ESTIMATING MATERIAL YIELD
AND MACHINE TIME

Optimation®
WE DELIVER ECONOMIC PERFORMANCE

**Introducing: Project
Estimator by Optimation**

I think it is fair to say that most – if not all – manufacturers are scoped-in pretty tightly on their costs these days. Competition – global and domestic, economic turns, and rising energy prices are forcing a heightened awareness of costs.

Any tools to help predict and evaluate costs using actionable data would be a welcome asset.

WANTED: MATERIAL YIELD AND MACHINE TIME INFORMATION

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Wouldn't it be great to know how much a part would cost before you produce it?

If you had a "crystal ball" to peek into the future, you could take a sizeable degree of risk and variability out of producing products with previously estimated or unknown costs. You could make informed decisions with real, defensible data. You could alter the variables in the equation that determine your pro forma cost to "test" different hypotheses. If I did "x," I get "y" result. If I do "x^1," my result is "y^1." And then make your decision with clear knowledge of the impact of your choices.

This is all great in theory, but what does this speculative world look like inside the shop? Here are a couple examples to which you may relate. Have you ever tried to find out the difference a design change would have on the cost to produce a part or product? How would that information impact material yield and/or machine time? How about prototypes; how do you presently know how much this brand new product or part will cost in production? Would you like to know if your vendors are over or under charging you for parts? If you could predict your costs, you could hold your vendors accountable.

When answering this, remember Sales, Estimating or Marketing

– rely on how accurate this estimate is. Ultimately, the company's profit margins depend on this at least in part. Alternatively, imagine this: what if a customer is supplying his own raw materials; how do you know how much to tell him to purchase? If you tell him too much, you're at a competitive disadvantage. If you tell him too little you're cutting into your own margins. It's a scary tight-rope walking act, if you don't have a crystal ball to see into the future.

Maybe you can relate?

THE WORK-AROUND SOLUTION

In the absence of a crystal ball, the manufacturing engineer is tasked to do his best when making up a work-around solution. Whether manually or with a nesting automation tool, he will simulate a part going through the manufacturing process – programming, nesting, output, reporting. He may walk the part through this process several times looking at different options – changing the variables as mentioned previously. Then he will report to those interested. This process not only interrupts but takes time away from his normal production work impeding workflow.

 It's a solution – albeit not a terribly efficient one.

INTRODUCING THE PROJECT ESTIMATOR
BY OPTIMATION

The Project Estimator by Optimation is designed to precisely meet this need. Designed by Optimation, it is characterized by its automation, simplicity, and ease of use.

This stand-alone module for laser cutting, separate in every way from the core nesting products, is intended to function as a non-programmer's estimating tool. A person with minimal or no knowledge of the intricacies of part programming, nesting, and

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program output is completely at home with running this tool in minutes.

Even though it is a separate utility, the Project Estimator makes use of Optimation's 5th Generation Nesting Software and automation tools in the background to provide the best possible nesting solution for laser cutting.

In brief, here is the process the Project Estimator employs. Using the Optimation nesting and programming logic in the background, the Project Estimator simulates a nest of one or more parts. With your actual CAD designs and your machine and material requirements, the Project Estimator provides very accurate, real world, estimates of project costs. With just a few clicks in an environment very similar to standard Optimation software, the Project Estimator returns information needed to make a cost-based decision. The data would include the laser time to cut the part, the part area, the rectangular utilization, and the weight monetized by material cost among other things.

The user controls the simulated cut environment. He determines on which machines, i.e. Trumpf laser, and the designated materials - by size and gauge - to base the nest. The user can easily change the variables – different part mixes, part quantities, part design variations, spacing, trim, sheet sizes, filler parts – to test out various cost options quickly and easily.

Finally, the user can output the results in several manners for easy analysis and/or delivery to other software applications.

PROJECT ESTIMATOR PLUSES

So, in summary, where and when being able to accurately and efficiently forecast material and machine costs on a per part basis is important, the Project Estimator can play a key role in the solution. With the Project Estimator, the Manufacturing

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Engineering team can save time, effort, frustration and ultimately increase accuracy and entertain more and complex manufacturing options when tasked with projecting part costs.

The Project Estimator's uses can be as varied as the engineering team's needs. But most commonly we see the role it plays in one or more of these areas:

- Estimating best material sheet size(s) for purchase
- Forecasting prototype manufacturing costs
- Evaluating design options based on production costs
- Projecting total material needs per job for in-house or customer-based material purchases
- Considering filler-part situations where large parts consume the majority of a sheet

In a competitive manufacturing environment where costs are "king," the Project Estimator is one more tool to sway that competitive advantage.

For more information or a personal demonstration contact Optimation.