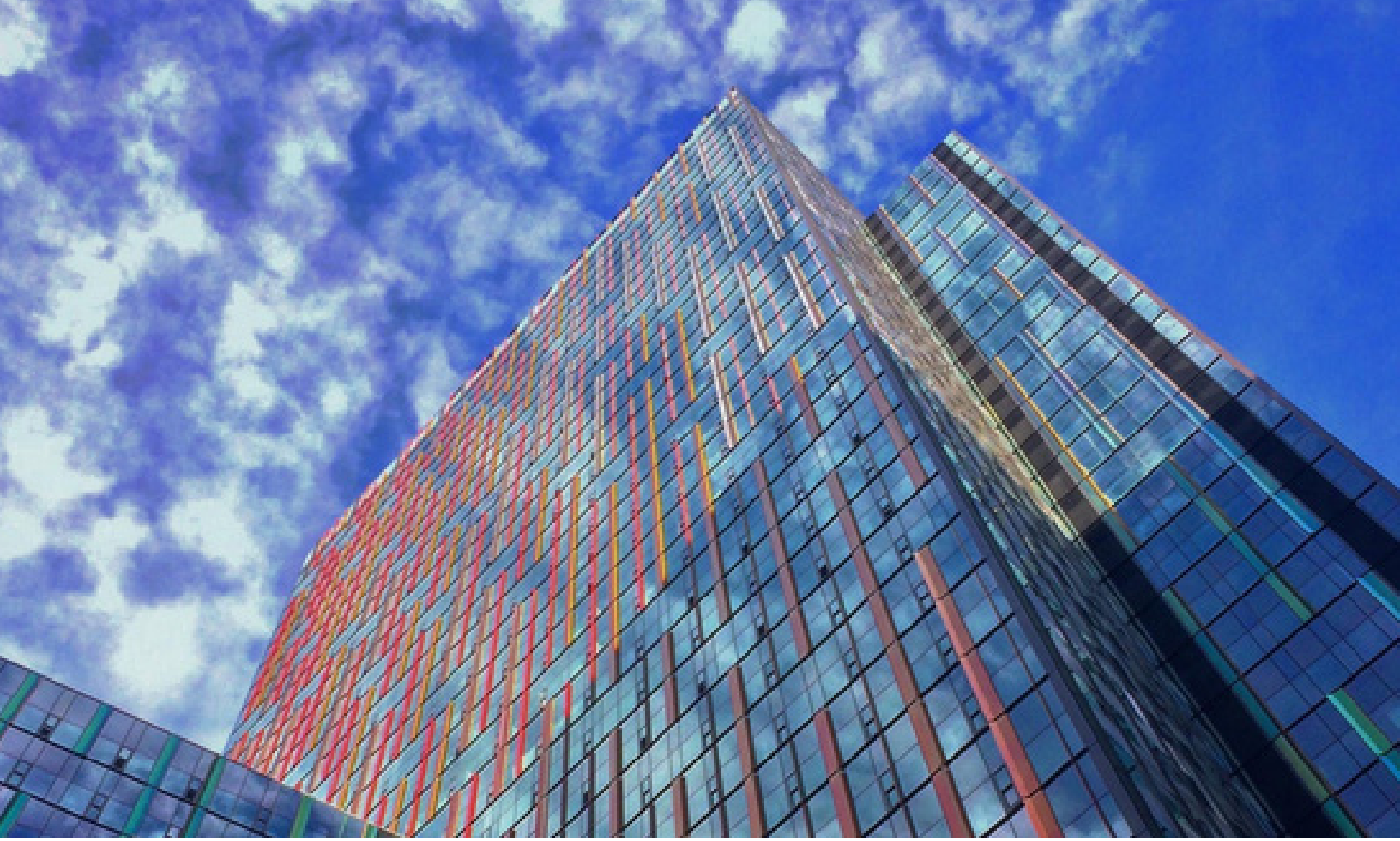

AUTODESK CONSTRUCTION CLOUD™ | Sellen

How Sellen Construction Optimized the Use of Construction Technology to Drive a Digital Transformation

Founded in 1944, Sellen Construction (Sellen) employs more than 350 professional staff and up to 600 field personnel, building iconic projects including Amazon's Seattle headquarters, the Bill & Melinda Gates Foundation campus, Seattle Children's Hospital additions, a variety of arts and culture spaces, and millions of square feet of tenant improvement projects every year.

As one of the largest locally owned general contractors in the Pacific Northwest of the United States, Sellen is known for improving the lives of others by building mission-driven projects with safer and more sustainable practices. To continue their positive impact on the construction industry, Sellen underwent a digital transformation in 2017 to standardize their digital technology ecosystem, define their approach towards innovation, and create a culture of inclusivity and learning to support the adoption of new technology.

Sellen

Customer Snapshot

FIRM SIZE:	500–1000
FIRM TYPE:	GENERAL CONTRACTOR
REVENUE:	$396 MILLION
FOCUS AREA:	COMMERCIAL
HQ:	SEATTLE, WA, US

PHASE:

DESIGN · PLAN · BUILD · OPERATE

PRODUCTS:

AUTODESK® BIM 360®

ASSEMBLE

BUILDINGCONNECTED

VALUE DRIVERS:

Quality

Safety

"We wanted to look at how things are connected beyond point solutions to deliver better projects, empower our workers, and collaborate with the industry," says Jenny Moshea, Head of Technology at Sellen Construction.

To support their digital strategy and vision, Sellen partnered with Autodesk to adopt technology solutions that allowed them to:

- Focus on process, collaboration, and knowledge sharing;
- Fulfil its subcontractor and supplier diversity and inclusion initiatives; and
- Collect data with the goal of understanding project performance and risk management through predictive analytics.

Data Standardization Leads the Way

A lack of data standardization had historically caused inconsistent workflows for Sellen, as it does for many construction companies. To enhance collaboration, communication, and efficiency, Sellen created its "Digital Core," by partnering with Autodesk and leveraging BuildingConnected, Assemble, and BIM 360 within Autodesk Construction Cloud™.

The goal behind Sellen's Digital Core was to enable standardized workflows across projects, connecting construction data and processes across design, preconstruction, and construction.

"When I joined the company, job sites had isolated and unique technology components," says Moshea. "We needed to standardize and consolidate tools to improve our practices to help build better for our people, clients, and the industry."

Sellen defined where they wanted to be by taking an outcome-focused approach and working backward to develop its technology strategy. "When kicking off new projects, we start with the end in mind and assess which technology within our Digital Core will be most beneficial for project scope," says Moshea.

Digital Transformation Begins with Culture – and Fun

With their technology stack in place, it was time for implementation. However, Sellen knew that technology was only one element of its strategy. They needed to consider how the technology would integrate within their company culture. Instead of demanding mandates, they decided to try a unique approach with the roll-out and engage their employees' sense of fun.

"We reimagined our Digital Core as a board game," says Moshea. "The game is a visual representation of our Digital Core, and the way that we engage with and train project stakeholders on new technology and when it should be implemented throughout the project lifecycle…And who doesn't love a good game?"

The Sellen Technology team brings the board game and accompanying cards and game pieces to every project kickoff. Each tool within the Digital Core maps to a function. The game is a catalyst of communication and collaboration between project stakeholders to understand who needs to be trained on what product and when.

Construction Innovation Yields Real Returns across Project Stakeholders

Implementation of Autodesk Construction Cloud within their Digital Core has helped improve the preconstruction process for Sellen.

The team imports the BIM model directly into Assemble to assess and condition the model for better quantity takeoff. This process has translated to a more accurate project scope when determining schedule and cost and improved the bidding process.

"As Assemble is entirely web-enabled, our estimators can visualize the geometry as they develop their estimate – which improves understanding," says Moshea. "Often, early estimates have very preliminary details in the schematic design drawings, so viewing the models is highly informative for understanding design intent."

Sellen's data standardization and construction management methodology have allowed them to engage in a little co-opetition with other General Contractors (GCs).

Sellen teamed with another GC to execute a mega refresh and modernization project for the headquarters of one world's leading local technology companies. To take on the project, Sellen shared its digital strategy.

"We've pulled back the hood on our digital core and how it's used," says Moshea.

BIM 360 has proven to be a game-changer for collaborating with others in the industry on project execution. That same project team uses BIM 360 as the single source of truth for authoring models. Every individual authoring within Revit is connected to this platform. A single cloud-based environment has enabled more collaboration between stakeholders as models are updated in real-time, reducing the risk of project teams working off an outdated model.

Construction Innovation Requires Intergenerational Cooperation

With five generations in the workforce, training and development are key to retain good people. Rapid changes in technology make this even more urgent. "I'm always thinking about strategies to mix work and play because that's how you grow. With so many generations in the workforce, coupled with the labor shortage, it's important to get creative and make learning fun," says Moshea.

One summer, for instance, a Sellen intern majoring in Applied Math and Electronics Engineering Technology with a minor in Computer Science and a specialization in Artificial Intelligence developed an integration between Navisworks and a popular gaming console to review models.

The integration enabled easier navigation, allowing users to fly through model reviews with advanced, customizable controls. Gamification has lowered the barrier to using new technology, helping drive adoption and make people more engaged.

"You can't toss technology over the fence and think it's going to be adopted and accepted, which is why we are gamifying the process," says Moshea. "Given the multi-generational workforce, new techniques are needed to engage and teach new skills."

In addition to advancing learning and continuous improvement with the current workforce, Sellen is also committed to developing an equitable future through fair hiring practices and ensuring opportunities are available to a diverse group of subcontractors. Sellen has operationalized programs that create a welcome environment that reflects diversity, promotes opportunity, and values inclusion.

An example of this is demonstrated during Sellen's preconstruction phase – specifically, how Sellen breaks down bid packages to make it easier to engage the community, attract talent, and build new relationships. With BuildingConnected, Sellen can prequalify subs, allowing them to be more inclusive, specifically focusing on Disadvantaged Business Enterprises (DBEs).

Digital Transformation Can be a Challenge for Subs

Sellen has found that digitizing construction can be a challenge for smaller subs, and the key to success is breaking it down into "attainable chunks."

"For two mega-projects, Sellen's Project Management teams thoughtfully chose which scopes of work would be the most available for diverse vendors," says Moshea. "For example, we wanted to identify subs with division 10 specialties, specifically fire extinguishers. Using BuildingConnected, we were able to invite only diverse vendors to bid, allowing for 100% participation for this specific scope of work."

Using Sellen company tags, they can direct decision-makers towards diverse vendors by adding diversity tags on the subcontractor's profile.

"We have a tremendous opportunity to connect with historically underutilized subcontractors and help bridge the gap to entry into a number of our larger projects," says Moshea. "By attending industry outreach events, we build relationships and encourage the vendor to join BuildingConnected. This helps us to facilitate that space and build more relationships, develop new skills, and engage the industry."

Connected Data Management is the Future of the Industry

By connecting their construction technology beyond point solutions, Sellen has delivered more consistent results, empowered their people, and collaborated with others in the industry. They also show that the path to construction innovation is unique to every organization and needs to be implemented in a way that achieves goals and aligns with values and teams.

"We're all in different parts of the journey. It's not defined by one model or one workflow," says Moshea.

With their Digital Core, Sellen has woven consistency across jobsites and throughout the project lifecycle, connecting projects today and laying the groundwork to reap the rewards of connected project data now and into the future.