

Collaboration in Marine Supply Chains



The challenge

In a world of increasing overcapacity and dramatic swings in demand, classic metrics such as cost, schedule and quality mean life or death to shipyards and their supply chains.

Today, yards are more dependent on their suppliers than ever. Marine suppliers are responsible for as much as 60 per cent of the value of each ship, offering shipyards specialised skills and the ability to share financial risk with proven, highly valued partners. In some cases, marine suppliers remain involved with a ship long after it has been commissioned, retaining ownership of key systems and even providing the personnel to run them.

Although these new relationships benefit suppliers, shipyards and ship owners, they also complicate the already complex process of designing and building modern ships. By increasing the interdependence of shipyards and marine suppliers, these new relationships also increase the imperative for seamless communication all along the supply chain. Effective collaboration – and the technology that enables it – defines the dividing line between success and failure.

The multi-CAD conundrum

Unfortunately, the reality of collaboration among marine suppliers and shipyards often is far from seamless. Suppliers, who serve multiple shipyards, have long battled with the need to support their multiple CAD systems as well. Translators (such as IGES and STEP) have been developed to 'bridge' the gaps, but engineers spend many hours manually 'fixing' these models to create usable information. Anything overlooked in these 'fixes' adds time and expense on the back end, causing missed deadlines and eroding profits.

What the marine industry really needs is a simple, affordable way to make models created in multiple CAD systems act like one, unified digital ship. Today, for the first time, they have it thanks to a new solution from IBM that provides seamless, centralised data management for a single, integrated view of multi-CAD designs.

IBM's multi-CAD solution delivers affordable, easy-to-implement and easy-to-use evaluation of space, fit, function and appearance. Users also can perform advanced analysis of kinematics, clash, ergonomics, serviceability and high-end visualisation with any combination of files created in CATIA, Pro/Engineer, AutoCAD, Solid Edge and a variety of other popular CAD programs. What's more, they open up the data to the entire enterprise through a simple Web browser, allowing shipyards and marine suppliers to benefit from the early involvement of manufacturing, procurement, and service to ensure a design that can be built and maintained at the lowest possible cost.



The smart solution

Today, shipyards and marine suppliers require integration at many stages of shipbuilding, from conceptual design through production, commissioning and operation. Information must be continually updated and shared to enable rapid innovation during early phases of design. The IBM multi-CAD solution, which combines ENOVIA DMU and SMARTEAM, gives all participants the ability to quickly understand design requirements, prepare initial proposals and bids, create virtual models and rapidly modify those models to create innovative solutions.

By supporting information management and providing the ability to collaborate regardless of CAD format, the IBM multi-CAD solution allows suppliers and shipyards to manage information regardless of where it originates. And because the tools are available on Microsoft Windows platforms, they can be easily deployed across the extended enterprise for collaboration across the entire product lifecycle.

The SMARTEAM component

SMARTEAM provides a comprehensive suite of tools to manage information in any CAD format. At the heart of SMARTEAM is SmartVault, where all product information is securely stored in a central unified database, regardless of native CAD format. SMARTEAM also automatically updates all related multi-CAD parts when changes are made in any native CAD design.

Access through a basic Web browser makes the information easily available to all authorised users who need it. Integrated workflows and access to bills of material enable sharing of this information throughout the design process. Integration with an ERP system supports automatic generation of purchase orders and other project-related documents. Access to information increases the opportunity for innovation and improves the quality of finished goods.

The ENOVIA DMU component

ENOVIA DMU (Digital Mock-Up) provides a simple, visual environment where CAD formats can be brought together for integrated evaluation of space, fit, function, appearance and annotations. It also provides sophisticated clash, measure, markup, explode and collaboration on multi-CAD assemblies. With ENOVIA DMU, other disciplines in the enterprise can be included in the design process earlier than ever before possible, allowing the project to benefit from the insights of manufacturing, procurement, technical documentation and marketing early enough for their input to be actionable.

The competitive edge

For the first time, the combination of SMARTEAM and ENOVIA DMU gives shipyards and marine suppliers a real solution to the challenges of collaborating in a multi-CAD world. By eliminating the need for cumbersome, time-consuming data translations and workarounds, this simple, affordable multi-CAD solution gives users a powerful competitive edge, allowing them to create more innovative products with shorter cycle times, lower costs, better thinking on the front end and fewer expensive, unanticipated problems on the back end.



For more information about SMARTEAM and ENOVIA DMU contact your IBM Marketing Representative, IBM Business Partner, or call one of the numbers below:

AMERICAS

USA	Toll-free 1 800 395 3339
Canada	(514) 938 6718
Argentina	(54) 11 4319 6594
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New Zealand	+64 9 359 8785
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EUROPE / MIDDLE EAST / AFRICA

Austria	1 211 45 2929
Belgium	2 225 2901
CEMA	+42 02 4929 1236
Czech Republic	27 213 1742
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Israel	(972) 3 697 8586
Italy	(39) 039 600 3767
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Slovenia/Croatia	01 479 6676
South Africa	0860 788 788
Spain	(34) 91 397 66 11
Sweden	8 763 4394
Switzerland	58 333 53 70
Turkey	0212 317 1305
United Kingdom	0870 010 2510

IBM Eurocoordination

Product Lifecycle Management
Tour Descartes
La Defense 5
2, avenue Gambetta
92066 Paris La Defense Cedex
France

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