

Experience
Exhibition construction



TECTONICS LLC

SOFTWARE INTEGRATION TO EARN FLEXIBILITY

Tectonics Industries was originally founded in 1981 to serve the trade show and exhibit business. In 2013 the company was purchased by holding company Quantum Digital Graphics and merged with another graphics company. These two companies were then branded together as Tectonics LLC. Since then, the company has grown from 50 employees to 160 and now has three offices in North America and five satellite sales team members. We met with CEO Lee Skandalaris and Executive Vice President Mike Toribio at their new 100,000 sq. ft. state of the art facility in Auburn Hills, Michigan.

Skandalaris explained that Tectonics is a creator of branded environments such as exhibits, displays, trade show booths and custom structures for a variety of industries. It can act as a single source for its customers, providing everything from engineering to fabrication to printing to installation. The structures it produces are based on aluminum extrusions featuring an interlocking system that provides scalability in size and design. Then fabric-printed graphics are fit over these structures to create the final display piece.

The company deals with high variability, high complexity, and short production windows on a daily basis, serving some of the most highly visible brands in North America. *“Our business is unique in that every product is a one-off design,”* said Skandalaris.

Explained Toribio, *“Within the exhibit and display market, manual fabrication remains the norm. Companies often work from 2D prints and the shop floor is reliant upon hand tools for cutting, drilling, assembly, etc.”* Tectonics soon realized the limitations of hand fabrication in terms of both the time investment and quality variability. For example, added Skandalaris, *“If you have asymmetric tolerancing on the tubes, the fabric won’t fit right.”*

Tectonics believed that technology and automation proven to be successful in traditional manufacturing industries could be their competitive advantage. At this point they began looking for solutions and partners that could help them scale their capacity, improve their delivery schedule and deliver a higher level of product quality. *“Our goal,”* said Skandalaris, *“was to create the complexity without the cost with a hope of potentially disrupting the market and delivering a superior solution.”*

Tectonics began their technology journey by developing an engineering team with a broad area of expertise, investing in CAD and other software solutions as well as its own software developers. The company now



has what it calls an “eco-system of technology” where there is an interconnectivity between the software platforms, be it engineering, design, manufacturing, or printing -- helping to generate return on investment quickly.

In 2018, the company invested in a BLM GROUP LT7 Lasertube and E-TURN52 bender. Tectonics chose BLM GROUP because it saw the LT7 as the most reliable and supported fiber laser tube system on the market. However, this decision was not only about wanting the most advanced equipment. Tectonics is intent on forging relationships that endure, so they wanted to buy from a company they could count on for exceptional support during and after the process.



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and consistently a **60-90** PERCENT decrease in fabrication time

Additionally, when it came to BLM GROUP, the advanced software and integration capability and programming ease played a big part in Tectonics' vendor decision. "Because we digitally-manufacture parts straight from 3D solid models, the level of complexity, integration and software customization governing our engineering practice is extremely high," explained Toribio. "BLM GROUP software is a great tool out of the box, but it also affords us the ability to do what we want in terms of customization and plugging into our existing software ecosystem."

Whereas conventional thinking views highly automated systems like BLM GROUP's as suited only for high production, repetitive environments, Tectonics instead saw how the flexibility offered by the BLM GROUP equipment could transform the way they do business.

Once a design is engineered in the CAD system, it is then digitally nested with common-tube parts in preparation for either laser cutting or milling. All parts feature electronic tracking in an MIS system. Commented Toribio, "Having a software overlay as created between Tectonics and the BLM GROUP software is invaluable as that it allows everyone – from clients to production planners to manager – to share data in real time. At any given moment, anyone can see a project's status, down to the individual component."

"The precision, accuracy, repeatability and simplicity of our manufacturing and assembly is unmatched due to our unrelenting focus on engineering detail and technical standards," explained Skandalaris. All production is now automated. Where there was initially a 20,000 sq. ft. area dedicated to manual fabrication and housing



about 20 different types of presses and machine tools, this area is now only about 400 sq. ft. as the company is now producing the bulk of its structures using automated BLM GROUP equipment.

By eliminating the need for hard tooling, which can take weeks or even months to produce, the company can innovate on demand without changing its production process. It's real-time innovation. In terms of actual savings, Toribio says they've experienced a 43 percent decrease in overtime and, depending upon the operation, consistently achieve a 60 to 90 percent decrease in fabrication time. Plus, they gain manufacturing flexibility, and production capacity. Skandalaris adds, "Even more importantly, it's about the quality we



achieve due to the precision delivered by this equipment. Frankly, we can now do things that could not be achieved by hand."

"People often worry that automating a process eliminates the need for manpower," said Toribio. "But, it's been just the opposite here. The additional capacity created by the equipment means we've just transitioned these personnel into different areas." Plus, Tectonics had the foresight to provide every employee training on how to use the BLM equipment, involving the entire company in this transition.

"In a word, the application of the BLM GROUP equipment to Tectonics business has been 'transformational' in how customers view the company," said Skandalaris. "This is an industry where there has been little competitive differentiation, so when we bring clients here and show them our way of doing business, it's more than a little eye-opening."

Added Toribio, "How we utilize proprietary technology alongside our equipment is unique to us, making us more efficient, scalable and proprietary in terms of our products and approach."

Both agree that the BLM GROUP equipment has thoroughly lived up to its expectations, noting its ease of use and the service being second to none. "We are now developing the next phase of a software overlay for the equipment that will require us to work closely with the BLM GROUP team," said Skandalaris. "Given our success to date, we are excited about this next step in our BLM GROUP relationship."