

A CONNECTED 21ST CENTURY

FOR CIVIL INFRASTRUCTURE PROFESSIONALS

Digital technologies are changing the infrastructure industry



LOCATION
65%
ABLE TO WORK
REMOTELY

Teams often need to work collaboratively across locations, disciplines, and companies while still accessing their normal work environment.

A 2020 Zweig Group study revealed only ~**65%** of the US AEC workforce currently have the ability to work remotely with access to virtual meetings, presentations, mobile workstations, and the ability to share documents.

Letter, Zweig. "How Are AEC Firms Reacting to Covid-19?" The Zweig Letter, Mar. 2020, thezweigletter.com/.

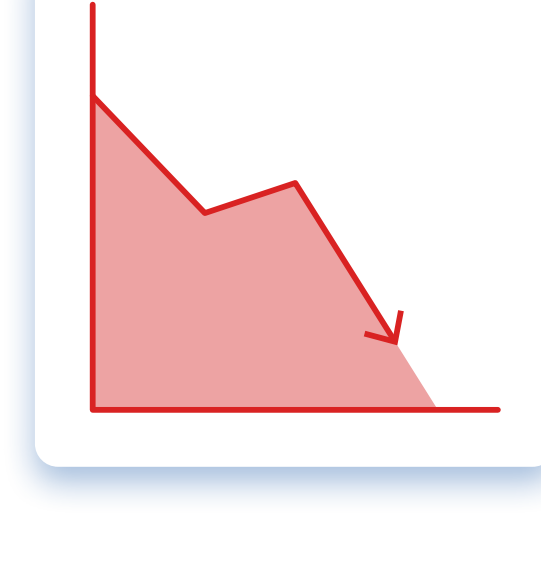


SCALABILITY
9/10
LARGE PROJECTS
OVER BUDGET

Civil infrastructure projects are getting larger and more complex. It is estimated that **9 out of 10** infrastructure projects **>\$1B** go over budget. Bridges and tunnels incur an average **35%** cost overrun; for roads, it's **20%**.

Teams must be able to scale up or down to meet short and long term needs while delivering round-the-clock quality throughout the project lifecycle.

Garemo, Nicklas. "Megaprojects: The Good, the Bad, and the Better." McKinsey & Company, July 2015, www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/megaprojects-the-good-the-bad-and-the-better.



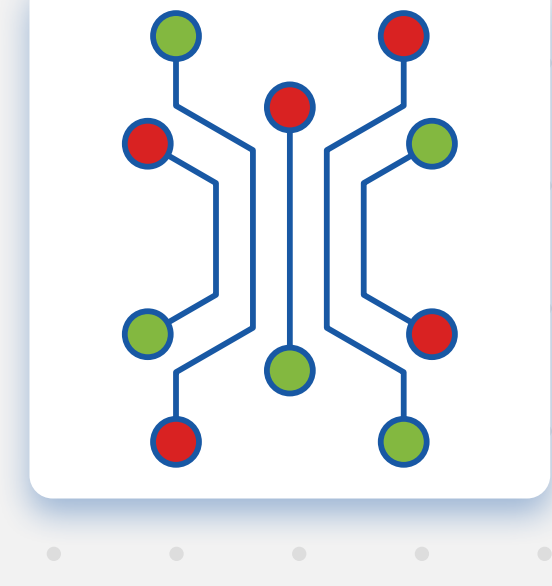
WORKFORCE
20%
RETIREMENT IN
CONSTRUCTION

In places like the US, Japan, and the EU, AEC companies are having trouble finding skilled workers. Shortages in skilled labor underscore the need for flexible working or global teams.

In the US, **20%** of the construction industry workforce is about to retire and **35%** of architects are over the age of **55**.

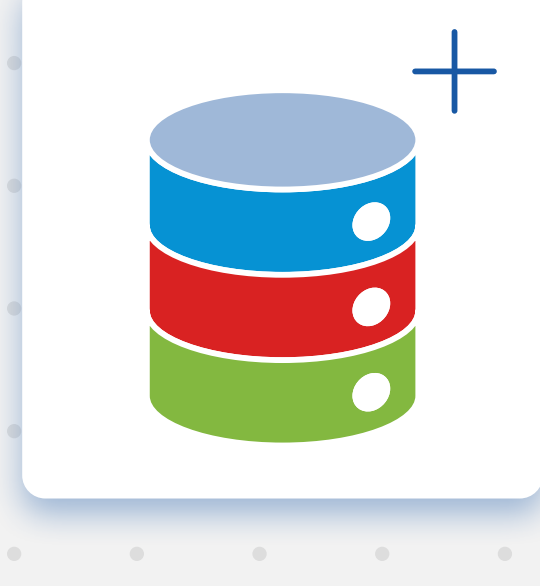
Baker, Kermit. "How Many Architects Does Our Economy Need?" Architectmagazine.com, 5 Jan. 2018, www.architectmagazine.com/ala-architect/alafeature/how-many-architects-does-our-economy-need_o.

Zhao. "Age Distribution of the Construction Labor Force." Eye on Housing, 24 Sept. 2019, eyeonhousing.org/2019/09/age-distribution-of-the-construction-labor-force/.



**MORE
DIGITIZATION**

Digital technologies are changing the way we work and are bringing both challenges and significant opportunities for transformational change in the infrastructure industry.



**MORE
PROJECT DATA**

With the prolific growth of data, companies are looking for a solution to securely store and manage their growing project data needs while also reducing risk and data loss.



**MORE
REGULATIONS**

*Current BIM guidelines in effect.

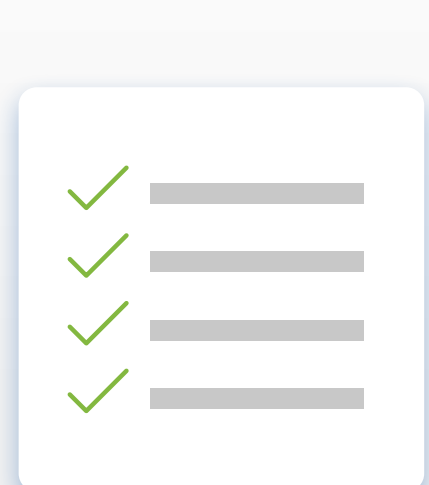
BIM government mandates, policies, and guidelines are driving regulations like ISO standards for delivery which require more rigorous managed processes.

As the AEC landscape continues to evolve, companies are seeking greater efficiency, connectivity, and scalability.

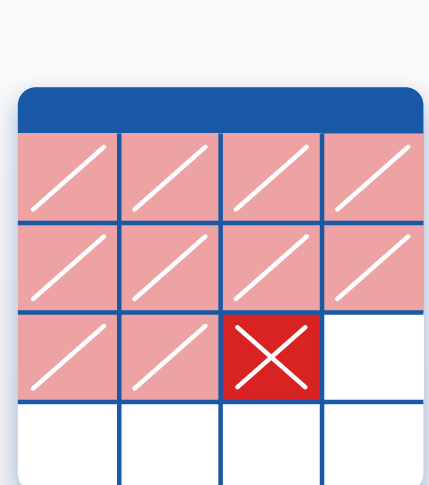
The cloud is revolutionizing what's possible for the AEC industry

To keep up with industry demands, new technologies, data management, and a shifting workforce, the infrastructure industry is moving to the cloud. Civil engineers can now connect with teams virtually anywhere anytime, break down silos, and transfer data seamlessly throughout the project lifecycle bringing a new level of connection, efficiency, and integration to even the largest teams and the most complex infrastructure projects.

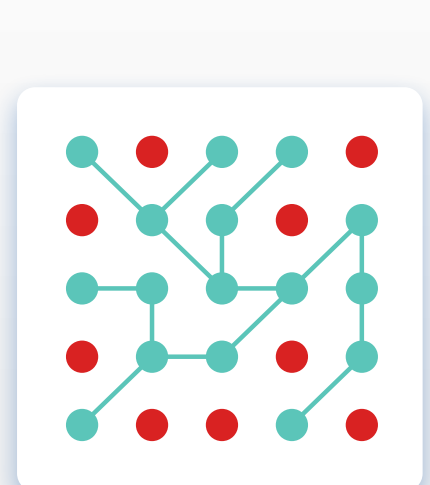
Helping meet:



**CLIENT
REQUIREMENTS**



**AGGRESSIVE
TIMELINES**



**PROJECT
COMPLEXITIES**



**NEW DELIVERY
MODELS**

BIM plus the power of the cloud

B AUTODESK[®]
BIM 360[®] DESIGN

Cloud-powered project collaboration and design data management

BIM 360 is a unified platform connecting project teams and data in real-time, from design through construction, supporting informed decision-making and leading to more predictable and profitable outcomes.



**REDUCE
ERRORS AND
REWORK**



**IMPROVE
PRODUCTIVITY**



**ACCELERATE
PROJECT
DELIVERY**

SWECO



10%
TIME SAVINGS
FOR PROJECT

GLUMAC

A TETRA TECH COMPANY

400
HOURS SAVED ON
DESIGN-BUILD PROJECT

DIALOG

10x
FASTER DESIGN
DECISION MAKING

Pennoni

"Autodesk's launch of Collaboration for Civil 3D connects our horizontal infrastructure teams with other project stakeholders, allowing real-time design collaboration across all lines of service. The ability to incorporate horizontal design with vertical design teams has made a monumental impact on making the right decisions for our partners at vital moments during the project life-cycle."

Stacy Morykin
Design Technology Manager,
Pennoni

Ready for better project collaboration?

See how BIM 360 Design can improve your project workflows

[Learn More](#)