



AUTODESK  
CONSTRUCTION  
CLOUD™

# Connected Construction: A Better Way to Build, Together

Autodesk Construction Cloud™ connects workflows, teams, and data at every stage of construction to reduce risk, maximize efficiency, and increase profits.



# 1 A New Way to Build

Construction impacts everyone. Construction accounts for 6% of global GDP, \$10 trillion in revenues, and acts as a powerful stimulant for growth. In the UK every £1 invested in construction delivers £2.84 of economic activity, with similarly impressive figures for other global markets. More fundamentally, construction is the foundation of nearly every other industry; it delivers the residential, social, and economic infrastructure that underpins so many aspects of our lives. By 2030, worldwide construction output is forecasted to reach \$17.5 trillion, 85% greater than in 2014.

As projects become more complex—physically, commercially, environmentally, and societally—the traditional process of construction struggles to deliver acceptable outcomes. These traditional processes are dominated by pencil and paper, siloed technology, and gaps in communication across the project lifecycle. Trends like common data environments, connected construction processes, and a greater emphasis on collaboration enable teams to overcome the constraint on resources that have defined construction in the past.

As complexity increases in construction, two technology shifts are connecting teams in critical ways: collaboration in the cloud and the use of big data.





## Collaboration in the Cloud

Construction teams are complex, frequently spanning multiple organizations and geographies. Collaboration between project teams and stakeholders continues to be a challenge—one that introduces cost, delay, rework, and risk to projects. Traditionally, collaboration in construction has been predominantly an asymmetric process; that is, multiple parties in the supply chain each work on their own part of a project, which are coordinated by aggregating those individual models.

The advent of the cloud has improved the ability of teams to share complex model geometries, collaborate in real time, and coordinate with more accuracy using a common data set. This lessens the reliance on manual upload processes and reduces errors and omissions along the way. And the better connected these project team members and stakeholders are, the more efficient and less error-prone the process. This has created a future where insights will cycle from operations back into the hands of architects, engineers, builders, and owners.

This cycle of collaboration utilizes the cloud to ensure every key team member is working on the same page from anywhere at any time. The cloud brings every project team together from design to turnover on a single construction software solution. It connects workflows and enables secure collaboration from a single source of truth.

## Better Insights from Big Data

Today, in construction, large amounts of highly structured data are generated through BIM and other project technology. That's opening the door to a new discipline—construction intelligence—and the ability to predict the future by mining that data for insights.

Searching for patterns across a portfolio of project data helps contractors identify everything from early signs of stress in the supply chain to the best way to optimize cash flow and the root cause for an overestimation in bids. Risk mitigation is enhanced through better visibility into problems earlier in the project lifecycle, meaning they are addressed before they become costly.



## 2 The Autodesk Construction Cloud

Autodesk Construction Cloud™ is a best-in-class cloud-based construction management platform. It has solutions for workflows that span all phases of construction—design, planning, building, and operations. It removes the disconnection that plagues construction projects by dramatically increasing the depth, breadth, and connectivity of the products teams are already using today. Our goal is to help construction teams meet the world’s rapidly expanding building and infrastructure needs while making construction more predictable, safe, and sustainable.

Autodesk Construction Cloud supports predictability and informed decision-making, eliminating the root causes of uncertainty that contribute to the low-margin, high-risk nature of construction. It combines advanced technology, a robust network of professionals and firms, and powerful insights to help businesses thrive. It connects data, workflows, and teams. Connected construction is the future of construction.

“We need to be able to measure ourselves, look to the future, and anticipate project risk. This is the missing piece and where the industry seems to be shortsighted right now. Autodesk Construction Cloud brings together advanced technology—which Autodesk has always been known for—with the network of the building community—which is the core of what we do as an industry—underpinned by predictive insights. This is the next evolution, the connected tissue that brings it all together, so the construction lifecycle is no longer disjointed.”

—Jenny Moshea, Director of Technology at Sellen Construction



## Connected Data with Advanced Technology

To avoid the risk of data-silos and miscommunication, Autodesk Construction Cloud is built on a common data environment that connects critical project documentation and data. With best-in-class, purpose-built tools for critical workflows at every phase of the project lifecycle, Autodesk Construction Cloud gets builders the right answers faster. The Autodesk construction portfolio, designed with a deep understanding of the unique needs of each critical workflow, is more integrated than ever. Priority number one is building software that reduces time and increases clarity, but no aspect of construction happens in isolation.

With connected data powering construction you'll be able to:

- Connect teams through real-time data
- Collaborate more closely with all teams
- Get ongoing insights into performance

## Builders' Network

Autodesk Construction Cloud improves the way teams collaborate by bringing them together through a real-time, crowd-sourced marketplace of contractors, suppliers, and industry partners. It makes it easy to bid quickly, accurately, and de-risk partner selection at the same time.

Historically, bidding out work has relied on institutional knowledge, decades-old relationships, and word of mouth. While personal relationships will always remain a focal point in construction, the old way of bidding out projects isn't sustainable anymore. The Builder's Network helps supplement and expand personal rolodexes through innovative technology that connects people and helps them build new relationships.

## Predictive Insights

Beyond just offering connected data, you need your data to work harder for you. With Autodesk Construction Cloud, you can use your data to better inform decision making across the project lifecycle. Collecting data is not enough; it's only useful if it provides

direction, or shows you something about your business. Autodesk Construction Cloud turns project data into actionable intelligence that helps you identify, quantify, and mitigate risk. Automated machine learning and AI algorithms analyze critical project data and identify important trends and risk factors—highlighting them before they become more costly problems as the project progresses toward construction.

Autodesk Construction Cloud empowers teams to predict, prevent, and manage risk with data as the backbone. This occurs through personalized visibility into daily priorities, snapshots of project health, and insights into project-wide and company-wide performance.

Data dictates your ability to collaborate with stakeholders across the project lifecycle, and holds the insights you need to drive better business outcomes. Ultimately, Autodesk Construction Cloud gives you the ability to access the data you need to make the right decision at the right time.

“It’s a really positive thing because Autodesk is broadening the whole sphere, and it’s about connecting multiple sources and giving you the right tool for your solution. There are loads of other systems that people could go and buy and use, but the point is, if you put all your data in here, you actually get some insight from it. But then all the tools remain in the same platform. You’re not creating in a silo, and that’s a good thing for us.”

–Michael Murphy, Digital Construction Operations Manager, BAM Ireland





## 3 Connecting the Project Lifecycle

Autodesk Construction Cloud unites the headquarters, office, and field teams from design through planning, building, and operations. This breaks down silos and creates a seamless flow of construction information, which enhances every stakeholder's ability to deliver on project outcomes.

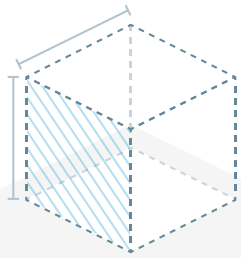
We know that no aspect of construction happens in isolation, and that is why data is the connective tissue of Autodesk Construction Cloud. Disconnected data creates confusion. Connected data empowers confident decisions. Bring all project data together in one place for predictive insights that help you reduce risk and increase margins.

Connected construction allows the data created during design and construction to be usable at handover. Your projects start digital and should stay digital. However, the value of data doesn't stop at handover. It should be used to inform the full project lifecycle. It's the freedom to make better, more insightful, data-backed decisions for your day-to-day work, your projects, and the communities where they are located. It's what we need to create a more resilient and responsive built environment. By bringing project data together like this, we create a digital thread for your project that goes beyond making it useful for today and turns an eye toward the future.

“We're an enterprise-level user, but not all of our projects are enterprise level, so this gives us a path to travel from entry level up to the high end, and it also gives people who are coming in that aren't enterprise users a path to go from entry level to high end. It helps with our scaling, and it also means that subcontractors can come in at an entry level and drop in at any stage. It makes integration for us much easier.”

–Simon Tritschler, Digital Construction Operations Manager, BAM Ireland

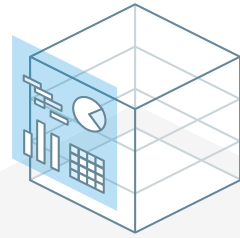
## Connected Construction: A Better Way to Build, Together



### DESIGN

Architects, engineers, and project teams can now collaborate on coordinated, shared designs regardless of location, role, or project phase. Design development is simplified and information loss at handover is reduced with tools created for better design collaboration. These integrated tools transform designs from a concept to a detailed set of documents that can be coordinated in real time, which enhances communication and reduces errors along the way.

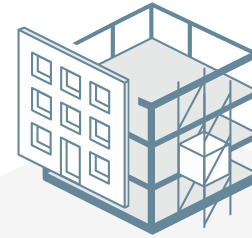
- Design Authoring
- Design Collaboration



### PLAN

Winning work involves more than just signing the contract. Inaccurate bid packages, inefficient solicitation processes, and subcontractor awards based on gut feel and past experience can lead to lower margins and potentially disastrous results. Strong relationships between all parties drive successful project outcomes. Autodesk Construction Cloud provides a single platform for collaboration earlier in the project lifecycle. It connects teams to the industry's online largest network of builders and provides risk analysis to help set every project up for success.

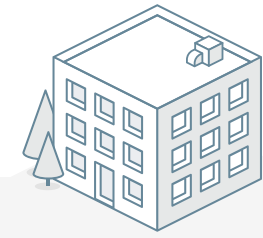
- BIM Coordination
- Quantity Take Off
- Bidding
- Qualification
- 3D Coordination



### BUILD

Construction often operates in a fragmented way, leading to uncertainty throughout the project and an inability to control outcomes. Optimize cost, schedule, quality, and safety on every job by connecting issues, RFIs, and progress between the office and field, and get valuable insights from that data with analytics and machine learning. Autodesk Construction Cloud removes siloes by supporting connections between technologies and workflows and turning project data into actionable intelligence.

- Project Management
- Field Collaboration
- Quality & Safety
- Cost Control
- Commissioning



### OPERATE

Using Autodesk Construction Cloud, teams can connect BIM asset data created during design and construction to the building operations team. With that data the operations team can view models, perform work order management, and oversee maintenance checklists, schedules, and equipment servicing history. With all project teams working in a common platform, owners gain visibility into project statuses, changes, and challenges. Autodesk Construction Cloud improves visibility for owners, leading to more predictable project outcomes and more profitable projects.

- Facilities Maintenance
- Asset Lifecycle

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**Data:** Models | Drawing | Images | Specifications | RFIs | Cost | Assets | As-builts

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**Predictive Analytics & Risk Management:** Predictive Analytics | Benchmark Reports | Mitigation Strategies

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**Builder's Network:** The industry's largest network of owners, designers, builders and trades.





## **Better Outcomes with Autodesk Construction Cloud**

Teams that leverage Autodesk Construction Cloud set themselves up to improve project and business outcomes across the board, from cost and quality to safety and schedules—all while improving project win rates and securing additional business.

### **Reduced Cost**

Autodesk Construction Cloud helps ensure projects stay financially healthy. It enables accurate and timely reporting, simplifies subcontractor qualification, and improves model coordination and takeoff accuracy. All these allow builders to mitigate risk before a project begins.

### **Increased Quality**

Autodesk Construction Cloud has the tools to reduce rework, enhance digital documentation, and increase model accuracy. With better preparation, projects are built on time and on budget. This leads to increased customer satisfaction and contributes to improved contractor reputation.

### **Improved Safety**

Autodesk Construction Cloud empowers teams to better coordinate logistics, schedules, and process planning. With the use of technology and off-site construction, contractors can reduce the number of hours on-site labor is exposed to hazards. Demonstrating better working practices through robust processes and the use of digital technology can reduce exposure to risk and decrease incidents on-site.

### **Optimized Schedule Durations**

Autodesk Construction Cloud allows teams to correctly allocate and plan resources like labor and materials for project scheduling. This simplifies planning, keeps better track of work, and ensures predictable delivery on and off the project site. Proper planning and resource allocation are essential to ensuring promised schedule durations are met. With the right tools in place, improving plans to actual ratios in the schedule can even provide the opportunity for contractors to deliver projects early.

### **Win More Business**

Using Autodesk Construction Cloud's technology and automation during the bid stage can dramatically increase efficiency in delivering competitive bids that stand out from the competition. When a robust bid selection process is required, Autodesk Construction Cloud helps boost win rates by streamlining the bid and proposal process. Demonstrating a better understanding of the customer brief through visualization and getting the client to actively participate in all phases can be facilitated with Autodesk Construction Cloud technology. This can also dramatically increase the end client's understanding of how the contractor will deliver the project.

## 4 The Future of Building, on One Platform

Many builders are just beginning to set up a digital strategy, moving off paper, and enhancing team collaboration. Some have already digitized and now want to reap the full benefits of technology by breaking down data silos to integrate business processes and automate manual workflows. Others have been on this journey for a while and are ready to optimize data to synthesize powerful insights and seize opportunities that come with the convergence of manufacturing and construction.

The importance of connection will continue to increase as the construction industry evolves in step with technology. More progress has been made in construction in the last twenty years than the preceding two hundred. With that progress in mind, it's even more important that teams choose solutions that keep them connected.

The requirements for entry into tomorrow's construction market are clear. The focus should be on lowering the risks that result from the uncertainty of work pipelines, developing complex project delivery models, and improving subcontractor selection and performance. These optimizations will make projects more bankable, closing the gap between targeted performance and actual performance, and will equip the industry to think and act strategically instead of reactively. Autodesk Construction Cloud delivers the foundation to start achieving those aspirations today. Autodesk delivers a platform in which any contractor—regardless of size, location, sector, or capitalization—has democratic access to a new set of connected capabilities.

Across the AEC industry, the pace of change is accelerating. Digital business practices are no longer a nice to have; they are a business requirement. The ability to have connected, intelligent, and accessible data will determine future success. Whether you're an architect, engineer, manufacturer, builder, owner, or operator, Autodesk is committed to providing you with the tools you need to meet the industry's rapidly changing demands. The future of building is here.



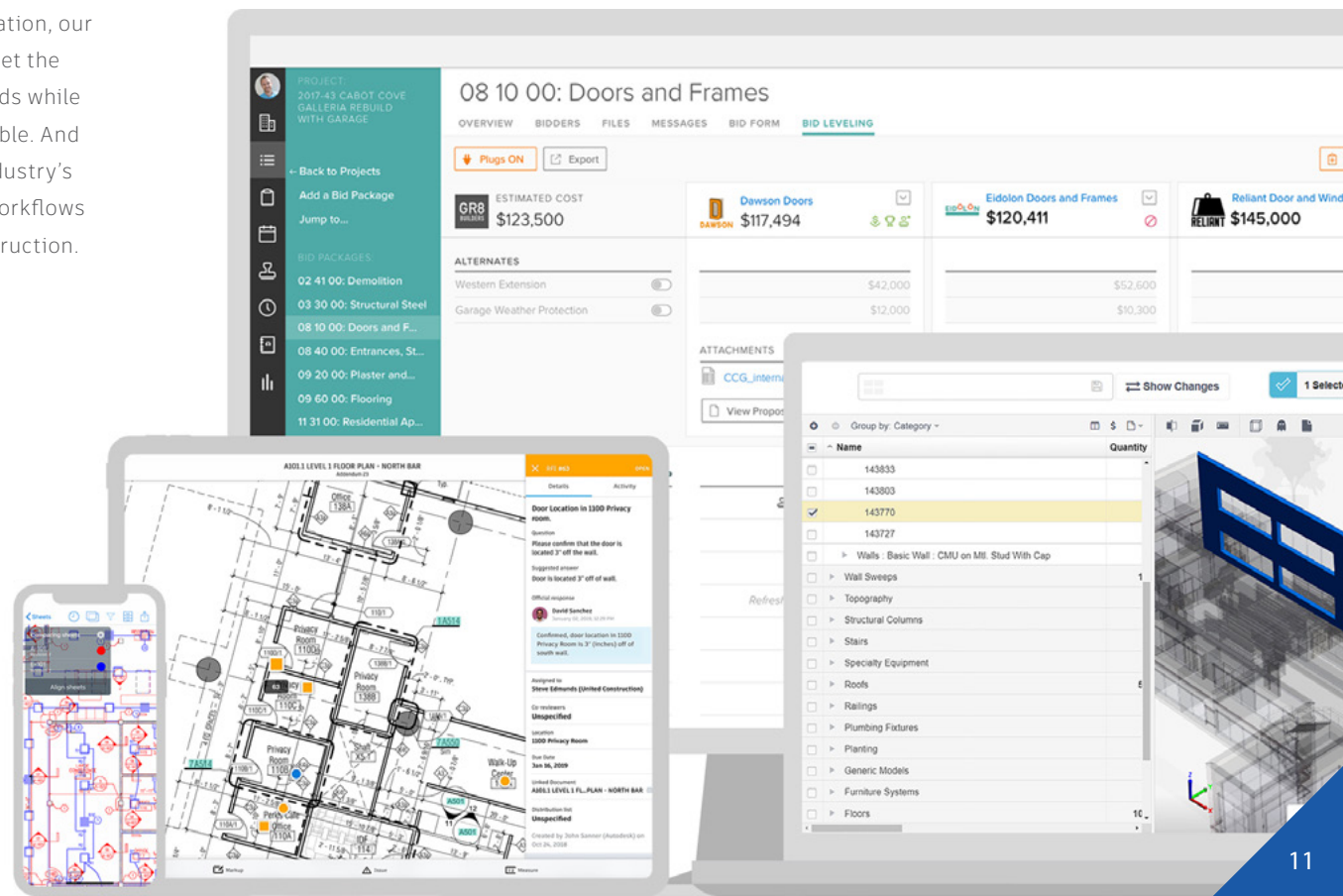
# See the Future of Connected Construction

[construction.autodesk.com](https://www.construction.autodesk.com)

Our industry requires solutions that connect their information, teams, and technology—breaking down data silos and disconnected processes that hinder true transformation. As we navigate the ever-present push to do more with less, we need to uncover new ways of working, enhance connected digital workflows, and incorporate advanced analytics. To support us on this journey of transformation, we must lean into tools that connect construction—from design to plan, build, handover, and operations.

Built on a unified platform and common data environment, Autodesk Construction Cloud is a powerful and complete portfolio of construction management products that empowers general contractors, specialty trades, designers and owners to drive better business outcomes. Autodesk Construction Cloud combines advanced technology, a unique builders network and predictive insights to connect teams, workflows and data across the entire building lifecycle.

While the industry experiences unprecedented transformation, our mission remains the same: to help construction teams meet the world's rapidly expanding building and infrastructure needs while making construction more predictable, safe, and sustainable. And we've remained steadfast in our promise to deliver the industry's most compelling solutions, connecting data, teams and workflows from the field. This is our commitment to connected construction. Our vision is to create a vibrant construction industry where predictability and productivity are exponentially increased, while jobsite waste is proportionately reduced. The time has come for platform that will empower an industry transformation. Our mission is to help construction teams meet the world's rapidly expanding building and infrastructure needs, while making construction more predictable, safe and sustainable.





With Autodesk software, you have the power to Make Anything. The future of making is here, bringing with it radical changes in the way things are designed, made, and used. It's disrupting every industry: architecture, engineering, and construction; manufacturing; and media and entertainment. With the right knowledge and tools, this disruption is your opportunity. Our software is used by everyone - from design professionals, engineers and architects to digital artists, students and hobbyists. We constantly explore new ways to integrate all dimensions of diversity across our employees, customers, partners, and communities. Our ultimate goal is to expand opportunities for anyone to imagine, design, and make a better world.

Connect with ACS



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