

# AEC Outlook, Trends and Commercial Forecast 2022

## AEC Market Insights, Segment Analysis and Industry Forecast

The architectural, engineering and construction (AEC) industry's demand for cloud-based software solutions that drive growth, improve productivity and increase workplace efficiencies is greater than ever. Demand for these solutions comes from an industry-wide need to provide centralized access to property-based project data, images and other digital assets irrespective of location.

This whitepaper explores the factors behind the demand: the key trends shaping architecture, engineering and construction, and the capability shifts you need to position your firm for success in 2022.

# AEC Leaders Embrace Change in the Post-Pandemic World

Are AEC industry leaders ready to harness the full potential of changing industry dynamics to benefit their clients, their employees and the communities they build? That's the question moving into 2022.

Fortunately, research shows that the answer is predominantly "Yes." Driven by changes in customer demand and the realities of the modern supply chain, AEC firms in 2022 know they need to adapt to the new way of doing business in the office, at home and in the field. In fact, we polled 500 AEC firms and nearly 47% said their teams will operate in a hybrid work environment in 2022.

In the post-Covid landscape, architecture, engineering and construction is no longer simply about designing and building unique structures or physical infrastructure. It's about building sustainable structures that make it easier to live and work under these challenging circumstances. According to John Harrison, Houston-based design director for Gensler architectural firm,

*"The biggest shift in the post-pandemic workplace will be the radical change in flexibility. People's behavioral habits are going to be different. The physical office must accommodate that in a forward-thinking, creative way."*

This realization and the rising cost of construction materials has led to a fundamental shift in the way AEC firms conduct business. Firms are now ready to explore radically new ways to create and capture value as they make the leap toward what is being called the fourth industrial revolution.



## AEC Market Insights, Trends and Commercial Forecast for 2022

Four key trends have emerged in 2021 that are likely to influence decision-making at architecture, engineering and construction firms across the country and around the globe in 2022:

- Digital Transformation
- Prefabrication and Modular Construction
- Data and Advanced Analytics
- Future of Work

There are also ongoing debates throughout the industry regarding post-pandemic architectural design, and the different spaces that we are willing to live and work in right now and in the future.

## Digital Transformation

Prior to the Covid-19 pandemic, the AEC industry was often seen as slow in terms of digitization and digital transformation. Now the opposite is true, and there are strong signals that the industry is approaching an inevitable change that will increase business intelligence, people and technology across every segment.



This sentiment is corroborated by our survey of more than 500 AEC firms in 2021. Among respondents, nearly 74% said they plan to implement new technologies to help overcome key challenges.

The number of AEC technology vendors servicing the AEC space has grown exponentially over the past three years. Private equity and venture capital investment are also at an all-time high, as those outside the industry see the opportunity to make investments.

In other words, firms are eager to get their hands on any solution that enables them to capture, share, manage and analyze their digital assets with greater speed, ease and efficiency. Technology trends include:

- Artificial Intelligence (AI),
- Building Information Modeling (BIM),
- Machine Learning (ML) and Analytics,
- 3D Printing,
- Prefabrication and Modularization,
- Building Information Modeling (BIM),
- Digital Asset Management (DAM), and
- Digital Collaboration.

The new technologies provide an opportunity for firms to improve their core economics: expand margins and market share, overcome the labor shortage, increase operational efficiency and deliver more value than ever before.



## Prefabrication and Modular Construction

Prefabrication and modular construction is increasingly popular moving into 2022 due to the significant advantages it offers when compared to conventional construction. [Studies](#) show that modular projects can be completed in nearly half the time as traditional projects, saving about 20% on construction, material, supply chain and labor costs.

The rise in prefabrication and modular construction in 2021 confirms [earlier estimates](#) that predicted the global modular construction market would reach \$104 million by 2022. Now, the global prefabrication and modular construction market segment is growing and anticipated to rise at a considerable rate (CAGR of 6% or higher) during the forecast period, between 2021 and 2027.



## Big Data and Advanced Analytics

As the strategic emphasis of data-driven decision-making and innovation grows, AEC firms can no longer afford to ignore the rewards of data science and advanced analytics.

At a time when everyone is looking for ways to do more with less, big data in architecture, engineering and construction offers a way to make informed decisions and improve existing processes like:

- **Health and Safety** - Increasingly advanced analytical techniques are now available to help identify and understand certain risk factors that may lead to an onsite incident. This level of insight makes it easier for managers to adjust health and safety procedures and reduce the chance of an accident.
- **Cost Control and Prediction** - Big data in construction enables firms to refine information and identify patterns where waste occurs and improve contract control by alerting staff to any preventative measures that may be needed.
- **Operational Efficiency** - When combined with technology like wearable sensors, or smartphone applications, big data analytics enables firms to gather data and optimize sites for efficient work. Demand forecasting for resources – whether people, plant, materials, or money – can also help improve operations with predictive models.
- **Informed Asset Management** - Big data analytics brings significant advantages to informed asset management by enabling firms to model asset behaviors and predict maintenance requirements before major work is required.
- **Building Information Modeling (BIM)** - Through the use of big data analytics, BIM enables firms to plan and visualize entire projects in the preconstruction phase, well before a shovel breaks the ground. Space-use simulations and 3D visualizations allow clients to experience what the space will look like, offering the ability to make changes before construction begins.



## The Future of Work

Precautions and vaccines are likely to accelerate the return to the office for many firms, owners and other AEC participants, but there's a growing sense that workplace adaptations forced by the coronavirus are innovations that were long needed and here to stay.

Yet, recent surveys reveal uncertainty and debate over the kind of changes that are needed. In a Prudential survey of 2,000 self-identified workers in all business sectors, only 13% said they would opt for full-time on-site work. An entire third of the group said they would not work for an employer that required an in-person presence.

Interestingly, two-thirds of respondents also said that they see in-person interactions as key to career advancement. These responses have led many AEC firms to rethink policies, practices and procedures that have been the norm for years. According to Laura Ramey, chief people officer at TRC Cos.,

*"Employee polls indicate most [employees] want to continue with a hybrid work from home and office setup post-pandemic."*

Thus, many AEC executives are now asking how they continue to monitor productivity, measure performance and reward employees who used to be in the office but aren't any longer. For now, long-term solutions are largely unknown, particularly given the uncertainty as to whether wide-ranging remote work will continue.



# Construction Marketing Outlook and Analysis 2022

The current AEC market reflects the tumultuous events of the previous year with significant declines in some sectors and notable increases in others. Fortunately, analysts predict that recovery is on the horizon in 2022.

## Pent-up Demand Creates Spending Surge and Boosts Optimism

Economic analysis in 2021 reveals a general spending surge attributed to pent-up demand from the pandemic. According to the [AIA Consensus Construction Forecast Panel](#), spending on nonresidential buildings will decline an additional 3.9% this year – an upgrade from the 5.7% decline forecast at the beginning of the year – and that 2022 will see a 4.6% increase in spending.

This strength is creating optimism in the outlook for construction spending in 2022. In other words, consumers are ready to spend and construction is positioned to get its share of the benefits.

## Concerns: Inflation, Supply Chain, Housing Market and Labor

Though momentum is growing behind most of the nonresidential building sectors, there are several potential potholes on the road to a construction recovery. Inflation is a major concern given the surge in consumer spending, as well as the growing federal debt levels.

The supply chain continues to face problems and remains a concern for firms across the country, even though a global recession in

2020 severely dampened demand for many products.

House prices are also surging, leading to fears of a house price bubble, much like the concerns over a stock market bubble last year. Finally, labor shortages are developing throughout the economy, and the construction industry often fares poorly in the competition for new workers.

## Overall: A Positive Outlook

Though it may take a while for the recent burst in economic and design activity to translate into construction spending, market conditions are improving and look to generate healthy growth in construction activity.

Consensus is that over the coming years vacancy rates will decline and rents will increase for multifamily rentals, offices, retail facilities, lodging, and industrial/warehouse facilities. The difference is that these two metrics are already better than their 20-year average for multifamily rentals and industrial/warehouse facilities.

For the commercial categories of offices, retail, and lodging, there needs to be significant catch-up before these metrics return to pre-pandemic levels. Fortunately, this is expected to occur by the end of 2023.



# 2022 Outlook for the AEC Industry Survey

Our survey of 500 AEC firms shows that the greatest concern among them is their ability to win new business and meet tight deadlines while adjusting to a hybrid workforce.

## What challenges do you anticipate experiencing in 2022?

### ANSWERS

### RESPONDENTS %

▶ Having a hybrid workforce	54%
▶ Employee retention	42%
▶ Lack of resources	39%
▶ Meeting tight deadlines	49%
▶ Winning new business	42%
▶ Other	8%

Fortunately, 74% of survey respondents said they plan to implement new technologies to help them overcome key challenges.



Forthcoming technology investments include Enterprise Resource Planning (ERP) software, 3D Printing, Customer Relationship Management (CRM) solutions, Digital Twins, and Marketing Automation tools, among others.

### What technologies are you considering adding to your tech stack within the next year to address challenges?

ANSWERS	RESPONDENTS %
▶ Enterprise Resource Planning	53%
▶ 3D Printing	43%
▶ Customer Relationship Management Solutions	54%
▶ Marketing Automation Tools	49%
▶ "Digital Twin" Design & Maintenance	43%
▶ Virtual or Augmented Reality	46%
▶ Robotics or Drones	35%
▶ Other	8%

The implementation of these technologies across the AEC industry reveals a need to manage the many disparate digital assets utilized in sales and marketing workflows, things like brand material, images and property videos.

### Approximately how many digital assets (images, videos, etc.) will your company have at the start of 2022?

ANSWERS	RESPONDENTS %	ANSWERS	RESPONDENTS %
▶ <5,000	17%	▶ 20,001 - 50,000	23%
▶ 5,000 - 10,000	18%	▶ 50,001 - 100,000	15%
▶ 10,001 - 20,000	18%	▶ 100,000 +	10%



Fortunately, 75% of respondents said they currently utilize a digital asset management (DAM) solution to manage their images and videos.

### What benefits has your organization experienced since implementing a digital asset management solution?

#### ANSWERS

#### RESPONDENTS %

▶ Improved productivity	71%
▶ More efficient processes	61%
▶ Increased brand consistency	55%
▶ Speed to RFP	42%
▶ Increased utilization of billable staff	54%
▶ Other	3%



# Digital Asset Management Top of Mind for AEC Firms

What this 2022 AEC industry outlook reveals is a need and an eagerness among AEC professionals to implement new technologies that will help them manage challenges like:

- 🕒 adjusting to hybrid work,
- 🕒 finding and retaining employees,
- 🕒 meeting tight deadlines under strict conditions,
- 🕒 managing material costs and supply chain woes, and
- 🕒 winning new business in an industry that is still evolving in the post-pandemic world.

Despite the challenges, AEC is poised to grow alongside many technological advancements in the coming years. What's more, innovative martech solutions like OpenAsset are already making it easier for AEC marketers to thrive in 2022.

Designed for firms in the built world, OpenAsset is the preferred project-based DAM solution for Architecture, Engineering, Construction and Real Estate firms across the world. Follow the link for more [insights on the AEC industry](#) or [schedule a demo](#) of OpenAsset with one of our solution experts. Don't forget to follow OpenAsset on [social media](#) for exclusive offers and valuable insight for AEC and Real Estate firms.

## About OpenAsset

OpenAsset is the number one project-based Digital Asset Management (DAM) solution for Architecture, Engineering, Construction, and Real Estate firms. It is delivered and supported by Axomic, which has a global presence with staff based in London and New York.



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