REDEFINING PROJECT DELIVERY
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Solutions

Are High Building Costs Robbing Your ROI?

In a recent study entitled "Reinventing Construction: A Higher Route to Productivity" (February 2017) the McKinsey Global Institute reported that the construction industry's labor productivity "appears to be in a time warp" largely due to a fragmented approach and an inability to embrace technology. It also reported that in the United States, labor productivity in the construction industry has actually declined at a compound annual rate of -1.04 percent over that same twenty-year period. Conversely, the manufacturing industry has seen a compound annual increase in productivity of 3.6 percent globally.

According to the report, the construction industry could realize a dramatic productivity boost "...if construction were to depart from entirely project-based approaches to more consistently employ a manufacturing-like system of mass production with much more standardization and manufacturing of models and parts in factories offsite..."

So, why can't the construction industry emulate the manufacturing industry?

We believe the construction industry is in dire need of an overhaul. In addition to suffering from limited technological capabilities and production methods, it is fraught with inefficiency and waste. Collectively, the industry has failed to make radical changes to reverse this negative productivity trend. Instead, the industry players have perpetuated the fragmented approach that is "the norm" – where project owners work with a loose alliance of architects, engineers, and contractors – hampering productivity and diminishing returns on investment for all parties involved.

It doesn't have to be this way.

To learn more about how FINFROCK brought a manufacturing mentality to the construction industry, significantly increasing our productivity and lowering our client's construction costs, turn the page.

FINFROCK®

"Construction should be able to execute a lean philosophy, standardize its product offerings, and modularize its designs as manufacturing firms do." ~McKinsey Global Institute

Higher productivity leads to lower costs and reduced construction schedules

What is FINFROCK doing to emulate the manufacturing industry?

As a manufacturer, we have applied a manufacturing mentality to all areas of our business, creating economic benefits for our clients. Our philosophy is that owners should be able to purchase a building as a product rather than a series of services and have it completed in less time and for less money.

To illustrate, let's consider the way you purchase a car and how that process could be analogous to the way you buy a building.

When you decide to purchase a new car, you go to one automaker to buy a complete vehicle. Can you imagine buying a car a piece at a time – where you pick out an engine separately from a car body, tires, windows, steering wheel, brakes, seats, etc.? With the automation and efficiency of the automotive industry you don't. You customize the car you want online, and one automaker builds it on an assembly line. If something goes wrong with the car, you go back to the dealer and have them make it right.

FINFROCK has demonstrated that higher productivity leads to lower costs and reduced construction schedules. We've streamlined every aspect of the building process to benefit our clients. Our vertically integrated business model and the use of a highly customizable manufactured structure reduces on-site construction duration by 40-50 percent.

EDUCATION

At FINFROCK, we've built a collaborative workforce within a vertically integrated company. Architects, engineers and project managers new to the industry spend 18-24 months in our Professional Development Program learning every aspect of our company. They learn how decisions they make impact costs, schedules, manufacturability, and constructability. Experienced professionals also cross-train in every area of the company, enabling them to afford you these same benefits. In fact, this investment in education has contributed to a reduction of RFIs on our projects by up to 90 percent due to these collaborative efforts.

REGULATION

Inefficient and excessive regulation can hinder productivity gains and increase building costs. Building codes change from one jurisdiction to another and are often open to interpretation. FINFROCK architects and engineers are conversant in all aspects of building codes to ensure that every project is compliant. We also advocate for clients to be sure their project incurs no extra costs due to incorrect interpretation by building officials.

In addition, we work with national building industry organizations to bring about equitably applied zoning and building code requirements.

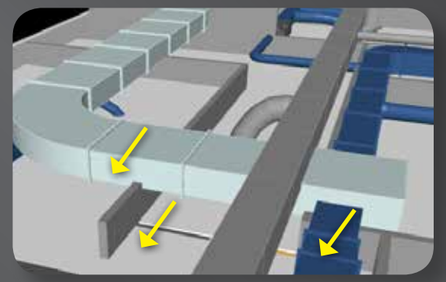
TECHNOLOGY

At FINFROCK, we have invested in and developed an array of technology products designed to create solutions to simplify every facet of the building process. We even created a software company to develop the necessary tools to fundamentally change the way we design and deliver buildings.

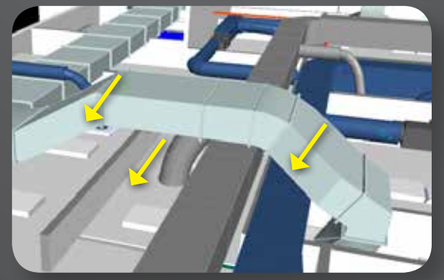
The manufacturing industry was first to use 3D modeling in design. Since we are also a manufacturing company, we believe that this technology is a critical component of our building delivery system.

FINFROCK designs a building so that the location of every component needed to complete that building is verified in a computer generated 3D model before it's manufactured, delivered, and then finally assembled on-site according to a step-by-step plan and schedule. The reality of what happens on a job site is an assembly of a project already proven in a highly controlled 3D model.

By using Building Information Modeling (BIM) and Virtual Design and Construction (VDC), you obtain three enormous benefits from the FINFROCK approach: reduced risk, reduced cost and increased speed of construction.



BEFORE clash detection, model shows conflicts.



AFTER clash detection, model reflects ducts, pipe and other utilities moved so that installation on the job is without conflict between trades.

CONTRACTS

Using contracts that assign risk to parties most able to manage it, our clients no longer deal with unexpected change orders and corresponding costs. They don't warrant plans to general contractors for which they have received no similar guarantee. Working with FINFROCK and using a design-build contract, owners benefit from a single source of responsibility: architects, engineers, contractors and subcontractors work together and are incentivized to collaborate. The team is unified and tasked with collectively bringing cost-saving ideas to the table in the design stage. This is a far cry from the concept of "value engineering" where the scope is reduced after budgets are exceeded to bring project costs in line.

FINFROCK's fully integrated design-build project delivery system enables an accurate price to be developed, often with minimal or no design fees. The aforementioned 3D model allows you to see exactly the building you are buying and enables us to develop an accurate price. The FINFROCK approach minimizes your opportunity costs, enabling you to prove the viability of your project sooner -- thereby allowing you to make well-informed business decisions.

Contact FINFROCK to see if you can benefit by using FINFROCK's consultative approach on your next project.

WHAT'S NEXT?

In the near future, we will be able to implement mixed reality technology utilizing the BIM model created in earlier phases of the design. By merging the real world with a virtual world, we can further increase our productivity to expedite our project delivery. Utilizing wearable computer glasses or "smart glasses," employees will be able to see a hologram display of the items we want to place in our forms during manufacturing and while assembling the actual building on the site. Owners will be able to tour their building virtually on the site where construction will take place. As you can imagine, this will significantly improve the productivity and accuracy from manufacturing through the construction phase.

Thank you for reading this issue of Solutions! We would be very interested to receive your feedback about this topic as well as hearing from you about other construction-related topics you may be interested in. If you have a building project on the horizon, we hope you will consider FINFROCK as your potential Design Builder. In the meantime, please like us on Facebook, follow us @finfrockdmc on Twitter and check out our LinkedIn page to stay apprised of our latest projects.

In the next issue, we will talk about how these innovative technologies are being utilized for client projects. Be sure to check out past issues on our website: **http://finfrock.com/resources/solutions**

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