Evans

Envisioning Future Undersea Superiority

Human-Centered Design Unlocked Next-Generation Naval Platform Innovation

A US Navy program sought to define operational spaces for next-generation undersea platforms, ensuring systems would remain effective throughout decades of evolving mission demands and emerging technologies.

Challenge

Legacy design philosophies created inflexible spaces forcing operators into inefficient workarounds. Sailors noted "you can tell they didn't think about the operator at all." Multiple competing layouts prevented program convergence. Information overload, poor ergonomics, and inability to accommodate future payloads constrained mission effectiveness and operator performance.

Results

- **First-Ever Trade Space Reduction:** Converged four competing layouts to single evidence-based design
- **49 User-Validated Concepts:** Generated actionable ideas addressing operational challenges
- **Multi-Year Extension Awarded:** Contract extended through FY26 with FY27 interest
- **Requirements Influence:** Work directly informing Capability Development Document
- **Senior Leadership Adoption:** Application requested for cross-department Executive Steering Group briefing

Approach

Evans applied human-centered design to

transform requirements into evidence-based operational concepts.

For more information

visit **evansinc.com**
or call: 703-663-2480

Key Implementation Highlights:

- **Immersive Warfighter Co-Creation:** Facilitated collaborative design events where sailors became true partners using "Sea Stories of the Future," generating 49 validated ideas in one event.
- **Strategic Problem Reframing:** Created "Combat as a Function" framework defining mission effectiveness through space design, information access, and technology modernization.
- **Data-Driven Trade Space Reduction:** Developed four conceptual layouts with structured warfighter reviews, transforming subjective opinions into actionable convergence evidence.
- **Analogous Innovation Research:** Studied Boeing, Amazon, and eSports to inject proven commercial solutions into platform design.
- **Immersive Visualization:** Delivered interactive "Transition Experience" application enabling stakeholders to virtually experience proposed layouts.

This approach provided validated concepts, strategic alignment, and a clear path from competing designs to unified vision prioritizing sailor performance while accommodating future technology.

The Tradeoff of Not Acting

- **Innovation Stagnation:** Conventional thinking would risk platform obsolescence upon delivery
- **Perpetual Design Stalemate:** Competing layouts would remain unresolved, delaying critical milestones
- **Operator Performance Degradation:** Technology-centric approach would perpetuate inefficiencies throughout century-long lifecycle
- **Future Payload Constraints:** Inflexible design requiring costly retrofits as missions evolve