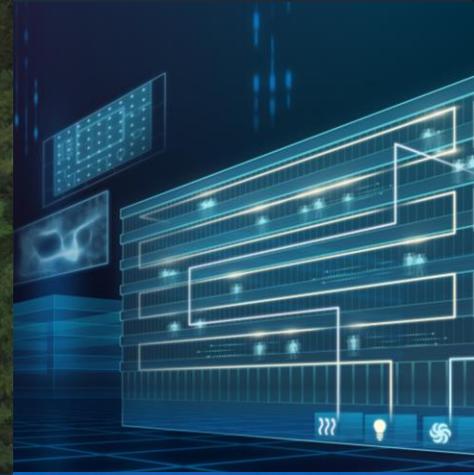
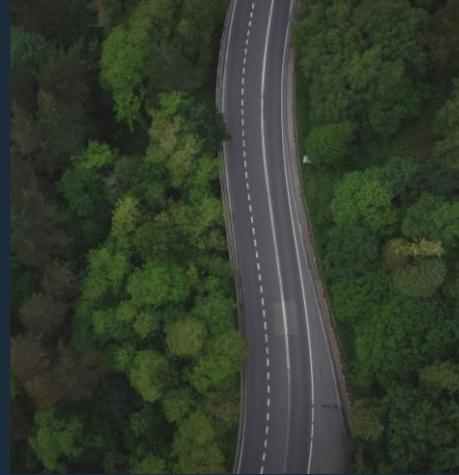
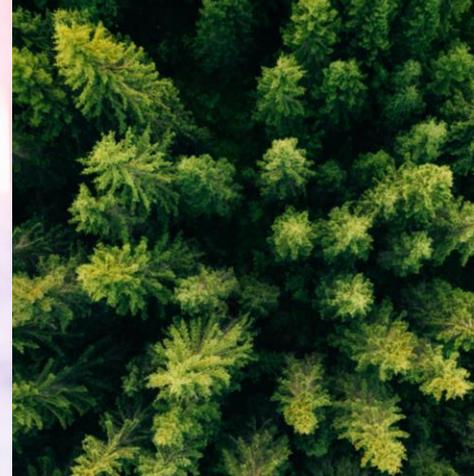




Digital Construction In Ireland

Public Mandate, Public support and our
own Private Digital Journey





Title:
Digital Construction in Ireland

Event:
DIG IN KPI - Slovenia

Presenter:
Ray Blewitt

Date:
18th April 2024



COMPANY OVERVIEW

75

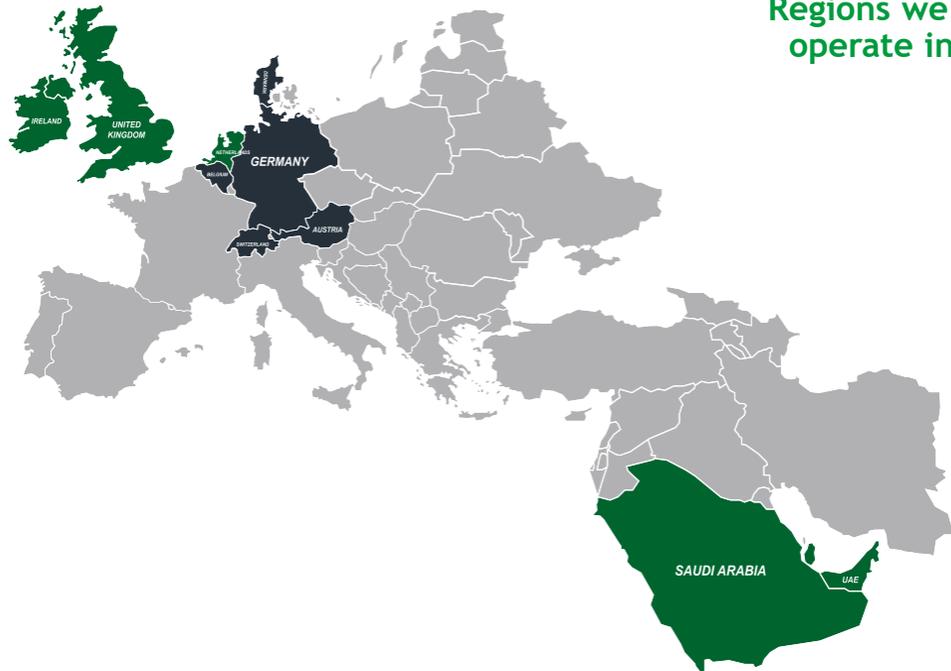
Years in business

2000

Projects delivered across all sectors

500

staff directly employed, across all departments



Regions we operate in

Sectors we operate in:

- 📍 Biopharma / Medtech
- 📍 Warehouse / Distribution
- 📍 Food & Beverage
- 📍 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.



Oifig um Sholáthar Rialtais
Office of Government Procurement

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.



IFC



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)

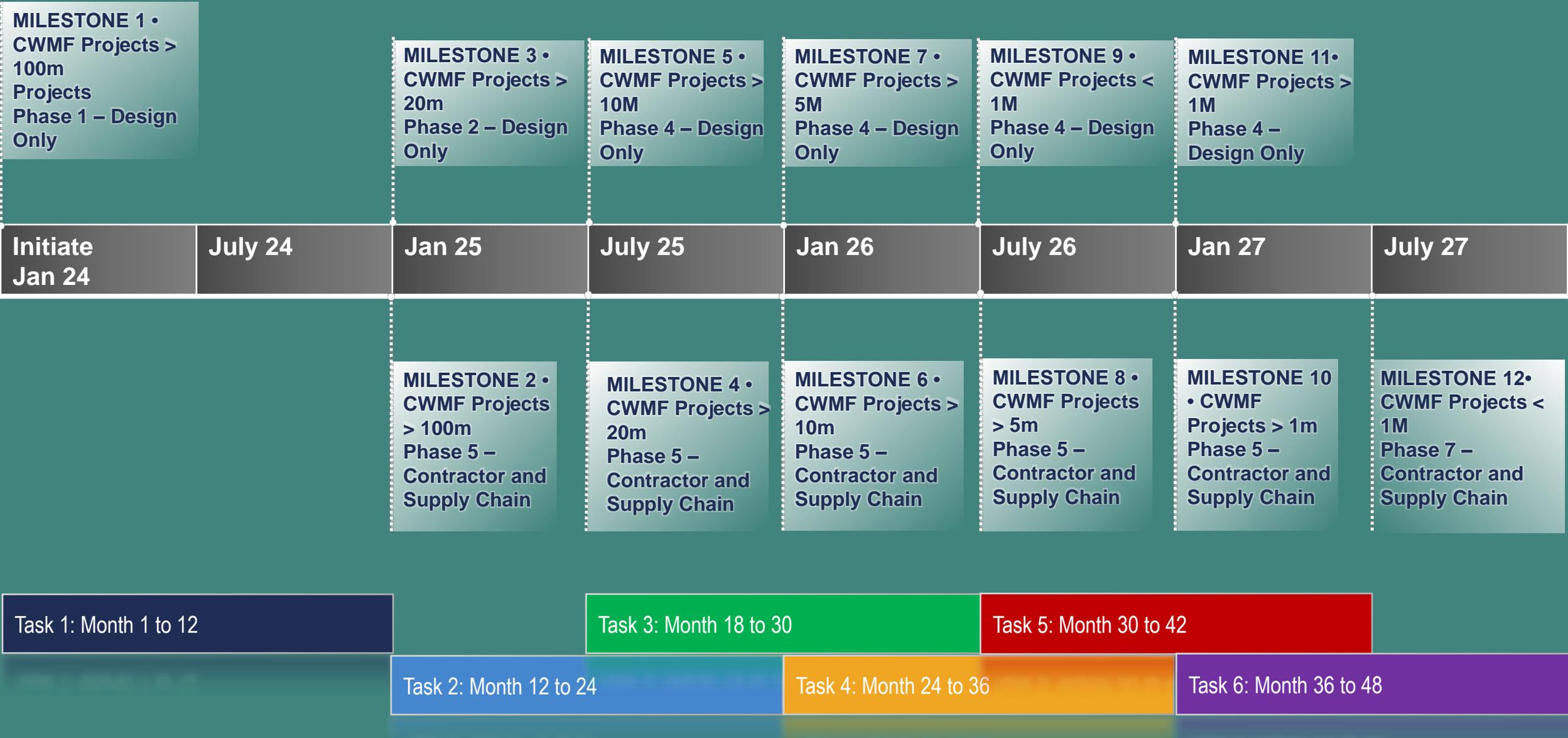
Project Stages		Capital Works Management Framework					
		Main Project Processes					
		Project Management	Design Activities (Building)	Design Activities (Civil Eng.)	Cost Control Activities	Risk and Value Management	Documents for Approval
Appraisal							
Approval in Principle							
Stage 1 Planning Initial	Stage (i) Feasibility Study / Preliminary Report	Manage outputs: Project Definition (through 16 W-overall parameters) Manage technical experts' appointment (if required)	Conduct Feasibility Studies Develop Definitive Project Brief Appoint technical experts (if required) Appoint PSDP (if required)	Conduct Preliminary Report Conduct design studies Develop Definitive Project Brief Appoint technical experts (if required) Appoint PSDP (if required)	Conduct cost assessment of Feasibility Studies / Preliminary Report (capital and maintenance costs)	VM: Confirm strategic functional performance Review Feasibility Studies / Preliminary Report options Identify VM strategies Develop functional performance model RM: Identify and assess risk relating to the Project Execution Plan Develop high-level Risk Management Plan	Project Management Structure Preliminary Project Brief Preliminary Output Specification Feasibility Study and Cost Plan Design Brief Final Output Specification Definitive Project Brief Project Execution Plan Risk Management Plan
	Stage (ii) Design	Project Review 1: Confirm approval for design expenditure (Report to Sanctioning Authority and await approval prior to proceeding)					
Stage 2 Planning Developed	Stage (iii) Tender	Manage procurement strategy Manage design consultant appointment Manage assessment of output requirements	Appoint Design Team / Design Team Leader Assess output requirements	Appoint Design Team / Lead Consultant Develop design standards Assess output requirements	Check / assess budget	VM: Consider VM in relation to procurement strategy RM: Identify risk in relation to procurement Agree risk allocation	Definitive Procurement Strategy Contract Type Proposal Project Team Selection Report
		Project Review 2: Confirm requirements; review procurement strategy (Comply compliance to Sanctioning Authority, and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
		Manage Outline Design process	Develop Outline Sketch Scheme Appoint PSDP (if not appointed earlier)	Develop Preliminary Planning Appoint PSDP (if not appointed earlier)	Develop Outline Cost Plan	VM: Consider VM in relation to Outline Sketch Scheme / Preliminary Planning RM: Consider RM in relation to Outline Sketch Scheme	Outline Sketch Scheme (Building) Preliminary Planning drawings (Civil Eng.) Outline Cost Plan
		Project Review 3: Assess project design and Outline Cost Plan (Comply compliance to Sanctioning Authority, and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
Stage 3 Implementation	Stages (iv) Construction & (v) Handover	Manage Developed Design process Manage procurement process	Develop Developed Sketch Scheme Prepare submission for statutory approval	Continue Preliminary Planning Prepare submission for statutory approval	Develop Developed Cost Plan Develop Whole Life Cost Appraisal	VM: Carry out value engineering Assess suitability of the design Consider VM in relation to Detailed Sketch Scheme RM: Identify residual risks Consider RM in relation to Detailed Sketch Scheme Suitability assessment of contractors	Developed Sketch Scheme Developed Cost Plan Statutory Approval Submission
		Project Review 4: Assess project prior to statutory approval (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage statutory submission process	Submit for statutory approval Review statutory approval outcome	Submit for statutory approval Review statutory approval outcome	Review Developed Cost Plan	VM: Review any planning conditions for value management impact. RM: Review any planning conditions for risk impact.	Developed Cost Plan (reviewed)
		Project Review 5: Assess outcome from statutory approval (Comply compliance to Sanctioning Authority, and proceed after agreed period provided no queries / hold from Sanctioning Authority)					
Stage 4 Review		Manage the Detailed Design Process	Develop Detailed Design (not design-and-build) Prepare tender documents	Develop Detailed Planning (Design) (not design-and-build) Prepare tender documents	Conduct Detailed and Pre-Tender Cost Checks and Whole Life Cost Update in advance of preparing tender documents	VM: Review suitability assessment of contractors for VM potential RM: Review suitability assessment of contractors for risk impact	Tender Documentation Detailed Pre-tender Cost Check Whole Life Cost Update Contractor List Selection
		Project Review 6: Approve detailed design solution; review pre-tender cost check; review risk (Report to Sanctioning Authority and await approval prior to proceeding)					
		Manage the Tender Process	Issue tender documents Assess tender returns Recommend successful tenderer	Issue tender documents Assess tender returns Recommend successful tenderer	Develop Tender Cost Analysis Develop Tender Report	VM: Assess tender returns for VM potential RM: Assess tender returns for risk impact	Tender Assessment Criteria Tender Analysis and Report Contractor Recommendation
Project Review 7: Review tender returns in advance of awarding the contract (Report to Sanctioning Authority and await approval prior to proceeding)							
		Manage the implementation / construction process Manage change control Manage contract	Develop Detailed Design (Design and Build) Implement design	Develop Detailed Planning (Design and Build) Implement design	Monitor change control for costs Prepare final account	VM: Carry out value engineering (for design and build projects only) RM: Manage residual risk Manage construction risk VM: Evaluate value achieved RM: Evaluate the risk management and risk mitigation process Consider operational risk reviews	Various contract management reports
		Manage the Project Review	Conduct design review	Conduct design review	Develop Analysis of Outturn Cost		Project Outturn Review

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



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.

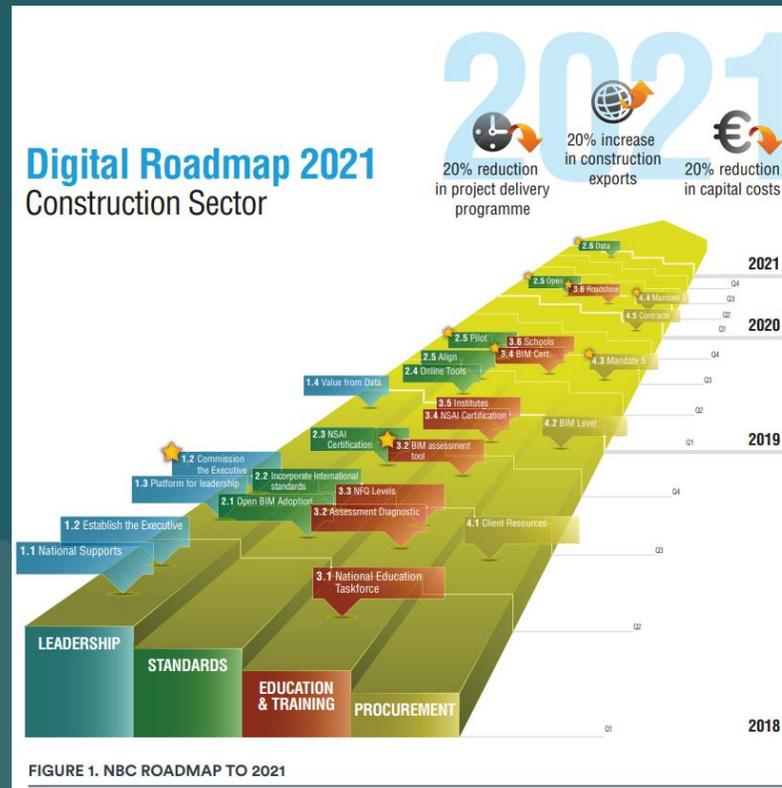
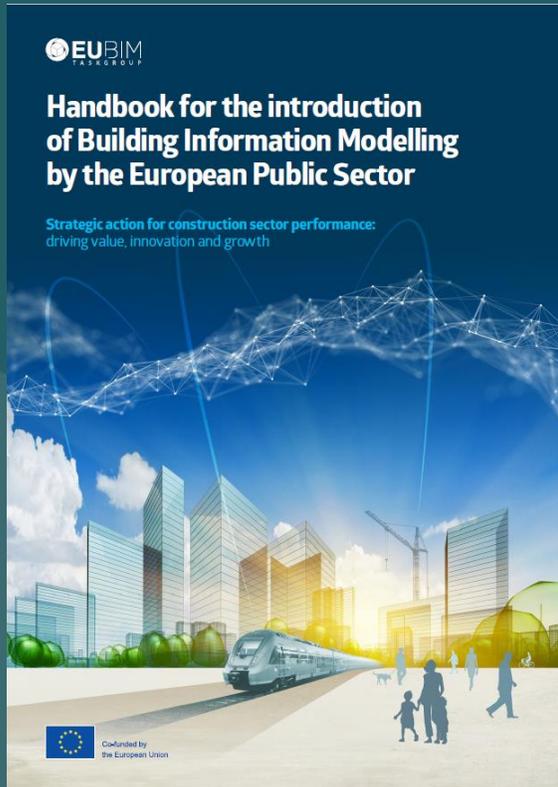


Client Role - Requirement to assign the information Management functions of ISO 19650.

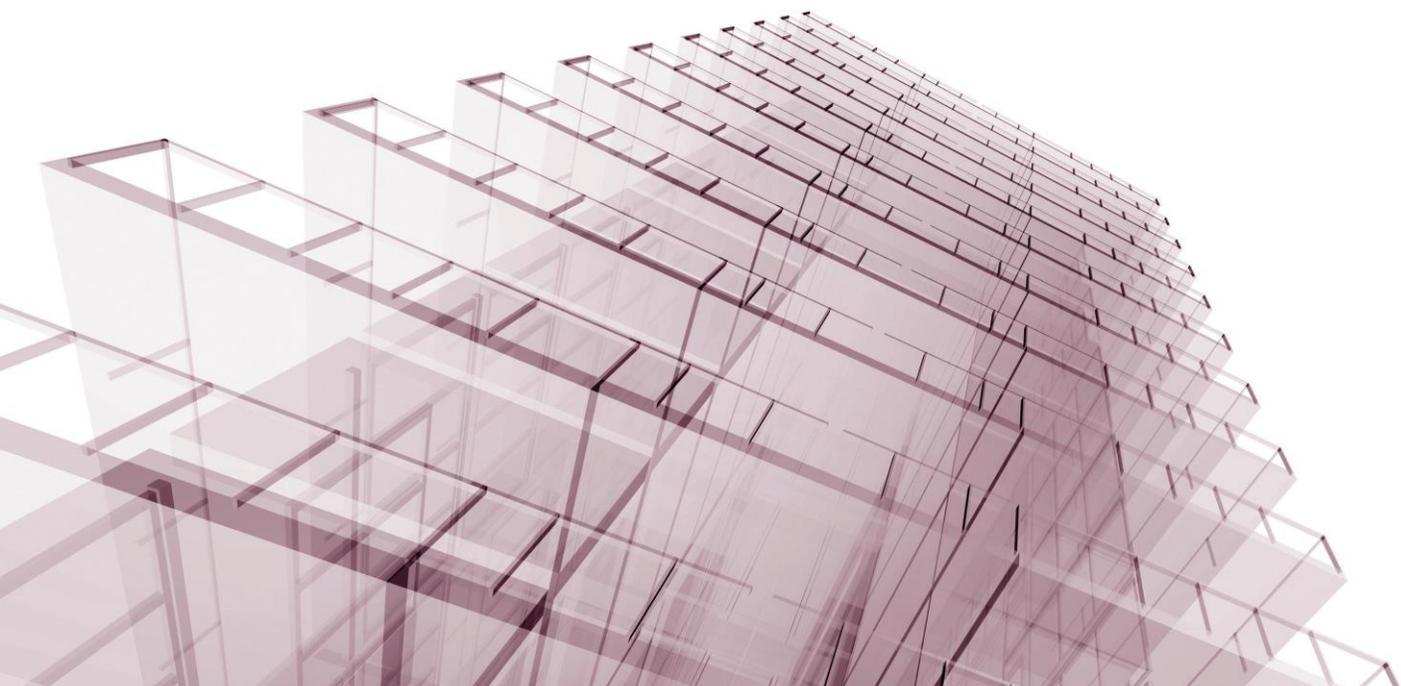
- **What skills does the information Manager role need?**
- It is important to ensure that individuals have the necessary skills and behaviours to fulfil the activities and tasks they have been allocated as part of the information management function. Competencies of individuals across a task team should 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.



Reference material



Build Digital Project



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.



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 DECC DETE DFHERIS DHLGH
RIAI SCSi Skillnet TU Dublin UG* Enterprise Ireland LGMA NSAI PENDR SEAI

Action 1
Construction Research
CIF
(Delivered)

Action 2
Sustainability
RIAI

Action 3
Modern Methods of Construction
DETE/DHLGH -
PENDR/CIF

Action 4
Construct Innovate
UG*
TCD
UCD
UCC
IGBC

Action 5
Digital Construction
Skillnet/CIF

Action 6
e-Planning
LGMA

Action 7
Build Digital
TU Dublin
ATU
MTU
SETU
UCD

The red line denotes cross cutting Housing and Sustainability

An Roinn Caiteachais Phoiblí Sheachadadh PFN agus Athchóirithe | Department of Public Expenditure NDP Delivery and Reform

*University of Galway

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



Rialtas na hÉireann
Government of Ireland

Tionscadal Éireann
Project Ireland
2040



Build Digital

Project Ireland 2040



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

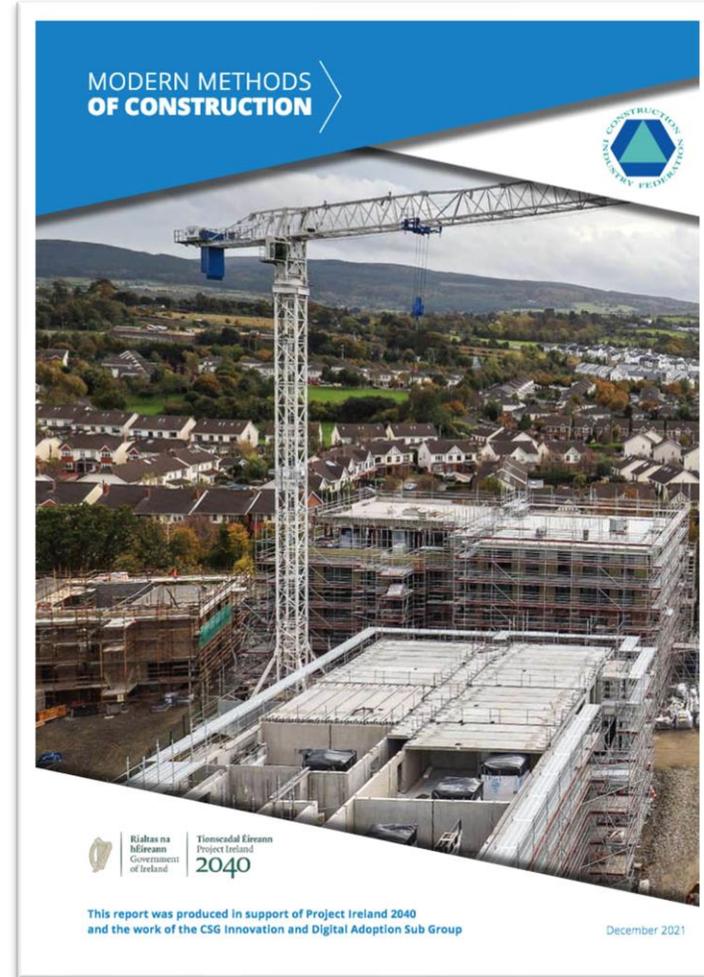
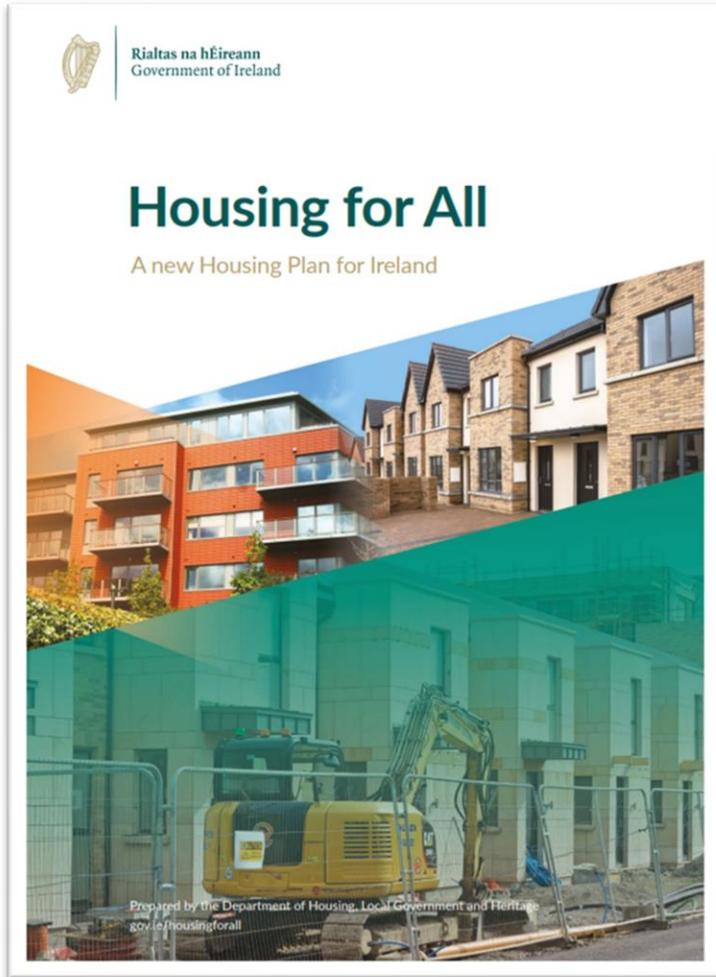


Rialtas na
hÉireann
Government
of Ireland

Tionscadal Éireann
Project Ireland
2040



Build Digital



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



Rialtas na hÉireann
Government of Ireland

Tionscaldal Éireann
Project Ireland
2040

5 Build Digital Pillars

-  Digital Leadership & Cultural Change
-  Digital Standards
-  Digital Education & Training
-  Digital Procurement
-  Sustainability & Circular Economy



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.



Have **Build Digital** international connections?



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 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 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







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:



Better decision making



Improved Efficiency



Better sharing of information



Digital systems and tools



Analysis



Integrations

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

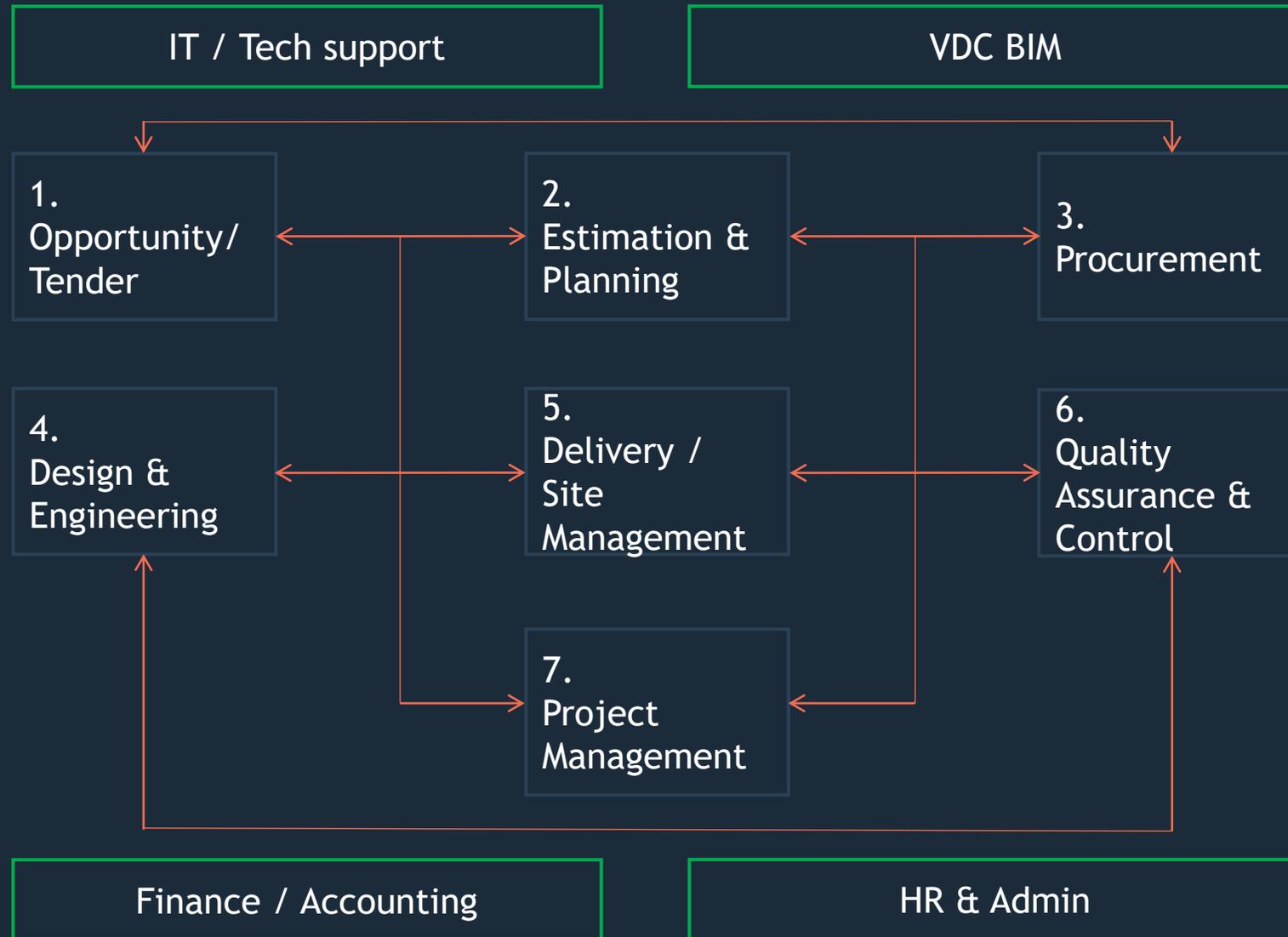


6.
Quality
Assurance &
Control



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

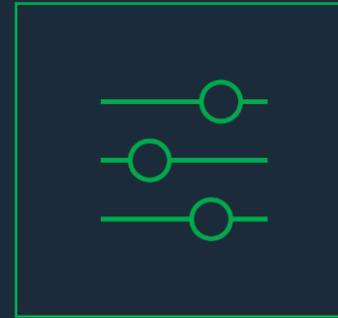
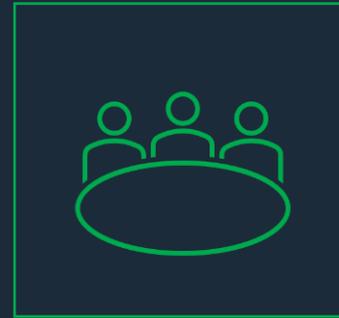
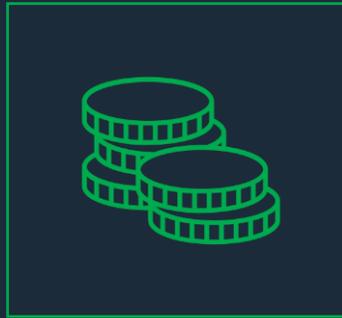


3. Central Platform

- 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



OUR JOURNEY - BUILDING THE DIGITAL ECOSYSTEM



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



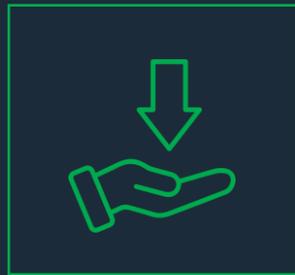
1. Leveraging the implementation of Procore to drive discovery sessions
2. Capitalizing on the opportunity to align technology with process improvements

PROCORE



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

The logo for PROCORE Technologies, featuring the word "PROCORE" in a bold, black, sans-serif font. The letter "O" in "CORE" is replaced by a small orange square.

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



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Thank You



John Paul Construction
Go Further | Build Smarter™