

**PHILADELPHIA
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CONSTRUCTION GUIDE

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- ▶ THE FUTURE OF CONSTRUCTION
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LETTER FROM THE SPONSOR

The Greater Philadelphia Region, and specifically the union commercial construction industry, is evolving faster than ever before. The future is now. As more and more buildings are erected every day and our skyline continues to evolve, so too is the industry.



It seems that every day a new Philadelphia business is announcing plans for a center of innovation or a research and development institute. At the heart of bringing these innovations to life is the construction industry, the hardworking professionals within our association who work hand-in-hand with the region's leaders in healthcare, education, manufacturing, and other industries to continually strive for more.

Research shows that commercial construction has had a multibillion dollar economic effect on the City of Philadelphia and the surrounding five-county region over the past few years, resulting in the creation of countless new jobs and new residences, offices, universities, hospitals, and more.

With every project and initiative GBCA members continue to set the bar higher for excellence in construction. We are energized by the quality and strength of the GBCA membership and look forward to moving the industry to an even higher standard of excellence.

We know that to remain competitive, we can't work the way we've always worked. It's for that reason that in this special Construction Guide section we look into the new technology and diverse skillsets evolving our industry, and in turn, how experts in the field are helping drive building and business innovations forward, from drones and virtual reality to estimating and modeling techniques.



Lauren Hanan
Director,
Marketing & Communications
General Building Contractors Association



CONSTRUCTION GUIDE

THE FUTURE OF CONSTRUCTION:

Critical Thinkers Leveraging Big Data

GILBANE BUILDING COMPANY

The Architecture/ Engineering/ Construction (AEC) industries have always been focused on practices developed over years of lessons learned and complex projects. It's a high-risk industry that relies on this type of approach to make sure that projects continue to be completed on-time and on-budget. Companies are already starting to combine the mindset of tried-and-true checklists, practices, and procedures with new technologies that allow for automation and an increased efficiency on the analysis of project information.

It's the standard expectation of people in every industry, including the commercial construction industry: Skilled critical thinkers that can leverage technology to enable our teams to do more, do better, and with less.

What does the commercial construction industry look like in 50



years? Nobody would disagree that it will be a different industry than it is today. Look back to 10 years ago: The first iPad didn't exist, now they're on almost every construction site. In 2008, nobody was talking about data analytics, but a short 11 years later there are platforms like Smartvid.io that will analyze pictures and videos to predict potential safety issues

before they happen. Every industry is facing smaller margins and the challenge of meeting the past proven practices, but with less time and effort. Data is what drives decisions, and efficiencies will come from automating data population, extraction, and analysis.

In 50 years, the construction industry will have on demand access and analysis

of data in the hands of decision makers. Data is the foundation of innovation.

Data is what people need to make decisions. Things like artificial intelligence can provide more data than we can consume. Data analytics allows us to filter through massive amounts of data to find the pieces that we need to make decisions.

Here in the Greater Philadelphia region, commercial construction companies, building owners, and architects are not only embracing new technology — they're leading the way in developing systems and methods that are shaping the future of our industry. The commercial construction industry is driven by people that are critical thinkers that can leverage technology to exchange, analyze, and generate the data they need to make decisions to keep the project moving forward on schedule and in line with the budget.

As rapid as technology is evolving in the construction industry — what was once considered revolutionary is now commonplace on many jobsites and end-projects — it's hard to predict what the future holds.

What's certain is that Philadelphia's construction community is ready to take the ride, to discover what's next on the horizon and move the industry forward.

CONSTRUCTION GUIDE

HOW THE CONSTRUCTION INDUSTRY IS CLOSING ITS GENDER GAP

BY AMY NOVAK,
PROJECT EXECUTIVE, TORCON

Now more than ever, companies are being founded and led by women. We've made great progress, but despite the tremendous strides of gender equality in business, there are still several imbalanced industries. Construction, however, is a great example of a male-dominated industry where women are defying the odds.

According to the National Association of Women in Construction, women make up 9.1 percent of the industry in the United States. Though seemingly small, of that 9.1 percent, 31 percent of women work in the professional management sector of the business. The industry gender pay gap is also considerably narrower – the U.S. Bureau of Labor reports that women earn on average 95.7 percent of what men make in construction, compared to the 81.1 percent national average.

As a woman who has been in the construction business for nearly 25 years, I've seen the industry grow and change in many ways. When I first started in the field, I felt more at a disadvantage because of my age rather than my gender. In my mid-thirties



when I joined Torcon, I was empowered knowing there was opportunity to grow within the company and for more women to have a seat at the table.

I've seen that as more women obtain leadership roles in other industries, construction has paralleled, and being a woman in the industry has become an advantage.

At our firm, we have entire teams made up of female estimators, project engineers and more. I've had many positive experiences throughout my



career and was fortunate to have male mentors to help me succeed.

I believe it's important to get past the perception that construction is a man's business. Most women aren't exposed to the industry unless they know someone who works in it; typically, that person is a man. One way to address this is through diversity in education.

When I was in school, construction management wasn't available as a course of study, but there are now multiple programs throughout the

nation. In Philadelphia alone, several universities offer construction management degrees, including Drexel University, Temple University, Community College of Philadelphia and Thomas Jefferson University.

Another misconception about the construction industry is that the professions revolve around manual labor. While these jobs are vital in construction, there are many positions that are managerial and business-focused.

For example, though the end product of our work at Torcon is a building – ranging from hospitals to universities to apartment towers – there are some days I don't even look at a project drawing. The construction business is a people business and a crucial part of being successful means having a great work ethic and building strong relationships.

I'm proud to be among the many talented and empowered women in construction, and I know the outlook is bright for more diversity in the industry. While more women in construction have started to move into leadership roles, *I look forward to seeing more young female job applicants come through our doors.*