

# How to Manage Devices and Apps for a Growing Construction Team

Prevent Data Theft and Maximize Productivity



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# Introduction

While the construction industry has stalled on accepting many forms of technology, contractors have embraced mobile technology since the earliest days. In fact, the push-to-talk cellular technology that emerged in the mid- 90s was adopted primarily by the construction industry before spreading to other business uses.<sup>1</sup> With 83% of contractors surveyed in 2017 responding that they considered mobile technology essential or important, it's clearly one of the fastest-growing construction trends.<sup>2</sup> Mobile devices have tremendous potential to improve the traditional construction workflow, but only if used with care. It is essential for a construction company of any size to develop a working mobile device management plan before allowing mobile devices to be used on the job site.



# Mobile Management Challenges

Before designing a device management plan to protect your construction company and employees, you need to understand the risks posed by mobile technology. Mobile technology is becoming more secure and reliable with each new generation of devices, but a few risks remain that affect business usage.

## Data Loss

Of surveyed construction and engineering executives, 83% reported that they experienced at least one incidence of fraud in 2017 and 93% of those incidents were cyber in nature.<sup>3</sup> Any device connected to the Internet, even rarely, is at risk for a remote breach. Mobile devices also suffer from theft risk due to their relatively small size. Add in multiple subcontractors accessing and sharing data on a project and the chance of a breach or accidental loss grows.

## Device Volume

The smallest construction companies can still end up using dozens or hundreds of individual mobile devices. If an employee needs a mobile body-mounted safety device, a tablet for reviewing drawings and a laptop for 3-D modeling, that's three devices just for one worker. Multiply that by anywhere from five to 5,000 employees and you could be dealing with a huge volume of individual devices to track, update, maintain and replace.





### Information Transfer

Using multiple apps and software services may boost productivity, but how much time will employees spend trying to transfer information between different formats? Try looking for apps that work seamlessly together through the power of vertical or horizontal integration. Whether you choose a suite of different apps from a single source or software with third-party integration support, you'll achieve the greatest level of productivity. Integration ensures that files, drawings and data transfer seamlessly between connected apps and software with no conversion or manual re-entry.<sup>4</sup>

### Supply Choice

Construction companies must decide who will supply the required or optional mobile devices to the workers and managers using them. Many companies lean toward the Bring Your Own Device (BYOD) model because it reduces the need to buy the equipment up front or replace it if damaged. However, BYOD policies create potential risks like:<sup>5</sup>

- Cross-platform issues between Android, iOS and other device operating systems
- Increased data security risks due to home use, use of unsecured Wi-Fi networks, connections to non-approved devices and jailbroken equipment that features hidden rootware or malware
- Difficulty reclaiming and wiping data when an employee leaves the company
- Employee reluctance to letting the company access their private devices



# Mobile Benefits for Construction Workers

Mobile construction technology may pose some challenges, but the benefits far outweigh them. The following are just some of the many benefits of widespread use of mobile technology.

## Productivity

At the level of the individual construction worker or manager, mobile devices present enormous opportunities for enhancing productivity. Benefits include:

- Reduces reliance on manual calculations and techniques, increasing accuracy and speeding up the workflow
- Cuts time spent on phone calls and waiting for delivery of files, drawings, photos and models that are delivered digitally in an instant and to the most remote locations
- Maintains access to the apps and software, even without a Wi-Fi or cell reception in many cases
- Provides constant access to the most up-to-date set of plans or information, regardless of the location of the worker querying the data
- Speeds up project reporting, time logging and other clerical tasks that can eat up hundreds of precious work hours per year

## Communication

Mobile devices allow for constant and immediate communication across practically any distance between the home and field offices. Wherever an employee needs to travel to pick up supplies, visit a remote job site or travel to a conference or sales meeting, everyone can stay in contact via phone, text, push-to-talk and other communication methods. There's no delay in getting the information an employee needs to stay on task and complete their part of the project. It also helps project managers stay involved with both individuals and the group as a whole.



### Safety

Many of the most valuable construction mobile devices are far less interactive than a tablet or smartphone. Wearable devices like safety sensors, smart clothing and augmented reality glasses all help to prevent accidents and injuries while requiring relatively little input or control from the user. Many of these devices also integrate with the more familiar mobile devices for further control or to display the data gathered by the sensors.<sup>6</sup>

### Reference Materials

Workers who embrace construction mobile technology can do more than check the reference materials related to the project. Entire databases of related reference materials are available through inexpensive mobile apps, including searchable versions of the International Building Code, local state and county regulations and many other relevant resources. The ability to double-check an easement restriction or property setback requirement is well worth an investment in mobile construction devices.

### Documentation

For projects where milestones and progress updates are mandatory, mobile devices represent the best way to keep clients or agencies abreast of the latest work. Employees can quickly snap photos or take videos without missing a beat in their normal work routine. Since properly equipped mobile devices are easier to keep on hand than other digital cameras, there's far less interruption and lost time if workers must document their processes before moving on to the next step.



# Best Practices for Mobile Device Management

Whether or not your company plans to make use of construction mobile technology, your employees will end up using these devices on the job site. This means you'll need to develop an official mobile device management (MDM) policy to protect both the company and your employees.

## **Find a Device Management Service**

If your company does want to take advantage of mobile apps and specialty equipment, the IT department should also consider specific MDM software for a systemic approach to device and app security and control. MDM services allow you to use advanced tools like geo-fencing to control where devices can be used, remote app installation or removal, complete access over user control and more. While it's possible for a large IT department to handle MDM planning and execution manually, tailored services allow them to focus on the most important tasks instead.

## **Buy Work-Ready Devices**

The majority of devices designed for personal mobile use can't handle the hazards of the construction site. If your company is supplying field employees with mobile construction devices, choose tough equipment built to MIL-STD guidelines or a similar set of durability standards. Aside from durability and damage resistance, look for fast-charging models with long battery lives, screens with high visibility in bright and direct sunlight and touchscreens that are easily operated with work gloves on. For firms with BYOD policies, publish recommendations on which features and devices are likely to offer durability on the job sites.



### Develop BYOD Rules

Unless you completely ban mobile devices from the workplace and job site or provide all equipment used, you'll need to develop your own BYOD rules and policies. For example, banning the use of jailbroken devices for connecting to work apps or handling data is a smart way to prevent the back doors built into jailbreaking software from leading to a breach. Other BYOD rules common for mobile construction devices include:<sup>7,8</sup>

- Separate profiles or partitioning software to completely split personal and work use on a particular device
- Password complexity requirements, along with a specific plan for replacing them routinely
- Stipulations on what kinds of non-work-related apps and programs an employee can use on the physical worksite and/or during work hours, since some apps and social media platforms can pose security risks
- Explanations of how the IT department and construction company will protect employee privacy and reduce the chances of access to their personal data
- Update and patching practices to address identified threats as soon as possible
- Clear terms on who will pay for usage, app and repair charges for devices

### Create User Roles

Assigning user access to all the apps, data and software that make up the mobile device ecosystem can create a lot of extra work for an already busy IT team. User roles handled by a single sign-on (SSO) or MDM service allows for complete control over each user's access to specific portals while simultaneously simplifying access control changes down to the press of a button.



### Support Single Sign-On

If greater worker productivity is one of your company's motivations for introducing mobile construction technology, then seriously consider choosing apps and software that all support a single sign-on (SSO) solution. A third-party security app provides a single login point for everything a worker needs to access, reducing wasted time on multiple logins and narrowing down dozens of passwords to just one. Using an SSO arrangement allows for fast credential and user role updates as well. Finally, SSO is also necessary for the highest level of access-tracking to quickly sort out any system breaches. PlanGrid supports SSO integration through OneLogin, Azure Active Directory, ADFS and more.

### Prepare for Compromised Devices

No mobile device management plan is perfect and compromised or lost devices are inevitable. Setting up an emergency response plan and designating IT team members to handle specific recovery and response tasks is essential. Protocols for wiping the entire data off a device, even on a BYOD plan, are controversial but often necessary to protect both company and client data. Many of today's biggest construction firms rely on government, health-care and infrastructure projects with high standards for data security and stiff penalties for violating those rules.





# Conclusions

With all this in mind, you should feel better prepared to tackle the introduction of new mobile construction technology to your employees. Even if your firm already has an established IT team, bringing in new employees with experience in mobile technology or hiring consultants for a few months can greatly ease the transition process. The mobile devices themselves will be spread everywhere from the central office to the farthest-flung job site or supply stop, creating a digital net of connections that could all potentially act as a weak link. If it's already too late to get a head start on mobile technology policy development, you can catch up at any stage and still achieve great improvements in productivity and data security.



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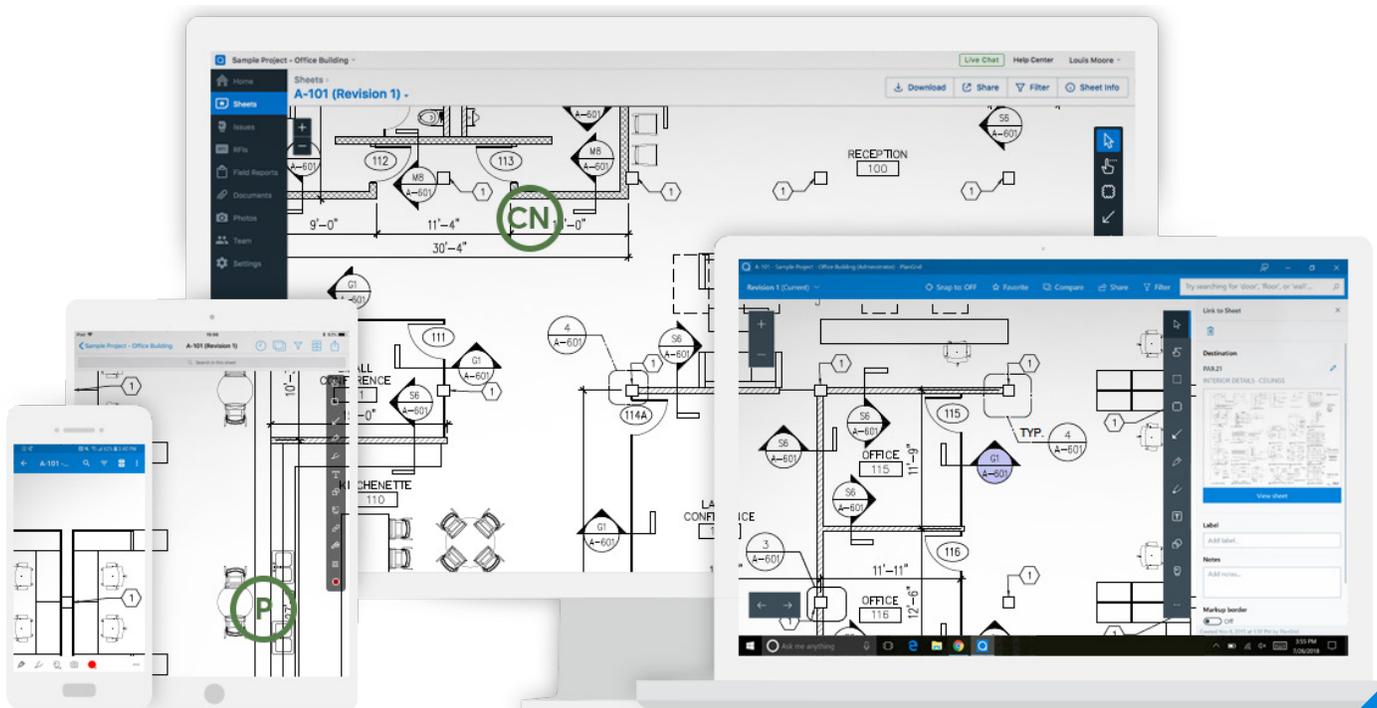
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PlanGrid's Construction Productivity Software is the easiest and most cost-effective way to get substantial return on your investment in construction mobile apps. By using PlanGrid you will:

- **Complete projects faster:** 90% of project costs occur in the field and not in the office. This includes wasted time and project delays. With PlanGrid, you can reduce wasteful trips to the trailer and time delays, while eliminating costly rework. PlanGrid also allows for faster collaboration and communication.
- **Reduce costs:** PlanGrid allows you to optimize productivity in the field, which eliminates time waste that causes project overruns. By completing projects early or on time with PlanGrid, contractors will benefit from reduced costs.
- **Win more bids:** The best way to bid more competitively is not just to track costs so you can provide more accurate estimates — it's to improve your overall productivity. PlanGrid's Construction Productivity Software will allow you to increase productivity so you can reduce costs and win more bids.



PlanGrid is construction productivity software used on more than 1 million projects across 90 countries. Our software helps teams collaborate more efficiently with access to an intelligent record set on any device.





Used on more than 1,000,000 projects around the world, PlanGrid is the first construction productivity software that allows contractors and owners in commercial, heavy civil, and other industries to collaborate, collect, and share project information from any desktop or mobile device through the entire project lifecycle.

PlanGrid increases project efficiency by streamlining document management, providing construction teams with easy access to all project information from any device, and enabling seamless collaboration within teams.

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