

## Fewer trips to the virtual “drawing board”

Gem City Engineering adapts to changes without the frustration

Siemens PLM Software

[www.siemens.com/solidedge](http://www.siemens.com/solidedge)



### ► Issues:

Marketplace demands require shorter delivery cycles

Staying competitive requires speed and accuracy in design implementation

Design errors and rework extend development time

### ► Approach:

3D visualization with solid modeling

Intuitive, easy to use CAD

### ► Results:

Change orders decreased by 90 percent

Improved visualization and communication

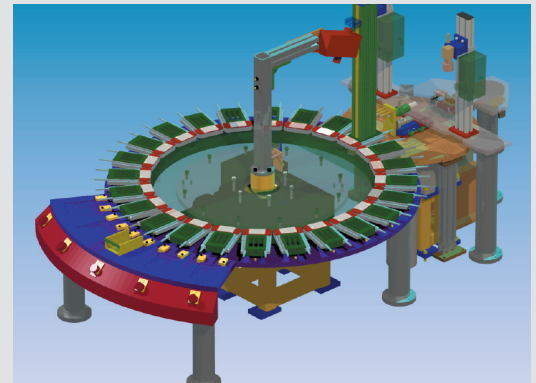
Better accuracy and design quality

## GEM CITY ENGINEERING

- Gem City Engineering (GCE) steps up to the competitive challenge: adapt or perish. GCE focused on its concept-to-finished product cycle, especially the engineering change order process.

### Engineering change orders frustrated Gem City’s efforts to remain competitive

Since Gem City Engineering expanded the size and range of its client base, it now provides automation and conveying solutions as well as tooling, stampings and contract manufacturing for high-tech industries. Inescapable design changes in the 2D-design process thwarted efforts to lead its competition by prolonging the time from concept to finished product. In 1998, Roger Wentworth, GCE director of Mechanical Engineering, began investigating mid-range solid modelers. Looking for a short learning curve, productivity features and exceptional value, he tried Solid Edge®.



### Solid Edge 3D modeling tools permit intuitive interface and ease of use

After a brief training period, Wentworth began testing Solid Edge on small projects such as robotic end effectors. All went well, so the next step was to use Solid Edge exclusively for a large project – a 10-foot by 15-foot automated machine – estimated at two person-years of work. The machine consists of multiple complex mechanisms, including three conveyor systems, a six-axis robot, a three-axis custom-designed positioning system, a feed system, two cam-driven indexing units, a vision system and literally dozens of pneumatically activated motions.

### Change orders decreased by 90 percent

Once the mental switch was made to the concept of 3D modeling, the rest was incredibly easy. Solid Edge reduced engineering change orders to 10 percent of previous expectations. Wentworth attributes this success to the fact that the Solid Edge 3D environment allows his team to make better design decisions. “Before Solid Edge, when we worked in 2D, looking for and finding problems was a slow, tedious and error-prone process. Now any interferences and other potential problems smack us right in the face,” he says. He also points out that Solid

**Solutions/Services**

Solid Edge  
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**Client's primary business**

Gem City Engineering provides automation and conveying solutions as well as tooling, stampings and contract manufacturing for high-tech industries.

**Client location**

Dayton, Ohio  
 United States

Edge's high-quality 3D images are useful for presenting proposals to customers. What's more, there has been significant improvement in communications between the manufacturing group and the shop floor – with Solid Edge visualization tools improving understanding of the drawings and the process. This blend of design quality, accuracy and improved communications translates directly into time and money saved and greater productivity.

Roger Wentworth, GCE director of Mechanical Engineering, has a vision for the future that includes going directly from models to manufacturing without even creating drawings. "Solid Edge is a great tool," he says. "Our needs at GCE are so intense, if it will work for us it will work for anyone."

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*Roger Wentworth  
 Director of Mechanical Engineering  
 Gem City Engineering*

► For more information, contact your local Solid Edge representative:

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