AECO and The Post-COVID Environment

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VIATechnik is the leading Virtual Design & Construction (VDC) consulting firm with a focus on innovation for industry advancement. Since our founding, VIATechnik has worked with leaders in real estate, construction, engineering, and design to implement Virtual Design and Construction both in their firms and on their projects. The firm is involved in both the advisory and implementation on a broad range of Virtual Design and Construction subjects, such as BIM, VR, Facilities Management, and Data integration. Through our diverse team of architects, software developers, construction managers, and engineers, VIATechnik solves our clients’ most complex issues related to the built environment and generates real lasting results for our clients.

“Our team’s approach is one of people, process, and technology. It is through this approach that we enable our AECO clients and partners to implement change quickly and successfully across their organizations.”

ABOUT US
INTRODUCTION

The advent of the COVID-19 pandemic in the first quarter of 2020 has certainly presented its share of challenges to the AECO industry. Most firms have seen revenue declines, although few feel the situation is a threat to their business’s survival in the same way that airlines, restaurants, and co-working space have. It’s clear from survey responses and other conversations that most AECO firms made the transition to working from home almost seamlessly. Technology played a huge part. Specifically technology that is deeply integrated into productivity workflows and collaboration had the most impact. Companies experienced with collaboration software such as Box, Microsoft Teams, and BIM360 allowed staff to continue their work uninterrupted from home offices. Connected productivity suites such as Revit and Procore maintained deliverable timelines. Construction sites kept active operations with 360 photo capture platforms, tablet based QA/QC systems, web-based planning tools, and AI safety tools such as Smartvid.io.

Whether in construction or related fields like engineering, architecture, or real estate, many organizations were by and large already prepared for the crisis, thanks to their foresight in keeping their technological capabilities up-to-date. What may be surprising is that more than a few have actually credited the situation with forcing them to make additional investments on other nascent technology they should have made much earlier, making them better prepared for whatever the “new normal” may bring. Innovation is now taking its place front and center in discussions among AECO professional service firms and their clients. The pandemic has been a catalyst for further change and is bringing about investments in technology, people, and process.

But now is not the time for complacency, much less for celebration. The large private equity firm, Texas Pacific Group’s CIO shared two charts in a recent presentation, one illustrating the waves of the 1918 Spanish flu and another highlighting a “drunken walk” W-shaped recovery.
The post-summer months could therefore see a return to a crisis situation more broadly, reshaping the current recovery curve from a V to a W. This scenario would likely mean further supply/demand imbalances, making capital project transactions more competitive. It is seemingly more likely capital funds will be more demanding and service firms more aggressive in highlighting their competitive advantages. Given the changing landscape of a post-COVID world, our conversations with owners are revealing a desire for more flexibility from their design teams and greater efficiency from their construction teams. Current workflows need to not only survive a work-from-home environment but designers must be capable of responding to changing requirements faster and more creatively. Construction teams will need to be hyper-efficient and responsive to constantly evolving predictions about a post-COVID reality.

We conducted research to better understand and document how AECO firms have been affected by the pandemic and how they’re adapting. We surveyed over a hundred people working for architecture, engineering, construction, and real estate firms of all sizes, at all levels of the organization. We supplemented this with in-depth interviews for additional perspective. The purpose of this research study, then, is to offer detail, clarity, and insight as context for discussion of what the post-COVID world might look like.

We don’t know when the new normal will emerge, or what it will look like in great detail. But we’ve seen human resilience demonstrated again and again. After every adversity, the world adapts and moves on. Now isn’t the time to focus solely on the present. Now is the time to ask questions about the future, formulate a range of answers, and decide what role each of us must play in order for our organizations to adapt and to thrive. The leading AECO firms are showing the way.
The AECO Industry: Better Positioned to Survive and Thrive

The research results were very encouraging overall, starting with the resilience and even optimism demonstrated by the participants. Of the people surveyed 72% said it was “very likely” or “moderately likely” their firm would survive a post-COVID environment. Only 5% called their firm’s survival “unlikely.” For context, similar surveys in the restaurant industry have found anticipated failure rates of 40% or more.

To be clear, revenues are down for most, with 38% citing revenue decreases of greater than 10%. “Nothing’s really been cancelled,” one interviewee told us. “But projects have been put on hold. There’s been a slowdown in the public sector.” Still, 15% have seen revenues grow. COVID’s impact has meant increased demand for certain types of projects: “The majority of projects are still ongoing...Things are getting busy.” Sectors showing growth include data centers, distribution, medical, and pharmaceutical: “Pharmaceutical is booming right now. New manufacturing lines are being developed. There’s a huge race to develop projects.” As some projects have been put on hold, companies are redirecting resources to other work with greater current impact: “It’s full speed ahead on projects. If you have more resources you can go faster.”

From the survey results, it is clear that technology has enabled a relatively smooth transition for most. Seven in ten survey respondents said the pandemic had resulted in changes to their design and construction workflow. While three fourths of these said this involved more digital tools being used, a fourth entered the pandemic era with the right tools in place, validating previous investments in technology: “We were already doing much of this. We already had cloud and remote communication. More than anything we made good decisions a long time ago.” For these forward-looking firms, the situation had the added advantage of unifying the organization behind the idea of staying current on technology: “You’re always going to have skeptics. Now that there’s more virtual work, they’re saying okay, we were on the right path all along.”
Among the three fourths who found it necessary to adopt more digital tools, the transition was often unexpectedly rapid. Timelines initially measured in months shrunk to days: “Our office wasn't technically ready for working remotely. We had infrastructure in place...within a day we were all up and running from home. We were able to jump right into it.” Many made it a point to extract even more value during this time: “Cloud platforms that we were only dipping our toes in are now mission critical... It was a really long roll out plan, but then they did it so quickly.”

Additional insights included: **The tools that helped the most** were in communication (ranked in the top three by 49%), followed by storage, project management, and BIM collaboration.

The perceived value of BIM software rose dramatically as a result of the pandemic situation, over eight in ten now seeing it as more valuable, with 30% of these saying significantly more valuable. Collaboration and a common data environment were the two areas where BIM has provided the most value. Collaboration was ranked first by four in ten respondents. The common data environment was ranked in the top three even more often than collaboration. BIM360 was rated more valuable than most. While AutoCAD topped the list, probably only because it’s been around so long that most firms have it, BIM360 was the first choice by far among more recently developed software. Its ability to enable collaborative work among people who aren’t sitting side-by-side earned BIM360 the top ranking among 24% of those surveyed, while 54% ranked it in the top three. “People in the industry will get better at digital tools like BIM360... Now there's no choice. If you want to continue working at the same pace, you need to catch up.”
“Our office wasn’t technically ready for working remotely. We had infrastructure in place...within a day we were all up and running from home. We were able to jump right in.”
Some Perspectives on The New Normal

Of course the future is unclear under even the most “predictable” of circumstances. But it’s clear that AECO firms have had a glimpse of some potential futures, and they intend to be prepared.

One possible future involves a second pandemic wave – that W-shaped recovery. This would raise the specter of business failure for more firms than does the current situation, although not dramatically so – still nowhere near the levels for airlines or restaurants. The percent of respondents saying their firm is unlikely to survive goes from 5% currently to 13% for a potential revisit by crisis-level conditions. Overall three in ten rated their odds of surviving lower after a second wave than they had for the current wave; however, six in ten anticipate the same likelihood of survival. One in ten think their survival odds would actually be better the second time around, presumably because they’ll have learned from their current experience.

Yet there is a sense of optimism pervading the messages coming from our interviewees, one that seems to be independent of whether the recovery is in the shape of a V or a W. Six in ten respondents believe people will be more productive when they return to the office. People in the AECO industry aren’t lamenting the changes that were forced on them (whether they feel they’d been prepared for those changes or not), but rather treating them as inspiration to make even more, and better, changes. Seven in ten respondents say innovation has become more important for their firm as a result of the pandemic and the surrounding circumstances. But the optimism is about more than innovation; it’s about a new mindset toward change in general. Many recognize the pandemic as a spur for beneficial change that had been too long in coming: “People are starting to understand, so this is going to stay. This is exciting to force people outside their comfort zone.” Yet for all that people may have had their complacency disrupted, they’re already in a new comfort zone: “It feels natural.”
The recurring theme has been “I see lasting change.” But the changes that have been made aren’t a one-time adaptation. The biggest change has been an embrace of adaptability itself: “So maybe [the question is] less ‘Should we do it or not,’ but rather ‘how do we respond to change?’” – after all, our own human survival has been a story of adapting to changing conditions to suit the new normal. The question leaders should be asking their teams now is, how adaptable are our people, process, and technology to the evolving needs of our clients and building and infrastructure end users?

“God I hope we don’t go back to normal status quo. Some great creative things are coming out of people. I love the instant collaboration. We’re more productive now.”

Change in Firms Views on Innovation During the COVID Pandemic?

- More Important: More Investment - 51.0%
- More Important: No Investment - 20.2%
- Less Important: Revisit post COVID - 9.5%
- No Change - 19.3%
About The Authors

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Anton is the co-founder and COO of VIATechnik, a construction technology firm disrupting the AEC industry through innovative VDC consulting, implementation and education. Anton leads VIATechnik’s research and development studio that specializes in common data environment integration, computer vision, educational programs, and data analytics. He has spoken about transformations through digitization at various industry conferences such as Autodesk University, Stanford SPIRE, VR Days, and AEC Next. Anton graduated from Stanford University with a degree in Management Science & Engineering. Prior to founding VIATechnik, Anton worked at the global management consulting firm Bain & Company in both San Francisco and Sydney advising clients on strategy, operations, and marketing.

Dan Klancnik
Dan is VIATechnik’s director of Virtual Design and Construction, bringing over 20 years of experience in construction, architecture, and software development to the team. He builds on VIATechnik’s mission of transforming the analog world of design and construction into a digital platform by drawing upon his experience and the resources of the firm. He has held various roles in the construction industry from preconstruction, construction technology, project management, and senior vice president. In those roles he’s worked on hundreds of projects varying in size, type, delivery method, and geographic region. He has held several industry positions including: AGC BIMForum leadership committee, USACE BIM contract group, ACG CM-BIM authoring group, and ConsensusDocs BIM Addendum authoring committee. As regular industry speaker he challenges legacy processes by communicating how we can do things differently to expand profitability and create new engines of business growth.