INTRODUCTION

THE JANUS (AS) BATTLE SIMULATION

Janus Focus

- Janus supports training and experimentation.

- In the training role, Janus provides a post H hour tactical decision trainer.

- Commanders (and Staff) are practiced in the combat decision making process while managing tempo and BOS synchronisation in a post H hour environment.

- The user can deploy forces, fight a battle and analyse the results.

Janus Overview

- Janus is a multi-sided, high fidelity, real-time, interactive, 'human-in-the-loop' simulation that uses colour graphics to portray realistic events during combat.

- The simulation can model individual fighting systems or individual soldiers and can realistically portray up to brigade plus size forces including neutrals.

- Battle engagement results are determined by using algorithms to process detection's, acquisitions, target priorities, shots and hit and kill probabilities i.e. the 'kill chain' outcome.

- Janus uses a 2D display to depict contour lines, roads, rivers, vegetation and buildings and urban areas and uses elevation data for the third dimension to effect line of sight and movement.

MANOEUVRE

- Individual vehicles and weapon systems
- Protection – armour (vehicle and personal)
- Movement
- Detection
- Engagement
- ROE/OFOF
- Urban – buildings, floors, roof, fire ports
- Neutrals

MOBILITY & SURVIVABILITY

- Minefields and Obstacles – set up (volcano, FASCAM) and breach (roller, plough & line charge)

- Survival pits – vehicle and individual

- Bridging, Rafting & swimming - vehicle and individual

- Obscuration

OFFENSIVE SUPPORT

- Ammo types – Excalibur, SMArt 155, smoke, HE, FASCAM, DPICM (no illum or VT)

- Impact Patterns – Linear, 200 x 200, 400 x 400 etc

- MLRS, mortars

- CAS – JDAM

- AD – PSTAR (ER), RBS 70, OPFOR radars, guns and missiles

- STA – UAV (various), WLR, GSR, UGGS, TSS

AVIATION

- Air mobile – MRH 90, CH 47
- ARH – hellfire, cannon and rockets
- Auto Defence – flares and chaff
- Radar - threat warning

LOGISTICS

- Ammo resupply

- Fuel resupply

Modeling

- Janus accurately models standard military vehicle and weapon systems as a function of each system's technical capabilities as influenced by terrain, meteorology, and visibility.

- Direct fire engagements, indirect fire, engineer obstacles, ground based air defence, attack and utility helicopters, tactical fixed wing aircraft, forward observers with laser designators and water craft can be modeled.

- The urban and littoral environment can be modeled.

Computer Control Logic

Janus icons have automated responses for the following events:

- initiate direct fire

- react to a landmine

- react to an obstacle

Janus icons can be cued to:

- change formation, speed, altitude, breach, bomb

- SOP responses to contacts and engagements

- dismount passengers or cargo

- initiate events at a time

- halt and observe when area of interest is in view

The Workstations

- Detect, acquire, decide
- Engage - Direct fire including area suppression
- Engage - Indirect fire, laser designation options
- Movement - tracked, wheeled, foot, marine, flyers
- Terrain - Topographical features, slope, man made and natural obstacles, urban and littoral
- Line of sight - obscuration by smoke, terrain ('dead ground') and vegetation effects
- Logistics - Re-supply of Ammunition and POL and Casualty evacuation.

Activity Control

- The Controller Workstations (CONWOR) allow control staff/instructors to monitor the battle. They can:
  - Display *both or either sides'* locations and movement routes
  - Display *Direct fire engagements* and *Indirect Fire impacts*
  - Display *obstacles*
  - Provide *situational awareness* and *other information*
- The control staff can influence the battle as required by the activity aim and objectives. They can retain icons in reserve and intervene to kill, resurrect, reorganise, resupply and move icons.

Replay Tool

- Allows the battle to be replayed from various perspectives (both sides or one side's perspective)
- Shows direct fire engagements, indirect fire impacts
- Shows obstacles
- Provides information
- Shows Losses
- Supports the After Action Review process
- 'Take home' version available

Data Analysis Tool

- Allows the battle statistics to be reviewed

- Supports the After Action Review process

- provides insight into tactical effectiveness

- Provides insight into weapon and other system effectiveness

- graphic and text display options

- 'Take home' version available

QUESTIONS?