



ENGINEERS IRELAND

BIM Practical Examples and Learnings.

BIM For Building Services

edc offices



edc sectors



SPORTS AND LEISURE



ENERGY FROM WASTE



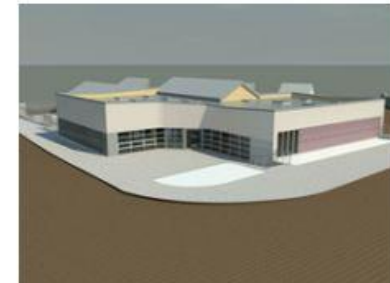
PUBLIC BUILDINGS



HEALTH SECTOR



OFFICE AND EVENTS CENTRE



LOCAL GOVERNMENT



HOSPITALITY



RESIDENTIAL

Why BIM

 **Cabinet**Office

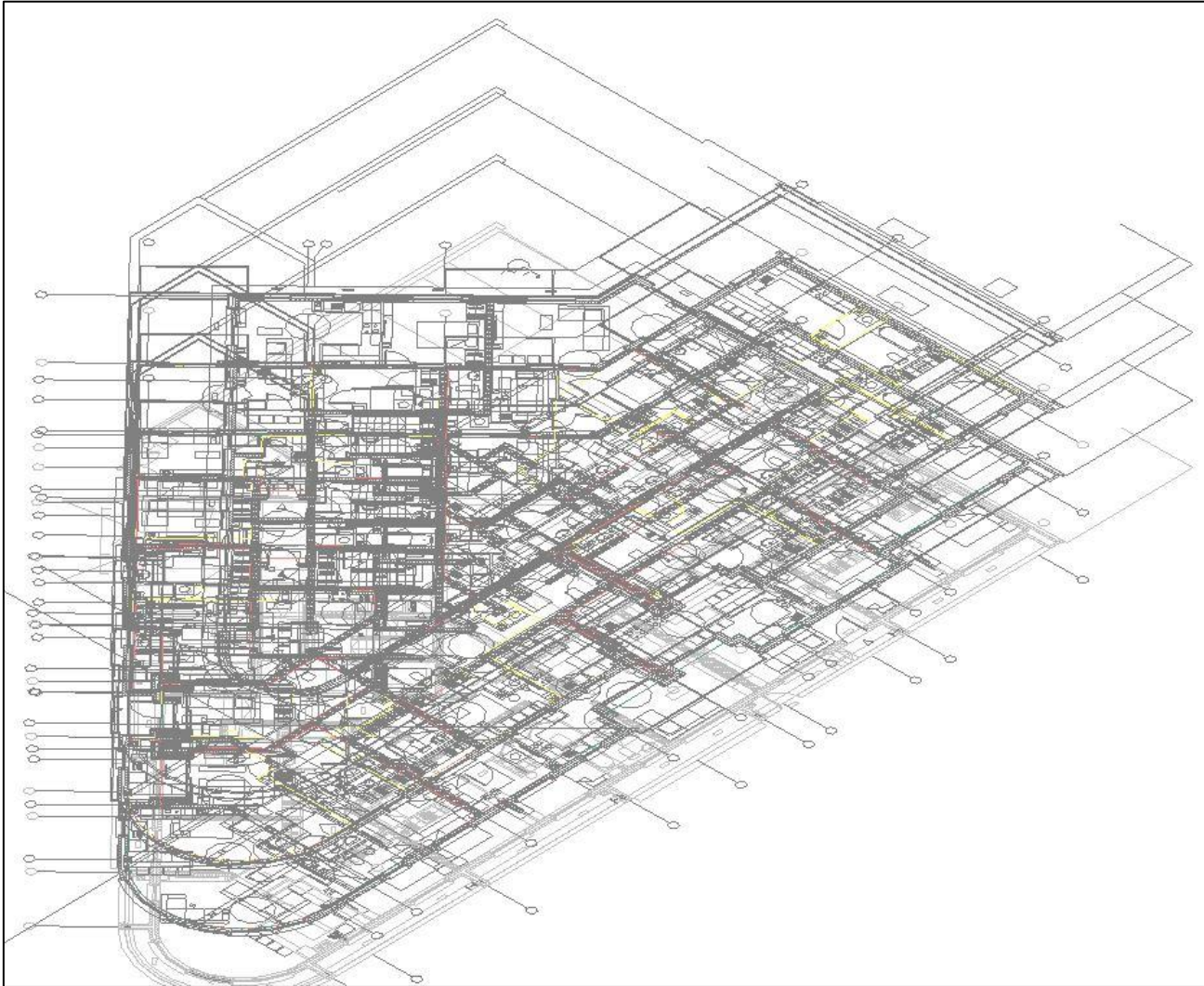
Government Construction Strategy

May 2011

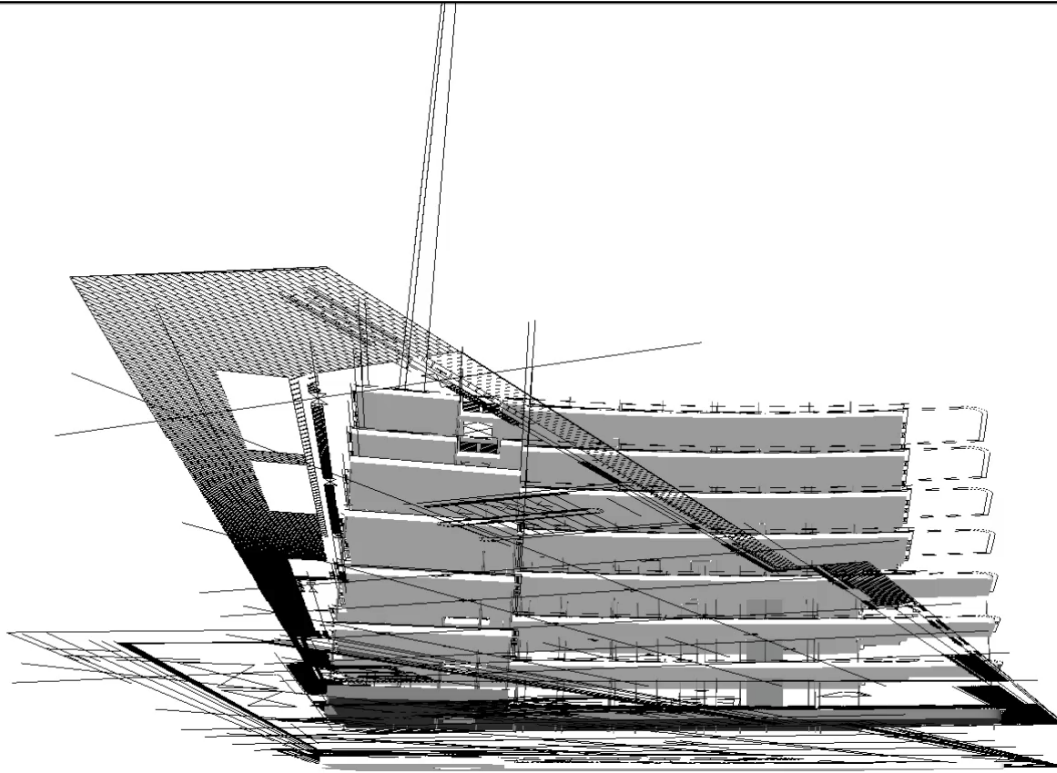
edc implementation of BIM

- Management decided it was the companies direction
- Appointed a BIM Manager
- Started with basics BIM
- 3D modelling on projects even if not a requirement
- Gradual role out of training to staff
- Appreciation of changes to drawing presentation
- Appreciation of different drafting tools available
- Changed drawing standards to relevant BS standards
- Implemented an in house Common Data Environment

Wire frame model



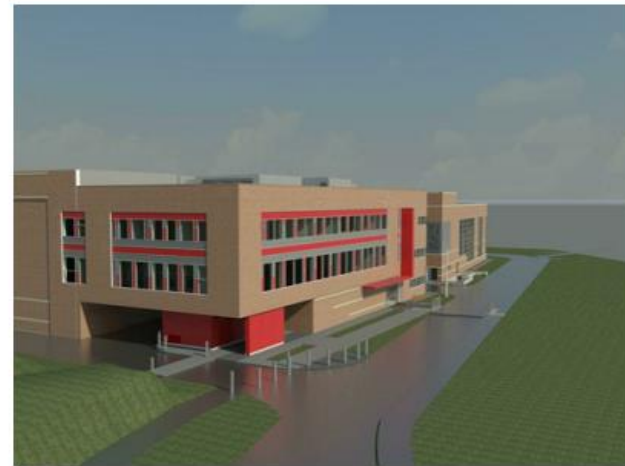
Wireframe model with 3D M&E



UK BIM Project



Ireland BIM Project



Project 1 -Multi-use Building



Winning Work Abroad through Collaborative BIM



Successful Collaboration Export Possibilities



Basic BIM Required

- Common Data Environment used
- Weekly Sharing of models
- Weekly Coordination and Design team meetings
- Clash detection and resolving
- Bill of Quantities & material take-offs required for tender stage

Learning outcomes

- New opportunity to win prestigious projects
- Company growth could be accelerated
- Demonstrated that collaboration through sharing of models and weekly video conferencing works during design stage
- Clash detection critical in negotiating riser and ceiling voids
- Bill of Quantities and material take-offs simplified
- Lack of local regulatory documents

Project 2 – Sports Arena



Level 2 BIM Required

- BIM Management of Architectural, Structural & MEP models
- Common Data Environment fully utilised
- 4D bi-weekly model updates
- Bi-weekly BIM coordination meetings
- COBie populated model information
- Asset Information Model

Learning outcomes

- Project difficult to manipulate into a Level 2 project if Level 2 principles have not been fully followed from conception to detailed design
- Information difficult to gather from subcontractors and suppliers.
- Challenges in promoting discipline in the use of the Common data environment
- Challenges in presenting fully coordinated model to site personnel. Highly detailed 2D coordination drawings required to represent model intent and to reduce re-modelling
- Vastly improved accuracy of builders works openings
- Programming of service installation improved with greater visualisation
- Less downtime on site, problems are realised early on and resolved within the model before they manifest themselves on site

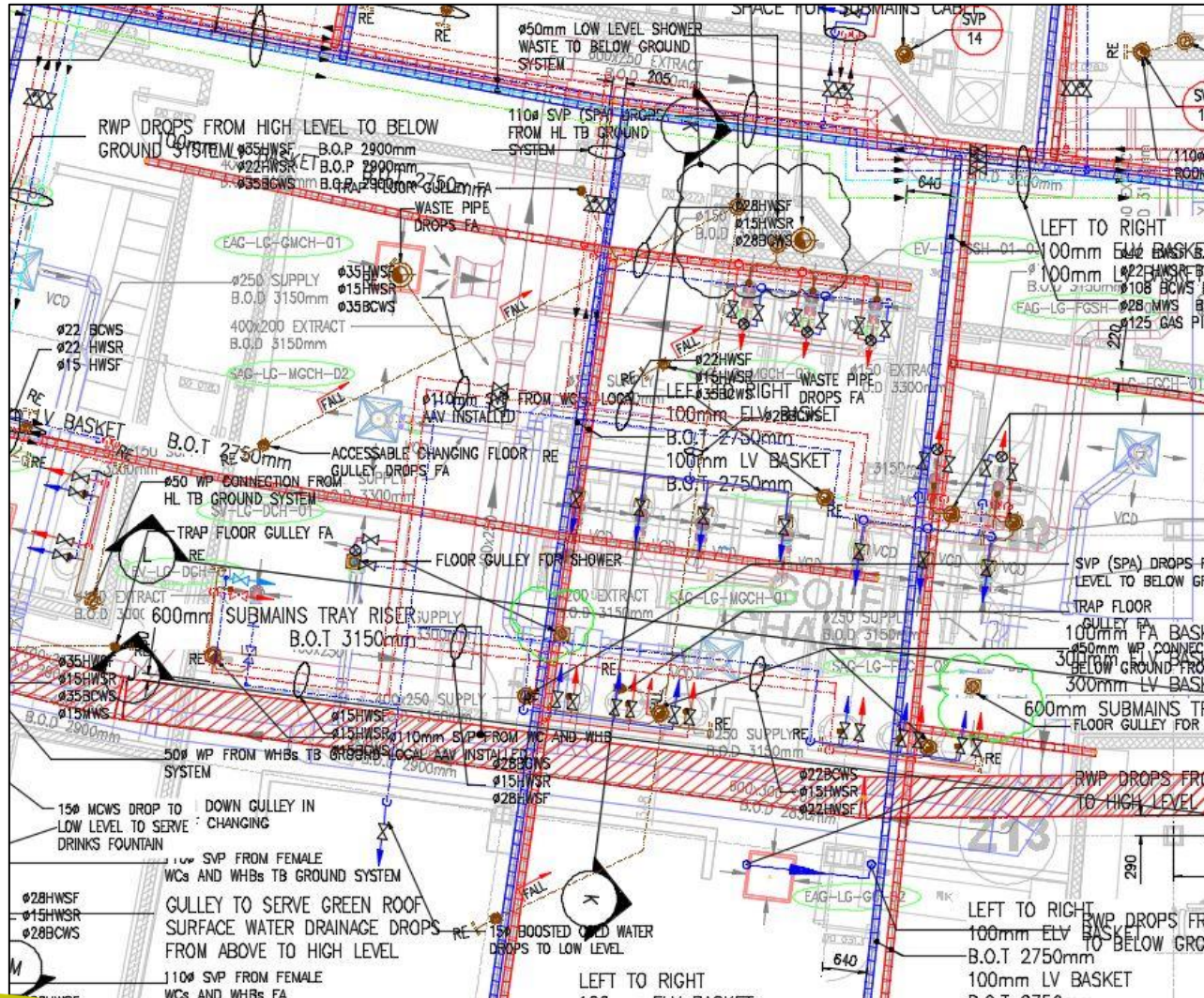
Overview of BIM limitations and confusion

- Unrealistic expectations
- Employers Information Requirement (EIR)
- All or nothing BIM?
- BIM can be bought?
- BIM increases risk?
- CAD drafters are ideal candidates for BIM modeller?

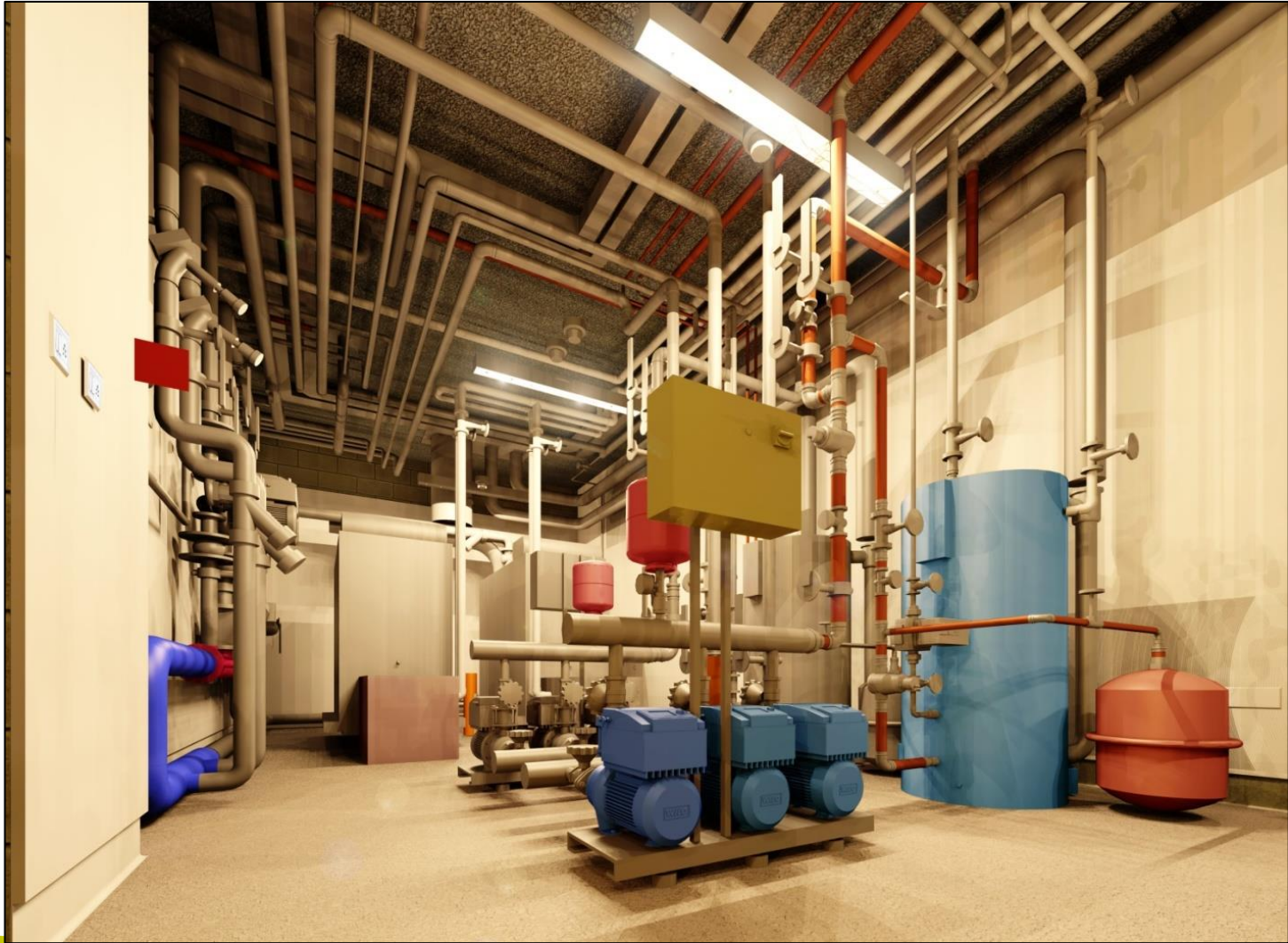
Main advantages of using BIM in MEP design



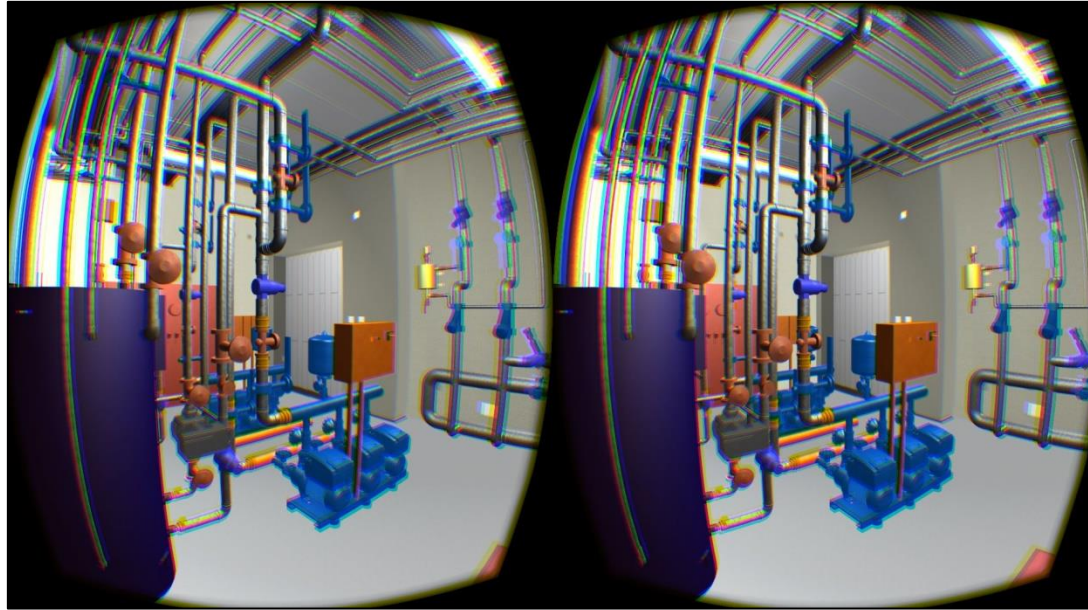
2D CAD coordination



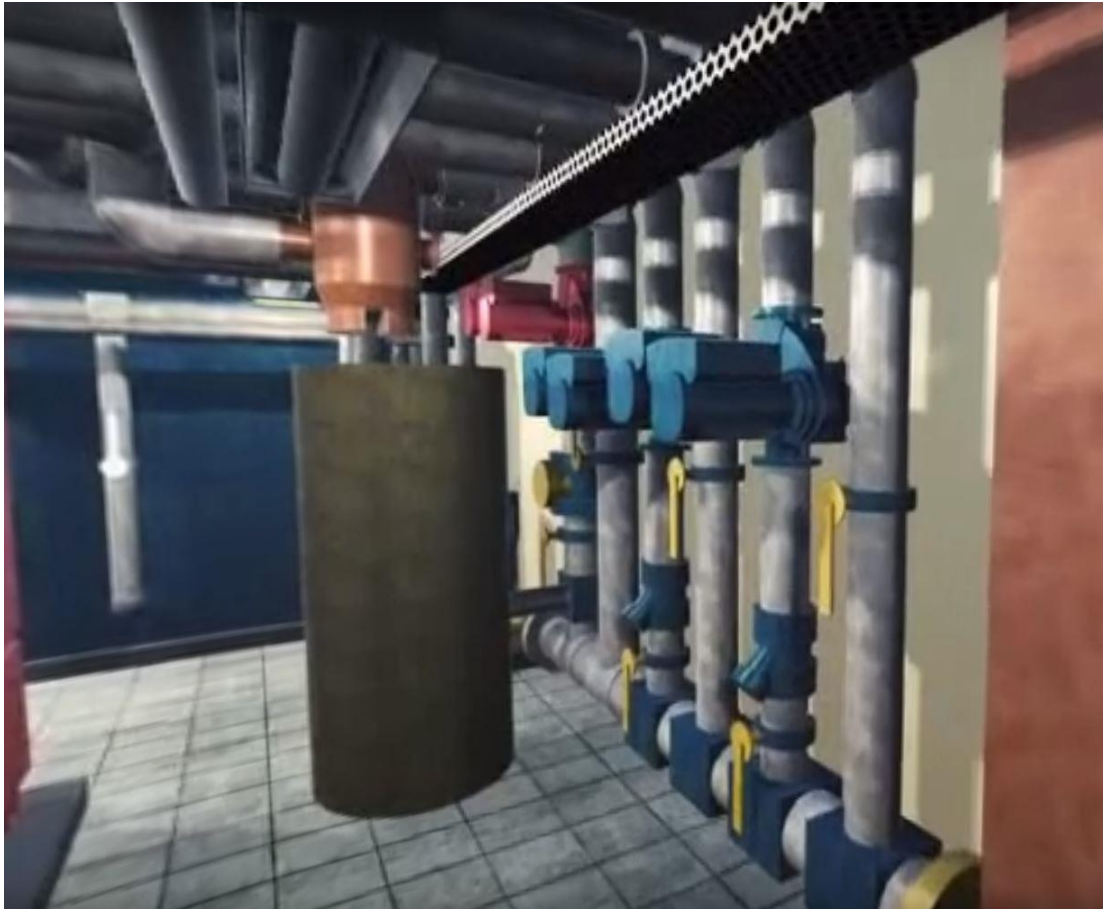
3D model coordination



3D model viewing utilising Virtual Reality

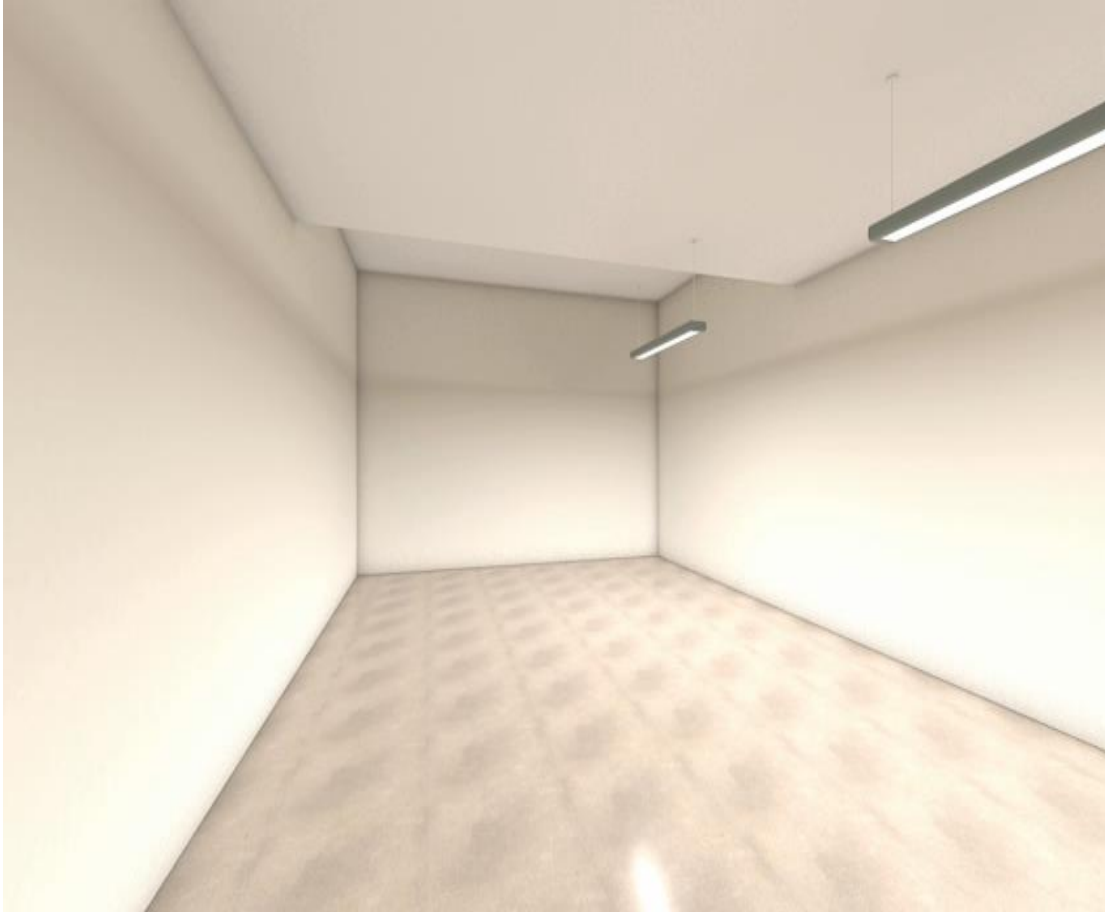


Spatial Awareness



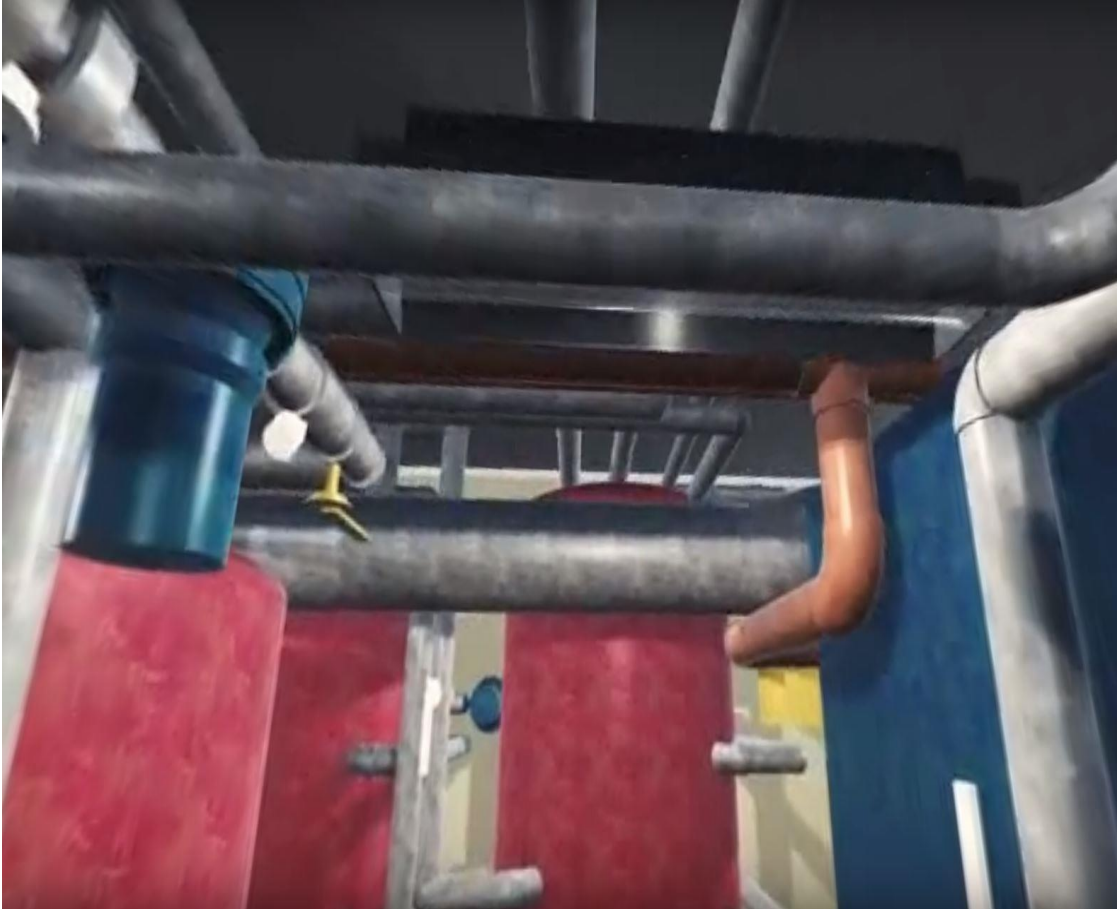
- DEPTH OF FIELD
- BETTER SENSE OF SPACE
- EQUIPMENT PROPORTIONS
- PERIPHERAL VISION BEING USED

Model Viewing



- BETTER VIEWING OF MODEL
- FASTER REVIEW TIME
- ENHANCING CLIENT SIGN OFF PROCESS

Constructability

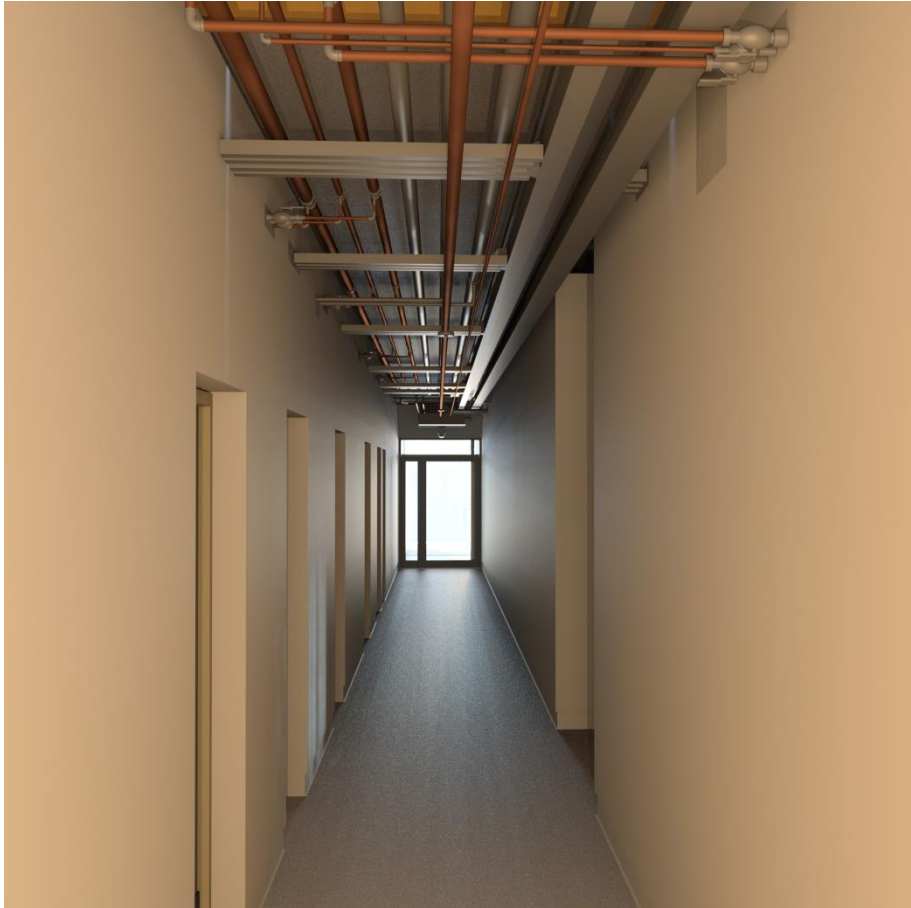


- BETTER MAINTENANCE EVALUATION
- HEIGHT RESTRICTION
- SERVICE & EQUIPMENT SUPPORTS

Builders Works



Ceiling Depths & Coordination



Plant Room Planning



Grille & Louvre Locations



Please experience our Virtual Reality Demo at our display



BiM regions - CitA Southern Series "Back to Basics"

When:

Wednesday

23rd March

6.30pm – 8.00pm

Registration & Directions:

<http://www.cita.ie/events/cita-southern-bim-region-meeting-2/>

Cita
Construction IT Alliance



BiM regions

the home of digital construction

BIM ↗

PROCESS CHANGE
TECHNOLOGY

REF LEGAL
X

BIM USES
MANAGEMENT
LEGAL
INSURANCE
? SEE LEGAL...

Topics:

- History of BIM – Process, Technology & People
- BIM Level 1 - The forgotten first step
- BS 1192 – Basic Common Data Environment
- Tech Talk & Discussion