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Ethical Control of Unmanned Systems: Repeatable Mission Evaluation Through

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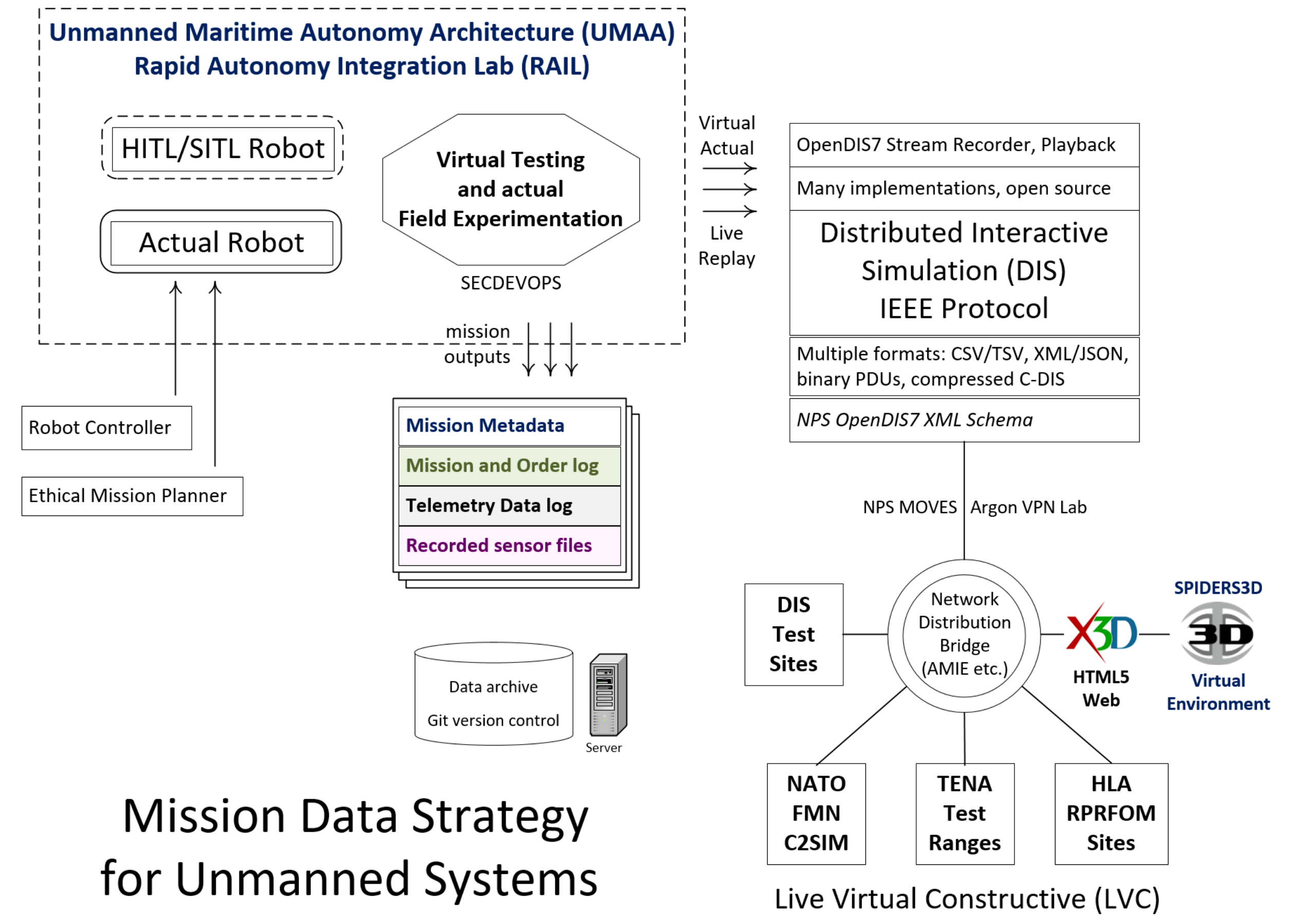
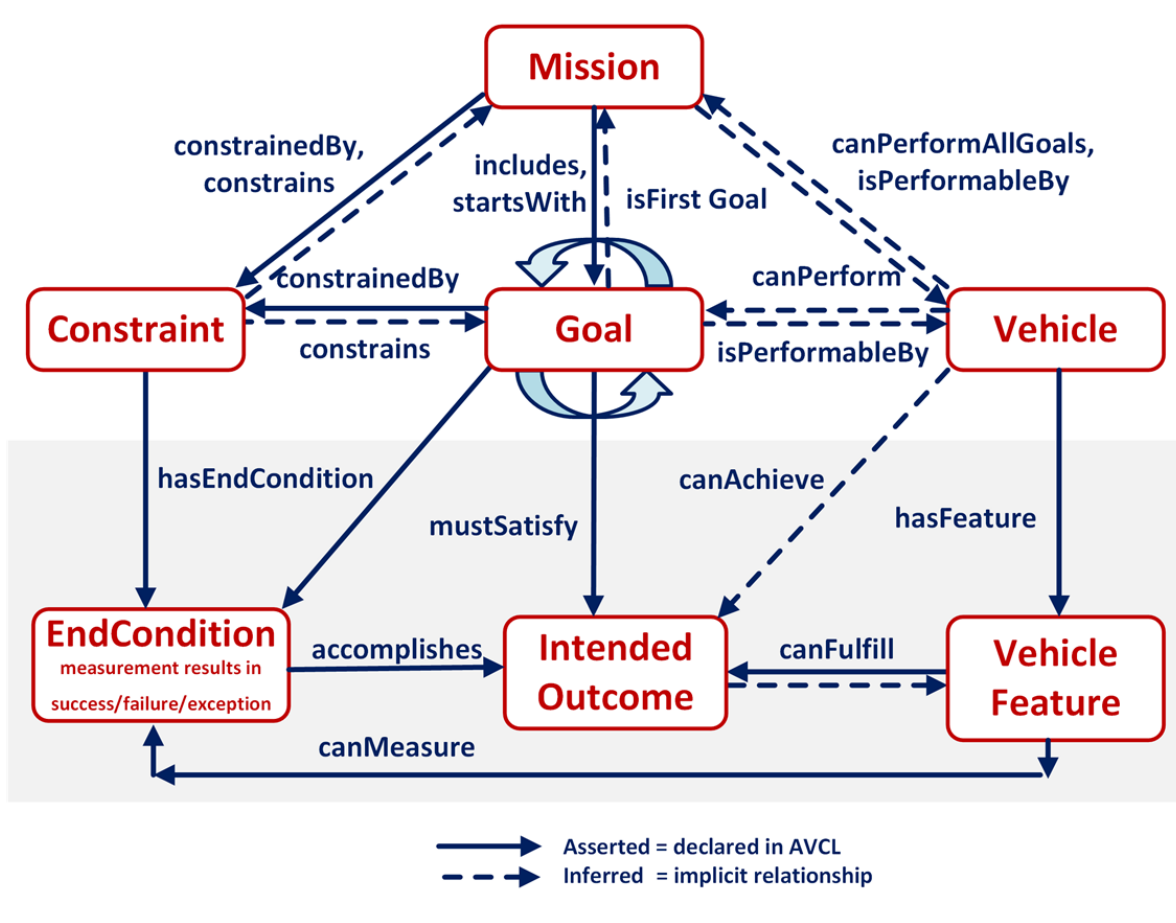
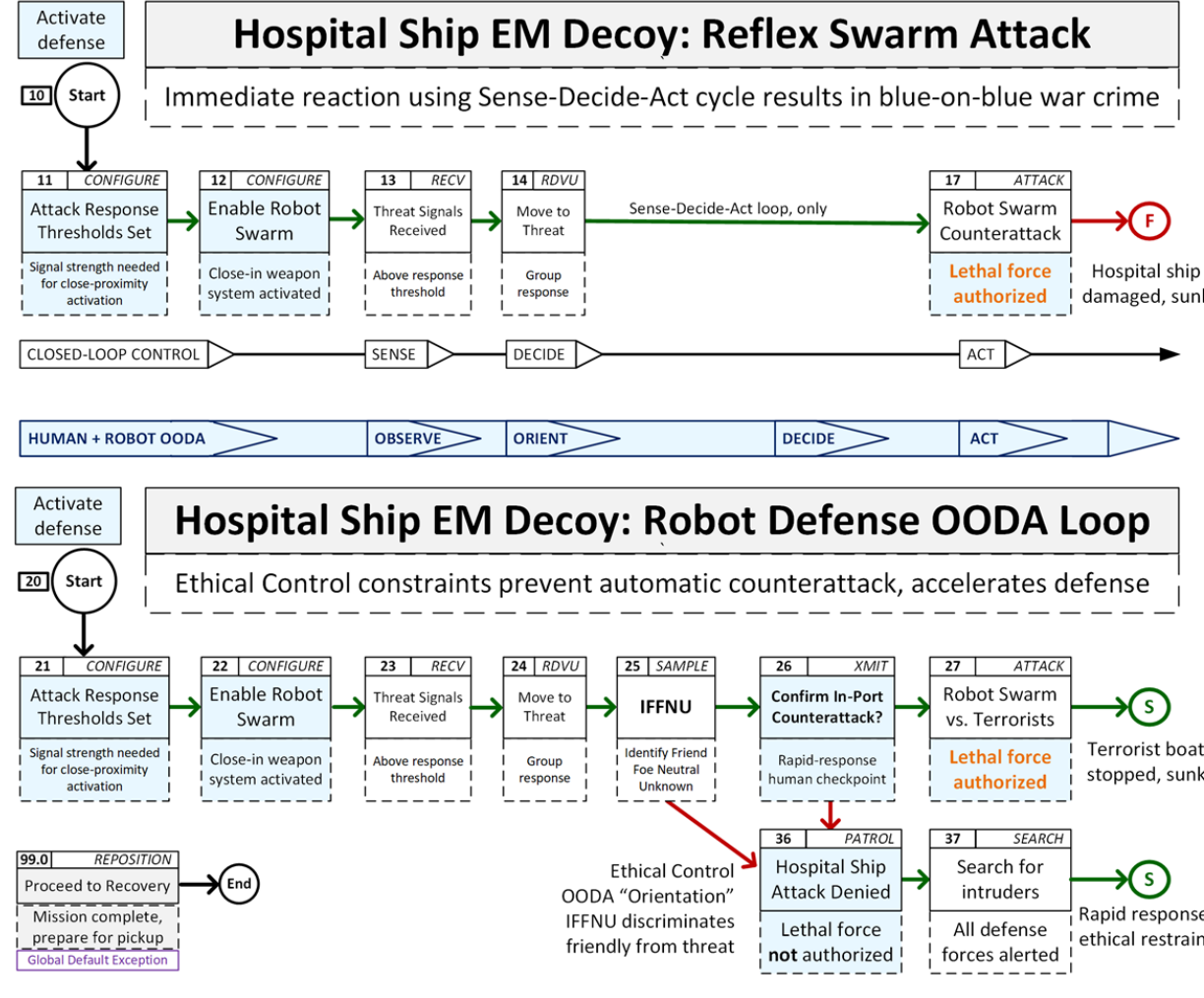
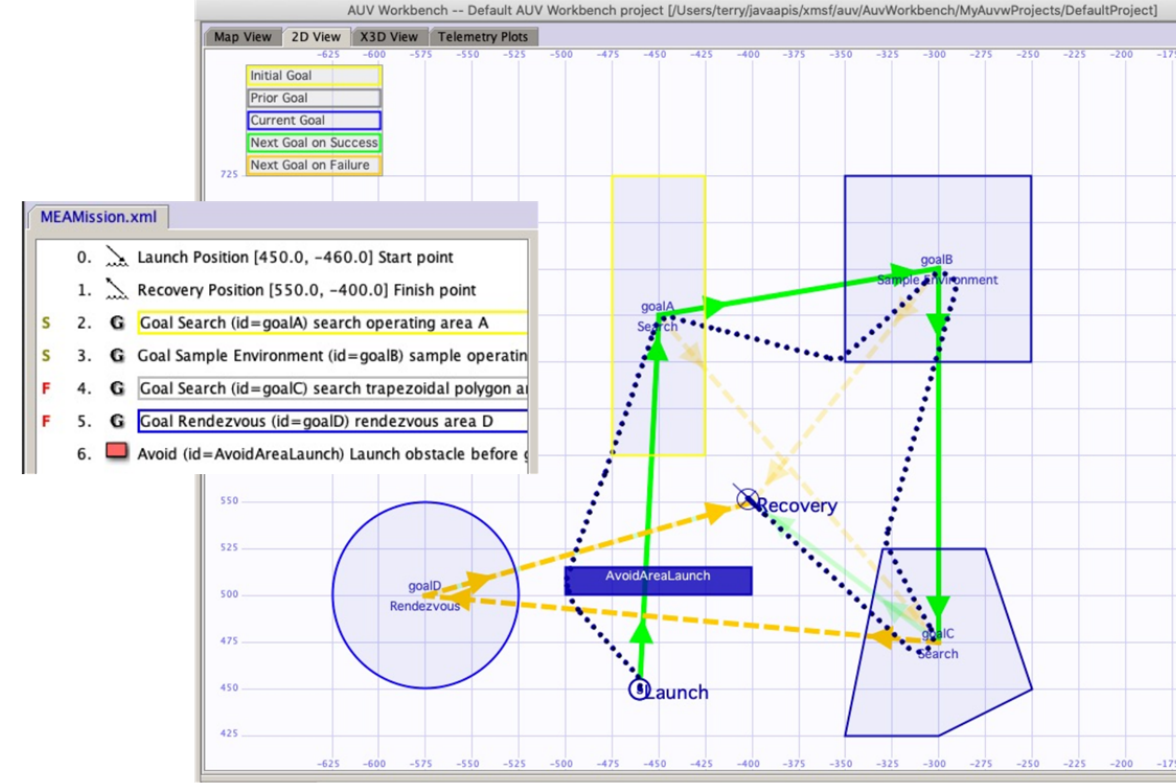
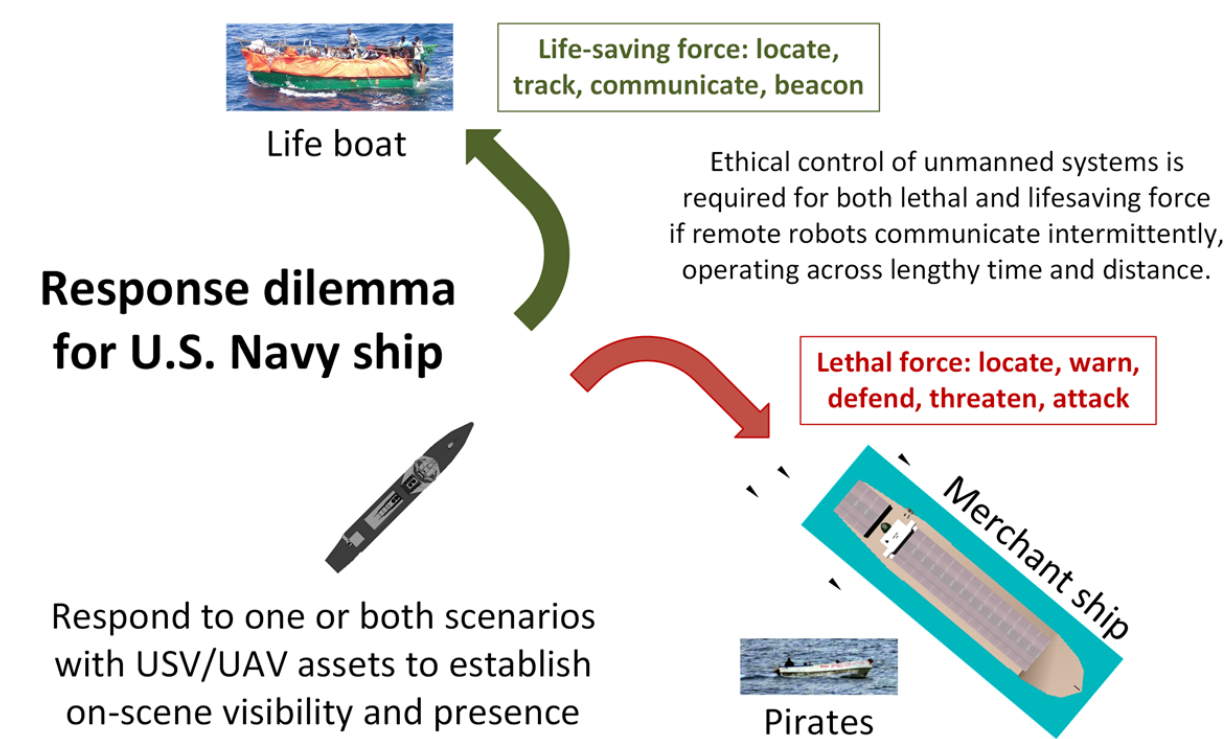
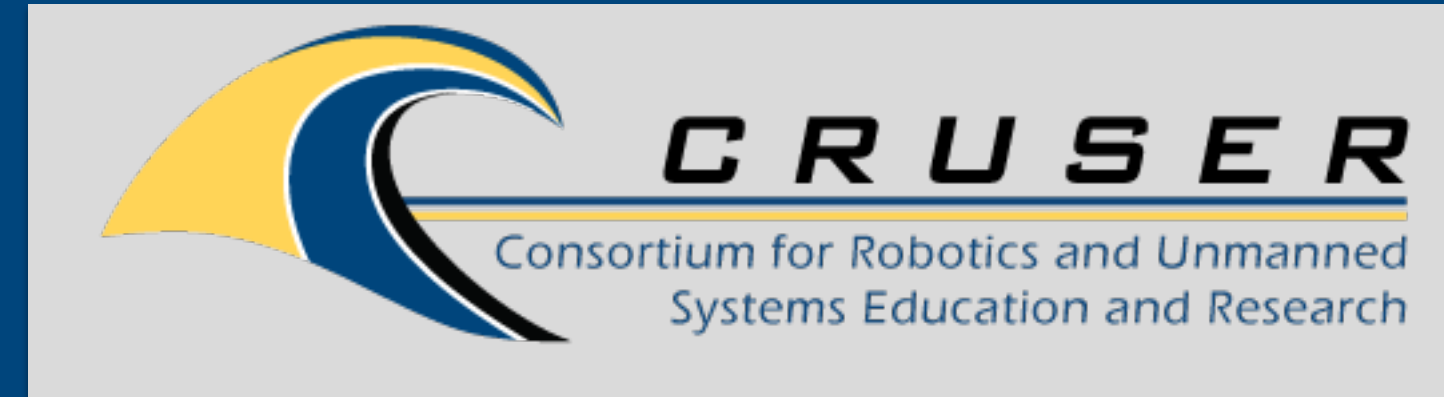


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Ethical Control of Unmanned Systems: Repeatable Mission Evaluation Through Unmanned Systems Data Strategy



Why / Objectives

- Ethical control of unmanned systems can be accomplished through structured mission definitions that are trusted, consistently readable, validatable, repeatable and understandable by humans and robots.
- Orders must be lawful. Unmanned systems must behave ethically and comprehensibly if they are to support manned military units effectively.
- Well-structured mission orders can be tested and trusted to give human commanders confidence that offboard systems *will do what they are told to do*, and further *will not do what they are forbidden to do*.
- Demonstrate that no technological limitations exist that prevent applying the same kind of ethical constraints on robots and unmanned vehicles that already apply to humans, in lethal and life-saving scenarios.

<https://savage.nps.edu/EthicalControl>

What / Deliverables

- Unmanned Systems Data Strategy is fundamental need for progress, otherwise all experiments (real or virtual) are unrepeatable, transient.
- Mission orders, metadata, track telemetry and sensor records together provide repeatable archiving of robot system testing for live-virtual-constructive (LVC) reuse, for replay live or rehearsal analysis.
- Update Mission Execution Ontology (MEO) concepts demonstrated in tests and simulation, building to perform field experimentation (FX).
- Define, simulate, and test combination of real-world goals and ethical constraints to robot mission tasking across set of canonical scenarios.
- Illustrate how human-robot teams meet moral and legal requirements if deploying unmanned systems with potential for lethal, life-saving force.



Building on Simulation, Experimentation

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