

# Mathcad's Latest Functions & Enhancements

Mathcad is designed to increase personal and organizational productivity - providing an easy-to-use whiteboard interface, instant recalculation, and an open architecture supporting .NET and native XML format.

Mathcad combines a powerful computational engine, accessed through conventional math notation, with a full-featured word processor and graphing tools. Complete projects quickly with the help of expert documentation, sample applications and context-sensitive Help. Mathcad automates many tasks, including unit balancing and recalculation, saving you time and reducing errors.

## Calculate, model, and visualize your ideas

Mathcad has hundreds of built-in functions and operators. Use Mathcad to perform numeric calculations or find symbolic solutions. Mathcad works with a wide variety of numeric and data types, and automatically tracks and converts units.

Mathcad's 2D and 3D graphs update along with changes in your calculations. Plot types include Cartesian, polar, surface, contour, bar, scatter and vector-field plots. A picture operator gives you the same interactive display for image processing applications. Any part of a Mathcad document can be animated, including numerical results, graphs and images.

## Document your calculations

Mathcad automatically recalculates your equations, redraws your graphs, and updates your results whenever you change a variable.

## Verify, validate, and annotate your solutions

By integrating text, formulas and graphs in a single worksheet, you can easily visualize, illustrate and annotate calculation work. Your entire solution is contained and documented in one place. Formatting options and templates let you prepare documents to exact specifications.

Engineering calculations and design work documented in Mathcad are easier to read, verify and validate because all of the key assumptions, equations, methodology and results are documented in natural math notation. The calculations can be read and understood by others, which dramatically improves design verification, validation, and audit processes.

## Integrate data across software and systems

Mathcad features interoperability and connectivity with many popular desktop and engineering applications.

The formal bi-directional integration between Mathcad and Pro/ENGINEER enables unique predictive engineering capabilities. Mathcad can be used to predict the behavior of designs and subsequently drive the key parameters and dimensions used in Pro/ENGINEER CAD models.

Mathcad also supports (pseudo) real-time data acquisition, allowing you to exchange data with National Instruments analog (E-series) I/O boards and Measurement Computing analog I/O boards.

## Share Mathcad worksheets and collaborate across networks

Share publication-quality worksheets across your entire extended engineering organization in Mathcad, print, XML, PDF, or Web formats - enabling others to collaborate on design projects or simply view worksheets.

- **WebMathcad** provides easy access to live math documents on your local network or the Web. Move seamlessly through your Intranet or Extranet with integrated browser and hyperlink support. There are several ways Mathcad supports activity in the browser:
- **File or PrintXML** file format enables users to easily transform content to MS Word, pdf, XHTML, and other publishing formats. Mathcad documents can be printed to paper or PDF formats, and viewed and printed with Acrobat.
- **E-books** Authoring Mode lets you build your own E-books so you can compile and electronically present collections of your Mathcad worksheets-complete with a table of contents, links, and a searchable index. File encryption and a document protection mechanism help you secure your intellectual property while you share your work.