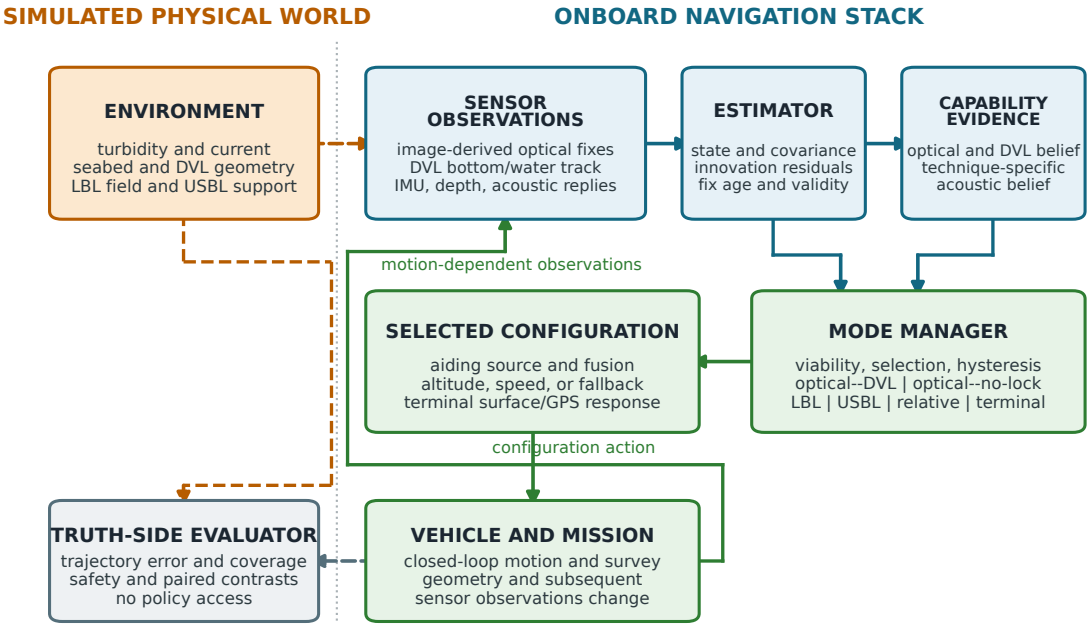
SIMULATED PHYSICAL WORLD
ONBOARD NAVIGATION STACK
ENVIRONMENT
turbidity and current
seabed and DVL geometry
LBL field and USBL support
SENSOR OBSERVATIONS
image-derived optical fixes
DVL bottom/water track
IMU, depth, acoustic replies
ESTIMATOR
state and covariance
innovation residuals
fix age and validity
CAPABILITY EVIDENCE
optical and DVL belief
technique-specific
acoustic belief
motion-dependent observations
SELECTED CONFIGURATION
aiding source and fusion
altitude, speed, or fallback
terminal surface/GPS response
MODE MANAGER
viability, selection, hysteresis
optical--DVL | optical--no-lock
LBL | USBL | relative | terminal
configuration action
TRUTH-SIDE EVALUATOR
trajectory error and coverage
safety and paired contrasts
no policy access
VEHICLE AND MISSION
closed-loop motion and survey
geometry and subsequent
sensor observations change