

Mechanical Design Technology CAD Utilization Survey

One of the suggestions to come out of our most recent advisory committee meeting was to survey local industry to determine the current and near future utilization of CAD within companies in the MATC District. The data compiled could then be used as a guide or to verify the direction that the mechanical design department should be taking in this critical area of instruction. Over the past week I have contacted ninety-seven area companies, the majority of which were taken from a list of employers of mechanical design graduates from 1994 to present. The list of employers was compiled by the MATC Research and Planning Department and is included in this report for your review. Each company was personally contacted by telephone where contact was either made directly with an individual in the engineering department or a message was left on their voice mail requesting a call back to help the mechanical design department in this quest. Two basic questions were asked of each company to keep the time involved in the process manageable while obtaining the necessary information. The two questions asked were:

- What CAD software is primarily used in your company today?
- What CAD software will you be using within 2-3 years?

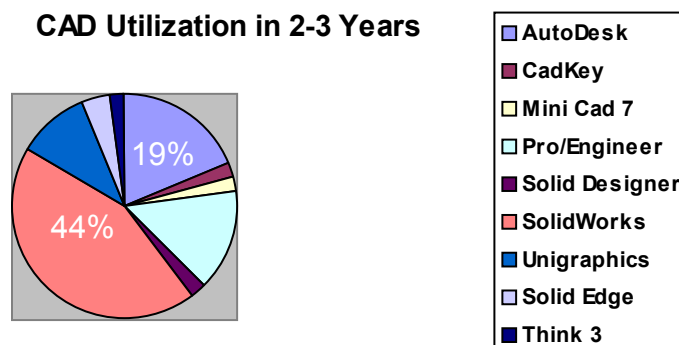
Typical of surveys, not all of the individuals responded, but those who did were very willing to give their input. In many cases their input went beyond these two basic questions. A number of these comments may be found in the following comments section.

For reporting purposes, all AutoDesk products were grouped together. The observation section will expand further on AutoDesk products. Many companies use several different software platforms. For simplicity in reporting, the software that they do the majority of their work with is used in the pie charts.

Present CAD Utilization



CAD Utilization in 2-3 Years



Observations

Observation: Looking at the pie charts, the most striking difference is the change in the number of users of AutoCAD and SolidWorks. The comments section will expand on this phenomenon.

Observation: AutoDesk figures include AutoCAD 14, 2000, 2002, 2004, Mechanical Desktop and Inventor. Two AutoCAD 14 users do not plan to upgrade to anything in the near future including more recent versions of AutoCAD. One AutoCAD 2000 user is upgrading to Inventor. Of the companies using AutoDesk products, only two are or will be using Inventor in the next 2-3 years.

Observation: There are a significant number of Unigraphics users in the area. Most of these are associated with automotive products.

Observation: There are a significant number of Pro/Engineer users in the area.

Observation: The planned move to solid modeling by the Mechanical Design Department would be in concert with the industry trend shown in the pie charts below. This is based on the number of companies using solid modeling today or within 2-3 years.

Present 2D CAD vs Parametric Solid Modeling



2D CAD vs Parametric Solid Modeling in 2-3 Years



Comments made by individual companies

- Comment: Our company is currently using Pro/Engineer, AutoCAD and Catia. We will be converting to the exclusive use of Pro/Engineer at the direction of our parent company
- Comment: We use Pro/Engineer for our larger customers but have multiple other software packages to accommodate our other clients. We are seeing a large increase of SolidWorks use with our customers.
- Comment: We will be changing from AutoCAD to SolidWorks in the near future. This is based on partly on SolidWorks responsiveness in writing software translators for CNC use.
- Comment: We are moving from AutoCAD 2000/2002 totally to SolidWorks.
- Comment: We are converting from AutoCAD 2000 to SolidWorks. Our customer base uses SolidWorks 10-1 over other products.
- Comment: We are changing form AutoDesk Mechanical Desktop to SolidWorks. This is a vendor driven issue.
- Comment: There seems to be an industry move in our industry from Pro/Engineer to Unigraphics. We use Unigraphics.
- Comment: We don't use CAD per se as we are a job shop. Note however that we rarely see model files dimensionally matching the part drawings. We have to create our own CNC files from the print to be sure to get proper results.
- Comment: Your graduates really need training in Project Data Management. This was an unsolicited comment from a Pro/Engineer user.
- Comment: We switched to SolidWorks from Pro/Engineer in the last year. We are now requiring our vendors to use SolidWorks.
- Comment: We use SolidWorks for our proprietary products and Unigraphics for General Motors projects.
- Comment: We are moving to SolidWorks from CadKey.
- Comment: We are moving from AutoCAD to inventor.

Comments made by individual companies

Comment: As a consulting firm we must have all software available to work with. Our primary use software would be Pro/Engineer and SolidWorks. We are seeing a large move to SolidWorks in industry.

Comment: We see an industry trend towards SolidWorks.

Comment: We switched from AutoDesk Inventor to SolidWorks. Extensive research was done into solid modeling prior to making this change and we found that Inventor was 3-5 revisions behind SolidWorks. A majority of our suppliers use SolidWorks. We now have 45 seats of our own.

Comment: We recently switched to Unigraphics from AutoCAD.

Comment: We are changing to Solid Edge from SolidWorks. This was a parent company decision.

Comment: We are changing from AutoCAD to SolidWorks.

Comment: We are switching from SolidWorks to Think 3. This is in response to the industrial design departments use and need for better surfacing properties.

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Companies in Survey

Employer	Employer
American Superconductor, Inc. <i>Middleton</i>	MIS Labs <i>Watertown</i>
Apache Stainless Steel <i>Beaver Dam</i>	Monroe Truck Equipment <i>Monroe</i>
Apex Mold and Die <i>Endeavor</i>	Nicolet Instrument Technologies <i>Madison</i>
APV Americas <i>Lake Mills</i>	Nord Gear Corporation <i>Waunakee</i>
Aztalan Engineering <i>Lake Mills</i>	O & A Tool Specialist, Inc. <i>Madison</i>
Berg Company <i>Madison</i>	Ohmeda <i>Madison</i>
Big Sky Engineering Inc. <i>Middleton</i>	Oscar Mayer <i>Madison</i>
Buell MotorCycle <i>West Allis</i>	Panoramic Inc. <i>Janesville</i>
Busse Inc. <i>Randolph</i>	Penda <i>Portage</i>
Carnes Corporation <i>Verona</i>	Placon <i>Madison</i>
Centerline Industries <i>Waterloo</i>	Plastics Ingenuity <i>Cross Plains</i>
Clack Corp. <i>Windsor</i>	Power Systems Engineering
Columbia ParCar <i>Reedsburg</i>	Prent Corp <i>Janesville</i>
Design Concepts <i>Madison</i>	Ray-O-Vac <i>Madison</i>
Eaton Corp. - Cutler Hammer Division <i>Watertown</i>	Reiss Industries <i>Watertown</i>
Econo Equipment <i>Westfield</i>	Research Products <i>Madison</i>
Evco Plastics <i>DeForest</i>	Sani-Matic Systems <i>Madison</i>
Fisher-Baxton <i>Watertown</i>	Seiders Manufacturing Inc <i>Verona</i>
Fiskars <i>Madison</i>	Sentry Equipment Corporation <i>Oconomowoc</i>
Flambeau Plastics <i>Baraboo</i>	Sharpe Engineering <i>Sun Prairie</i>
Fleetguard / Nelson <i>Stoughton</i>	Space Metrics L.L.C. <i>Oregon</i>
Fristam Pumps <i>Madison</i>	SpaceSaver <i>Fort Atkinson</i>
Geiger Handling	Springs Window Fashions <i>Madison</i>
Generac <i>Waukesha</i>	Stainless Steel Fabricating
Germania <i>Waunakee</i>	Standish LCD <i>Lake Mills</i>
Grabber Products <i>Madison</i>	Stoughton Trailers <i>Stoughton</i>
Graphics Systems Corp. <i>Menomonee Falls</i>	Stress Photonics Inc. <i>Madison</i>
Grason Stadler <i>Madison</i>	Sub-Zero Freezer Co. <i>Madison</i>
Hamlin Inc. <i>Lake Mills</i>	Techline <i>Waunakee</i>
Hardware Technologies Ltd. <i>Fort Atkinson</i>	Textron <i>Johnson Creek</i>
Hughes Company Inc. <i>Columbus</i>	TKO Doors <i>Sussex</i>
International Cabling Systems	Trane Co. <i>Madison</i>
Isthmus Engineering <i>Madison</i>	Trek Bicycle Corporation <i>Waterloo</i>
Johnson Controls <i>Watertown</i>	Tri-Enda Corporation <i>Portage</i>
Karma <i>Watertown</i>	Universal Presentation Concepts <i>Madison</i>
Kilgust Mechanical, Inc.	Universal Silencer <i>Stoughton</i>
KLS Lubriquip <i>Madison</i>	Venus Graphics <i>Madison</i>
Kusel Equipment Co. <i>Watertown</i>	Watertown Metal Products <i>Watertown</i>
Lifeline USA <i>Madison</i>	WebCrafters <i>Fort Atkinson</i>
Madison Kipp Corp <i>Madison</i>	Weir Slurry <i>Madison</i>
Mayville Engineering Co. <i>Mayville</i>	Wisco Industries <i>Oregon</i>
MCI, Inc. <i>Janesville</i>	
Menasha Corporation <i>Watertown</i>	
Metalcraft Industries <i>Oregon</i>	