CASE STUDY:

How Hermanson Company Leverages Technology to Expand Services and Streamline Operations

U.S. CAD

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No two construction firms have the same requirements, and requirements often change, but Construction Technology Director Matthew Cordova knows what keeps his projects competitive.

"Autodesk tech is our lifeblood here," says Cordova of Hermanson Co., a Kent, Wash.-based firm specializing in mechanical systems construction, design-build engineering, lean fabrication and maintenance services.

Far from being a static endeavor, adoption of Autodesk and other solutions is a dynamic process that requires regular evaluation, Cordova says. It means that, despite accelerated industry use of project management and associated softwares, demand for these solutions won't slow down any time soon across architectural, engineering and construction sectors.

Instead, demand will compound, especially as new tech proves its worth at firms such as Hermanson, where Cordova ensures software is leveraged to boost performance and profitability. The firm's technology partner is U.S. CAD, which provides it with reality-capture technology and production services including coordination and Revit modeling, as well as guidance on Autodesk construction technology solutions, training and implementation.

“Technology is always evolving and companies such as ours have to grow into it,” Cordova explains.

Hermanson recently decided to transition to an enterprise solution of Autodesk Build from BIM 360 and PlanGrid and create a new hub that enables:

- Accurate model coordination for the firm, clients and subs.
- Improved and automated document management.
- Streamlined communication with the field team.

“We have much more planned, but we’re still developing it to suit our needs,” Cordova says. Eventually, all mechanical, electrical and plumbing will be hosted in the Build platform for modeling, coordination and document management. The new portfolio delivers multiple strategic upsides for Hermanson, including:

Easier remote working.

It empowers team members to work remotely from home or the field.

“BIM 360 allowed anybody with an internet connection access to a central model, and that was a big deal during COVID,” Cordova notes. “We were able to work remotely without skipping a beat.”

Improved visualization and coordination.

It combines laser scanning, GIS and QR codes and other data to create robust views of project layouts, which helps to show design intent and convey that clearly to stakeholders. This can streamline approvals during design and later be used during training and to support building maintenance.

Technology used at Hermanson

includes an array of Autodesk solutions:

- **BIM COLLABORATE PRO**
- **CAMDUCT**
- **POINT LAYOUT**
- **FABRICATION ESTMEP**
- **AEC COLLECTION**
  - » **AutoCAD:** Software supporting 2D and 3D CAD, including specialized tool sets and apps.
  - » **Revit:** Multidisciplinary BIM software to plan, design, construct and manage buildings.
  - » **Navisworks Manage:** Advanced solution for clash detection and coordination, 5D analysis and simulation software.
  - » **ReCap Pro:** Reality-capture and 3D-scanning software and services.
  - » **Civil 3D:** Engineering, design and construction documentation software designed specifically for civil engineers.
  - » **InfraWorks:** Civil structure conceptual design and analysis software.

Optimized clash detection and deviation analysis.

It helps avoid costly field issues by identifying potential problems. Next-generation clash-detection tools use design intent, layouts and other components. Also, deviations between installation and shop drawings can be measured and compared, using laser scanning and other data sources.

Automation and accuracy.

Automating routine and repetitive tasks allows teams to focus on more strategic tasks. It updates floor plans, elevations and sections as models develop, as well as ensuring a single source of truth for stakeholders.

Paperless sites.

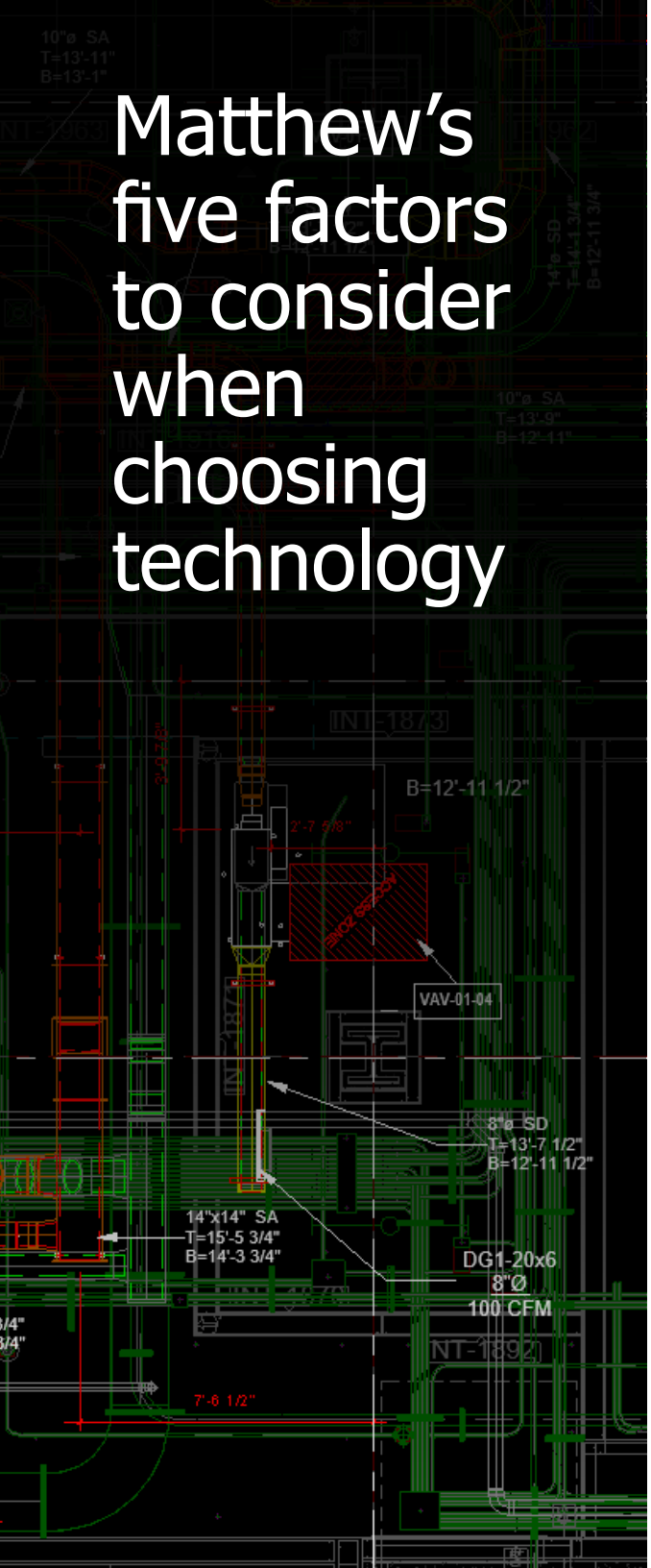
It accelerates the path to paperless, with a cloud-based solution that stores all documents centrally.

"Our shops can see what they are putting together in 3D via Autodesk Forge Viewer, which, for me, is one step closer to going paperless on the construction site," Cordova says.

With so many clear benefits, firms might consider a simple copy-and-paste approach to their technology strategies, but that would be a mistake, he says.

"Don't look to other companies and think, 'Well, company X is using it so we should use it, too'," Cordova cautions. Instead, he suggests considering the following five factors when choosing a technology.

Matthew's five factors to consider when choosing technology



Ease of use

If the solution is too difficult to use or doesn't meet the firm's specific needs, there won't be a good return on investment.

TO DO: Test-drive the solution's user interface, remote access and critical tasks and processes. Talk with colleagues at other firms to verify how it works in the real world of work.

Legacy data migration and integration

Legacy data is a gold mine of institutional knowledge, so a new solution must support those file formats and be scalable and easily updated.

TO DO: Determine how much legacy data must migrate. Review vendors' tech requirements and the processes they use for migration and integration. Talk to others about providers' track records and time frames.

MultiCAD data

A new solution should support the tools and formats already used at the firm.

TO DO: Consider only vendors working with Open BIM, which enables the exchange of information while still using the firm's preferred software, allowing for a seamless end-to-end workflow.

Training requirements

Some training is required for any tech adoption, but it is expensive to have staff offline for too long.

TO DO: Determine skills gaps, forecast how many hours of training will be required and estimate potential effects on operations. Also, understand the kinds of training each vendor offers and how much they cost.

Control and security

Advanced technology enables version control, edit history tracking and access only to those who need it.

TO DO: Verify that the chosen solution meets the latest PAS 1192 requirements.

Carefully reviewing these factors will build in-house expertise and confidence in chosen solutions, which will help to build buy-in among stakeholders, create a customized technology strategy and keep systems up to date.

"There's never a cruise control button," Cordova says. "We're going to use a given solution, for example, for the next three years, but not just how it is today. You've always got to be tweaking the software so it works for you and things like security patches are current."

U.S. CAD's cloud-based offerings update automatically and are easily customized, but it's up to users to ensure staff members know their needs and how to use the systems. U.S. CAD offers virtual and onsite training to get teams ready to use the software fast.

"Teaching is the most important part of implementing any software because if people don't know how to use it, they simply won't," Cordova asserts. "Talk about it with your team. Ask what they want to be able to do, understand how they work. That's how it becomes part of your base."

Even the most ingrained strategies and well-trained teams must remain agile, though. A couple of years ago, Hermanson switched to Revit after being with AutoCad for more than 20 years.

"Every workflow had to be reimagined without disrupting day-to-day operations, which was a monumental task. And it was the same with Autodesk Build, which we are implementing this year. We had existing workflows in BIM 360 and PlanGrid that needed to be re-thought-out," Cordova recalls. U.S. CAD worked with Cordova to ensure smooth transitions.

"You've got to believe in the software you're investing in," Cordova concludes. "Do your research, get buy-in from the team that will implement said software and, most importantly, get buy-in from the end-users. If your entire organization is pointed in the same direction and believes in what you're doing, it makes new tech adoption, training and implementation a much smoother process."

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ABOUT HERMANSON

Hermanson Co. provides mechanical contracting services. It offers sheet metal, piping and plumbing systems, design-build, mechanical construction, and energy services. Hermanson serves healthcare, life sciences, government, military and education sectors.

ABOUT U.S. CAD

U.S. CAD is a leading provider of architecture, engineering and construction technology and consulting services. Founded in 1999, U.S. CAD is an Autodesk Platinum Partner delivering BIM and AEC software, training, support, and production and reality capture services for organizations of all sizes for better project outcomes from conception through construction. Our mission is to help clients win more, produce more and achieve more.

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