cadalyst

CAD Manager's Newsletter

STRATEGIES AND SOLUTIONS FOR THE REAL WORLD

By Robert Green

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CAD Management Constants: Upgrade Decisions

Build your case for software upgrades with a clear ROI and training plan.

No matter what work you do or what kind of CAD/BIM/Modelling software you use to do it, you'll have to deal with upgrading at some point in time. There are many opinions on how to handle upgrades from, "Just do it," to "Just don't do it," to "Upgrade only in odd number years," but there has to be a better way to decide than that, right?

In this edition of the *CAD Manager's Newsletter,* I'll lay out the framework I use to make upgrade decisions that seems to always work. My hope is you'll find it as valuable as I have. Here goes.

Image source: magele-picture/stock.adobe.com.

Get Ready to Test

My first rule is that you can't make a smart decision on upgrading until you've tested the new version in real world use scenarios. Of course, being on subscription means you'll always have access to the latest version so it shouldn't be a problem to get the software. But for software that may have lapsed, you can always get a trial version. Install the software on a test machine and get ready.

I also like to troll software web sites, blogs, and YouTube for any reviews from other users that could help me find any known problems with the new version before I start testing. I've also found that software resellers — if you use one — often have documentation they can share with you on new features that may not be publicly available.

In summary, get the latest software installed, do some basic research, and allocate time to test things out.

Test, Test, Test, and then Test Some More

As you start testing make sure you build the following elements into your protocols:

Use your data. Don't use test data supplied with the new software — use data that you already have or create new tests using the same products you would normally design. The goal is to see the software work with a typical cross section of data you would normally use.

Note user interface (UI) changes. Did anything change with UI elements such as ribbons, toolbars, browsing interfaces or content libraries that will likely be problems for your users? Sometimes an upgrade can seem like a downgrade when familiar muscle memory patterns change!

Replicate your current workflows. Can you complete a current work project using the same workflow as the old version? If not, then you'll need to take into account the training required to make the switch.

Evaluate new features. Do take some time to go through the new features touted by the upgrade's documentation as you may find something that'll work great in your office. On the other hand, you may not find anything that really speaks to your user's

needs. Knowing if the new features are compelling or not is a key piece of the decision-making process.

Ask some others. Once you've found the changes, new features, and possible problems with the upgraded software why not invite a few trusted users for a quick show and tell to get their impressions? If they aren't enthusiastic when the software is new, you can bet they won't be later when they have to learn it!

Write it up. Create a summary document along with your "go or no go" decision on whether the upgrade merits further consideration. This write-up will be the basis for continuing in your upgrade process or not.

Work the Numbers

If you decide to pursue upgrading, you need more than gut feel to justify your decision. You're going to need numbers and a communication plan to get IT and senior management on board. Here's how I do the computation:

List software cost. If you get your software by subscription, automatically the cost is $0 for the upgrade — otherwise the purchase cost can be used.

Estimate installation cost. This is simply an estimate of how much CAD management and IT time will be required to get the new software installed. First tally the hours required, then convert to cost by using the hourly rate for the personnel involved.

Estimate training preparation cost. This is the number of hours it will take you to prepare training documents, arrange training rooms, hire outside training experts, or anything else it will take to conduct training. Generally speaking, software updates with different User Interfaces and changed workflows will be more training intensive — and thus expensive — than you think.
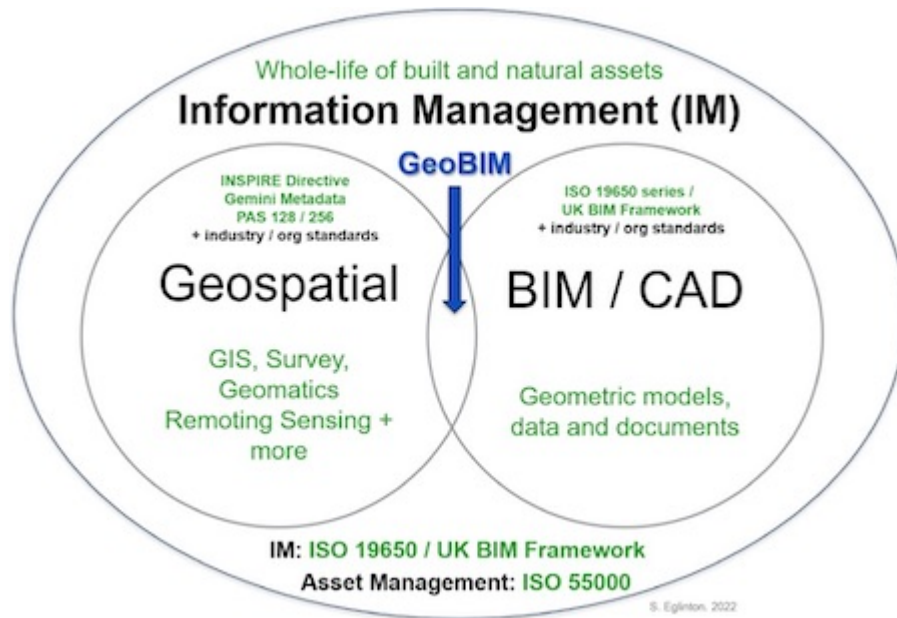
Estimate training cost. This is the number of hours it will take to train your user base in the new software. Simply take the number of users times the number of training hours times the user's labor rate to compute cost.

Estimate savings. After users are trained, how much efficiency will they gain? Will they be 1 hour per week faster, or 2 or 0.5, or not any faster at all? Simply multiply the number of users times the hours saved per year then multiply by the user's labor rate.

Note: The answer you arrive at is very important because savings are the only thing that will pay for the software, installation, and training costs you've undertaken so far.

Next, use that data to figure out your Return on Investment (RIO). Find out how and what else you need to consider before investing in an upgrade. Plus, what factors might force you to upgrade? [Continue reading! >>](#)

Tools & Resources

Whole-life of built and natural assets
Information Management (IM)
GeoBIM
Geospatial — INSPIRE Directive, Gemini Metadata, PAS 128 / 256, + industry / org standards
BIM / CAD — ISO 19650 series / UK BIM Framework, + industry / org standards
GIS, Survey, Geomatics Remoting Sensing + more
Geometric models, data and documents
IM: ISO 19650 / UK BIM Framework
Asset Management: ISO 55000
S. Eglinton, 2022

Blog Watch: GIS and BIM

"The value of geospatial information is immense," says Steven Eglinton, long-term supporter of GEO Business and Director of GeoEnable and BimEnable. Read his full thought leadership piece and learn how geospatial and BIM information can work together. **Read more >>**

Piping Isometrics: M4 ISO

Piping isometrics are industry specialised drawings that contain all the information needed to document and manufacture pipework. CAD Schroer's M4 ISO software can be added to your piping design system or as an extension for M4 PLANT and Creo Piping for the production of piping isometric drawings. The layout, content, and appearance of the drawings produced can be customised to suit the customer's specific requirements, including the use of the customer's own drawing templates. With M4 ISO, piping isometrics are automatically created in the required style directly from the 3D pipework model. **Find out more >>**
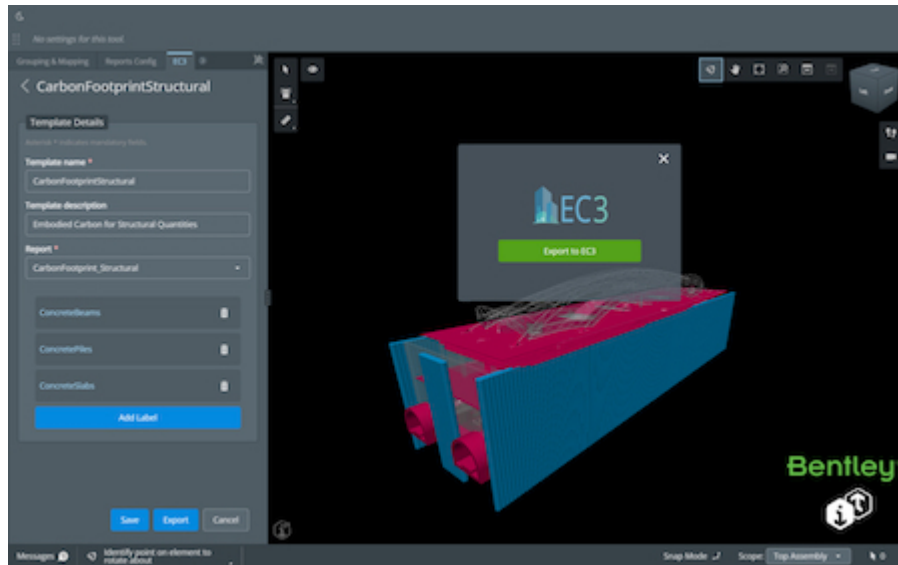
New Tool: Integration of EC3 with the Bentley iTwin Platform

Bentley Systems announced at COP27 its expanded integrated workflows for embodied carbon calculation in the Bentley iTwin platform. The new integration enables carbon assessment in infrastructure digital twin solutions, powered by the Embodied Carbon in Construction Calculator (EC3). Developed by the nonprofit Building Transparency, EC3 is a no-cost, open-access tool that allows benchmarking, assessment, and reductions in embodied carbon, focused on the upfront supply chain emissions of construction materials. Building Transparency provides the education, resources, and tools – including EC3 – to address embodied carbon's role in climate change. **Read more >>**

Webinar Watch: AMC Bridge's Path to Digital Twins — Hype vs Reality

December 8, 11am-12 noon EST. What does it take to get a digital twin up and running and realize value? AMC Bridge webinar series will explore answers to this question. The webinar will focus on what is currently achievable and what results can be reasonably expected from today's commercially available solutions and platforms for digital twins. The session will explore the need to integrate modeling, simulation, IoT, game engines, and more, plus discuss barriers to achieving digital twin objectives. **Register >>**

What's New from Our Sponsors

The Equipped Mold Designer:
Siemens NX Mold Connect = Cloud Data Management Made Easy
Part 5: Follow this team of designers as they learn how to use NX Mold Connect. In this article, they are moving forward with the project and using Siemens' Connector to manage workflows in the cloud versus bogging down their desktop systems as they work with very large data files to get this project completed. By Cynthia Kustush, *October 20, 2022*. **Read more >>**

Visualization Technology Helps Infrastructure Projects Come to Life
Highlighted at this year's NVIDIA GTC, virtual reality, metaverse, and other concepts are gaining traction and changing how AECO and infrastructure professionals work. **Read more >>**

What's New at Cadalyst

Civil Engineering:
Robots are Coming to a Construction Site Near You!

AEC firms employ autonomous equipment to gain efficiency, productivity. *By Andrew G. Roe, November 1, 2022.* **Read more >>**

Viewpoint: How Companies are Taking Advantage of the Bipartisan Infrastructure Law
Lessons learned from a previous Los Angeles County Public Works project and its implementation of Bentley software to improve infrastructure could lead the way. *By Mike Lazear.* **Read more >>**
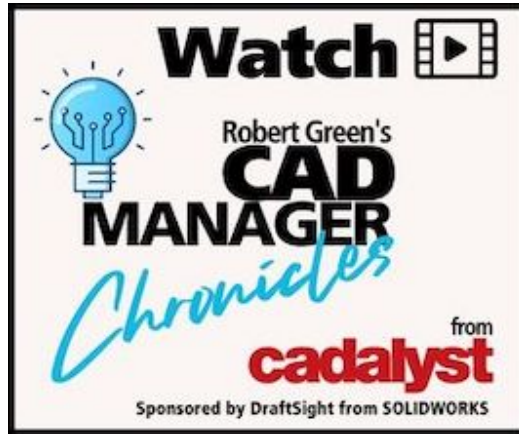

CAD Cartoon

— By **Roger Penwill**   **Keep on Laughing!**

Free Resources

CAD Manager Chronicles Video Series

Episode 3: CAD Management Constants

While many things change as time goes on, there are key parts of being a CAD manager that remain the same. What are they and how do you keep improving on those things to build success? *By Robert Green*

WATCH NOW

A CAD Manager's Guide to Reducing Errors

Whether your problems stem from users who ignore standards, a company culture that doesn't prioritize quality, or self-sabotaging management techniques, this guide will set you on the path to greater efficiency, fewer mistakes, and better results. *(Compiled from Robert Green's CAD Manager's Column.)*

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