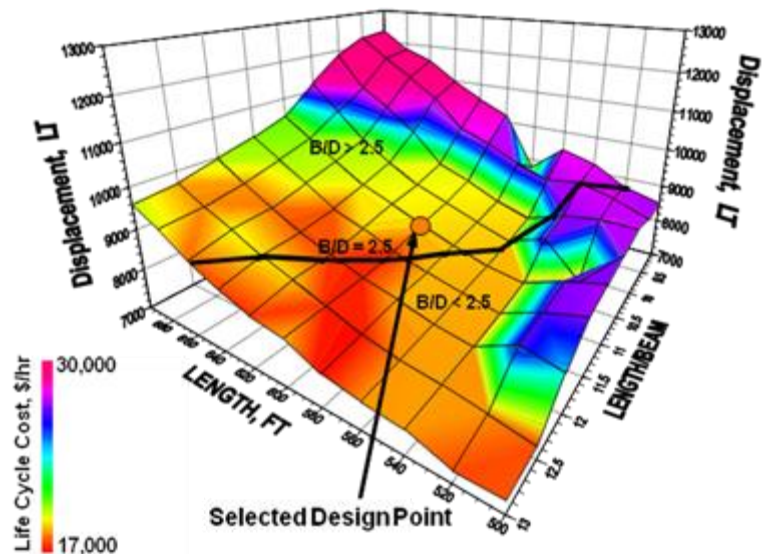


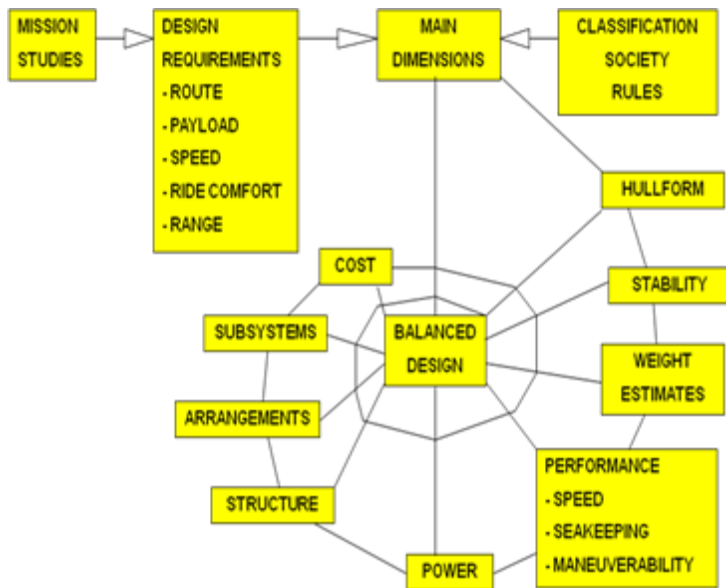
**ComPASS® (Commercial Parametric Assessment of Ship Systems)** is a proprietary ship synthesis model used to convert requirements to a design solution at the earliest design stages. It allows the naval architect to go from a “blank sheet of paper” to a feasible ship: geometry, weights, propulsion system, and cost. It runs in seconds and permits the ship designer to evaluate design options quickly and consistently.

ComPASS® consists of over 50,000 lines of coding and has been in development and constant refinement for over ten years. ComPASS® can model most hull forms:

- Monohulls
  - Displacement
  - Planing (45’ to 100’)
  - Semi-Planing
- Catamaran
- Trimaran
- SWATH
- ACV (separate model)
- SES (separate model)

It is especially useful for creating a parametric map of the design space to find the optimum solution. ComPASS® can also be very helpful after a baseline has been established. It can compute the whole-ship impact of subsystem alternatives, thereby facilitating decision-making during preliminary design.





ComPASS<sup>®</sup> is a physics-based model. For example, it calculates buoyancy, static stability, resistance, and seakeeping, because it has a hull geometry. It estimates distributive system weights, because at this design stage not enough detail is known. Thus, it can be used to evaluate innovative approaches where empirical data is not available. Its design loop is illustrated here.

In recent years, it has been used for:

- DDG 1000 [DDG(X)/CGX] – Tumblehome Combatant
- Coast Guard Offshore Patrol Cutter [OPC]
- DARPA ASW Continuous Trail Unmanned Vessel [ACTUV]
- NASSCO T-AKE
- SES Concept & Cost for Joint High-Speed Vessel [JHSV] AoA
- Ship-to-Shore Connector [SSC] AoA Concepts
- T-Craft – Surface Effect Ship [SES]

ComPASS<sup>®</sup> is:

- A very flexible design tool
- Continually being upgraded
- Strong in early-stage design
- Able to quickly develop a large number of design options