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### Online technology in the fast lane

By: Michelle Maniscalco

Two years of online collaboration mean “better products faster” at Harbec Plastics.

As one of the earliest adopters of CAD/CAM in the molding industry, Harbec Plastics is still breaking new ground and reaping the benefits of online design collaboration. IMM chronicled this innovative company’s first experiences with the technology (see [“Virtual Design Team Speeds Product to Very Real Market,” April 2002 IMM](#).) Today, it continues to use online design collaboration (OneSpace from CoCreate) for improved speed and optimization of its many and varied projects.

Harbec specializes in concept-to-production molding services, including prototyping, moldmaking, engineering, molding, and secondary assembly and manufacturing. Its competitive edge is the ability to reduce both the time and risk required to launch a new product using its skill, technology, and depth of capabilities.



*Bob Bechtold, Harbec Plastics' president and CEO, believes that online design collaboration is an essential technology for success in today's business climate.*

**Harbec Plastics Inc.**

- **Founded in 1977 by Bob Bechtold.**
- **Offers full-service approach from concept modeling and tooling to production and assembly.**
- **QMS system features engineering prototypes in production material.**
- **More than 70 percent of molding presses are electric.**

We recently spoke with Bob Bechtold, Harbec’s president and CEO, about the changes brought about by Web-based collaboration technology over the past two years. “The nature of our relationships with customers has improved with the addition of this system,” he says. “Not only can we communicate ideas and concepts more accurately and in less time without traveling physically, but we can also handle files from any software system. We pride ourselves in taking responsibility for whatever the customer brings to the table, and this also means not requiring customers to buy anything in order to be able to work with us.”

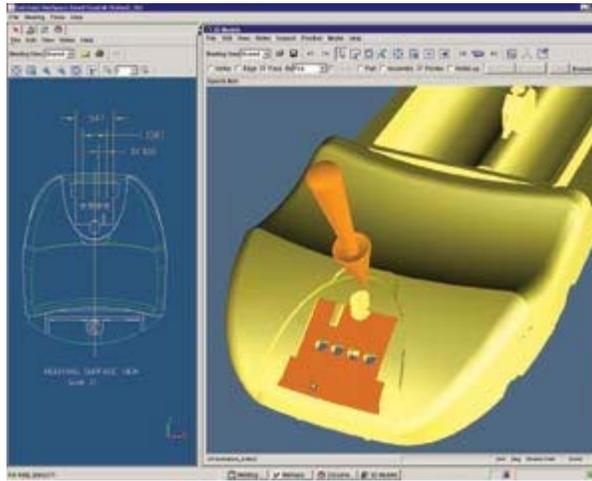
#### Product Life Cycle Management

Delving into this technology, Harbec places itself on the leading edge of a current manufacturing trend known as product life cycle management, or PLM. According to Kevin O’Marah of AMR Research, an industry and market analysis firm specializing in e-business strategy and infrastructure, the PLM idea says that fully loaded final product cost is almost completely (70 to 80 percent) locked in early in the design phase. “PLM refers to the processes and technologies that support superior product innovation to create value,” says O’Marah. (See below, “Why PLM?”)

In Bechtold’s view, this translates into “better products faster. For us, this is a product optimization process, and the enabling technology allows our process to work so that we can reach our goal of getting products to market faster, at less cost, and correctly.”

Not only does online collaboration allow Harbec to operate more cost effectively, but it also enables the company to cut travel costs for its employees and customers. “Essentially, there is no waiting period any longer to reach agreement on a final optimized design,” says Bechtold. “In the worst case, we can hammer out the details with customers within a few hours.” He estimates that the company has reduced face-to-face meetings and tooling design time by 50 percent, which also decreases costs and project duration.

Simplicity is another added benefit. With a Web-enabled system, designers don't need to send disks and CDs. Files are all transferred via the Internet. Harbec's rule of thumb is to give its IT department 1 hour's notice before the first collaboration session with a new customer. "We need 1 hour to make sure there are no firewall issues, resolve them if there are, and download files," he says. Customers do not buy the software—they are linked via Harbec's IT department, and receive a client application that they use for the session. "The normal response is that they are amazed at how easy it is. It is an intuitive product, and no one yet has needed any tutoring."



Members of Harbec's design team link up with customers in a OneSpace session that allows all parties to see the same CAD file image, manipulate that image, and communicate via typed messages.

In a typical first session, Harbec will already have the file from its FTP site. According to Bechtold, there may be an issue or a point that needs to be resolved, and the discussion is fruitful because customers have exactly the same image and model on their screens as he points to it on his. "What happens equally as often," he says, "is that we discover a prototyping potential to help customers make the product more manufacturable. We find increasing opportunities for cost reduction and product success. We may recommend a change, offer a suggestion for quicker builds, or modify the design slightly for lower cycle times."

Many of Harbec's customers are pleased with the introduction of this technology. Designers from major OEMs, who used to look for reasons to travel, are now on restricted budgets and reduced travel. "We offer a way around the problem," he says, "and when we list our capabilities, we always include real-time collaboration, because it is becoming an essential for progressive companies."

### Efficiency Is the Order of the Day

While Harbec still serves generally the same mixture of markets it always has, online collaboration broadens its reach beyond regional customers. Long-term customers with multiple locations are also better served by the online format, according to Bechtold. "We can bring people from several locations together easily, getting more input early in the design process and reducing the amount of rework and approvals needed."

For one client, Harbec used OneSpace to design a test stand for a germ-sensing device that required intricate tooling. "Collaborating online helped us and our client to understand the tooling options we could use," says Bechtold. "This is vital, because misunderstanding in tooling can cause issues that can take weeks and cost tens of thousands of dollars to resolve."

Bechtold and company also redesigned a fuel delivery system, switching from an aluminum casting and molded gaskets to a single molded part, for an automotive fuel filter manufacturer. "They were using an aluminum ring with two gaskets to hold a visual inspection device over the filter," he says. "We modeled a one-piece part that eliminated leaking and reduced costs, and within 30 minutes, our clients approved the new design." Prior to online meetings, Bechtold estimates it would have taken a week to schedule meetings and approve the design.

But what about documentation? After each session, the software keeps a recorded history of what took place along with digital signatures. As standard procedure, Harbec sends this to the customer for its files.

### Why PLM?

Several sources at CoCreate, makers of OneSpace and leaders in online collaboration products, compiled the following list of what they consider to be the top five trends leading up to the explosion of PLM (product life cycle management).

**1. Interoperability.** Traditional methods of translating files from one system to another are ineffective, wasting time and money. Collaboration-enabling products allow users to avoid translation.

**2. Investments.** Investing in computer hardware to facilitate PLM is a great idea, but the payback can be too long, especially in today's economic climate. Knowledge capture and reuse is best achieved by joining people via software, rather than joining machines and data.

**3. Need for simplicity.** Software vendors have made things too complicated for the average company. Simple, pragmatic, fast-payback solutions are readily available and offer an alternative to complex systems.

**4. Focus on top-line growth.** Companies have done all the cost cutting they can do via layoffs, outsourcing, delay of purchases, phased implementations, and so forth. The best way to achieve top-line growth is by delivering better products faster through dynamic modeling and collaboration.

**5. Differentiation through innovation and the risk of not investing.** By the time companies spend 6 percent of their product development budget, more than 80 percent of the costs and competitiveness of the product have been determined. By not investing in more efficient and innovative products, companies will get left behind. Studies show that the greatest shifts in market share come during economic down times. Why? Customers are hesitant to buy from a company that might go out of business and instead buy from the market leaders as a less risky proposal.

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**IMM - July 2003**