



AUTODESK
CONSTRUCTION
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How Sub-contractors Can Leverage Software for Better Business Outcomes

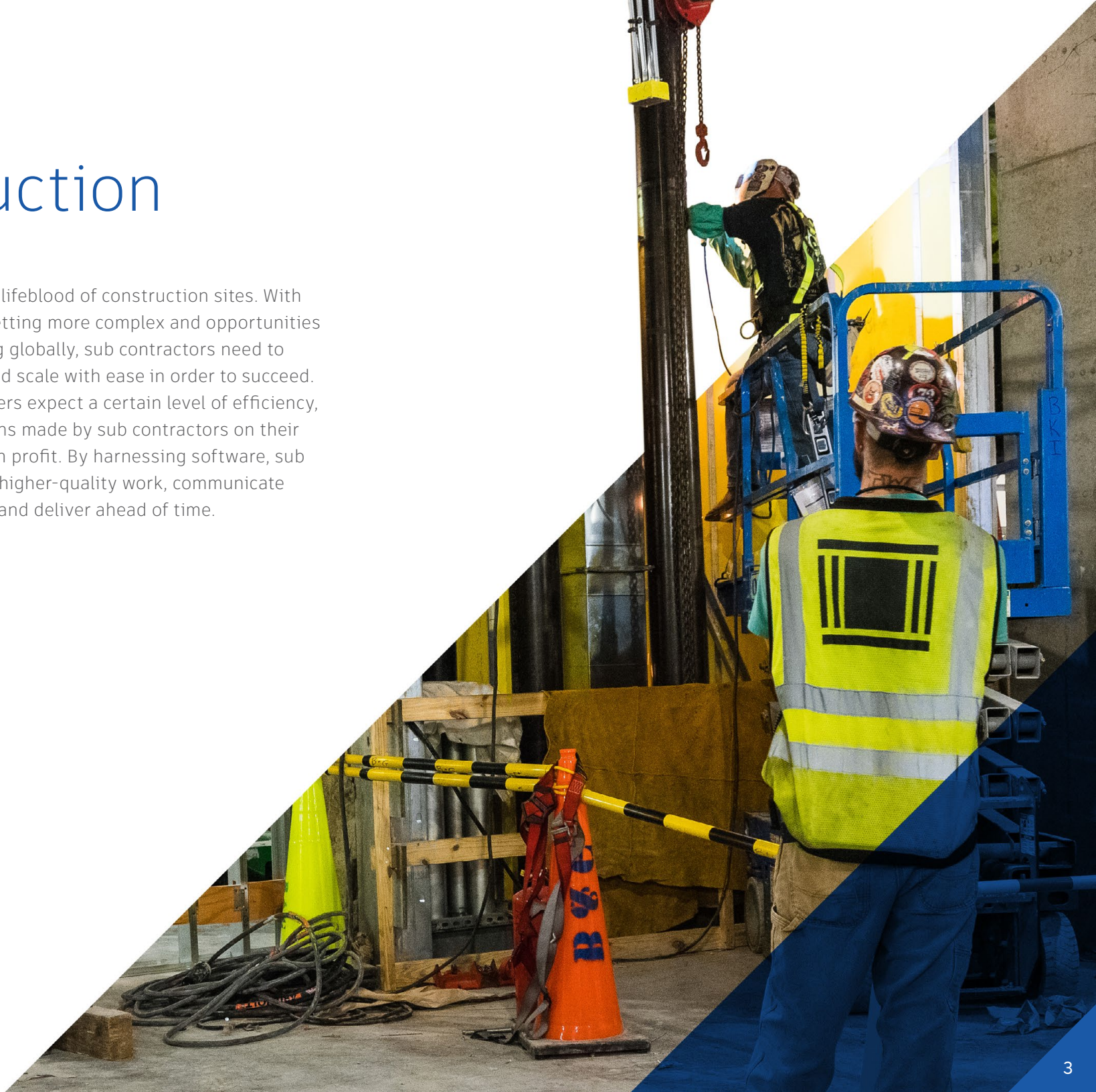


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Introduction

Sub-contractors are the lifeblood of construction sites. With construction projects getting more complex and opportunities for more work increasing globally, sub contractors need to streamline workflows and scale with ease in order to succeed. Not only do project owners expect a certain level of efficiency, but any productivity gains made by sub contractors on their own can result directly in profit. By harnessing software, sub contractors may deliver higher-quality work, communicate better with their teams, and deliver ahead of time.



The Current Sub-Contractor Landscape

The role of the sub-contractor on a site is both wide and complex.

Each sub-contractor is responsible for the completion of a set of tasks which require its own set of drawings, plans, workflows and supplementary documents. On top of that they must work closely with other sub-contractors, main contractors and project owners to ensure everyone has access to and is on the same page.

As well as being multi-faceted, the sub-contractor market in Europe is huge in scale, and growing - with Western Europe accounting for 24% of the global sub-contractors' market.

According to the Specialty Trade Contractors Global Market Report 2020-2030, the global sub-contractors' market is expected to be worth \$4333.2 billion in 2020 and grow to \$5159.7 billion by 2023¹.

The opportunities for efficient and effective sub-contractors will be considerable.

Anything sub-contractors can do to improve efficiencies, scale, and better communicate will help to expedite projects - allowing contractors to take on more work, capitalising on the predicted market growth.



Common Challenges Sub-Contractors Face

In today's market, sub-contractors face many challenges during both the preconstruction and construction phases. Challenges across the project lifecycle make it difficult for sub-contractors of all sizes and disciplines to take full advantage of the opportunities in the market.

Challenges During Preconstruction

Sub-contractors spend a lot of time and effort in the bidding process before a project has even begun. In any project, this stage is crucial because it ensures there is both work in the company's pipeline and a steady cash flow.

Tracking Bid Information:

There's often a lack of standardisation when a main contractor sends an invitation to bid (ITB). There's typically no centralised database or easy way to see all the bids in the office at one time, often resulting in missed opportunities.

Lack of Communication and Collaboration:

Currently, sub-contractors who have multiple offices and departments often find it difficult to communicate effectively as a team during preconstruction. Additionally, it's difficult to keep track of the bid process. Teams need organised systems for monitoring and recording addenda, as well as learning who won the job.

Lack of Performance Insight:

After the bidding process is over, it's nearly impossible for sub-contractors to learn why they did or did not win the bid. Without that valuable feedback, they may have little understanding of how to improve outcomes on future bids.



Common Challenges Sub-Contractors Face (cont.)

Challenges During the Construction Phase

Once a sub-contractor has won the bid for a construction process, the planning, management, and communication required for the next phase can take centre stage. Teams must be managed to maximise retention, hiring must be completed as required, and the volume of documentation and information that must be stored and quickly accessed rapidly increases.

Employee Satisfaction and Safety:

Sub-contractors perform some of the most dangerous work on a construction site. This means proper safety procedures, equipment, and training are top priorities. In addition to the importance of keeping employees healthy and happy, main contractors will consider safety records when choosing a sub-contractor.

Skilled Labour Challenges and Shortages:

Employee safety and satisfaction are key aspects of retention, as sub-contractors rely heavily on skilled labour. When there are labour shortages, sub-contractors are hit the hardest. To compound the challenge of employee retention, attracting and finding the right talent is difficult. With a lack of skilled workers comes expensive recruitment costs and high levels of competition between firms.

Managing Plans and Documentation: With multiple projects across different sites, sub-contractors need to ensure all team members have the latest plans, changes, and updates in real-time. Analog processes add the additional challenge of keeping all of the projects updated, often leading to teams working from outdated plans.

Cash Flow Management:

Another common challenge of sub-contractors is paying for materials upfront, and then later invoicing for reimbursement. Teams need to be able to bill immediately in order to manage cash flow. Thorough documentation is key to getting paid quickly. Sub-contractors need a single system for documenting materials purchased, work done, dates of project changes, and when billing can occur.

Adoption of New Technology:

Many sub-contractors know there is software in the marketplace that can help address these challenges, but they struggle to figure out how to implement such a large change. New technology can be a significant investment and it's often difficult to know which software will help achieve the desired improvements for their processes.



The Benefits of a Technology Strategy for Sub-Contractors

There is a solution to the common challenges faced by sub-contractors today: A well thought out technology strategy. A key aspect of this strategy might start with choosing the right software. Powerful cloud-based software platforms can house project plans, drawings, workflows, communication, progress tracking, and billing information. By finding the right software solution for the construction industry, sub-contractors can see substantial gains in efficiency, profit, and customer satisfaction.

Standardise Workflows

Choose mobile technology that teams can use from project to project, regardless of what the main contractor might choose to use. Most of the time, sub-contractors have no say in the software requirements of either the main contractor or the project, so they need to adapt on a project-by-project basis. But when it comes to internal workflows, software standardisation can help in the field.

Sub-contractors know what resources, processes, and people are required for any given workflow. By standardising workflows in one software platform that contractors can take into the field to reference, efficiencies are gained with every project that is completed on the platform. As team members get used to using the technology and seeing how much easier it makes their jobs, some projects can be completed faster and more accurately by using a standard workflow.

Mitigate Risk

When teams use the same software, everyone has access to one source of truth. The software ensures the most up-to-date plans and documents are always available. Software solutions built to support mobile devices, like cell phones and tablets, also ensure that the latest drawings are available no matter where the sub-contractors are located.

No one needs to drive back to the office or make a call to determine what drawing to use.

Without mobile platforms, teams in the field may be less likely to check on drawing markups by making multiple trips to and from the office because of the time that would be wasted. Not only does the software ensure efficiency and quality work, but it can also reduce the amount of rework required. Software can help sub-contractors build things right the first time.

Working from old drawings isn't just a quality/rework concern; it can also be dangerous. As built drawings often include updates to utilities and infrastructure that took place over the years. By making it easy for sub-contractors to mark up drawings in the field and access the latest source of truth, they can perform their jobs more safely, with less risk of hitting an unmarked utility line when working.

The Benefits of a Technology Strategy for Sub-Contractors (cont.)

Win More Work

Once sub-contractors become comfortable using software, the data collected and the systems within the program can be used to streamline the preconstruction process as well. By capturing more data using the software on previous projects, specialty contractors have the information to potentially quote on future jobs more accurately. The software can take some of the guesswork out of bidding and may offer solutions to up the process. Sub-contractors can also use the software to increase the number of bids issued, meaning more opportunities for work.

As an example, sub-contractor Innovative Mechanical harnessed software to improve their bidding process. The company moved from a manual whiteboard process to an online bid board. The whiteboard of the past kept track of everything, from due dates and job walks to bid contacts and more. The problem was that people could simply walk past the board clumsily and erase valuable project data. It became a project management nightmare for the company.

Innovative Mechanical decided it was time to invest in software and put Autodesk's Bid Board Pro to work for them. The software centralised all information and ensured that every team member was looking at the most up-to-date data. Every task had a calendar invite associated with it, so nothing was left to chance.

Team members now don't have to waste time looking through emails or paperwork to find valuable bid information. Innovative Mechanical estimates that they are saving about one day per week by streamlining their process with Bid Board Pro. With that time saved, the company has been able to better keep up with the competition, eliminate missed deadlines, minimise double-booked job walks, and increase the number of bids won.



SAM Drylining build a culture of transparency with PlanGrid

SAM Drylining is a specialist contractor that has been operating in the Rhondda Valley, Wales for over ten years. The company specialises in suspended ceilings and partitions, completing projects including the refurbishment of hospitals, schools and offices.

Kyle Spiller joined SAM Drylining in 2013 as a director and shareholder, focusing on the company's commercial performance. Although he was very proud to join a successful business in his home town, he quickly noticed that the company was frequently experiencing challenges in communication between the head office and jobsites.

A major part of the problem was SAM Drylining's continuing reliance on paper for its on-site documentation. Site drawings, change notifications, compliance records and health and safety information were all printed, delivered to the sites and completed or annotated by hand.

The company frequently experienced a breakdown in communications, when the team responsible for the commercial management of the business simply weren't aware of what was actually happening on the ground.

“We were constantly running into difficulties where issues on sites were reported too late or not at all. It could take days, weeks or even months to pass the necessary information between individual sites and the head office, which could create a real divide between project teams and the head office. Our quantity surveyors simply weren't fully aware of the actual progress on a project or the status on the site.”

Kyle Spillar – Director, SAM Drylining

SAM Drylining build a culture of transparency with PlanGrid (cont.)

Tangible results from going paperless with the right software

Having seen a demo of PlanGrid, Kyle was impressed by how easy PlanGrid was to use and he found that the cloud-based platform delivered every aspect of what the business was looking for. The software allowed the company to:

- Store all key site information in one place
- Share and update drawings instantly
- Tag issues directly onto drawings with the change management tool.

SAM Drylining first implemented PlanGrid in June 2018. The first project they used PlanGrid on was a new build primary school in the town of Croesyceiliog, where the business was working for a tier 1 contractor. The team was immediately impressed by how PlanGrid could improve productivity on their jobs.

Kyle has been delighted at how PlanGrid has helped to create a culture of transparency. Teams are encouraged to share the status of work, while management are able to check the progress on projects instantly. Since implementing PlanGrid, there is a greater sense of collaboration throughout the business.

“The transparency that PlanGrid has brought to the business is absolutely priceless,” said Kyle. “We can see everything that’s been done in just a couple of clicks. It’s transformed the mindset on jobsites and has definitely boosted our productivity.”

“Previously our project managers complained that they were constantly bombarded with paperwork and important information could take months to pass between the project site and the office. Now that information can be shared instantly, no matter where they are in the country. Our project managers could see immediately how it would help them to improve efficiency on the jobsite.”

Kyle Spillar – Director, SAM Drylining



Sub-Contractor's Software Solution

Autodesk's solution for sub-contractors is one option that demonstrates the benefits of using software to get the job done more efficiently. When evaluating software solutions for business, be sure that the chosen platform also has the following benefits:

- Easy to use from start to finish, maximising adoption
- Secure data solution for cloud collaboration
- Trusted by leaders of sub-contractors

Look for testimonials in your trade. For example, Autodesk Construction Cloud™ is used by the world's leading mechanical, electrical, drywall, plumbing, and concrete contractors. By reading through case studies or asking colleagues about chosen software systems, sub-contractors can gather information quickly on which options to investigate.

A cloud-based platform is a must because it allows sub-contractor teams to access plans on the construction site using a mobile phone or tablet. The ability to quickly access the latest drawings in the field not only keeps teams working to the right specifications, but it can also reduce rework, which may deliver even more exceptional work quality and better business outcomes.

Additionally, cloud-based platforms eliminate the constant back and forth of sub-contractors to different sites. Because all communication is centralised and plans can be uploaded right to Autodesk Construction Cloud™, there's no need for constant updates on plan changes or new directions. Instead, all project information is contained in one program.

Add Software to the Sub-Contractor's List of Skills

While adding a software platform to the list of things sub-contractors must manage, the return on investment far outweighs the time and money put into acquiring, implementing, and adopting the software. Technology is just another tool, like a welding torch, that sub- contractors can add to their repertoire.

Gaining the skills necessary to wield the job-specific tools is an understood and accepted upfront cost. But after the technology or tools are implemented, the job can be better done to higher quality standards with much less rework. Software solutions such as Autodesk Construction Cloud are no different.

Because the platform was designed for ease of use and implementation, teams can reap the benefits quickly, including winning more work by better tracking of bid invites, deadlines, and workloads; increased work quality and less costly rework through instant access to the latest drawings and plans on mobile or desktop devices; and faster payment by standardising and centralising communication and documentation throughout the project.

References

- [1] [Specialty Trade Contractors Global Report 2020-2030: COVID- 19 Impact and Recovery](#)
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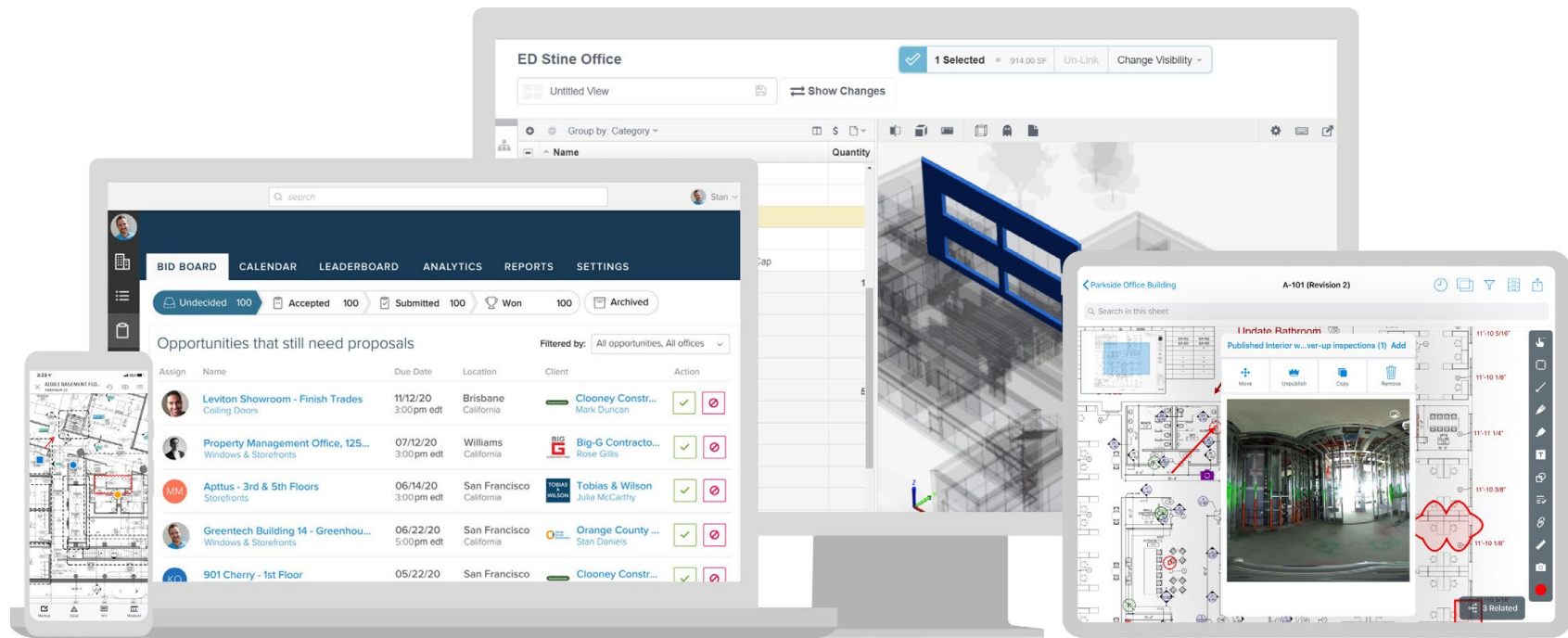


See the Future of Connected Construction

construction.autodesk.com

In 2018, Autodesk announced that construction would be a key focus area to help our customers on their design and make journey. To capitalise on the opportunity, Construction became its own CEO-staff level organisation, Autodesk Construction Solutions. This unique structure is comprised of product development, customer success, marketing, and field operations. The organisation is designed to move at the speed of the market and serve customers on a level playing field with other solution providers. Autodesk Construction Solutions offers products that cover the entire construction lifecycle, from design through plan to build and operate, including the Autodesk Construction Cloud which brings together our cloud-based solutions Assemble, BIM 360, BuildingConnected and PlanGrid.

Our vision is to create a vibrant construction industry where predictability and productivity are exponentially increased, while site 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.

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