

## A virtual studio for multi-domain complex operations simulations

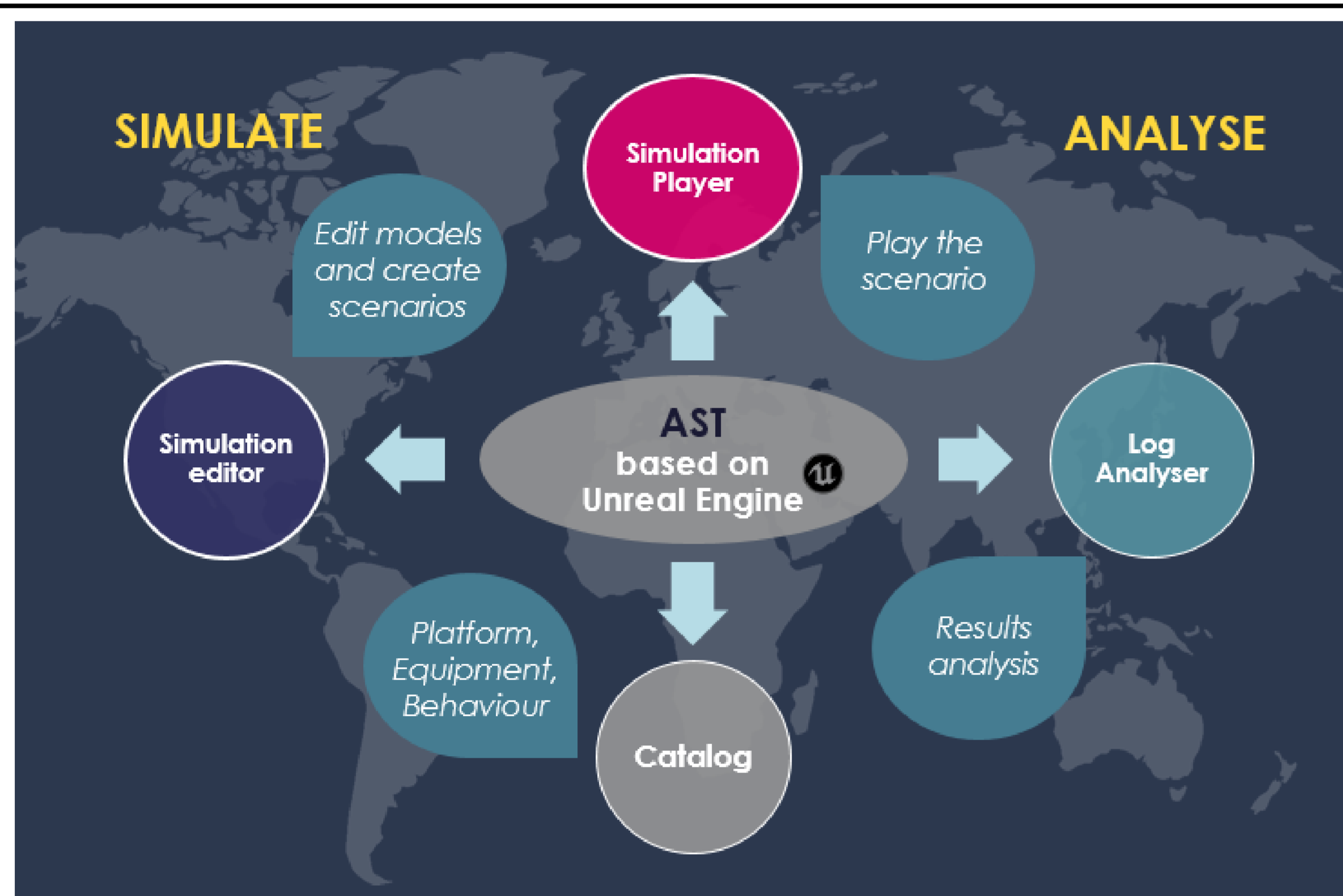
Development of individual or collaborative behaviors for platforms & operators

Integration and validation of external mission autonomies

**CONUSE & CONOPS** studies for:

Mine Counter Measures **MCM**    Anti Submarine Warfare **ASW**    Anti Surface Warfare **ASuW**

### STUDIO FUNCTIONAL ARCHITECTURE



#### For New Mission Autonomy Capabilities

- Develop** mission autonomy modules of drones
- Simulate** mono-drone and multi-drone scenarios
- Qualify** mission autonomy modules before installation on targets

#### For New System Architectures

- Model** new system architectures (sensors, effectors, functions, behaviors)
- Demonstrate / Evaluate** with respect to operational concepts

### SIMULATION EDITOR

#### Object Catalog

Unreal Engine 4 Components & Actors: Asset, Sensor, Plan.

#### Behavior Catalog

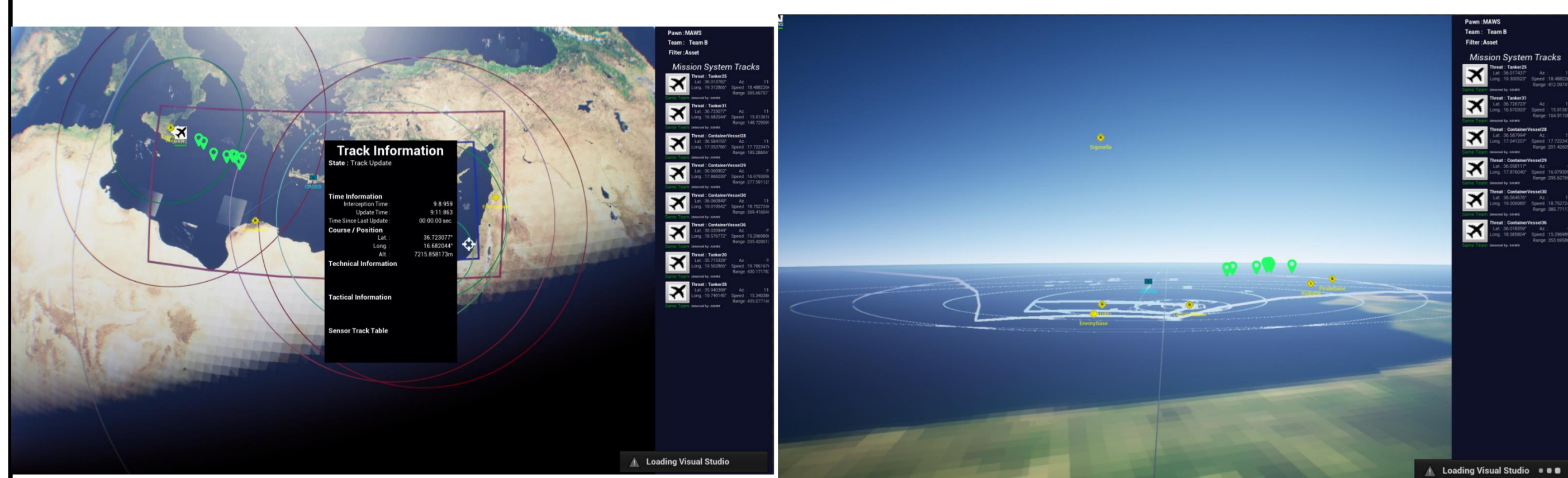
- Autonomies:** Mission, Navigation or Controller
- Operators:** Commander, Captain

#### Data Model

Exhaustive and modular



### SIMULATION PLAYER & LOG ANALYSER

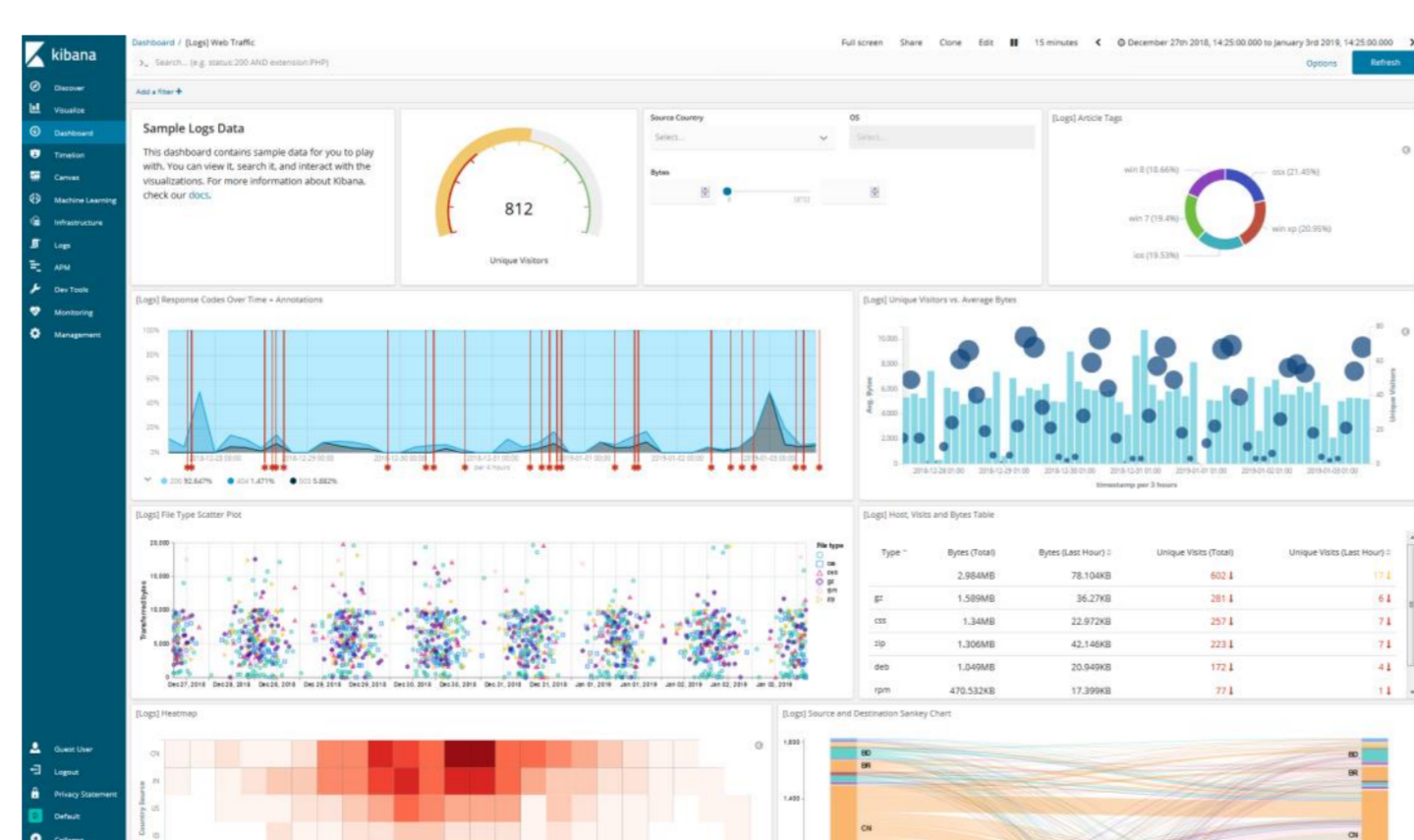


#### Multi-player architecture

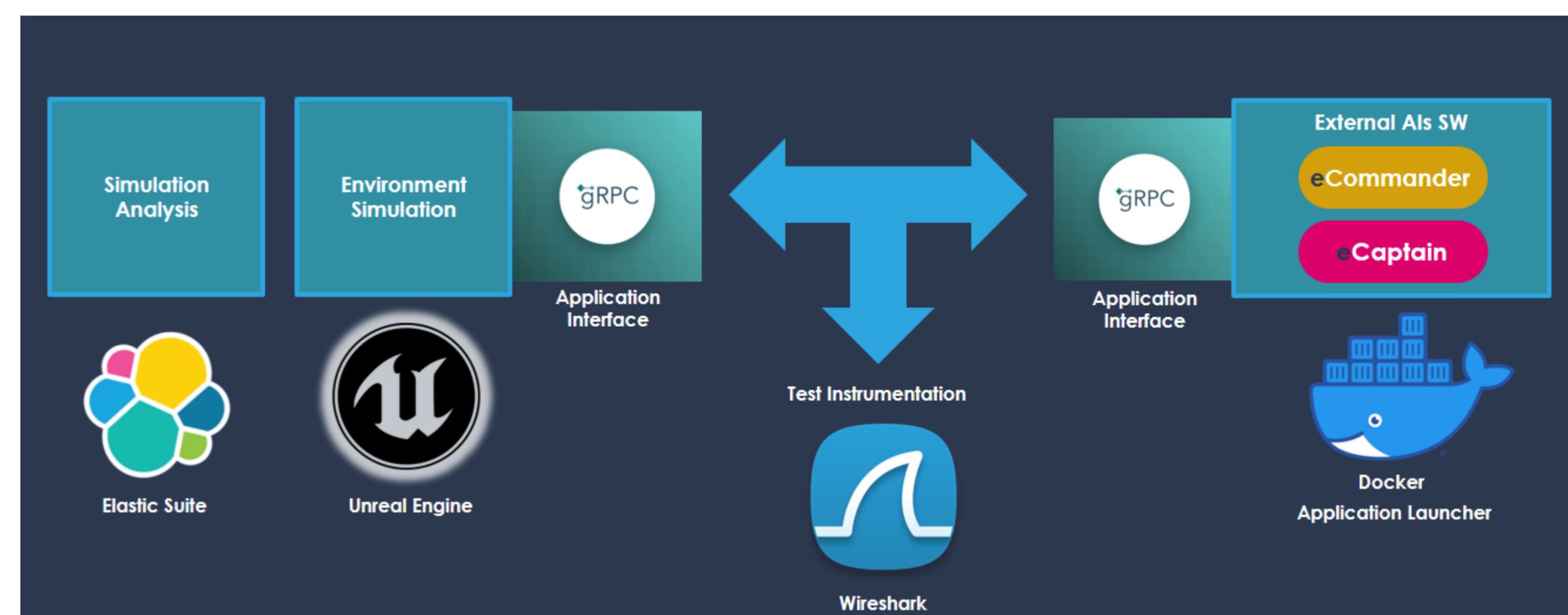
- "God like" world view
- Asset view
- 3D view

#### Result analysis

- Using ElasticSearch software suite
- Custom Dashboards



### HYBRID SIMULATION



#### SIL Test of UxV mission autonomies

- via standard interfaces
- using containerized applications or external executables

Use of COTS software in order to interface easily with 3rd party software.

Our simulator provides an up-to-date and game based technical solution for understanding connected systems of systems in rapidly changing and complex multi-domain operations.