Megacities and Dense Urban Area Modeling Solutions

*Dignitas Technologies **synthetic environment** core competency includes visual and physics-based models of the increasingly dense and complex Operating Environment. These modeling solutions are increasingly being used in simulations to help understand interactions between human and physical systems and leverage innovative sources of information and big data analytics for situational understanding. A set of Multi Resolution Environmental Services are used to provide a Synthetic Natural Environment as a Service (SNEaaS).*

Above Ground Environments

VULGUS CROWD MODELING

- Efficiently models crowd and vehicle traffic that represent typical activities of urban life.
- Balances realism and resource utilization.
- Includes representations for civilian infrastructure components such as traffic control, power, and communications.
- Enables Cyber Warfare simulations with attacks on Civilian Infrastructure and the cascading effects.

Underground Environments

- Underground structures are important in urban environments because basements, subways, sewer systems, and other underground elements frequently affect operations in urban and asymmetric warfare.
- Our solutions consider aspects of the entire pipeline for underground representations, spanning from source data collection through to behaviors.
- Developing simulation engine-agnostic processes and algorithms to procedurally generate game-quality subway networks.
- Using cutting-edge voxel technology for the representation of volumetric environments.

- Developing advanced Artificial Intelligence behaviors to navigate subterranean networks, including mounting subway trains.

SNE as a Service (SNEaaS)

- Provides a set of SNE services to support modeling, simulation and training use cases.
- Correlated and composable services discoverable and executable by SNE system of systems.

Product/Services Available

- Cerberus is a server-based application that provides current and future simulation systems the functionality to support underground environments.
- PoL urban simulation (Vulgus) to include crowd and traffic modeling and effects.

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