Case Study

Liebert Corporation USA

Highlights

- ✓ Single CAM system driving multiple machines across several locations
- ✓ Support for complex machines such as right angle shear and loading robots
- ✓ Sheet utilization improved by between 5%-13% due to JETCAM's high performance nesting module
- ✓ RCP takes just seconds to create each nest
- ✓ CAD import automatically heals 'dirty' files, creates geometry and applies tooling within seconds
- ✓ System in use for over 15 years with minimal support needed
- ✓ New staff trained quickly

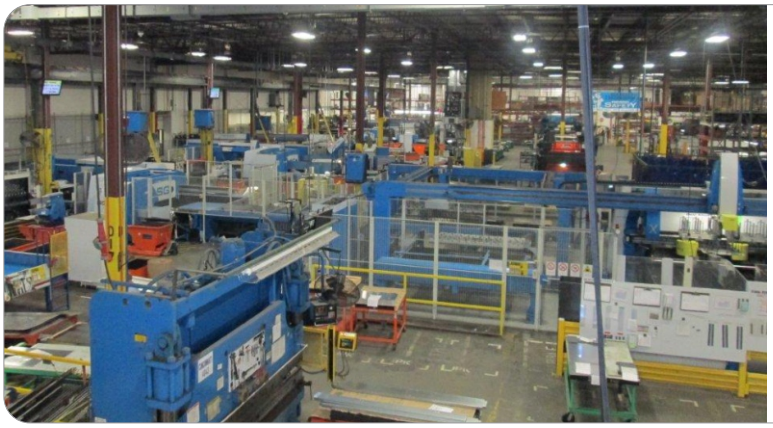
Liebert Corporation, a division of Emerson Electric of St Louis manufactures air and power conditioning for computers and server rooms. They purchased their first Finn-Power Shear Genius in 1997, which was offered with JETCAM Expert by the vendor. Alan Mauerman, Senior Manufacturing Engineer, explained; *"The previous CAM software was simply not designed to support right angle shearing and was barely acceptable for creating basic X & Y g-code for machines like our standalone Amada turret punch press. It was slow to use, often displaying unexplained errors and suffered from problems importing DXF files. The JETCAM and Finn-Power machines being supplied together was a great combination as it greatly reduced our training time - we could make a nest and see our results quickly"*

Since moving to JETCAM the company has aggressively expanded and upgraded its CNC machinery across several plants. Columbus OH has six Shear Genius' - mainly CNC punch with one punch/laser combination machine. All have material loading robots, with most also benefiting from right angle shear and one tied to an Express Bender machine. JETCAM drives all of the turret machines in Liebert's other facilities in Delaware, Ohio, Ironton, Ohio and Mexicali, Mexico.

CAD import routines in the previous software had been a problem, however JETCAM's automatic 'healing' routines ensured that any 'dirty' files could be automatically healed using pre-defined parameters. Complete directories of CAD files could be healed, imported and tooled automatically using JETCAM's SCAP (Single Component Automatic Processing). They are then immediately ready for nesting.

Moving forward Liebert has seen ongoing staff benefits due to JETCAM's ease of use. They had a number of new users that had extensive shop floor knowledge but little computer experience. In under a week they were confident and capable of producing highly optimised nests. Alan commented; *"It's easy to use because there are only a few keystrokes required for each step and what you see on the screen is what happens at the machine. There are no surprises."*

JETCAM™ MANUFACTURING MADE EASY



Software: JETCAM Expert Premium
High Performance Nesting
Remote Control Processing

Machines: Finn-Power
Columbus, OH: 6 x Shear Genius
Delaware, OH: 2 x Shear Genius
Ironton, OH: 5 x Shear Genius
Mexicali, Mexico: 4 x Shear Genius
& 2 x standalone punch presses

As the price of material continues to rise, Liebert has empowered JETCAM to deliver further savings in this area. The company purchased JETCAM's high performance nesting module, which has delivered between 5% and 13% savings on materials by continuing to try different nest patterns over a specified size range. The software also includes utilities such as common line cutting and remnant sheet management that allow every possible square inch of material to be used or saved for reuse where possible.

Although JETCAM provides interaction at every level Liebert was looking to automate the system as much as possible. In 2010 they investigated automating methods for analyzing optimal sheet metal material sizes. Previously new material sizes were based on 'educated guesses' for small (<30 piece) runs. Alan recalled; *"It took weeks to analyze even a small number of possibilities, and we simply could not analyze all of the parts for a particular material type and gage. We realized that we needed an automated method to achieve better material utilization, so we talked to JETCAM to see if they could create a solution."*

JETCAM developed a separate application that utilized its RCP (Remote Control Proccessing) system to compare previous sheet sizes versus several options for new sizes. It uses the component file for each part, monthly part usage and current sheet dimensions. Other information such as material cost, part spacing, trim width, sheet increments and minimum/maximum size ranges were also selected. RCP then automatically nests each part on all of the different sheet sizes, which takes on average 3 seconds per nest. A spreadsheet is then generated that compares the current cost and provides three recommended sizes based on the best weighted average material cost savings. *"I've used RCP to analyze over 15,000 combinations of sheet sizes for just one material type. I simply could not have done that manually."*

Liebert has been using JETCAM now for over 15 years, spanning four locations in North America, covering many types and models of NC punching equipment. Alan finalized; *"In the past our sheet utilization was arouund 68-72%, but now with the RCP method coupled with high performance nesting we have seen increases up to 13%. This has resulted in many thousands of dollars saved, and we are just getting started. With JETCAM we know we will have the capability and will be able to benefit from it no matter what metal fabrication equipment we have."*