

CASE HIGHLIGHTS

The Client

Company : Tampa Bay Steel Corporation
Headquarters : Tampa, Florida, USA
Industry : Mining and Metals

The Objective

To implement a system that would assist in programming machining features and at the same time provide a 3D visual effect of the process to the end customer.

The Solution

CAMWorks' extensive feature set and built in intelligence helped create features exactly as per the designed specifications.

The Benefits

- 15%-20% programming time saved
- Reduction in material overhead costs
- Cater to customers' specialized needs

As one of Florida's major steel distribution and metal processing companies, Tampa Bay Steel offers services to hundreds of customers in the North American region. The company works with a variety of metals, and stocks a vast inventory of materials. In addition, Tampa Bay offers extensive processing capabilities so that customers can get exactly what they need for their business. Customer centricity is a core value at Tampa Bay Steel, reflected in the corporate motto – 'Metals Ready for Business.'

In order to ensure that they are always able to meet specialized needs of customers, Tampa Bay decided to invest in a new CAM platform a few years back. After a thorough consideration, they turned to Geometric's market leading solution – CAMWorks. The solution's extensive feature set and in-built intelligence complements the steel company's custom built solutions focus – and ensures that Tampa Bay is always 'ready for business'.

Choosing a CAM partner that can keep up

Unlike many other players in the steel market, Tampa Bay Steel is not a manufacturer of one or two specific parts. It caters to hundreds of customers for whom it provides a variety of sizes, types and grades of metals for large to small scale projects. Customers often bring unique and specialized requests to Tampa Bay. In order to meet such varied requirements, the company opted for a CNC machine- and CAM software-based manufacturing strategy.

In 2005, the company realized the need for better programming software for its CNC machines. "We were using a different (software) package at the time but found CAMWorks to be a better end-to-end solution. The software that we were using was two dimensional, which made programming very difficult as every perspective was flat – and reality as you know, is not flat! We really needed something that would help us visualize what was being machined in 3D. We also evaluated another software, which was also 3D capable, but felt that CAMWorks was a much more impressive package overall – it was also more user friendly", says Dave Carpenter, Engineering Manager, Tampa Bay Steel.

Enabling Tampa Bay to do more

In addition to three dimensional capability, CAMWorks' feature set helped expand Tampa Bay's offerings. Says Carpenter, "CAMWorks has brought us a whole lot of new capabilities. Once we got good at using the program, we were able to produce steel goods that were finished to exact specifications, and that were ready to go into our customer's assembly line." In effect, CAMWorks has helped ensure that Tampa Bay is always able to meet its customers business needs, however varied they may be.

Since Tampa Bay typically works on custom projects rather than mass-scale manufacture of limited lines, the company used to undergo a lot of trial and error during the fabrication process. "Earlier, since the software was not 3D, there was a lot of trial and error. We also had to create a number of test pieces before the actual part could be finally machined. With CAMWorks and the CNC machines, we are able to create products that are exactly as per the designed specifications. So, there is no longer a need to create a number of samples for each part," says Carpenter.

"We also evaluated 1 CNC which was also 3D capable, but felt that CAMWorks was a much more impressive overall package - it was also more user friendly. Using CAMWorks has made us a lot more efficient - with the software you don't have to question whether the part is going to come off right. Earlier, we would do an extra 3-4% CNC run. But, with CAMWorks you don't need extra parts other than one sample (for reference). It has certainly helped us reduce material cost overhead."

Dave Carpenter
Engineering Manager

This has resulted in valuable savings for the company in terms of materials cost for the trial sample creation. Carpenter points out, "Using CAMWorks has made us a lot more efficient – with the software you don't have to question whether the part is going to come off right. Earlier, we would do an extra 3-4% CNC run. But, with CAMWorks you don't need extra parts other than one sample (for reference). It has certainly helped us reduce material cost overhead."

Bringing in efficiency with CAMWorks

As a custom product manufacturer, Tampa Bay works with multiple materials – and in this regard, CAMWorks with its technology database (TechDB™) feature, has delivered a key value-add. "The good thing about CAMWorks is also that it can be programmed to automatically remember certain tasks. For instance, we work with a number of different metals. Earlier we would have to feed-in drill tap speeds manually each time, depending on the metal being used. With CAMWorks the program automatically recalls the drill tap speeds based on what has previously been fed-in for that material," says Carpenter.

Tampa Bay engineers have also been leveraging CAMWorks' AFR functionality extensively – "When we design a part and then use CAMWorks to mill it, the software is able to automatically detect a feature, say for instance, a tap hole. Using the information in the database, CAMWorks is then able to determine exactly how the drilling is to be carried out on the metal being machined." This has led to significant time savings for Tampa Bay, according to Carpenter. "With CAMWorks, what used to take hours, can now be done in a few minutes."

Given all this, it is not surprising that Tampa Bay Steel has been able to accelerate programming activities using CAMWorks. The company estimates that it is saving 15-20% in programming time, compared to previous cycle times. "Plus, the overall user experience is better, as we are able to avoid repetitive tasks," adds Carpenter.

The company is now ramping up its use of CAMWorks. In addition to a new licence, Tampa Bay is in the process of upgrading to a full 3 axis pack (they presently use 2.5 axis pack), which will assist in beveling and creating unusually shaped parts. Using CAMWorks has also helped the company progress in other directions, such as, the adoption of SolidWorks in place of AutoCAD, which was in use earlier. The tight integration between CAMWorks and SolidWorks was the key reason behind this shift.

Clearly, in every way that counts, CAMWorks has been an ideal choice for Tampa Bay Steel. To put it in the company's own words, "'Metals ready for business' – is our motto, and by using CAMWorks, there is very little that we can't do."

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Geometric

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