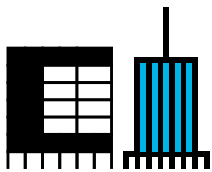




# Build the Digital Construction Boom: 3 Opportunities for Citrix Partners



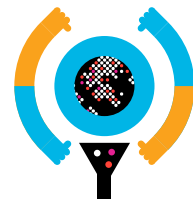
## Fast Facts About The Construction Industry



It's 13 percent of the world's GDP.



It requires \$57 trillion (T) in infrastructure investments by 2030.



It's the #1 global consumer of raw materials.

## Digital Dilemma #1:

### AEC Is an Ancient Industry Ripe for Digital Disruption

Architecture, engineering, and construction (AEC) has been around for centuries. The Colosseum, Great Wall of China, and Taj Mahal are just a few ancient and intact architectural marvels. Not surprisingly, construction is among the least digitized of all industries. Some core processes, such as basic building, human labor, and paper-based management remain the same.

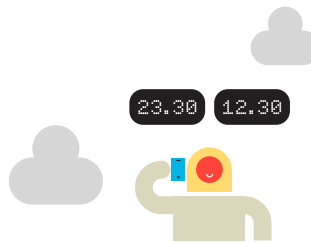


#### 3D cedes to 5D.

Today's project teams are using 5D business information modeling (BIM), overlaying project cost and schedule on designs to share information with teams and better understand the impact of cost and scheduling decisions. BIM can reduce a project's costs by up to 20 percent by enabling teams to optimize outcomes.

#### Technology can revolutionize age-old processes.

AEC companies can use digital mapping and drones to identify, survey, and monitor sites. Tagging equipment helps prevent theft, ensure its full productivity, and alert staff to the need for preventive maintenance. Digital dashboards, robotics, and IoT-powered analytics fuel continuous process optimization.



#### Commit to digital.

There is a \$1.6T opportunity to add value by increasing productivity in the industry. It's time to get moving. Just five percent of project owners say they are "cutting-edge" in applying technology to their projects. Only one percent are using robotics-driven process automation across all of their projects.



Digital technologies optimize AEC processes, staff productivity, and equipment utilization.



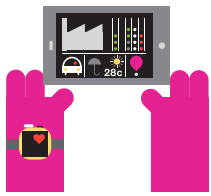
#### Your opportunity:

Become a Citrix Service Provider (CSP) partner and help construction companies fuel innovation with the ability to access complex apps, such as BIM, and vast amounts of data on any device or operating system, at any job site, facility, or office. Empower teams to collaborate and share information securely with contributors such as project managers, architects and engineers, permit teams, and suppliers. Use Citrix Cloud to simplify deployments, lower management costs, and speed time to value.

## Digital Dilemma #2:

### In an Industry of High Costs, Cloud Services Can Unleash Significant Advantages

AEC is a high-cost industry, with frequent cost overruns. Large projects often go 20 percent over schedule and up to 80 percent over budget. Here's how to tackle that problem:



#### Boost mobile field force productivity.

Labor, both skilled and unskilled, is a major cost and is critical to project success. Wearables, with GPS and mobile apps for check-ins, check-outs, and project updates, can ensure proper staffing, reduce time waste, and enable remote job performance monitoring. Staff who use wearables, combined with sensors and augmented reality displays, can overlay holograms on physical objects and interact with data using gestures, gazes, and voice commands.

#### Manage projects in real-time.

Teams on the ground need the ability to review blueprints, plans, and schedules onsite; make updates; and share information securely with other parties such as project owners, managers, and subcontractors.



#### Protect high-dollar equipment.

Some \$300M to \$1B of construction equipment is stolen each year, and less than 25 percent is ever recovered. Companies can use sensors to tag valuable machinery and assets to protect items, facilitate their movement and productivity, and trigger alerts for preventive and needed maintenance.

Real-time mobile workflow increases team effectiveness and helps avoid costly mistakes.



#### Your opportunity:

Reduce IT complexity, CapEx investments, and OpEx costs with cloud services. Provide construction teams with secure digital workspaces that include seamless access to project apps, workflows, and files, and protect data from diversion or theft. Enable secure file sharing and sync, so teams are sharing and using the latest data to keep projects on-track and reduce process waste due to delays and mistakes.

## Digital Dilemma #3:

### In the Sharing Economy, Protecting IP Is Paramount

Construction is an industry of intellectual property. From project owner requirements and finances, to site consideration and selection, to project design and vendor selection, to contracts and project management, there is a wealth of information to protect.

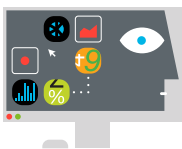
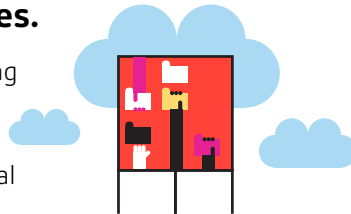


#### Collaborate with the supply chain.

Large-scale AEC projects involve the cooperation of multiple players. Investing in processes pays big dividends and can be considered IP. Companies that invest two percent in optimizing design during project planning can reduce total costs by 20 percent. Similarly, using “lean” principles and methods can cut costs by 15 percent and completion times by 30 percent.

#### Keep files in the cloud, not on devices.

As many companies have learned, lax data sharing practices can result in costly data breaches. Protect valuable IP by locking down data with secure file sharing. Provide teams with contextual access to documents and markup privileges. End-to-end encryption protects data while at rest, in use, and in motion, while security policies enforce least-use access and protect data from downloading, loss, or theft.



#### Manage exploding data volumes.

The construction industry was made for cloud services. IoT-connected things (both equipment and devices), BIM practices, CAD designs, and project sharing can create massive data volumes. Store data and share files securely while delivering massive apps on any device, since apps are virtualized in the cloud.

Protect valuable data and IP with secure, cloud-based file-sharing.



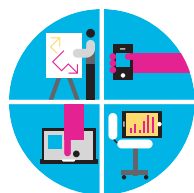
#### Your opportunity:

Virtualized desktops and apps enable secure collaboration and mobile workflows, while ensuring security and regulatory compliance. Use integrated mobility management to allow onsite and remote teams to work the way they want, while locking down data from unauthorized access.

# Digital Dilemmas Solved

## Citrix Partners Help AEC Companies Become Digital-First Businesses

Grow your AEC business by providing secure Citrix-powered cloud solutions for speed, service, and scale. High-potential use cases include:



**Increase workforce mobility and productivity:** Provide field and on-site staff with secure, real-time access to the data, files, and apps they need to run projects. Help enable business information modeling of large-scale projects, collaboration with the supply chain, and effective project management. Provide anytime, anywhere access to apps and data to keep field forces operating at peak productivity.

**Centralize IT to increase efficiency:** Use cloud computing and virtualization to centralize and streamline IT operations and infrastructure. Address such challenges as unexpected downtime, production overages, suboptimal use of staff, and changing business cycles.



**Protect sensitive data and corporate IP:** Keep data and apps protected in the data center. Set and manage application policies to control access at a granular level. Protect IP and ensure regulatory compliance with data encryption, containerization and remote device wipes, and data controls and segregation.

## Citrix Empowers You to Grow Your Business!

Join the Citrix Service Provider program to access all of our solutions and deliver subscription based services. You can:

- Offer complete hosted workspaces, with apps, desktops, mobility, file sharing, networking, and more
- Solve customer challenges, with Citrix technology that is recognized by Forrester, IDC, and Gartner as best-in-class
- Provide customers of all sizes, including SMBs, mid-market firms, and enterprises with the same high-performance solutions
- Benefit from Citrix Cloud advantages, including lower costs, greater efficiencies, an easier to manage platform, highly reliable performance, and exceptional security
- Differentiate yourself in the market with advanced solutions and customizable offerings for market verticals
- Drive value and reduce risk by scaling with best practices, reference architectures, and turn-key sales and marketing tools
- Keep flexibility, by delivering services in the Citrix Cloud or on hybrid environments

## Learn more today.

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**Sources:** BCG, ConstructConnect, KPMG, McKinsey, McKinsey Global Institute, and the World Economic Forum

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