

Ship Design and Construction Tools – NG, NASSCO, EB and Halter

Ship Design (2-D and 3-D): this includes drafting efforts as well as hull form fairing and all 3-D modeling, arrangements, and catalog parts.

AutoCAD – III, Navy
CATIA - II, Navy
Rhino – II, Navy
ShipConstructor – II, Navy

Hydrodynamics Analysis: this includes sea keeping analysis, maneuvering analysis, computational fluid dynamics, propulsors and any other fluid flow analysis.

Fluent – II
NavCAD - II, Navy
VisualSMP – II, Navy (also in Stability)
GHS – I, Navy (also in Stability)

Structural Analysis: this includes all structural analysis, including but not limited to Finite Element Analysis (FEA), liver fire test M&S

RISA 3D - II
NASTRAN NX - III, Navy
FEMAP - III

EMPL: this includes any software used for analysis and design of the electrical systems and subcomponents.

EDSA - II, Navy

EMI: this includes all software used for EMI analysis and top side design.

None common to more than one commercial yard.

HVAC: this includes system design and analysis tools.

None common to more than one commercial yard.

Piping: this includes system design and analysis tools.

None common to more than one commercial yard.

Lofting:

None common to more than one commercial yard.

Production Planning: Scheduling, production M&S, cost analysis, material handling

MSProject - II, Navy

Weights Analysis: this includes tools used for the prediction and analysis of weights of systems and components.

Shipweight - III, Navy

Signatures Analysis: this includes tools used for any type of signature (IR, EM, RCS, Acoustic, etc.)

None common to more than one commercial yard.

Stability Analysis: this includes any software used for the analysis of ship stability.

Ship Hull Characteristic Program (SHCP) – II, Navy

GHS – I, Navy (also in Hydrodynamics)

Visual SMP – I, Navy (also in Hydrodynamics)

Vulnerability and Survivability:

None common to more than one commercial yard.

Manpower:

None common to more than one commercial yard.

Comments:

NG data is roll-up of their shipyards

Some tools are more common than reported, e.g. AutoCAD, Rhino, MS Project

MS Excel was not identified as a tool

Early stage tools were not asked about, such as Paramarine and Advanced ship and Submarine Evaluation Tool (ASSET).