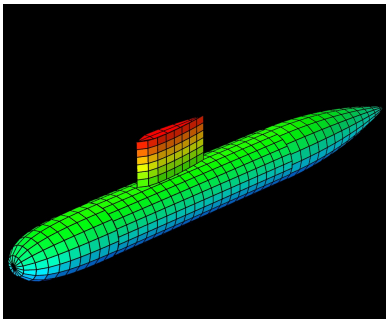
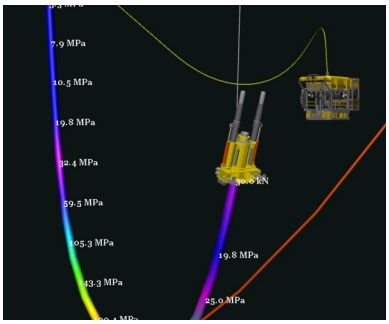
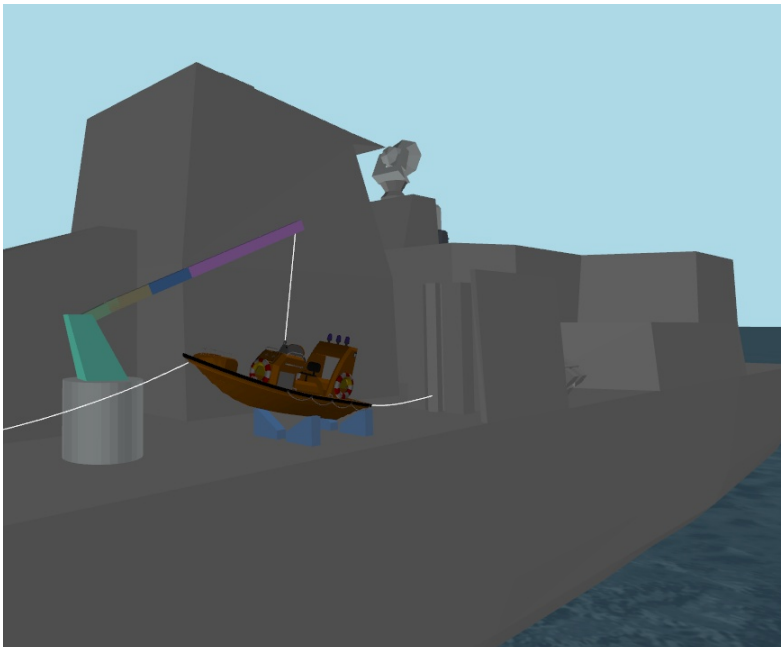
Launch and recovery simulation

Safely deploying and recovering subsea equipment, such as a tidal energy turbines or AUVs, is challenging. Comprehensive dynamic simulation can reduce risks and costs.







Benefits

Interactive simulation, animation, and numerical modelling facilitates safe launch and recovery of equipment from ships, barges, submarines, or other dynamic ocean platforms. DSA provides a software framework and services to enable users to design safer and more efficient equipment and processes. Benefits include

- Improved project timeline management
- Quantified operation limits (up-time/down-time)
- Reduced failures through industry-accepted analysis
- Storyboarding for safer and more efficient operations
- Increased safety with dynamic operations
- Reduced project risk

What does a launch and recovery analysis entail?

First, DSA builds a virtual prototype of the system in ProteusDS. DSA's engineers use advanced finite-element, articulated mechanism, and hydrodynamics models to construct the virtual system prototype. The prototype is then tested in a variety of simulated scenarios. For example, a recovery operation in a high-current environment may be assessed by trying different winch power ratings at specified current speeds to observe performance changes.

Next, DSA visualizes the system in 3D. This shows how the system performs above and below the water. Based on the data generated, the operations or system design may be adjusted and additional simulations completed.

High-quality visualizations or interactive simulations of the launch and recovery operation are used by crane operators, ROV pilots, managers, analysts, and engineers to assess what their system or procedure will look and behave like.

Applications

- Winches / heave compensation design or assessment
- Tidal energy device deployment
- ROV, AUV, UUV, and towed body docking mechanisms
- Rescue craft launch and recovery
- Ship-borne crane operations
- Controller design and optimization
- Trees and flow equipment deployments
- Underwater observatory deployments
- Crane and mechanism design

Contact

DSA has offices in Victoria, BC, and Halifax, NS, and works with partners worldwide.

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