



BUILDING NEW WAYS OF WORKING

Digital approaches to design can lead to breakthroughs in areas like sustainability that clients are looking for.



Making the infrastructure we live and work in ready for the demands of today requires new ways of thinking, big ideas, and the drive to turn concepts into reality. And this means the architects behind the infrastructure of the planet – the schools, hospitals, offices, and homes of tomorrow – have a once-in-a-lifetime opportunity. They are tasked with shaping the vision for a smarter, safer, and socially responsible world.

It's a huge opportunity, but also a huge challenge, as the events of 2020 demonstrated. When COVID-19 forced businesses around the globe to send employees home, many architecture firms were caught off guard. "They didn't have the infrastructure set up to support working remotely and doing a digital-first firm, so there was a correlation to productivity going down," says Je'Nen Chastain, founder of Architecture, Engineering, and Construction (AEC) business consultancy Apostrophe Consultingⁱ and co-host of the Practice Disrupted podcastⁱⁱ. "What we've learned through

the pandemic is that our industry is heavily dependent on technology... Going forward, it's really important that firms continuously invest in the infrastructure that supports and improves it."

But while leaders may have a newfound appreciation for digital infrastructure, for many, questions still loom: With an ever-growing array of technology on the market, what do they actually need? And how can they get the most value from these tools?

For Evelyn Lee, who runs AEC innovation consultancy Practice of Architectureⁱⁱⁱ and is Chastain's podcast co-host, the answer is less about product than process. Lee believes firms need to decide what they want to achieve and how they want to operate, then create technology plans around these goals. While this may sound obvious, this stage of planning is too often left out.

"Firms really need to take the opportunity to redefine your values for your organization, and use those values to inform every business decision going forward including how you want to work together," she says. Business leadership should not only be talking about how often they want us to go into the office but the workflows and tools that they are going to use to make running teams in that environment more efficient. A company's values drive the beliefs, philosophies, and principles of the business, and given all the changes that happened over the past year and changes to how we are working it's worth revisiting. This becomes the foundation for how everything in the firm operates going forward.

Engineering a better quality of life

Boston's Saam Architecture^{iv} followed this path when establishing its practice in 2014. From the outset, the founders knew that work-life balance would take priority in all their decisions.

"Whether they have families, a dog, want to exercise in the middle of the day – people have these competing personal demands, and the architecture industry historically has not been very good at allowing those things to happen during normal office hours," said Diana Ostberg^v, the firm's vice president and COO. "That was where we came from in setting up this new working model."

Saam's technology choices grew directly from this vision. The firm gives all employees laptops equipped with a webcam and VPN connection. Teams and Slack facilitate communication between staff and external contacts, and GoToMeeting provides a digital whiteboard for collaborative drawing sessions. A local IT consultant looks after issues of connectivity and security.

While this configuration has become commonplace during the pandemic, this wasn't always the case. "Places that some of us have worked for before, you had to ask for a laptop, or you had to get special permission to have the VPN," Ostberg says. "We wanted to cut all of that out. Everyone from the CEO down has that same tech setup."

Over the years, the firm's digitally enabled remote culture has served it well, she reports. Designers seeking a better quality of life have left larger offices to join their team – a benefit to the field as a whole, since they might have otherwise quit architecture altogether. Clients are happy and bring repeat business, something Ostberg attributes partly to the fact that employees who are empowered to manage their own schedules are particularly proactive and responsive. Saam's calculations show that minimizing daily commutes significantly reduced the firm's overall carbon footprint, adding the productivity equivalent of two extra team members.



A means to an end

The principle of letting a firm's values and aspirations drive tech decisions applies whether you're just getting started or already a major industry player. Joseph Joseph^{vi}, the global director of design technology at Gensler^{vii}, evaluates every digital investment in light of the practice's larger goals. "We fight the urge to be interested in "it" – we say that a lot internally," he says. "'It' is the tool – because there is a general fascination that a tool will solve everything. We always put at the forefront that technology is just a means to an end."

Joseph's team develops many of its own digital tools, in addition to using off-the-shelf products and partnering with tech companies to create custom solutions. But none of this work occurs in a silo, he says. Each initiative starts with an internal hackathon that brings the firm's technology leaders together with practice area experts who bring deep knowledge of clients, projects, and processes. "We start by hashing out what we are solving and what is the value of it," he says. "If you start with a core problem that you're solving, you're laser-focused on it, and [the tool] is informed by the practice area and the practitioners themselves." Engaging staff members also greatly increases the chances that they'll actually use new tech products once they're released.

One area where Gensler's Design Technology team is working to help close the gap is in knowledge of sustainability solutions. "We're creating our own intellectual property to help lower the barrier of entry to our practitioners, to where you don't have to have a PhD in wind analysis to be able to run a wind analysis on your project," he says. "[We] think about how we're able to democratize these types of tools to make sustainability more streamlined into our projects, so that we're looking at the carbon emission values of our concrete; we're able to look at our solar studies; we're able to make more predictable decisions as it relates to the sustainable components."

Another priority for Gensler, and therefore for the technology team, is continuously finding better ways to serve its clients – something that often leads to explorations beyond the traditional limits of an architect's scope. "Our clients don't just come to us for beautiful and functional architecture; we also help our clients make business-savvy decisions," Joseph stresses. One example: using digital tools to help developers gain new insight into their existing spaces as a means to inform future capital investments.

This approach to architecture requires an expanded toolkit, as well as an enhanced ability to communicate about design, space, performance, and value with a broad range of stakeholders. "A lot of our technology investments for Gensler have been driven around how we leverage data-driven design, agile

design, decision-making through computation, through an analytical platform that we put at the fingertips of our designers to be able to take our clients on a design journey," Joseph says.

Assess, then improve

Not every firm has the resources to build a team of software developers. But as Evelyn Lee points out, all have access to free or low-cost tools such as Google Drive that can help with common challenges like capturing information gleaned during site visits and client phone calls. But when used in a haphazard manner, these and other digital tools might not add much value: hence the importance of starting with an overall vision and shaping a holistic plan from there.

While strategic technology planning can require a significant investment in staff time (and, potentially, fees for AEC tech consultants), the effort will pay off over time, Lee believes. And make practices more resilient to disruptions like COVID.

"Firms that really embrace a regular process of looking at operations, process, the tools, how they approach projects, how they approach business, how they do business development: Those are the firms that are going to be most successful in the long term," she says.

Because architects are responsible for the biggest challenge on the planet – redesigning the schools, offices, public spaces, and houses so they're more sustainable and equitable – they need the tools to get there.



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- i. <https://www.apostrophe.consulting/>
- ii. <https://practiceofarchitecture.com/podcast/>
- iii. <https://practiceofarchitecture.com/>
- iv. <https://saam-arch.com/>
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