

# MISSION CRITICAL BIM

**KIRBY**  
DATA CENTRE  
EXCELLENCE

Kirby, through its specialist mission critical capabilities and expertise, has delivered projects for some of the biggest names in the mission critical sector. Their in-depth and proficient understanding of the mission critical sector along with a highly-skilled, in-house BIM team and commissioning team, ensures that Kirby delivers more for their clients through improving project coordination, efficiency and resilient systems. ‘Kirby has the capability and know-how that clients look for in a mission critical project,’ explains John Grogan, Associate Director - Engineering. ‘Clients value our expertise and our commitment to deliver a high-quality, efficient project. This is particularly important during the pre-construction phase when the greatest impact can be made.’



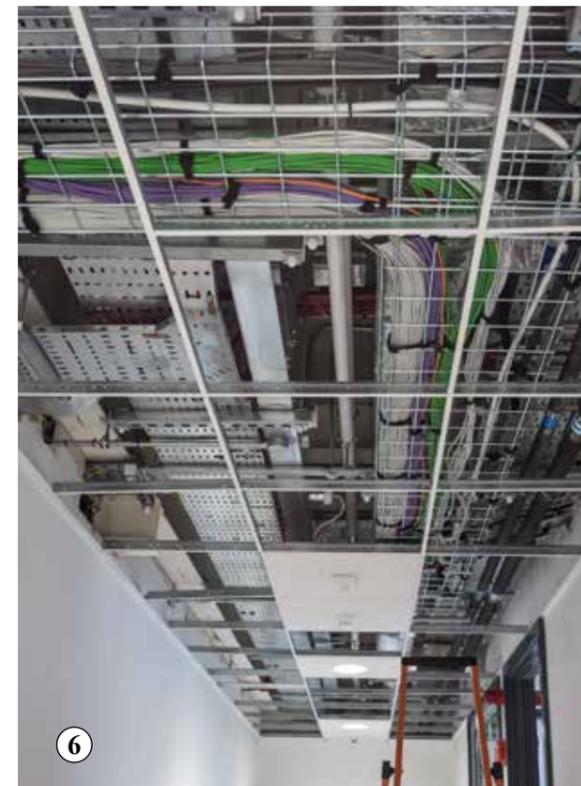
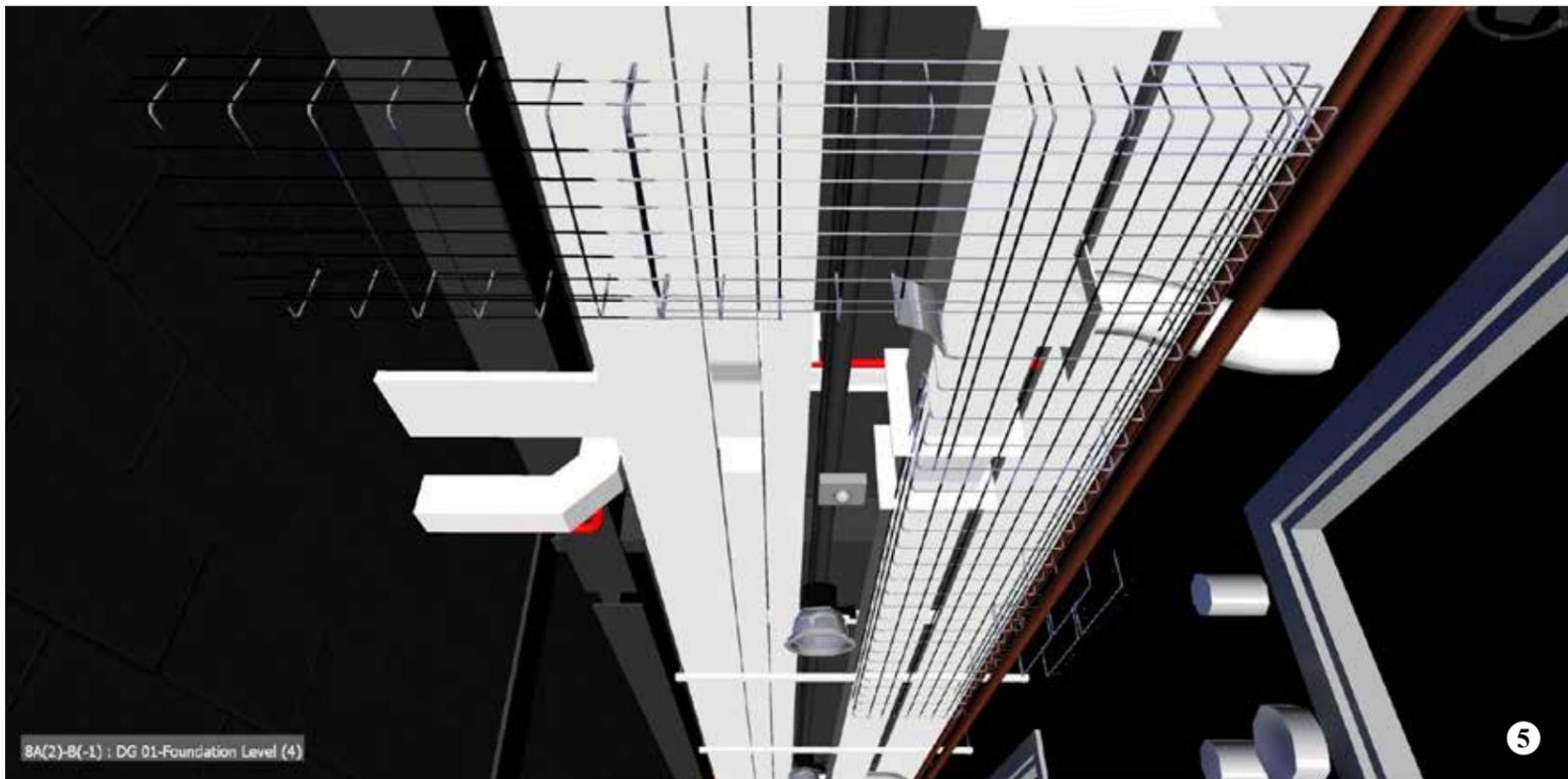
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*Kirby leveraged its BIM expertise to ensure the project was delivered efficiently.*

### *Telety Group project - conversion of an existing warehouse and office building into a Tier 3 data centre*

One such client that valued Kirby’s expertise was Telety Group, Europe’s leading provider of premium carrier-neutral data centres. In Ireland, Telety Group operates three data centres and has recently been expanding their capacity in the market-place. One such expansion involved the conversion of an existing warehouse and office building into a Tier 3 data centre. Kirby was appointed as lead design and build MEP contractor on the project with full responsibility for mechanical and electrical design, coordination, installation, commissioning and the overall management and execution of a 5 level commissioning sequence.

The project itself had a very challenging time schedule as well as site restrictions in the form of overhead grid lines. To overcome these and to ensure the project timeline was met, Kirby utilised its BIM expertise and applied LEAN techniques. ‘Applying our BIM expertise to deliver a complex project such as this, enabled us to deliver a high-quality project while achieving all of the project’s set KPI’s’ said Mark Danaher, BIM Manager at Kirby. ‘BIM allowed us to engage early with the client, collaborate effectively and identify and resolve any critical design issues at an early stage which in turn minimised any rework or delays on site’.



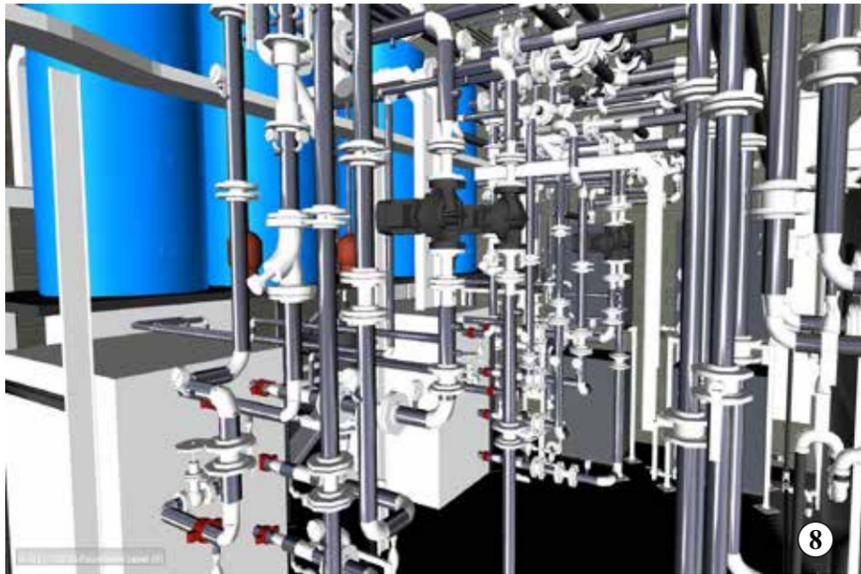
⑦ Kirby deployed its commissioning team shortly after appointment. This allowed the project design and coordination to be influenced with commissioning in mind, leading to a more efficient delivery overall.

Taking the lead role as model coordinator on the project, Kirby produced a central federated model which allowed the client and all trades to collaborate efficiently throughout the project lifecycle. The model was updated daily with real-time information which the client, site team and other trades could access remotely via tablets. The interactive nature of the model

reduced the number of onsite visits and meetings which led to greater efficiency as the site team could spend more time working on the project. The federated model was developed at the design stage and progressed through to project completion. Upon completion, Kirby ensured that a full LOD 500 model was delivered to the client allowing for facility management.

Using detailed isometrics produced directly from the model, Kirby was able to prefabricate 90% of the pipework off-site. This was then delivered to site 'just in time' and installed, thereby minimising the need for on-site welding, which in turn reduced costs significantly, saved time and facilitated the small footprint space constraint. Kirby used point cloud scanners to negate any site inaccuracies allowing for the prefabricated systems

to be installed without rework. Once installed, Kirby used point cloud scanners and a total station to verify that the installation was within the acceptable tolerance. 'Through the use of BIM and efficient use of prefabrication, the mechanical and electrical construction phase of the project was completed in less than 20 weeks. This was a significant turnaround especially given the tight project schedule' said Mark Danaher.



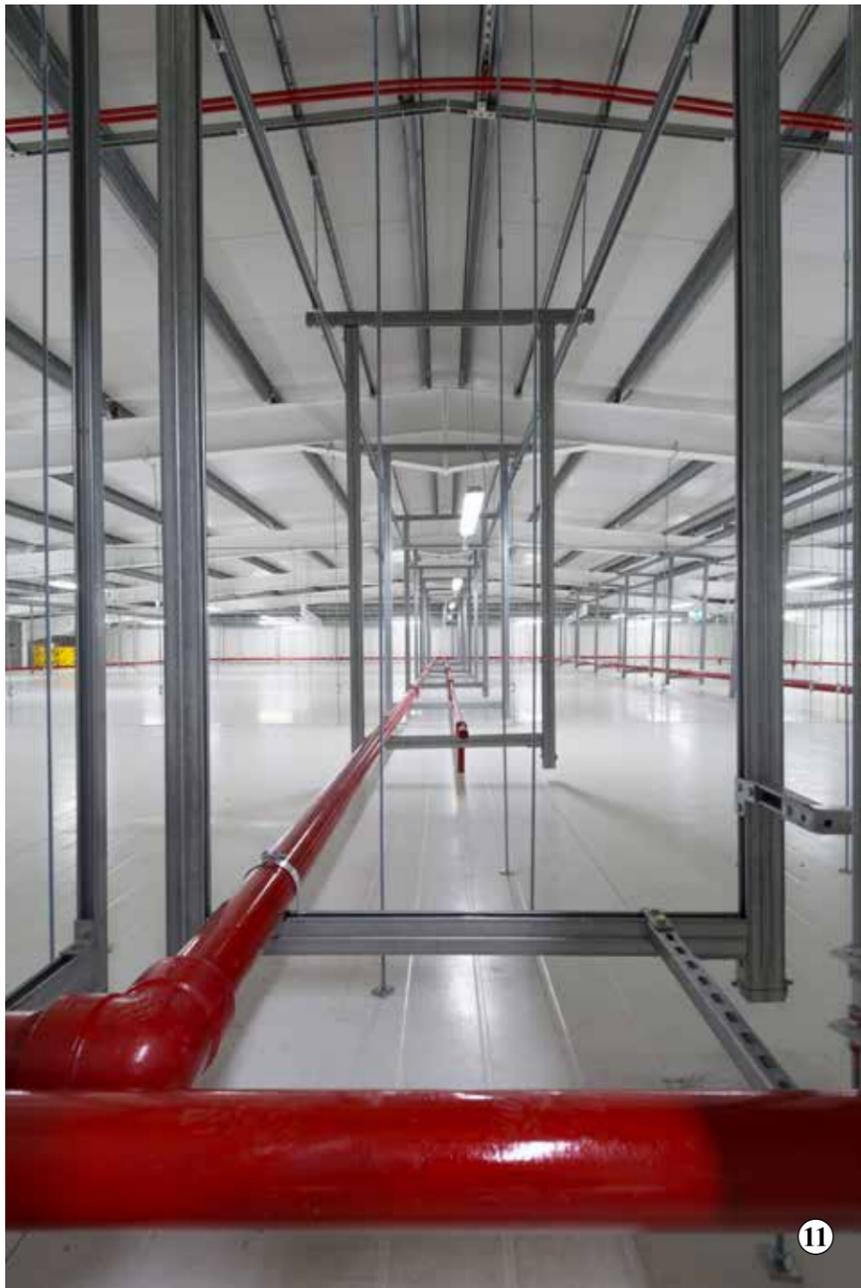
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Kirby's highly-skilled, in-house BIM team apply their expertise on all projects to ensure efficiency throughout the project lifecycle.

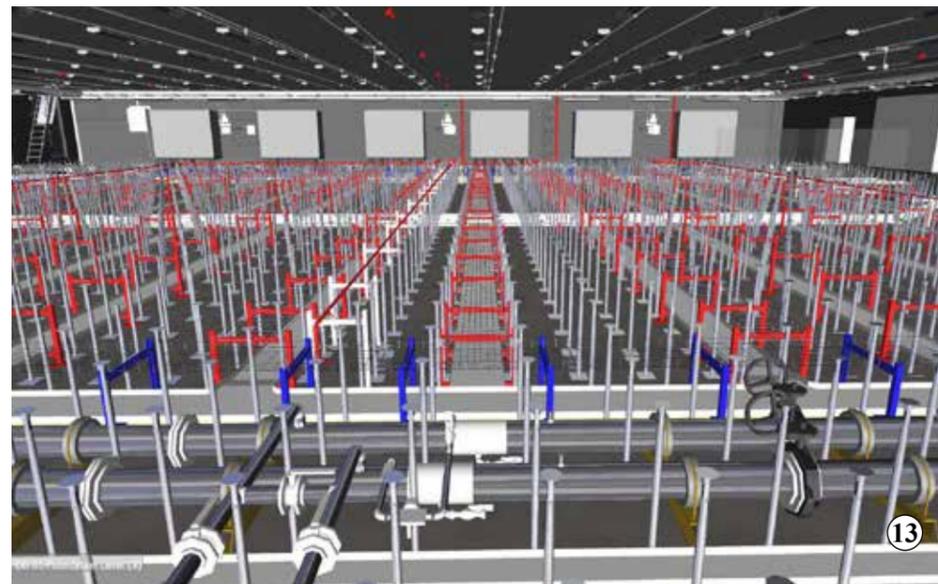
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Through its specialist mission critical capabilities and expertise, Kirby has delivered projects for some of the biggest names in the mission critical sector.

Adopting the same philosophy of early engagement, we deployed our commissioning team shortly after appointment. This allowed the design and co-ordination to be influenced with commissioning in mind and led to a more efficient delivery overall. The pre-construction phase was also used to develop our commissioning plan and ensure it was integrated into the overall construction schedule. Kirby developed all of the test packs and the IST document during the early stages of the project. Following the construction phase, Kirby engaged in an intensive 8 week commissioning phase involving a 5 level process and integrated systems test process. During this phase of the project, the required resilience and operational control of the data centre was tested under different load conditions. Kirby was responsible for developing all of the commissioning protocols in conjunction with Teleticity. Following the successful completion of the IST and subsequent training, the project was handed over to the client.



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Kirby understands the importance of business continuity and efficient operations therefore offering clients their full support in the months and years following the project handover. This project was no different as Teleticity continue to benefit from Kirby's expertise and support.

'Despite a number of challenges, Kirby delivered a high-quality project on time, within budget and to the client's full satisfaction. We leveraged our BIM expertise and innovative approach to challenging build environments ensuring the best possible outcome for the client' said John Grogan.