SIEMENS

Industrial machinery

Progressive Design Technologies

NX slashes design time for progressive dies

Product

NX

Business challenges

Hold down costs to remain competitive

Shrink lead times for progressive die designs

Keys to success

Replace traditional 2D drawing/trial-and-error approach with NX software

Automate die design process with NX Progressive Die Wizard

Verify designs directly within software before sending into production

Results

Lead times slashed by as much as 50 percent

Reduction in time and materials during "tryout" phase yields significant cost reductions

More efficient development cycle results in better prices for customers

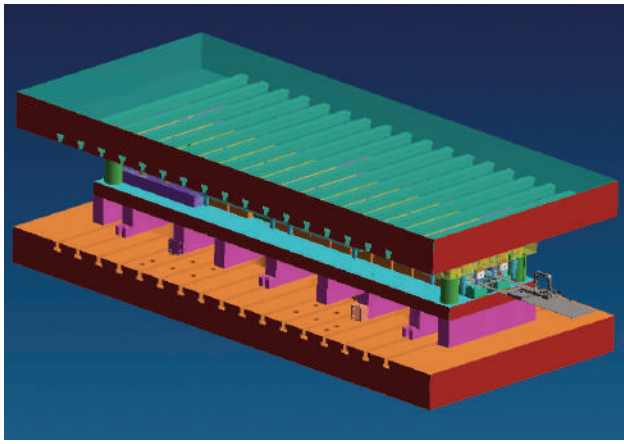
Faster turnaround, higher quality and lower prices yield a competitive advantage over traditional design

Progressive Design Technologies' NX-based approach to die design is up to 50 percent more efficient than traditional methods

With offshore competition on the rise, Progressive Design Technologies needed to significantly increase productivity, improve accuracy and improve downstream processes to remain competitive.

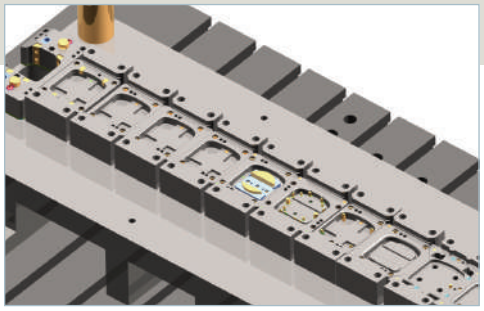
Keeping up with CAD and competition

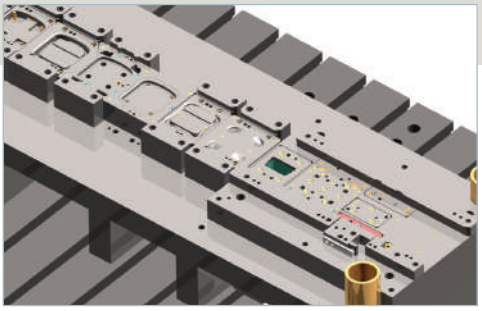
Progressive Design Technologies specializes in precision tool design for a wide range of manufacturing processes such as injection molds, progressive dies and custom semi-automatic tooling for the automotive, semiconductor and a variety of other industries. It also handles manufacturing support through CAM, post building and training. As a company that deals primarily with manufacturing processes, Progressive Design Technologies takes on increasingly complex work. Today's engineers use the most sophisticated modeling tools with advanced surfacing capabilities, so the products they create consist of more and more refined shapes. This makes them difficult to manufacture using traditional processes. "As the complexity of digital models increases, it becomes more difficult to develop the tooling to produce those shapes in production," explains Michael Molina II, president of Progressive Design



Technologies. "We needed to increase the strength of our modeling tools and raise our standards to develop high quality tooling to keep up with this rapidly evolving CAD technology."

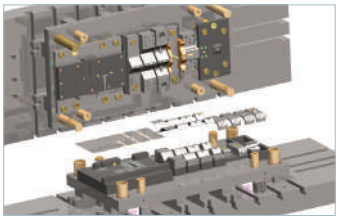
In addition to making sure his technology is up to the task, Molina also faces the competitive pressures common to many US businesses. As his customers become more open to offshore suppliers, reducing rates without sacrificing quality is no longer just a competitive advantage. In today's market it is essential to survival. Not long ago, it became clear to Molina that if his company continued to use the traditional approach to progressive die

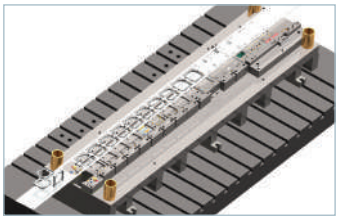




“Being able to unform complex shapes at the various stages is a huge advantage that separates NX from its competitors.”

Michael Molina II
President
Progressive Design Technologies



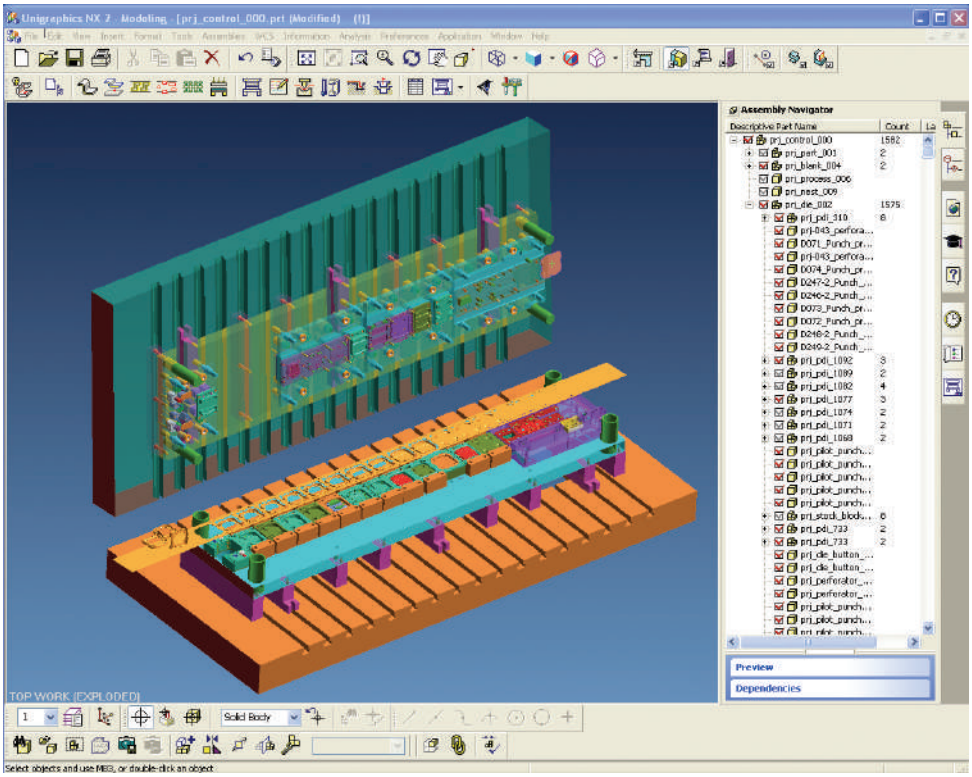


design (2D design tools or mid-range 3D CAD supplemented by niche software applications), it would not be sufficient to compete effectively in the new business climate.

Intelligent wizard taps advanced modeler

A progressive die is a tool in which a sheet of metal is cut and formed through a series of properly sequenced operations mounted on a common die set. In searching for ways to compete more effectively in the design of progressive dies, Molina investigated the various software options available from the major players in the industry. Although he could find some programs with strengths in certain areas, what he really needed was a solution that excelled in both complex shape creation and die design intelligence. As he explains, “The best combination is an intelligent die design wizard built on top of the most powerful modeling technology.” After careful review, he was able to find that combination only in NX™ software. “NX has an obvious advantage over its competitors in modeling strength and open architecture, so any solution built on NX will already have a great advantage over the others,” Molina says. “The NX Progressive Die Wizard taps into advanced modeling functionality. On top of that, it delivers unmatched intelligence for automating die design processes. Between the two integrated programs, you get an unbeatable combination.”

Molina accepts customers’ sheet metal designs in any digital format. He points out, “With NX and its progressive die design solution, it doesn’t matter what format we get. It doesn’t matter whether the part is straight brake or has complex freeform shapes. The wizard can unfold and manipulate any part through feature



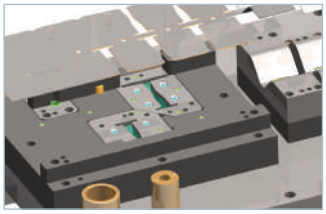
"To truly automate the design of progressive dies, you need two things: an intelligent wizard and highly advanced modeling technology. NX is the only software that has both elements. Nobody else even comes close."

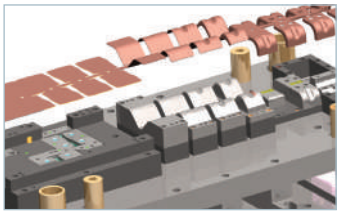
Michael Molina II
President
Progressive Design Technologies

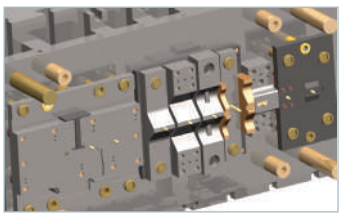
recognition and direct modeling tools. We no longer need native parts with a feature tree to manipulate the model in designing preform shapes. It's an incredible time saver."

Strip layout, which used to take about a week using his old approach can now be done in a day. This is because Molina is no longer modeling all the individual components in the strip layout assembly model. The Progressive Die Wizard automates much of the modeling tasks and offers scaleable parts and assemblies from its extensive libraries. "Once we have the strip layout, there are intelligent tools for inserting pierce, bending, coining, embosses, lancing and other special features to help automate the design," Molina explains. "Advanced tools such as die base configuration, pocketing design and die clearance management speed up our process and provide greater flexibility and control over the entire project."

Molina uses standard parts as well as many specialized assembly sets that he added to the library based on his customers' standards. The flat blank size prediction is where he sees one of the biggest benefits of the new approach. He notes, "In the past, there was a lot of guesswork involved where traditional bend allowance did not apply, and so there was a lot of trial and error to get it right. With the new approach, the software has a tool to predict blank size and







Solutions/Services

NX
www.siemens.com/nx

Customer's primary business

Progressive Design Technologies specializes in precision tool design for a wide range of manufacturing processes such as injection molds, progressive dies, and custom semi-automatic tooling for the automotive, semiconductor and a variety of other industries.
www.progressive-design.us

Customer location

Austin, Texas
United States

that significantly reduces the tryout phase." Other features that are unique to NX are the ability to unfold parts in various stages and the ability to see what parts will look like in the various preform stages.

A win-win situation

Molina had one project involving a progressive die design for an automobile part that would have taken six to eight weeks using the old tools. With NX, he completed the preliminary 3D model die design in one week. When the customer asked for a significant change that meant starting over from scratch, he finished the second design in a week as well. Molina believes the new, NX-based approach was between 50 to 70 percent more efficient than his past process on this particular job. "Significant rewards are realized when you see the wizard for Progressive Die Design automate a great deal of the process," Molina says. Changes that used to take days in the past are now completed in hours.

NX, with its revolutionary progressive die design capabilities, is a highly effective solution to the competitive challenge Molina faces. With this solution, he is able to quote lower prices and still see profits. "Everyone makes money with this approach," he says. He is also able to produce higher quality dies than he could in the past. "Being able to unform complex shapes at the various stages is a huge advantage that separates NX from its competitors," Molina says. "Most parts are produced in multiple stages. If you can predict what they will look like in those preform stages, you are better able to make the end product look like what the customer wants."

Lower prices, faster turnaround and higher quality – these are Progressive Design Technologies' competitive advantage – all achieved by using NX and its powerful software solution for applying industry knowledge to progressive die design.

"NX has an obvious advantage over its competitors in modeling strength and open architecture, so any solution built on NX will already have a great advantage over the others."

Michael Molina II
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