Case Study:

# Streamlining 5G Integrations

How Coba Communications LLC saved multiple **anonymous telecom industry leaders** specializing in **cell tower operations** facing growing inefficiencies in their 5G rollout projects, over 10K collective annual labor hours; when large-scale infrastructure upgrades required speed, precision, and cost-efficiency.

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# The Challenge

Integrating new 5G equipment on-site was a **time-intensive process**, frequently delayed by unpredictable software updates. Each module—typically 3 to 4 per site—required extensive updates that often:

- Took 20–35 minutes per module
- Needed multiple update phases (e.g., a legacy before latest)
- Failed randomly, causing technicians to restart the process

This led to:

- Delayed cut over times
- Technicians idle at the top of the tower
- Foremen waiting on the ground for oversight
- Significant labor waste, especially with multi-site operations

# Choosing Coba Communications

Our clients initially partnered with us due to:

- **Superior communication and responsiveness**
- A **data-driven approach** to solving field inefficiencies
- Offers to deliver **analytics of time-on-site** to understand waste

Data-Driven

# The Solution
## A Phased Approach

### Phase 1: Time Tracking & Bottleneck Analysis with Asana

Our first step focused on understanding the key moments of waste. In order to do this we first introduced milestone-based time stamping via Asana with built-in time tracking, tagging critical moments in the integration process:

- Integration start and end points
- Technician-reported blockers
- Key process checkpoints (including software updates)

This uncovered **two recurring pain points: software updates and troubleshooting** were the primary causes of time drain by a significant margin.

Although troubleshooting was the larger of the two, the amount varied by many factors such as site configuration, hardware quality, technician skill level, and more, **we identified software updates as the primary solvable solution** with simple process changes.

# The Solution
## One Small Improvement

### Phase 2: Beginning Parallel Updates

It very quickly became apparent that the easiest bottleneck to eliminate was the inability to perform updates on multiple modules at once with a single computer. Our first process change was to invest a relatively small amount to include additional laptops on-site for each integrator.

This simple step **immediately decreased waste** on software updates **by an estimated 45 minutes per integration** by removing the one-to-one limitation of module updates; a very clear and simple cost-saving investment.

**$3600** / $1200 ea.

The upfront cost of additional computers for (3) total integrators

**292.5**

The estimated annual labor hours saved based on 2.5 integrations/ week for (3) integrators

# $13,006.42

**Immediate annual savings** based on average integration salary based on labor hours, without including any calculations of other labor hours saved for tower technicians and foreman.

# The Solution
## Addressing Update Failures

### Phase 3: Update Failure Prediction & Prevention

Based on our tracking in Asana, we determined **random update failures were another time-wasting factor** that could be addressed. These failures often occurred mid-update beyond the 15 minute mark, resulting in additional update attempts.

We began to monitor the **browser console logs** using Chrome's built-in developer tools. Immediately, we detected:

- Specific error messages that predicted a failed update
- Consistent error logs for every update failure
- These errors always appeared within the first 3-5 minutes

We implemented a process change to:

- **Safely interrupt and restart** faulty updates early
- **Avoid critical failure paths**

## Failure Rates Reduced by 19%

Software update failures **dropped from an estimated 20% to less than 1%** when continuing to time stamp integration milestones in our workflow software.

# Phase 1-3 Estimated Annual Savings

Based on labor hours saved for integration technicians only (not including tower crew labor hours saved), and based on average telecom integrator salaries in the Midwest (data provided by clients & Coba Communications LLC subcontractors).

**$26,879.93**

**Parallel Updates:** $13,006.42

**Prevented Failures:** $13,873.51

Extra Dollars:
$26,879.93

# The Largest Impact
## Bulk Off-site Updates

### Phase 4: Dedicating Power for Batch Updates

The largest time-saving strategy had yet to be deployed. We had identified that it was possible to update software off-site if we had the ability to connect the correct power & shelving in a warehouse environment, enabling bulk updates & commissioning.

By installing prerequisite hardware off-site and connecting power to multiple shelves, we began to update weekly site modules in bulk.

- We enabled updates to **over 10 modules at once** off-site
- **Multitasking was enhanced** with mass updates
- Modules now arrived to the site **updated and configured**
- No more waiting around on-site for installs with new modules

## Important Note

Not all integrated sites required new equipment, and updating software on-site is unavoidable due to equipment reuse. However, the **previous savings still apply to all sites** from parallel updates & error monitoring procedure.

# Final Impact
## Of Eliminating Software Waste

By eliminating software update delays on-site for multiple crews and integrators, we were able to estimate:

- **1-2 hrs of labor saved per integration** (5-10 hrs/week per crew)
- **3-8 hrs of tower crew wait time reduced** per site
- **10K+ labor hours saved annually** for our clients

This significantly improved crew efficiency, field safety, project delivery timelines, and operational cost savings–all of it due to **process innovation and real-time field analytics**.

# Conclusion

This case study is a testament to **Coba Communications LLC's ability to merge operational insight with technical innovation**. By identifying inefficiencies and building custom processes at scale, we helped a telecom leader cut waste and accelerate 5G rollout—**saving millions in labor costs over time**.

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