Building Information Modelling
Case Study – Aseptic Unit, RD&E Hospital
CIC BIM Hub Seminar - Exeter
Presenters: Simon French, Matt Jenner
About Hoare Lea

- Mechanical and Electrical Consulting Engineers
- Established in 1862 by Henry Lea
- Specialist Group support
- 11 Offices in the UK, 2 offices in the Middle East
- 600 Engineers plus support staff
- 25 fully collaborative BIM projects to date, since 2009
Aseptic Unit

Location:
Royal Devon & Exeter Hospital

Dates:
December 2010 - Present

Project Value:
£6m
Aseptic Unit – RD&E Hospital

P21 Contractor: Laing O Rourke
Architect: Stride Treglown
Structural Engineer: Ramboll
MEP Consultant: Hoare Lea
Clean Room Specialist: Mach Aire
MEP Project Team

Karl Friedrich
Project Partner

Simon French
Lead Mechanical Engineer

Steven Libralon
Lead Electrical Engineer

Matt Jenner
Graduate Mechanical Engineer

Daniel Kmita
Electrical Engineer
Firm Structure

**Offices:**

- **Bristol**
  - Graham Cossons – Partner
  - Ben Roberts – Revit MEP (Mech)
  - Andrew Krebs – Revit MEP (Elec)
  - Melanie Rothnie – Revit MEP (Mech)
  - Andrew Davies – Revit MEP (Elec)
  - David Sorisi – CADmep+ (PH)
  - Greg Jaroszewicz – CADmep+ (PH)
  - Mitch Neksojevic – CADmep+ (Mech)

- **Cardiff**
  - Peter Wells - Partner
  - Tom DeBoeck – Revit MEP (Mech)
  - Neil Evans – Revit MEP (Elec)
  - Steve Collins – Revit MEP (CAD)

- **Leeds**
  - Ian Cowley - Partner
  - Mat Gates – Revit MEP (Mech)
  - Barry Richardson – Revit MEP (Elec)

- **London**
  - Steve Wisby - Partner
  - Mark Conner – CADmep+ (Mech)
  - Mark Helberg – CADmep+ (Mech)
  - Richard Vincent Revit MEP(Mech)

- **Manchester**
  - Mark Hagger – Partner
  - Elliot Rawstrone – CADmep+ (Mech)
  - Eleanor Murphy – Revit MEP (Mech)
  - Paul Fahy – Revit MEP (Elec)
  - Gayle Parker – Revit MEP (CAD)
  - Adam Rooney – Revit MEP (CAD)

- **Oxford**
  - Matt Phinbow – CADmep+ (Assoc.)
  - Craig Hobbs – CAD MEP+ (CAD)
  - Levente Kurcucz – CADmep+ (Mech)

- **Plymouth**
  - Brian Clargo – Partner
  - Simon French – Revit MEP (Mech)
  - Matt Jenner – Revit MEP (Mech)
  - Steve Libralon – Revit MEP (Elec)
  - Daniel Kmita – Revit MEP (Elec)
  - Darren Harris – Revit MEP (CAD)
  - Andrew Piper – Revit MEP (CAD)

- **Poole**
  - Steve Delvin - Partner
  - Ivan Marcinek – Revit MEP (Elec)
  - Bob Mullis – CAD mep+ (CAD)
  - Mark Pawson – CADmep+ (CAD)

**Central Development Team**

- Andy Hill
- Marcus Newport
- Ben Roberts (Mech)
- Andrew Krebs (Elec)

**BIM Steering Group**

- Brian Clargo
- Graham Cossons
- Andy Hill

**CIBSE BIM Group**

- Paddy Conaghan
- Richard Vincent
- Ben Roberts
- Andrew Krebs
- Andy Hill
- Marcus Newport
**Project Team**

**Software Use**

**Design Team - Revit 2011**

Clean room specialist – traditional 2D methods

Main Contractor – use of Navisworks

M&E Sub contractor – non BIM software

Building User – may use model for FM (as built model required)
Design Stage
Coordination

Useful tool for riser/ceiling void coordination

Led clash detection of M&E services with building fabric
Design Stage
Coordination
Design Stage
Coordination – Level of Detail
Design Stage
3D Modelling vs. BIM

Useful coordination and visualisation tool

Rule of thumb calculations

Strategic zoning and assignment of systems

Intelligent scheduling

Recent development
Significant changes to design were quickly and easily implemented.
Lessons Learned

Use of BIM

Protocol is vital – establish at outset of project

Level of detail – agree early and focus on the deliverables; this affects M&E consultant duties

Resourcing

Software compatibility

Calculation standards – CIBSE vs. ASHRAE

Drawing production – 2D from 3D
Contacts

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Matt Jenner Graduate Mechanical Engineer mattjenner@hoarelea.com