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Rethinking Vertical Logistics to Boost Productivity on Construction Sites.

Executive Summary

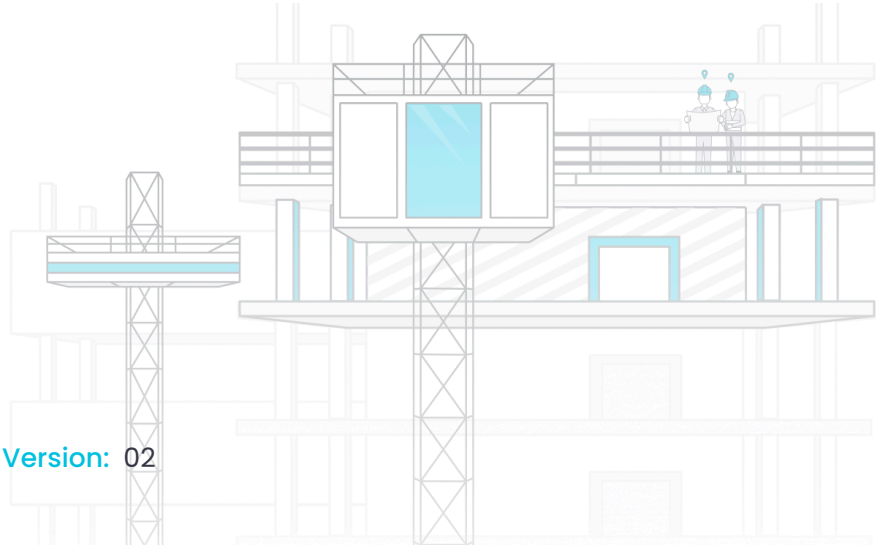
The construction industry is at a tipping point. While projects grow in complexity and scope, productivity has stagnated — costing time, money, and competitiveness. One of the most overlooked bottlenecks? **Construction Hoists.**

Every year, projects lose **over £1.4 million** due to inefficient hoist usage. Workers waste hours waiting. Materials arrive late. Teams fall behind.

SmartHoist is a **retrofit-ready system** that transforms traditional construction hoists into **data-driven** productivity **engines**. It integrates seamlessly into job sites with **no behaviour change** required, boosting productivity, improving safety, and driving efficiency.

SmartHoist isn't just a product — it's a performance multiplier with a clear return on investment in three key ways.

1. **You save on labor.** By reducing hoist wait times, workers spend less time standing around and more time building.
2. **You spend less on hoist operations.** SmartHoist helps you avoid unnecessary hoist rentals, lower power consumption, and reduce the need for extra operators.
3. **You finish projects sooner.** It can cut a typical 18 month timeline down with half a month. That's less overhead, lower financing costs, and a faster path to revenue.



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Why SmartHoist Now?

1 - The Industry Challenge

Construction productivity improved by just **10%** from 2000 to 2022, while other industries saw gains of **50–90%** in the same period (McKinsey & Company, 2024). One of the biggest culprits? The **chaotic movement of people and materials on-site.**

The construction hoist is the jobsite's vertical highway. In high-rise construction, vertical travel accounts for up to 10% of daily labor hours, making hoist efficiency a direct driver of productivity (Lu et al., 2019). Studies have shown that advanced hoist systems reduce wait times and idle labor, increasing total workforce output by up to 30% (Grange & Savage, 2018). With labor shortages intensifying, hoists help lean teams maintain output without sacrificing timelines (Forinsights Consultancy, 2024).

But with **no data, no coordination, and no control,** this essential asset becomes a bottleneck. And the costs stack up fast:

- X Delayed timelines mean lost rental income for developers.
- X Idle time drives up labor and overhead costs for general contractors.
- X Inflation and supply pressures turn every delay into a budget blowout.

Technological innovations — like **SmartHoist** — are now essential for keeping **projects on time** and **within budget**.

References:

- Forinsights Consultancy. (2024). *Construction Hoist Market Report*.
- Grange, K., & Savage, M. (2018). A vertical transportation analytical tool for the construction of tall buildings. *CTBUH Journal*.
- Lu, M., Chen, W., & Shen, X. (2019). BIM-based estimation of vertical transportation demands. *Automation in Construction, 103*, 58–68.
- McKinsey & Company. (2024). *Delivering on Construction Productivity Is No Longer Optional*. Retrieved from https://www.mckinsey.com

What is SmartHoist?

1 - The SmartHoist Purpose

To transform vertical transportation in construction with user-friendly, smart technology that enhances the entire building process. We focus on **Easy Jobsite Adoption:**

- ✓ Works with all hoist brands
- ✓ **Plug-and-play retrofit** design
- ✓ Delivers immediate benefits post-installation

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2 - Proven Scalable Technology

- ✓ **5 years** of development and **continuously improving**
- ✓ **Experience in 750+ job sites** across Europe, North America, and the Middle East
- ✓ **1,600 hoists** monitored & Real-time **global benchmark**

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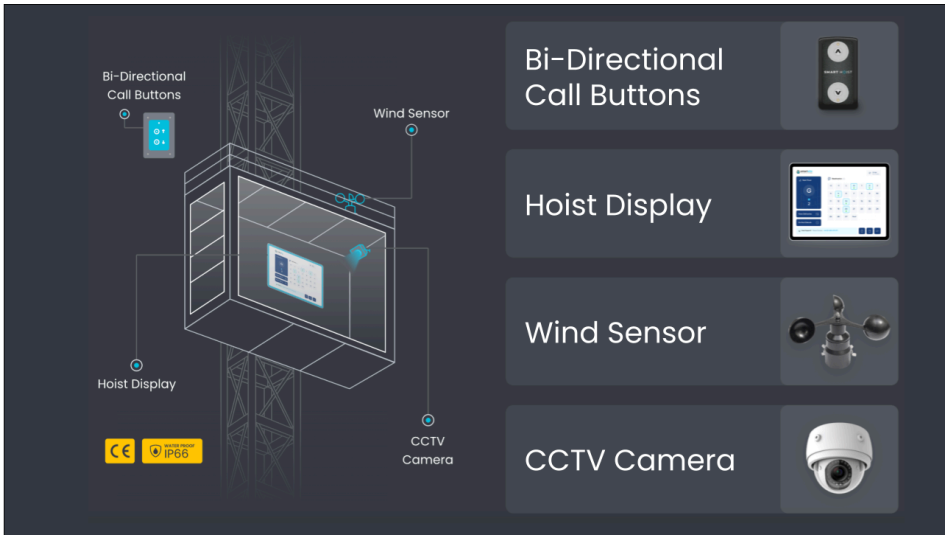
3 - Wireless System for All Hoist Brands



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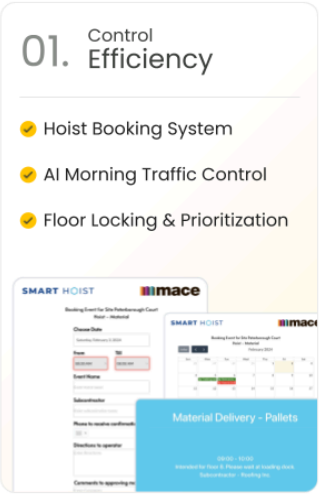
Our Software Platform

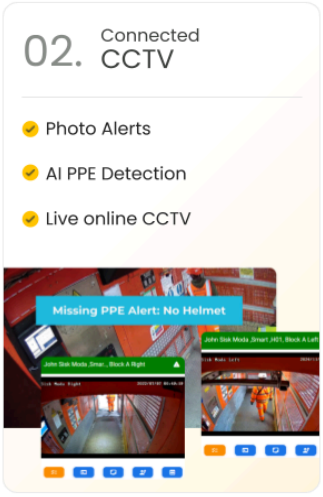
1 - The Basic System

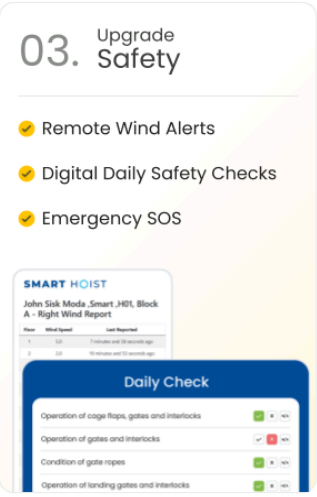
- **Hoist Synchronization:** Selects the best hoist, like **Uber**.
- **Next-Floor Algorithm:** Recommends optimal stop, like **Google Maps** for hoists.
- **Do Not Disturb:** Redirect all calls to other hoists when full.
- **Local CCTV inside hoist** for evidence during disputes or incidents.
- **Local Wind Alerts** to warn the driver about the wind speed.

2 - Boost overall Job Site Productivity with the Add-ons

- **AI Morning Traffic Control:** Prioritizes worker dispatch during peak hours.
- **Booking systems:** Prevent hoist clashes, streamline material logistics.
- **Performance dashboards:** Compare planned vs. actual.
- **AI PPE detection:** Checks PPE compliance.
- **Digital safety checks:** Mitigates your compliance in case of incidents.
- **Digital Wind Reports:** To decide which floors are safe to operate.







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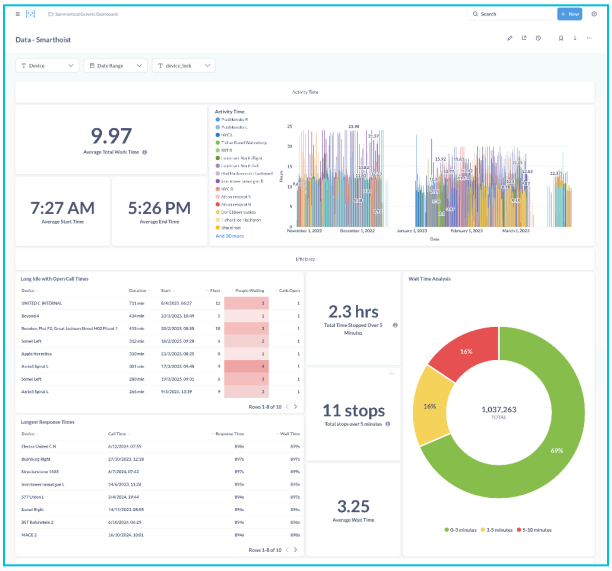
Data-Backed Results

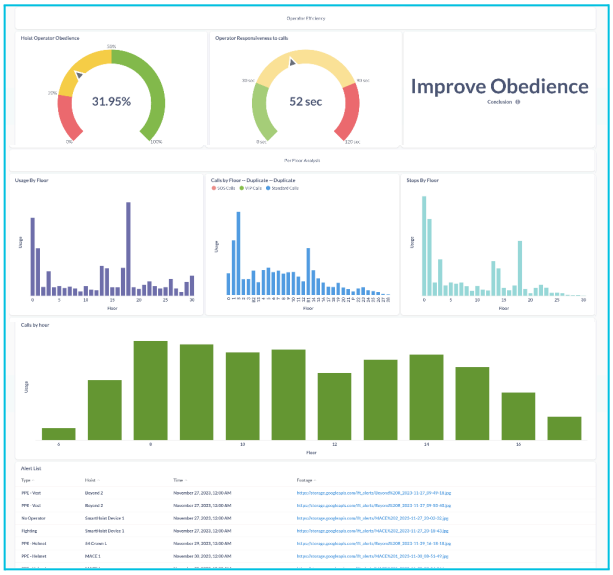
1 - Global Benchmark

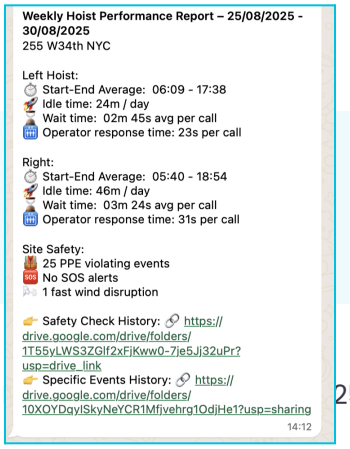
We've been collecting hoist usage data for over **5 years** across **1,600+ hoists** on **750+ construction sites**, tracking key data points such as:

- Calls per floor
- Wait & Response times
- Hourly Utilization

> "We can track anything you want, fully adaptable to your site needs."







Weekly Hoist Performance Report – 25/08/2025 - 30/08/2025
255 W34th NYC

Left Hoist:
Start-End Average: 06:09 - 17:38
Idle time: 24m / day
Wait time: 02m 45s avg per call
Operator response time: 23s per call

Right:
Start-End Average: 05:40 - 18:54
Idle time: 46m / day
Wait time: 03m 24s avg per call
Operator response time: 31s per call

Site Safety:
25 PPE violating events
No SOS alerts
1 fast wind disruption

Safety Check History: https://drive.google.com/drive/folders/1T55yLWS3ZGIf2xFjKww0-7je5Jj32uPr?usp=drive_link
Specific Events History: https://drive.google.com/drive/folders/10XOYDqylSkyNeYCR1Mfjvehrg1OdjHe1?usp=sharing
14:12

> "Site Management gets a Weekly Performance Report on their Phone."

2 - Real Projects Results

Every construction site is different. Hoist wait time depends on factors like crew size, workflows, materials, shift hours, and hoist configuration. That's why Smart Hoist turns data into decisions, not assumptions.

With SmartHoist, projects cut hoist wait times dramatically, no behavior change needed. Proven on major sites in London, New York, Toronto, Mumbai and Dubai with clients like Berkeley Group, Mace, UAG, Skycore, AECOM Tishman, StructureTone, Laing O'Rourke and LRC.

Floors	Hoists	Calls/ Month	Utilization	Wait Time per call		
				Before	During	Δ %
60	4	3,196	83%	4:46 min	2:39 min	44%
60	2	4,744	63%	7:24 min	3:31 min	55%
38	2	3,488	74%	6:04 min	3:42 min	39%
35	2	9,452	88%	5:58 min	3:30 min	41%
27	2	3,880	68%	5:23 min	3:26 min	36%
21	2	3,142	86%	5:05 min	2:35 min	49%
16	2	1,735	69%	3:22 min	1:59 min	42%
Average with zero behaviour change:						**41%**

"The hoist driver used to drive blind. Now, we guide them like GPS and **give you full control** over your vertical highway."

Financial Impact: Costs vs. Savings

1 - Project Information

Project Overview

- **Building Height**: 29 floors
- **Configuration**: Dual Hoist Cars
- **Model**:
  - Alimak Scando 650FC 39
  - Payload 2300 kg per car
  - Car dimensions 1.5 x 2.3 x 3.9 meters
- **Project Duration**: 18 months
- **Rental Cost**: £12,000/month for a dual hoist
- **Total Workforce**: 300 workers
  - 265 on fixed-price contracts (lump sum)
  - 35 paid hourly (£28/hr average)
  - Hoist operator: £18/hr
- **Workload Profile**:
  - Avg. 6 trips/day per worker
  - 8-hour workday
- **Wait Time Without Smart Hoist**: 5:30 minutes per call
- **Wait Time With Smart Hoist**: 3:15 minutes per call (41% reduction)

This business case has the assumption of Ceteris Paribus — all other variables held constant.

2 - The SmartHoist ROI

Costs of Smart Hoist

- £1,835/month × 18 months = £33,030
- **Basic Package** for Dual Hoist and 29 floors

Cost Savings of Smart Hoist

By optimizing hoist operations with SmartHoist, contractors can unlock measurable cost savings and time gains across the board. These aren't projections, they're real-world returns from turning idle minutes into productive labor, streamlining energy usage, and making smarter rental decisions based on live data.

Here's a breakdown of the **direct savings** and **indirect savings** you can expect on a typical 18-month project:

- **Direct Savings:**
  - A1: Hourly Labor Savings: £86,044
  - A2: Power Consumption Reduction: £8,284

- **Indirect Savings:**
  - B1: £ 36,000 on hoist rental and £31,200 on operator costs
  - B2: Improve productivity of lump sum contractors with 2,8%
  - B3: Two weeks earlier project completion

A1: Hourly workers: Improve Output

While most subcontractors are on fixed-price contracts, **around 12.5% are still paid hourly** — and every minute they spend waiting for the hoist is money off your bottom line. By reducing wait times, you turn that downtime into productive labor, cutting direct costs without changing your scope. Here's how the savings add up on a typical project with **300 workers** and a **1:24 reduction in hoist wait time** per trip:

- **35 hourly-paid workers** (12% of 400 workers)
- 2:15 minutes saved per trip × 6 trips per day = **13.5 minutes saved per worker daily**
- 35 workers × 13.5 minutes = **7.88 hours per day**
- Over an 18-month project, that's **3,073 hours**
- At **£28/hour**, the total savings = **£86,044 per project**

.**A2: Power Consumption**

Hoists don't just consume time, they also **consume power**, and those energy costs add up fast over the course of a long project. With Smart Hoist, hoists run more efficiently by optimizing floor stops. That means lower energy usage without sacrificing performance.

Based on New York's average commercial electricity rate of **£0.3017/kWh** (Jan 2025), here's what the savings look like over an **18-month project** using two Alimak Scando 650FC 39 hoists:

- **Daily power use**: 44 kWh × 8 work hours = **352 kWh/day**
- **390 workdays**: 352 kWh × 390 = **137,280 kWh total**
- **Energy cost without optimization**: 137,280 kWh × £0.3017 = **£41,417**
- **Estimated power savings** with Smart Hoist: **~20% reduction**
- **Saved energy**: 27,456 kWh × $0.2014 = **£8,284 saved**

B1: Optimize Hoist Strategy

Do you always need two hoist cars running from day one to project handover? Not necessarily. With the right **usage data**, you can make smarter deployment decisions. Starting with a single hoist, scaling up when peak demand hits, and scaling down as work wraps up. On an 18-month project, optimizing usage like this can yield significant savings:

Rental Cost Breakdown:

- Current setup: 18 months with a dual hoist = £216,000
- Optimized approach: Mix of single (6 months) and dual hoist (12 months) = £180,000
- → Rental savings: £36,000

Operator Labor Cost Breakdown:

- Current setup: 2 operators × 18 months = £187,200
- Optimized approach: Scaled staffing = £156,000
- → Operator savings: £31,200

That's a combined **£67,200 saved**, with zero compromise on access, just smarter timing.

B2: Subcontracted: Discount on Next Job or Kick-back

Subcontractors rely on hoists to move people and materials—when hoists run faster, so do their crews. Cutting wait times boosts productivity and gives you leverage to **negotiate better rates or request a kick-back** at project close. Even a **2-minute reduction per trip** on an 18-month project drives measurable gains in subcontractor output:

- 2:15 minutes saved × 6 trips per day = **13.5 minutes saved daily per worker**
- Total daily work time = **480 minutes**
- 13.5 minutes saved ÷ 480 minutes = **2.8% productivity gain per subcontractor**

That's **2.8% more output**, just by optimizing the flow.

B3: Win Half a Month

Saving just **1:52 minutes per worker per trip** may sound minor, but across an 18-month project, it adds up to a big-time **impact**. By turning hoist wait time into productive work time, you're not only preventing delays — you're **buying back progress**.

- **Total work hours:** 936,000
- **Productivity improvement:** 2.8%
- **Time saved:** 26,208 hours
- **Result:** Project duration drops by **two weeks (10 working days)**.

Shaving even a few weeks off your timeline isn't just about speed, it's about **value**. Finishing faster drives down costs, strengthens your financial position, and creates real strategic advantages. Here's what that looks like in practice:

1. Faster Completion = Lower Costs

✓ Save on labor, equipment, site offices, logistics, and overhead
✓ Reduce land holding costs and environmental impact
✓ Cut down project risk from delays and market changes

2. Better Financial Performance

✓ Pay less interest on construction loans
✓ Reduce exposure to rate hikes and financing risk
✓ Hit the market faster for quicker sales, rentals, and ROI

3. Strategic Advantage

✓ Beat competitors to market and boost your brand reputation
✓ Free up internal teams and equipment for the next project
✓ Time project launches with peak demand and pricing windows

Conclusion: Innovation that Pays Off

1 - Leadership That Moves the Industry

With **Edwin Verpoort**, former CEO of Europe Largest Hoist Rental Company, now leading SmartHoist, the company brings together deep industry expertise and bold innovation. The mission is clear: **make hoist technology the smartest part of the jobsite** — not the bottleneck.

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2 - SmartHoist: Built to Elevate

SmartHoist is more than a technology solution. It's your on-site productivity engine, safety net, and strategic edge. It reimagines how people and materials move vertically. It gives directors and project leaders the visibility, control, and speed they need. Finish faster. Operate smarter. Build safer. In a fast-changing construction world, SmartHoist doesn't just keep up — it helps you lead.

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3 - Ready to Elevate your Site?

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