

CASE STUDY

Tracking Personnel with A2 Analytics

How location-based analytics provided an influx of productivity data at construction sites for one of the world's top contractors

The Problem

One of the largest privately held companies in the world and a perennial Engineering News-Record top general contractor needed a solution for collecting project productivity data efficiently and accurately by tracking personnel, including its employees and subcontractor's employees, on construction sites.

With multiple personnel moving on and off the site throughout the day, management needed a better way to compare project activity to progress against the schedule.

While traditional manual clock-in, clock-out procedures and reports had been in place for decades, these simple time-tracking tools did not tell the story of productivity and were generally inefficient and inaccurate.

45 PERCENT

of construction professionals report spending more time than expected on non-optimal activities.

Source: PlanGrid + FMI, 2018

CASE STUDY

A2 Analytics for Construction

ArchetypeSC

The Solution

After meeting with representatives from Archetype SC, the company decided to deploy A2 Analytics in a pilot program on a single construction site and began tracking the movement of individuals.

The program utilized two processes:

- A simple, anonymous on-site, off-site tracking
- A more complex model that utilized Bluetooth badges tied to personal information



By combining location-based analytics and Bluetooth technologies, A2 would be able to determine exactly where individuals or teams were working on the site and how long they were present. This was designed to give management the ability to look at and how many hours were spent working, breaking down efforts by area, scope of work and a variety of other metrics.

Because our original A2 Analytics device was built to perform in a controlled environment, Archetype SC also worked to create a new more rugged sensor to withstand the rigors of a construction site.

In an environment where changes in temperature, power supply, and precipitation are common, we adapted the housing and used a stronger casing to ensure continuous monitoring no matter on the construction site with no issues, taking in millions of data points each day.



14
HOURS

On average, construction professionals spend more than 14 hours per week on non-productive activities including looking for project information, conflict resolution and dealing with mistakes and rework.

Source: PlanGrid + FMI, 2018

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The Results

Following a successful three-month pilot program, the contractor realized an influx of data that illustrated how the site functioned daily, from the instant the first worker stepped foot on the site to the end of the workday.

With its sustained use of A2 Analytics, the contractor can flow actual hours worked and reported through to their BIM and accounting modules, which allows for near real-time progress reports against plan documents with no need for manual entry.

This process saves significant effort and provides a more detailed and up-to-date look at true progress on a job site and creates more accurate estimates as more data is collected.

In addition to personnel, A2 Analytics also tracks equipment utilization and location, as well as operator identification.

With our technology and Bluetooth tags, valuable equipment can be tracked for usage and location, allowing the contractor to keep an inventory of its job site without needing to stop progress.

By integrating badging tied to a human resources file, the company is also able to quickly ensure operators are properly licensed, certified and able to safely operate the machine.

Tying it all together, custom A2 Analytics dashboards on company-wide connected devices ensure that management away from a job site can stay in the loop on how many workers are at a job site, where they are working at any time, and what equipment is being utilized, all with the backing of ultra-precise data.

11
PERCENT

of contractors
consider their
jobsites to be
"very efficient"

Source: U.S. Chamber of
Commerce Commercial
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