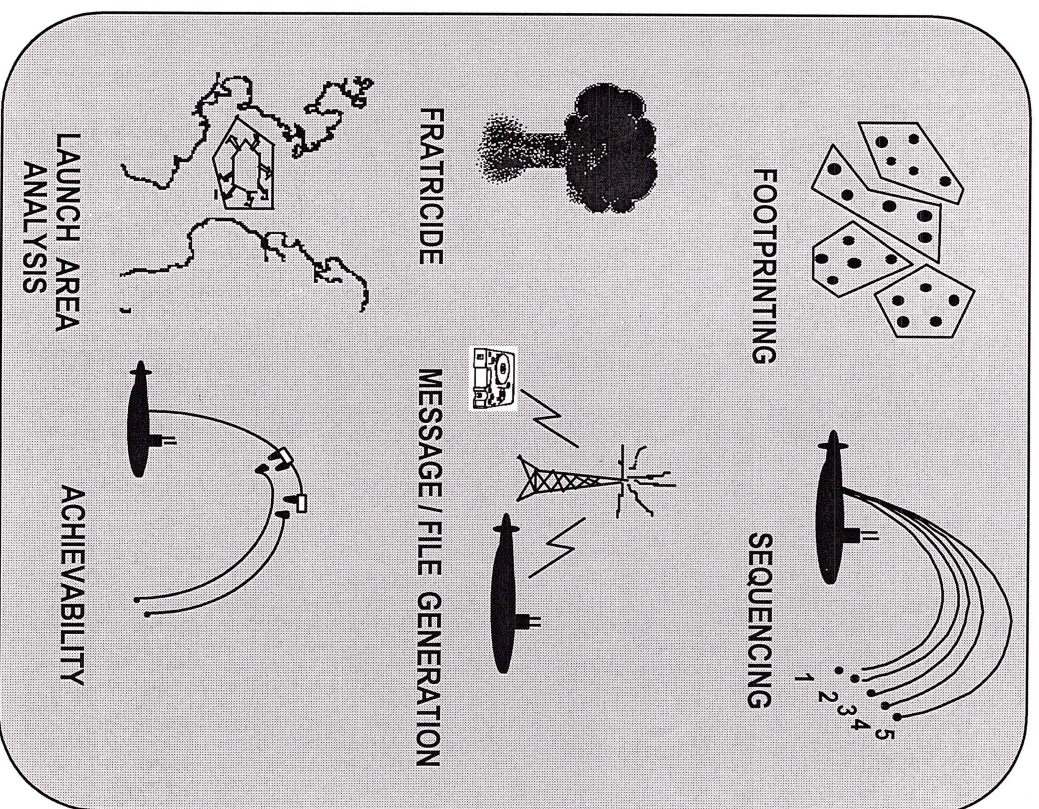


Tomahawk launch platform
& environment



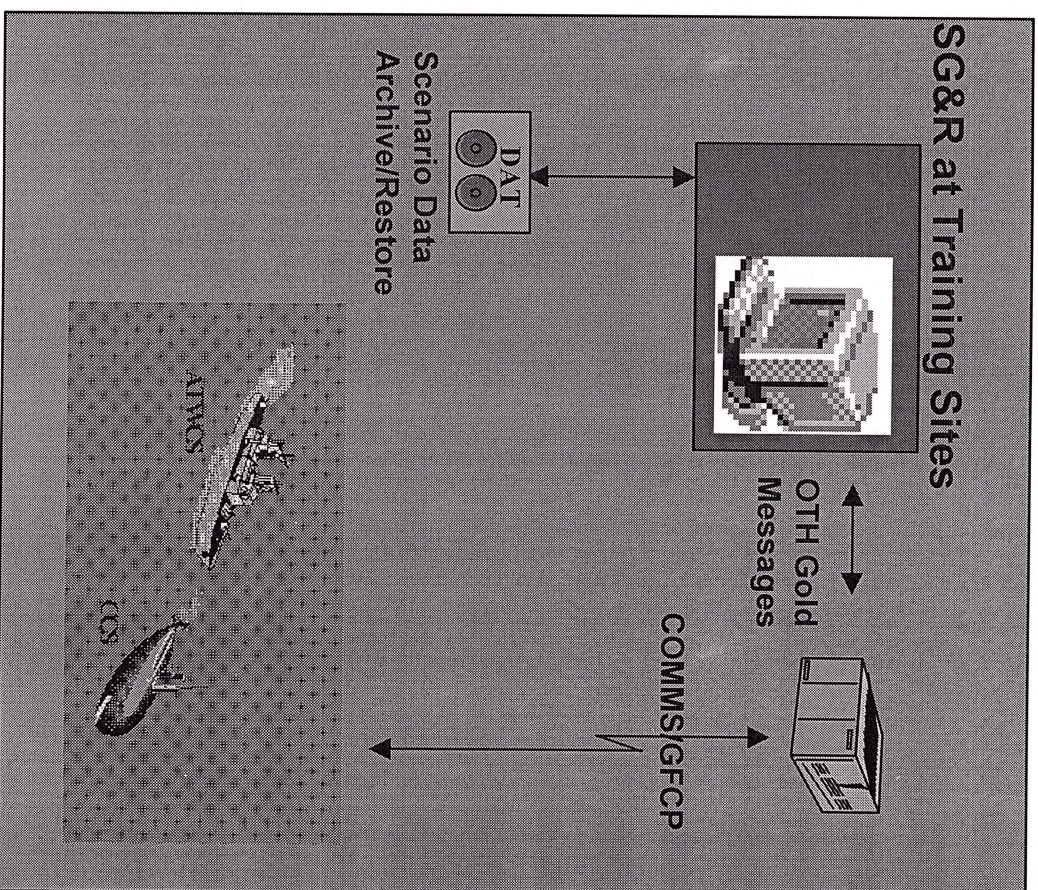
- Purpose:
 - Provides high-fidelity Tomahawk launch platform simulation coupled with real-time missile simulation
 - Operates with tactical missile launching hardware
 - Performs missile flight to target
- Users:
 - Tomahawk system integration testers
 - System analysts
 - COMOPTEVFOR for ATWCS DT/OT testing
- Simulation Type:
 - Integration, testing

SLBM INTEGRATED PLANNING SYSTEM (SIPS)

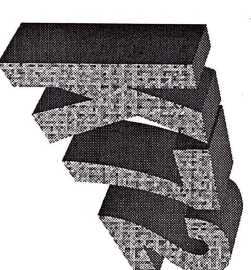


- Purpose:
 - SLBM planning and evaluation tool
 - Test bed for defining / evaluating future architecture upgrades
 - Supports SLBM Retargeting System effort
- Users:
 - SLBM analysts and system developers
- Simulation Type:
 - System performance and analysis

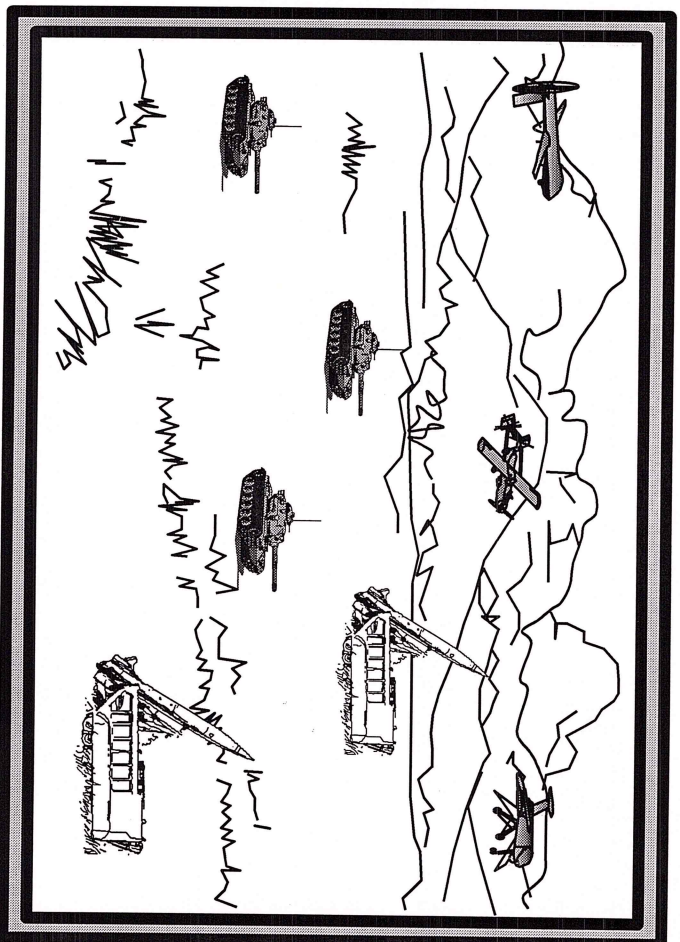
SCENARIO GENERATION & RECONSTRUCTION (SG&R)



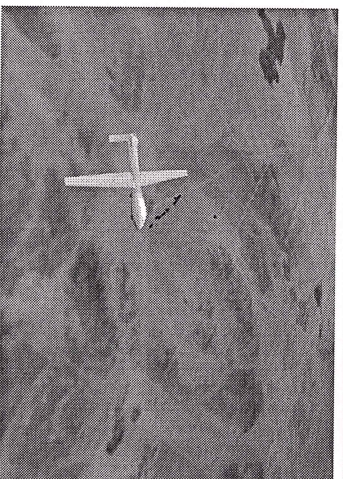
- Purpose:
 - Simulates tactical message traffic via external comms
 - Provides ATWCS fire control training activities and TDBM training
 - Stimulates engagement and mission planning
 - Records significant events for scenario playback
- Users:
 - Advanced Tomahawk Weapons Control System
- Simulation Type:
 - Training / exercises
 - Testing



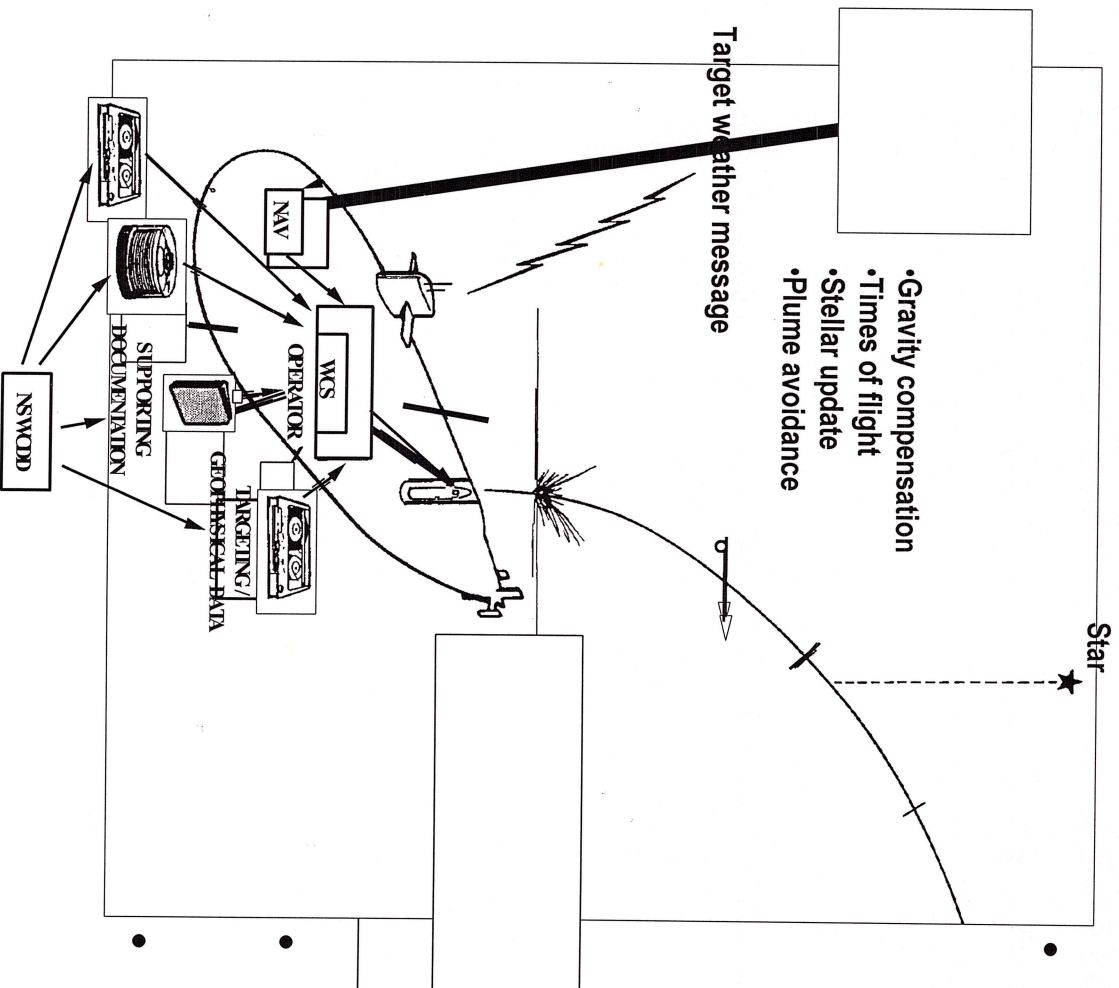
MULTIPLE UAV SIMULATION ENVIRONMENT (MUSE)



- Purpose:
 - Simulation of multiple UAV systems
 - Creates realistic operational environment
 - Real-time operator-in-the-loop simulation
 - Includes Predator, Outrider, Pioneer, and Hunter
- Users:
 - UAV Tactical Control System
- Simulation Type:
 - Training / exercises
 - Testing



SLBM PERFORMANCE MODELS



- Purpose:
 - SLBM models prepared for design and development of SLBM Fire Control System
- Models include:
 - Trajectory
 - Environment
 - Accuracy
 - Field Flow
- May execute independently or be linked for end-to-end capability
- Users:
 - SLBM developers, analysts
- Simulation Type:
 - System performance and analysis

CRUISE MISSILE TRAJECTORY GENERATION TOOL (CMTGT)

- Purpose:

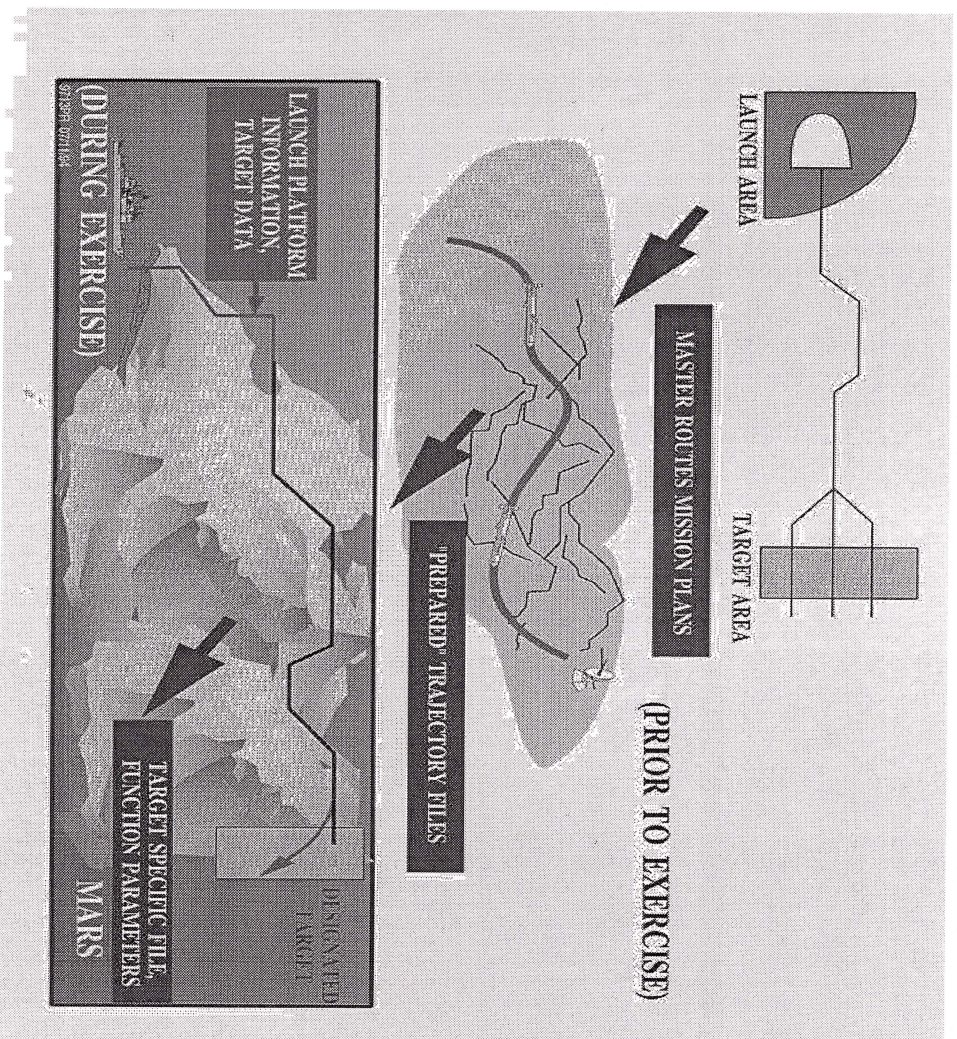
- Generates Tomahawk missile trajectories for DIS/HLA exercises
- Flies missile from launch to target

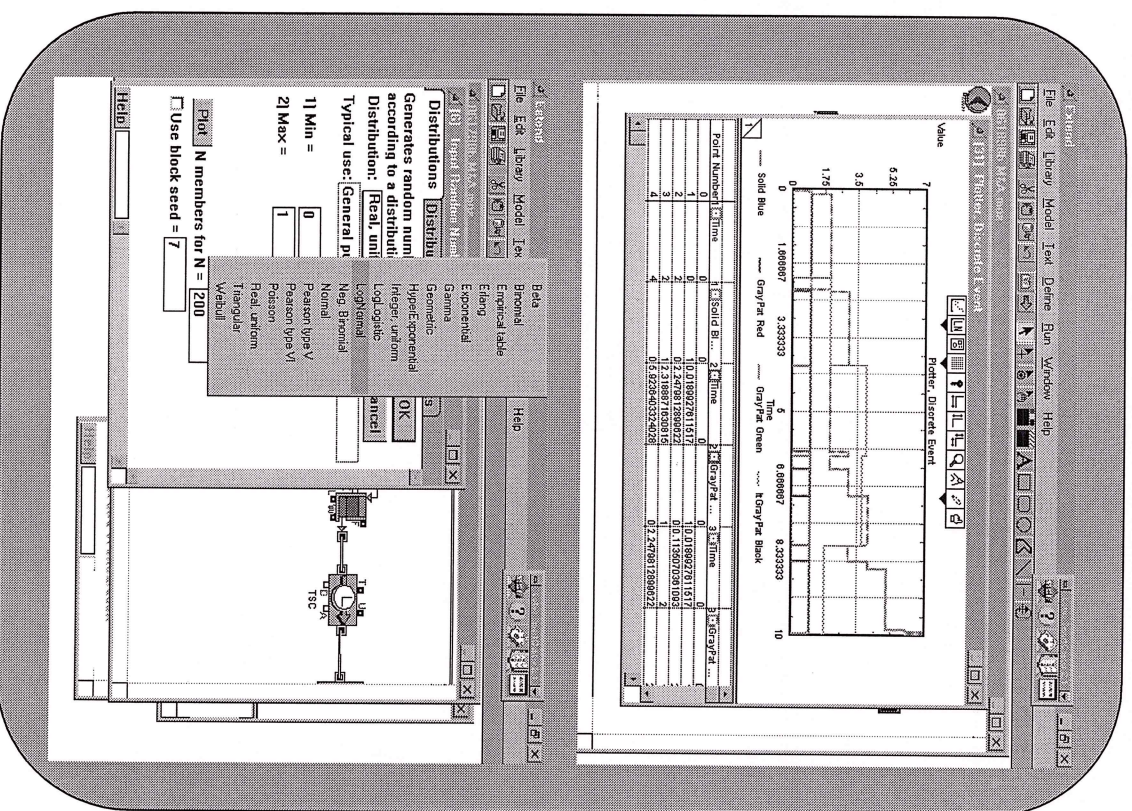
Users:

- MARS
- BFTT
- SG&R

Simulation Type:

- Wargaming
- Training





- Purpose:
 - Performance modeling tool for decision support
 - Models driven by discrete events or continuous time
 - Graphical system representation
 - Used for Weapon Control System requirements and design analysis
- Users:
 - Advanced Tomahawk Weapons Control System
- Simulation Type:
 - System modeling tool

