The CyberSea Simulator developed by Marine Cybernetics is a simulator for HIL testing of Dy- namic Positioning (DP) systems. It is *probably* super expensive (how can i investigate this?).

Key points from [Johansen et al. (2005)]:

* Capabilitiesfordataloggingandreal-timepresentationofresults.
* Emphasis on vessel dynamics and accurate simulation of vessel motion at low speed ( < 3kts), wave, wind and current loads (of course, because of DP) in six degrees of freedom "using a nonlinear rigid-body model of the vessel".
* SeveraloptionsforinterfacebetweenHILSimulatorandComputerControlSystem("Ana- log, digital, serial/NMEA protocol", normal network protocol or "dedicated test I/O built into the DP computer system").
* Generation of realistic signals from all the common sensors and position reference sys- tems (such as "Gyro-compasses, VRUs, wind sensors, thruster feedback [...], power feed- back from thrusters, switchboard and generator sets") used in modern DP technology "contaminated with typical noise levels".
* Advanced generation of GNSS signals with possibility of simulating a broad specter of common failure modes.