



# SOLVING LITHKO'S LABOR PRODUCTIVITY CHALLENGES WITH SOFTWARE BUILT FOR HARD WORK

By Struxi



# THE COST OF CONSTRUCTION WASTE

It's no secret that labor productivity is a major challenge facing the construction industry. On average, large projects take 20% longer to complete and those large projects cost 80% more than planned.<sup>1</sup>

Plus, labor productivity inefficiency affects construction contract profitability — as a project experiences overruns, it hurts operating margins and construction companies make less per project as a result.

The productivity problem stems largely from the lack of adoption of new technologies, which have disrupted and revolutionized other industries like manufacturing, leaving the construction industry behind every industry save agriculture.<sup>2</sup>



## THE STATISTICS ILLUSTRATE THE PROBLEM:

- Over the past 3 years, just 25% of projects came within 10% of their original deadlines<sup>1</sup>
- Nearly 50% of construction professionals prepare daily reports manually<sup>4</sup>
- 40% of construction companies still use paper plans<sup>4</sup>
- Only 29% of construction companies use mobile apps on all projects<sup>3</sup>

Add in the labor shortage currently facing construction, and it is clear why Lithko Contracting, LLC decided to collaborate with Struxi to find their own technology-enabled productivity solution, creating the potential for millions of dollars in annual labor cost savings.

1 Rajat Agarwal, Shankar Chandrasekaran, and Mukund Sridhar, *Imagining Construction's Digital Future*. McKinsey & Company, June 2016.  
2 McKinsey & Company *Global Institute Industry Digitization Index, 2015 or Later Available Data*  
3 KPMG, *Building a Technology Advantage*, Global Construction Survey 2016.  
4 JB Knowledge, 2017 6th Annual Construction Technology Report.




## LITHKO'S LABOR PRODUCTIVITY CHALLENGE

Lithko, a full-service concrete specialty contracting company, wanted to find a solution that streamlined manual time collection and coding — a problem plaguing productivity in the construction industry.

“We did a road show where we went out to job sites and business units to understand what the pain points of our stakeholders were, and something kept coming up — the way we collected our time and quantity by worker and cost code every single day for every single job was causing a lot of administrative work from the same people we would rather have planning and executing our jobs,” says Ryan Hale, Chief Information Officer & Director of Strategic Initiatives at Lithko.

While work on the jobsite was executed, superintendents and/or project managers spent their mornings keying data into spreadsheets across their 16 locations and then the office administration re-keyed all that data into Penta Technologies' ERP system. For America's second largest concrete contractor, that worked out to 16-20 thousand lines of data that had to be manually entered every week to execute critical payroll and accounting tasks. Hale knew there was a digital solution, and he wanted to find it.

“In addition to the efficiency savings, if we can eliminate the rounding of hours, we could see a 3-5% cost savings — that would mean millions to the bottom line, given that we spend ~\$175 million on labor per year.”



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## COLLABORATING TO FIND A DIGITAL SOLUTION

Hale informed the Struxi team that the existing Penta mobile productivity application didn't suit Lithko's needs because there wasn't an easy way to clock workers in. Due to this feature gap, Hale & Lithko were prepared to go with a competitive offering.

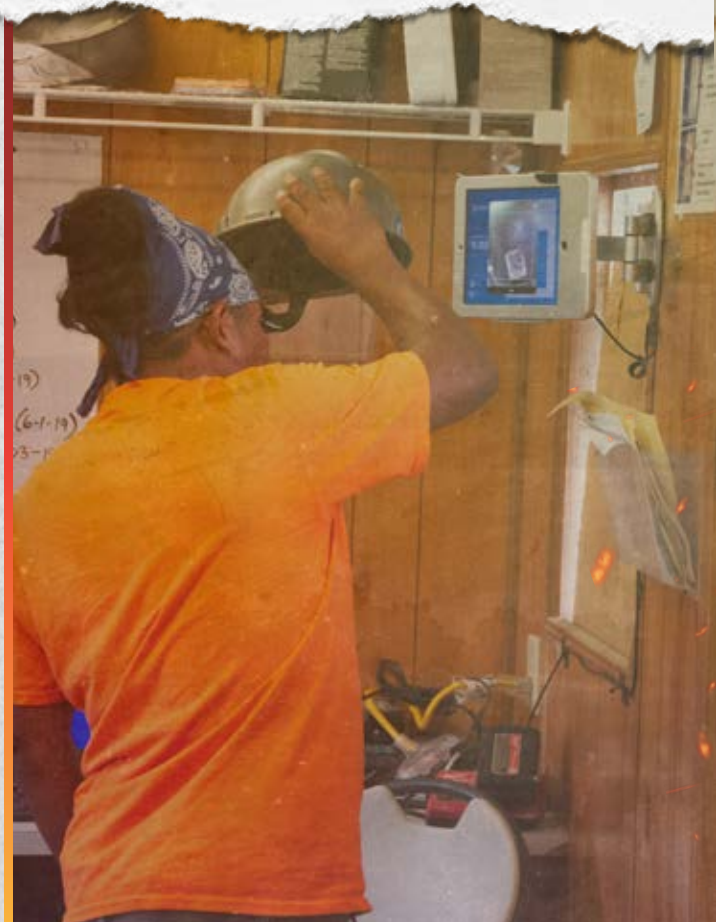
Stepping up to this critical challenge, Struxi engaged their development teams and got to work. "Any opportunity to work with a progressive contractor and receive real rapid iterative feedback is a 24k gold opportunity as a construction technology vendor," relates Bill Wagner, President of Penta Technologies.

"The skilled labor work force is Lithko's biggest asset in the field," says Tom Dotzler, Product Owner for Struxi. "We wanted to reduce the administrative time the superintendent spends on time tracking and allocation activities and give them that time back to plan and oversee the execution of the work."

Struxi has focused on integration and flexibility in their approach, emphasizing the relationship component with their customers to craft unique solutions that fit seamlessly into existing workflows, removing the hurdle of adoption.

Based on Lithko's specific feedback, Struxi developed a beta software solution that integrated with Lithko's ERP and allowed workers in the field to more accurately and easily log time, foremen to allocate costs and management to view the data in the back office.

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## PUTTING THE SOFTWARE TO THE TEST

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Hale and his team at Lithko handpicked a team willing to give the new technology a fair shake to pilot the program — not always an easy feat in construction. The project was a new parking structure at a hospital in Fort Thomas, Kentucky.

The setup was simple: Hale and his team mounted a tablet inside the door of the jobsite trailer. The tablet was loaded with Struxi's new digital time-clocking software. Each worker was given a QR code label to stick to their hard hat. When they arrived on the jobsite, they simply scanned their label using the tablet to clock in. They utilized the same process for clocking out at the end of the day.

In the jobsite office, the superintendent was able to see the data come into the Penta Time, Equipment and Productivity (TEP) software, where he could allocate the time to various cost codes. He could also make sure the data looked accurate and correct any mistakes that were made, like a worker forgetting to clock out at the end of a shift.

Hale and members of his team were on-site every day for a week as the system was implemented on the jobsite, but found that after about a week, they weren't needed anymore. "Everyone found the system was just super simple to use," says Hale. "We thought we'd need two iPads mounted, and we'd have a line out the door of guys waiting to clock in, but everyone moved quickly, and we realized we just needed one. It's that easy."

**“IN ADDITION TO THE COST SAVINGS FROM ROUNDING ERRORS, WE HAVE 150 PROJECT SUPERINTENDENTS THAT HAVE TO ENTER IN THE PAPER TIMESHEET DATA EVERY DAY,” SAYS HALE. “IF WE CAN SAVE THEM EVEN A HALF-HOUR PER DAY BY AUTOMATING THE PROCESS, THAT’S 75 HOURS PER DAY THEY CAN SPEND BETTER PLANNING PROJECTS. IT INCREASES PRODUCTIVITY TO DO HIGHER VALUE STUFF, AND IT’S A COMBINATION OF HARD AND SOFT COST SAVINGS THAT’S SCALABLE.”**





The superintendent also found the system easier to use, as he has real-time access to timeclock data and could instantly allocate time from the job trailer computer.

As for the workers, they no longer needed to write anything down – they just hold their hard hat up to the iPad, scan their code, and get to work.

“In addition to the cost savings from rounding errors, we have 150 project superintendents that have to enter in the paper timesheet data every day,” says Hale. “If we can save them even a half-hour per day by automating the process, that’s 75 hours per day they can spend better planning projects. It increases productivity to do higher value stuff, and it’s a combination of hard and soft cost savings that’s scalable.”



## THE INITIAL RESULTS

While the projected cost savings of using the Struxi were substantial, the cost savings that Lithko experienced in the pilot of the software took it to another level. Instead of saving the site superintendent 30 minutes per day of entering data and assigning job costs, it saved him almost an hour – at scale, this could lead to nearly 150 superintendent work hours per day.

In addition, while Lithko projected that eliminating universal start and end times would save a projected 3-5% in annual labor costs, the Struxi pilot trended toward the high side of that estimate. When expanded to all of Lithko's projects, Struxi will potentially save Lithko millions per year in labor costs alone.



**EACH WORKER SAVED 1% OF TIME PER DAY**  
(68,000 hours - all workers)

**3-5% SAVINGS IN ANNUAL LABOR COST**



**BACK-OFFICE ADMIN TIME REDUCED BY 50%**  
(10,000-15,000 hours/year)



**SUPERINTENDENT SAVED 12.5% OF TIME PER DAY**  
(~30 FTES/year)



## **BOOTS ON THE GROUND SHAPE THE FUTURE OF SOFTWARE BUILT FOR HARD WORK**

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With the pilot program exceeding Lithko's expectations, Lithko began a full-scale Struxi beta rollout. And despite the challenges of the COVID-19 epidemic, the company pressed on with the implementation based not only on the potential for cost-savings, but also based on the popularity of the tool on-site.

The expanded userbase offered the Struxi product development team invaluable feedback on features and functionality. That feedback paired with on-site visits by the Struxi team to evaluate the effectiveness of the tool helped inform the future development roadmap for the product to ensure it truly meets the needs of a working jobsite unlike generic software tools that aren't developed exclusively for the construction industry.

"Lithko's rolled the solution out across 15 jobsites with ~500 workers, and we're working towards having 3,000 Lithko team members using Struxi every shift," said Wagner. "This project really showcases the advantage of being a scrum agile development company: we're able to react to the industry's needs offering a tool that has been truly built from the ground up to meet the hard-working demands on the construction industry."





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