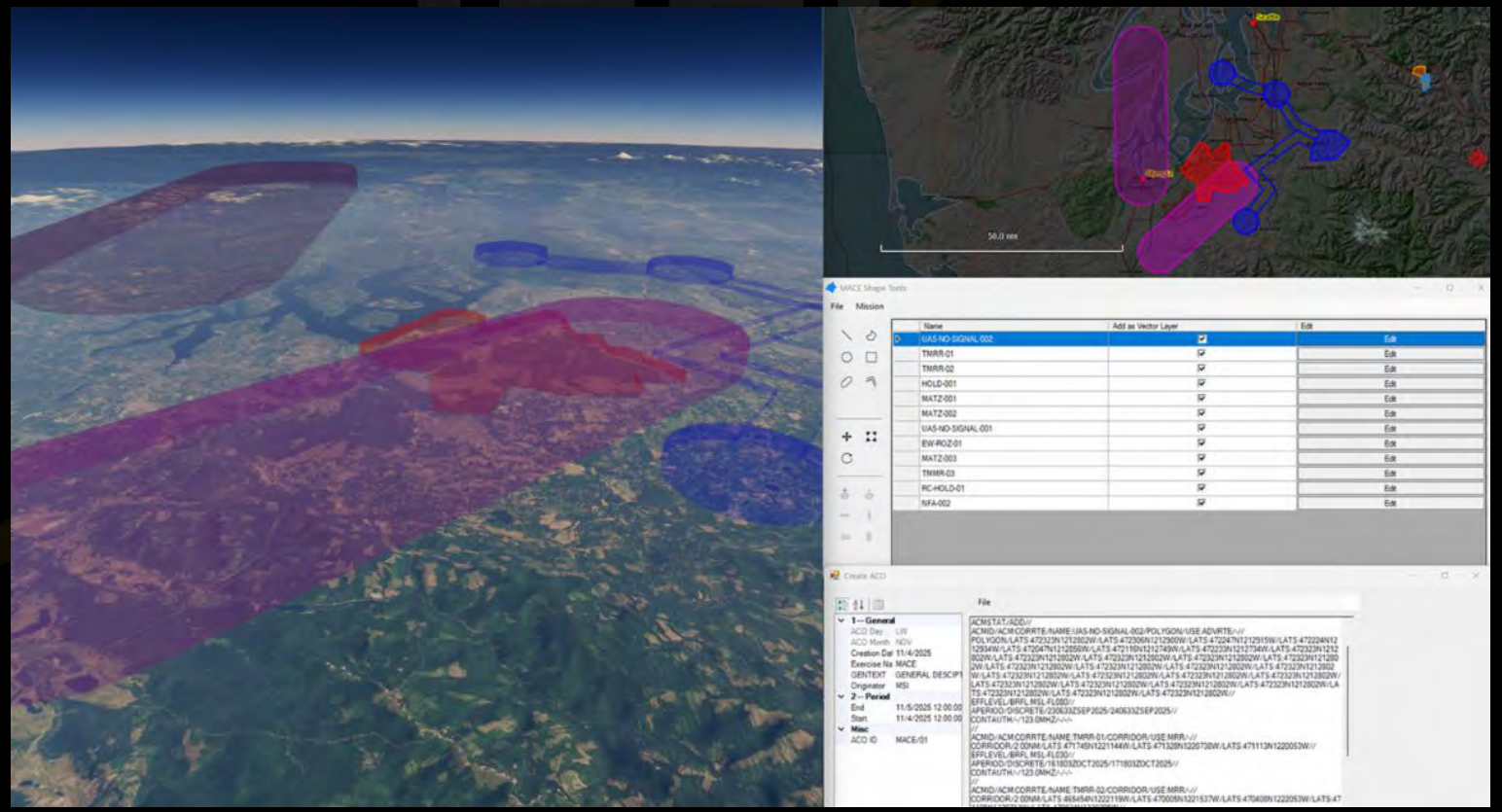

120
140
200
180
160
AIM-120 AMRAAM
Altitude: 44157 ft MSL
44157 ft AGL
AIM-120 AMRAAM
Altitude: 43720 ft MSL
43720 ft AGL
AIM-120 AMRAAM
Altitude: 39313 ft
39313 ft
BSI
BSI
BATTLESPACE SIMULATIONS

What's New in MACE 2025R1

New Shape Tools

- Easier and faster drawing and editing of shapes on MACE.
- Display in ARMOR.
- Export to ACO.



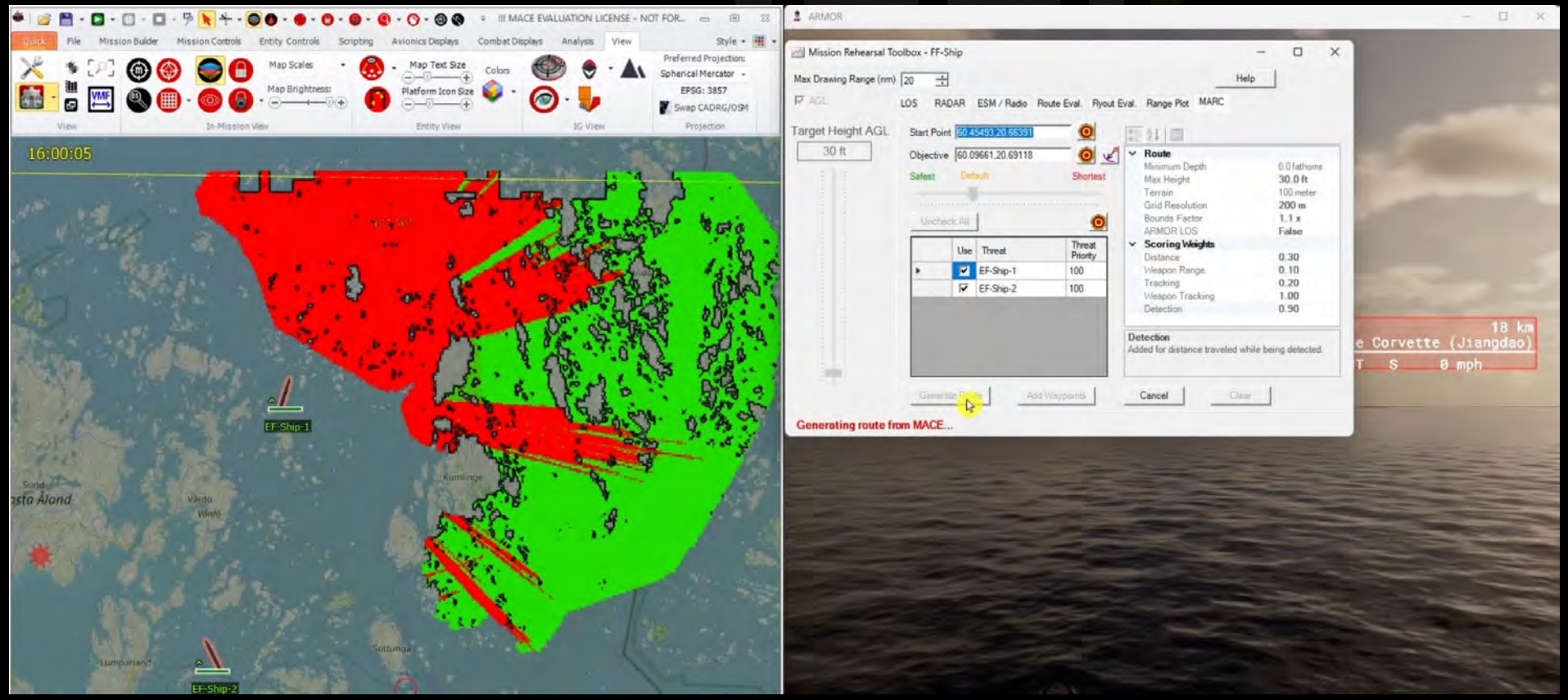
Small Unmanned Aerial Systems (SUAS)

- Realistic aerodynamic and battery modeling.
- Accurate data and video link degradation.
- Use physical controllers.



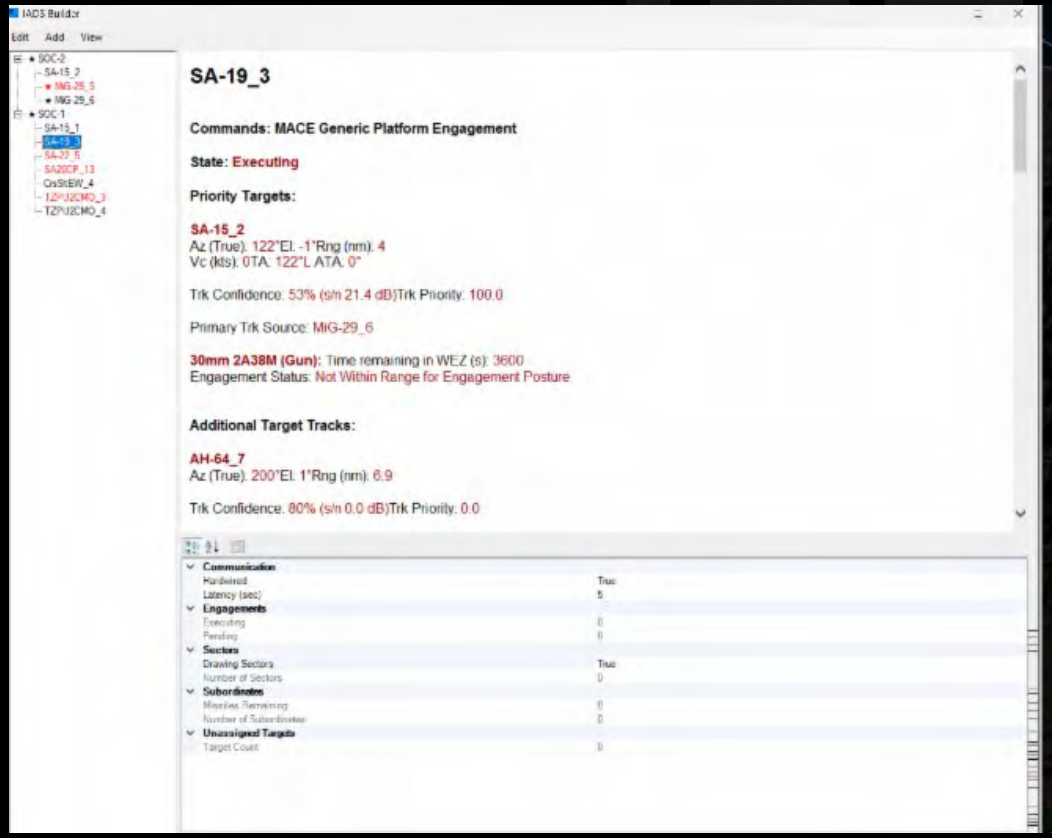
MARC for Surface Vessels

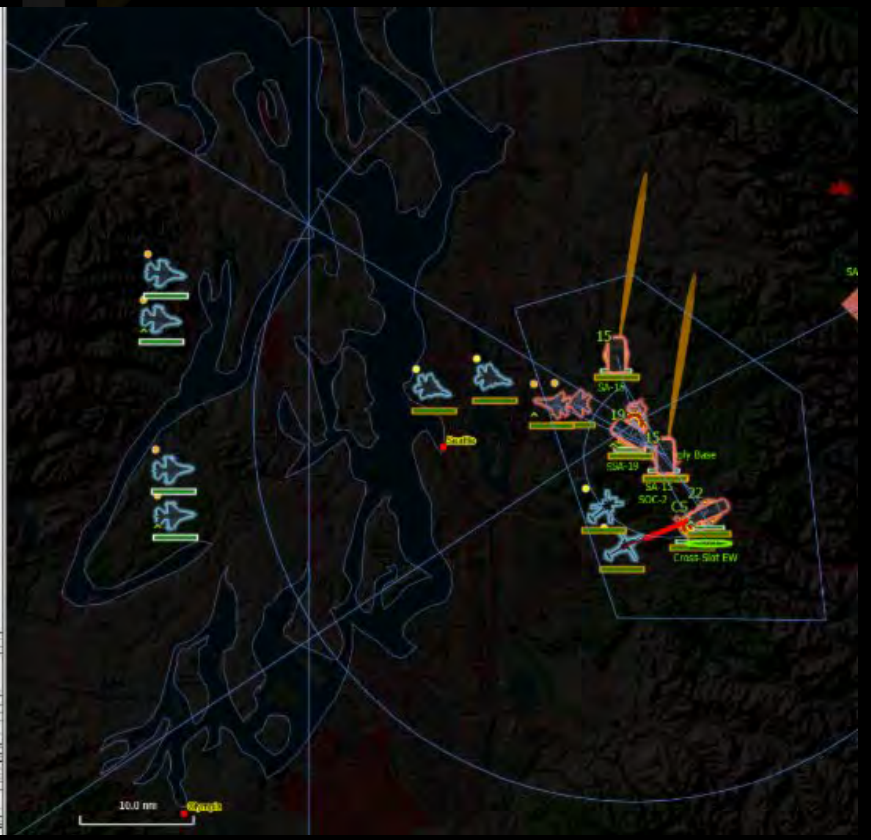
- Advanced route planning for surface ships.



Integrated Air Defense Enhancements

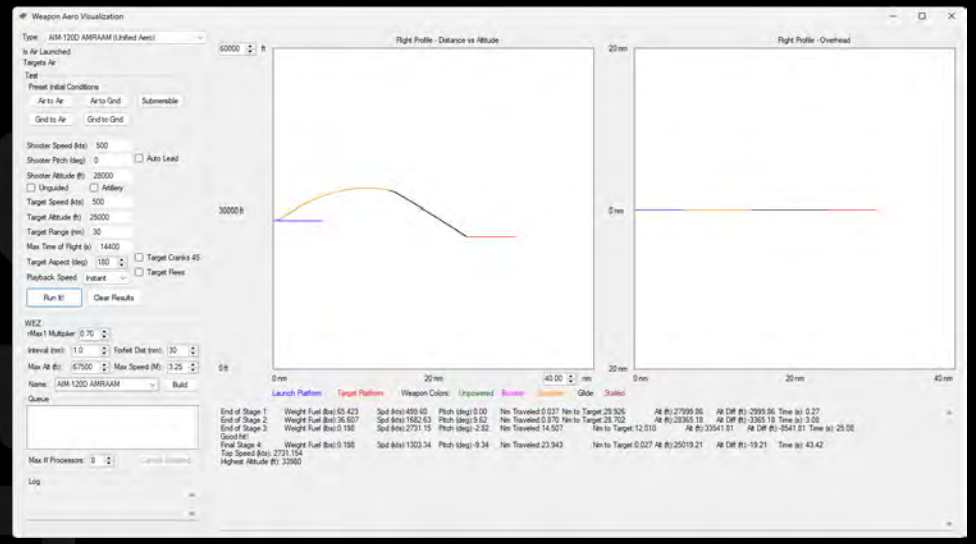
- Plan defenses by sector and altitude lock.
- Speed & IFF Filter
- Integrate defensive counter-air



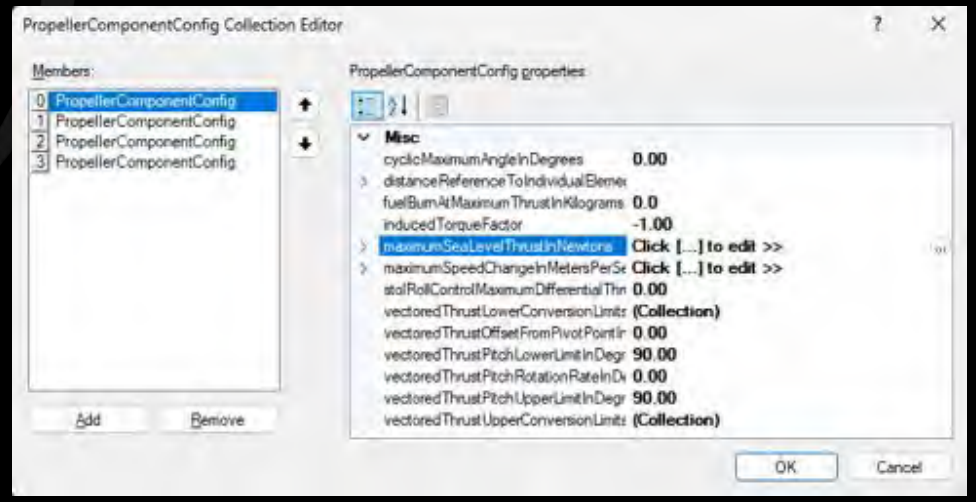


Aerodynamic Models

- Weapon Aerodynamics
  - Deprecated Ballistic & Missile Aeros.
  - Replaced by single Unified Weapon Aero.
  - Proper submersible weapon support.

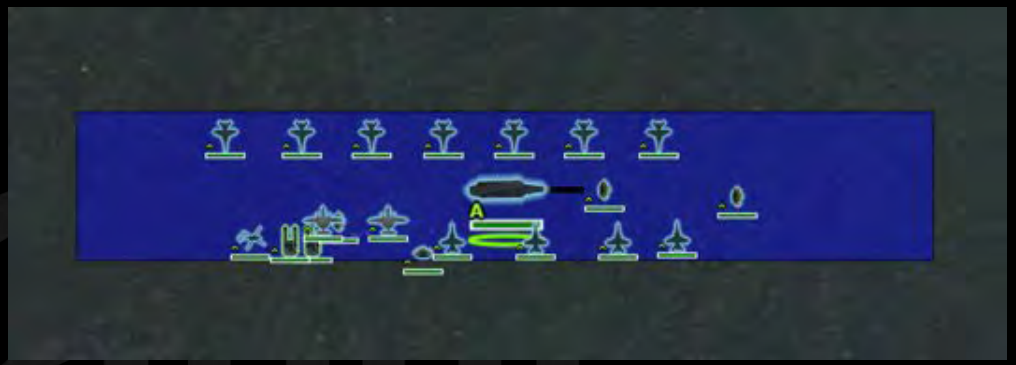


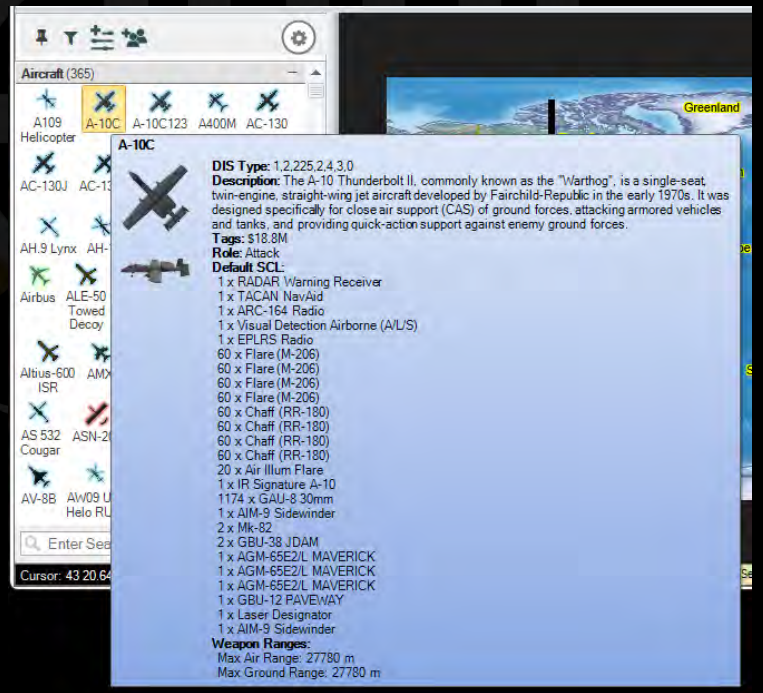
- Platform Aerodynamics
  - Quadcopter virtual and constructive flight model.



UI Improvement

- Updated Platform Icons
  - Border is Team
  - Stance is Around Health Bar
- Mission Builder
  - Descriptions & Images
  - Equipment Descriptions





ATO & Aeronautical Support

- ATO Export
  - Create route with loiters to define mission.
  - Script triggers for refueling.
  - Descriptors to further refine.
- Expanded Aeronautical Database Support
  - Added X-Plane and OurAirports Database
  - Supported in API via Shared Libraries
  - Enables worldwide support for METAR import.
  - ICAO diverts (Land “EGDM 05”)

And more…

- Helicopter Formation Improvements
- Autonomous Dropped Munitions (from Quadcopters)
- Quickly manually create J3 tracks from the map.
- RF Noise/Clutter from Sea States
- Satellite improvements
- Better weapon guiding, TOF estimates, 9-line timing
- Script triggers Platform Is Lased / Platform Detects Target
- Waypoint context menus for faster access to common functions
- Improvements to TAC Display
- Recycle bin gone - Delete on context
- LZ - approach lane
- Formation on ground for aircraft
- Fixed wing smooth takeoff rotation / flare on landing
- Scale Bar on Map
- Culturals and IG now default to ARMOR IG
- MACE Web UI with basic entity control and JFIRE
- MACE Web API - Better support for multi-client connection
- API Enhancements –MIL-STD-2525 Symbol Library
- CIGI Symbols Library for custom overlays (CIGI v4 compliant) – supports textures

What's Coming in MACE 2026

MACE Framework Upgrade: .NET 10 Core

- MACE 2026 refactored to .NET 10 Core
  - Modern .NET architecture
  - UI components divorced from underlying core logic
  - Headless MACE will be cross platform (Windows & Linux)
- MACE Kernel better manages thread concurrency
  - Ensure consistent mission playback regardless of clock multiplier
  - Will permit mission execution at limits of CPU capability (Greater than 8x speed with no degradation of accuracy)

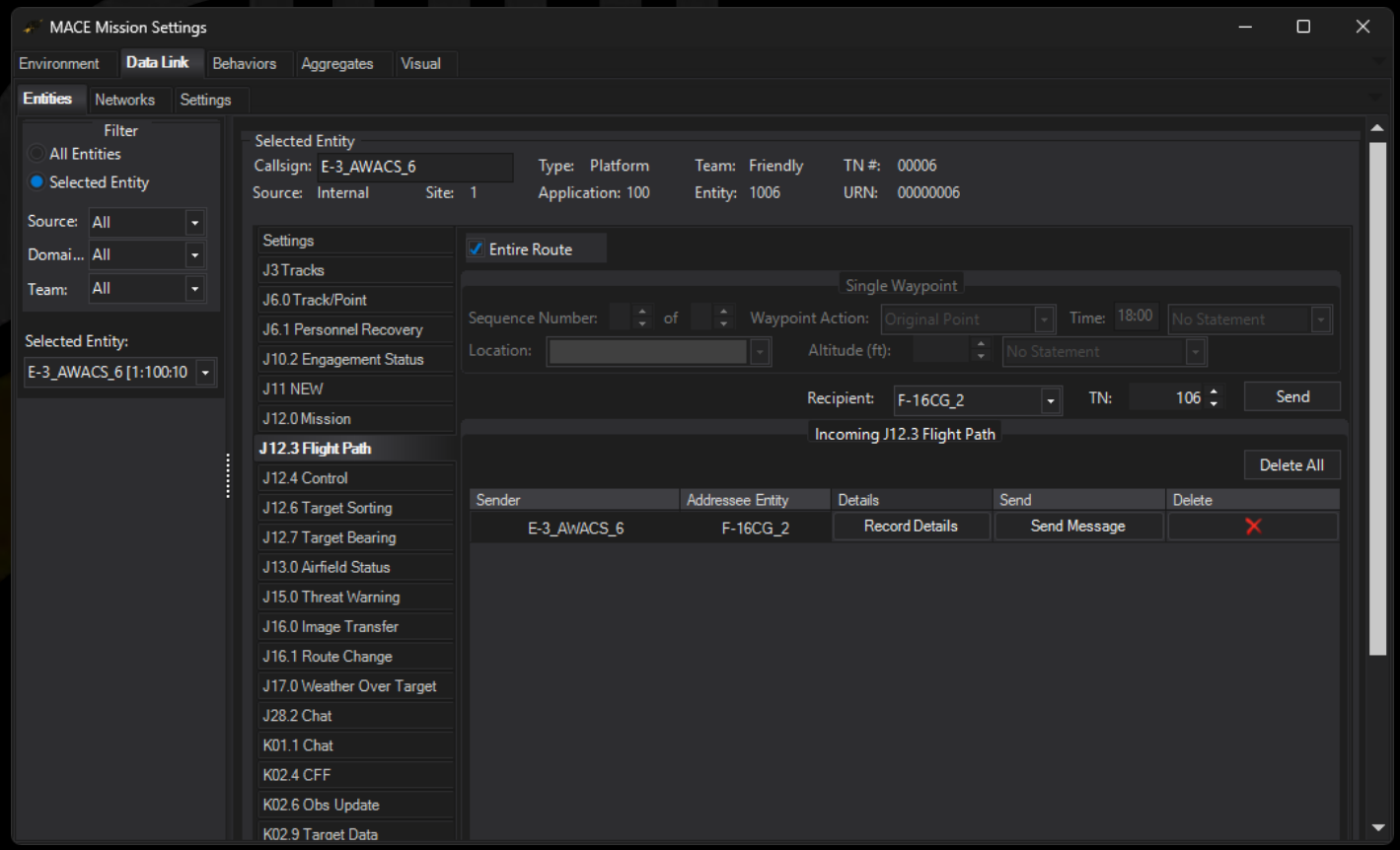
MACE UI Upgrade: Skia & Dark Mode

- MACE 2026 map to be refactored for Skia drawing.
  - Modern drawing architecture.
  - Faster draw performance.
  - Continuous longitude map.
- Dark Mode
  - UI Icon Facelift



J-Series Datalink Messages

- J6.0 Amplification/Coupling
- J6.1 Personnel Recovery Amplification
- J7.7 Association
- J10.2 Engagement Status
- J12.3 Flight Path
- J12.7 Target Bearing
- J13.0 Airfield Status
- J15.0 Threat Warning
- J16.1 Route Change
- J17.0 Weather Over Target



Common Interactive Broadcast (CIB)

- Common Interactive Broadcast (CIB), a component of the Integrated Broadcast Service (IBS)
- Functions as a TCP server or over DIS.
- Can be used as a transmit capability to replace the need for ASSET.

And more to come!

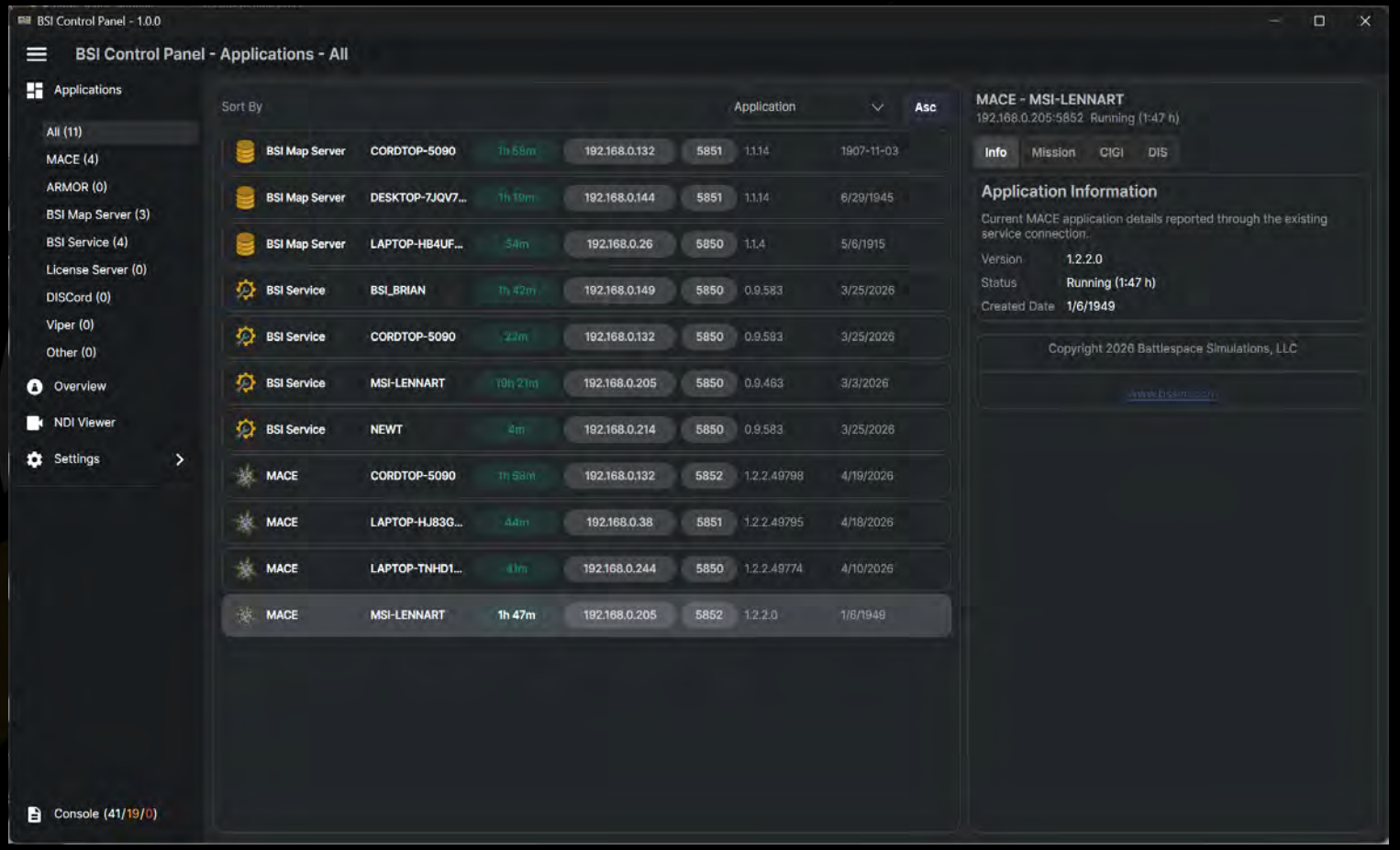
- Helicopters landing on buildings…



BSI Control Panel

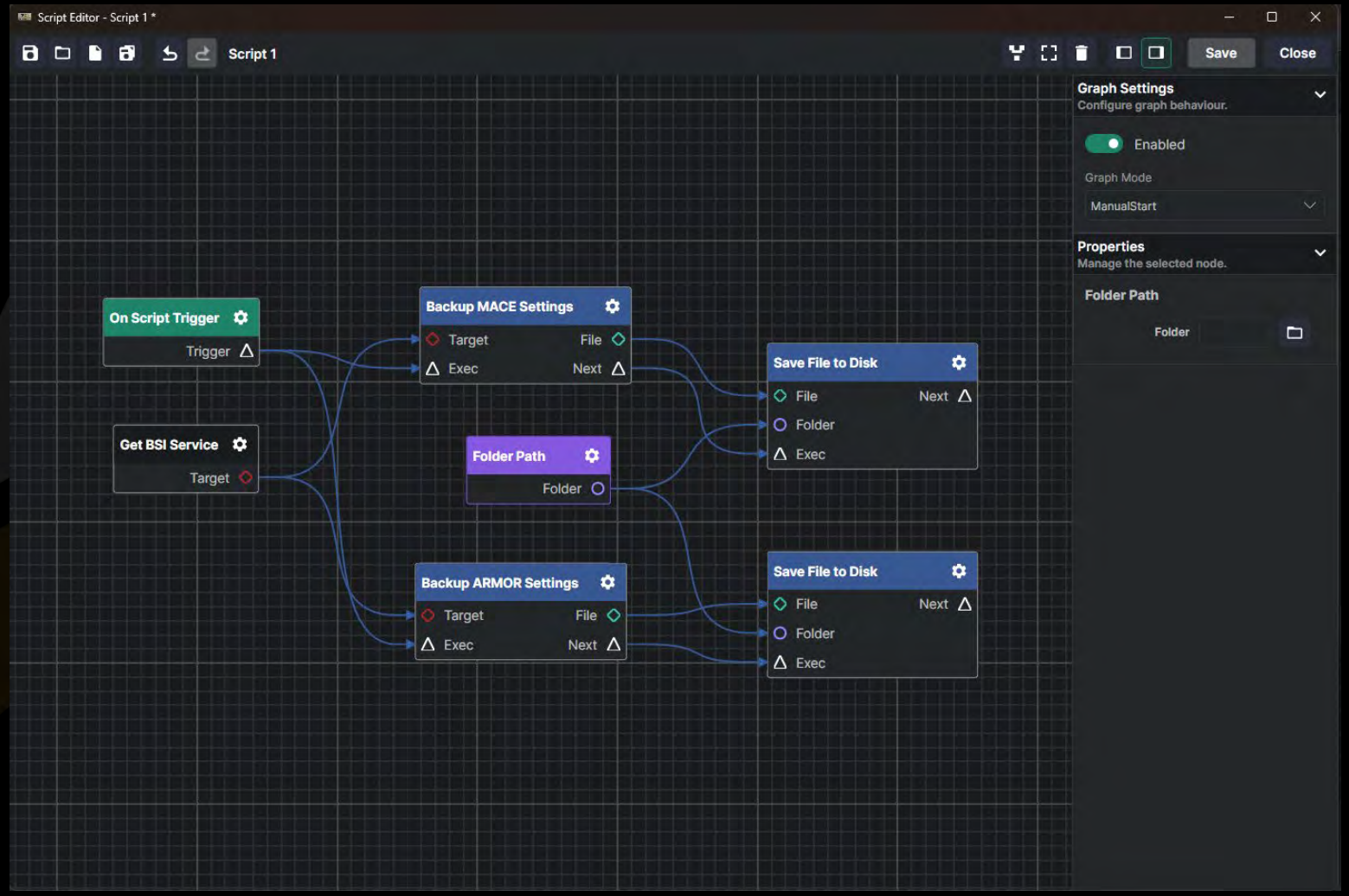
BSI Control Panel

- See all BSI apps on your network
- Manage your config, start/stop apps, control and view video streams
- Easily install new MACE versions
- Backup and install MACE and ARMOR settings



Node Script Editor

- Node script editor allows really complex workflows
- Sub-graphs allow you to define your own complex subsets
- Helpful for complex sim environments
- Coming to MACE scripting soon!



BATTLESPACE SIMULATIONS

Don't settle for only part of the battlespace

ARMOR - What's New

MACE User's Group - 2026

Support	support@bssim.com
LinkedIn	linkedin.com/company/battlespace-simulations-inc-/
YouTube	youtube.com/BattlespaceSims

World Terrain Generation

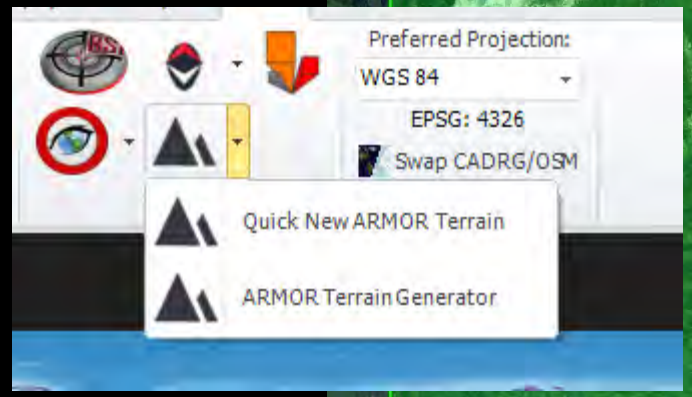
- MACE built on a worldwide GIS core
- Rapid development and now 4th iteration:
  - Round earth terrain system
  - No User-GIS-specialism required
  - 3D Terrain creation from multiple GIS Data
    - Open Street Maps
    - Land Usage
    - Climate Zone Data
    - Hi Resolution Imagery
    - Regional Data
    - Airfield and AIRNC data
    - AI building facade
    - Production of terrain surface and correctly positioned and appearing on-terrain objects
  - Fast recall – go to any fully populated terrain any location within seconds





Kuala Lumpur (Left: Real Right: ARMOR)

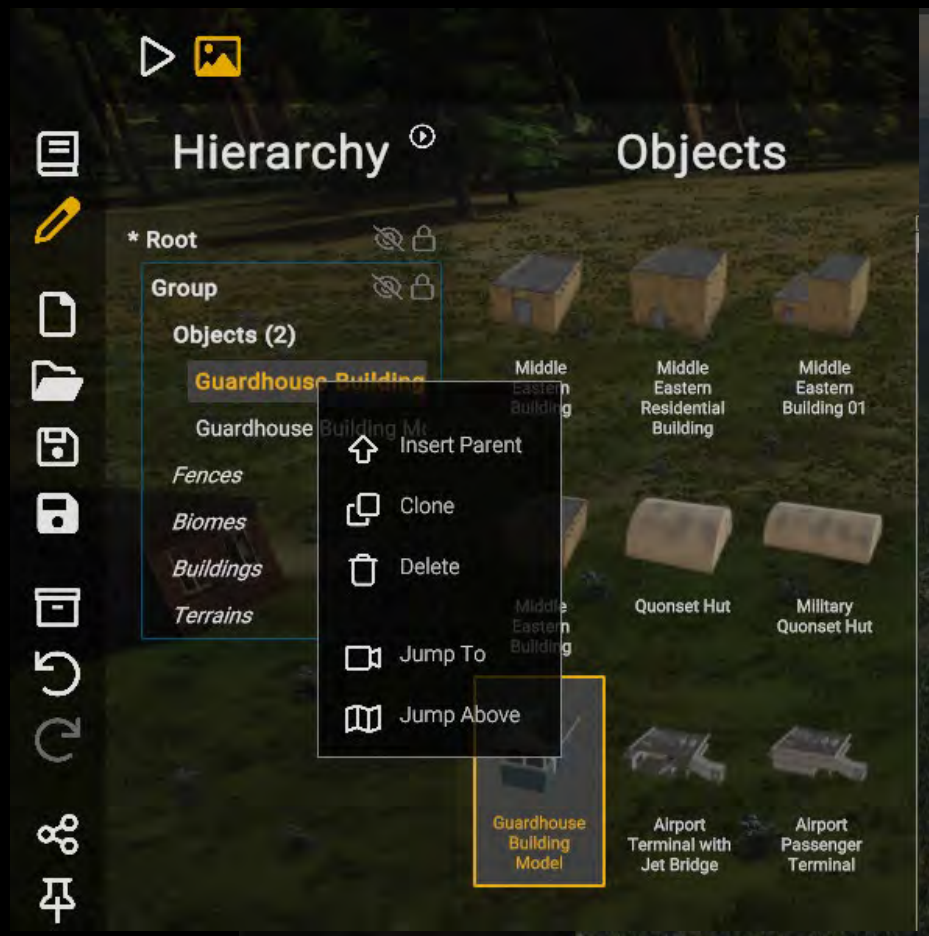
Advanced Terrain Generation

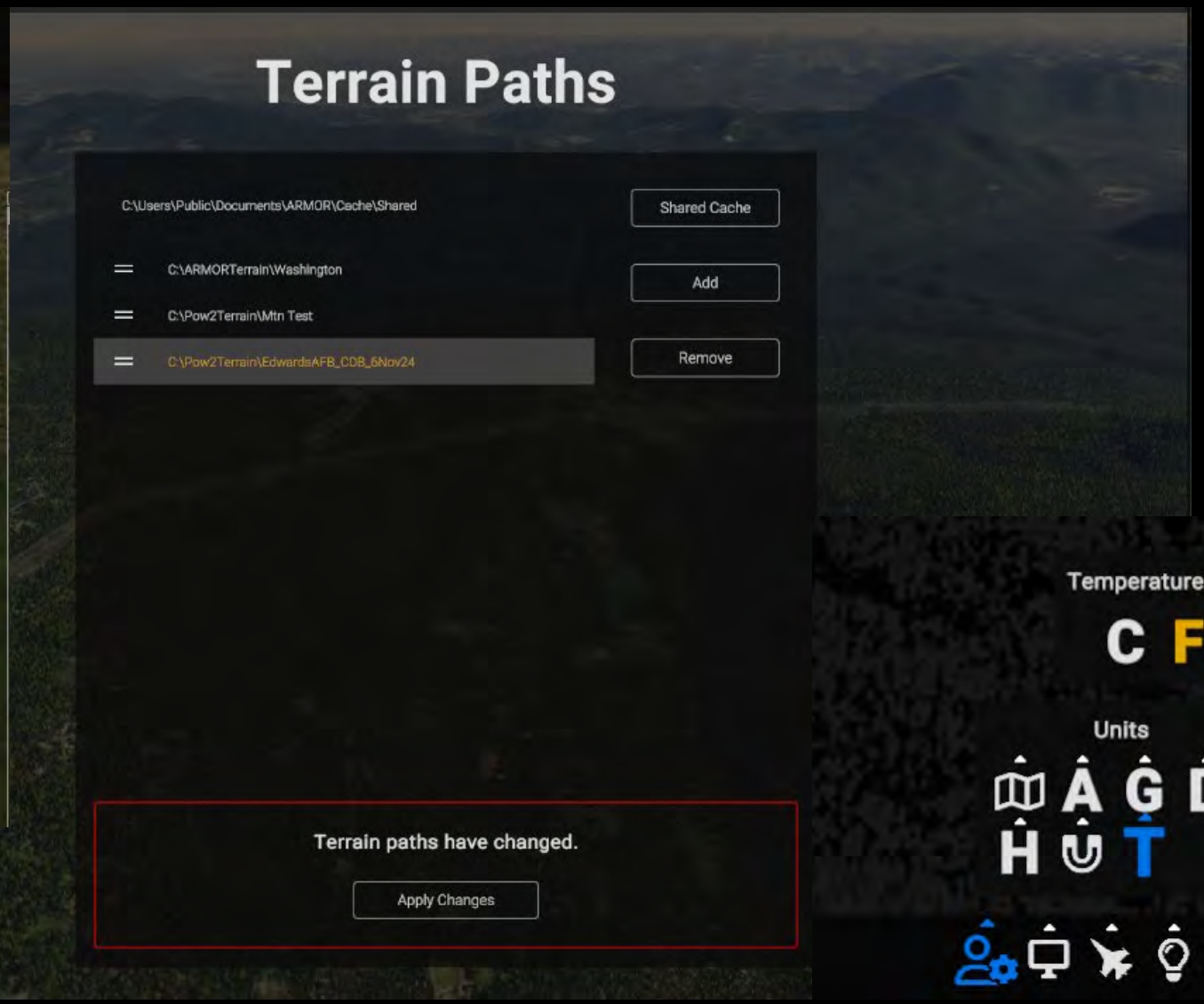


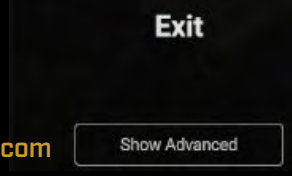
Terrain Editor / 3rd Party Model Integration



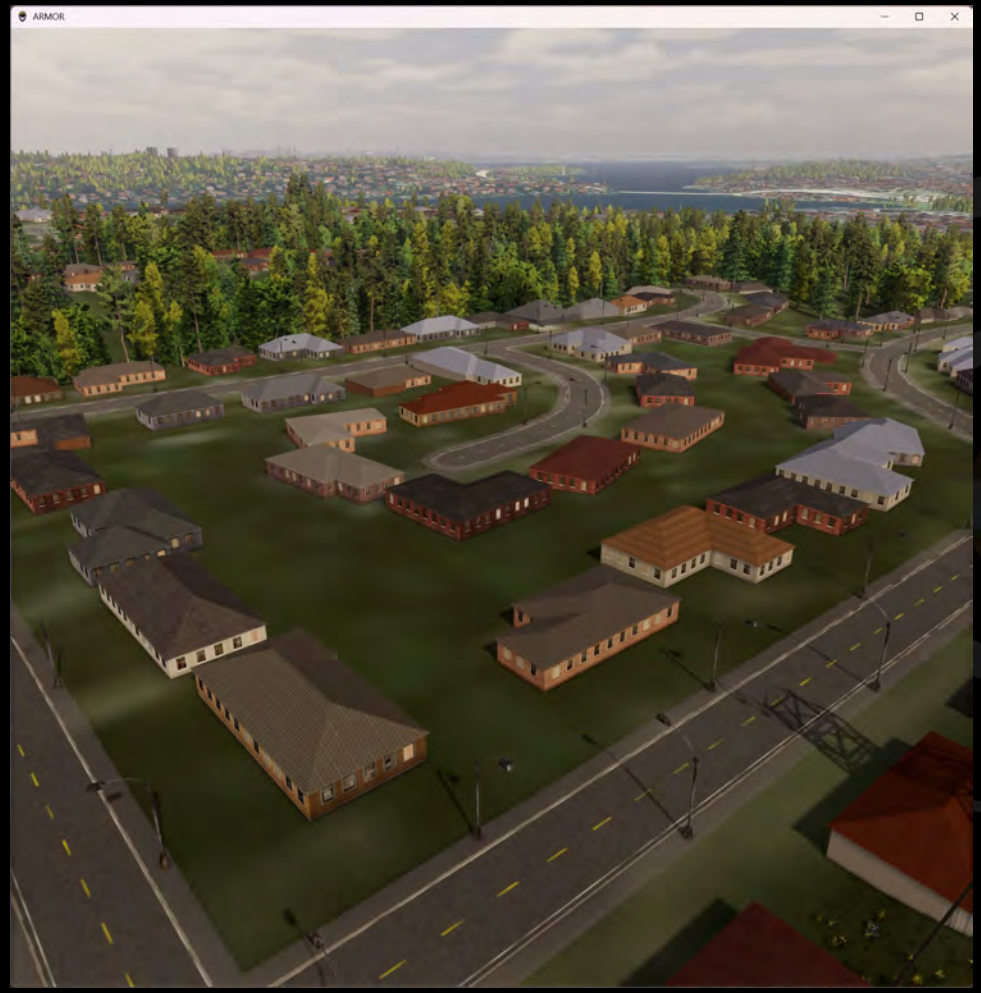
UI / Context Menu

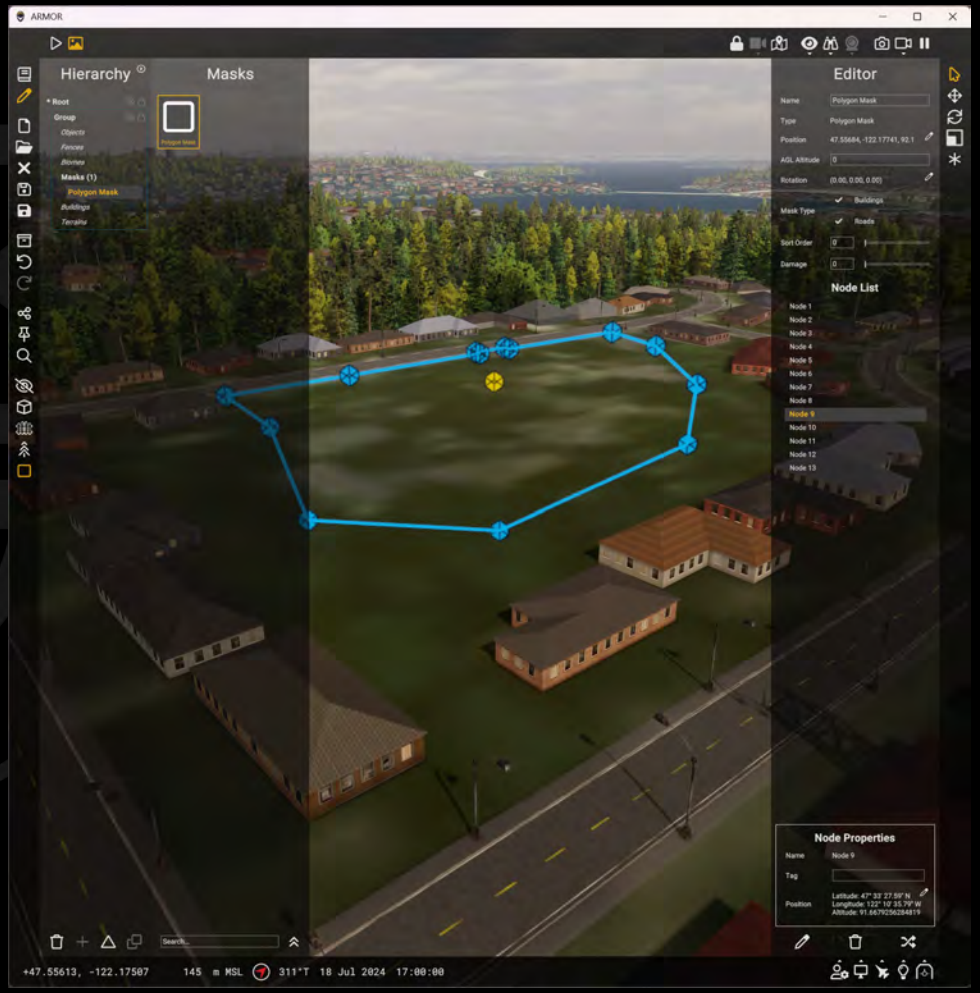


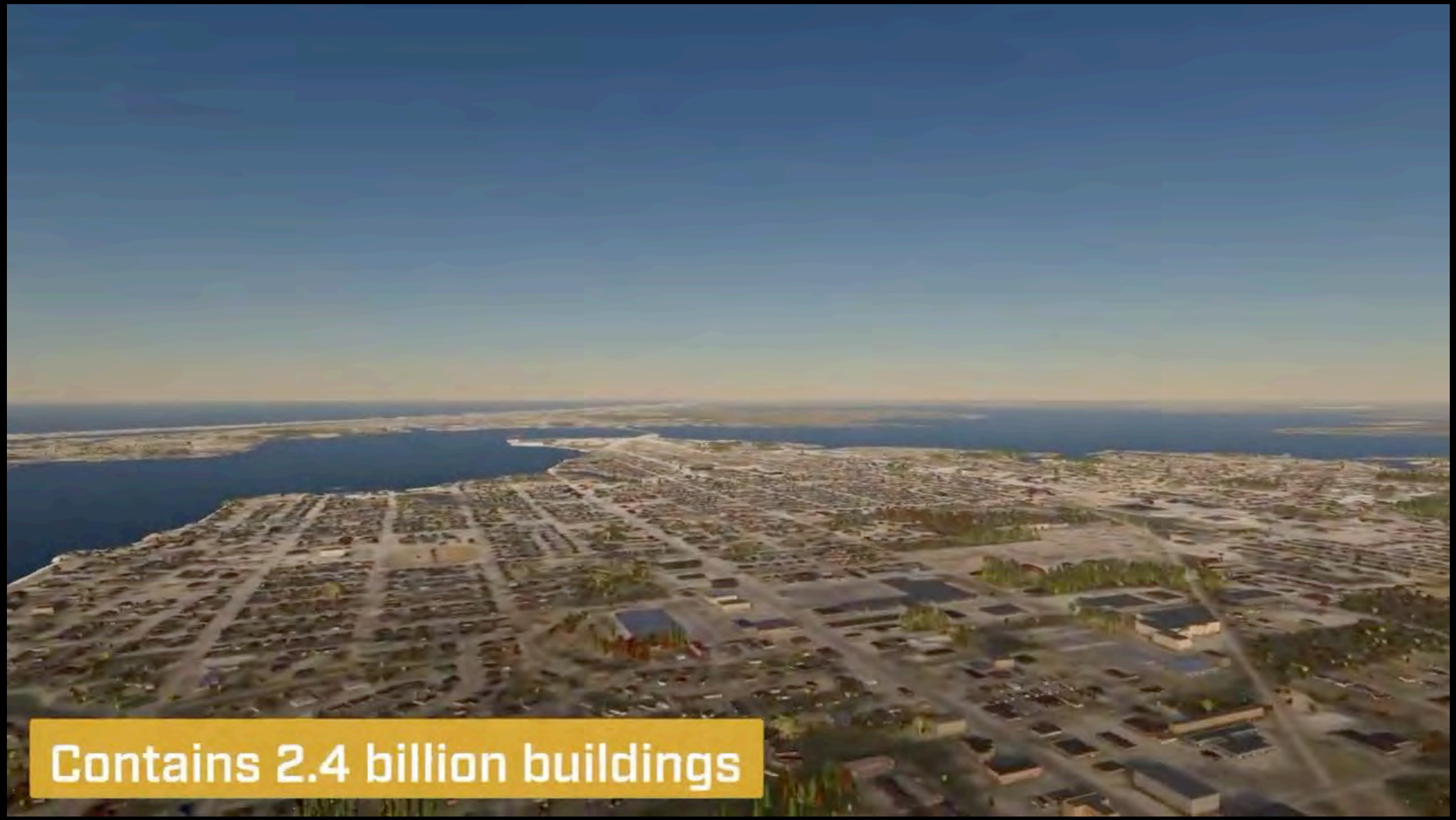




Building and Road Masking







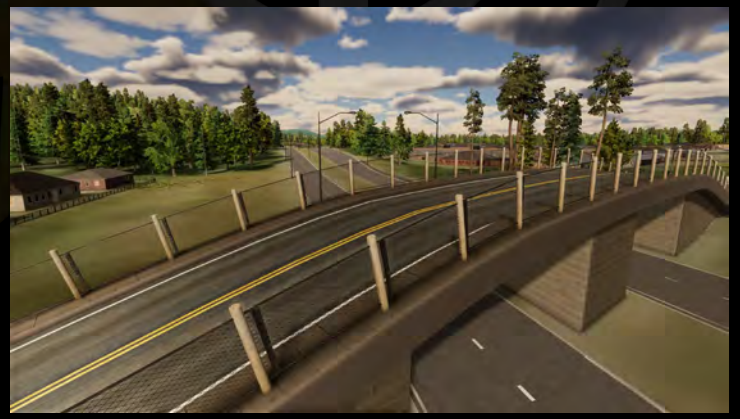
Destructible Buildings

Bridges & Overpass







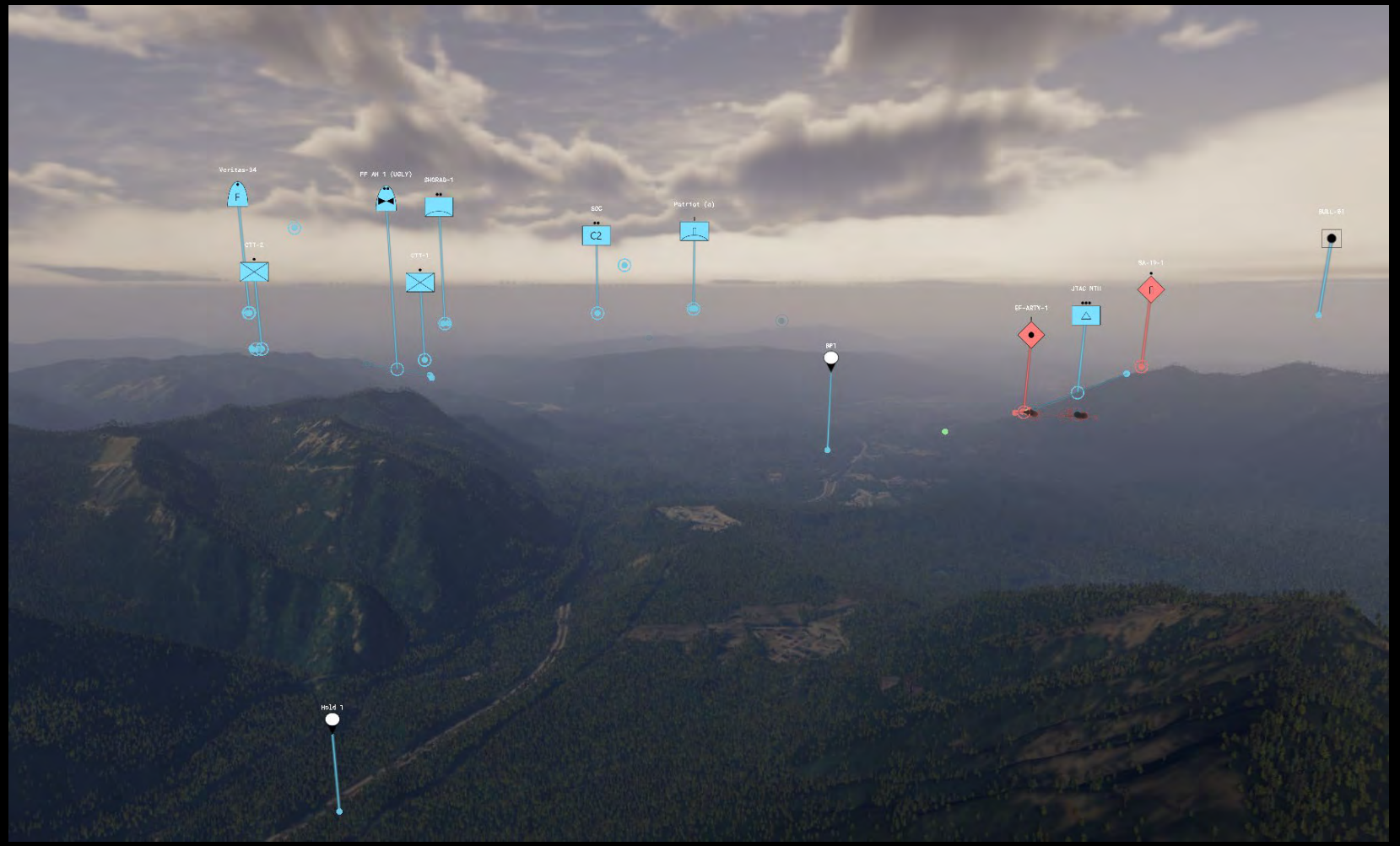


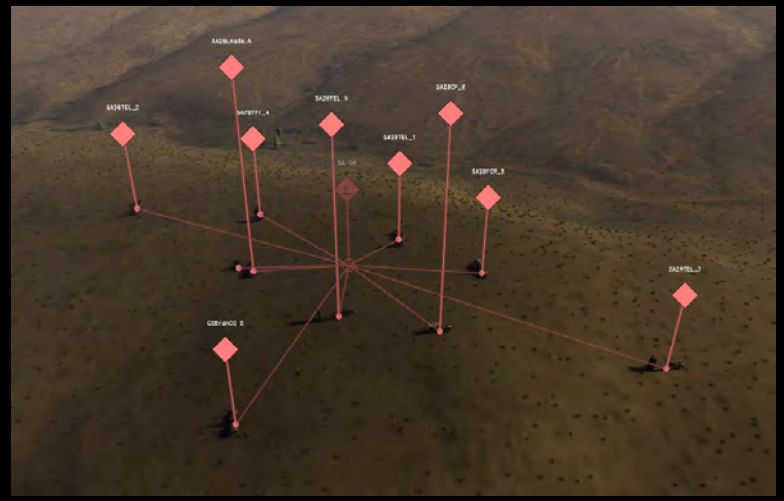




Traffic on Bridges

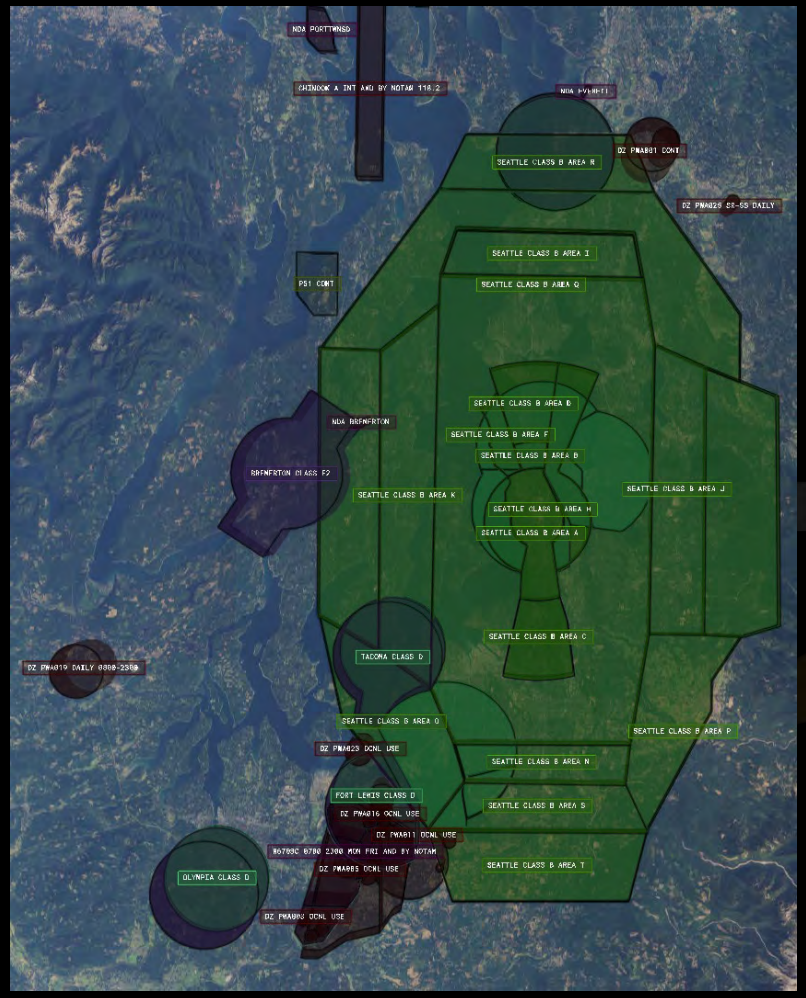
Labels: Aggregates and MIL-STD-2525



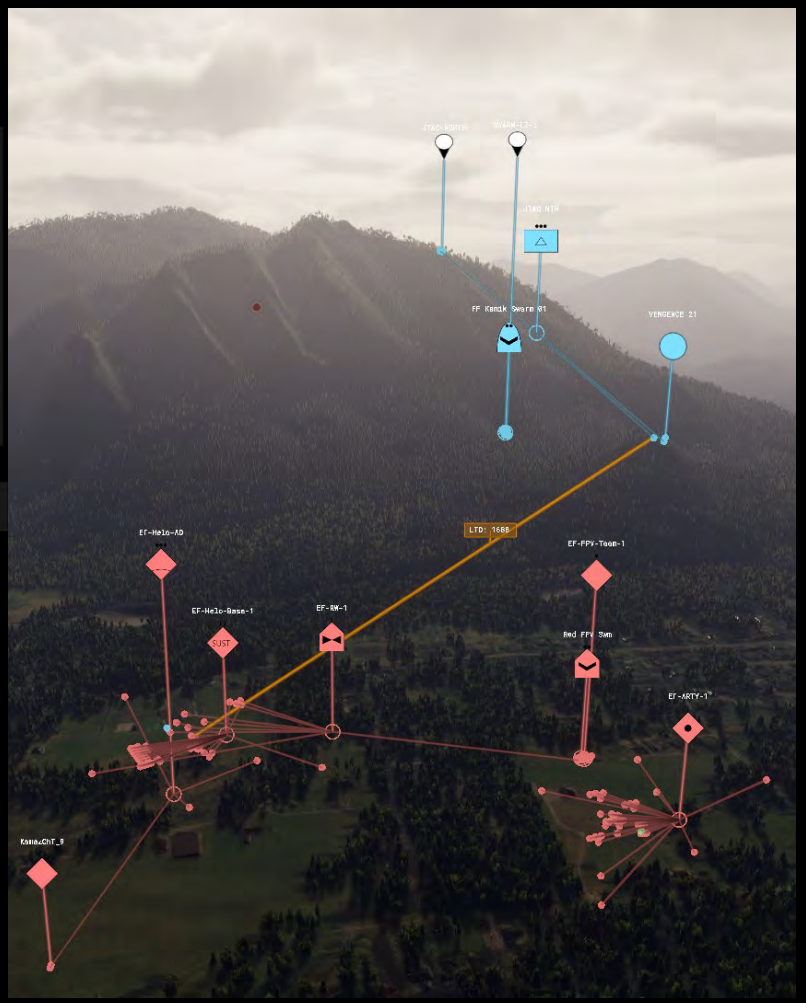




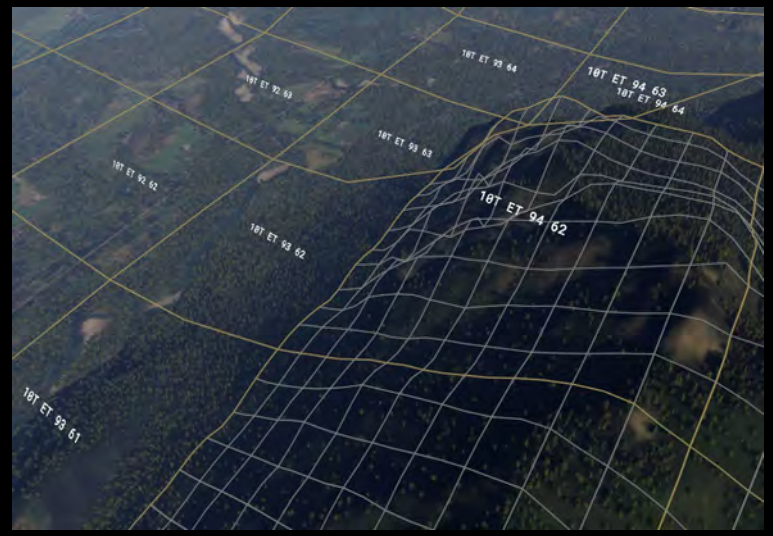
Labels: Airspaces, Shapes, Designations, …

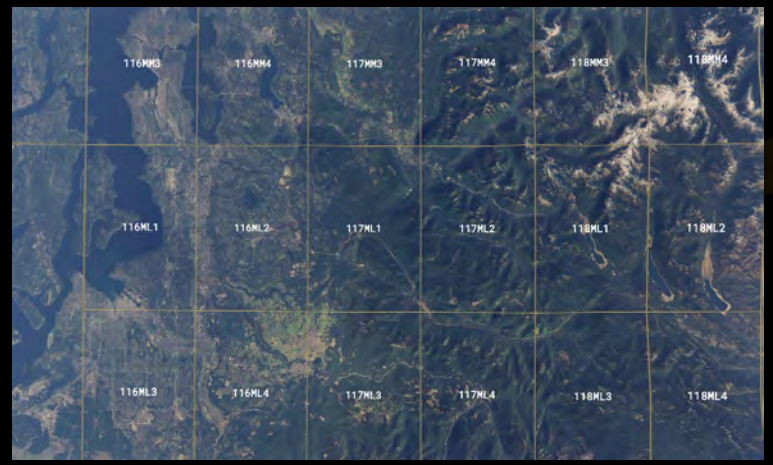






Grid Lines


10T ET 94 63
10T ET 94 64
10T ET 94 62
10T ET 93 62
10T ET 93 63
10T ET 93 61


116MM3
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118MM4
116ML1
116ML2
117ML1
117ML2
118ML1
118ML2
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116ML4
117ML3
117ML4
118ML3
118ML4


10T ET 925 626
10T ET 924 626
10T ET 923 626
10T ET 925 627
10T ET 924 627
10T ET 923 627

Table Formatted Aeronautic Data Set



Improved Winter Scenes





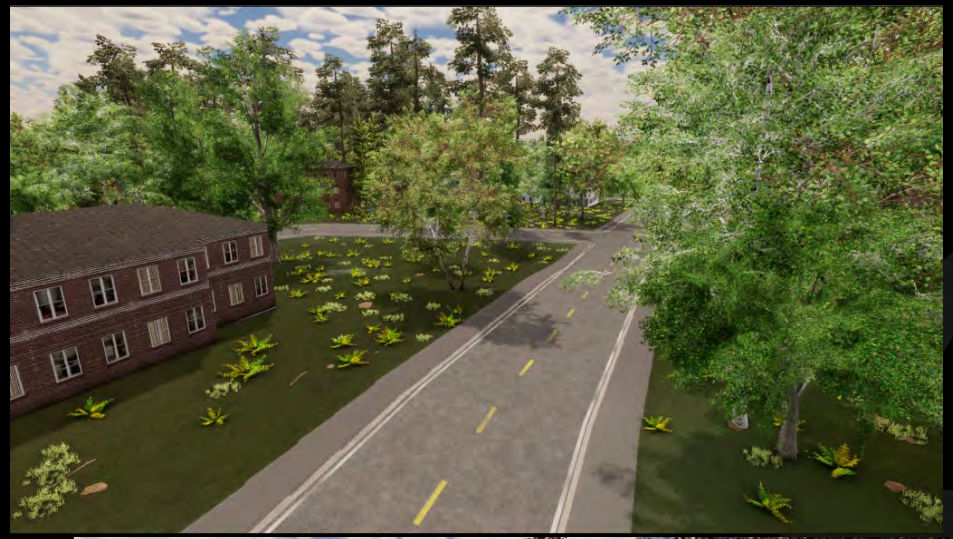
Airport Signage





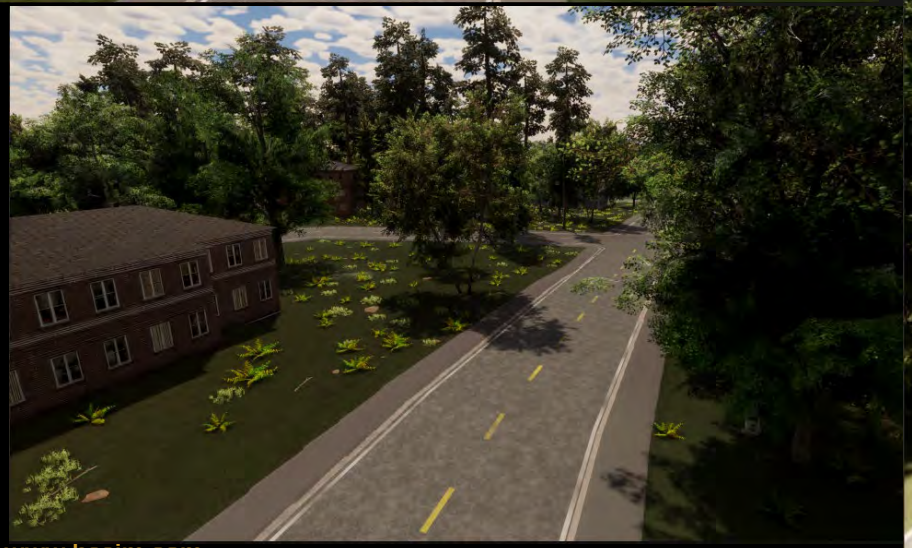


Global Illumination











Multi-Wavelength IR







IR Weapons feedback to MACE



Ship Wakes





Small UAS



JTAC HUD in Screen View







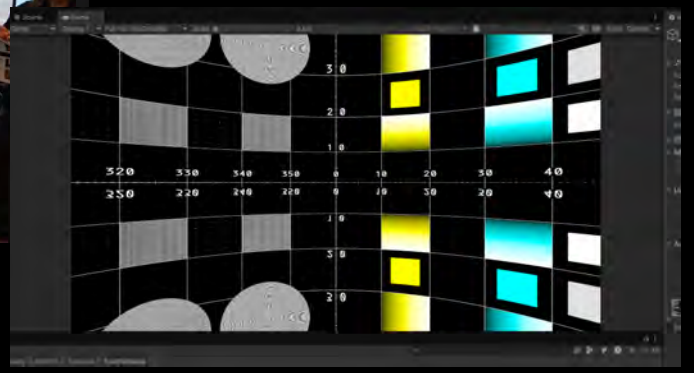




Multi-Channel

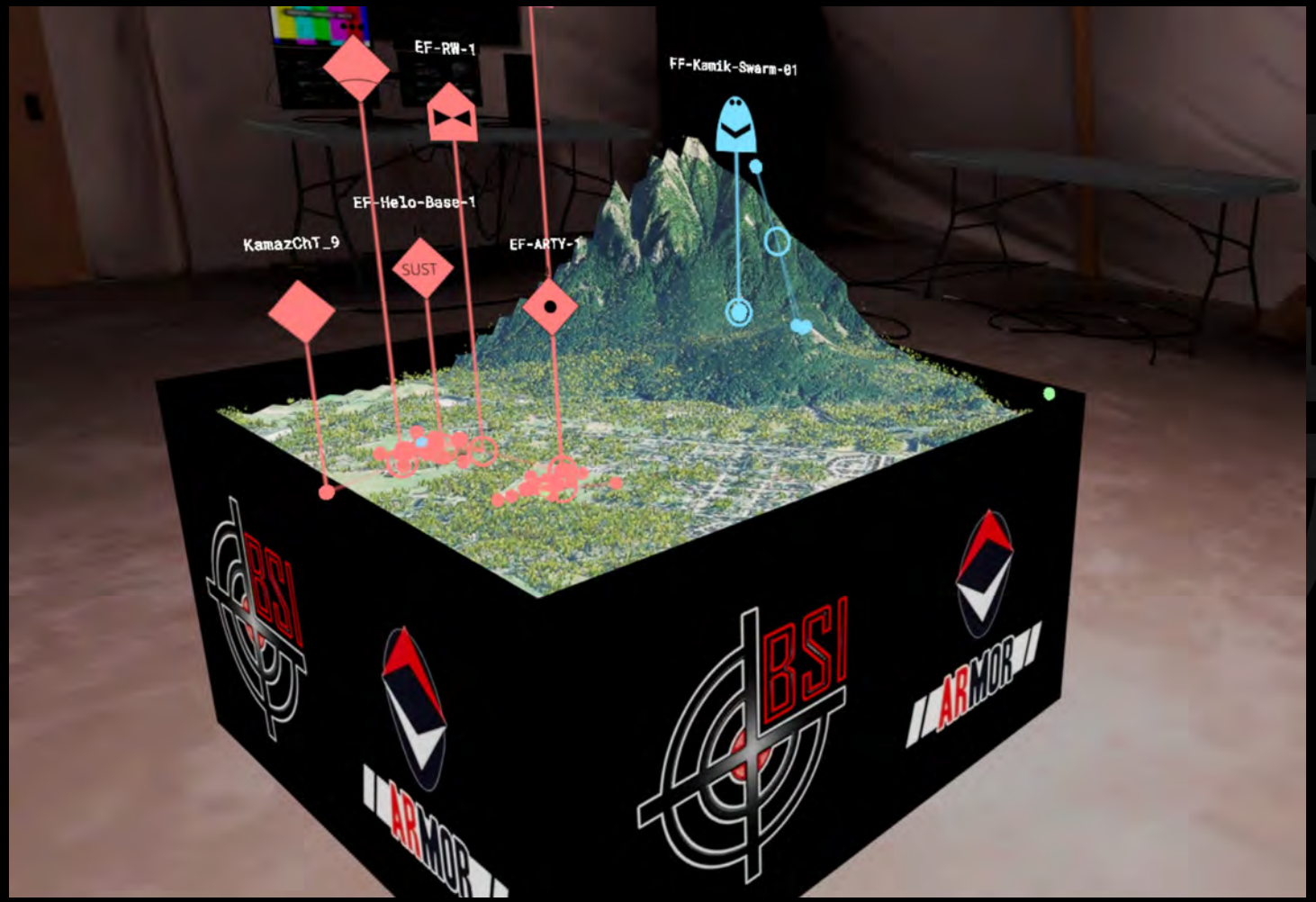








XR Table Top – Room Scale Rock Drill



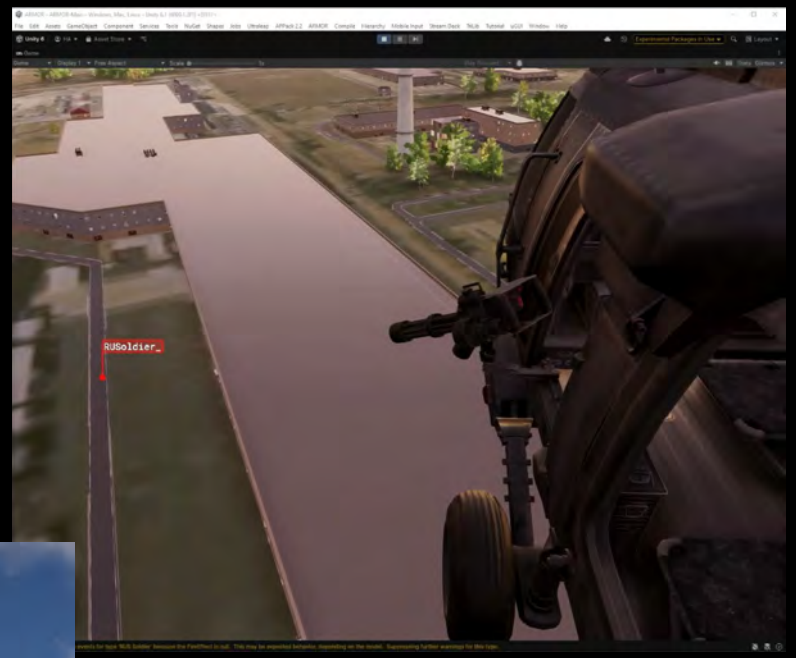




Ongoing Content Development

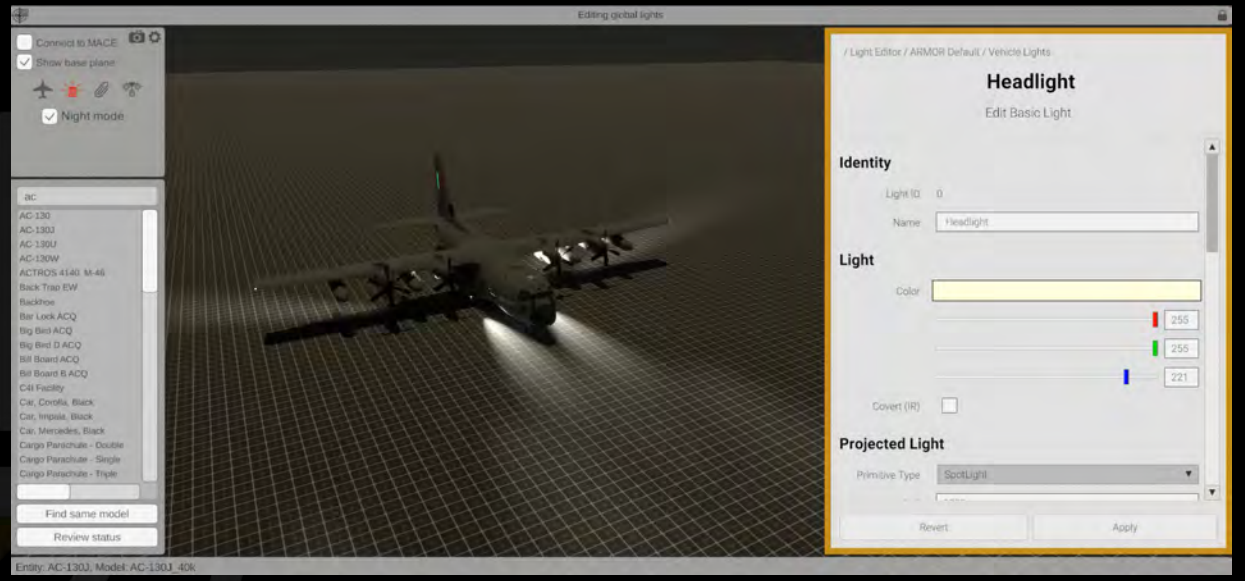


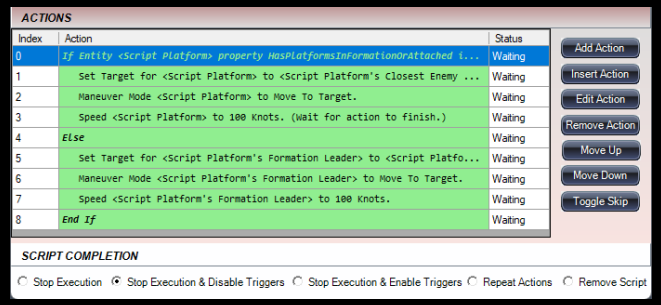


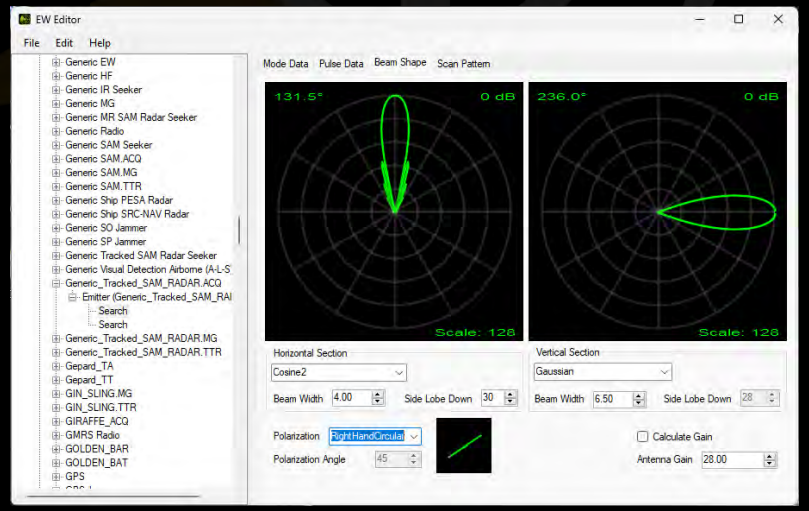


Non Dev Users - Tools

- Worldwide Terrain Generation
  - No GIS Expertise required
- User Model Editing/Creation
  - Mission Object Config Tool (MOCT)
  - WEZ Generator
  - ARMOR Model Editor
  - Emitter Editor
  - Script Editor





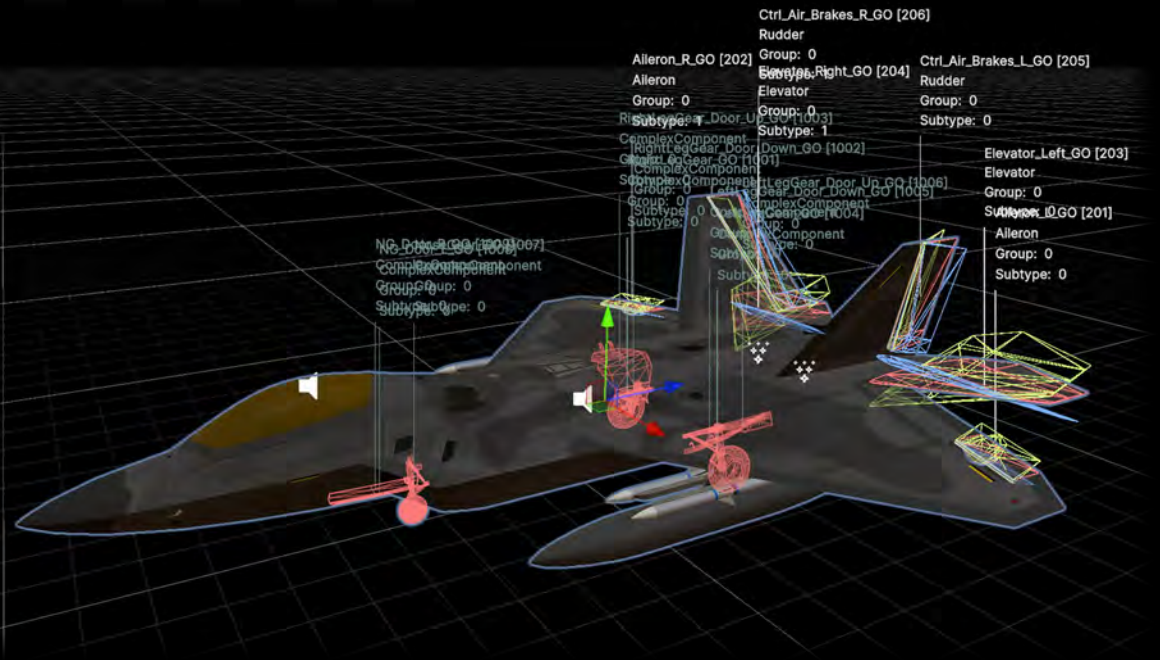




Third Party Content

- Tooling: Content scene, distributable components, custom editors, …
- Now: Custom cultural models via Runtime Editor
- 2026: Custom entity models plus new Model Editor





Mission Planning Analysis and Rehearsal (MPAR)





Julia Demaree Nikhinson/AP

Helicopters from the 160th Special Operations Aviation Regiment, from left, MH-6 Little Bird's, MH-60 Black Hawk's, and MH-47 Chinook's, fly behind the Washington Monument during military parade commemorating the Army's 250th anniversary Saturday, June 14, 2025, in Washington.

- MACE and ARMOR in use to plan and brief routing for **US Army's 250th birthday celebration**

2026 Roadmap

- Runtime terrain height editing
- XR UI/UX and tabletop enhancements
- New visualizations
- Virtual Interaction: For Symbols-based MFDs and more
- Terrain generation enhancements
- Third-party entity models, with Model Editor
- Unity ECS-based rendering (performance & scalability)



One high fidelity simulation framework

Multiple use cases

For help contact: support@bssim.com

www.linkedin.com/company/battlespace-simulations-inc-/

www.youtube.com/BattlespaceSims