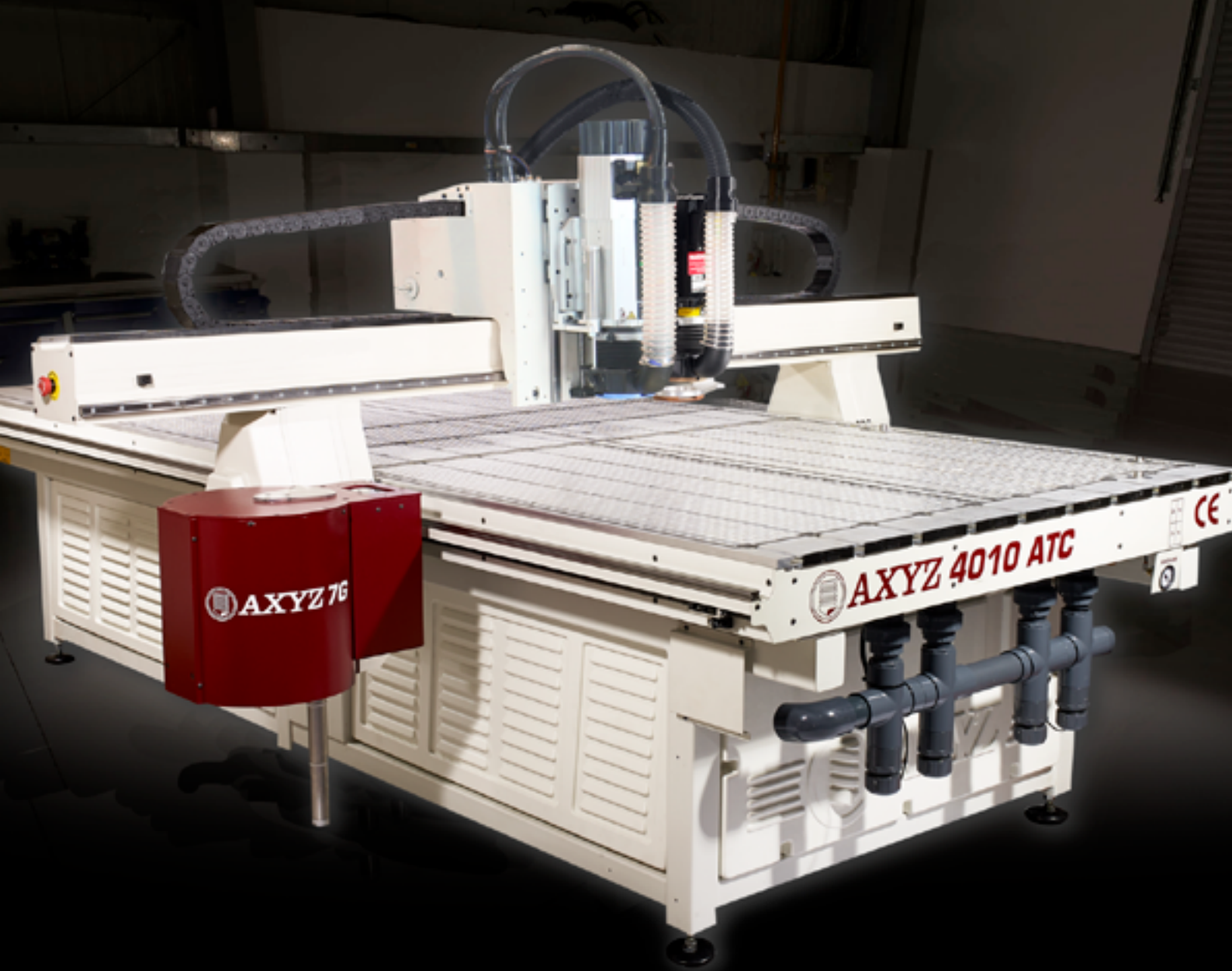




THE RETURN ON INVESTMENT FOR CNC ROUTERS

INTRODUCTION

A decision to purchase a **CNC router** is extremely difficult for small to medium-sized businesses. On one end, this high tech equipment offers a remarkable capacity for broadening shop and manufacturing capabilities, reducing times for project completion and adapting to future production needs. On the other, companies have to weigh a number of factors as they calculate whether their return on investment will more than justify the purchase.

No business has to be reminded about the importance of due diligence for every purchasing decision including ROI projections. In this case, the analysis should go beyond the obvious. It needs to incorporate not only a thorough understanding of the product but also an equally comprehensive scrutiny of the vendor as a business partner, including the role the vendor plays in ROI calculations.

Many smaller businesses have already made the choice. From **sign-making shops** to **cabinet makers**, the performance of the CNC router continues to validate their investments, particularly the impact on business growth. Yet the ROI and success of one company may not necessarily apply to another business with a similar operation. That is why a ROI analysis requires the full cooperation and involvement of the potential business partner whose interests are focused on the company's growth now and in the future, instead of just making a sale.

BACKGROUND

For more than two decades, CNC routers have represented the epitome of automation by aiding large and small shops to expand their offerings and capabilities while reducing the amount of workforce time for project completion.

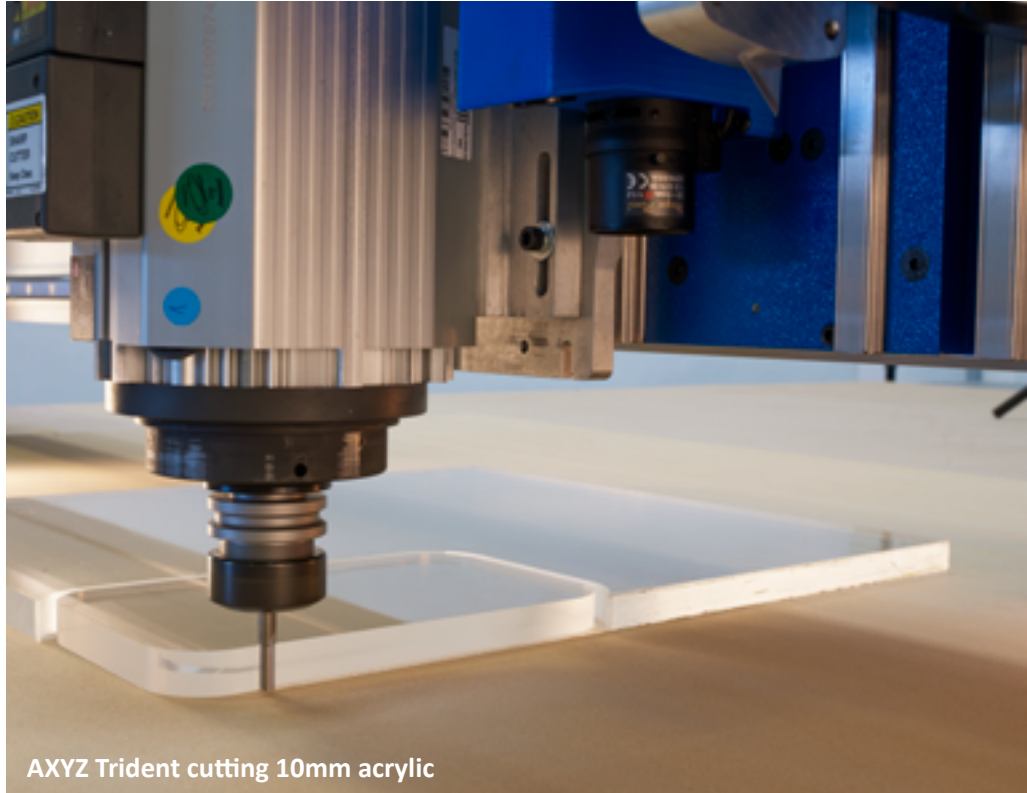
However, in the first decade of the router's inception and rapid growth, purchasers faced a number of issues, none of which had anything to do with the machine's performance and everything to do with the vendor. Unwittingly, buyers were making purchasing decisions in what has justifiably been described as a Wild West environment.

Dozens of small machine manufacturers saw a golden opportunity in producing routers and tried to take advantage of it, sometimes with disastrous results. Within a few years, most of them either folded or merged with other manufacturers.

As a result, buyers faced a difficult, three-fold dilemma as the number of small router manufacturers disappeared. The first issue was obvious: worthless warranties from vendors who were no longer in business. Second, reliable technical support became problematic even when companies merged.

The third issue was distance. Instead of nearby facilities that would substantially reduce time and maintenance costs, the purchaser instead was forced to deal with lengthy tech support wait times and/or even costlier tear downs and shipping. Their customers were not pleased.

These unacceptable scenarios have changed as surviving router



manufacturers have become more adept. They have developed technological sophistication in ways not believed possible in the 1990s. Potential purchasers are also more sophisticated in understanding router capabilities, how to use them and, in particular, determining the return of investment for this major purchase. Their expertise has been influenced and aided by the number of internet outlets such as Google and even YouTube where router demonstrations and related information are easily accessed.

Companies turn to CNC routers for two reasons: the ability of the machinery to automate manual processes and to reduce operational and labor costs by using their employees for higher value processes.

The ability to expedite workflow—another ROI factor—explains why there is a substantial growth in router usage in so many industries and markets, including but not limited to general manufacturing, **woodworking, signs and graphics** and **plastics** that rely on automation software for converting a wide

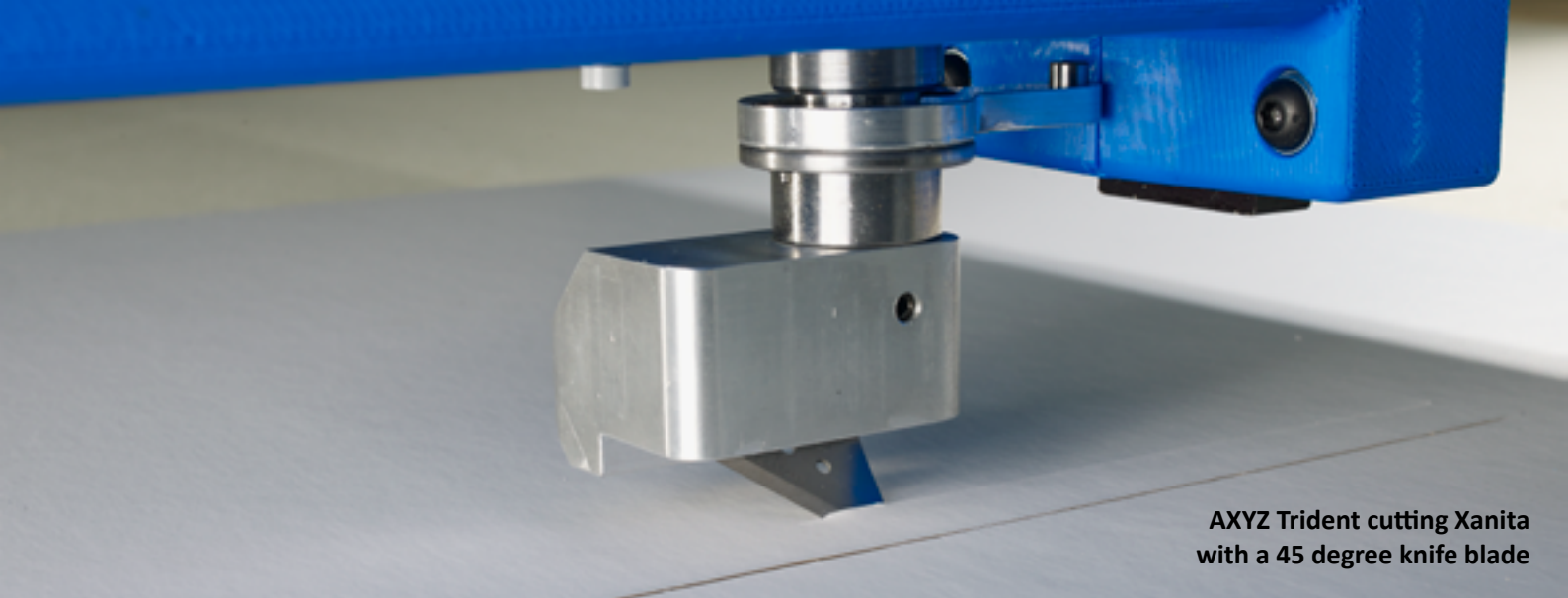
range of rigid and semi-rigid sheets of plastics, woods and **metals**.

CHANGING ROLE OF VENDORS

A vendor who serves only as supplier and conduit for third party tech support and maintenance from what may be distant locations is no longer enough. Today, vendors have more of a global presence because router users demand it. That presence is expected to include nearby branches that are more than dealerships because maintenance-related delays are the bane of every shop or business.

Even more important for companies is for their vendors to be business partners with proven reliability track records. Buyer support is more likely with secure partners who have proven over the years to be viable and responsive. Business relationships are not intangibles

when it comes to ROI. If the vendor fails to meet expectations, ROI is going to be unacceptable because of inevitable increases in maintenance, lost time and repair costs regardless of warranties.



**XYZ Trident cutting Xanita
with a 45 degree knife blade**

True partnerships should be judged on the vendor's understanding of company operations, needs and goals. In addition, potential buyers want reassurance that their partner has the expertise to present quantifiable ROI projections.

Those projections have to include the timeliness and reliability of tech support and hiring more skilled technicians to respond to calls at the moment they occur. It follows that users expect the individual answering their calls to be a technician with the knowledge and expertise to troubleshoot machines, software and cutting processes. Valuable time is lost when the voice on the other end of the line is either an answering service or automated message.

ISSUES AND PAIN POINTS

While costs and ROI figure are at the top of the list for potential router purchases, there are other important considerations that factor into the mix. Perhaps the biggest of these are process and workflow.

The router has been proven to significantly improve production, provide quality and reduce time to completion, but it has to be the right router for the business. The machine must be productive more

than five years after the purchase. Consider that many routers have a 20-year lifespan so it is incumbent upon the vendor to align machine capabilities with the company's long range production plans.

Companies generally take a macro view of financing as they analyze costs, impact on profitability, and short and long term ROI from a major investment like a router. Before embarking on a month-to-month lease/purchase agreement-the usual financing approach-there are a number of variables that should be taken account particularly if the shop is considering having a third party do the router cutting and shaping:

- Reliance on a third party can lead to other costs as opposed to the savings realized from bringing manufacturing in-house; e.g. do-overs if the fabricator doesn't perform the right cut and other freight costs for shipping to the fabricator. Savings from in-house manufacturing can be as high as 25 percent when compared with expenditures associated with third-parties.
- In many cases, there are longer waits for production completion when a third-party fabricator fills work orders from larger customers.

- There is a probable negative impact on cash flow from shipping, labor problems and other expenditures.

- Other variables include calculating the costs associated with how often the machine runs, upgrades and the opportunity for future growth. Remember that an idle machine incurs costs as well.

- Cost decision v. value decision. The former is short-term while the latter is strategic. While businesses are always concerned about costs, they should focus long-term since their router can function and be productive nearly two decades.

OTHER ROI ESSENTIALS: PROCESS, PRODUCTION, COST SAVINGS & GROWTH

In addition to all of those considerations listed above, a thorough return on investment calculation should include the conversion of costs to opportunities. The latter is factored in multiple ways designed to grow the business in the short and long-term: improvement in process, increase in product production and quality, and cost savings achieved through converting from manual cutting and shaping to automation.

Begin the calculations by determining the number and cost of labor hours cutting and drilling parts manually that could have been cut and shaped quickly through router automation. Consider what it takes to manually work with counter tops, plastic components, sign letters and aluminum parts. Cutting and drilling require multiple tools and a considerable amount of time and labor. Contrast that with the router in which material is loaded, a corresponding CAD file is selected and the operator starts the machine.

The CNC router responds promptly and accurately, produces precise tolerances and is capable of four times the output of a manual process. This is a far better use of manpower and time - both of which effectively lower operating costs. If, for example, workers are paid \$20 per hour, the savings could amount to more than \$2,000 per month in labor costs because each project consumes much less time thanks to automation.

ROI also manifests itself with the router's ability to significantly reduce material waste through nesting—the process of establishing patterns that can be cut closer together. CFOs will notice material costs to be significantly less than they were with a manual process. Another operational positive: less need for “do overs” that occur at an unacceptable rate with manually produced parts.

Automated CNC machines greatly reduce the potential for error and subsequent costs associated. These, too, are easily calculated with monthly savings possibly in the thousands. Of course, a fundamental reason for investing in CNC routers is business growth. Automation opens up the possibility



of offering and providing more complex products—a benefit designed to offer more benefits for current customers and attract new ones.

LESSONS LEARNED

Every business, including smaller ones, needs to stay ahead of the investment curve if ROI is to meet and hopefully exceed expectations. For buyers who have decided to invest in a router, here is a 10 item checklist to help calculate costs and ROI:

- 1 Take time to examine impact of machinery on workflow and manufacturing space.
- 2 Remember to consider additional costs such as the possible need for a larger air compressor, more electrical work to accommodate the router and staff training.
- 3 Require full disclosure on implications for business such as a possible disruption during installation and training.
- 4 Determine if long-term use of the particular router under consideration will enable the company to achieve future goals including business expansion—one of the most important ROI concerns.
- 5 Demand a business partnership with a provider who can work with the company and help the business flourish without getting in the way.
- 6 Research the quality of the vendor's technical support and parts replacement.
- 7 Machinery of all kinds requires constant maintenance, service and people qualified to operate them. Closely analyze how all three will be controlled.
- 8 Be upfront about expectations, and require the same from the vendor.
- 9 Examine the benefits of establishing a partnership with a fully integrated supplier to eliminate potential third-party issues. Having manufacturing, support, engineering teams and



XYZ Trident cutting ACM

a factory trained staff under one umbrella has proven to be better for the business.

10 Buy a machine that has the right parts and pieces for long-term growth.

CONCLUSIONS

ROI is always based on costs and utilization. Interconnection of machines means a wealth of data will be collected by today's CNC routers on a daily basis. In that way owners get an up-to-date picture of real-time ROI status, the machine's utilization and successful operation.

The router is a valuable tool in its capacity to provide real-time and accurate usage data to reassure owners in general and their financial officers in particular.

A business partner who is more than a vendor is an absolute for achieving the maximum ROI. Technological changes and improvements are a given, so thoroughly study and evaluate the vendor's ability

to provide upgrades integral to business growth.

Even more important, businesses are best served by vendors who are local and can promptly provide service, training and support. Delays caused by the vendor's distance can only increase the machine's downtime and decrease ROI. Remember that parts, advice and training from the machine manufacturer while very important are part of the ROI equation.

The other component is investing in teaching your staff to properly use and maintain the router. Adherence to maintenance protocols should keep the machine operational for many years and substantially reduce the risk of a full stop due to failures from misuse.

Finally, make certain the machinery to be purchased aligns with the company's current and future capacity. It is the best way to improve production workflow, reduce costs and assure a ROI that justifies the purchase.

COMPANY CREDENTIALS

XYZ International is a leading global manufacturer of CNC router systems and CNC knife systems. Designed and built at their state of the art factory in Canada, XYZ CNC routers are supplied and supported through a global network of sales and support offices and authorized dealers.

With more than 366,918 standard machine configurations, XYZ specializes in matching machinery to customer's unique needs and budgets.

READ MORE ABOUT XYZ INTERNATIONAL MACHINES HERE:

- [!\[\]\(15cb01d00100e773a50f80002909e9a5_img.jpg\) **XYZ Series**](#)
- [!\[\]\(d8d739ecb1ddc47a32a7c3d18f26efef_img.jpg\) **Pacer**](#)
- [!\[\]\(ce2e1352a90071ca4ea4a7fe9e1defae_img.jpg\) **Trident**](#)
- [!\[\]\(e6686070ceb4e1e22108b54add5bfad9_img.jpg\) **Optimus**](#)
- [!\[\]\(138be6a573fed23aa50961b158f92310_img.jpg\) **PANELBuilder**](#)
- [!\[\]\(f91fe3b717172eea3b574487fce9cacb_img.jpg\) **Z Series**](#)

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