CitA Digital Skills Series
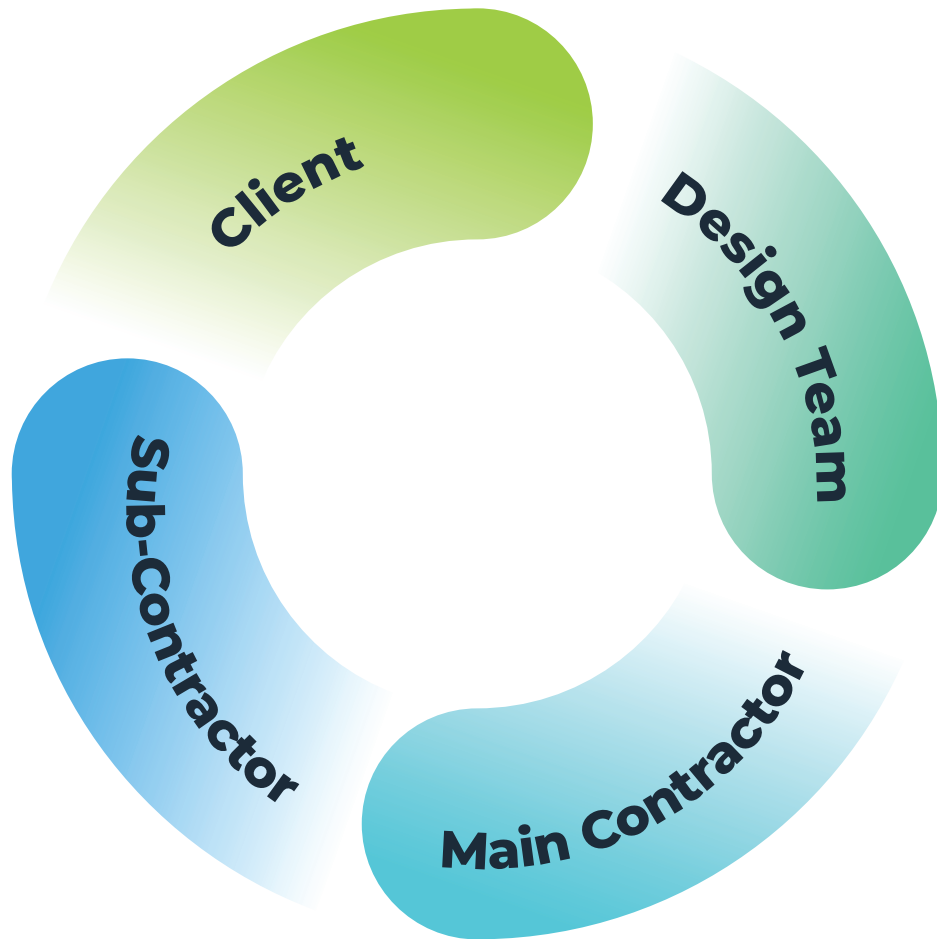## 2024

Building the Modern Construction Professional

Ray Blewitt

Construction Ecosystem
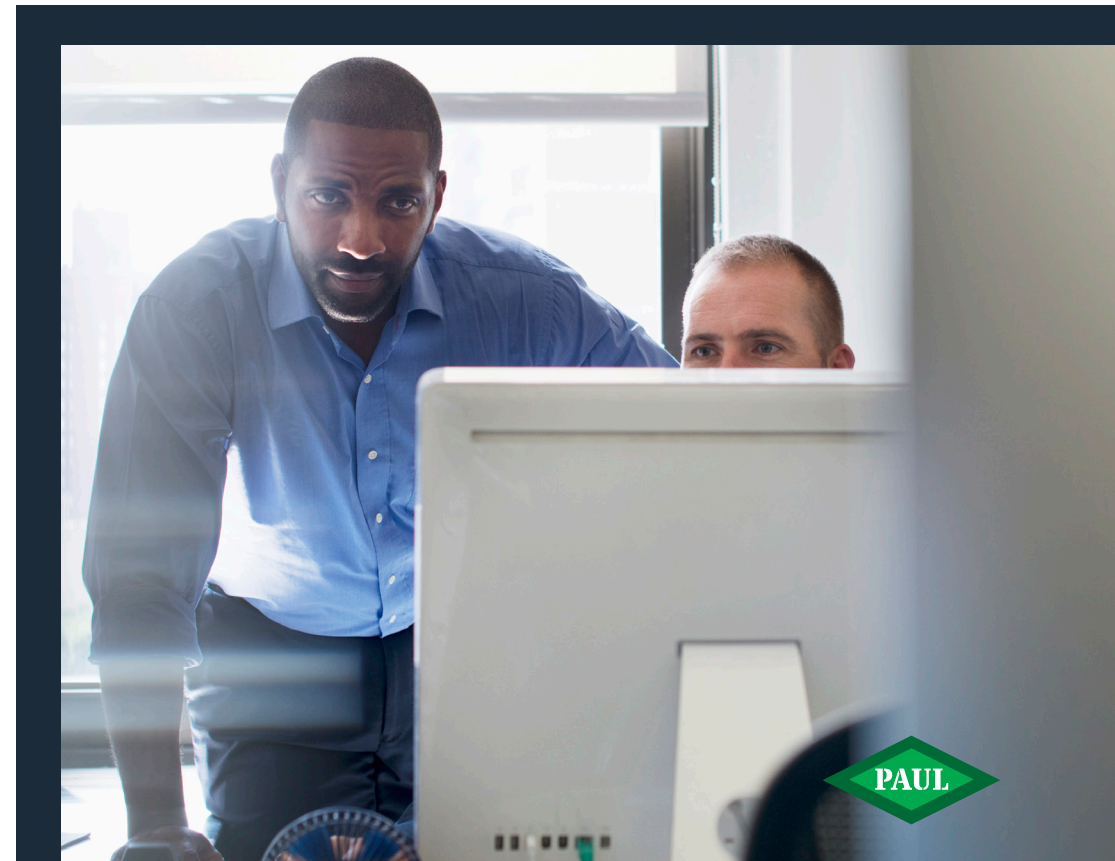

Client

Design Team

Sub-Contractor

Main Contractor

- **Modern Construction Professional**
  - **Learn the way, then learn a way**
- **Academic Perspective**

- **Toolkit for Project Planning & Management**

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Client's Perspective

- **Understanding of Project Objectives:** What you want to get out of it?
  - Be a savvy organised client

- **Awareness of BIM Benefits:** "Not just 3D" data-driven decision-making.

- **Data Ownership and Management:** Standards, client led CDE, Validation, FM, Handover – RWA Tokenisation/ Securitisation

- **Collaboration Expectations:** transparent tech tools for issue resolution

Design Team's Perspective

- **BIM 'Competency':**
  - 'relevant' software tools like Revit, Tekla, SketchUp, or ArchiCAD – transfer of **useful** information to Delivery team

- **Collaborative Mindset:** real-time data sharing and coordination –
  - OpenBIM platform technology (.ifc, BCF)
  - data-based modelling (information model vs 3D model)

- **Coordination and Clash Detection:** Clash **"avoidance"** > interative design > smoother handover > less RFIs > reduced timeline
  - How to use tech to communicate these live changes?

- **Data Standardisation:** data formats / naming conventions smooth data exchange.
  - Data analysis and validation
  - Aligned with project sequencing and constraints

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Subcontractor's Perspective - Skill

- **BIM Awareness:** Be aware of and aligned with the BIM process – ISO19650 but this is just a standard, a lot of SCs are doing a version of BIM already!
    - Build Digital (EU BIM Task Group, Scottish Futures, Operam....)

- **Model Integration:**
    - Detailed 3D models!! Follow LOD responsibility matrix (MEP, Structural elements..)
    - Understand format options, and coordinates guidance!!
    - Collab, Collab, Collab – internally/externally – you are a builder!

- **Digital Skills:**
    - Collaboration/Communication tools (MS lists, Slack, Monday, Trello, Morta, BIM Launcher)
    - CDE platforms
    - Digitise analogue information

- **Data Contribution:** accurate and up-to-date information (scope).
    - Challenge main contractors for better processes – testing/auditing – show off

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Subcontractor's Perspective - Credentials

- Assessment (CPIC)
  - Willingness to exchange Quality data (Gateway)
- **12 Areas of BIM**
  - **Design/Construction** – As-built, Intelligent models
  - **LCA/LCC** – FM – Quantities/Costs
  - **Visuals** – Safety – Clash Detection – 4D
  - **Production/Rehearsals** – Procurement
  - **Supply Chain/Logistics** – Simulations
- Project Experience
- Capability
  - (Discussion to help enablement team with training, coaching and support)

Modern Construction Professional

- **Hybrid Skill Set:** blend (construction domain / technical)
  - comfortable with BIM tools and consumer level technology, as well as construction principles.

- **Effective Communication:**
  - Bridge the gap - tech experts vs construction experts
  - Show the thing! Understand your audience

- **Adaptability** Adapt to evolving DigiCon tech - stay updated
  - Data warehousing / Blockchain / Dataverse / DAO
  - Design Thinking / Agile
  - Walk the sites!!! Get a mentor, get involved

- **Collaborative Nature:** Cooperative
  - Foster Teamwork and Info Sharing
  - Multiple benefits

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Academic Perspective

- **Curriculum Enhancement:** CM and Eng curricula to itegrate
  - BIM training (Information Management, CDE configuration, typical approval workflows
  - practical exposure to BIM tools – data management, BuildingSmart ifc
- **Interdisciplinary Approach:**
  - Combining construction knowledge with technical skill training.
- **Industry Engagement:**
  - stronger ties
    - Bi-directional benefit
  - Graduates are well-prepared for the modern construction landscape.
    - Safety protocols
    - Design management principles and tools

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Toolkit for Project Planning and Management

- **BIM Software Selection:** right tools for project planning and management
  - Autodesk technical platforms (Revit, Civil 3D)
  - Alternative (Tekla, ArchiCAD, BricsCAD, BricsCAD BIM)
  - Tracking/Measuring platforms > PowerBI integrations
  - Logistics/Planning (cmBuilder, Synchro)

- **Project Collaboration Platforms:**
  - ACC, Procore, or Trimble Connect
    - CDE/Field tools/Communications
  - Revizto, BIM Collab, Newforma
    - Coordination/Comms

- **Data Security and Privacy:** Robust data security measures when using online collaboration tools
  - DPIA / GDPR committee

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CitA Digital Skills Series
2024

Thank you for attending!

Ray Blewitt
rblewitt@johnpaul.ie
083 157 6222

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