



Winvic was able to complete the work 3 times faster with HP SitePrint

Project background

- Description: Setting-out floor plans for a 33-storey residential building with living spaces, communal kitchens, study rooms, dining rooms, and lounge areas.
- Name: Lancaster Street, Birmingham, UK
- Main Focus: Full site set-out, including details for interior wall, electrical systems, ventilation systems, mechanical systems, and plumbing systems.
- Project Size: To date, Winvic has successfully printed over 3,000 square meters of coordinated floorplans.



Highlights



45%
cost reduction



3x faster
with more information on
the slab.
Compared to manual



Layout accuracy of
better than 3mm

Winvic is a leading general contractor specialising in the delivery of construction and civil engineering projects across the UK. As one of the largest general contractors in the United Kingdom, Winvic completes a range of large-scale construction projects, including commercial, residential, and industrial developments.

Winvic follow the typical role of a general contractor in the UK; once initial control points, grid-lines and benchmarks are established by a Winvic site engineer, the remaining setting-out tasks are then the responsibility of the relevant sub-contractors. This way of working means that multiple sub-contractor teams will spend lots of time on their own setting-out tasks throughout a project.

The Challenge

Each individual sub-contractor team uses the grid-lines, or control points, provided by the general contractor, to complete their setting-out tasks.

The existing workflow presents a variety of challenges. Since various teams are engaged in the setting-out of the same floor (Interiors, MEP etc), clashes can arise. For instance, there can be model variations or the incorrect use of reference points by each subcontractor. Subcontractors aren't typically trained or specialised in construction stakeout tasks and don't have the technological tools to enhance efficiency in the process. As a result, the process is often prolonged and can lack the desired quality.

Furthermore, an analysis of subcontractors programme of works, revealed that on average the site teams spent up to 40% of time on site completing setting-out tasks. Errors and mistakes can be made and therefore the Winvic site team will dedicate additional time to recheck the work of the subcontractors too - increasing the demand on their internal site engineering team. Of course, this leads to delays and cost overruns on a project.

The Solution

To improve their current setting-out workflows, Winvic decided to manage the full process and use the HP SitePrint robot to improve accuracy and productivity on site. The goal on their 33 floor Lancaster Street site in Birmingham was to provide all trades with a fully coordinated floorplan, providing their sub-contractors with more information than they've ever had before. This would enable the sub-contractors to execute their installation flawlessly.

“ Pattresses - we would never mark these on the floor slab due to the amount of work involved (lines, heights, text etc). If we were to mark it out, this would be done once one side of the wall has been built and this would take 1 or 2 days. We've been able to print elements of our plan that would never have been possible in the past without HP SitePrint. - Aman Mudan, Senior Engineer Winvic



It was initially thought that the transition to this approach could have a negative impact on Winvic's sub-contractors, as the setting-out element of the package had now been removed. On the contrary, using the HP SitePrint robot quickly proved to be mutually beneficial. Sub-contractors can now focus on their core expertise and provide highly accurate installations with the information supplied by Winvic. Sub-contractors also benefit by requiring less "skilled" workers on site.

“ By setting everything out it allows us to identify any clashes that might occur on site, for example partition studs with services. - Aman Mudan, Senior Engineer Winvic

The Results with HP SitePrint

Winvic's original approach to setting-out required multiple teams of subcontractors to perform setting-out with traditional methods (tape measure, chalkline etc). This approach requires multiple team members to measure and mark points without the use of technological tools for increased efficiency and accuracy - causing long setting-out schedules.

- Total Cost Reduction: The HP SitePrint enabled Winvic to set-out an entire floor with increased accuracy by a single operator instead of multiple workers on each subcontractor team.
- Total Time Saved: The HP SitePrint allowed Winvic to reduce their setting-out schedules by half.

With HP SitePrint we were able to complete the work 50-60% quicker than conventional methods - 6-7 days of setting out condensed into 2.5-3 days with SitePrint. - Aman Mudan, Senior Engineer Winvic



Long Term Impact

Winvic's goal was to change their current setting-out workflows to unlock productivity and quality gains across their sites. They are now benefitting from using HP SitePrint with a single operator to unlock these gains.



Going forward, Winvic can use the HP SitePrint robot to leverage the same results across multiple building projects within the residential, commercial, and industrial sectors. The ability to improve accuracy while cutting costs will assist the company in completing complex projects on tight deadlines while avoiding potential errors.

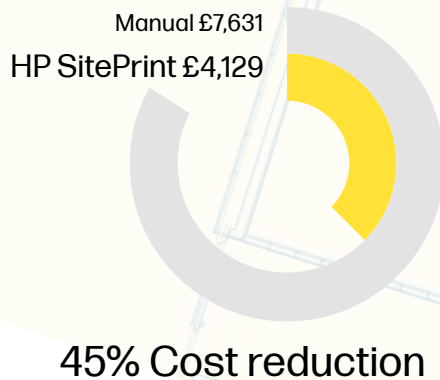
HP SitePrint now provides Winvic with a competitive advantage. Winvic can solidify their position as a pioneer in the construction industry by implementing innovations like SitePrint across their business.



Comparative Analysis

To calculate the return on investment of any business tool, companies must analyze how tools improve cost and labor requirements in comparison to previous methods. By using the HP SitePrint robot, Winvic was able to complete construction stakeout tasks for various systems internally in a fraction of the time required by previous methods. As a result, they saved substantial costs and improved accuracy over the course of the project. The advantages Winvic experienced with the SitePrint robot are easy to see.

			
Winvic at Crown Place (Multi-trade layout)		Manual ¹	HP SitePrint ²
Job Data	Printed Floor Area (m ²)	2,925 m ²	
Labor cost rates	Layout Crew Size	2	1
	Layout professional cost/hour	£20	£20
	SitePrint Support Usage Fee (£/ft ²)	-	£1/m ²
Time	Total Time (h)	191 h	48 h
Total cost	Labor Cost	£7,631	£957
	SitePrint Support Usage Fee	-	£2,925
	SitePrint D&A (1 week)		£247
	Total Cost	£7,631	£4,129



A Single Tool with the Capability to Improve an Entire Operation

Contact us to learn more about the HP SitePrint robot and how it can transform your construction workflows for improved precision and efficiency.

[Contact us](#)

¹ Time and cost computations are derived from the multi-trade layout costs and productivity rates observed in similar projects undertaken by Winvic.

² Data in the SitePrint scenario is gathered through robot telemetry.

Learn more at www.hp.com/siteprint

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