



Keeping pace with the modern construction industry





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BIM and the future of construction

BIM is driving positive outcomes throughout the AEC industry. That's good news for contractors. As a new report shows, construction firms of all sizes are capturing meaningful and measurable benefits.

How is BIM affecting the construction industry?

BIM is the holistic process of creating and managing information for a built asset. Based on an intelligent model and enabled by a cloud platform, BIM integrates structured, multi-disciplinary data to produce a digital representation of an asset across its lifecycle, from planning and design to construction and operations.

What are the best ways to get started or explore expanded BIM options?

The power of BIM comes from its flexibility, making it accessible for firms at different stages of readiness and adoption. Autodesk has been investing in BIM for the last twenty years, building the largest and most integrated portfolio of BIM-based software products. Thanks to Autodesk's BIM leadership and broad market experience, Autodesk can help construction businesses use BIM to operate more efficiently and profitably—no matter where they are in their implementation journey.

2021 global BIM adoption survey background

To investigate the status of digital transformation and the value of BIM, Dodge Data & Analytics gathered data from 292 contractors as part of an AEC-wide survey. The survey covered topics that include the experience of those who have used BIM, interest among non-users in adopting BIM in the future, sources used to acquire information on BIM, and current and future use of emerging technology.

This global research effort included participants in Australia, Canada, France, Germany, Japan, New Zealand, Scandinavia, the UK, and the United States.





| BIM adoption and ROI

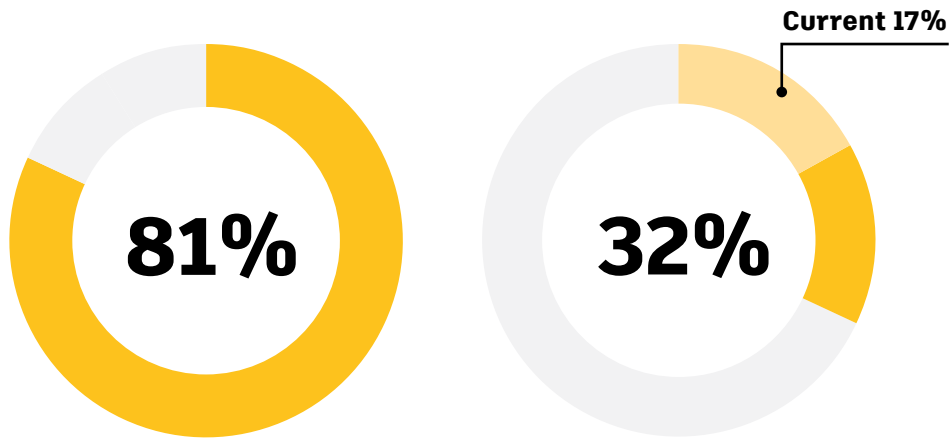
“ On a recent project, a design element posing a significant conflict got all the way to the clash detection phase before it was discovered. Identifying the error before construction ultimately saved more than \$200,000 in potential rework. ”

–Monica Emmons, BIM Manager, Fortis

BIM usage on the rise in construction sector

BIM solutions are already used throughout the construction sector, and increased adoption and expanded usage are expected in the near future. With design and plan phases increasingly happening simultaneously, using a Common Data Environment (CDE) ensures that data is captured and updated in real time for multiple teams.

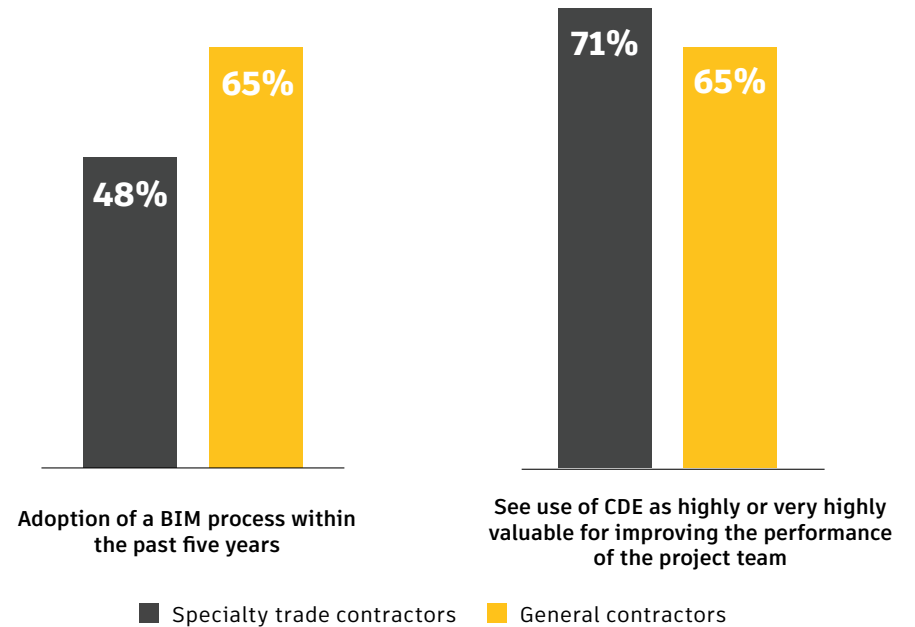
Firms using a CDE



The majority of contractors use a CDE, a shared hub for standardized project data

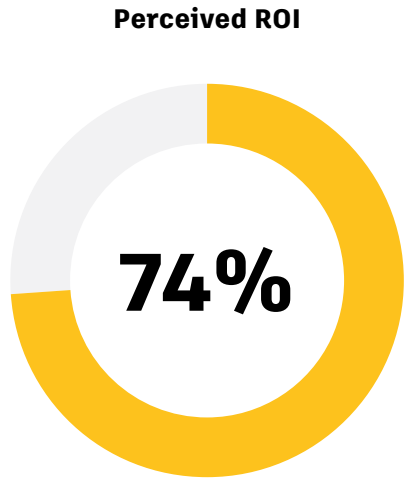
The percentage of construction firms expecting to use BIM on 75% of projects in the future is nearly double the percentage using it currently

BIM adoption acceleration

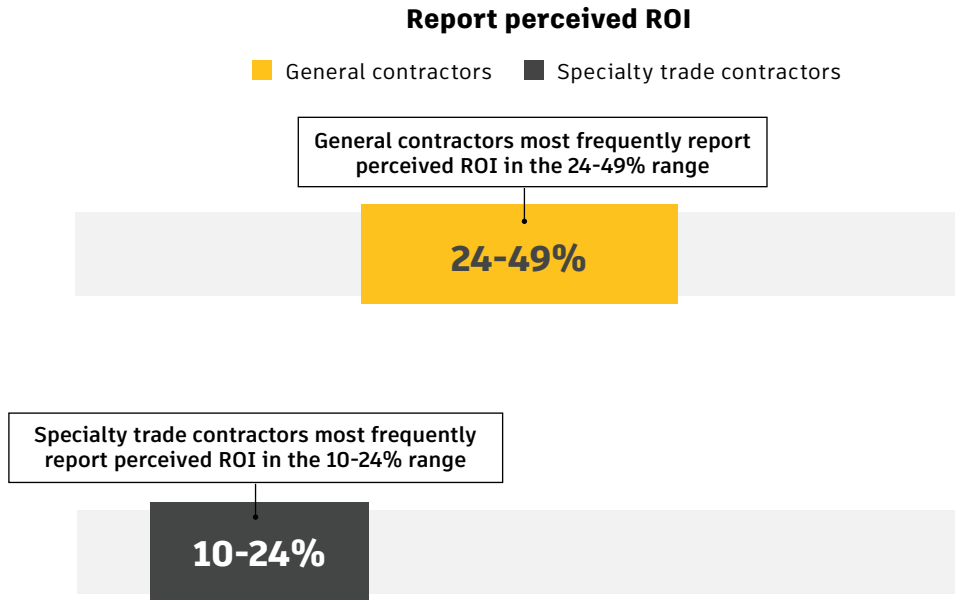


A worthwhile investment

The majority of firms across all AEC sectors report a positive perceived ROI from BIM investments, with increasing returns as they advance through the four levels of BIM maturity.



Construction professionals reporting a positive perceived ROI





| BIM benefits

“ Pictures speak a thousand words, and modeling proved to be a very good tool on this project. We were able to put models in front of the owners, show them clashes, and work with them proactively to resolve problems.

And we updated models based on as-built laser scanning during construction. That enabled very fast-track construction—we reduced an 18-month timeline to just 8 months. ”

—Fred Simmons, Senior Project Manager, IMCO

Cost and quality

BIM solutions often have a powerful positive effect on project costs and quality, from reducing the number of on-site constructability issues to optimizing the actual project work during construction.

Cost benefits

Percentages of the general contractor/specialty trade contractor group that indicated BIM has a high or very high value for the following:

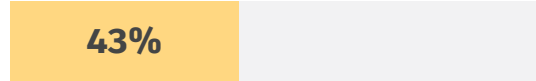
Reduced rework during construction



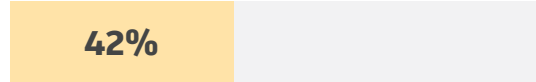
Improved forecast accuracy



Improved cost control



Reduced non-recoverable costs



Quality benefits

Percentages of the general contractor/specialty trade contractor group that indicated BIM has a high or very high value for the following:

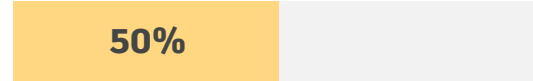
Reduced number of constructability issues on site



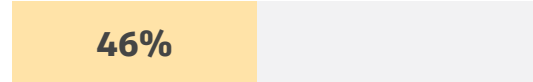
Reduced defects at handover



Improved handover experience



Improved specialty trade contractor qualification



Construction firms have to keep a close watch on costs and quality concerns. For many of the smaller or mid-size companies that have cash flow concerns, BIM usage helps avoid mistakes that can be the difference between a successful and unsuccessful project.

Scheduling and productivity

There are a number of scheduling and productivity benefits associated with BIM usage. Between 44% and 51% of contractors experience four key benefits at a high or very high level.

Scheduling and productivity benefits

Percentages of contractors rating BIM benefits as high or very high value:

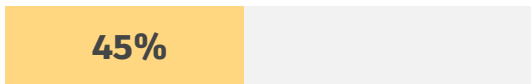
Improved schedule control



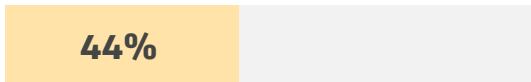
Improved plan-to-actual ratio



Optimized schedule duration



Improved resource planning



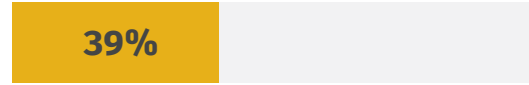
Health and safety

While health and safety are always important considerations for construction professionals, the pandemic introduced new complications to navigate. Firms with good BIM practices in place were positioned to manage these new challenges more effectively and efficiently.

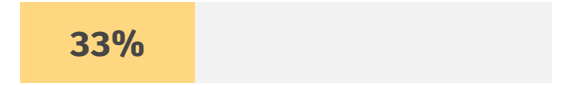
Health and safety benefits

Percentages of contractors rating BIM benefits as high or very high value:

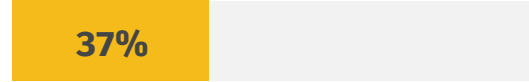
Reduced number of man hours on site



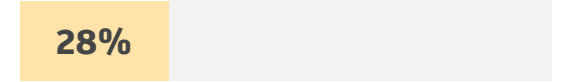
Reduced incident frequency rate



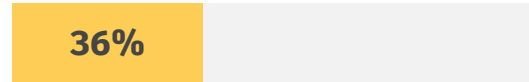
Improved safety awareness



Reduced insurance premiums

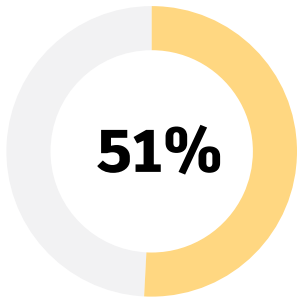


Reduced environmental impact

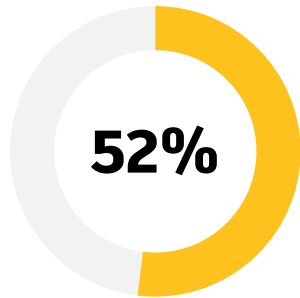


Business growth and winning bids

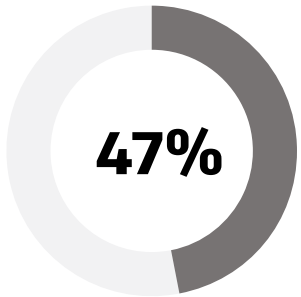
In addition to expanding the scope of services contractors can offer to clients, BIM delivers significant business growth and bidding benefits. Four of these benefits stand out for different groups within the construction industry.



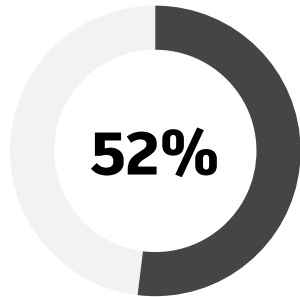
General contractors who consider improved stakeholder engagement as a significant BIM benefit



General contractors who say BIM is highly effective for increasing their percentage of successful projects



Specialty trade contractors who found BIM to be highly valuable for increased bid efficiency



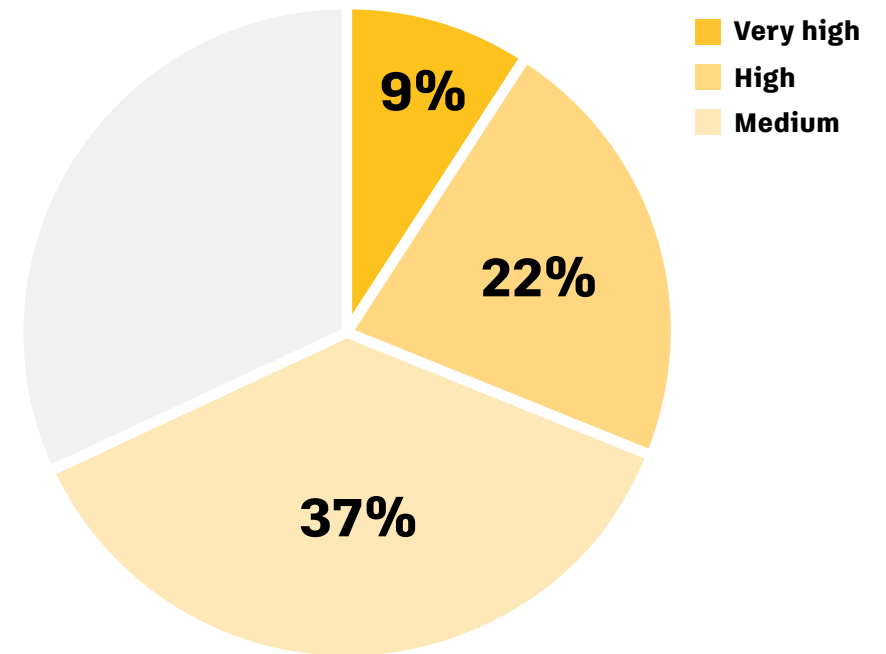
Specialty trade contractors who found BIM to be highly valuable for improved win rate

■ General contractors ■ Specialty trade contractors

Sustainability and resiliency

As sustainability and resiliency expectations and requirements continue to shift across the AEC industry, construction firms must be prepared to demonstrate their expertise and strategy to stay competitive. Nearly 70% of survey participants expect BIM to have at least a medium-level impact on sustainability and resiliency in the design and construction industry in the next two years.

Expected BIM impact on sustainability/resiliency



| Partner with Autodesk

“ When we heard about Autodesk Build and the way it could connect data, workflows, and teams, we knew we needed to try it. The benefits of using a common data environment were evident in the way our collaboration and communication improved drastically. And being able to go one step further and use technology on site in real-time was something that we knew would be invaluable to our ways of working. ”

–Werner Herbots, CEO, Polytek

Wherever you are in your BIM journey, Autodesk can help you take the next step.

The data is clear—BIM is here and growing more prevalent by the day. To understand how your business can advance and keep pace with a rapidly changing industry, it's important to know your options. Whether you're a BIM user looking to grow your solutions or a non-user interested in discovering the right-sized approach, Autodesk can help you put BIM to work for your firm.

Construction's leading BIM provider

By far, Autodesk products are the most widely adopted primary BIM software solutions for the construction sector.

58% of general contractors
rely on Autodesk

More than seven times the rate of use for
the next closest BIM provider

47% of specialty trade contractors
rely on Autodesk

More than double the rate of use for the
next closest BIM provider





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