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CASE STUDY: PRESERVING AMISH CRAFTSMANSHIP

Eliminating Rework and Frustration with Robotic Sanding

While the Omni system *could* triple their sanding output, Millcraft Furniture bought it for a different reason: to eliminate the costly, frustrating variations of manual sanding and protect their lifetime warranty.

- ✓ **\$20,000/year+ Rework Labor Savings¹** Stop the "double-pay" penalty for manual defects.
- ✓ **\$117,000/year+ Reallocated Labor¹** Shift your team from sanding to higher-value assembly.
- ✓ **Standardized Finish Quality** Ensure every piece meets your highest standard.
- ✓ **Full Production in a Week** Go from delivery to full production with zero complex programming.



Video interview courtesy of our trusted distributor, AW Machinery.



"In minutes, you can show somebody how it works, and they can start on it and go for it."

— James Coblentz, Owner of Millcraft Furniture

OVERVIEW

Millcraft Furniture, a traditional Amish woodshop, faced a costly bottleneck: manual sanding variations. Inconsistent hand-sanding across multiple employees led to uneven stain absorption and a frustrating "double-pay penalty" for rework¹. To protect their lifetime warranty and "hand-built" philosophy, Millcraft bypassed standard mass-production machinery and integrated the Omni Robotic System. Despite having zero computerized machinery experience, the team achieved full production in under a week. The integration eliminated human sanding variations and reallocated over \$117,000/yearly in burdened labor¹ to profitable assembly, securing a rapid three-year ROI while drastically improving shop morale and air quality.

Client:	Millcraft Furniture
Goal:	Perfect finishes on premium hardwood.
Industry:	Custom Furniture Manufacturing
Location:	Ohio
Employees:	20
Solution:	PSA-80 PRO



THE PROBLEM

The "Hidden Tax" of Manual Sanding

At Millcraft Furniture, the goal is a consistent, premium finish on every piece of high-end hardwood furniture. However, relying on five or six different people to sand by hand introduced natural variation. Even skilled artisans produce inconsistencies that only become evident after the stain is applied. These slight variations in sanding depth cause uneven absorption, resulting in mismatched shades across a single bedroom set.

For a 20-person shop like Millcraft, manual sanding variability is a silent profit killer. When a walnut or cherry piece is sanded incorrectly, the material is rarely lost, but it triggers rework that pulls skilled labor back into sanding, staining, and inspection. This is the Double-Pay Penalty: you pay once to make it, then again to fix it. Over time, these interruptions disrupt flow and quietly reduce production capacity.

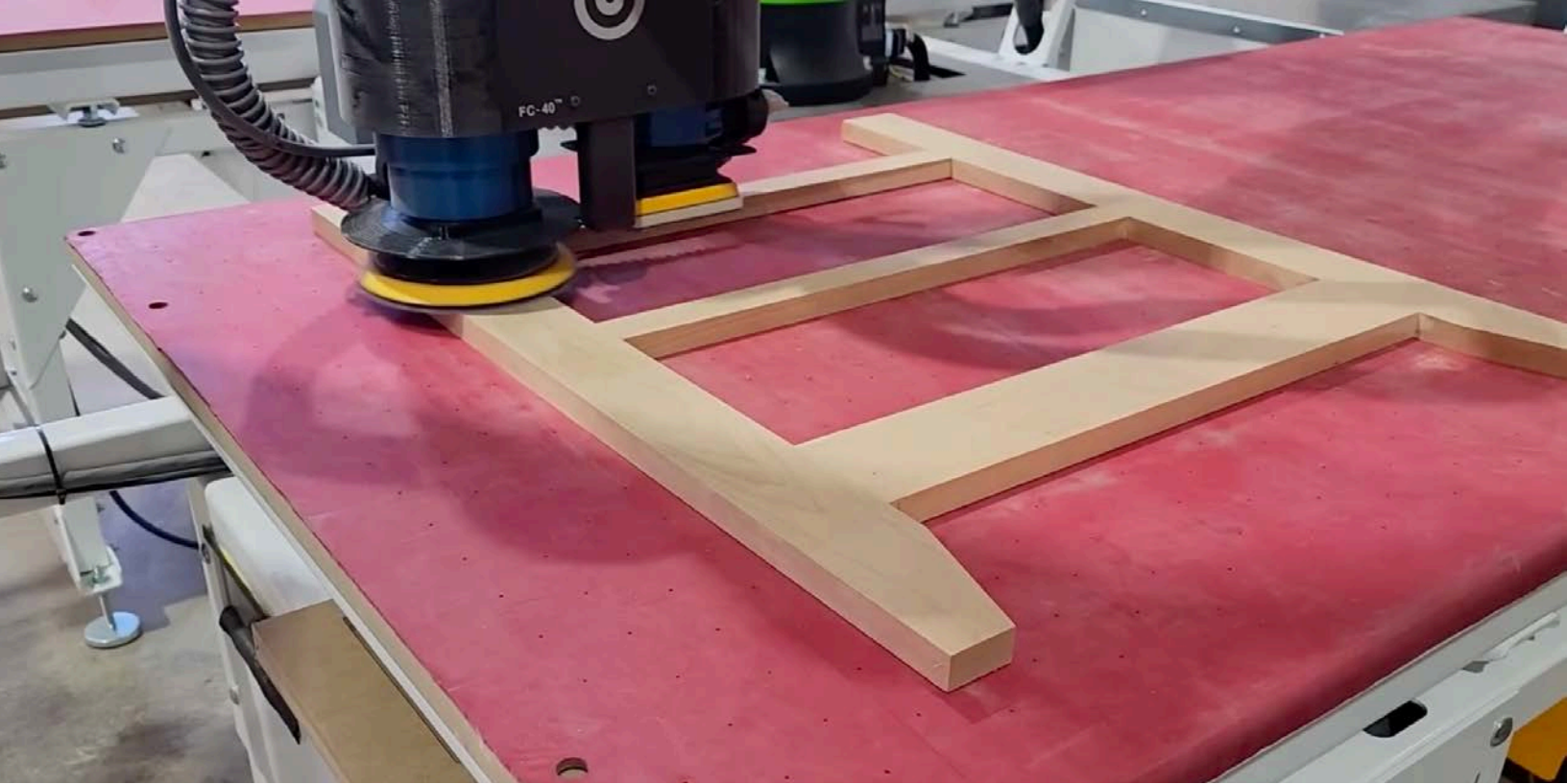


Industry data shows that if only one bedroom set per week requires rework, the hidden cost of double-paid labor can exceed \$20,000 annually.¹



"With five or six different people sanding, you had a little bit of variation... And also, nobody likes to do the sanding."

— James Coblenz, Owner of Millcraft Furniture



THE SOLUTION

Seamless Integration into Traditional Craft

Millcraft Furniture wanted a machine to guarantee a flawless canvas for their finishes. As a traditional, hand-built shop with no advanced computerized machinery, they needed a solution that added value without disrupting their Amish craftsmanship philosophy.

Working closely with their local distributor, AW Machinery, they chose the Omni Robotic System because it adapted to their workflow, not the other way around. Despite having no prior programming experience, the owner mastered the system on day one. By the end of the first week, it was running in full production. The robot simply steps in to handle the tedious, dusty labor, ensuring a perfectly even sand every single time.



"They're doing useful work while the machine is doing the sanding for them."

— James Coblentz, Owner of Millcraft Furniture



"As an owner, I like to see them assembling furniture instead of spending time sanding it."

— James Coblentz, Owner of Millcraft Furniture

THE RESULT

Same Premium Quality. Less Hassle. Less Waste.

Just four months after installing the Omni system, Millcraft Furniture elevated their product quality and entirely transformed their shop environment.

Rework Elimination: First-Pass Quality

Every rework cycle pulls a finished job back into sanding and finishing, doubling labor on the same unit. The Omni system eliminates sanding variation, ensuring a first-pass finish and keeping production moving forward.



Zero Rework Labor

End the cycle of paying an employee twice to fix the same piece of furniture.



Standardized Quality

Ensure every piece perfectly matches their brand's highest standard.



Skilled Labor Reallocation

Skilled Labor Reallocation: Shift your team's focus strictly to profitable, high-value assembly tasks.



Uncapped Capacity

Take on more complex projects without rushing your artisans.



Predictable Production Flow

Keep finishing schedules stable by eliminating rework loops and unexpected job returns.



Higher Shop Morale

Keep your best employees happy by removing the physical strain and dust of hand-sanding.

A 3-Year ROI and happier Employees

Based on labor reallocation alone, the financial return is clear and rapid. "If you're paying two people, over the course of three years, this machine would definitely pay off itself," notes Coblentz. But the return extends well beyond the balance sheet and directly into shop morale. When asked what would happen if the shop had to return to their old manual sanding process, James didn't hesitate: "We'd probably have some complaining employees."

For Manufacturers Facing Similar Challenges

When asked who would benefit most from this technology, Coblentz's answer was straightforward: "Basically anybody who's working sanding a lot of hardwood, this is a great machine to do some sanding for you." Whether you run a high-end cabinet shop, build custom dining tables, or manufacture bedroom sets, the Omni system allows you to elevate your finish and protect your margins, all without

Ready to automate your sanding?

Reach out to Omnirobotic or our certified local distributor



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¹ **Note on calculations:** Financial impacts are modeled estimates rather than the shop's direct accounting records. We calculated rework costs based on the wasted production time spent fixing mistakes (extra sanding, re-staining, and handling). This approach is backed by manufacturing research on lost production capacity ([INFORMS](#)) and custom woodworking financial benchmarks for fully loaded hourly shop rates ([Woodworking Network / FDMC](#)). Labor costs utilize official [Ohio woodworking wage data](#), while material waste is treated as a secondary factor.