

Price Variance Discovery with CADseek Analytics

A part's design doesn't just determine its function. It's geometry is also highly correlated with the part's manufacturing process, cost and performance. Therefore, when material, tolerance and finish are reasonably equivalent it follows that parts with similar geometry should logically have a similar manufacturing process, similar cost to manufacture, and similar supplier prices as well ... but too often this isn't the case.

Unwarranted cost variances have a significant impact on profitability, as shown in the following example where two highly similar parts have a cost variance of 10%, leading to \$78,197 of expense that could likely be avoided through price renegotiation or purchase consolidation.



Roadmap: Unwarranted price variances are often straightforward to evaluate if they can be found, but discovery is a major challenge because of the labor intensiveness that's required. What's needed is a roadmap that can **pinpoint suspicious price variances** so that analysts can focus their efforts on the highest priority candidates. CADseek Analytics changes the paradigm, allowing shape-based analytics to be performed across entire CAD libraries in a **fully automated** manner. The application works first by setting any relevant filters for material, tolerance, etc., and then reporting the geometric similarity of each part to every other part.



An example comparison of price, in the context of geometric similarity, is shown in the table below.

Target Model	Volume	Cost	Material	Match Model	Volume	Cost	Material	Similarity Score	Cost Variance	% Cost Variance	Potential Savings	Priority
JSY_43_040_p_a.stp	72,436	22.43	S1	LEU_27_010_p_A.stp	21,432	27.79	S1	99.13%	5.36	23.9%	114,876	1,139
KEY_511_040_P_A.stp	51,349	114.58	S1	HTD_06_050_p_a.stp	8,457	110.54	S1	89.22%	4.04	3.5%	34,166	305
ESEU_16_025_P_A.stp	22,458	52.14	S1	EUU_17_025_p_a.stp	12,397	53.11	S1	99.10%	0.97	1.9%	12,025	119
DSEU_16_050_P_A.stp	12,432	8.14	S1	DDH_74_010_p_a.stp	22,418	8.01	S1	92.15%	0.13	1.6%	2,914	27
DSL_25_198_232-ff	2,451	654.32	S1	ADZ_09_25_200	872	651.44	S1	97.40%	2.88	0.4%	2,511	24

Pilot Study: A pilot study performed for a Fortune 500 manufacturer examined the geometric similarity in a sample of 350 purchased sheet metal parts. A strong correlation between geometry and price was statistically determined. The analysis revealed 3 pairs with very high similarity where the material and tolerance parameters were identical, but where price variances between vendors were causing \$115,000 of unwarranted additional expense. Another 4 pairs had slight (possibly irrelevant) material variances where price differences totaled an additional \$211,000 for a total potential savings of \$326,000.

These rates extrapolated across all vendor parts suggests the possibility of tens of millions of dollars of unwarranted expense occurring each year.

Accuracy is an extremely important element in price variance analysis. Otherwise, analysts will waste their time investigating scenarios where geometric differences exist which justify price differences; or omissions will occur which cause unwarranted variances to be missed.

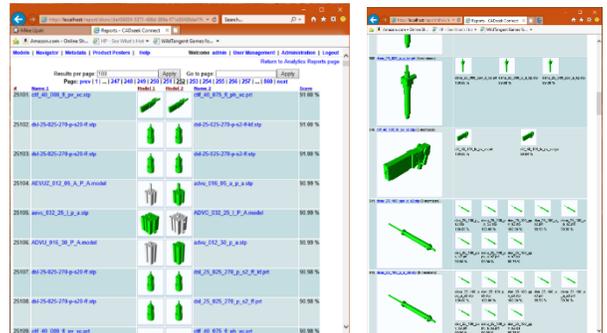
Immediate Impact of Profitability: Unlike most data projects which offset soft costs, the discovery of unwarranted cost variances reduces **hard costs**, immediately impacting profitability.

Data: Attributes for material, tolerance, price, warranty, etc. can be imported to CADseek Analytics from a wide variety of sources including PLMs, PDMs, ERPs, digital catalogs and spreadsheets.

Reports: A CADseek Analytics report compares every model matching the filter criteria to every other model matching the same or different filter criteria. Analysis can occur either within a single dataset or across datasets, which is especially useful for acquisition.

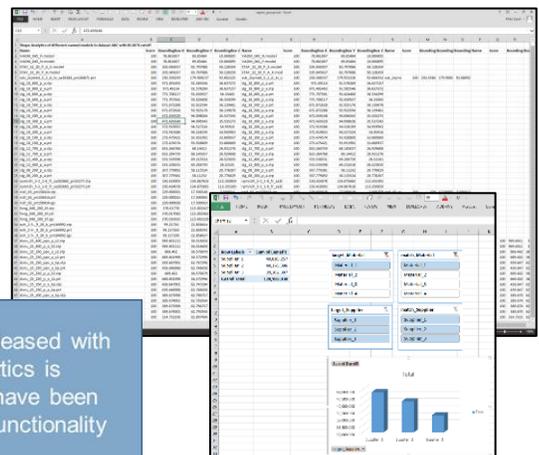
Users can configure reports for dataset, attribute filters, and a user-selected similarity cut-off, i.e.

Report all pairs of models meeting the attribute criteria that have at least 85% to 99% similarity.



Exporting: Each CADseek Analytics report can be exported for further analysis in an application such as Microsoft Excel, allowing computation of the magnitude of impact when cost and volume data are included.

For more information or a demonstration of CADseek Analytics please send a message to sales@iseekcorp.com.



“We are extremely pleased with how CADSEEK Analytics is working for us. We have been impressed with the functionality and use.”

