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Ingenuity for life



**GEOMETRIC
SOLUTIONS**

Shipbuilding

Back Cove Yachts

Boat designers quickly capture customers' preferences

Product

Solid Edge

Business challenges

Product development team uses customer and dealer input to guide the design process

Designers might not use the CAD system for weeks at a time

Keys to success

Direct geometry editing with synchronous technology eliminates need to remember design history

Results

Rapid changes to existing designs; more design iterations

Increased productivity and creativity

More time to refine the aesthetics of a boat

Better ability to respond to customer and dealer input

Solid Edge with synchronous technology permits a new level of design fine-tuning

Lobster boat heritage

With design elements such as spoon-shaped bows and gently sloped transoms, Back Cove Yachts reflect their Maine lobster boat heritage. But unlike their predecessors, these modern yachts feature ample room in the cockpit as well as cabin amenities such as refrigerators and freezers, microwave ovens, stainless steel sinks, plenty of storage and comfortable sleeping accommodations. Large windows provide ample visibility and light.

Performance is up-to-date as well, thanks to modern, deep-vee hulls and six-cylinder diesel engines.

Back Cove's elegant, traditional boats are built by 100 of Maine's finest boat builders in a modern 240,000 square foot facility. The current product line-up includes four models from 26 to 37 feet long, all of which cost considerably less than most other boats of this type. The boats are sold through a worldwide dealer network.

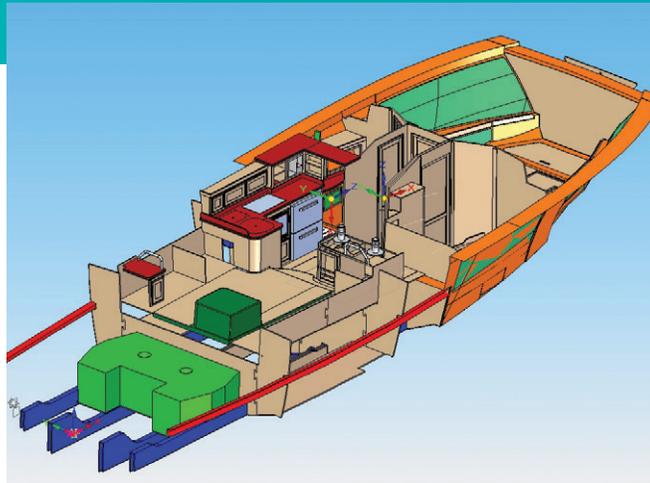
Capturing customer and dealer input

With the exception of the molded fiberglass surfaces, which are imported from a surface modeling program, all design work is done



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Adam Carlson
Design Engineer
Back Cove Yachts



in Siemens’ Solid Edge® software, leveraging its synchronous technology to address the customer-driven nature of the company’s design process.

“When we’re designing a new model, we send out preliminary sketches to our dealers and they send back suggestions based on what they know our customers want,” explains Adam Carlson, a design engineer at Back Cove Yachts. What this means for the design process is that a boat’s layout changes many times before a design is finalized. “Our dealers are all over the world and their input is all different, so we try to find a happy medium,” Carlson explains. “In doing that, we’re constantly changing and tweaking the design. Something like a bulkhead might move a dozen times throughout the design process.”

The bulkhead move that Carlson mentions might be as little as half an inch, but previously even a minor change such as this would have been a time-consuming process, requiring him to remember how the element had been modeled before

making any sort of change. That was a history-based approach to modeling and it sometimes proved difficult at Back Cove Yachts. “Because of our lean design and engineering process, there are times when I might not use Solid Edge for two or three weeks where I’m busy doing other things,” Carlson says. “With synchronous technology, I don’t have to go back and think, ‘How did I create this model?’ I just grab the steering wheel and edit the design on the fly.”

Faster modeling boosts creativity

The “steering wheel” feature is a key element of Solid Edge with synchronous technology. Synchronous technology, the first history-free, feature-based modeling technology, provides the best of constraint-driven techniques with direct modeling. Using the unique multi-purpose handle called the steering wheel that appears when he selects an element, Carlson simply drags geometry (such as a bulkhead) to a new location. Gone are the days of complicated feature edits governed by the order that features were created.

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Solutions/Services

Solid Edge
www.siemens.com/solidedge

Customer's primary business

Back Cove Yachts builds motorized yachts ranging from 26 to 37 feet long.
www.backcoveyachts.com

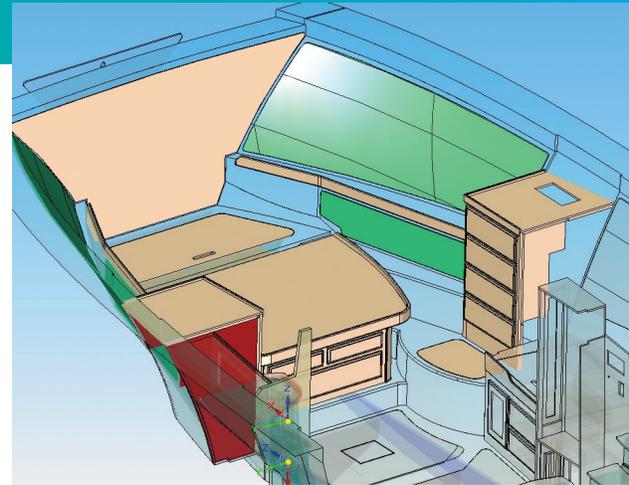
Customer location

Rockland, Maine
United States

"Synchronous technology gives us more time in an engineering/design mode rather than just a CAD process. We now spend more time focused on the aesthetics of the boat."

Adam Carlson
Design Engineer
Back Cove Yachts

Carlson has been using synchronous technology for about one year and according to him, it has dramatically changed the design process at Back Cove Yachts. It is now possible to quickly incorporate the suggestions that come in from the dealers. And because it is so easy to make changes to an existing design, something like a half-inch move, that might have seemed too time-consuming in the past, is now done very quickly. "It has increased our productivity and creativity, and we can try out more design iterations," Carlson says. "Synchronous technology gives us more time in an engineering/design mode rather than just a CAD process. We now spend more time focused on the aesthetics of the boat." The result: Back Cove Yachts continues to deliver even more beautiful works of navigation with even more powerful and practical features.



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