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ShaPix[®] Surface Detective[™]

The Cost Benefits are



Let's Do the Math - - - -

You have a powertrain assembly to manufacture:

	Calculation Step	Example	What are your numbers?
1	Suppose the cost of just assembling your product from its basic machined parts through the point of final assembly (e.g., pressure or leak) testing is	\$250	
2	Suppose that the percentage of assembled units on the line that <u>fail</u> final assembly testing and have to be torn down for re-work, or be scrapped is	2%	
3	Suppose that the cost of tear-down, re-work, re-assembly and re-test, relative to the cost of the original assembly process and final testing steps, is	10%	
4	Suppose the line production volume of assemblies per day is.	1600 assemblies	
5	Suppose that you start employing high-definition metrology and defect detection for each engine's machined mating surfaces, prior to incurring any assembly costs, including measuring flatness variance and waviness and detecting porosity and other surface defects. Suppose that this reduces the failure rate during final engine testing to	0.1% (= 95% of variances and defects detected early before assembly)	
6	Then the savings <u>per day</u> on this one line, just due to the early pre-assembly detection of variances and defects is: (This does not include the savings from reduced warranty expense, the savings from elimination of wasted intermediate machining and drilling steps, or the savings from prompt early detection that avoids long spillages and down-time)	\$760 per day \$250x1600x(0.10) x(.02-.001)	
7	Suppose that the cost of the digital holographic high-definition metrology and defect detection system that accomplishes this failure rate reduction is	\$350,000	
8	Then the high-definition metrology and defect detection system has paid for itself 100% in	461 days (\$350,000/\$760)	

The continuing use of the metrology and defect detection system then entirely contributes positive cash flow to the benefit of the company, its shareholders, its employees, and its market share.

Any more questions?