

**Witness Testimony**

Smart Construction:  
Increasing Opportunities for Small Businesses in Infrastructure

Tuesday, November 19, 2019

**Submitted By**

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**Submitted To**

Jared Golden, Chairman  
The Committee on Small Business  
Subcommittee on Contracting and Infrastructure

## **Introduction**

Thank you Chairman Golden, Ranking Member Stauber, Congressman Chabot and all members of the subcommittee for the opportunity to testify today. On behalf of STACK Construction Technologies, I'm honored to speak regarding Smart Construction and Increasing Opportunities for Small Businesses in Infrastructure. Most importantly, thank you for allowing me to share my background, the STACK story and a view of how technology can help contractors to succeed and shape future efficiency and productivity for the construction industry.

## **My Background – Laborer, Contractor, Technology Entrepreneur**

My name is Phil Ogilby, and before I became the Founder and CEO of STACK – a construction technology company focused on helping contractors to complete more work, in less time and with a higher level of accuracy, I spent more than two decades working with, building and growing construction firms.

After high school, I started my construction career as a union sheet metal worker.

Not long after, when the economy tanked in the early 1980s, I found myself with a growing family, a mortgage and an unemployment check. So, I bought a book and taught myself how to roof my own house and eventually started a residential roofing company. Within a few years, we'd shifted our focus to commercial work and employed more than 55 people. It was during this period that I really learned how commercial construction works.

In the early 90s, I co-founded a company that supplied metal roofing and wall panels to contractors called Metal Panel Systems Inc. This company is still in existence today and serves owners and contractors throughout the Midwest.

Next came the internet and when my oldest son Justin was just 14, his interest and skill in computer programming became quite clear. His passion for technology paired with my desire to find more efficient ways to run my construction business fueled the development of our first estimating software solution. After selling more than \$500,000 worth of this software to others in my network, I made the transition from contracting to providing technology solutions to contractors.

Fast forward to 1999, and I launched iSqFt, the first ever web-based solution that allowed General Contractors to distribute blueprints and specifications for currently bidding projects to their subcontractors, via the Internet. iSqFt experienced unprecedented industry adoption, grew rapidly and was eventually acquired. It exists today as part of

ConstructConnect, headquartered in Cincinnati, Ohio, and with more than 1,000 employees throughout the US.

I launched STACK Construction Technologies in 2015, with a goal to provide new and better tools for contractors to bid work faster and with a higher degree of accuracy from digital blueprints. Today, our STACK software is used worldwide by thousands of construction contractors.

### **The VERY BIG Construction Picture – Reality from 30,000 Feet**

According to the World Economic Forum report from May of 2016, The Engineering & Construction (E&C) industry strongly affects the economy, the environment and society as a whole. It touches the daily lives of everyone, as quality of life is heavily influenced by the built environment surrounding people. The construction industry serves almost all other industries, as all economic value creation occurs within or by means of buildings or other “constructed assets”. As an industry, moreover, it accounts for 6% of global GDP. Construction is the largest global consumer of raw materials,

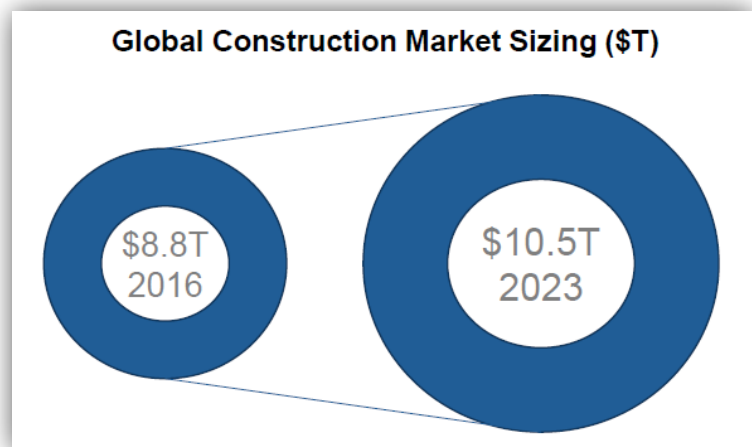
The population of the world’s urban areas is increasing by 200,000 people per day, all of whom need affordable housing as well as social, transportation and utility infrastructure.

In fact, the UN estimates there will be 7B people in cities by 2050, up from 3.5B today. For context, it took 6,000 years to get to 3.5B people globally, highlighting the massive surge in urban population over the next 30 years.

As a result, a huge amount of new construction and renovation is and will be needed both here and worldwide to meet demand. In fact, the global construction industry is projected to grow at a compound annual rate of 4.2% and reach \$10.5 Trillion dollars by 2023.

Construction spending in the US alone reached \$1.2T in 2017 (\$951B private; \$280B public).

[Autodesk](#), the world’s leader in design software for construction, estimates that another 1,000 buildings a day will need to be added to the existing stock, in order to keep pace with urban population growth – a gap that



will take many decades to bridge given the current low level of construction productivity and output.

Compared to many other industries, the construction industry has traditionally been slow at technological development. It has undergone no major disruptive changes. As a result, efficiency gains have been meagre. In the United States over the last 40 years, for example, labor productivity in the construction industry has actually fallen. The construction industry today is unable to effectively address current demand, much less satisfy future growth.

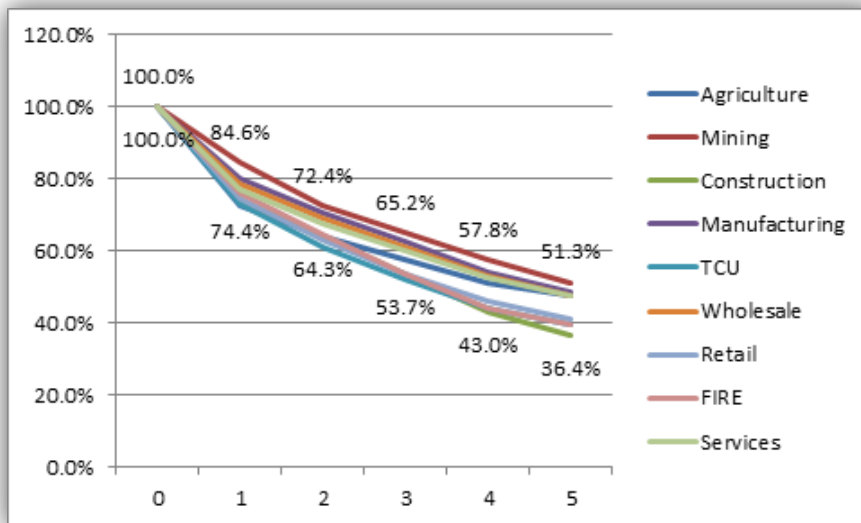
### Construction Problems and Challenges – The Major Headwinds

- Acute Labor Shortage

This type of testimony would not be complete without reference to the lack of skilled labor. This is a major problem for the industry and one that will continue to impact future infrastructure needs. According to the U.S. Bureau of Labor Statistics, there were about 300,000 vacancies in the construction industry as of June of this year. It's expected to need 747,000 more employees by 2026.

- High Failure Rate for Construction Startups

Historically the industry has a low barrier to entry, which results in a highly competitive environment that also contains a high level of risk by its very nature. All of these factors combine to make success for these companies difficult to achieve. Reducing the failure rate is possible when proper technology and tools are introduced and leveraged early in the lifecycle of a new business.

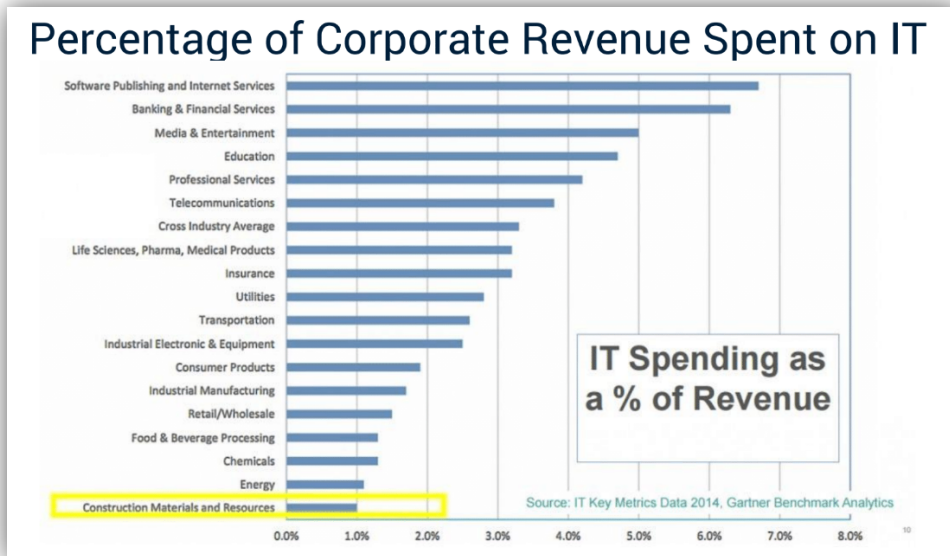


Source: Created from data from the Census Bureau's Business Dynamics Statistics

- Lack of Technology Adoption

Despite a plethora of intelligent and intuitive productivity-boosting solutions available today, the construction industry remains very slow to adopt new technology. More broadly, IT is massively under deployed, representing just 1% of total construction spend, most of that in wages.

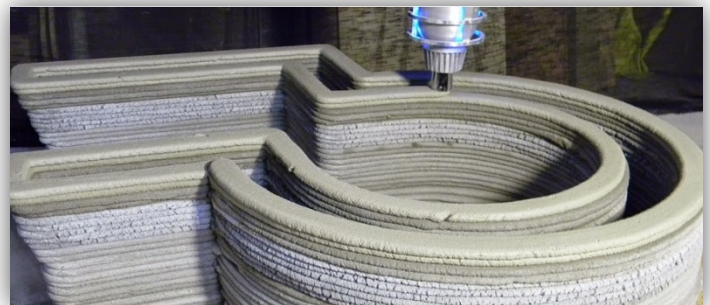
According to a Gartner Analytics report from 2014, at 1% of total operating costs on average, IT spending at most construction organizations tends to be an afterthought. Compared to 10%+ for manufacturing and a 4%+ average for other sectors, it's clear that the industry will continue to struggle without deliberate investment in new technology.



### Technology Solutions – Reducing Headwinds by Improving Efficiency

Construction tech solutions all revolve around real-time access to data and ultimately aim to keep project costs under budget, improve productivity and keep project completion ahead of schedule.

Progressive solutions, like 3D concrete printing and brick laying robots are emerging to automate the construction assembly process, yet it remains one of the least digitized of the major economic sectors, ahead of only agriculture and hunting.



A recent report from McKinsey & Co. finds that “While many U.S. sectors including agriculture and manufacturing have increased productivity ten to 15 times since the 1950s, the productivity of construction remains stuck at the same level as 80 years ago. Current measurements find that there has been a consistent decline in the industry’s productivity since the late 1960s.”

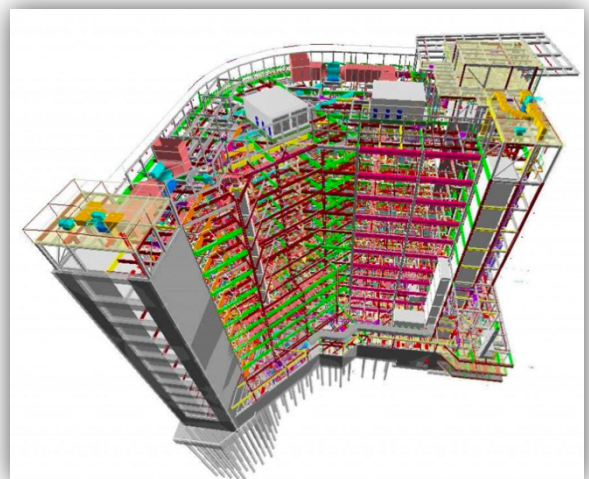


The complexity, cost, network of constituents, degree of project customization, and sheer volume of construction projects has grown significantly in recent years, putting pressure on a regressive industry to begin adopting technologies that provide the levels of control, transparency, efficiency, collaboration, and productivity that are already common place in other industries.

In order to overcome the myriad of challenges faced today and, in the future, the construction industry must undergo major technological and cultural changes.

### **Digitization - How STACK Can Help**

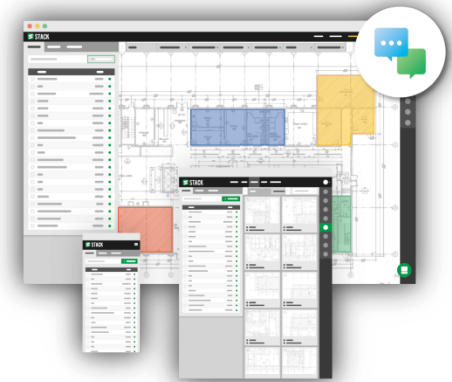
From years of experience as a contractor and as a supplier, I’ve developed an absolute passion for building technology tools to help contractors to find success, in a very difficult business.



Despite the *best economic climate for construction that I've personally ever seen*, the current environment continues to be a difficult one for new and small construction firms to succeed.

In fact, according to the Bureau of Labor Statistics, a full 25% of all new construction companies close their doors in the first year of operation and only 36% remain in operation after 5 years.

The facts are simple. The barrier to entry for the construction industry is low, but the risk is high. Even in a “white hot” market, profit margins are under constant pressure as emerging, small construction firms compete for the same projects. Without access to and adoption of tools and solutions to improve fundamental workflows, the small firms will continue to find the deck stacked against them from startup and the chances of survival, let alone continued growth, next to impossible.



Our goal at STACK is to empower contractors to succeed by providing tools to make them more efficient in their preconstruction process, more accurate in their estimates, and more productive with their limited resources.

### **Digitization - Help and Influence Needed**

According to Michael Buhler, the Head of Infrastructure and Economic Development for the World Economic Forum, “Full-scale digitization has the potential to help the industry to improve productivity and generate estimated savings of 12-20% while potentially unlocking an estimated \$1.2Trillion in annual cost savings, for the construction industry.” This includes lower cost over-runs for owners, as well as increased efficiencies for construction firms by way of collaboration and resource management, optimization of labor, streamlined supply chain operations, increased project transparency, and better data management and utilization.

Digitization represents one of the first and most actionable steps toward modernizing construction and touches every stage of the construction value chain. Digitization will drive both monetary return on investment and clear gains in efficiency, helping to unlock the latent potential in the system so that it can ultimately keep up with infrastructure demand.

**My asks of this subcommittee are:**

- Get creative and to explore all opportunities to provide contractors with access and means to adopt construction technology at an increased rate.
- Join the hearing panel members and the industry as a whole to help educate about the benefits of working smarter using technology and to encourage adoption at a faster rate.
- Consider mandating the use of certain technology solutions for all government funded projects, not just at the General Contractor level, but all the way down to the Subcontractors participating in the project.
- Consider how tax incentives might be used to encourage the slow-moving industry to make new investments in technology.
- Consider directly impacting adoption for subcontractors by extending grants to construction technology providers to help subsidize the cost of the tools they need to be efficient and successful in helping to rebuild America's infrastructure.

On behalf of STACK Construction Technologies and the thousands of small businesses we support with our software, thank you for allowing us to share our perspective on advanced construction technology and its impact on building and improving America's infrastructure.