



 **SIERRA**  
COATING TECHNOLOGIES LLC



# The Financial Case for Contract Manufacturing

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- Most companies review new capital projects on basic criteria such as break-even, return on investment (ROI), and future value of success. With perfect knowledge, these decisions would be very straight forward financial models.
- The biggest question is always what the market will accept as a price, and the volume in which the market will buy the product. In most new product programs, price discovery and future demand are the big considerations. Market size is usually assumed to be big enough to start the program's evolution.
- The development of products that are market ready for customer trials is always a major milestone of the program. With a market ready trial, product price discovery and product acceptance can begin in earnest.
- The issue in product development in the Coating and Laminating industry is the size of the typical final product. Most end customers have large converting, packaging and printing machines; the requirements of the actual product eliminate the use of laboratory and small scale equipment. Most equipment manufacturers have lab lines and trial equipment; however, this equipment is often not large enough to produce market ready samples.
- Due to this disproportion in equipment, you have three options to choose from:
  - a. Buy used equipment and set up a facility**
  - b. Build new equipment and set up a facility**
  - c. Use a toll manufacturing company to develop the product**

Though the following is a simplified model for contract manufacturing, it provides foundation for companies interested in taking this step in product development. The assumptions can be modified and much more detailed analysis can be developed, but the risk assessment conclusion will ultimately be the same.

First year cost	Build new machine	Buy used + upgrade	Contracted manufacturing
Machine cost	\$1,200,000	\$400,000 + \$200,000	\$20,000 <sup>(1)</sup>
Building cost – rent for one year	\$25,000	\$25,000	0
Installation- power available location	\$50,000	\$50,000	0
Support Equipment	\$50,000	\$50,000	0
Employee travel	0	0	\$25,000
First year labor costs – including training and hiring	\$125,000	\$125,000	\$25,000
Total cost of first year – no raw material costs	\$1,450,000	\$850,000	\$70,000
Recovery of equipment cost if product fails	\$925,000	\$450,000	0
Implied risk of development failure - no raw material cost	\$525,000	\$400,000	\$70,000
Estimated product margin on sales <sup>(2)</sup>	30%	25%	15%
Sales for breakeven for 1st year cost <sup>(3)</sup>	\$435,000	\$215,000	\$11,000
Estimated time to deliver 1st product	15 months	9 months	3 months

(1) Machine cost for contract manufacturing is potential cost for custom tooling or test equipment

(2) A new machine correctly built should have the best margins, used machines by definition are not as efficient and contract manufactures have to cover over heads of contactor. product margin

(3) This is assuming that the new machine is made in first year. Typically build time can delay product development and introduction by 1 year



When reviewing this financial model, it's clear that the lowest risk is contract manufacturing. This process also has a better time to market for first production; by saving up to 12 months of development time, the product can be in the market picking up share and defending strategic market positions.

- The new machine has the best margins once the product is developed.
- If the new machine is delayed until the contract manufacture develops and helps create sales the cost of failure risk of the new machine can drop to less than 10%. This would drop the cost of failure to \$80,000.

Contract manufacturing can develop specification for your product, in addition to any new machine that would be built in the future. This would include the critical elements of:

- Line speed
- Fluid usage and waste of raw materials
- Uniformity of the product
- Limitations of the process

*With all the inherent risks of new product development, contract manufacturing can be a viable solution to minimizing risk of capital and expediting development projects time to market.*