Case Study Title: Delivering Lean Excellence on PAR11: Mercury's Digital Approach to Data Centre Construction through VisiLean

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Mercury is a European leader in construction solutions, delivering complex engineering projects across data centres, life sciences, advanced technology and industrial sectors. Founded in 1972 and headquartered in Dublin, Mercury employs over 2,000 people across multiple regions. The company's track record in delivering high-tech facilities is underpinned by a commitment to operational excellence, innovation, and Lean Construction principles. For the PAR11 project in Paris, Mercury partnered with VisiLean, a leading provider of digital Lean planning and project management solutions, to enhance planning reliability, improve trade coordination, and ensure on-time delivery.

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Overview & Background to the Lean Initiative

The PAR11 data centre project was a high-spec, fast-track build for a global technology client. The 19.6 MW facility required the installation of complex MEP systems within a tight schedule and under strict commissioning requirements. Mercury's challenge was to coordinate multiple trades, manage significant design and material flows, and ensure zero compromise on quality and safety.

To achieve this, Mercury sought to reinforce its Lean Construction strategy through the adoption of a collaborative, digital platform. VisiLean was selected to replace fragmented planning tools and to facilitate real-time coordination between site teams, subcontractors, and the client.

The Lean initiative aimed to improve planning reliability through structured Last Planner® System practices, enhance visibility of progress and constraints, and reduce waiting times, rework, and trade conflicts. By integrating Lean thinking with digital execution, Mercury ensured that work packages were executed in sequence, constraints were resolved early, and the project stayed ahead of critical milestones, ultimately delivering practical completion three months earlier than the contract deadline.

Lean Initiative Undertaken – Lean Thinking, Tools, Techniques

Mercury implemented a structured, digital Lean Construction approach on PAR11, centred on VisiLean's collaborative planning platform. The initiative combined the principles of the Last Planner System with real-time digital execution to align trades, manage constraints, and maintain full visibility of progress and performance across a complex, fast-track data centre build.

Five key elements underpinned the approach:

- A digital Last Planner System
- Programme enhancement and updates
- Issue and constraint management
- Reporting and dashboards
- Collaboration and transparency.

1. Digital Last Planner System

Mercury implemented structured weekly planning sessions using VisiLean, enabling all stakeholders, including subcontractors, supervisors, and the client, to view, update, and agree on work sequences in real time. Rather than relying on fragmented planning tools, teams worked from a single, live source of truth. Changes made during planning sessions were instantly visible across all devices on site, preventing outdated plans from being acted upon and ensuring that decisions were always based on the most current programme information.

2. Programme Enhancement & Updates

The master programme was broken down into trade-specific lookahead plans, giving each subcontractor a clear, manageable view of the work required in the coming weeks. Weekly updates reflected actual site conditions rather than the original static plan, helping the team to re-sequence activities quickly whenever delays or opportunities arose. This granular, zone-based approach allowed vendors to plan with far greater precision. As one team member explained: "By breaking the structure down into more manageable zones, vendors were able to plan with greater precision and concentrate efforts on the most critical areas of the project."

3. Issue & Constraint Management

Every constraint, from material shortages to permit delays, was logged in VisiLean with a responsible owner and a target resolution

date, and progress against each issue was monitored daily. At any given time, the system tracked dozens of live constraints. At one point there were over 38 open and committed items, categorised by trade, zone, and type, from safety and equipment through to materials and access. This gave Mercury a real-time overview of all open constraints across trades and zones, enabling early intervention, improved coordination, and uninterrupted workflow on site. Crucially, the culture around raising issues shifted: as the team observed, "Proactively raising constraints, no matter how minor, fosters greater collaboration and transparency among all stakeholders, helping to eliminate the blame culture that often undermines project delivery."



Figure 1: Constraint Overview.

4. Reporting & Dashboards

Before VisiLean, weekly progress reporting took approximately six hours to compile manually. With VisiLean, reporting is automated through live dashboards, taking no additional time and ensuring real-time accuracy for every stakeholder. The system generated Daily Progress Reports showing work completed and outstanding, Percent Plan Complete (PPC) Tracker Reports highlighting plan reliability trends, Constraint Reports detailing open issues and their status, and Trade Performance Summaries for productivity insights. At a project level, the dashboard tracked all 745 tasks on the programme, of which 590 were marked complete at the time of reporting, giving Mercury's leadership and site teams a live, consolidated view of progress, constraints, and plan reliability. This ensured that planning and execution remained aligned with current site conditions, and that reports to internal teams and the client were always based on the same underlying data, improving transparency and enabling faster, data-driven decisions.

5. Collaboration & Transparency

All trades, supervisors, and the client had access to the same data set, eliminating conflicting reports and ensuring decisions were based on current site realities rather than outdated information. BIM integration allowed the team to carry out visual progress checks, comparing planned versus actual work directly against the model. As the team explained: "Holding weekly and daily meetings with vendors



Figure 2: Project Dashboard.

enables all parties to review live updates in real time, ensuring clear visibility of who is working where. This facilitates accurate planning of tasks, resource allocation, and the management of critical project areas." Underpinning all of this was the project's PPC reporting, which enabled Mercury to track weekly plan reliability and identify the root causes of plan failure. By analysing PPC trends week on week, the team improved commitment planning, reduced variability, and consistently achieved PPC levels of 85 to 90 per cent as the project progressed, a marked improvement on the 52% recorded at the start of the project.



Figure 3: PPC Overview Report.

Collectively, these five elements transformed how Mercury planned and executed a technically demanding, fast-track build. Moving from fragmented, manual planning tools to a single digital Lean platform gave every stakeholder, from site supervisors to the client, a shared and current view of the programme, its constraints, and its performance. This shift in both process and culture, away from static planning and reactive firefighting and towards proactive, data-driven collaboration, was central to Mercury delivering PAR11 without compromising on quality, safety, or programme certainty.

Lean Initiative Improvements & Impact

The PAR11 project was completed on time and within budget, with all milestones successfully achieved, ensuring a smooth and timely handover. In fact, practical completion was delivered three months ahead of the contract deadline, a significant achievement for a high-spec, fast-track data centre build.

Improved planning reliability: PPC increased from 52% at the start of the project to a consistent 85-90% as the initiative matured, reflecting a marked reduction in plan variance and much greater certainty in weekly lookaheads. This gave Mercury and its subcontractors confidence that committed work would actually be delivered as planned, rather than being repeatedly re-sequenced or delayed.

Reduced waiting time: Waiting time between trades dropped from 18% of available hours to less than 8%, as constraints were identified and resolved earlier and work sequencing improved. Reducing time lost waiting for preceding trades helped improve productive workflow on site. This reduction reflected the earlier identification and resolution of constraints achieved through the digital constraint log described above.

Reporting efficiency: Weekly reporting time was reduced from approximately six hours to virtually zero, with live dashboards generated automatically to ensure instant accuracy. This reduced the administrative burden on site management, enabling faster, data-driven decision-making.

Programme agility: Live, real-time updates allowed the team to re-sequence activities rapidly whenever delays or opportunities arose. For example, when a delivery was delayed, resources were quickly reassigned to other zones to prevent downtime, keeping crews productive rather than idle.

Cost savings: Reduced rework and improved coordination helped Mercury avoid significant potential costs associated with delays and inefficiencies. This outcome reflected the cumulative effect of more reliable planning, reduced waiting time, and fewer disruptions across the programme.

Together, these improvements demonstrate how a digital Lean Construction approach translated directly into measurable gains in schedule certainty and productivity, alongside improved cost control on one of Mercury's most complex, fast-track data centre builds, while also strengthening collaboration between Mercury, its subcontractors, and the client.

Summary and Lessons Learned

The PAR11 data centre project demonstrated how integrating Lean Construction principles with digital tools can significantly enhance project delivery. Mercury's collaboration with VisiLean enabled real-time planning, issue tracking, and reporting, which were critical to managing a complex, fast-track build. The use of the Digital Last Planner System improved planning reliability, reduced waiting times, and reduced manual reporting requirements to virtually zero.

Key lessons learned include: visibility drives accountability, as daily updates and transparent constraint management fostered a collaborative environment, reducing delays and eliminating the blame culture; digital tools enhance agility, as real-time dashboards and live updates allowed teams to respond quickly to changes, maintaining workflow and avoiding downtime; collaboration is critical, as open access to shared data across all stakeholders ensured alignment and improved decision-making; and standardisation drives future success, as, based on the results of PAR11, Mercury has committed to using VisiLean across future projects to replicate the benefits of improved programme control, collaboration, and reporting efficiency.

This approach not only delivered the project ahead of schedule and within budget but also set a new benchmark for Lean excellence in data centre construction.

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