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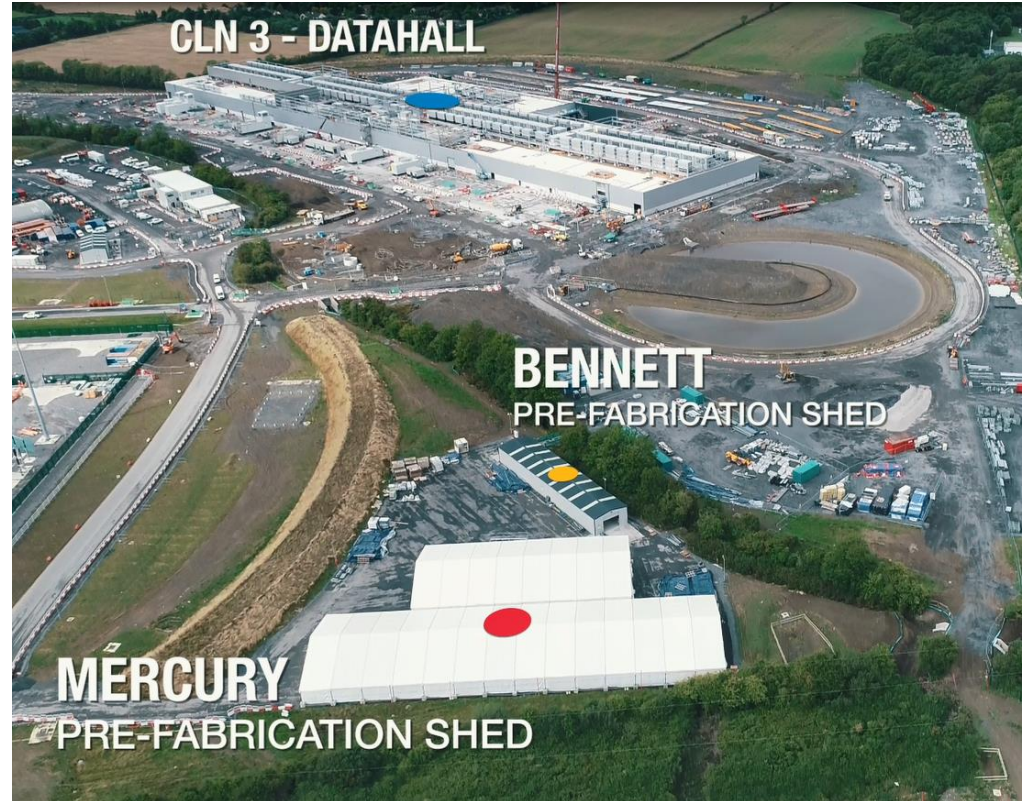


VisiLean

Construction, simplified

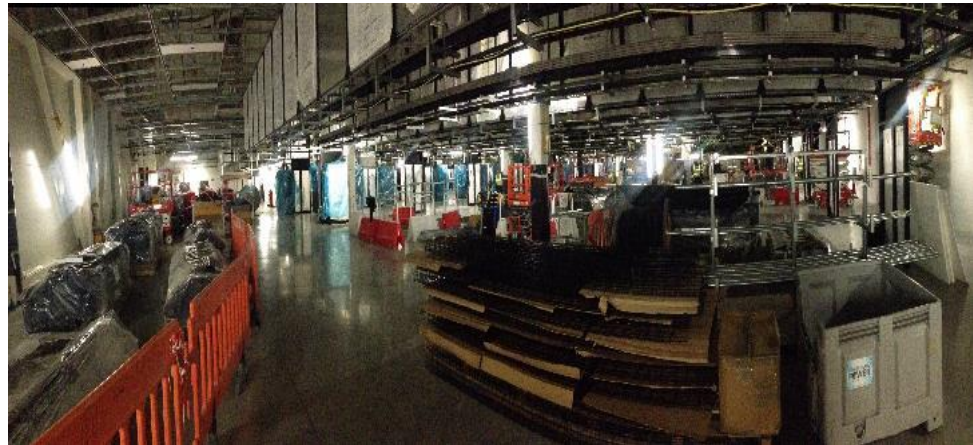


Commercial development consisting of three single-storey data centres, split into three phases, to be powered by a purpose built 220kV Substation (also part of the campus), on a 95 hectare (Ha) greenfield site in Clonee, Co Meath, Ireland. The 3rd phase of the project required the construction of a third single storey data centre building containing 4 data halls with a gross floor area of 25,400m² and a data capacity of 36MW and in addition, an ancillary administration and office building of 4,360m² and associated parking.

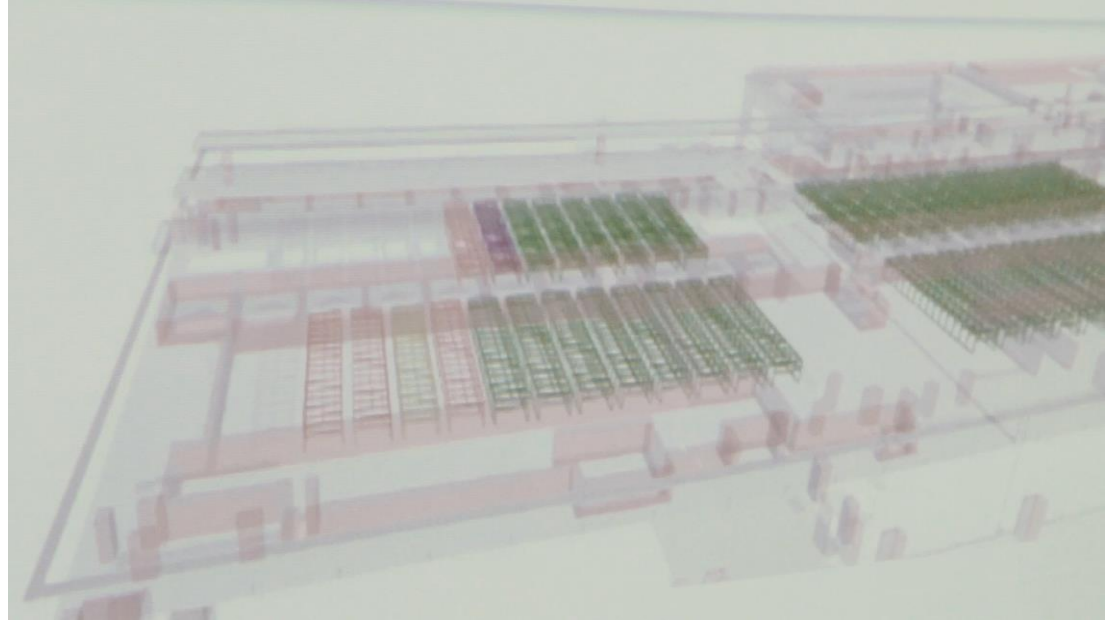


Traditional Methodology

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



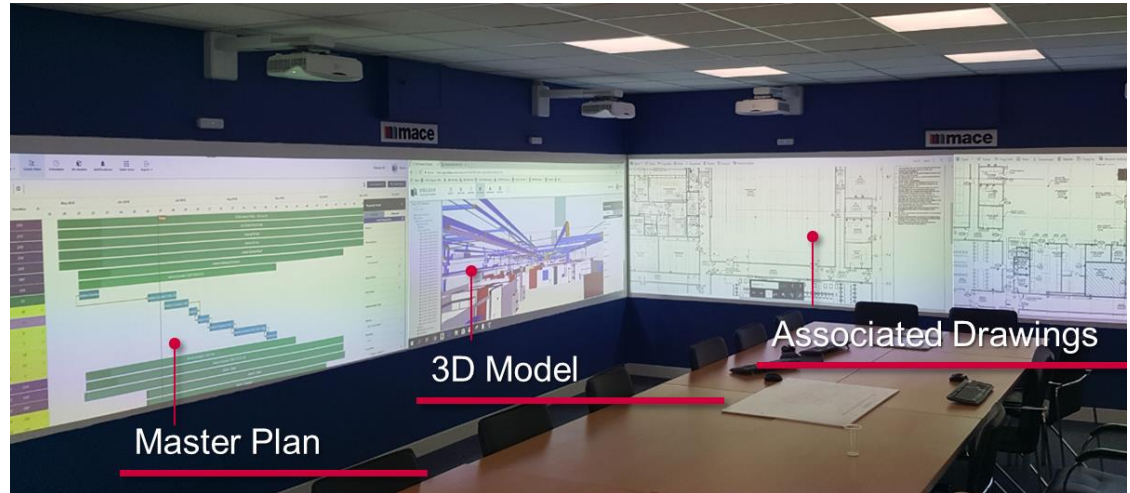
For the communication ease, entire data centre is divided into four zones namely Zone-A, Zone-B, Zone-C, Zone-D. Each zone has specific number of modules to be installed. Accordingly, the schedule was developed with respect to the zones.



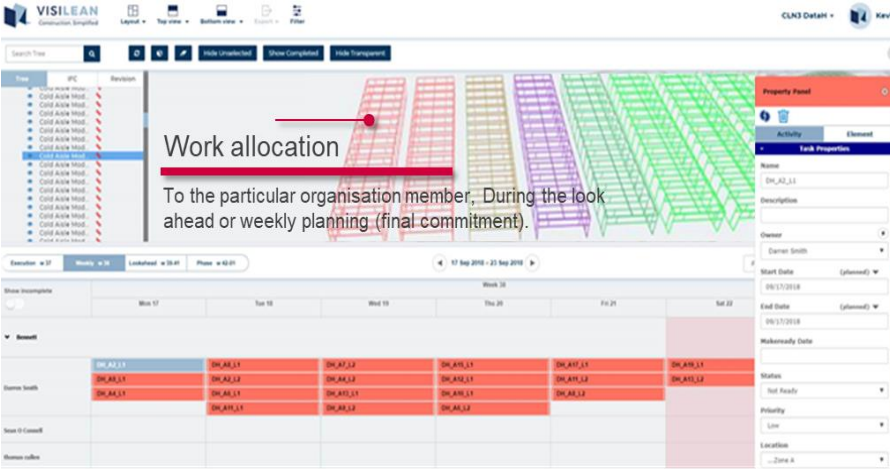
Collaborative Planning Meetings with Integrated Lean and BIM



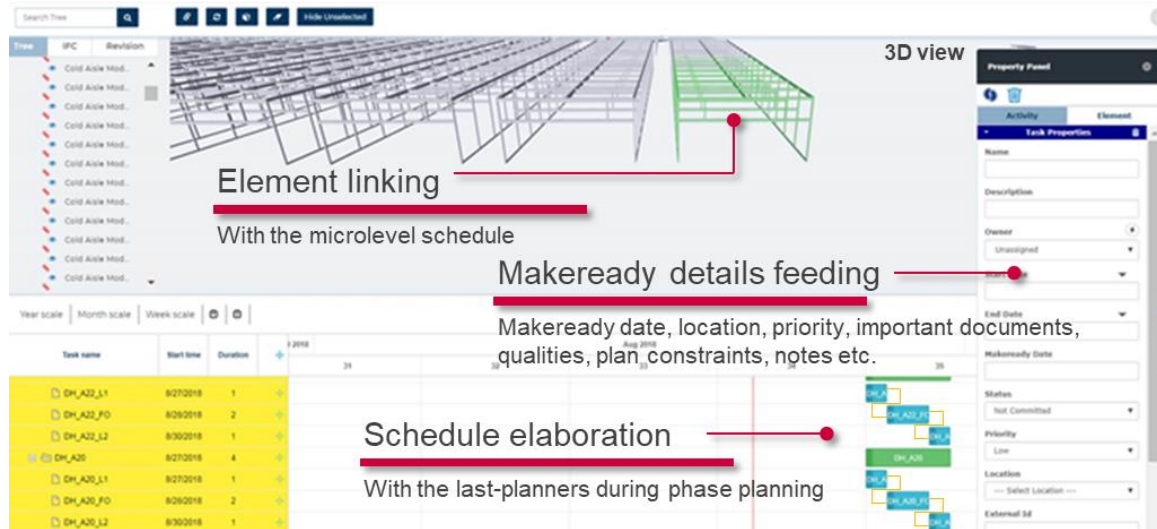
- Look ahead meetings were held where micro level planning was conducted.
- VisiLean dynamically linked lookahead planning and production control to the 3D model, transforming BIM into a visual planning tool enabling anyone to see at a glance the current build status.
- the challenge was to assign all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



Quality Control and Validation

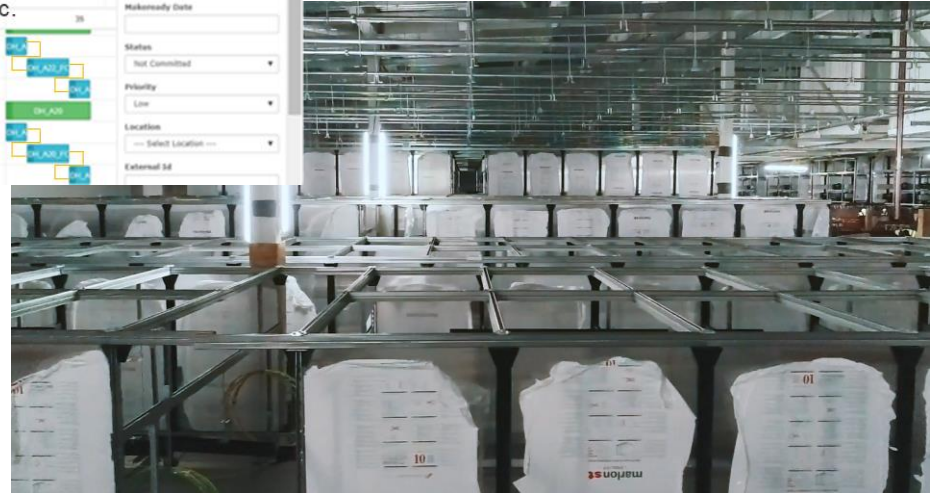


Space Management and First Run Studies

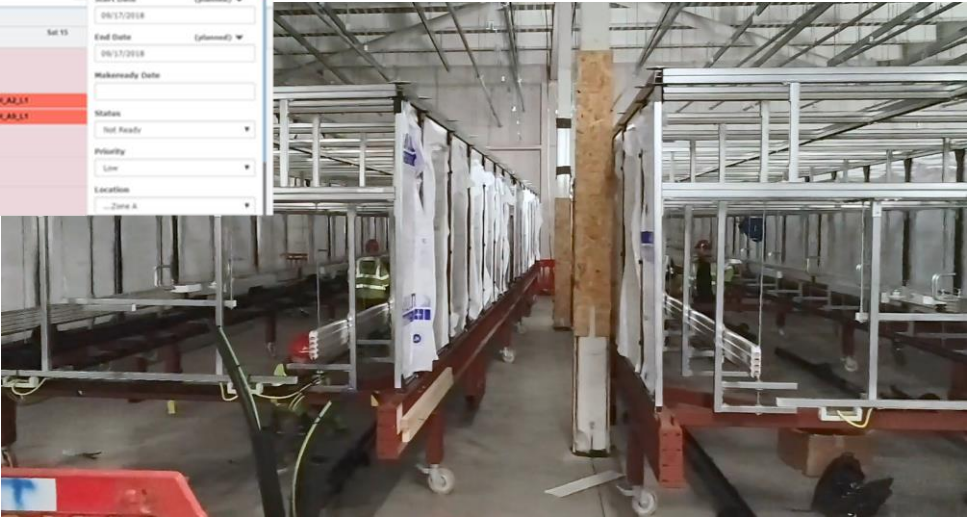
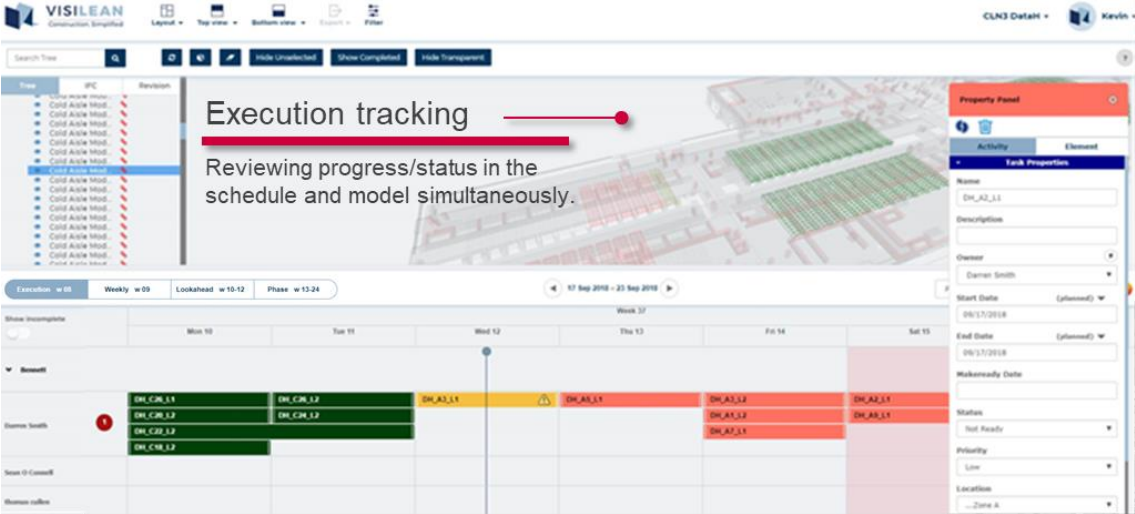


The screenshot displays the mace software interface. On the left, a tree view lists elements like 'Cold Air Mod.'. The central 3D view shows a wireframe model of a facility. A red line connects an element in the tree to a specific location in the 3D model, labeled 'Element linking'. Below this, a text box states 'With the microlevel schedule'. To the right, a 'Property Panel' for an 'Activity' is shown, with fields for 'Name', 'Description', 'Owner', 'End Date', 'Makeready Date', 'Status', 'Priority', 'Line', 'Location', and 'External ID'. A red line connects the 'Makeready Date' field to a text box labeled 'Makeready details feeding', which lists 'Makeready date, location, priority, important documents, qualities, plan constraints, notes etc.'. At the bottom left, a 'Task name' table is visible, showing tasks like 'DH_A22_L1' and 'DH_A20' with their respective start times and durations. A red line connects this table to a text box labeled 'Schedule elaboration', which states '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



Trade to Trade Handovers



Reducing Waiting Time – Increase Efficiencies

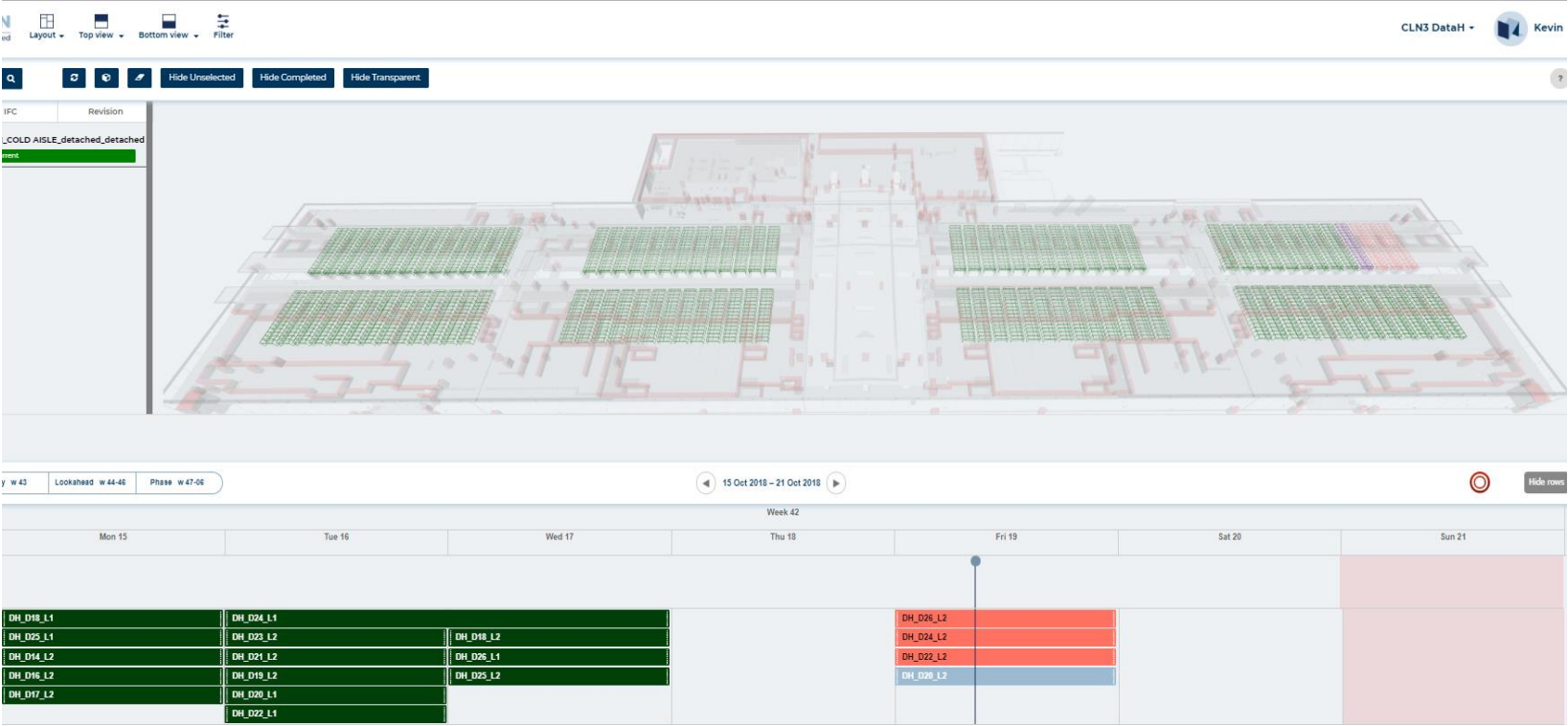


The image displays four sequential screenshots of a mobile application interface for task management, titled "Task Card (Exec)".

- Update progress (daily):** The task is "Anewtask", "Late by 254 days", and "In progress 62 %". A progress bar is shown at 62%. A red arrow points from the "Complete" button to the next screenshot.
- Complete task:** The task is "Anewtask", "Late by 254 days", and "100 % Completed". The progress bar is at 100%.
- "Alert" set for task:** The task is "Subtask 1", "Late by 260 days", and "In progress 74 %". A yellow "Remove Alert" button is visible. The progress bar is at 74%.
- Task stopped:** The task is "Subtask 1", "Late by 260 days", and "Stopped 74%". The progress bar is at 74%.

Each screenshot includes a top status bar, a task card header, a task icon, a task name, a due date, a progress bar, and a bottom navigation bar with "Home", "Search", "Settings", and "Back" buttons.

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.