CASE STUDY

NCC Gains Outstanding Project Control With Automated Progress Tracking, Doubling Their Plan Completion Ratios

NCC/Joakim Krger

NCC

🏢 **4** PROJECTS

📐 **68,500** SQM (737,000 SQFT)

OPPORTUNITY

- Enhance visibility
- Enable informed decision making
- Cultivate accountability
- Reduce delays

SOLUTION

- Automated progress tracking
- Single source of truth
- Stakeholder accountability
- Objective documentation
- Critical path analysis

RESULTS

- x2.3 more tasks completed on time
- Manual reporting reduced by 70%
- Overspending prevented
- Enhanced customer satisfaction

Buildots' automated progress tracking increased NCC's site performance by 230%, enabling them to resolve disputes within minutes, increase overall project transparency and reduce time spent on manual reporting by 70%.

Overview

NCC is one of the largest construction companies in the Nordic region with 14,500 employees and a diverse portfolio including commercial development, construction, and infrastructure project contracting. Digitalization, digital construction and innovative tools are central to NCC's culture. Using VDC as well as BIM, they constantly introduce data-driven solutions to stay ahead of the curve and streamline their workflows, aiming to provide all stakeholders with the most accurate project information wherever, whenever.

Why NCC Was Looking For Solutions

Keeping track of progress, monitoring trades as well as communicating effectively are crucial components when it comes to delivering a project on time, on budget, and to the standards of the client. NCC identified several key areas needing improvement:

Visibility

Project Managers lacked a clear understanding of both current project status and progress as well as trade activity as they used to rely on third-party, subjective information collected manually. Progress was assessed rather than measured.

Management

Subsequently, site teams as well as management struggled to make informed decisions and to set reasonable goals regarding, for example, which trades or tasks to prioritize in order to advance their project.

Accountability

Since neither goals nor plans were based on the accurate status of the project, NCC's team had a hard time enabling their subcontractors to fulfill their obligations as planned.

Unexpected delays

Finally, unidentified issues and delays endangered the critical path of the project. With no efficient means of managing planning adjustments, mistakes and schedule updates may snowball and create serious delays and budget overruns.

Why NCC Chose Buildots

Realizing the impact those issues might have on the success of their projects, NCC was determined to find the best solution to streamline their workflows while eliminating activities that either bring no value or could be the source of mistakes and delays.
Jari Valo, NCC's Head of Strategy and Project

Support, came across Buildots while looking for a way to tackle NCC's challenges when tracking progress. After carefully evaluating three alternatives, they agreed that Buildots' data analytics component, as well as their progress reports, were not only the most advanced in the industry but also fit their needs the best.

LEVEL OF ADVANCEMENT

"We looked at alternative solutions but none offered the level of advancement Buildots can offer. I found their approach very different from other solutions and it fit very well with what we were looking for"

JARI VALO | **Head of Strategy and Project Support**

How NCC Uses Buildots

NCC piloted Buildots on a 8,000 sqm residential project in Helsinki and, soon after, expanded the use to three projects. The second was a 9,000 sqm non-residential project in Helsinki, Fredriksberg D, followed by a hospital and commercial project, altogether amounting to 68,500 sqm (737,000 sqft) of tracking surface in total.

Single Source Of Truth
RESOURCE MANAGEMENT

A single source of true progress data enabled NCC to manage all project resources efficiently. During weekly trades meetings, automated progress reports were used to review performance and to secure milestones. It empowered them to uncover potential blockers and performance risks.

➡ In a weekly meeting of NCC's Fredriksberg project team, Buildots' data revealed that HVAC work had been slower than expected. With Buildots, both the Project Manager and HVAC subcontractor were able to adjust their next steps accordingly and - based on facts and pace analysis - they could develop alternative plans and decided to increase labor.

Detect Delays Early
CULTIVATING ACCOUNTABILITY

With objective timely data at hand, NCC successfully improved the accountability of their trades and made sure they were committed to their plans and timelines. Subsequently, mistakes were prevented and the constant comparison between plan and reality

NCC used Buildots Progress Overview Matrix to track progress by trade and area on a weekly basis

allowed teams to raise flags on time and mitigate.

→ For instance, Buildots identified 45 climate beam units that hadn't been installed out of 150 expected to be installed by that date. The trade report, however, misperceived the status, indicating that only a few units remained to be installed. Such a wrong read might not be uncommon on-site, yet can have huge consequences, as illustrated by this example. Due to time constraints, project teams tend to rely on a trade's report instead of verifying it, often leading to a chain of unpleasant events - which could have happened in this case if NCC's site team hadn't mitigated.

Objective Documentation
QUICKLY RESOLVE CONFLICTS

Disagreements between GCs and trades are inevitable. With Buildots, however, project teams benefit from improved and precise documentation which they can use to validate completed tasks. Subsequently, they can settle disputes, enabling them to pay subcontractors only when completed works have been objectively validated.
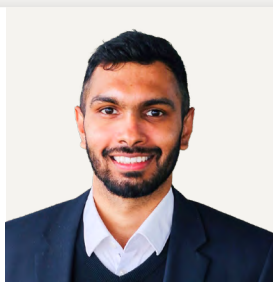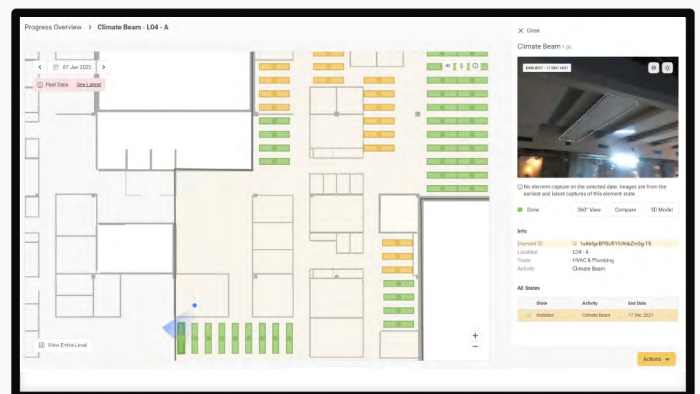
→ In one particular case, using Buildots' Progress Matrix capability, NCC was able to verify the correct compensation for rework done by a dryline contractor. The problem was resolved in a matter of minutes, retracing the chain of events that led to additional work and calculating the exact amount of work that was added to the job. The benefit of quickly solving a disagreement and avoiding unnecessary costs is huge.

Critical Path Analysis
STICK WITH THE PLAN

On a construction site, various factors can cause delays that might snowball into serious issues when corrected only halfway throughout a project. Using Buildots progress tracking ability, NCC's project teams were able to regularly assess the actual progress vs. original plans. Applying time frames allowed them to drill down to the reasons why they were falling behind and highlight incomplete tasks, helping them understand which trade was behind and creating a bottleneck.

→ In one case, the Buildots Progress Matrix identified a ductwork slowdown. Upon investigation, it was found that another trade was blocking their progress. As a result, managers decided to move the trade in question to another work area and increase the team's working hours, thereby preventing delays from snowballing.

The installation report provides a detailed status of each zone of work to identify critical gaps

> *"To resolve conflicts in the past, difficult dialogues and investigations were necessary to get to the bottom of things. With Buildots, we just need to open the screen. There can be no opinions, only facts"*

NITHESH FREI NADARAJAH
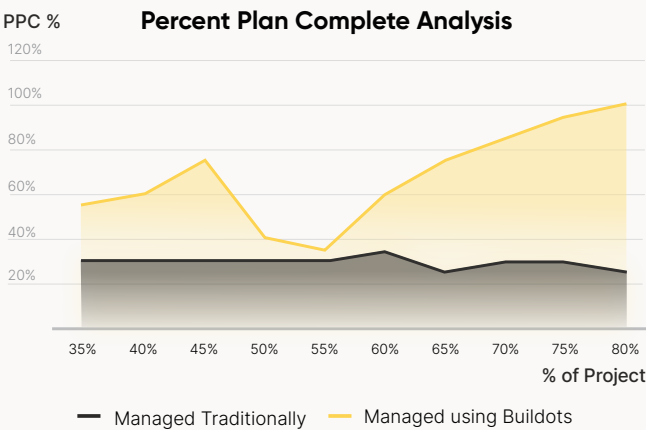**Service Manager & Team Coach, NCC**

Results

Using Buildots has helped NCC save time and improve performance on their projects in many ways.

1 **Improving Site Performance by 230%**

At NCC, monitoring and measuring project performance over time was done using Percent Plan Completion (PPC), measuring the number of tasks completed as planned, week after week. With the help of Buildots, NCC noted a significant decrease in delays - finalizing X2.3 more tasks within their originally determined plan. Overall completion rates for the project increased over the course of the project, improving their chances of finishing on time and on budget.

PPC %

Percent Plan Complete Analysis

— Managed Traditionally — Managed using Buildots

% of Project

230% More Tasks On Track

2 **70% reduction in manual reporting**

In light of the scarcity of skilled labor on site, NCC aimed to eliminate time spent on low-value tasks. With Buildots' automated progress tracking, NCC reported saving over 70% of time spent collecting and analyzing data.

3 **Thousands of euros saved on disputes**

It is very common to have disagreements with subcontractors. But when they happen, it is in everyone's interest to reach a fair resolution and compensation as soon as possible. Using Buildots documentation capability and precise data, NCC prevented and resolved conflicts that could have potentially amounted to overspending of tens of thousands of euros. Moreover, disputes were resolved within minutes, employing Buildots' easy and quick access to factual data.

4 **Enhancing transparency to increase customer satisfaction**

Implementing BIM into regular workflows translates into an even higher value when using Buildots. Providing clients with BIM models alongside accurate data and a visual capture library enhanced both transparency and communication with all stakeholders.

"We are able to give more transparent and reliable information to our customers about the construction progression, and they appreciate it"

JARI VALO | **Head of Strategy & Project Support**

"Our site team earned back hours every week so that we could focus on tasks of greater value. We spend less time running the site, less time in meetings, less arguing with subs, and more time actually fixing things"

NITHESH FREI NADARAJAH | **Service Manager**

Explore more case studies →

Connected Construction

Buildots empowers true Connected Construction. Our AI-based technology gives construction companies the power to stay connected with what's happening on-site. Wearable 360-degree cameras automatically capture every element. The data is compared with the original design models and schedules to provide an accurate, objective status, giving construction companies complete visibility and control. One central platform connecting all aspects, connecting you straight to reality. Welcome to construction as it should be.

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