

Populating British Army LVC training using Generative AI

Scaling a representative AI-powered synthetic training environment

Hadean has successfully delivered a new training capability funded by the Defence and Security Accelerator (DASA) under a Defence Science and Technology Laboratory (Dstl) contract. This project enabled us to research and develop a scalable,

AI-driven synthetic training environment designed to populate the digital worlds of military training with realistic and dynamic human terrains.

This uses AI to create a realistic, consistent, and configurable simulation of A3E (Audiences, Actors, Adversaries and Enemies), responding dynamically to events and actions in the training exercise, with end-to-end AI interfacing, as well as in-depth after-action analysis.

Our solution injects civilian behaviours and sentiment into a dynamic social media environment, automatically summarising events for after-action review (AAR). This integration capability provides a more authentic and complex training experience for trainees, enhancing their ability to navigate multi-domain operations.

Responsive synthetic human terrain

for Live, Virtual & Constructive (LVC) training

Real-Time Civilian Behaviours and Sentiment Tracking in Dynamic Environments

Automatically summarised events for after-action review

Hadean's Role

Hadean leveraged its AI-powered spatial computing technology to develop a scalable Pattern of Life simulation. This simulation integrates seamlessly with large-scale Synthetic Training Environments (SSEs) and LVC training to enhance multi-domain exercises, situational awareness, and decision-making support.

The project achieved the following:

- **Dynamic A3E Entities:** Our simulation created responsive A3E entities that adapt to cues, stressors, and frictions across human and information domains.
- **Scalability:** We implemented the ability to scale populations of simulated civilians according to the specific requirements of each simulation scenario.
- **Social Media Simulation:** A large language model (LLM)-generated social media feed reflected population sentiment, tracking civilian responses to events in real-time.
- **AI Analysis:** Our AI provided immediate insights through after-action reviews, enabling faster and more informed decision-making.

Get an in-depth look at Hadean's synthetic human terrain in this demo video.

Benefits

- **Increased Training Fidelity:** Dynamic, AI-driven human terrains add depth and authenticity to training exercises.
- **Enhanced Situational Awareness:** Real-time simulation responses enrich situational awareness across multiple domains.
- **Efficient Scalability:** Flexible population scaling ensures tailored training for any scenario.
- **Real-Time Adaptation:** Real-time social media and sentiment analysis introduce evolving complexities.
- **Comprehensive After-Action Reviews:** Rapid after-action reviews enable immediate feedback and training adjustments.