A BIM for FM Case Study

Manchester Town Hall Complex Transformation Project

Paul Goodman-Simpson
Amtech BIMSphere

Lester Morgan
Edocuments

Greg Davies
Concerto
Agenda

• About ArtrA

• About E-documents

• About Concerto

• Demonstration
Manchester Town Hall Complex

A major programme of refurbishment and transformation including the Town Hall Extension, Central Library, Library Walk and St Peter's Square.

- Project Value - £100m
- Contractor - Laing O’Rourke
- Client - Manchester City Council
- Architect - Ryder Architects, Ian Simpson Architects
- Structural Engineer – Scott Wilson
- Environmental Engineer – BDP
- Fire Engineer - Arup Fire
- Mechanical & Electrical Engineers – NG Bailey
- Start - April 2011
- Completion - 2014
The use of BIM was not a contractual requirement, but the council were persuaded that BIM could also deliver benefits in the FM phase

- Since Laing O’Rourke used BIM across many aspects of the scheme for design, construction, costing, planning and Health & Safety Management the council are able to use the resource going forward for Facilities Management.

- The innovative use of BIM has created a positive legacy by using the project team’s BIM data to drive benefits during the operational life of the complex.

- This is achieved through Concerto, ArtrA and Edocuments
Transition from design BIM to FM

Deployment in Q4, 2012

BIM models & documentation are consolidated in ArtrA
The Facilities Management BIM

The multi-discipline design BIM was created using Revit and CADmep.

The design BIM is delivered to Manchester City Council as Navisworks files.

The facilities management team use ArtrA.
ArtrA Field BIM – the basic principle

“Point & click” access to all project information through the model”

Immediate access to project documentation

Room database

Snagging database

Room sign-off QA/QC database

Data capture - ArtrA TAGS
Fast document access through the model

ArtrA delivers fast document access from the desktop, laptop or tablet PC
Select the door and open the document from the list
ArtrA & Edocuments – Full BIM integration

Design documentation & project documentation is linked to the model in ArtrA.

Asset documentation & information from the supply chain is managed online by Edocuments.

The Edocuments webpage is opened by clicking on a BIM object.
Asset control

There are several thousand MEP assets in the complex.

Each will have a location based asset identifier in ArtrA, and a unique webpage in Edocuments.
Not all MEP objects will be considered as assets.

NG Bailey have given each MEP asset a unique identifier in the CADmep model.

A location based asset register is generated in ArtrA and sent to Edocuments in Excel.

Edocuments generate a list of unique URL’s for each asset and return it to ArtrA where they are linked to the BIM database.
Edocuments: digital documents

- Health and Safety File
- Building Log Book
- BREEAM User Guide
- O & M Manuals

Manchester Town Hall & Library Transformation
Project Team

- Refurbishment of Grade II listed buildings and external areas
- Laing O’Rourke are MCC’s delivery partner
- Edocuments appointed by Laing O’Rourke for producing Record documentation
- MCC use Artra software to link data to BIM
- MCC use Concerto CAFM software to maintain asset/property data
Edocuments: as built documents, connected to Astra BIM/Concerto CAFM:

**MCC Projects**

**Start**
- Design Construction model—export IFC/COBie data
  - Autodesk

**Artra**
- Link assets to Edocuments production
  - https://blimq.com/

**Edocuments Online Managed Document Production**
- Author
- Review
- Approve

**Concerto C-Pad**
- Final issue record documents issue on CD/hard disk off-line or on-line, and will link into the model
  - CHSE, BSRIA, YSE

**Systems and assets are automatically filtered into industry templates.**

Designers, Constructors, End Users and supply chain are tasked to author, review, information.

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1. Templates and Content

• Define Assets & Systems
  – type, data content, information transfer and sources (IFC/COBie)

• Document Templates
  – Health and Safety File (CDM Regulations)
  – Building Log Books and User Guides (CIBSE, BRE)
  – Operating and Maintenance Manuals (BSRIA)

• Comment and review process

• Delivery of asset data, documents
  – Links to BIM models, CAFM systems
2. Process and Workflow

• Asset & Systems created
  – Tech submittals, Specifications, Drawings,

• Asset/System/Document Links
  – Links sent to supply chain to review information using standard web browser.
  – Designers Comment and review data using standard web browser.

• Asset links (unique) created
  – Linked to BIM using Artra & CAFM using Concerto
3. Delivery & Update

• Record Documents (HSF, BLB, O&M Manuals)
  – Offline interactive electronic version for MCC, LOR as archive
  – Final BIM Model on MCC servers
  – Edocuments online/offline information linked to BIM / CAFM systems

• Users access data via Model, digital O&M’s or CAFM System

• Updates
  – CAPEX/OPEX changes managed via Edocuments or Concerto.
  – Data / links exchanged between BIM/CAFM
About
Edocuments offer a range of services to manage the data and documentation process for buildings. Our Clients include Building End Users, Construction Managers, Designers, Contractors and FM Providers.
If you would like to know more then please contact [www.edocuments.co.uk](http://www.edocuments.co.uk) T: +44 1245 330010
Greg Davies
Concerto
Established in Cheshire in 2004 by an experienced board of Directors, Concerto has earned its reputation with clients as their trusted and long-term business partner within the Public and Private sectors.

Concerto currently operate within the following verticals:

- Local Authority
- Fire Service
- NHS
- Higher Education
- Construction
- Automotive
- Rail

ISO 9001 and ISO 14001 accredited
Concerto – A few example Clients
Concerto Sites, incorporates the following areas of total property asset management

- Facilities and Property Helpdesk
- Statutory Compliance Management
- Estates Management
- Property Survey Management
- Project/Programme Management
Configure the module to map with your reactive repairs process

- Email, phone or self service
- Raise orders
- Track progress
- Communicate with clients
- Manage SLA's
Statutory Compliance

Stay abreast of your compliance and safety requirements

- Manage suppliers
- Find none compliance
- Link to building equipment
- Manage SLA’s
- Track cost
- Plan ahead
Estates Management

Manage Tenants, understand key lease dates and conduct valuations

- Manage rent reviews, terminations, and more…
- Manage Tenant interests
- IFRS compliant valuation surveys
- Plan ahead
Property Survey Management

Plan and execute your surveys, online, offline or via mobile

- Asbestos Surveys
- Legionella Risk Assessment
- Condition Surveys
- Suitability Surveys
- DDA Surveys
- Fire Risk Assessment
- And more…
Project Management

Manage all of your property or none property related projects

- Planning
- Budget
- Documents
- Resource
- Risks
- Finance
- And more…
Contact us....

Any questions, don’t hesitate to drop us a line:

support@concerto.co.uk

0844 858 9171

http://www.concerto.co.uk
Thank You.

A demonstration will follow.
‘C-Pad (Concerto), Artra and Edocuments have been very supportive to MCC in assisting them achieve their short term and hopefully long term vision for using BIM Data for FM.’

Liam Brady
Town Hall Complex Client Programme Manager
Capital Programme Division
Corporate Service Department,
Manchester City Council