



FINAL DRAFT

Engineering Change Order 0063, Revision B, Release Date: November 2011, Released by CC

more news you can use from Adraft

A NOTE FROM JULIA

This article is a bit different from my regular notes to all of you. Someone sent me an article about one of the best engineers of all time and I think that it will strike a chord with many of you, not to mention this story has become one of the oldest engineering jokes of all time.

Here is his story

(from about.com)
Charles Proteus Steinmetz was a giant of a pioneer in the field of electrical engineering, who invented a commercially successful alternating current motor. Only four feet tall in real life, his middle name Proteus, was named after the Greek god who could take on any shape or size.

Background

Charles Steinmetz was born in Breslau, Prussia on April 9, 1865. Breslau is now the city Wroclaw, Poland. He studied in Breslau, Zurich and Berlin. Shortly after receiving his Ph.D. in 1888, Steinmetz was forced to flee Germany after writing a paper criticizing the German government. Charles Steinmetz was an active socialist and held strong anti-racist beliefs. He immigrated to the United States in 1893 and was hired by the General Electric Company in Schenectady, New York.

Almost Turned Away

Charles Steinmetz was almost turned away at Ellis Island while trying to immigrate to America. Because he was a dwarf, immigration officers considered Steinmetz medically unfit.

However, his travelling companion vouched that Steinmetz was a rich mathematical genius.

Patenting Alternating Current

After studying alternating current for a number of years, Charles Steinmetz patented a "system of distribution by alternating current" (A/C power), on January 29, 1895.

Steinmetz retired as an engineer from General Electric to teach electrical engineering at that city's Union College in 1902. General Electric later called Charles back as a consultant. He had worked on a very complex system that was broken. No one could fix it no matter how hard the technicians tried. So they got Steinmetz back. He traced the systems and found the malfunctioning part and marked it with a piece of chalk.

Pay the Bill

Charles Steinmetz submitted a bill for \$10,000 dollars. The General Electric managers were taken back and asked for an itemized invoice.

He sent back the following invoice:

Making chalk mark \$1
Knowing where to place it \$9,999

Charles Steinmetz died on October 26, 1923 and at the time of his death, held over 200 patents.

Why should you care?

Each of us and our companies has core competencies and expertise. As engineers, we rarely seek help in areas outside



of our knowledge base. Hey, we're engineers, we don't need instructions!

As Adraft has grown over the years, I have had to come to the realization that we could spend hundreds of hours gutting our way through IT infrastructure, CRM integration, renovation of our building, and the list goes on. However the "smart" thing to do was to partner with other organizations that were the experts in their fields. After some analysis I have realized that we not only saved money, but freed up our engineer's time to become even better at understanding and implementing technology to make you more efficient and allow you to concentrate on your core competencies instead of "gutting" your way through the maze of implementation of Autodesk software that has grown into a giant spider web of products and capabilities.

I would like to leave you with a quote from Charles and wish you all the best.

"No man really becomes a fool until he stops asking questions"
— Charles Proteus Steinmetz

Julia Grant

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AUTODESK CLOUD: WHAT THE...?

Last Winter I had written an article in our newsletter titled “The New Frontier is in the Clouds.” I wrote that article based on the buzz around the IT industry and trying to relate it to what Autodesk is already providing in the way of application and services. Well, less than a year later, Autodesk is flying right into the cloud (please note that it is hard for me to write about the technology cloud without making a weather reference). Autodesk is grouping current and new applications and services into the “Autodesk Cloud” and tying it to subscription benefits to bring more value to subscription. When you stand back and look at it, this is a big change in the delivery of technology (at least different to the way we have been operating in the past). Although this is a big change, I bet you are already using cloud applications. We at Adraft depend heavily on Salesforce to help us manage customer information. The cloud is already here and Autodesk is putting it to use!

Before we go into the features, products and services, I want to say a few things in regards to comments I got after my Winter article. The desktop software is not going away. Autodesk is working hard to provide more options to their clients. More choices for clients will allow clients to use what they need and get their job done as best as possible. To quote Shaan Hurley (blog: <http://autodesk.blogs.com/>), “Choice is an important thing for customers as each customer has their own needs and data control preferences in addition to IT and security policies. For some, desktop will always be what they want and for other the ability to immediately run your applications

from anywhere without installing or finding the files is a great option to explore.” Another point that I want to make is that Autodesk will tie this to subscription. For starters, anyone can upload 1GB of data, but if you have one seat of subscription, you can load 3GB of data. Autodesk wants to offer this to a huge audience, but they will provide extra benefit to those with subscription.

Now on to the cool stuff! Here is a summary of the current Autodesk Cloud web-based features, products, and services (be thinking of how you could put these to use!):

Autodesk® Cloud documents – Use this service to store your design documents in the cloud, so you can access them anytime, anywhere and easily share them with colleagues, clients and other users. Viewing capabilities enable users to open and review 2D and 3D DWF™ files through a web browser – without the design software used to create the files. One GB of storage space is available for free.* Autodesk® Subscription customers receive 3 GB of storage space for each seat of software on Subscription for the duration of their Subscription contract term.

Autodesk® Design Review mobile app – Access your Autodesk Cloud documents on the go with this mobile app. Review 2D and 3D DWF™ files on your mobile device. Redline and annotate 2D drawings while in the field or out of the office. Available free of charge.*

AutoCAD® WS – Design and collaborate across multiple platforms—desktop, web, and mobile devices—with full DWG™ reliability and compatibility. Upload files directly from

AutoCAD to your online workspace. View and edit DWG files on your mobile device or on the web – no software required. Available free of charge.*

Autodesk® Seek – Quickly discover, preview, and download branded and generic 3D models, drawings, and product specifications in Autodesk® Revit® and AutoCAD® software, or through review phases in Autodesk® Design Review software. Available free of charge.*

Autodesk® Cloud rendering – Reduce time and costs with this powerful rendering service that enables you to produce compelling, photorealistic visualizations in the cloud—without tying up the desktop or requiring specialized rendering hardware. Available with an Autodesk Subscription to Autodesk® Design Suite Premium, Autodesk® Design Suite Ultimate, Autodesk® Building Design Suite Premium, or Autodesk® Building Design Suite Ultimate.

Autodesk® Inventor® optimization (Coming Soon!*) – Extend ideation and simulation beyond the desktop by testing the performance of multiple design options in the cloud. Available with an Autodesk Subscription to Autodesk® Product Design Suite Premium or Autodesk® Product Design Suite Ultimate.

Autodesk® Revit® Conceptual Energy Analysis – Gain insight into energy consumption and building lifecycle costs early in the design process without disrupting your workflow. Available with an Autodesk Subscription to AutoCAD® Revit® Architecture Suite, AutoCAD® Revit® MEP Suite, Autodesk® Building Design Suite (Premium, Ultimate or

Education editions), Autodesk® Design Academy, Autodesk® Education Master Suite, Autodesk® Infrastructure Design Suite for Education, Autodesk® Revit® Architecture, Autodesk® Revit® MEP, or Autodesk® Multi-Flex.

Autodesk® Green Building Studio® – Perform faster, more accurate energy analysis, optimize energy efficiency, and improve the carbon footprint of multiple design options. Available with an Autodesk Subscription to AutoCAD® Architecture, AutoCAD® MEP, AutoCAD® Revit® Architecture Suite, AutoCAD® Revit® MEP Suite, Autodesk® Revit® Architecture, Autodesk® Revit® MEP, Autodesk® Building Design Suite (Standard, Premium, Ultimate or Education editions), Autodesk® Design Academy, Autodesk® Ecotect® Analysis, Autodesk® Education Master Suite, Autodesk® Factory Design Suite (Standard, Premium or Ultimate), Autodesk® Infrastructure Design Suite for Education, or Autodesk® Multi-Flex.

Autodesk® Buzzsaw® – Deliver more effective project collaboration with this leading document, design, and model management solution that enables users to securely exchange AEC project information across companies, disciplines, and locations. Available with an Autodesk Subscription to Autodesk® Vault Collaboration AEC. Autodesk Buzzsaw can also be licensed separately.

Now, you may be interested on where to go for these items. It is my understanding (yes, I am not completely sure because this is all so new) that these services/applications are in a trial period until the next **continues on next page**

3D PRINTING MAY BRING U.S. MANUFACTURING BACK HOME

Thanks to new technology, low-cost overseas manufacturing zones may someday be replaced by localized, on-demand production right here on these shores. Manufacturing will become incredibly cheap, with everything from human replacement organs to houses to glassware to chocolate produced via “desktop manufacturing,” enabled through 3D printing. Just as significantly, 3D printing will enable co-creation with customers for highly customized products.

3D printers come in all shapes and sizes, and now support a variety of raw materials. This enables goods to be imagined and designed on a personal computer, then just as you

hit “file” and “print” to print documents, you will be able to almost as easily mass produce physical objects right from a printer. This even includes items with moving parts, says Autodesk’s CTO, Jeff Kowalsky in a recent Forbes interview.

Kowalsky, whose company has been doing work in this area, suggests that that 3D printing will drop in price the same way document printing has over the past couple of decades, creating a new revolution in manufacturing — a revolution that will return mass production back to North America:

“Manufacturing is probably going to be more localized than it has been. We won’t

be shipping as many raw materials around the world, producing things in lower-cost labor areas then sending it back. If manufacturing the actual production of something is effectively free, and more importantly, complexity is free, that can be performed locally.”

Kowalsky predicts the shift toward desktop manufacturing on these shores will occur in a big way within the next five years. “It’s entirely possible that the US could see self-sufficiency and a self-sustaining future,” he predicts.

Credit: By Joe McKendrick SmartPlanet

Alex Hatziemmanuel
alex.h@adraft.com



*HP’s Designjet 3D Printer.
(Credit: HP)*

Autodesk Cloud continued

release of software, AKA March 2012. I believe that Autodesk will be adding more functionality to the Cloud as we get closer to March. Adraft will be trying to keep updates on this as time moves forward, so please watch our blog for information (<http://adraft-techtalk.blogspot.com/>). Here is the starting point for more information on all of this: <https://accounts.autodesk.com>. If you do not have an account on this Autodesk site, you will need to create a new account. Please stay tuned, you will learn more as we learn more! Also, on a side note, Adraft is excited about these changes because of the additional options that we can help implement with you!

Matt Cole
matt.cole@adraft.com

ABOUT ME: KATHRYN HOKE

It’s been almost five months since I’ve joined Adraft and I have to say it’s been pretty “suite!” My name is Kathryn Hoke, although most of our customers know me as Kat, and I’m the new Inside Sales Rep in our Rochester Office.

I come to Adraft with almost seven years’ experience in telecommunications sales. I have a B.S. in Mass Communications from Frostburg State University in Maryland, and have spent time at Tandberg (now Cisco) and most recently, Polycom. When I found an opportunity to move into an inside sales role at an energetic and growing company right here in Fairport, New York I was intrigued. Once I was

introduced to the team here, I knew I found the right fit.

I’m really excited about the enhancements that are being made to the Autodesk Solutions. Autodesk has invested a ton of time and resources into simulation, which will help you make decisions earlier in the engineering design process and ultimately save you time and money. I’m happy that I’ve been able to **help** many of you realize the benefits of true digital prototyping and conceptual design through upgrading your standard AutoCAD to a 3D design suite. I’m proud that Adraft is the only AutoDesk Gold Partner in the Western New York Region, and we’ve also been

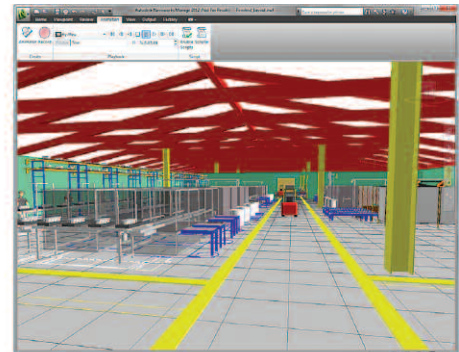
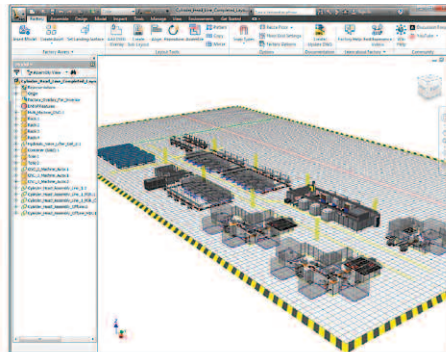
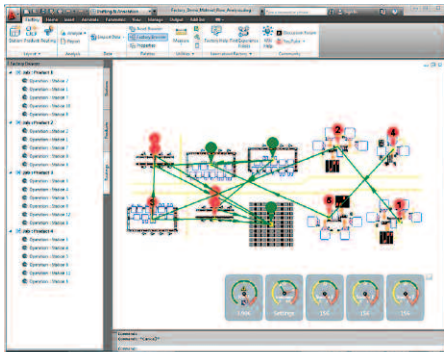


named a Consulting Services Partner. It’s been a great few months and I can’t wait to see what’s around the corner!

Please feel free to give me a call or stop by the Schoolhouse to say hello! Looking forward to getting to know you!

Kathryn Hoke
kathryn.hoke@adraft.com

FACTORY DESIGN SUITE: WHAT IF I DON'T HAVE A FACTORY?



With the announcements of the Autodesk's suites, there is one suite that I truly love! I see immediate value and integrated workflows in, but I absolutely detest the name. (Who comes up with these names, and have they ever even seen a "factory"? Hmm, something to think about while I am gardening I suppose.)

Why do I love this suite? It's rather simple and complicated at the same time. It's simple because it allows all of you in facilities or industrial equipment design to continue to work the way that you have worked in the past, but gives you the opportunity to apply the additional tools as you see fit. It's complicated because it encompasses so many segments of the manufacturing marketplace.

I am going to attempt to explain my view of the world and how this suite can benefit your organization.

Industrial Equipment Manufacturers

Question: Do you build equipment that is placed in a customer's facility? If you answered yes, you have several opportunities to differentiate yourself.

Many customers have a difficult time visualizing what and where

your equipment will be placed in their facility. The "Suite" has tools that can help you show where and how your equipment will be placed and help plan for installation.

The Suite also gives you the ability to build "assets" from your equipment as well utilize existing assets such as conveyors, guards, railings, etc. to allow you to not recreate this type of equipment, and be able to publish your equipment for customers to integrate into their facilities. Talk to your marketing and sales people, anything that allows a customer to quickly and easily spec you into their project is a huge differentiator, much like producing BIM data for buildings and architects.

Food and Beverage Manufacturers

Question: Are you responsible for maintaining and specifying equipment for the processing and packaging of food and/or beverages? If you answered yes, then you have different opportunities.

Many facility engineers use AutoCAD LT to layout facilities, which is not very efficient, and in my opinion quite boring and tedious. What if you had the ability to use your existing AutoCAD layouts and as lines change, or new lines added, start to migrate them to real

"assets" and even setup safety zones and lockout/tagout zones and instructions? And during a major renovation or addition have the tools to schematically determine the best layout for the desired output?

In most cases, you don't build your equipment, but specify it and either install it yourselves or hire contractors. This Suite gives you the ability to aggregate equipment data from many different suppliers and formats. Once that data has been aggregated you have the ability to easily (and I mean easily) move the equipment into place, place guarding and not only visualize the facility, but simulate the installation in order to coordinate the various contractors and suppliers to insure that you meet your production schedule and budget?

Plant Engineers

Question: Are you responsible for maintaining and specifying equipment for any manufacturing facility? If you answered yes, then many of my points from above apply to you.

As plant engineers we not only specify equipment, but also design and build (or change) various pieces of equipment or material handling systems. And again, AutoCAD LT is the prevalent tool used today. Oh, and we are always a cost

center and yet responsible for the safety of workers, OSHA regulations, and insuring that production schedules are met.

The various aspects of the Suite can help you with most of your daily tasks. And the best part is that you can integrate the workflows and tools at your own pace while continuing to "get your job done."

Conclusion

"Factory Design Suite" (yes, I still hate the name) can provide your organization with both short-term and long-term benefits while not forcing you to dive into the pool head first. I encourage you to contact Adraft with your specific situation. And to hear what the industry experts are saying about this suite visit <http://www.eweek.com/c/a/Enterprise-Applications/Autodesk-Factory-Design-Suite-Lives-Up-to-Name-368497/>

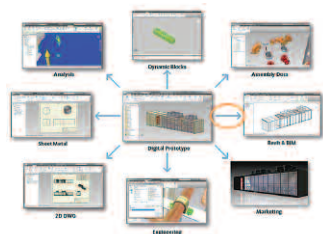
Julia Grant
julia.grant@adraft.com

WHAT IS BIM?

Building information modeling (BIM) is the process of generating and managing building data during its lifecycle.

If you are a manufacturer and work with the building product manufacturing segment including HVAC, lighting, plumbing, doors/windows, and furniture systems you have probably seen that many companies are requiring very specific content to be delivered for use in the AEC community. The process that drives the need for this type of content is known as Building Information Modeling (BIM) and is rapidly becoming the standard around the globe. This can present a significant challenge (but also new opportunities) for your organization and can drive a need for your organization to develop new strategies and workflows to deliver BIM-ready content for use by customers and distribution channels.

Autodesk's solutions for Digital Prototyping can help the various disciplines involved in BIM to communicate and interpret design intent required to design, build, and operate a successful project. Through Digital Prototyping, project teams involved with BIM can better simulate performance and constructability of a project digitally before it's built to deliver projects faster, with fewer errors and coordination issues, and at less cost.



The real question — what is it? BIM involves representing a design as objects — vague and undefined, generic or

product-specific, solid shapes or void-space oriented (like the shape of a room), that carry their geometry, relations and attributes.

Autodesk Inventor allows manufacturers of building and plant products to produce BIM ready models for AEC consumers.

The BIM Exchange methodology aims to increase accuracy of designs from product fabricators to BIM modelers, increase product adoption in the marketplace, and reduce costly placement and type errors associated with rework of an already existing model designed in another CAD package.

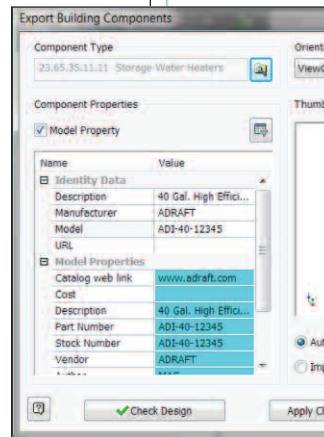
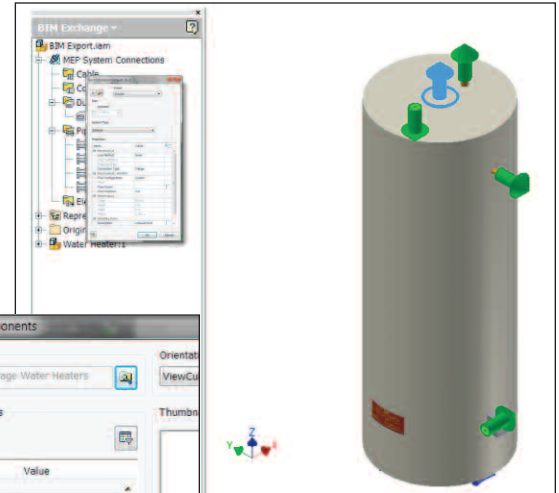
Take the following simple design from ADRAFT's BIM Exchange workshop. This design represents a standard water heater. Instead of just supplying a model, BIM Exchange allows us to add a plethora of additional information that can be used downstream by the architects, builders, purchasing, and others.

Using the BIM Exchange environment within Autodesk Inventor, you can add information relating to different types of connectors such as Electrical, Piping, Ducting, Conduits, and Cable Trays.

After creating the required connectors, each entry is listed in the model browser, similar to other features; you can identify each connector in the model by simply selecting it in the browser.

Depending on the type of connector, different information can be entered. In the case of the exhaust duct, the following information will be stored within the item:

Once you have entered all the information for all the different connectors, you can perform



“Component Type” of the export screen shown here.

The BIM Exchange methodology aims to increase accuracy of designs from product fabricators to BIM modelers, increase product adoption in the marketplace, and reduce costly placement and type errors associated with rework of an already existing model designed in another CAD package.

For more information on this topic or to get information on ADRAFT's BIM Exchange workshop, contact our office at 585-389-1900 or send an email request to training@adraft.com

Mike Space
mike.space@adraft.com

additional tasks such as modifying the UCS so you model inserts correctly in downstream designs. You can also create a Shrinkwrap Substitute to create a light-weight (not referring to mass) model and protect your intellectual property.

When you are finally ready to export your model, you can supply as much information as you need or want to. This can include part numbers, web links, cost, shipping weight, anything you want to make part of this BIM ready model.

This process creates an Autodesk Exchange File (.adsk) file that is ready to be used by other applications that will use this model as part of their design process. As an example, Autodesk Revit can import this Exchange File and will create/add this model to the group as it is defined in the



TELL YOUR STORY WITH 3DS MAX DESIGN 2012

Most of the suites, at the premium level, has 3DS Max Design as part of them. This software allows users to create photo realistic renderings and animations with astounding ease and quality.

Never opened 3DS Max? Not a problem, with newly added tools such as the iRay Renderer, creating a scene has never been easier. iRay is a new renderer option that allows users to define a time, or number of passes to make during a rendering. By configuring either of these options, the user has control of how long the scene will take. iRay also takes most of the complexity out of the “guess work”. With other renderers, users have to adjust multiple settings to get the appropriate lighting, refraction, reflection, etc. Choose how long you want your rendering to take, iRay will take care of the rest. With the addition of iRay, users also have the ability to pause the rendering, and save the image mid process.

Image courtesy of Focus 360.

Worried about how real your image will look? Exposure Lighting Analysis allows users to achieve more realistic designs by analyzing how sun, sky, and artificial lighting interact with your scene and exploring direct lighting effects right in the viewport. Autodesk’s Material Library adds thousands of materials to the users finger tips, reducing the time of creating your own.

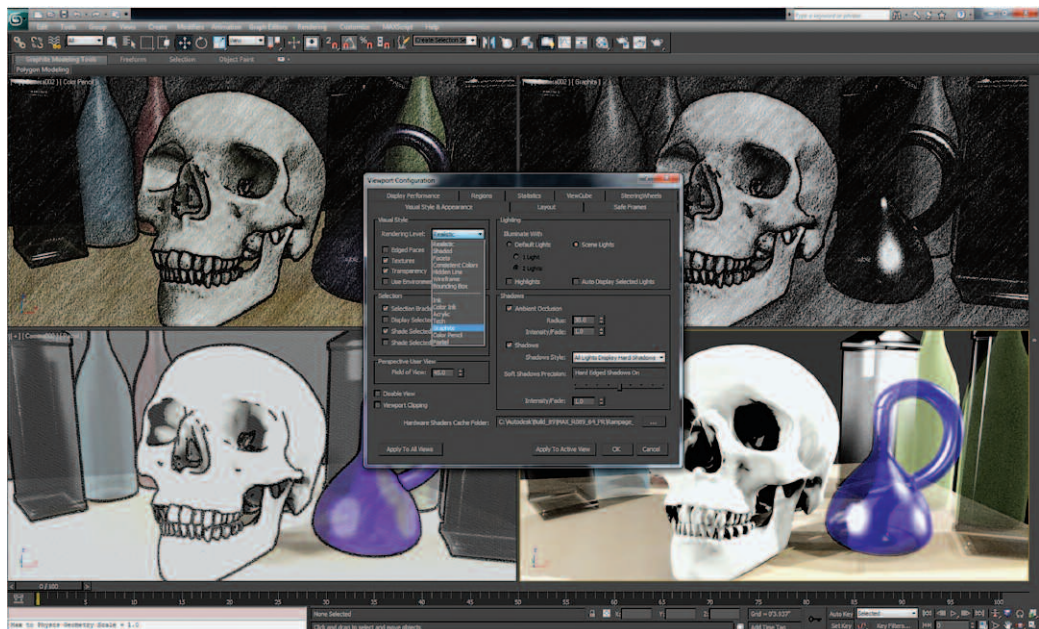
Working between platforms has been made easier as well. With 3DS Max Design’s Single-Step Suites Interoperability users can now 3DS Max files to Mudbox or even Motionbuilder with a single export.

3DS Max doesn’t just stop at photo realistic images, it can also be used to create stylistic renderings. These scenes can be made to look like hand drawn sketches, or colored pencil. This allows users to simulate artistic styles.

Image taken from the Autodesk website.

Autodesk 3DS Max software has long been a preferred choice for advanced visualization. 3DS Max Design builds on this by providing a more user friendly experience for architects, engineers, designers, and visualization specialists.

Josh Gunther
josh.gunther@adraft.com



AUTODESK SIMULATION “WHAT’S RIGHT FOR YOUR COMPANY”

Over the last few years Autodesk has been working to provide users with a wide range of simulation and analysis tools/software. With multiple acquisitions and renaming of these software’s taking place during this time it’s been tough for the user community to keep up with the capabilities of this family of products. This article will outline the capabilities of the different software’s. It will also provide a better understanding of what is available for the simulation and analysis tools.

What’s Available

The following pieces of Autodesk Software are used for simulation and analysis purposes.

- Autodesk Inventor Simulation (Inventor Professional)
- Autodesk Simulation MES (Mechanical Event Simulation) (Formerly Algor)
- Autodesk Simulation Multi-Physics (Formerly Algor)
- Autodesk Simulation CFD (Formerly CFdesign)
- Autodesk Moldflow

Autodesk Inventor Simulation

Autodesk Inventor Simulation provides three main components to their simulation and analysis capabilities.

Dynamic Simulation – Allows for the simulation and analysis on the dynamic characteristics of an assembly in motion under various load conditions. This type of analysis is typically used for collision detection during operation, investigating cycle times of a mechanism, and ensuring components are strong enough to sustain operating loads.

Stress Analysis – This FEA package allows for static/linear

type analysis. The static analysis is used to simulate stress, strain, and deformation. Modal analysis is used to find natural frequencies of vibration and mode shapes of mechanical designs. This tool is used with the assumptions of static stress/steady state, isotropic materials, elastic deformation, and where deformation is small.

Frame Analysis – This tool is specific to frame designs imported from frame generator. It provides the same capabilities as the stress analysis tool. It also operates under the same assumptions with the addition of condition of ideal/perfectly rigid joints. This tool does not capture stresses at the joints.

Autodesk Simulation (MES)

If Autodesk Inventor Simulation will not provide the simulation and analysis tools that are needed this is when the Autodesk Simulation products come into play. Autodesk Simulation will provide all the simulation and analysis capabilities of Inventor Simulation and more. This tool allows for non-linear stress, response spectrum, thermal analysis, buckling, and fatigue analysis just to name a few.

Autodesk Simulation Multi-Physics

Autodesk Simulation Multi-Physics provides all the capabilities of the Simulation (MES) package with the addition of some computational fluid dynamics tools. These include incompressible flow only, flow through porous media, automatic internal and external fluid generation, and fluid/ structural interaction. This version also provides the multi-physics portion which allows for the study of multiple physical factors acting simultaneously

	Autodesk Inventor Professional	Autodesk Simulation Mechanical	Autodesk Simulation Multi-physics
Linear Static Stress	✓	✓	✓
Modal Analysis	✓	✓	✓
Design Optimization	✓	✓	✓
Frame Analysis	✓	✓	✓
Motion Analysis (DS)	✓	✓	✓
Flexible Body Motion		✓	✓
Thermal Analysis		✓	✓
Drop Test		✓	✓
Fatigue		✓	✓
Buckling Analysis		✓	✓
Composite		✓	✓
Non-Linear Stress		✓	✓
Mechanical Event Simulation		✓	✓
Multi Physics			✓

by combining results from different analysis types.

Autodesk Simulation CFD

This piece of Autodesk software will allow for flexible fluid flow and thermal simulation. The main capabilities of this software are laminar & turbulent flow, heat transfer, compressible and incompressible fluids, and smoke and fluid flow motion. This software should be used when fluid flow and/or thermal effects are a major concern.

Autodesk Moldflow

Autodesk Moldflow provides tools that manufacturers validate and optimize the design of the plastic parts and injection molds, and study the plastic injection molding process.

The matrix above outlines the capabilities of Autodesk Inventor Professional, Autodesk Simulation MES, and Autodesk Simulation Multi-Physics.

Autodesk has really made great strides in trying to provide their user’s with multiple simulation and analysis packages to help designers and engineers make decisions earlier in the design process. Hopefully this article provided some answers around what is available to the user community. Please contact Adraft with any additional questions on this topic.

Kevin Gunther
kevin.gunther@adraft.com



E-LEARNING

For over twenty years Adraft has been at the top of the class when it comes to training our customers on the software we provide. Adraft takes pride in the fact we have been an Autodesk Authorized Training Center since we've been in business. To maintain this status with Autodesk our instructors have to pass yearly tests in order to stay authorized. Our instructors are also trained themselves on a yearly basis from certified experts at Autodesk on new software and new features of existing software. Unfortunately Autodesk cannot send experts and instructors to us so the training we receive is done online.

The team at Adraft is currently investigating some different options in the e-learning world that we would like to provide our customers in the future. Whether we like it or not

e-learning is here to stay. E-learning is also referred to as computer based training (CBT). E-learning is essentially the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio.

We at Adraft believe that nothing could ever replace instructor led training in a real classroom environment. There is no better return on investment for any organization that is able to send their employees to us where they are trained in a classroom environment by our certified instructors. But, we also realize that for several reasons our customers can't always partake in a classroom environment at one of our facilities.

Some of the benefits of e-learning are:

- Training takes place at the student's facility.

- Training is done on your own computer.
- Your normal work week does not have to be altered.
- There is no travel or expenses incurred.
- The hours are flexible to fit your schedule.
- Personal attention from an expert.
- On-line content is available 24/7.
- Interactive live sessions with a Certified Instructor
- Access to Instructor between lectures
- Receive same certificate of completion as classroom training

There are also several different options as to how we will present our e-learning curriculums. Some of those options are:

Live on-line sessions with a Certified Instructor.

What this means is the use of a virtual classroom system that allows students to log in from anywhere and participate in an interactive experience with an experienced professional instructor who is an expert with the software.

Weekly assignments

This means that you would complete assignments on your own schedule and can

accomplish this from wherever you happen to be. You would have at your disposal professionally prepared on-line content which would include recorded videos and downloadable exercises. This allows you to learn the intricacies of the software at your own pace. And since it's available 24/7 you can revisit and review all the information.

Guidance by an experienced ATC Certified Instructor.

This means we will have certified instructors available during posted office hours. The instructors will have specific times that they will be available to mentor. Our instructors will also be available via email with a specific turnaround time to your questions.

As I stated earlier we are in the investigative stages of delivering an e-learning solution. We are teaming up and consulting with existing Autodesk Authorized Training Center (ATC) resellers who are accredited ATC E-Learning Providers. We look forward to providing you with an e-learning solution for your training needs in the near future.

Greg Fisher
greg.fisher@adraft.com

2012 PRODUCT TRAINING CLASSES NOW AVAILABLE!

- AutoCAD Essentials 2012
- AutoCAD Advanced 2012
- AutoCAD 2012 Update fore 2011 Users
- AutoCAD Electrical 2012 (JIC)
- Inventor 2012 Introduction to Solid Modeling – An Essentials Course
- Inventor 2012 Advanced Part Modeling
- Inventor 2012 Advanced Assembly Modeling
- Inventor 2012 Update from 2010 and 2011

- Inventor Publisher 2012
- Inventor 2012 Sheet Metal Design
- Vault Essentials 2012
- Vault Professional 2012

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Autodraft, Inc. dba Adraft

email: info@adraft.com
www.adraft.com

Rochester Office:

2815 Baird Road
Fairport, NY 14450-1244
Phone: (585) 389-1900
Fax: (585) 389-0953

Buffalo Office:

8201 Main Street, Suite 3
Williamsville, NY 14221
Phone: (866) 769-6163
Fax: (585) 389-0953