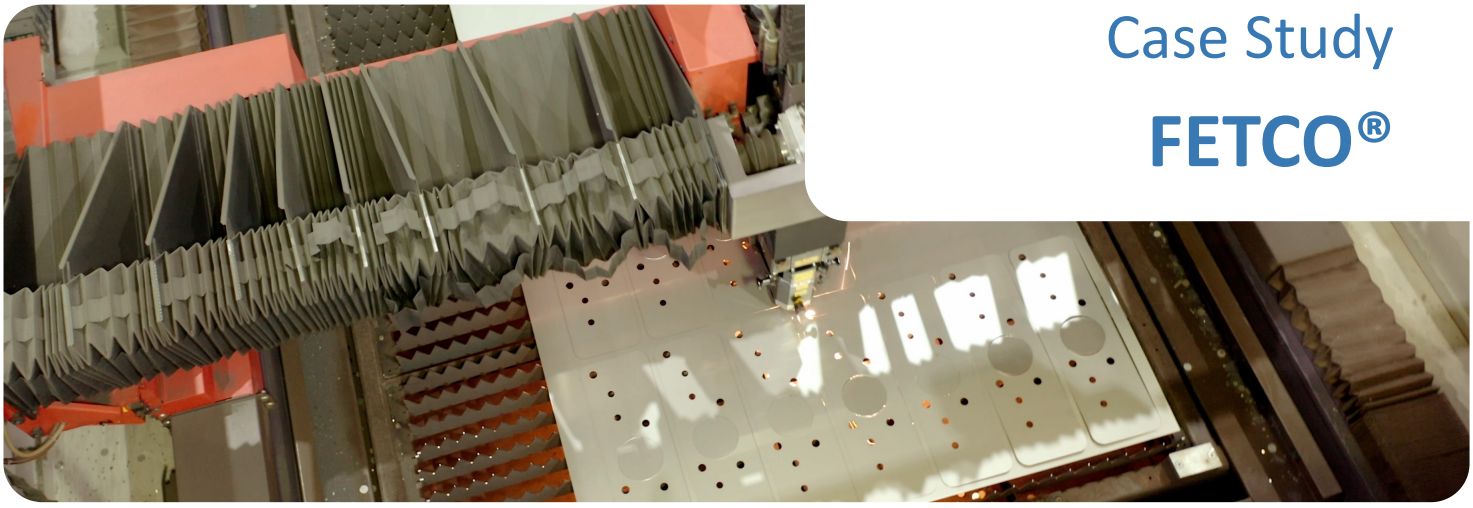


# Case Study

# FETCO®

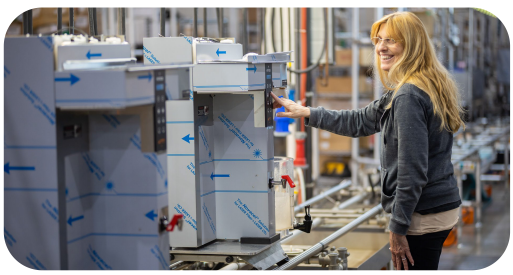
## Highlights

- ROI in under 6 month on both JETCAM and Aquila from material savings alone
- Chose to invest in software rather than purchase new laser or loading/unloading systems
- JETCAM integrates tightly with Aquila DMM
- Material use decreased by over 20% through dynamic nesting
- Nesting parts in material that would otherwise be scrapped
- First in the US to use Ultra Performance Nesting (UPN)
- One day per week laser capacity gained due to more efficient use
- Massive reduction in time spent moving materials on forklifts, as specific materials are nested on certain CNCs
- Improved revision control robustness, as nests with only the right revisions are delivered
- Full automation means there is less to learn and support

FETCO® (Food Equipment Technologies Company, Inc), based in Illinois, USA, was founded in 1987 and manufactures commercial coffee and tea brewing equipment. The company makes all equipment in-house, covering a significant product range.

Prior to 2023, FETCO® used two Bystronic lasers, both programmed using OEM supplied nesting software. To increase throughput and keep up with growing demand, one of the older lasers was replaced with a new Bystronic BySmart Fiber 3015. However, the company faced many manufacturing challenges. They had been using static nests, requiring sorting of parts by material to nest for, and then nesting product body and tank parts in even sets.

Michael Scheve, VP of Manufacturing, said; *"This required us to build top-level assemblies in quantities divisible by the nest quantities, which was inefficient, as some would not fill a sheet. The result was either poor nesting with excessive waste, or an increase in part quantities over what*



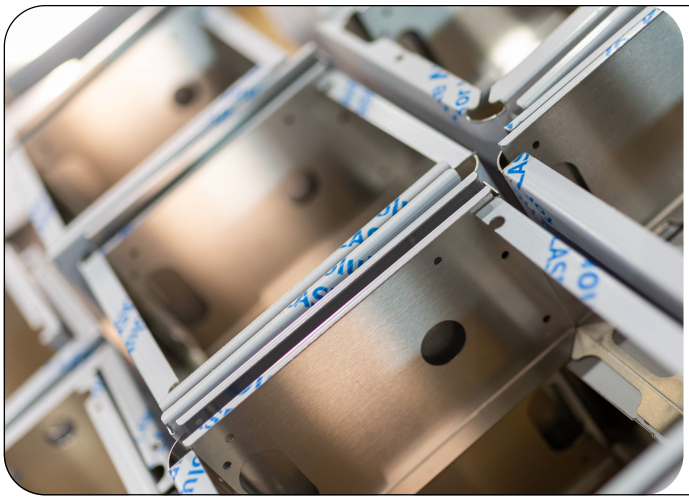

*was needed, leading to overstocking of parts."*

Another issue was the lack of sheet storage towers, meaning that material changes required staff to use forklifts to remove and store the existing material and then retrieve the new material, resulting in significant downtime.

FETCO® considered adding sheet loading tower/unloading system to the new fiber laser. Instead, they decided to move to dynamic nesting. After evaluating several options, they selected JETCAM Expert with Ultra Performance Nesting, (UPN) as part of a wider investment in the Aquila Group's DMM (MES) software. DMM connects FETCO® scheduling with their laser cutting and automatically builds part nests using UPN in the background. FETCO® was the first company in the US to implement it.

The implementation was performed remotely in August 2024, with onsite training performed by US distributor NestOne Solutions, and integration by/with Aquila DMM performed shortly after.

JETCAM
FOR TOTAL AUTOMATION



**Software:** JETCAM Expert Premium
Ultra Performance Nesting
JETCAM Orders Controller

**Machines:** Bystronic Bysprint 3015 CO2 Lasers
Bystronic BySmart Fiber 3015

**Installed:** 2024

**Connected to:** Aquila DMM MES

The company saw significant savings, the most immediate of which was a 20% reduction in material use. Said Michael; *"Ultra Performance Nesting (UPN) was nestings the parts incredibly tightly versus our previous software, cutting parts inside the scrap of other parts. We didn't realize the impact that it was having until our steel supplier visited us to ask about our business, thinking we were perhaps seeing a slow down in orders. We had, in fact, seen double-digit growth and had even increased throughput."* UPN also includes other laser-specific features, such as multi-sheet nesting on different size materials, including remnants, grouping parts together to reduce the number of different programs to run, and spreading of parts, using space around parts nested within other parts, reducing potential heat damage.

Aquila DMM harnesses JETCAM's RCP (Remote Control Processing) to automate the generation of dynamic nests on the fly. The scheduler loads the top-level assembly into DMM, which explodes the BOM into individual parts. This then populates the demand list for several days in advance. JETCAM dynamically creates all nests, prioritizing more urgent parts for earlier nests, quickly delivering NC code back to DMM for the operator to access.

While machine cycle time rose slightly due to nest density, better planning opened up almost a full day of extra capacity per week. Less time was spent on the shop floor moving sheets by fork-lift truck, as orders for a given material would be grouped and scheduled for several days on a specific machine.

Revision control was also tightened with the new

system, as JETCAM produces nests dynamically based on the current revision, whereas operators were previously able to potentially re-run static nests with older revisions. The data that JETCAM provides has assisted with operations further down the line. A traveller document generated by DMM is produced when all parts of the order have been cut and provided to the operator of the next process.

Since going live FETCO® has required virtually no support, and the system performs fully automatically, mostly with no user input at all. Michael noted; *"Once all our parts were initially loaded and configured there was very little need to touch the software directly."*

**When evaluating whether to invest in new hardware or software, FETCO® can see that their decision to go the software route was the right one. Michael finalized; *"When we looked at the costs around purchasing additional hardware, the ROI was quite minimal and it didn't solve some of the other issues. With the software solution, the 20% reduction of material delivered by JETCAM alone covered the cost of both JETCAM and Aquila DMM in under 6 months. On top of that were significant productivity and capacity increases."***