



Digital Collaboration for Predictable Project Results

As an engineering firm, your goals have changed relatively little over the last decade. Winning new contracts—and retaining existing clientele—are still your most critical objectives. To that end, you try to continually improve your efficiency and meet every deadline. But accessing information quickly is only half of the solution. You must dramatically improve how you manage your data and collaborate across projects to work smarter, work faster and be more competitive.

In this executive brief, we'll look at some important industry trends, as well as risks associated with an inability to successfully seize the opportunities of going digital. We will also examine some likely outcomes for firms that can capitalize on the industry's new emphasis on information.

Facing the Deluge of Data

By some estimates, the digital universe will double every two years, showing a 50-fold growth from 2010 to 2020.¹

Due to the nature of your work, this surge in data profoundly affects how you design, build, and execute on projects. And given the fact that engineers often deal with multiple projects at a time, the sheer amount of information flowing in and out of your firm can be overwhelming. This can be a stumbling block on your path to win new work, especially considering all the steps in any given project.

Designing, reviewing, and approving plans generates a high volume of data and introduces many potential points of error along the way. New technologies, including BIM, laser scan point clouds, and reality modeling meshes, mean Big Data is now an important factor in the engineering world. However, Big Data can be a double-edged sword, requiring more hours and effort to usher in its benefits if not managed properly.

Improve Productivity

These changes are amplifying the amount of information that your firm needs to store, share, and manipulate.

Firms like yours face two distinct information-related challenges: finding the necessary information and confirming that the information is correct. By some estimates, 40% of an engineer's day is spent looking for data. This problem can be exacerbated if information is spread throughout the company in email chains, hard drives, or generic file sharing solutions, such as Microsoft SharePoint or Dropbox.

With no single central repository of data, you run the risk of overwriting files, using out-of-date information, and slowing down the reviews and approvals and supply chain communications that your company depends on to work productively.

A siloed approach to data management can have long-term negative effects as well, including errors, delays, budget overruns, not to mention an inability to take on more work due to inefficiencies.



25% of engineering firms said inaccurate project paperwork or too many versions of documents contribute to a construction delay.²



Charting a New Course in the Cloud

You're in one of the world's largest economic sectors. The construction industry employs about 7% of the world's working-age population. Despite its global reach and maturity, it still lags behind many other industries in many respects. In fact, construction is among the least digitized sectors in the world.

Embracing Shifting Modes of Collaboration

However, the digitization of your industry is accelerating, and one of the key drivers is cloud adoption, a worldwide trend that spans multiple verticals. As of 2017, 85% of enterprises fielding a multi-cloud strategy, up from 82 percent in 2016⁴.

Cloud adoption is a trend that is changing how project teams collaborate and manage information to deliver projects effectively. To compete, you need the capability to share large digital files in real time so that each member of the team <internal team members and supply chain> can boost efficiency. Mobility is tightly connected, too, as the cloud supports widely dispersed specialists who need to access critical information on a range of devices.

With more and more of your competitors going digital by perfecting methods of collaboration, successfully leveraging the cloud is a critical part of your firms success.



93% of businesses are using cloud technology in some form.³

Meeting Your Clients' Growing Requirements

Your prospects and clients are also contributing to the changes occurring in your industry. While you're exploring new methods, processes, and technologies, your potential customers are also seeking new ways to drive efficiency and protect their data.

Exceeding Owner Expectations

Accepted worldwide as an overarching best practice for project delivery, BIM methodologies are indicators that potential customers are maturing in their demand for terms of expecting productivity and efficiency. Today, the UK government mandates BIM strategies for all centrally funded public infrastructure projects with the goal of reducing project delivery and operating costs by 20%.

In the minds of owners, there's great value in incorporating new technologies, big data, and standard workflows. Some owners are already moving in this direction, appreciating where things are going.

Other engineering firms are already going down this road too. This momentum means your firm must keep pace.

Productivity is the watchword here. As your clients and competitors continue to bolster their processes and workflows with technology, you need to be more productive, more efficient, and more technologically savvy than ever before.

BIM strategies are contributing to improved outcomes in successive stages of design and construction.



67% of contractors report a percentage of improved productivity with BIM, with 16% seeing increases of 25% or more.⁵

The Path Forward: Connect Your Teams and Tools

To succeed in today's evolving engineering world, you need to solve for all of the challenges presented by these trends. While you may have limited success with an inconsistent approach, your real focus should be on dramatically improving the way your design teams collaborate and manage project information—from your workflows, to how you create and share your information, to how you collaborate throughout your organization, and with the extended supply chain.

Cultivating a Connected Data Environment

To do this, you need a single source of truth around your data, so you can quickly and efficiently support digital design collaboration and workflows by leveraging digital technologies to eliminate any unnecessary steps for you to create and deliver an asset. Where all your files are centrally located, easily searchable, sharable, and secure.

One centralized data location can:



Prevent lost and out-of-date data with effective information management.



Give designers up to 40% of their time back with fast access to project information.



Speed work in progress with design coordination across all disciplines.



Save time and reduce risk with automated workflows for reviews, deliverables, and supply chain interactions.



Provide better visibility into project performance.

As the digital transformation reshapes how projects are designed and managed in the industry, you need to embrace these innovations as you evolve and grow your business. In this way, you make all the data in your organization more intelligent, allowing you to **work smarter, work faster,** and be more competitive in the industry.

Despite the challenges, your firm can improve its ability to avoid risk and stay competitive by managing engineering information, automating business processes, and accelerating collaboration across all disciplines and locations, throughout the project lifecycle. By aligning design teams with a connected data environment for improved collaboration, you can improve productivity and efficiency.

To learn how, download our solution brief, [Empower Your Teams to Connect and Collaborate](#).

¹ Insidebigdata.com, "The Exponential Growth of Big Data," February 2017.

² AEC Survey Calls for Industry-Specific Cloud-Based Document Management, Construction Executive, February 2015

³ Cloud Adoption Soars But Integration Challenges Remain, CIO, January 2016.

⁴ State of the Cloud Report, RightScale, 2017.

⁵ Measuring the Impact of BIM on Complex Buildings, Dodge Data & Analytics, 2015.