

BY MATTHEW HIRSCH

# Data Standards on the Horizon for Construction

Construction industry professionals use a variety of software for project management, design, and financial and legal compliance. They also spend valuable time and money getting one set of applications and platforms to exchange data with another.

What are the actual costs? According to Navigant Construction, the average total cost to review and respond to a single request for information – just one form of collaboration – is \$1,080. All data-related costs incurred by project owners and operators, contractors, architects, and engineers industrywide add up to \$15.8 billion a year, according to the National Institute of Science and Technology.

Inefficiency with data isn't unique to construction. The finance industry started working to simplify the exchange of information through software 20 years ago. "It's very hard to get someone to invest in a company that they don't know anything about. So we were very interested in making financial information more accessible to ordinary investors," says Alfred Berkeley, a former president and vice chairman of the NASDAQ Stock Market.

Demonstrating how powerful standardization could be, NASDAQ teamed up with the Semiconductor Industry Association and other technology and finance partners to host data from regulatory filings on the NASDAQ website. Businesses, investors, and anyone else wanting to analyze semiconductor company data could instantly pull relevant information into a database instead of drudging through manual data entry.

Before long, Berkeley was helping the U.S. SEC Chairman's office assemble a working group to standardize the EDGAR database, a massive repository of disclosures by foreign and domestic companies. The initiative gave rise to XBRL, a royalty-free, open standard for business information reporting.

Using XBRL, companies are now beginning to see opportunities to drive down costs in all phases of construction.

This article will discuss the need to streamline business reporting, regulatory filings and project management. It will also provide tips for integrating data standards into existing workflows and describe widely available software solutions that can facilitate integration.

## The Need for Data Standards in Construction

Fifteen billion dollars of waste today means there's a considerable opportunity to streamline the exchange of text, computer-aided designs, images, animations, and more. Let's review some unnecessary costs associated with a small set of reports that represent common issues throughout the construction industry.

### Workers' Comp Reporting

Construction companies incur the highest workers' comp costs across all industries – \$1.18 an hour, or 3.3% of total compensation, which is more than twice the average for all U.S. workers, according to Employer Cost for Employee Compensation figures from the U.S. Bureau of Labor Statistics.<sup>1</sup>

Since workers' comp is regulated at the state level, some states do things a little differently than others. For example, Florida, Missouri, New Mexico, and Tennessee require all construction companies – even those with just one employee – to carry workers' comp insurance, while in Texas, workers' comp is optional except for construction companies working on government contracts.<sup>2</sup>

Companies must pay high administrative costs to comply with various state-level requirements, and vendors profit from these system inefficiencies.

### UCC Filing

UCC filings are used in all industries to notify debtors of a creditor's interest in their personal or business property. Because the construction industry relies on complex asset management strategies, builders and owners had to take note in 2017 when a federal court of appeals wiped out a \$1.5 billion loan to General Motors because of a mistaken UCC filing.<sup>3</sup>



The case is further complicated by the fact that the clerical error was made by General Motors' own law firm and not the lender's counsel. However, the lender's counsel also overlooked the mistake. This case has gained widespread attention because the lenders have attempted, so far unsuccessfully, to reinstate the loan.

This brings to light the question: How many other times have clerical errors tripped up frequent UCC filers? It might be more often than companies in construction and other industries would care to admit.

### Lien Waivers

Only 12 states have mandatory lien waiver forms.<sup>4</sup> The lien waiver process is inefficient, especially in unregulated states, because companies must generate their own forms, review forms generated by others, negotiate terms, print forms, input data, and monitor deadlines. As with workers' comp reporting, administrative fees add up and result in a steady flow of funds from software customer to vendor.

### Construction Monitoring, Certificates of Completion & Certificates of Acceptance

A recent advisory on effective reporting for construction projects identifies effective project reporting as one of the most difficult project management challenges. "Unfortunately, the vast amount of data available to be reported and the complexity of software systems used for project reporting have left many project management, engineering, and construction departments with few options other than to develop ad hoc tools that require manual reconciliation and duplicate data entry," KPMG notes in the advisory. "This is often referred to as 'project management by spreadsheet.'"<sup>5</sup>

### Integrating Data Standards & Business Processes

While construction companies may be wasting as much time as ever on manual data reentry between applications and time spent using duplicate software, the basic building blocks of digital transformation are starting to fall into place.

Nathan Wood, Executive Director of the Construction Progress Coalition, likens building information modeling (BIM), a database for the physical and functional characteristics of a construction project in various digital forms, to the Blackberry, the handheld device that brought

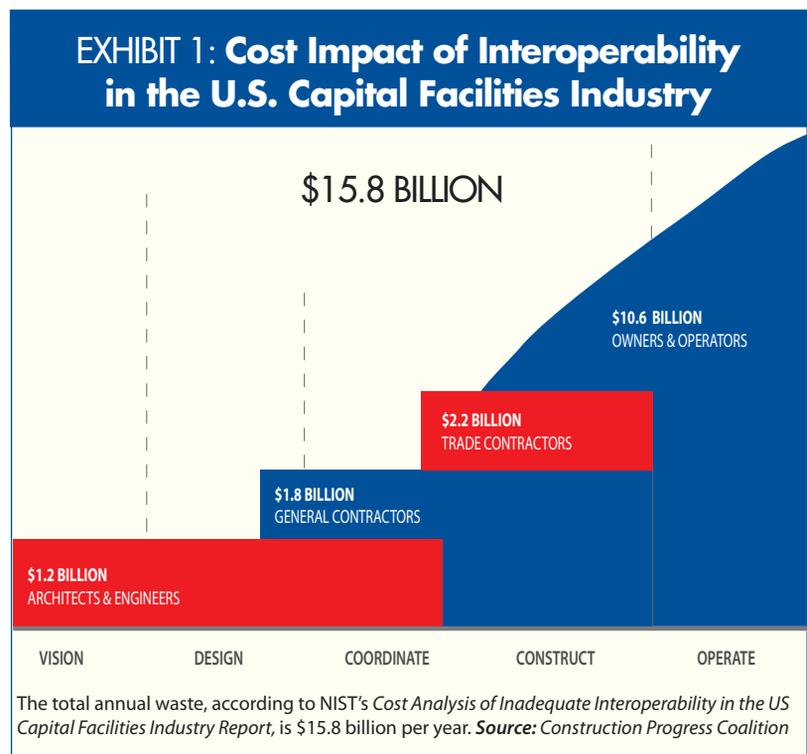
thumb-typed messaging and mobile e-mail to businesses and consumers almost 20 years ago. In the same way that Blackberry was a forerunner of today's smartphones, Wood says the current generation of construction technology will help deliver us to a point where a GC no longer must wait 30 days, 60 days, or 90 days before getting paid.

"The vision is literally daily payments," Wood says. "From the journeyman/foreman level that's driving to work at a jobsite, he'll just pull out his smartphone, open an app, and clock himself into the job. Then clock out at the end of the day and get paid daily, right through the app."

### Maintain Dialogue

One key challenge of integrating construction data standards into existing workflows is maintaining a dialogue about the process with general managers and CFOs who may not be familiar with the world of information technology.

Once these decision-makers have locked in on key performance indicators and how to track them, Tom Tansy, Chairman of the SunSpec Alliance, a nonprofit that's built a solar-specific taxonomy on top of XBRL, encourages them to write RFPs requiring software to be compliant with an open standard for the industry. XBRL is a leading example because it encompasses a growing collection of industries, including accounting, surety, and finance.<sup>6</sup>



## XBRL Resources

XBRL is a royalty-free open standard for business information reporting. To stay up-to-date on new developments with construction data standards, connect with the following organizations.

**XBRL US:** This nonprofit organization supports the implementation of digital business reporting standards with a goal of interoperability between industry sectors. [www.xbrl.us](http://www.xbrl.us)

**Construction Open Standards Alliance:** A community of construction industry professionals who support open integration standards in construction software. [www.cosa.build](http://www.cosa.build)

**Construction Progress Coalition:** This nonprofit aims to maximize the quality and efficiency of digital handoffs through collaborative guidelines using an adaptive, open-source approach. [www.constructionprogress.org](http://www.constructionprogress.org)

**SunSpec Alliance:** This nonprofit is building a solar-specific taxonomy on top of XBRL. It is accelerating the growth of distributed energy and renewable power by specifying de facto standards that enable solar power plants and energy storage systems to interoperate transparently with system components, software applications, financial systems, and the smart grid. [www.sunspec.org](http://www.sunspec.org)

Secondly, Tansy says to use the RFP process to query vendors that do not support construction data standards. “Irrespective of the field that you’re operating in, building a highway or a solar project, these are long-lived, complex projects where the same data gets repurposed many times,” he says.

Business leaders can turn inward with the same set of questions. The largest companies, banks, and sureties in the world are tackling inefficiency using data standards.<sup>7</sup> What’s preventing construction companies from doing the same?

### The Importance of IT Vendor Support

One important indication of progress in the construction industry is that there is no practical limitation on software platforms that can be used to facilitate exchange of quality construction data. Check with your software provider about migrating from just proprietary data formats to also include standard formats. If this isn’t already standard operating procedure, it can often be easily adopted. The more organizations there are that standardize their data, the more easily they can share data among business systems, thus reducing the cost of manual handling and increasing the efficiency afforded by automation.

Available tools include graphical XBRL tagging within Microsoft Office, enterprise performance management (EPM)

systems, or right-in-the-data source metadata. Customers can use one or multiple taxonomies for definition and review with complete control to modify taxonomies as needed. They can also validate datasets before publishing financial, management, and regulatory reports.

The number of companies working on industry data standards is robust and growing. As of this printing, XBRL counts 461 members worldwide, including 39 that are affiliated with XBRL in the U.S.<sup>8</sup> When the Construction Progress Coalition and the Construction Open Standards Alliance hosted the 2017 Open Integration Summit, 34 organizations participated.

SunSpec Alliance has thus far recruited 105 contributing members, including companies of all sizes and laboratories, nonprofits, and government entities in the solar and energy storage industries.<sup>9</sup>

### Opportunities Ahead

Trend lines in the construction industry all point toward data standardization. In several instances, lawmakers have required the use of standards in contracting.

The *Digital Accountability and Transparency Act* (DATA Act) of 2014 kicked off a process of setting standards for federal spending data, codifying the data to be machine-readable, and requiring federal agencies to submit spending data to the U.S. Treasury Department in compatible formats.

DATA Act benefits also extend beyond the government and into the private sector, where transparency in contracting can help small businesses become more competitive for federal funding.

At the agency level, the U.S. Department of Energy has facilitated XBRL adoption in the utility industry through sponsorship of the Orange Button Initiative, the project responsible for building a recently released dictionary of over 3,700 common terms used to deploy, interconnect, finance, provide surety bonds for, and monitor the operational performance of solar power projects.<sup>10</sup>

And at the state level, the California legislature passed *AB 1223*, requiring state agencies to post construction contract payments of \$25,000 or more on their websites within 10 days and creating a public record for subcontractors to verify payments to GCs so they receive prompt payment as required by law.

With greater transparency comes new opportunities for contractors, software developers, and investors to eliminate



waste and change the course of business not only within their own organizations but for the whole construction industry. Several groups are working to adopt data standards in construction. See XBRL Resources to learn more about these groups and get involved. ■

## Endnotes

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