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EFCG Conference: Technology leadership in a post-pandemic world

Environment Analyst provides a round-up of EFCG's recent virtual conference and industry survey focused on what it takes to lead technological innovation in the architecture, engineering and environmental consulting, and construction (a/e/c) services space and how the global pandemic is honing digital strategies

The New York-based **Environmental Financial Consulting Group** (www.efcg.com) and its Technology Practice teamed up with **Bentley Systems** to host the 5th annual **EFCG Technology Leadership Conference** on November 17-18, 2020. In this special report, ***Environment Analyst*** summarises the key themes which emerged around how today's world is forcing a/e/c and professional service firms to rapidly respond to changing client and employee expectations, accelerating the pace of technology disruption.

The conference explored industry trends impacting technology leaders and the associated business and financial implications. Due to COVID-19, the event was for the first time held virtually on an interactive platform. The hundred or so participants (mainly senior technology executives such as chief information officers (CIOs), chief technology oficers (CTOs), and IT directors from a/e/c firms) were required to complete a detailed IT-focused survey, the results of which were referenced throughout the event, revealing the key trends, benchmarks and issues shaping the industry.

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COVID discussion panel - state of play and future direction of travel

The event kicked off with a session focused on the unique challenges firms are facing as a result of the global pandemic and the steps they are taking to overcome them. The session was moderated by Claire Rutkowski, CIO at **Bentley Systems**, the infrastructure and engineering software and solutions specialist. Rutkowski was joined by David Neitz, CIO at the multidisciplinary service provider **CDM Smith**, and Guy Pascarello, director of IT at the environmental planning and engineering firm **AKRF**.

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> Robert Mankowski, Bentley Systems

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Guy Pascarello, AKRF

First up was a discussion around how firms responded when the COVID-19 pandemic hit. Around 50% of companies represented at the conference reported that they had a plan in place ready to put into action when the pandemic impacted, about a third were not ready but were able to navigate through, a further 10% thought were ready but had to adjust their plans, and around 3% were unprepared.

Pascarello said that **AKRF** had planned testing sessions and sent out polls to make sure that everyone would be able to work properly from home. Neitz noted that **CDM Smith** had faced a ransomware attack last year that significantly affected business continuity, which forced the firm to evaluate different scenarios on how to respond to similar events, including a pandemic. Nevertheless, the company took extensive measures to ensure that employees would be able to work without major disruption.

With regards to how IT spending has changed in the face of COVID-19, around 60% of firms said they kept things the same, while fewer than 10% made significant cuts. The panelists noted that their firms remained highly focused on helping their employees use technology to work more effectively and efficiently. "We wanted to make sure that the time people are spending actually leads to value being provided to our clients," Neitz noted.

Pascarello added that at **AKRF** they prioritized analyzing existing problems and what employees were unhappy about. "What can we make better? It's not only about fixing the breaks, but also enhancing things to turn good processes into great and excellent," he said.

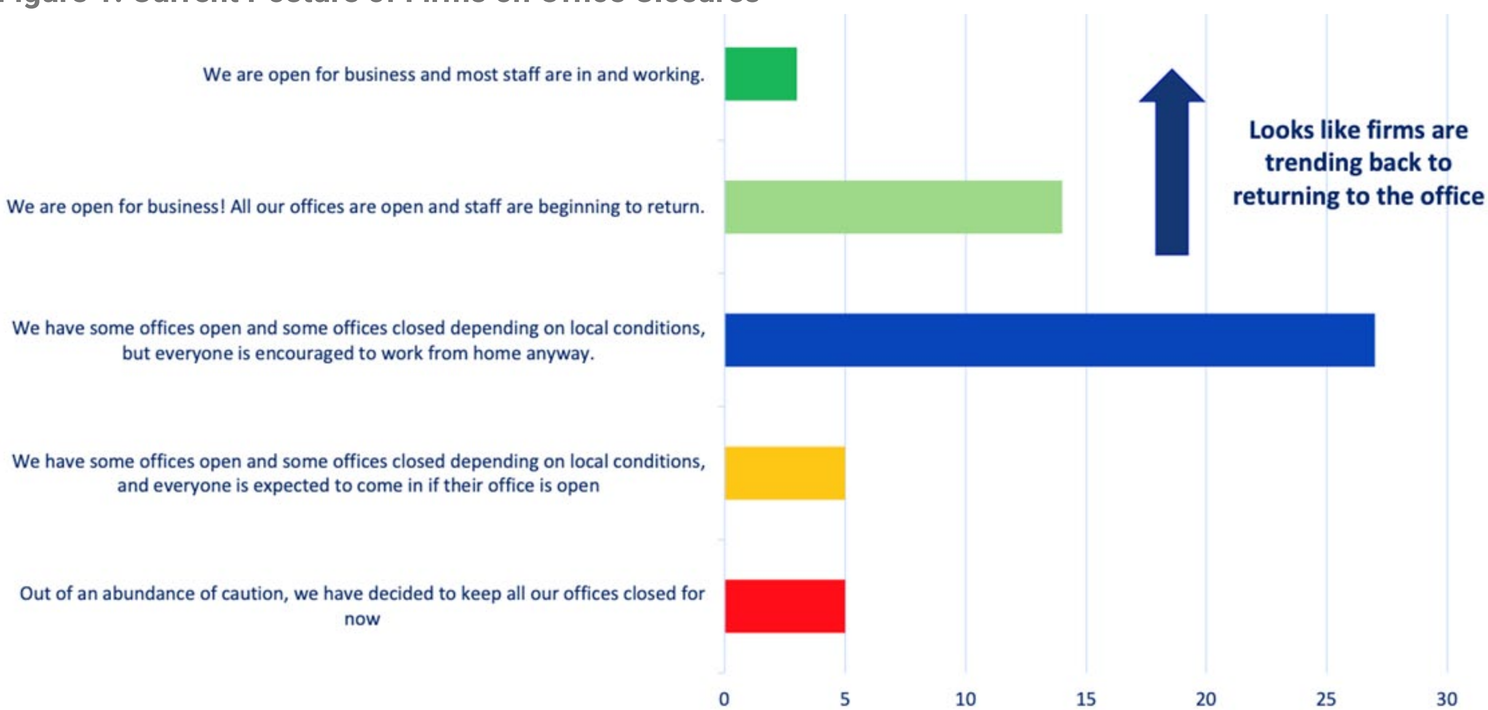
A survey poll question suggested productivity has stayed about the same for around 70% of firms in spite of the challenges of COVID, and not a single respondent indicated a drop off in productivity. The panelists concurred that working remotely has not affected the ability of their firms to complete projects, but arguably the bigger challenge for companies is to help employees manage their work-life balance.

Finally, fewer than 20% of participants at the conference said their offices were fully open with staff beginning to return, indicating more of a slower phased return to the norm (Figure 1). At the same time, the vast majority of respondents said they plan to reduce office space, staffing, and continue to have people work from home for the longer term.

Build, borrow or buy?

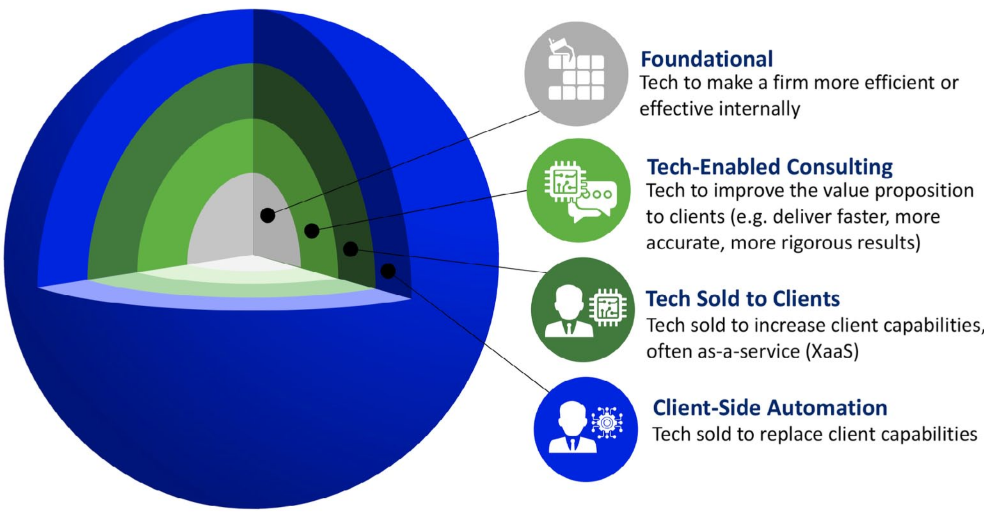
The 'Build, borrow, buy' session explored how a/e/c firms can best utilize technology across their organization to increase enterprise value while minimizing risk and leveraging scarce

Figure 1: Current Posture of Firms on Office Closures



Source: EFCG

Figure 2: The EFCG Four Circles of Technology Framework



Source: EFCG

capital resources. The session was moderated by Marcus Quigley, technology practice lead at **EFCG**. Quigley was joined by Dan Kieny, CTO at engineering consultant **Michael Baker** and Jim Dray, CIO at **Thornton-Tomasetti**, the scientific and engineering consulting firm.

Quigley noted that although a/e/c firms are still not utilizing technology applications as widely as firms in other industries, industry data suggests most are now heading towards becoming more tech-enabled businesses. Quigley then described the 'Build, borrow, or buy' model. For most firms, particularly a/e/c firms, the default option is to build things internally and then provide them as a service in the market (Figure 2). But there are many other strategies to consider including working with other (external) tech providers.

Quigley reported that EFCG data shows that the median investment in technology across a/e/c firms has more than tripled within the last year to a median proportion of net revenues of 1.5%. And the firms participating in the conference noted through a poll question that they are most commonly buying new technology options as part of their technology strategies rather than any of the other options.

Kieny added that, as an engineering firm, there are circumstances where implementing technology can be counterproductive, as in the case with many time & materials contracts. Engineers bill by the hour, and if their project time is significantly reduced by digital solutions, they would end up losing revenue while still having to pay to deploy the technology itself. Alternatively, if the contract is fixed price, or if they can upsell the value proposition, there is a significant opportunity to positively impact the firm's top and bottom line through technology.

Ultimately, a/e/c firms need to consider whether they have the processes and people in place to take advantage of the technology options that are best for their company. To do this, Kieny suggests breaking down the budget into different components to allocate funds most effectively, based on which areas of the business can benefit most from these investments.

Meanwhile, Dray noted that the boundaries are changing between build, borrow, and buy, in regard to when it is really beneficial for a firm to choose a particular option. "There are some critical enabling conditions that allow firms to build new technologies internally. Firms need to look for the intersection between their skills, cleverly combining publicly available software, and specific client situations that are open to trying new approaches," he suggested. However, a cautionary note is that not all clients are very open to utilizing new technologies.

Technology drivers and industry response

The next session focused on the emerging technologies that are influencing how a/e/c firms' plan, design, and construct projects. The session was moderated by Antony Oliver, editorial consultant and journalist. Oliver was joined by Akshay Johar, principal program manager at **Microsoft**, Rich Humphrey VP, construction management at **Bentley Systems**, and Robert Mankowski, SVP digital cities at **Bentley Systems** to provide their unique perspectives.

The panel discussion started with Johar highlighting the progress observed during 2020 alone on how technology platforms can be used together to provide a range of solutions to clients, as well as enhanced employee experiences. "The biggest trend that stands out is that the concept of using a digital twin

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solution - now a widely used option for many real estate firms," Johar noted. Humphrey added that the COVID-19 pandemic has drastically altered the willingness of firms to utilize technological applications, particularly in the construction space.

Mankowski observed that a/e/c companies have started to realize that digital solutions can be used to provide a more holistic project outcome that focuses equally on environmental and social sustainability goals. The cost saving part of utilizing technology remains a significant incentive, but the focus is also gradually more towards achieving more sustainable projects.

"The use of data and technology has started creating a cultural shift across the a/e/c industry," Humphrey believes. Clients are embracing the use of technology to create better projects, and the industry in general is focusing on how to maximize the value of data being collected, so that digital tools can be used more broadly and efficiently.

All panelists noted that there are early adopters and innovators that drive the focus on enhanced use of technology across the a/e/c industry. "Firms need to change the way they think about data-driven decisions," according to Mankowski, while Humphrey further emphasized that it has never been easier to shift to the latest technology options. Furthermore, it can provide firms with a differentiated value proposition to clients, but if they do not focus on technology now they risk being left behind everyone else and will end up playing catch up.

Shaping IT strategies to connect to business strategies

Next up saw a discussion on how technology can help a/e/c companies grow by shaping IT strategies that truly connect to business strategies, and in particular looking at the role of technology - and CIOs and CTOs - in growing firms. The session was moderated by EFCG's Marcus Quigley. Quigley was joined by: Ron Sattan, director of IT at Mott MacDonald; Hemant Wadhwa, consultant and former VP at TRC Companies; and Dan Kieny, CTO of Michael Baker.

Quigley noted that technology acquisitions have increased notably, from accounting for 4% of industry M&As a few years ago to 7%. Most major firms have listed technology as a key component of their strategy for the coming years, while 24% of firms generate recurring revenue from tech today, though only 10% generate revenue in excess of investment.

Quigley also pointed out that typically firms focus on cost reduction when considering technology investments, but technology can also impact firms through growth and profitability and margin increases. Furthermore, IT leaders have a significant ability to impact the overall enterprise value of the firm by implementing an effective strategy, as tech-enabled firms gain a 7-21% pricing premium. The firms participating in the conference believed that they could achieve a valuation premium of around 12% through doing so.

Mott MacDonald's Ron Sattan agreed that delivering digital solutions provides a first-mover advantage and helps firms stay ahead of competitors. "I truly believe that really delivering digital solutions is going to dramatically improve our enterprise valuation," he said, adding that firms should try and focus on how they collect information and utilize it in the solutions they are providing to clients.

Hemant Wadhwa discussed how to use technology to change how a firm operates through his experience in integrating technology across **TRC**, which is a 5,000+ strong professional services firm with 140 offices located throughout the US, Canada, the UK and China. IT executives can drive business value and sustain innovation over the long term to protect and grow the business only after they have addressed the foundational aspects of technology, making sure that IT works. "Innovation is a luxury that can not be achieved unless the basics are working," cautioned Wadhwa.

Dan Kieny noted that it is important for firms to implement purposeful technology investments with the intent of achieving increased valuation. "Firms can move their valuation from a low-margin multiplier to a high-margin multiplier through technology," Kieny added. A good starting point is to compare the results of projects utilizing the technology application with projects that were completed without the use of the technology. The difference can be many times striking and can be used as a powerful incentive to use technology in projects more broadly and effectively.

For more information visit: www.efcg.com

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