

Job Costing Improvements for CNC Machining Centers

It's imperative for manufacturers and to have a close eye on actual spend for jobs. Analyzing your production process allows you to create more comprehensive quotes and look at how to streamline production, making it more efficient and cost-effective. Accurate, consistent quotes directly affect profitability and often mean the difference between landing jobs and losing them.

Costs to Factor into CNC Machine Job Quotes

- 1. Complexity of part**, such as part dimensions and required tolerances.
- 2. Number of parts** made in a run. You want to determine the optimal lot size for profitability.
- 3. Material used** for the part. Materials have varying costs, [as well as different requirements for machining](#). And a certain amount of material will become waste after cutting, so factor in scrap.
- 4. Labor and labor overhead**, including costs related to:
 - Designing and programming
 - Machine setup
 - Running the part and performing changeovers or adjustments
 - Handling the part
 - Post-production labor
 - Overhead related to the workforce
- 5. Tools and equipment** used to produce a part.
- 6. Machine time**, the cost of which depends on the machine's original cost, the machine type (number of axes) and expected annual production time.

Note: Machine time may also include changeovers and adjustments noted under labor costs. Be sure to account for this in one of these categories.

- 7. Deburring**, which is separate from the CNC machining process when done manually. Automated deburring is performed on the CNC machine and reduces the time to deburr drastically.
- 8. Surface finishing**, is also separate from the CNC machining process when performed manually. But, [when you automate surface finishing](#) on the CNC machine, it cuts time and costs.
- 9. QA Inspections**, which may fall into other categories but must be factored into the quote.
- 10. Outsourcing** by hiring a subcontractor, outsourcing logistics, or outsourcing entire processes such as deburring and finishing to another shop.
- 11. Special handling**, such as expedited delivery on a job and any related expenses.
- 12. Transportation and logistics**, which have their own costs, such as storage, shipping, fuel and labor.
- 13. General overhead**, including necessities at the facility and in production such as oil, coolant, rent and electricity.
- 14. Profit margin** to add onto the job cost. Understanding your true costs helps you make mindful decisions here so you don't lose either customers or money.



How to Reduce CNC Job Costs and Improve Operations

Reducing costs in your production can help you continue to quote competitive prices, [even amid industry challenges](#) such as rising inflation, increasing labor costs and other economic concerns.

Automate: Automating processes in your CNC machining center, such as deburring and finishing, will improve operations and timing, and will [reduce overhead and labor costs, as well as QA time and scrap](#).

Change materials: Changing the material type can reduce costs. Certain materials are more expensive to purchase and difficult to machine versus others.

Improve machine capabilities: A five-axis machine may serve you better than a three- or four-axis machine.

Optimize processing conditions: Tools and tool condition affect the number and severity of burrs to remove, so it's a time and money saver to [take steps to control burr formation in processing](#).

Optimize production: If you can get visibility into your processes, you can identify your most efficient – and least efficient – activities.

Look at the big picture: Calculate how much each step in a machining job, from programming to shipping, requires and costs in labor and overhead and determine the ROI for the whole job.

Cutting manual labor in the deburring and finishing process can save thousands of dollars a year and help curb the lack of skilled labor. [Automating your deburring and finishing process in your CNC with Xebec tools provides a positive ROI](#), reduces costs and improves outcomes.

To learn more about how Xebec can customize a deburring solution for your manufacturing application, [contact us](#) for more information.

