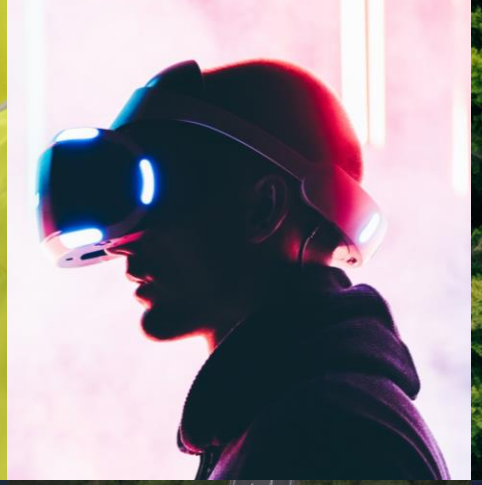
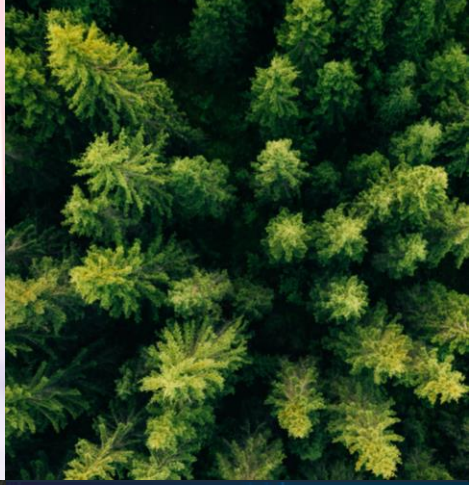
Digital Construction In Ireland

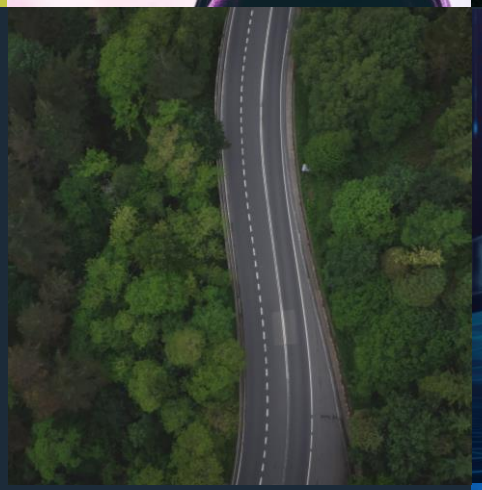
Public Mandate, Public support and our own Private Digital Journey

John Paul Construction

Title:

Digital Construction in Ireland



Event:

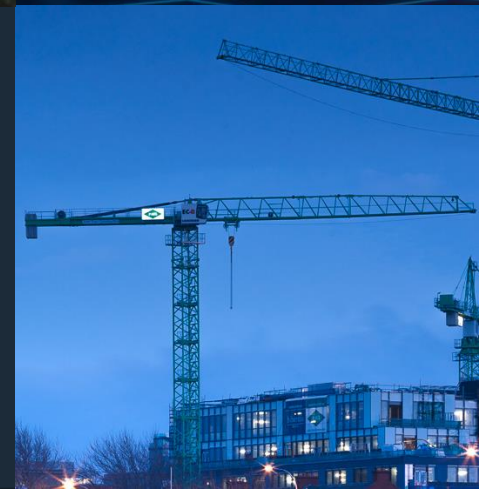
DIG IN KPI - Slovenia

Presenter:

Ray Blewitt

Date:

18th April 2024



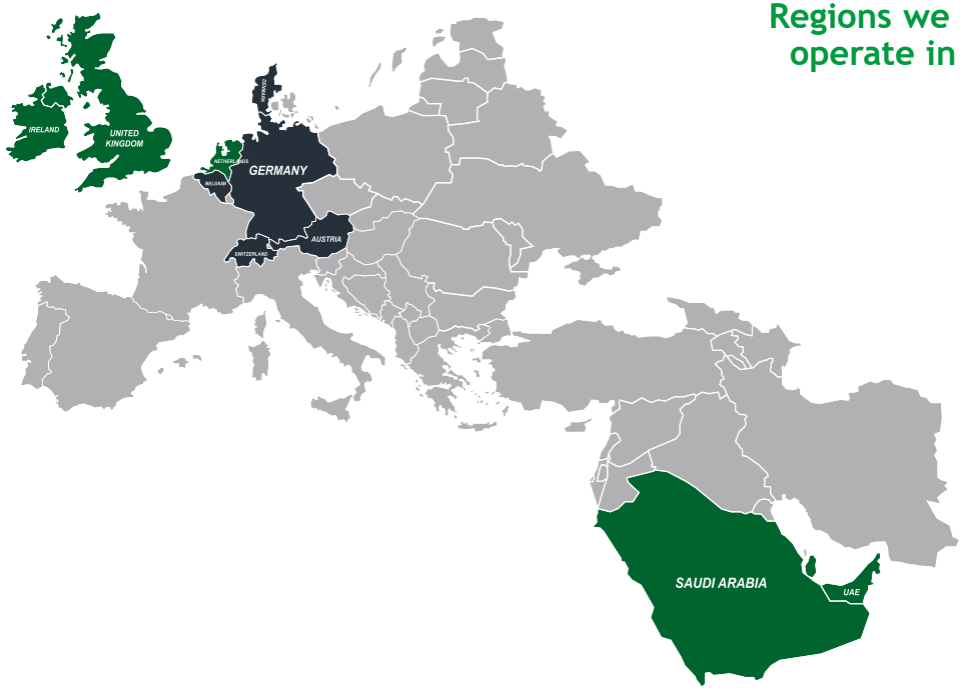
COMPANY OVERVIEW

75
Years in business

2000
Projects delivered across all sectors

500
staff directly employed, across all departments

Regions we operate in



Sectors we operate in:

- Biopharma / Medtech
- Food & Beverage
- Warehouse / Distribution
- Data Centre & Power

Diversified Internationally

Offices in Ireland, United Kingdom, Bahrain, Kingdom of Saudi Arabia, United Arab Emirates and the Netherlands

Award Winning

Contractor of the Year - 2019 / 2017 and 2016 - KMPG / Irish Independent Property Excellence Awards.
NISO All Ireland Supreme Safety Award - 2016
Irish Construction Excellence Awards 2020
Two sectoral awards, health, safety & wellbeing award and project of the year award.

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BIM Implementation for Public Sector in Ireland

CWMF BIM Mandate Conference

Public Sector BIM Implementation Strategy

Imposing Standards through the Capital Works management Framework – OGP – Ministerial (Ministers Donohoe and Smyth) announcement on the 4th July 2023 regarding the timeline for BIM Adoption.

BIM requirements will be introduced into the CWMF from January 2024.

- Begin with Large projects
- BIM reasonably well established
- initially higher value projects – over €100 million
- cascade down to projects below €1 million over a 4-year period.

There are two **Aspects** to the implementation strategy:

1. Aspect 1 – Imposing mandatory standards for information across all stages of a project's life cycle.
2. Aspect 2 – Supporting public bodies in the adoption of BIM.

Public Sector BIM Implementation Strategy

Aspect 1 – Imposing the following mandatory standards for information across all stages of a project's life cycle.

1. ISO 19650 series will be adopted into the CWMF on a phased basis to impose standards on information for project delivery across the public sector.
2. Uniclass 2015 - https://uniclass.thenbs.com/
3. Industry Foundation Classes (IFC)- https://www.buildingsmart.org/standards/bsi-standards/industry-foundation-classes/
4. International Cost Management Standards (ICMS) - https://scsi.ie/international-construction-measurement-standards-icms-explained/ (ICMS and Uniclass already mapped to each other)
5. Setting minimum project information requirements for all stages of the CWMF
6. Appointing Party (Contracting Authority) must specify the level of BIM required for each project information requirement – BIM Needs and requirements.

ISO

uniclass delivered by NBS

IFC

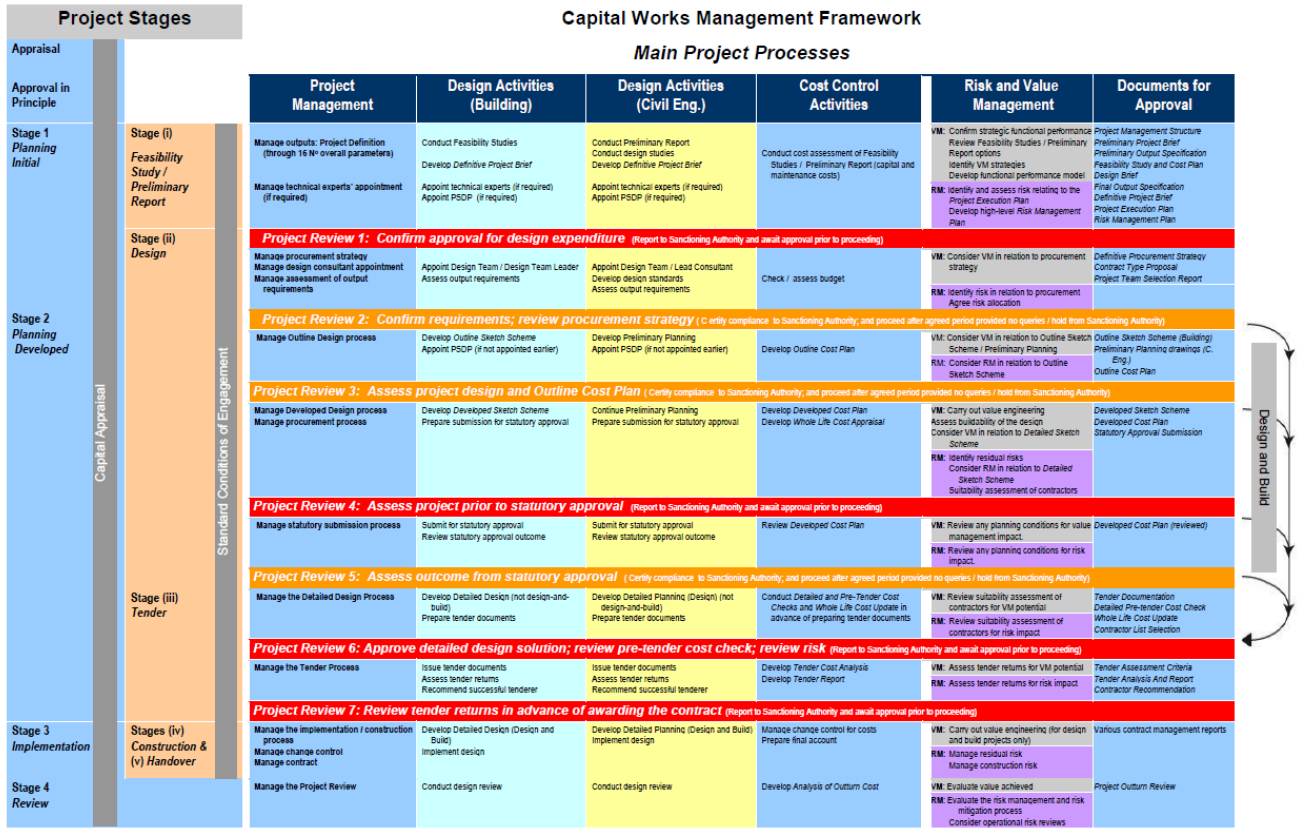
ICMS INTERNATIONAL COST MANAGEMENT STANDARD

Public Sector BIM Implementation Strategy

There are three phases to the strategy:

CWMF stages

- Phase 1: (i) Inception to (iii) Tender Action (Initial Delivery Phase Jan 24)
- Phase 2: (iv) Construction to (v) Handover (Secondary Phase Jan 25)
- Phase 3: (vi) Asset Ownership. (Third Phase - Under development and subject to consultation)



BIM requirements - Main Project Processes Guidance Note for Project Management GN 1.1

Project Requirements initial BIM Implementation

Task	Project Value	Month
Task 1	> 100m	Month 0 to 12
Task 2	> 20m	Month 12 to 24
Task 3	> 10m	Month 18 to 30
Task 4	> 5m	Month 24 to 36
Task 5	> 1m	Month 30 to 42
Task 6	< 1m	Month 36 to 48

BIM IMPLEMENTATION TIMELINE

MILESTONE 1 • CWMF Projects > 100m Projects Phase 1 – Design Only

MILESTONE 3 • CWMF Projects > 20m Phase 2 – Design Only

MILESTONE 5 • CWMF Projects > 10M Phase 4 – Design Only

MILESTONE 7 • CWMF Projects > 5M Phase 4 – Design Only

MILESTONE 9 • CWMF Projects < 1M Phase 4 – Design Only

MILESTONE 11• CWMF Projects > 1M Phase 4 – Design Only

Initiate Jan 24	July 24	Jan 25	July 25	Jan 26	July 26	Jan 27	July 27

MILESTONE 2 • CWMF Projects > 100m Phase 5 – Contractor and Supply Chain

MILESTONE 4 • CWMF Projects > 20m Phase 5 – Contractor and Supply Chain

MILESTONE 6 • CWMF Projects > 10m Phase 5 – Contractor and Supply Chain

MILESTONE 8 • CWMF Projects > 5m Phase 5 – Contractor and Supply Chain

MILESTONE 10 • CWMF Projects > 1m Phase 5 – Contractor and Supply Chain

MILESTONE 12• CWMF Projects < 1M Phase 7 – Contractor and Supply Chain

Task 1: Month 1 to 12

Task 3: Month 18 to 30

Task 5: Month 30 to 42

Task 2: Month 12 to 24

Task 4: Month 24 to 36

Task 6: Month 36 to 48

OGP BIM IMPLEMENTATION PLANNING TIMELINE

7 steps required for BIM Implementation Planning for CWMF

1. Executive Support
2. Develop a Plan and adopt mandatory BIM Requirements from Aspect 1
3. Choose Software and Hardware
4. Set Goals
5. Choose The Team
6. Train Your Employees
7. Monitor, Evaluate, Adjust

OGP to provide an overview document for each step outlined above.

Client Role - Requirement to assign the information Management functions of ISO 19650.

- **What skills does the information Manager role need?**
- It is important to ensure that individuals have the necessary skills and behaviours to fulfil the activities and tasks they have been allocated as part of the information management function. Competencies of individuals across a task team should be considered to ensure the most appropriate individual(s) is selected when allocating specific activities and tasks.
- **Technical**
- Project delivery experience of projects of a similar scale and complexity including understanding of typical roles and responsibilities and understanding of contracts
- Understanding and application of appropriate national and international standards related to information management and BIM
- Software skills (appropriate to the information management activities and tasks).
- **Non-technical**
- Resilience (to engage with and encourage behavioural change)
- Planning and organisation
- Research and investigating
- Analysis and problem solving
- Initiative/independence
- Results driven/quality orientation. It is vital that individuals possess good communication skills and understand the importance of teamwork to improve collaborative working.

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Office of Government Procurement

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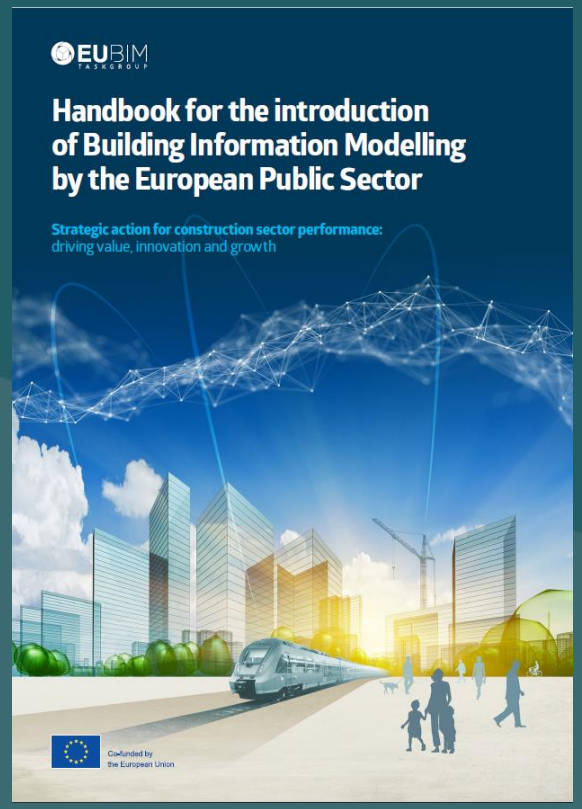
Government of Ireland

Reference material



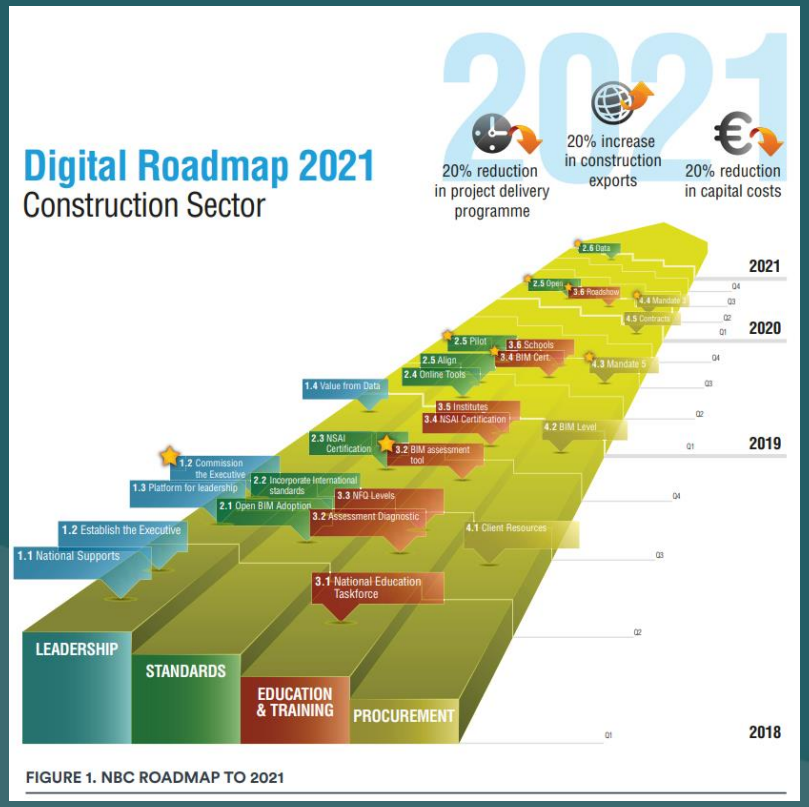


FIGURE 1. NBC ROADMAP TO 2021

NBC
NATIONAL BIM COUNCIL

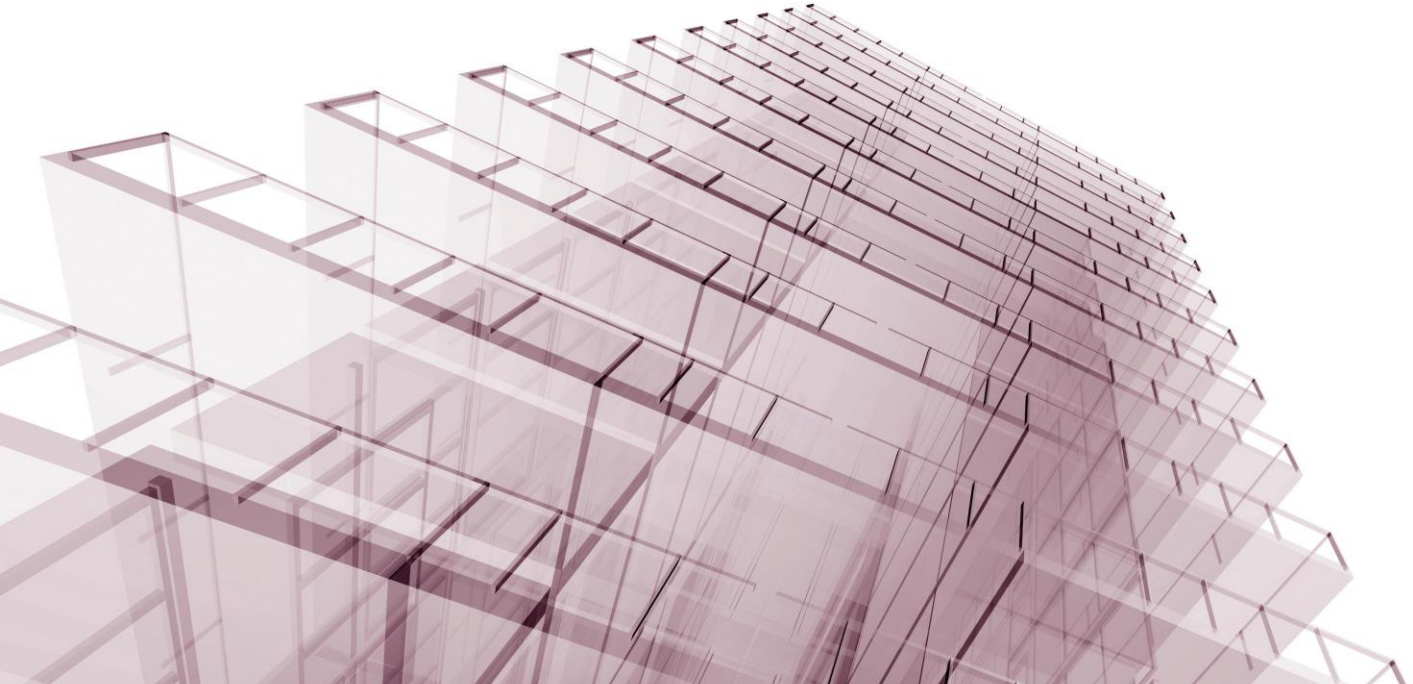
Roadmap to Digital Transition

For Ireland's Construction Industry 2018-2021

gov.ie

Build Digital

Build Digital Project



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2040

Build Digital

What is **Build Digital's** mission?

To **unite** all construction and built environment stakeholders in the drive towards interoperable **digital data adoption** across the sector to innovatively **improve efficiency**, productivity, and **international** competitiveness on a **sustainable** basis in Ireland.

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Project Ireland 2040

Build Digital

Build Digital
needs to address

Fear of change

Low productivity of projects and assets

Lack of supporting information, materials, and tools

Build Digital

National Development Plan – Project Ireland 2040

Government

PENDR

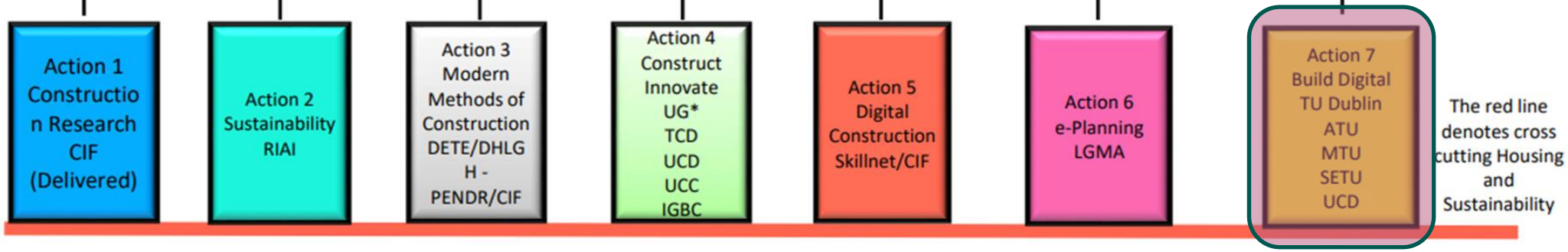
Project Ireland 2040 Delivery Board
Chair: Minister Paschal Donohoe, PENDR

Construction Sector Group
Chair: David Moloney, Sec Gen, PENDR

CSG Innovation and Digital Adoption Sub-Group Chair: PJ Rudden

ACEI | CIF | Engineers Ireland | IBEC/BMF | RIAI | SCSI | Skillnet | TU Dublin | UG*

DECC | DETE | DFHERIS | DHLGH | Enterprise Ireland | LGMA | NSAI | PENDR | SEAI



*University of Galway

*In support of **Project Ireland 2040** and the work of the **Construction Sector Group, Innovation and Digital Adoption Sub-Group***

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Build Digital

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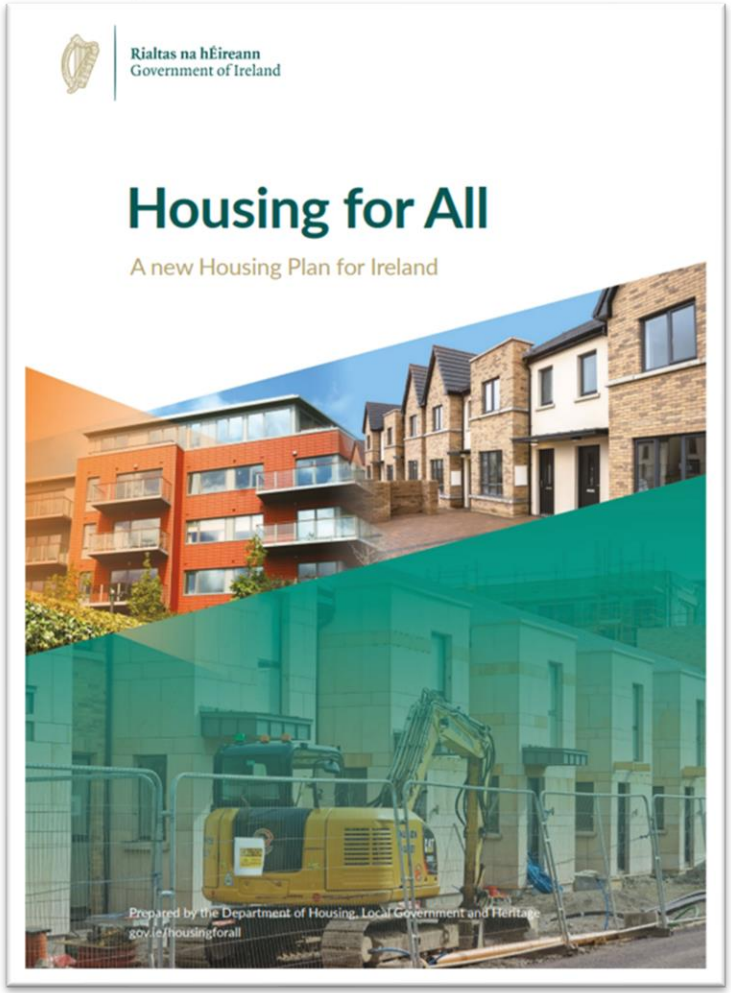
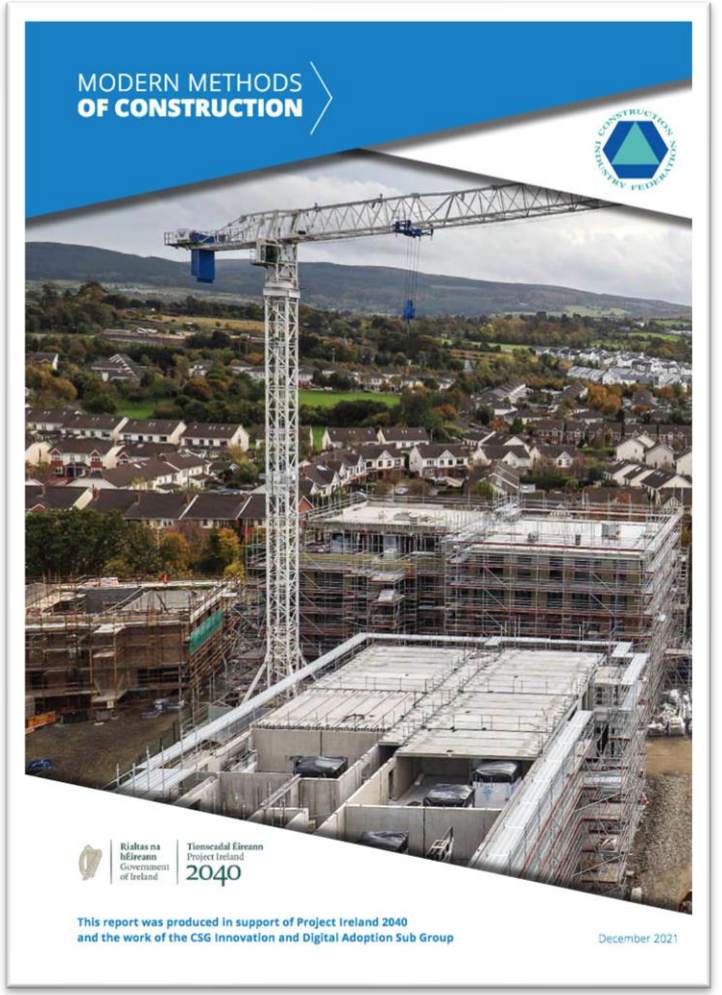
Build Digital





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Build Digital

5 **Build Digital** Pillars

Digital Leadership & Cultural Change

Digital Standards

Digital Education & Training

Digital Procurement

Sustainability & Circular Economy

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2040

Build Digital

The Digital Leadership & Cultural Change pillar's role is to drive the **culture change** required to realise **digital transformation** in support of innovative, effective, and sustainable evolution in **mindset and practice** within the sector. Delivering **toolkits** and **supports** for good practice.

The Digital Standards pillar will champion the benefits of a **common language, rules, guidelines, and workflows** to a reduction in cost, rework, and disputes.

The Digital Education & Training pillar will support the development of relevant knowledge and abilities to collectively **advance the design, construction, and life-cycle management of the built environment**.

The Digital Procurement pillar will adapt national and international **best practice in sustainable digital procurement** into supports that will enable SMEs to adopt **agile, digitally enabled, sustainable procurement practices**.

The Sustainability & Climate Action pillar will **produce toolkits** to enable the **circular economy, prioritise the designing out of waste** and the retention of utility for as long as possible.

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Build Digital

Have **Build Digital** international connections?

Build Digital

Who are **Build Digital** working with International

EU BIM Task Group

buildingSMART UK & Ireland (bSUKI)

nima (Formerly the UK BIM Alliance)

Scottish Futures Trust (SFT)

Build Digital

Build Digital will share support over the project lifetime

Tools:	Information Management toolkits Digital construction product supply chain toolkits Digitalisation for a Circular Economy (DiCE) toolkits Searchable Inventory
Guidelines:	Guidelines on standards Guidelines on digital workflows Templates/worked examples
Industry engagement:	Pilot/test projects Case studies
Training and Educational:	Available learning opportunities Content advise
Reports:	Good practice reports Survey findings

Build Digital

Recap

Build Digital is;

Government-funded initiative to enable digital construction adoption

Listening to the industry

Working with the industry to help the industry

Creating supports for the Irish BIM mandate

Build Digital

Industry Funding

DIGITAL BUILT CONSULTANTS LTD

KOSMOS

Murphy GEOSPATIAL

PAUL

TJ O'CONNOR & ASSOCIATES CONSULTING ENGINEERS

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Tionscadal Éireann Project Ireland 2040

Building a Digital Ecosystem for All

A Journey of Efficiency, Collaboration, and Innovation

John Paul Construction

OVERVIEW

- The digital transformation journey of John Paul Construction

- Three Pillars:

OVERVIEW

- Preparing for a Digital Twin world
  - Capturing operational metrics
  - Enhancing data
  - Enable a streamlined product

TRANSFORMATION GOALS

→ Eliminating unnecessary waste –
labour and administration

→ Empowering experts to use their expertise –
not data entry and duplication

→ Integration of various functions / departments -
seamless collaboration

→ Supporting our project delivery –
repeat clients
prospective clients

BENEFITS OF A DIGITAL ECOSYSTEM

1. Opportunity/ Tender

2. Estimation & Planning

3. Procurement

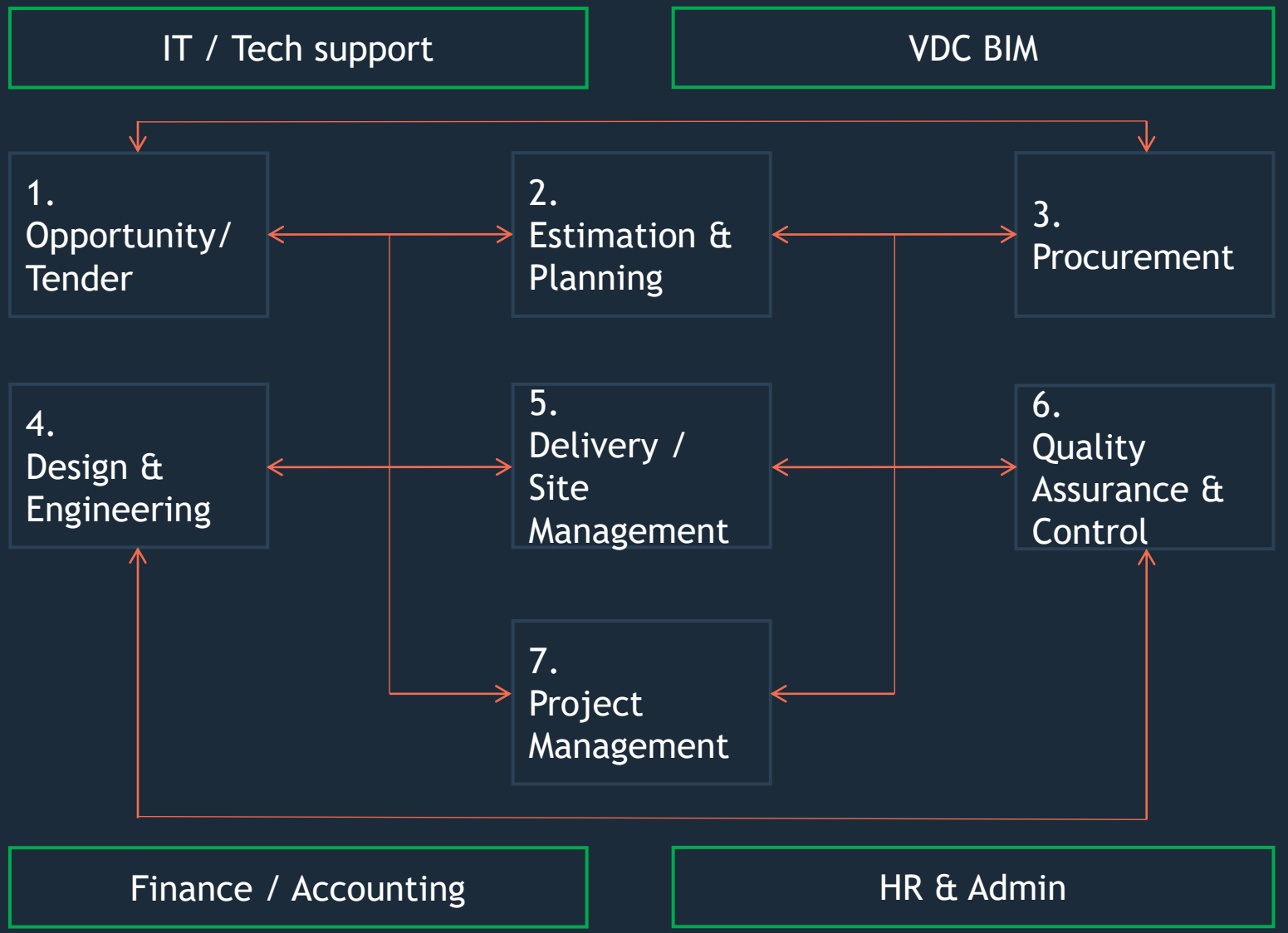
4. Design & Engineering

5. Delivery / Site Management

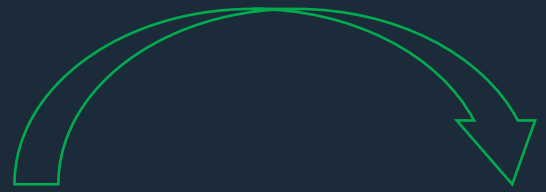
6. Quality Assurance & Control

7. Project Management

BENEFITS OF A DIGITAL ECOSYSTEM



KEY TARGET FOCUSES

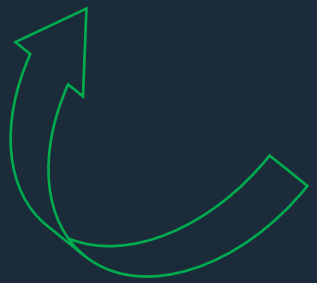


1. Accounting Platform Upgrade

- Streamlining procurement and cost management
- Providing live metrics on financial conditions

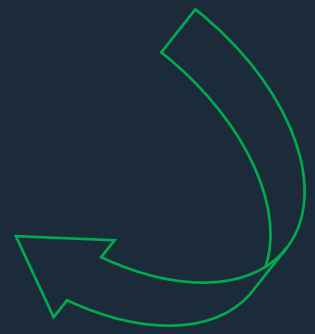
2. Upgraded Construction Management Platform

- Unified toolkit for site and project teams to track project deliverables
- Seamless integration with world-class VDC tools and processes

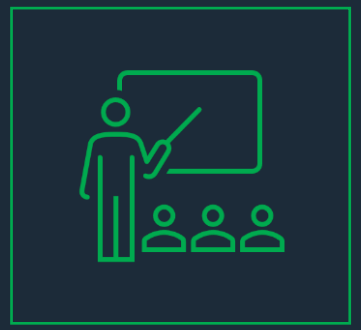
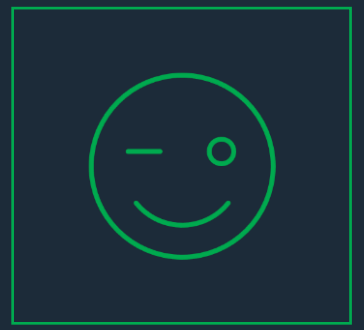


3. Central Platform

- Networking with information flow from specialist software used in all integrated functions.



OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM

OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM

STREAMLINING PROCUREMENT AND COST MANAGEMENT

Key Target 1

1.
Identifying key stakeholders and teams involved in the transformation

2.
Ensuring representation from all relevant departments and functions

3.
Define > Prototype > Test

ASSIGNING LEADERS AND ACCOUNTABLE PARTIES

Key Target 2

1.
Appointing leaders to oversee different aspects of the digital ecosystem development

2.
Holding team members accountable for their respective roles and responsibilities

OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM

OVERALL DELIVERY PROJECT MANAGER

Key Target 2/3

1.
Appointing a dedicated PM to coordinate and manage the entire transformation

2.
Ensuring seamless integration between different focus areas

OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM

SHARING DISCOVERY SESSIONS TEMPLATES

Key Target 2/3

1.
Facilitating collaborative sessions to explore current processes and challenges

2.
Documenting findings to inform the digital ecosystem strategy

OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM

DISCOVERY SESSIONS WITH PROCORE IMPLEMENTATION

1.
Leveraging the implementation of Procore to drive discovery sessions

2.
Capitalizing on the opportunity to align technology with process improvements

PROCORE PAUL John Paul Construction

OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM

KEY LEARNINGS AND PROCESS-DRIVEN APPROACH – *Design Thinking*

Empathize | Define | Ideate | Prototype | Test

Key Target 1 - Complete

Key Target 2 - Prototype

Key Target 3 - Ideate

OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM

EMBRACING NEW SKILLS AND FUN

1.
Openness to learning new skills and technologies during the transformation

2.
Embracing the journey with enthusiasm, making it an enjoyable experience

VENDORS AND CONSULTATION ABILITIES

1 - Accounting Platform

Vendor: Eque2 / eVision

Consultation Abilities:

- Expertise in streamlining procurement and cost management processes
- Collaborative approach to customize the platform for our specific needs
- Providing training and support to ensure smooth adoption

VENDORS AND CONSULTATION ABILITIES

2 - Construction Management Platform

Vendor: PROCORE Technologies

Consultation Abilities:

- Tailoring the platform to align with our site and project team requirements
- Assisting in seamless integration with our world-class VDC tools and processes
- Conducting training sessions to empower our teams for effective utilization

VENDORS AND CONSULTATION ABILITIES

3 - Central Platform

Vendor: MS Sharepoint online / *Future integrated Vendor*

Consultation Abilities:

- Extensive experience in integrating information from various specialist software
- Consultative sessions to understand our workflows and data requirements
- Offering scalable solutions to accommodate future expansions

KEY LEARNINGS

Analysing and Innovating

1. Understanding current processes and legacy methods
2. Challenging ourselves to innovate at every opportunity
3. Staying focused on core project delivery while embracing change

Embracing Progress and Iteration

1. Perfection is the enemy of good progress
2. Iterative improvements lead to continuous innovation

Attracting Top Talent

1. Importance of tech-savvy individuals
2. Familiarity with consumer-level technology tools
3. Nurturing a culture of technological advancement

OUTCOMES: CAPTURING TRUE NARRATIVE AND INSIGHTS

- Hunger and passion for process optimization
- Reporting the right information for reliable tracking
- Mitigating risk on complex projects

CONTACT INFORMATION

Ray Blewitt

Head of Digital Construction - John Paul Construction

Email: rblewitt@johnpaul.ie

Phone: +353 83 1576222

Thank You

PAUL

John Paul Construction

Go Further | Build Smarter™