# Why GrafiCalc?

Decisions made during early stages of design have the most impact on the final cost and performance of any product. With GrafiCalc you can significantly improve your chances of developing products that can be manufactured cost-effectively to perform as expected the very first time.

Here are seven (7) reasons that makes GrafiCalc a must-have tool for all product development engineers:

# 1. Forward and inverse-kinematics validate mechanism designs

GrafiCalc includes wizard driven motion simulation, path trace, and space claim analysis technologies that will enable you to predict and optimize the real-world behavior of your mechanisms and electromechanical designs. If anything moves you can simulate and validate it with GrafiCalc!

## 2. Quick and easy data-acquisition technology enables powerful external analysis

With GrafiCalc you can choose and automatically collect transient values of calculation results, geometry attributes, and dimension values in a table. The data in the table can be pasted to applications such as Excel to perform powerful analysis of the design data.

# 3. Automatic backsolving technology for "top down" engineering

GrafiCalc includes industry-first geometry Goal Seek technology that enables you to automatically backsolve design challenges that benefits from optimization against desired shape, position, and fit criteria. For example you can specify values for distance, weight, cost, section property, displacement, force etc. as targets and have the computer backsolve exact geometry to satisfy the stated goal using just four (4) mouse clicks!

### 4. On-demand Monte Carlo statistical tolerance analysis avoids costly redesigns

GrafiCalc enables you to bring-up tolerance considerations earlier in the design cycle. With GrafiCalc you can take the design through a virtual manufacturing process to ensure design performance and producibility. GrafiCalc will enable you to mediate between tolerance related product performance and producibility conflicts while changes are easy to make.

#### 5. Parametric sketcher captures functional intent of designs quickly and easily

GrafiCalc incorporates a powerful parametric sketcher that was built from the ground-up to perform function modeling. An inference engine allows constraints to snap automatically. A conclusion mechanism enables automatic resolution of circularities in design intents.

# 6. Graphical calculation technology eliminates tedious calculations

GrafiCalc incorporates world's only automated graphical solution technology that enables you to eliminate mathematics, trigonometry, and equation solving traditionally applied to solve mechanical design challenges. When geometry and mathematical issues in any design challenge are inseparable – GrafiCalc can deliver the precise solution in less time than any known method.

# 7. Leverage existing applications

You can connect GrafiCalc and Excel to dynamically exchange data both ways using DDE. You can copy information in GrafiCalc and paste the information to Word, Excel, and Outlook for report generation. GrafiCalc can read and output files in the DXF format to enable geometry exchange with all popular CAD applications.

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