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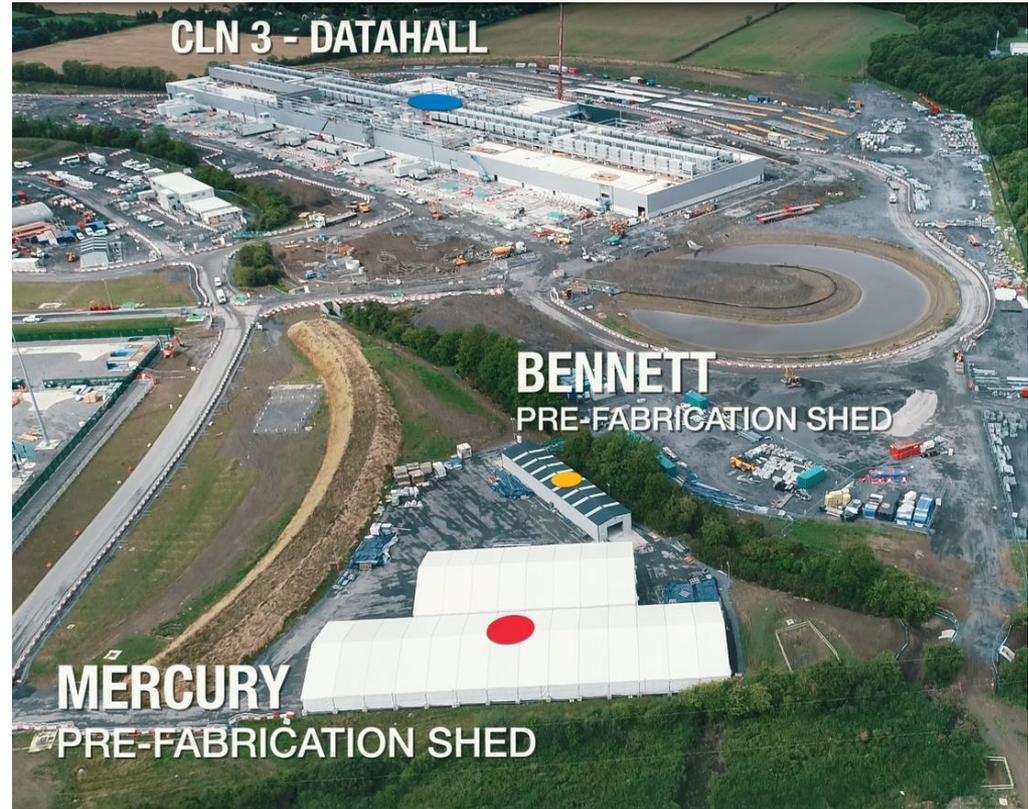


VisiLean

Construction, simplified



Commercial development consisting of three single-storey data centres, split into three phases, to be powered by a purpose built 220kV Substation (also part of the campus), on a 95 hectare (Ha) greenfield site in Clonee, Co Meath, Ireland. The 3rd phase of the project required the construction of a third single storey data centre building containing 4 data halls with a gross floor area of 25,400m<sup>2</sup> and a data capacity of 36MW and in addition, an ancillary administration and office building of 4,360m<sup>2</sup> and associated parking.

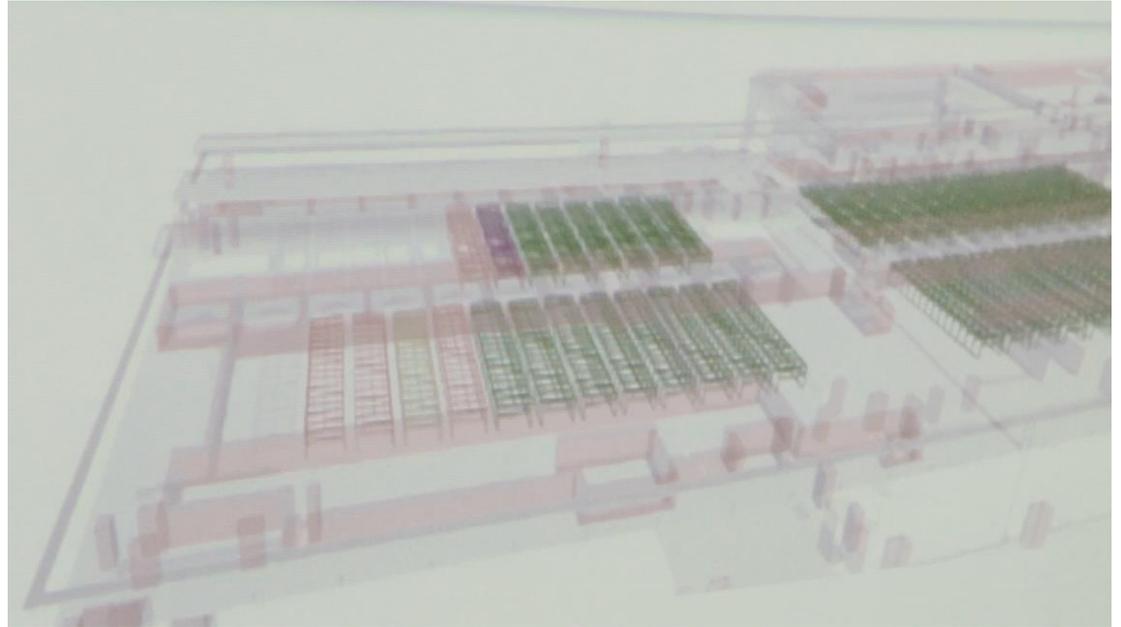


# Traditional Methodology

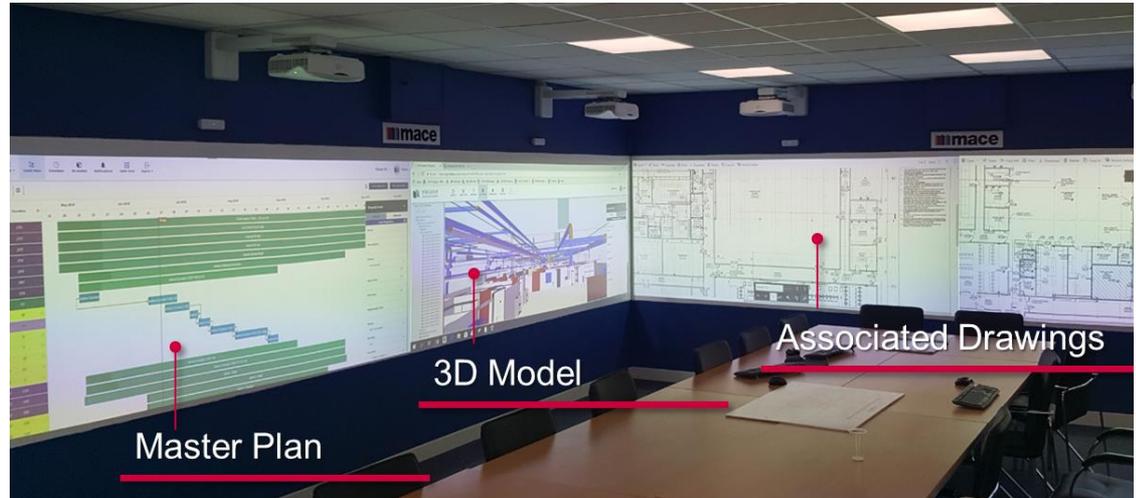
- Approximately 25-30% of labour are MEWP “spotters”
- 25% of available time observed as motion waste. (MEWP movements, up/down & gathering materials)



For the communication ease, entire data centre is divided into four zones namely Zone-A, Zone-B, Zone-C, Zone-D. Each zone has specific number of modules to be installed. Accordingly, the schedule was developed with respect to the zones.



- Look ahead meetings were held where micro level planning was conducted.
- VisiLean dynamically linked lookahead planning and production control to the 3D model, transforming BIM into a visual planning tool enabling anyone to see at a glance the current build status.
- the challenge was to assign all the makeready details not only to the modules but also to the subprocesses in the module production.



# Quality Control and Validation



**Work allocation**

To the particular organisation member, During the look ahead or weekly planning (final commitment).

The screenshot shows the VISILEAN software interface. At the top, there are navigation tabs: 'Layout', 'Top view', 'Bottom view', 'Export', and 'Filter'. Below these is a search bar and several icons. The main area displays a Gantt chart with multiple colored bars (red, purple, green) representing different tasks or resources over time. A sidebar on the right shows details for a 'Property Panel' with fields for Name, Description, Owner, Start Date, End Date, and Priority. At the bottom, there is a table with columns for dates (Mon 17, Tue 18, Wed 19, Thu 20, Fri 21, Sat 22) and rows for different resources like 'Dorian Smith' and 'Scott O'Connell'.



# Space Management and First Run Studies

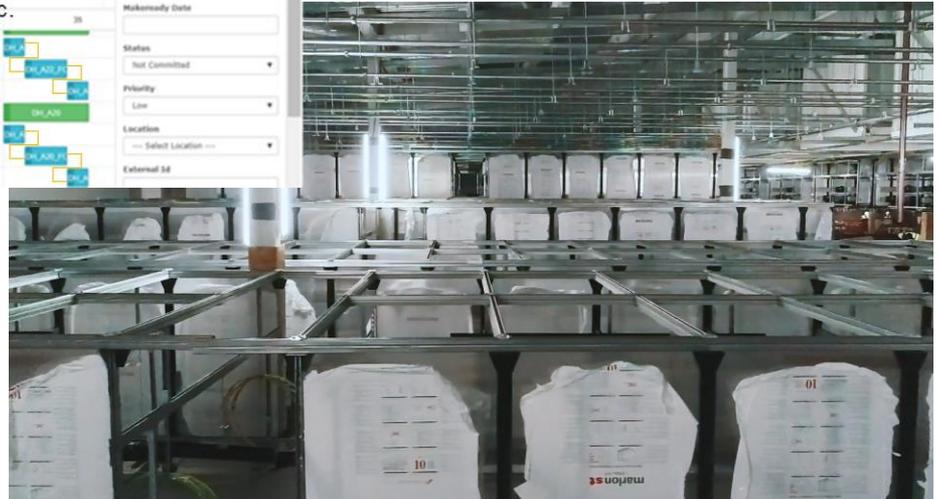
3D view

Element linking  
With the microlevel schedule

Makeready details feeding  
Makeready date, location, priority, important documents, qualities, plan constraints, notes etc.

Schedule elaboration  
With the last-planners during phase planning

Task name	Start time	Duration
DH_A22_L1	8/27/2018	1
DH_A22_PO	8/29/2018	2
DH_A22_L2	8/30/2018	1
DH_A20	8/27/2018	4
DH_A20_L1	8/27/2018	1
DH_A20_PO	8/28/2018	2
DH_A20_L2	8/30/2018	1





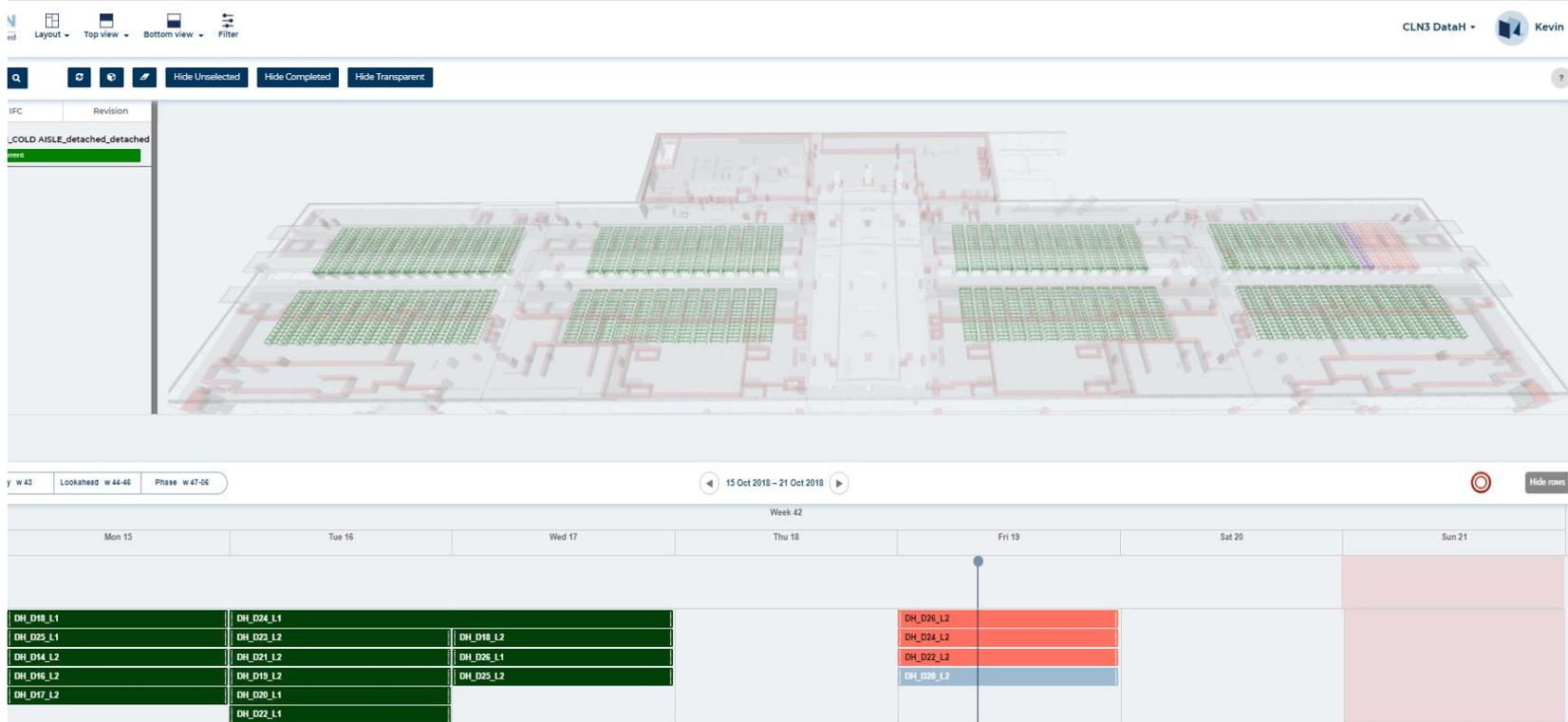
# Reducing Waiting Time – Increase Efficiencies



The image displays four sequential screenshots of the 'Task Card' application interface, illustrating various task management actions:

- Update progress (daily):** The task 'Anowtask' is shown as 'In progress' with 62% completion. A progress bar is visible, and the 'Complete' button is highlighted in green. A red arrow points from this button to the 'Complete task' screenshot.
- Complete task:** The task 'Anowtask' is now 'Completed' (100%). The progress bar is full green, and the 'Complete' button is no longer visible.
- 'Alert' set for task:** The task 'Subtask 1' is shown as 'In progress' with 74% completion. A yellow 'Remove Alert' button is visible on the left side of the progress bar.
- Task stopped:** The task 'Subtask 1' is shown as 'Stopped' (74%). The progress bar is split into green (74%) and red (26%), and the 'Complete' button is no longer visible.

# Integrating Lean and BIM Process for Modularised Construction



- CLN1 installation time for Data Hall fit out sequence was **21 weeks**
- CLN2 installation time for Data Hall fit out sequence was **16 weeks**
- CLN3 installation time for Data Hall fit out sequence was **9 weeks**
- Measurable benefits
  - 75% reduction in working at height,
  - 60% reduction in defects,
  - 43% improvement in program efficiency,
  - 45% reduction in labour spend.
- The team was able to reduce transport and congestion on site and improve real-time project transparency.
- Finally, the consistent data collected at the work face helped with continual improvement processes.