



CROSS FUNCTIONAL TEAM

**SYNTHETIC
TRAINING
ENVIRONMENT**

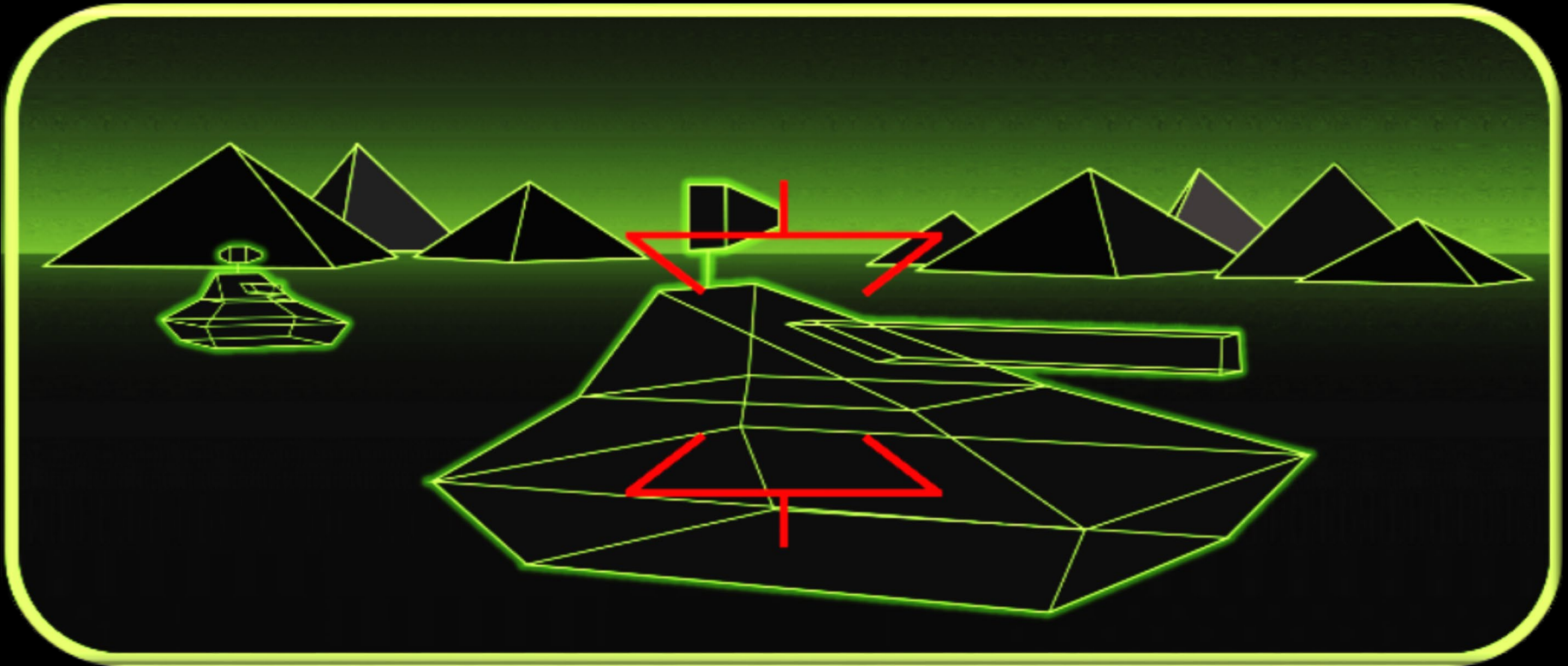
Mr. Michael Cannizzaro
Technology Development Division Director

Virtual Humans in STE



Army Simulation & Training Challenges

CROSS FUNCTIONAL TEAM SYNTHETIC TRAINING ENVIRONMENT



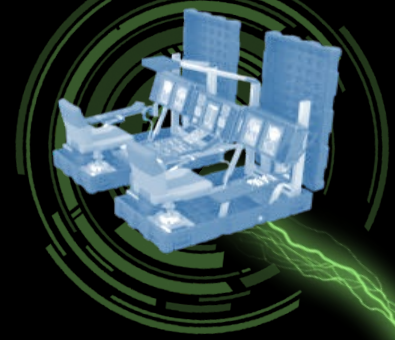
- Based on obsolete technologies
- Designed as stove-piped systems
- Growing sustainability costs
- Model and terrain incompatibilities
- Unable to replicate the complex operational environment





CROSS FUNCTIONAL TEAM SYNTHETIC TRAINING ENVIRONMENT

Training Management
Tool



Reconfigurable Virtual
Collective Trainer - Air



Reconfigurable Virtual
Collective Trainer - Ground



Integrated Virtual
Augmentation System



One World
Terrain



Training Simulation
Software

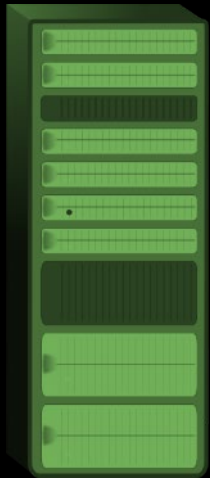


Soldier Virtual Trainer





Data Stores



One World Terrain
Doctrine
User Proficiency
PMESII-PT
Scenario Templates
Graphics Models
Behavior Models
Articulation Models

Exercise Design & Control



Runtime



Soldier Virtual Trainer



Reconfigurable Virtual Collective Trainer – A/G

Analytics & Archiving





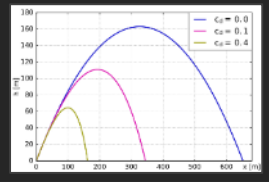
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Source Data

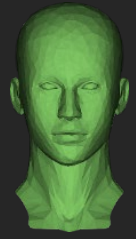
Marksmanship Trainer



Weapon Performance

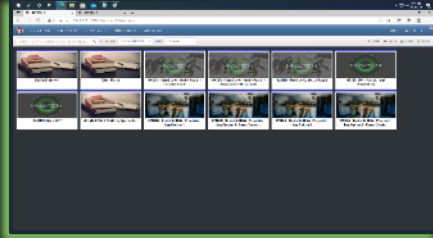


3D Scan



Planning

Exercise Design & Control



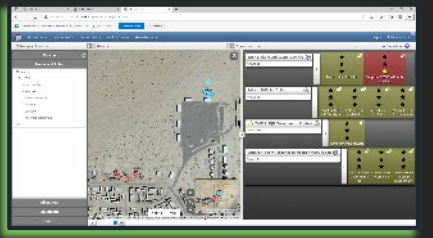
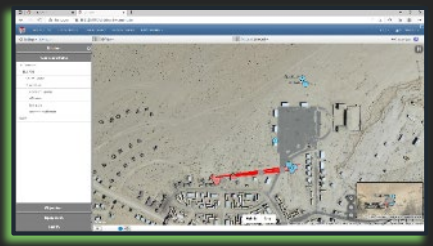
Soldier Avatar



Hybridized Weapon Model



Runtime



Assessment, Feedback & Archive

After Actions



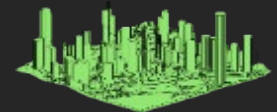
Data Curation





Virtual Humans research areas for STE

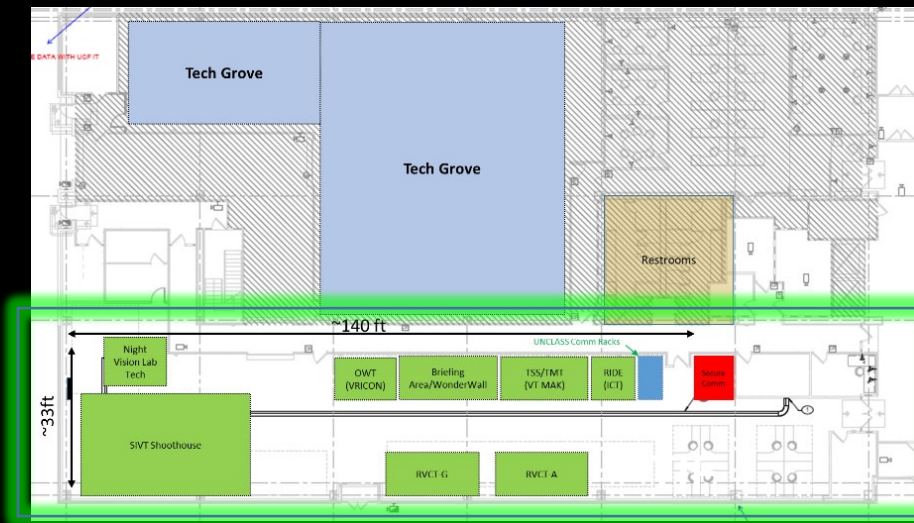
- Rapid & simple 3D avatar scanning
- Holistic human performance data as-a-service
- Reusable and transportable articulation models
- Validated PMESII-PT (political, military, economic, social, information, infrastructure, physical environment, and time) scaling from individual to population
- Analytic performance and assessment tools from individual to brigade+
- Behavior models relevant to all-domain operations
- Data models for storage of virtual humans in a military context





TIF Focus Areas

- *Assessing progress in STE Lines of Effort (LOEs)*
- *Prototyping complex research topics*
- *Integrating technologies from S&T, Academia, and Industry*
- *Demonstrating innovative solutions*





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