10 construction industry trends to watch in 2017

By Emily Peiffer
With 2016 in the rearview mirror, construction professionals are turning their attention to the year ahead. While construction spending failed to meet analyst expectations last year, economists predict 5% growth in the value of starts in 2017, according to Dodge Data & Analytics.

Despite that positive forecast, a feeling of uncertainty continues to loom over the industry. We spoke with experts from various sectors of the construction sector to find out their predictions for 2017. While questions regarding what the incoming Trump administration means for construction dominated the conversation, they also described the new technologies, project delivery methods and workforce management trends they expect to shape the industry this year.

Here are the top 10 trends to watch in 2017:

1. **Collaborative project delivery methods will become more popular**

   The days of design-bid-build domination might be winding down, as experts expect collaborative approaches to become more common for projects. Design-build, public-private partnerships and integrated project delivery are three of the most often-cited methods that are altering the industry and are likely to gain ground in 2017.

   “There will be a continuing and expanded trend towards project team collaboration. I call that moving from an art to a science,” said Sue Klawans, senior vice president and director of operational excellence and planning at the Gilbane Building Company. “The owner-architect-contractor, if we happen to build a good relationship, it’s an art. All the research and demonstrated achievements are coming from starting to organize thoughts about that and figure out what are the factors that allow a team to collaborate better.”
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The design-build process consolidates the design and construction phases into one contract, while the less common IPD arrangement involves the owner, architect, contractor and other project stakeholders entering into a single contract in which they collectively determine project goals, costs, risk-sharing and compensation.

“Design-build is taking hold,” said Michael Vardaro, managing partner at Zetlin & De Chiara. “It allows more collaboration and gets you to the completed product much faster.”

On the public sector side, P3s involve a government entity hiring a group from the private sector to design, finance and build a large project. That group will then operate and maintain the facility for years before turning it back over to the owner.

“It’s taken a few years, but [P3s] have definitely caught on in the United States. [Agencies] just don’t know how to do it,” said William Eliopoulos, head of the construction industry practice at Rutan & Tucker. “As a delivery method, they’re used to the old traditional way. This is new. They’re giving up a little more control, which is a good thing. They’re going to rely now on a private developer to do some of the things they used to do themselves.”
One trend that the industry hoped would fade away is, instead, raging on. The skilled labor shortage is a major concern for firms across the U.S. as employers struggle to staff their job sites. “If the economy stays strong and there’s continued investment in infrastructure, I don’t see the shortage going away,” Klawans said.

This trend is lingering after a huge chunk of the construction workforce were forced to leave the industry for other jobs during the recession when their work disappeared. Between April 2006 and January 2011, the construction industry eliminated more than 40% of its work force, cutting nearly 2.3 million jobs. Unfortunately, a significant portion of those workers haven’t returned.

A lack of technical training in schools and less emphasis on the trades are also contributing to a smaller pool of workers entering the industry. Combined with an aging workforce, those factors are creating a struggle for construction firms seeking employees for positions ranging from skilled trades to managerial roles.

Aside from the long-term implications of a dwindling labor pool, firms are feeling the immediate impacts of the worker shortage, as it can lead to higher costs and longer project schedules.

On the positive side, Klawans noted that the current dearth of workers presents an opportunity for young people choosing a career path. “It presents an exciting opportunity for people with skills and capabilities but who have not traditionally had access to a well-paying job,” she said. “This industry has a lot of them, in the trades and project management.”
The feeling of uncertainty will linger under the new administration

Credit: Getty Images/Mark Wilson

Last year was defined by uncertainty, as construction firms awaited the results of the presidential election. The next administration has the power to significantly alter regulations, taxes, labor policy and countless other aspects of business.

With Donald Trump winning the election, many firms were cautiously optimistic about his construction and development background, his promises to cut regulations and his massive infrastructure proposal. However, experts say the feeling of uncertainty hasn’t disappeared — and likely won’t in the months to come. That fear of the unknown could keep owners from starting or continuing new projects.

“I don’t know if anybody can predict what the new administration will really do,” said Gina Vitiello, construction attorney at Chamberlain Hrdlicka. “There’s a sense of uncertainty among contractors. If I’m planning on a major contract and it might not go forward, that’s a little scary.”
Some experts are concerned about possible trade conflicts with China and other countries — which could rock the U.S. economy and raise material prices — as well as the impact of stricter immigration policies on the construction labor force.

“I worry our industry is going to be so tied to the administration, which is not a status quo administration,” said Stuart Meurer, executive vice president and chief operating officer of Windover Construction. “I’m fearful of people’s reaction to it. I think it’ll curtail construction in 2018.”

### 4 Offsite/modular construction will gain a stronger foothold in the market

Offsite construction, also called modular or prefab, isn’t new to the industry. However, experts predict the building method will grow in 2017 as quality, time and labor concerns make alternatives to traditional construction methods more attractive.

“There’s always an emphasis on condensing the construction schedule of a project and saving cost — two very important points in any development scenario,” Vardaro said. “Modular has the ability to suppress schedule. If you’re fabricating a module in a factory, sometimes it’s easier to maintain quality control. You don’t have to deal with weather.”

“Things change slowly in construction. **Once something is embedded, then it takes off pretty quickly.**

Julian Anderson, President of Rider Levett Bucknall
One obstacle holding offsite back from stronger growth has been the industry’s slow-to-evolve nature, but Julian Anderson, president of Rider Levett Bucknall, believes the method is starting to overcome that hurdle.

“It’s one of those things that people figured out would be a good thing to do. I’ve seen the problem being that no one wants to be the first to do it. If I’m the first and it fails, I’m an idiot,” he said. “Things change slowly in construction. Once something is embedded, then it takes off pretty quickly.”

Klawans noted that the first element of modular to take off in the industry are HVAC assemblies created offsite. Those contractors are finding that offsite methods allow them to reduce hours onsite, improve efficiency and perform more subassemblies than in the past, according to Klawans. She said that as more firms utilize offsite construction, they will see the benefits, and other companies will in turn try out the method.

### 5 Construction firms are cautiously optimistic for a future infrastructure spending boost

Infrastructure spending saw major play during the 2016 campaign, with President-elect Donald Trump proposing a $1 trillion infrastructure plan over 10 years. Although light on details so far, the plan involves trading an 82% tax break for private equity investment in revenue-generating infrastructure projects.

That emphasis on rebuilding the nation’s infrastructure shone a spotlight on the construction industry, as a lack of steady federal funding has left many contractors uncertain about when their next projects will start. With a potential $1 trillion funding infusion, companies in that sector are optimistic about the years ahead — if Trump and Congress are able to agree on a path forward.
“When Trump says at his victory speech he wants to put $1 trillion into infrastructure and mentions public-private partnerships, that gets everybody excited,” Eliopoulos said. “His plan is short on details, so it’s difficult to tell exactly what he’s got in mind.”

The impact of such a massive infrastructure plan goes beyond firms in the infrastructure sector, according to Meurer. “Anybody that does both might focus more on [infrastructure projects] and allow opportunities for the other projects to spread to the market,” creating a boon for firms in the vertical construction business, he said.

6 IoT holds the potential to revolutionize the job site

The Internet of Things encapsulates several aspects of the construction tech landscape, including equipment and employee tracking, wearables, drone surveying and other information collected on the job site. As contractors and
subs continue their quest to cut costs and improve efficiencies, many are turning to IoT options to improve site operations.

Garrett Harley, director of engineering and construction strategy for Oracle, said he tends to combine the terms IoT and business intelligence. “It’s the aggregation and collection going into a central repository where you can make intelligent decisions based on what you’re collecting,” he said. “All those decisions are just a way of moving something from a manual process to seeing that information in real-time.”

Wearables, for instance, can track workers in the field and ensure that they protected from or at least aware of job site hazards and other potential injuries, and equipment sensors can monitor whether machinery is in need of repair.

Willy Schlacks, president at EquipmentShare, pointed to labor tracking as a major technology trend poised to take off in construction. “The amount of waste in labor mistakes or labor fraud is enormous in the construction industry,” he said. “The adoption [of labor tracking technology] is going to be pretty quick because there’s such a strong correlation to the bottom line.”

Along with increased use of new technologies comes the need for interoperability. Firms still struggle to find solutions that take all of the information collected from different devices and sensors, and then translate it into quality information.

“The challenges become where you reach the point where there’s this tidal wave of information,” said Tony Colonna, senior vice president for innovative construction solutions at Skanska USA. “Being able to transform a lot of disconnected information into what we’ll call the actionable, something that gives me context, takes data from multiple sources and turns it into data we can use.”

Harley said he believes the construction industry is still in the process of embracing new technologies, with a group of progressive contractors leading the way. Companies that fail to keep up with the newest technologies risk getting left behind.
One of the most common concerns industry experts cited for 2017 is the escalating cost of doing business. With rising material and labor costs, firms will likely struggle to maintain their margins in the coming year.

Contractors have been expecting an impending bump in material costs after several years of relatively flat growth. The Associated Builders and Contractors called the most recent decline in material prices “the calm before the storm.”

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Stuart Murer, Executive vice president & chief operating officer of Windover Construction

“We’re already starting to see escalation in materials creep back in,” Meurer said. “We knew it would be coming, and we knew it would be a big factor in 2017.” He added that inflation is also a concern going forward because it could put the brakes on new projects in the coming years.

Anderson noted that construction costs continue to outpace inflation, which is a trend that he believes will “become unglued” at some point. “You can’t keep pushing up the cost of construction without having people put off
construction,” he said. “The developers and builders have to keep pushing up their prices to the end user, and eventually the end user gets sick of it.”

On the labor side, the skilled-worker shortage has led to employers raising average pay higher than the national average. Experts say that increasing workforce costs — which include recruiting and wage costs for current employees — will cut into contractors’ bottom lines.

8 VR/AR tech will pick up steam

Virtual reality. Credit: Builtr

Virtual and augmented reality technology is one of the most buzzed-about trends in the construction tech space, as it can enhance collaboration among project stakeholders before building begins.

VR and AR can allow the construction team to detect errors ahead of time and avoid costly mistakes. They also have the potential to improve job site safety, such as letting managers and workers view job site conditions without subjecting them to safety hazards.
For example, researchers at the Institute for Computation in Engineering at the Ruhr-Universität Bochum in Germany are training workers on VR versions of job sites. And in September, construction giant Bechtel joined forces with Human Condition Safety to offer VR immersion safety training.

Klawans sees the potential for combining VR/AR and modeling. “There are other shiny pennies, but I think there’s a ton of value to be leveraged from VR/AR.”

Colonna said that with virtual reality, the “cool” factor is still somewhat outweighed by high implementation costs. “You can see a lot of very sophisticated presentations, but the challenge is with the software platforms today,” he said. “It’s kind of cost prohibitive to use that on a regular basis. It’s in more of early deployment.”

The sustainable construction movement will consider changing its message

The incoming Trump administration has implications beyond infrastructure, as sustainable building leaders are now considering the possibility of altering their messaging to ensure the movement continues.

“It’s really important not to lose the gains of the past by clinging to the way we talk about things,” said Beth Heider, chief sustainability officer at Skanska USA. “It’s really important to look at the work that we’ve done under the umbrella of sustainability and continue with that work and just recognize that there are lots of ways to articulate what we’re achieving.”

Heider said she believes the industry should put less emphasis on the climate change implications of sustainable construction and focus more on the bottom line, as resiliency and high-performing buildings can lower energy costs and create jobs.
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Beth Heider, Chief sustainability officer at Skanska USA

“The new administration has probably been a wakeup call to the nation that all perspectives don’t feel as if they’re heard,” she said. “That also means you’ve got folks across the country who we aren’t communicating with. This gives us an opportunity to communicate the value of smart, high-performing buildings and infrastructure in a way that can be understood by more people.”

Both Heider and Vardaro are optimistic that sustainable construction and the green building movement will continue to make strides in 2017. Vardaro said the year ahead will bring “the next step of building green,” with more owners and tenants demanding energy-efficient features in new buildings. Sustainable construction, he said, will be more of the norm rather than the exception going forward.

Construction firms will face increased scrutiny and prosecution of safety and fraud incidents

The construction industry continues to face increased scrutiny for safety violations and incidents amid a building boom. Experts predict that 2017 will see continued heightened attention to job site safety from agencies and law enforcement.

One of the most notable cases of 2016 in the industry involved the death of 22-year-old worker Carlos Moncayo, who was killed in an excavation
collapse at a New York City job site. The general contractor on the project, Harco Construction, was charged with criminally negligent homicide and manslaughter and was ordered to pay $10,000.

Despite some claims that it is an overreach to criminally prosecute contractors for accidents like Moncayo’s, authorities have ramped up their efforts to ensure job site safety. In response to the Moncayo incident as well as other safety and corruption issues in the city’s construction industry, Manhattan District Attorney Cyrus Vance set up the Construction Fraud Task Force in 2015, which investigates safety, fraud and other legal violations.

“All firms will face greater scrutiny of accidents, including potential criminal prosecution for workplace injuries that in the past may have been treated solely as traditional accidents,” said Brian Gardner, chairman of Cole Schotz’s Construction Services Department.

Gardner added that construction companies should also expect increased attention to fraudulent practices in the years ahead, as wage and billing practices are becoming “criminally scrutinized” more often.
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