# 5 WAYS CONTRACTORS CAN REDUCE REWORK AND INCREASE MARGINS

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Kris Jenson's official title at Layton Construction is senior project manager, but it might as well be master communicator. Given he manages multiple half-billion dollar projects every day, Jenson relies on clear, transparent communication with an army of construction professionals to ensure his projects come in on time, on budget – and with a minimum of rework and warranty claims.

"Working with all the various individuals involved with a project who have varying levels of construction experience can be challenging. You have to be flexible in the way you communicate with and motivate the different individuals and companies you work with on a project,"Jenson says.

Like many construction managers and superintendents, Jenson increasingly relies on cloud-based software to achieve that level of communication. Cloud-based technology includes everything from mobile apps to web tools to onsite kiosks, all connected to a central data repository, or cloud, that's automatically updated and synced with the latest information. That means Jenson can pull up whatever information he needs whenever he needs it, as can anyone else on the jobsite using something as simple as a smartphone.

"As long as the team is keeping everything up to date [in the cloud], I can pull up a contract, a drawing, a change order, an RFI – they're all there,"Jenson says. Having that kind of anywhere-anytime access to information doesn't just make life easier – it's key to reducing rework and warranty claims. And by all indications, the majority of construction firms are missing out on the opportunity to use cloud-based tools to stay competitive and win more work. In fact, only 21.6% of construction professionals use project management software to collect data on the job site, according to a *2016 JBKnowledge Construction Technology Survey.*

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>
> **Kris Jenson,** senior project manager, Layton Construction

# HOW CLOUD-BASED TECH HELPS REDUCE REWORK AND WARRANTY CLAIMS

Currently rework accounts for up to 20% of the cost for a typical construction project, according to *A Guide to Construction Rework Reduction* from the Construction Industry Institute. The same issues that result in rework — bad communication, lax oversight, inconsistent file management and spotty follow through — often lead to warranty claims as well. Rework and warranty claims not only reduce margins, but also negatively impact customer satisfaction and retention.

So just what are the main causes for rework and by extension warranty claims? Here are the top 4 culprits by percentage, according to a study by Skanska, a world leading project development and construction group, called *iPads and BIM in Construction: What is the ROI? – A Case Study:*

### 1 ENGINEERING AND REVIEWS

The information gathered in the field that reflects the latest designs and specifications is inaccurate: **55% of claims.**

### 2 MATERIAL EQUIPMENT AND SUPPLY

The concrete, steel prefabricated windows, mechanical equipment etc. that make up a building is wrong or not delivered on time: **24% of claims.**

### 3 HUMAN RESOURCE CAPABILITY

The tracking of site workers and ensuring they're properly trained in quality and safety isn't done properly: **18% of claims.**

### 4 OTHER

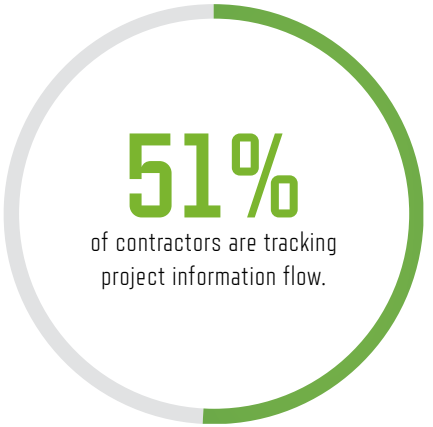
Construction planning and scheduling; leadership and communication are mismanaged: **3% of claims.**


The good news? Cloud-based technology can reduce claims in all of these areas by providing:

- A collaborative environment where constructability reviews can be easily conducted and documented on the jobsite using mobile devices.
- A method for tracking, and even proactively ensuring, the proper material equipment and supply.
- A system of checklists and accountability to ensure that all workers are properly trained and vetted.

The bad news? Most contractors aren't using this technology to their advantage. According to a recent *Information Mobility SmartMarket* report from McGraw Hill, only 51% of contractors are tracking project information flow. Furthermore, a mere 37% of contractors allow onsite workers to access project information outside the construction trailer.

That's too bad, because the report also found that 76% of contractors using cloud-based tools reported better team collaboration. And another 68% reported improved productivity.




# 5 WAYS CLOUD-BASED TECHNOLOGY CAN HELP CONTRACTORS BE MORE PROFITABLE

Here are 5 ways cloud-based technology can help contractors improve profitability of every project.

## 1 CONNECT THE OFFICE TO THE JOB SITE

From conceptual design, detail design, construction documentation, pre-construction, commissioning and handover, contractors, as well as owners, are discovering how cloud-based solutions add value throughout the project lifecycle. In fact, more and more owners expect contractors to use cloud-based technology with their projects and are increasingly writing it into contracts.

"The customers are starting to expect a higher degree of quality not only of the facility itself, but also the information that gets handed over at the end,"says Michael Moran, construction consultant for TELOS Systems.

These same customers expect not just a finished project, but also a complete digital handover once the project is completed. That means all project related materials from building drawings, manuals to final change orders, get delivered in an easy-to-understand structure and format.

"It's like construction companies can say, 'Here's the keys to your building and here's all the information you need to run it,'"Moran says.

Offering this kind of streamlined, cloud-based, digital handover is good for owners, as well as for contractors. Not only are contractors providing an enhanced level of "turnkey"service, but both owners, and contractors, are experiencing increased efficiencies, reduced project costs and increased ROI. According to a report from Skanska, contractors can expect a return on their investment in about six months.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The report found that using cloud-based technology:

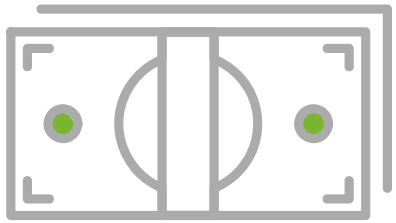
- Improves understanding of difficult project conditions
- Increases the ability to convey design intent to subcontractors
- Creates the ability to engage and collaborate with remotely located team members

As a result of all of those benefits, the Skanska project saw a whopping 948% ROI from using cloud-based tech tools. In fact, Skanska was so impressed with those results it decided to roll out cloud-based technology to all projects going forward.

## 2 FREE UP TIME AND INCREASE PRODUCTIVITY

Research shows that cloud-based technology saves the average site worker about 9 hours per week. That's time that can be reinvested into the project to proactively identify and solve problems that can reduce rework or warranty claims, and has a positive impact on margins.

No wonder 68% of contractors who use cloud-based technology report improved productivity, according to the McGraw Hill study. And that improved productivity yields major savings, according to the Skanska study.



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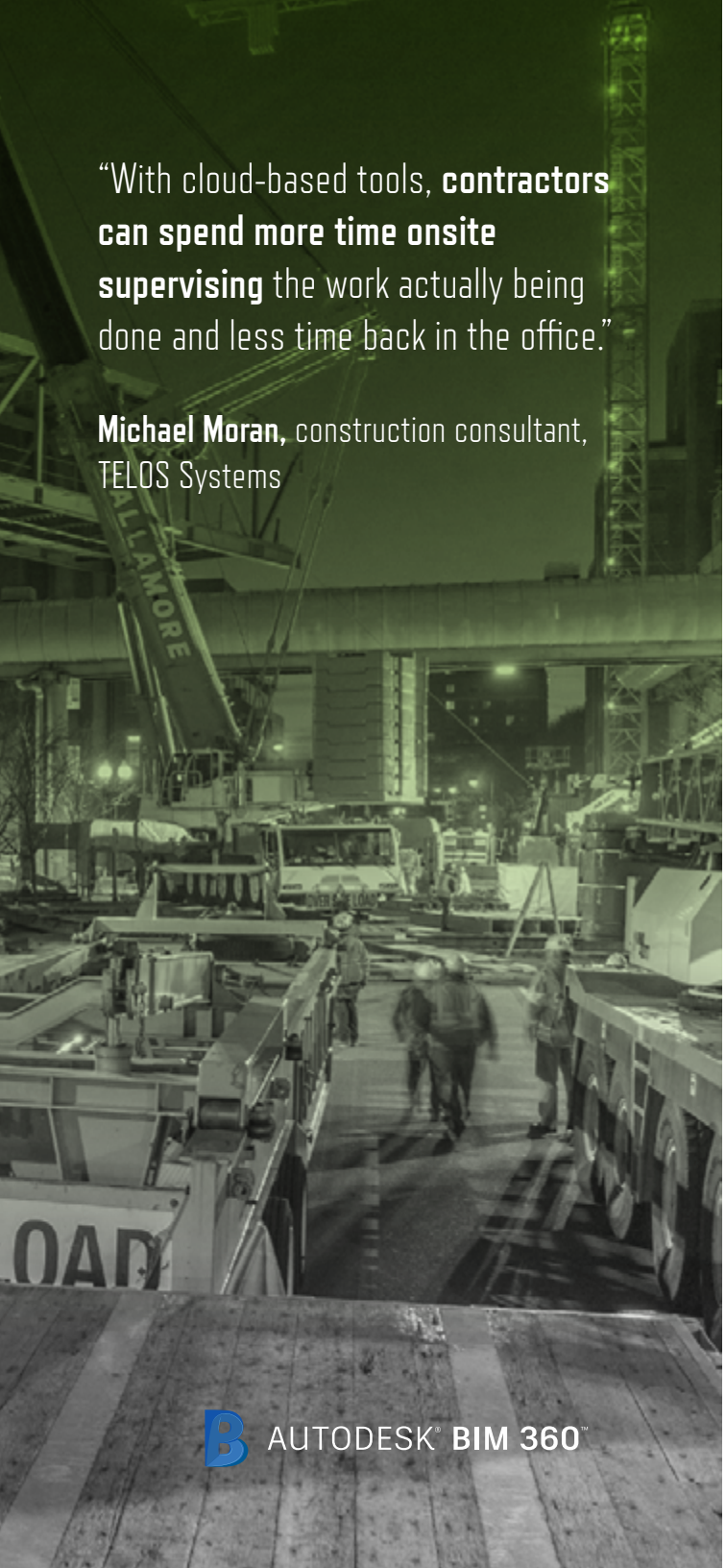



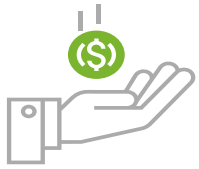

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The Skanska study found that being able to reinvest those hours on a $10 million project, with just 5% rework, yields a cost savings of $500,000. For a typical construction project that experiences 20% rework, those re-invested hours can result in a massive $2 million savings.

While it's unrealistic to entirely eliminate rework and warranty claims, the bottom line is most projects typically suffer from too much of it, and it's clear that cloud-based tech can help construction companies save significant time and money.

"With cloud-based tools, contractors can spend more time onsite supervising the work actually being done and less time back in the office," Moran says. "They spend a lot more time solving problems before they develop into more costly issues."

## 3 ENSURE EVERYONE IS WORKING FROM THE LATEST PLAN

Today's projects often go through multiple changes during construction, and it is these changes that result in rework and warranty claims, and eat into contractors' profits.

Rather than relying on the traditional, outdated methods of using clipboards, digital cameras and three-ring binders to track and communicate plan changes, contractors using cloud-based technology automatically upload changes directly from the office to the job site.

That means everyone involved on the project is consistently speaking the same language — and working from the same set of plans. But surprisingly, 41.5% of construction professionals don't use any kind of cloud-based, digital plan management system, according to the JBKnowledge survey.

Moran says that manual plan management leaves contractors susceptible to unnecessary rework — and slower construction timelines.

"Information getting out to the field does not reflect the latest engineer's design or specifications, often due to poor document control," he says. "In a world of frequent, client-initiated design changes, this can be a real problem."

## 4 SEAMLESSLY TRACK DAILY REPORTS AND DATA COLLECTION

Another problem cloud-based technology addresses is improving the largely paper-based process for creating reports such as timesheets, safety inspections and quality control checklists. Unlike those who rely on manual documentation, supervisors using cloud-based, mobile tech can manage all of these in one centralized, automatically updated place so fewer pieces of information fall through the cracks or are underutilized.

"If you have access to cloud-based solutions, you can easily see what was done and what was not," Moran says. "There's a transparency and an automatic trail of all inspections being done and you can see very quickly where the gaps are."

Plus, giving subs access to cloud-based tools leads to better productivity and fewer mistakes. McGraw Hill's study shows 76% of contractors using cloud based technology report better team collaboration. While Skanska's report reveals a 45% reduction in document control related rework.

At the same time, cloud-based tech promotes accountability and helps subs take ownership of their work. And if rework or warranty claims are necessary, superintendents can easily pinpoint who's responsible — including a clear record of decisions and sign offs — and who should bear the cost of those corrections.

But again, the JBKnowledge Survey reveals that 38.4% of construction professionals are still relying on manual processes to do daily tasks such as timesheets, safety inspections and quality control checklists. And 47.3% don't use any daily reporting mobile apps.

## 5 USE DATA FOR YOUR COMPETITIVE ADVANTAGE

Data stored and collected in the cloud isn't just valuable on a project basis, it's valuable to your company's future because the data can be aggregated, sliced and diced to provide powerful insights for future projects. Historical insights allow contractors to shift from reactive to proactive quality programs. They can also move from using only lagging safety indicators to a culture that uses both leading and lagging indicators.

For example, firms can use the data to track and analyze which subcontractors are performing optimally — and which need improvement — from both a safety and efficiency standpoint. Using this same data, contractors can proactively predict when a project might pose a safety risk and take appropriate steps to prevent injury such as adjust the next tool-box talk topic.

As data becomes more plentiful and cloud-based tools more widely adopted, contractors will be able to achieve more efficient project production schedules through sophisticated analysis and insight of supply chains and tracking of materials. Manufacturers already use these kinds of enterprise analytics and big data to better manage production and supply chain through enterprise resource planning (ERP), product lifecycle management (PLM) software and manufacturing execution systems. With enough data — and the right systems — contractors will be able to manage their construction projects in a similar way.

"In the near future, once those data streams become big enough, you'll be able to analyze your workflow and identify why problems are happening," Moran says. "That's where the company gets the opportunity to rethink their processes and become more efficient. The potential here is very broad and exciting and endless."

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# CONCLUSION

Mobile, cloud-based technology, which is readily available to every stakeholder on the jobsite, offers contractors a powerful set of tools to stay competitive, save time, track workflow, analyze data, proactively manage projects and develop more efficient schedules.

And the research is clear· All of those benefits add up to projects with sharply reduced rework and warranty claims as well as improving margins for the company as a whole.

At the end of the day that means managers and superintendents like Kris Jenson get to spend less time compiling and collating paperwork and more time doing what makes projects great· clearly communicating what needs to be done and having one place to go for the latest information to ensure that work is completed on schedule and done right the first time.

“People in our industry sometimes just aren’t good communicators, and if you’re going to succeed in what we do, you have to find a way to resolve issues and work well with teams,”Jenson says. “If we can’t communicate … we’re going to fail.”

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## Ready to reduce rework and be more profitable?

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