



# cadalyst

Navigate the world of design technology



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## CAD Problems? Incremental Innovation Wins Over Radical Change

**Step-by-step innovations can save your CAD team time and money.**

In CAD management, we're always faced with new problems that require us to find innovative solutions. Complicating matters further is that upper management always wants us to "Minimize costs," and "Get things done ever faster." So, how can we solve heretofore unknown problems while not breaking the bank or slowing down production? These are two very good questions.

In this edition of the *CAD Manager's Newsletter*, I'll outline a key strategy I've been using for several years now — innovating incrementally to solve small problems as I go rather than attempting radical innovations every few years. I'll explain how I make this work in hopes you can as well. Here goes.



Image source: [fahad/stock.adobe.com](https://www.adobe.com/stock/fahad/).

### Radical Change Costs More than Incremental Change

Most times when we hear about innovation, the implied meaning is big changes brought on by expensive new tools and technologies. This “radical innovation” concept gets all the attention, yet radical change is rarely something a company can afford and, thus, rarely something a CAD manager should implement. Radical changes, such as moving to entirely new tools (think moving from 2D CAD to BIM, as an example) generate big costs that many companies can’t tolerate. Consider the following:

**Big costs.** Radical changes in tools costs lots of money for software acquisition and implementation. This means extensive investigation, budget planning, and IT involvement.

**Extensive workflow changes.** Radical changes in tools cause changes in workflows which require lots of training and staff adaptation.

**Unknown disruptions.** Radical changes in workflows always lead to unknown problems that must be fixed. These problems delay project execution and drive-up costs. And, even worse, the magnitude of the delays and costs can’t be known until you’ve gone past the point of no return during implementation.

I’ve concluded that no CAD manager can push through radical innovation on their own because it requires total support and a significant investment from senior management and IT. Want to know why it has taken decades for 3D and BIM to displace 2D work methods? Because the change to the organization is **radical**.

On the other hand, what CAD managers *can* execute is a more modest process of **Incremental Innovation** which allows for smaller changes to workflows that keep risk and costs under control. Let’s investigate.

### Incremental = Affordable and Doable

If I consider how I can innovate to make my company’s CAD environment work more efficiently, I must operate within a framework that demands the following:

- I must keep the CAD tools running.
- I must support users so they remain efficient.
- I must make sure that projects are on track.
- I must keep labor costs down.

As long as any innovations I propose meet the above criteria and don’t cost too much, then I likely have the authority to move ahead and strive for these

improvements. This stands in stark contrast to radical innovations that I don't have the authority to do on my own.

So, now the question becomes: what types of incremental innovations should I focus on to have the best chance for success without having to wait for managerial approval.

### **Your Incremental Innovation Game Plan**

Here's my step-by-step process to mapping out a workable innovation plan that you can quickly put into action:

**List your nagging, small problems.** What problems vex your users, your projects, or your customers? Knowing what your problems are tells you what to work on and where your incremental innovation should be focused. You may be surprised to find that the most commonly vexing problems aren't all that big or complex, and they won't cost a fortune to fix.

**Propose solutions that simplify and save time.** How can you solve those problems? What types of process changes, tool configurations, customization, training, and inexpensive tools can you put in place to fix these problems? Strive for solutions that save time above all else, because, as we know, time is money.

**Eliminate tools that are complex and costly, wherever you can.** Review current tools, and remove any that are overly complex and hard for users to learn. They are more likely to generate expensive rework due to mistakes. And, software that is costly in the first place may not be worth it. Sometimes innovation can mean removing tools rather than adding more.

**Prioritize easy, low-cost solutions.** It stands to reason that the cheaper and easier it is to implement your solutions, the faster you can get them in place and reap their benefits. And, the faster you do so, the sooner you'll start to look like a hero. I would also submit that true innovation makes things easier and cheaper, not harder and more expensive!

**You'll want to go back through the list, proposing and prioritizing the steps several times so you don't miss anything. There's no substitute to this approach as you build your incremental innovation plan. Next, get your users to buy into the solution. Find out how! And, what happens when a radical update MUST occur?**

[<<READ THE COLUMN >>](#)

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## **Tools & Resources**



### Sustainability and PLM Webinar, 11 July, 11am EDT

Learn how to achieve sustainability goals and fulfill net-zero commitments through effective PLM strategies. At this webinar, you will: Learn key concepts in Designing for Sustainability (DfS). Learn about sustainable sourcing. Understand critical regulatory issues and trends. Understand the importance of embedding sustainability within a PLM strategy. Learn why sustainability and profitability are not mutually exclusive, and more.

[Read more >>](#)

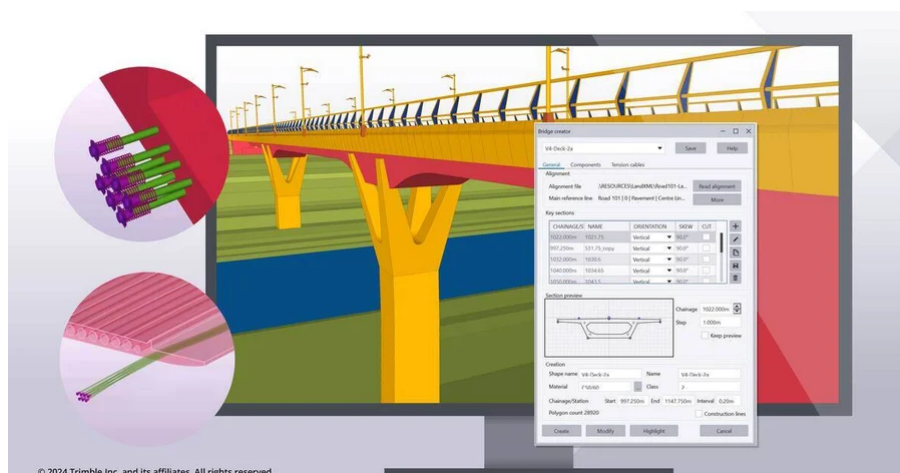
### Automate Revit and BIM with IMAGINiT's Clarity

IMAGINiT Technologies launched the latest version of Clarity, a task automation and analytics tool for Autodesk Revit and BIM 360 products. New features in the IMAGINiT Clarity 2025 release include integration with Oracle Aconex, enhanced functionality with Autodesk Revit Error Resolution, and advancements to the Clarity Space Programming Module, among others. IMAGINiT Clarity 2025 is compatible with Autodesk Revit 2025 and fully supports versions of Autodesk Revit and Autodesk Revit Server back to 2021. [Read more >>](#)

### Bluebeam via Web Browser

Bluebeam Cloud users can use Studio Sessions on a web browser. Together with recent enhancements for marking up files via the web, users now can collaborate in real time without needing to download Revu to a desktop. This allows both PC and Mac users frictionless accessibility to Studio Sessions, according to the company.

[Read more >>](#)



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### Updated Communications

Trimble introduced 2024 versions of its Tekla software for constructible BIM, structural engineering, and steel fabrication management. Each program, Tekla Structures 2024, Tekla Structural Designer 2024, Tekla Tedds 2024, and Tekla PowerFab 2024 include industry-standard communications improvements that allow users to deliver required documentation and model information efficiently, using a wider variety of supported industry formats, according to the company.

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### Reflectivity of Roads

Blynscsy, a Bentley Systems company, has released a public map of United States public roads rated at 35 miles per hour and faster, along with paint retroreflectivity scores for roads within all 50 state capitals. This new tool is available to support all state and local departments of transportation as they prepare to meet new Federal Highway Administration (FHWA) minimum levels of retroreflectivity for pavement markings, which goes into effect in 2026. Using its nationwide network of crowdsourced imagery and AI, Blynscsy was able to capture over 3,200 centerline miles of paint retroreflectivity detections in just four days, according to the company.

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## What's New at Cadalyst



### GIS Solutions: Environmental Twins Gain Traction in the Field

Using a digital twin approach aids environmental and regional planning work — focusing on natural resources. While the concept is not new to GIS, recent technological advancements and growing ecological awareness have helped the term “environmental twins” gain attention as a key approach to addressing a host of environmental and climate-related challenges. *By Andrew G. Roe.* [Read more >>](#)

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### AEC Solutions and Sustainability: Surge in Electric Vehicles Calls for Infrastructure Upgrades

Ongoing growth of electric vehicles (EVs) has created a flurry of infrastructure activity to support those vehicles. Infrastructure professionals face challenges in building charging networks, as well as addressing increased vehicle weights and environmental tradeoffs. *By Andrew G. Roe* [Read more >>](#)

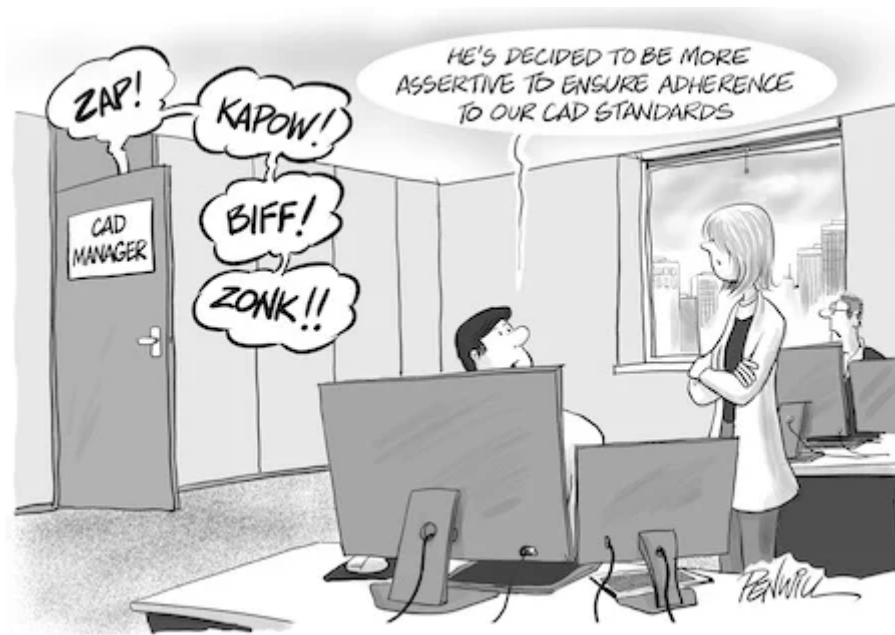
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### Sponsored Feature: Technology Enabling Digital Transformation

Can Digital Transformation Really Transform Your Business? Discover how to enable technologies for digital transformation. To begin, organizations need a plan for implementation including reviewing workflows. *By Cadalyst Staff* [Read more >>](#)

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## CAD Cartoon



By [Roger Penwill](#)

[Keep 'em Laughing!](#)

## Free Resources



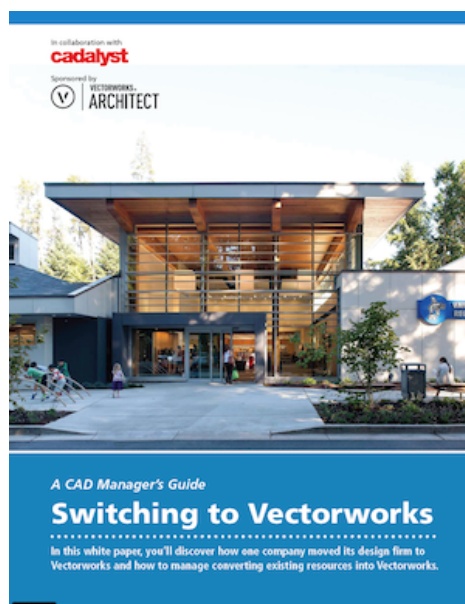
### Digital Transformation in Manufacturing

Innovation within manufacturing helps create a culture of continuous improvement to improve product quality and reduce waste, ultimately making companies more successful.

Implementing a digital MES can help you drive innovation on your production floor.

Find out how a digital manufacturing execution system (MES) can transform your factory.

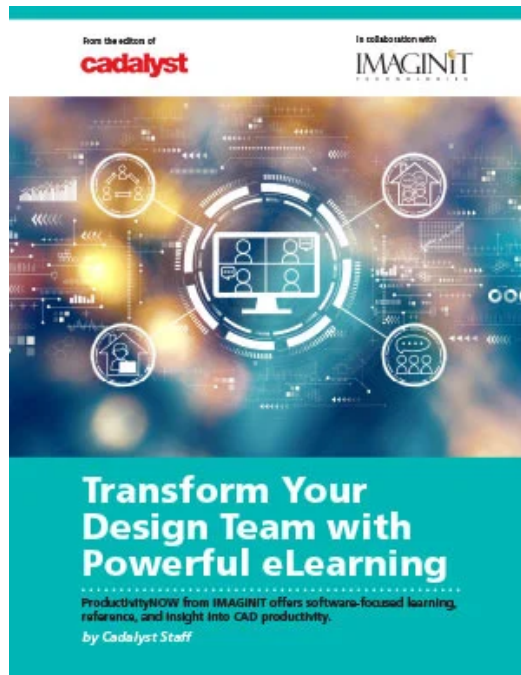
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### A CAD Manager's Guide to Switching to Vectorworks

Discover how one company moved its design firm to Vectorworks and how to manage converting existing resources into Vectorworks.

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## Transform Your Design Team with Powerful eLearning

Training your workforce continues to be one of the most important pillars to forming a strong and efficient team. The challenge becomes making sure your staff are using their design software to the best of their abilities and following your CAD standards. How do you build this foundation and continue to invest in your employees?

Find out how ProductivityNOW from IMAGiNiT offers you software-focused learning, reference, and insight into CAD productivity. *By Cadalyst Staff*

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Conceptual Design

Reality Capture

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