

ISO19650 – Enabling Structured Change

Sujesh F. Sujan



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Research Partner

- Digital Implementation
- Change management
- Asset/Information Management
- Circularity → new digital workflows

Information Management – ISO19650

- Requirements Setting/Validation
- Framework level -> 40+ UK schools
- BSI -> Best Practice



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TECHNOLOGY enables

PURPOSE driven DECISIONS using INTEGRATED and RELIABLE DATA

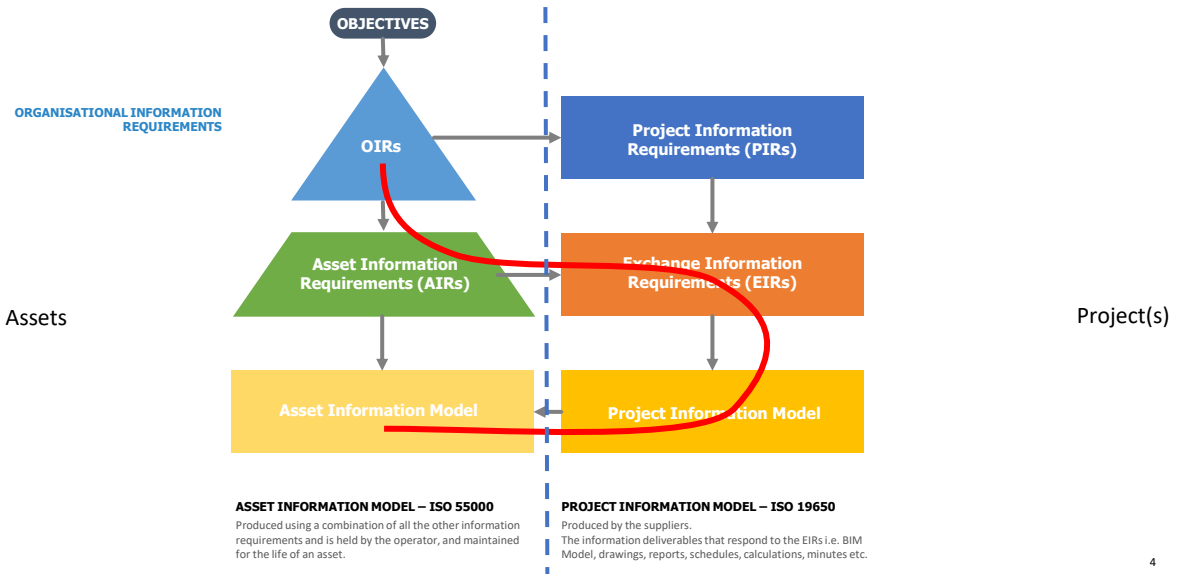
This means:



CHANGES in Systems, Processes, Behaviour that TRANSFORM Business As Usual

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ISO19650 – Meeting your organisation’s strategy



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Where did Digital Information Management start?

First accounts from the UK in 1977

Used main frame systems



There were atleast 4 types of information structures being used, in the most complex projects

All were 3D based, working in a SINGLE COMPUTER – SINGLE ‘SOURCE OF TRUTH’

We had a large degree of uniformity and control over information
- Involved board-level decision making and planning

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And then the PC was invented...

In the 1990s

CAD became more accessible

Decentralised the modelling process



This process continued as technology developed from moving information on floppy disks to CDs to USBs to web based transfers

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Lesson → this is not new..

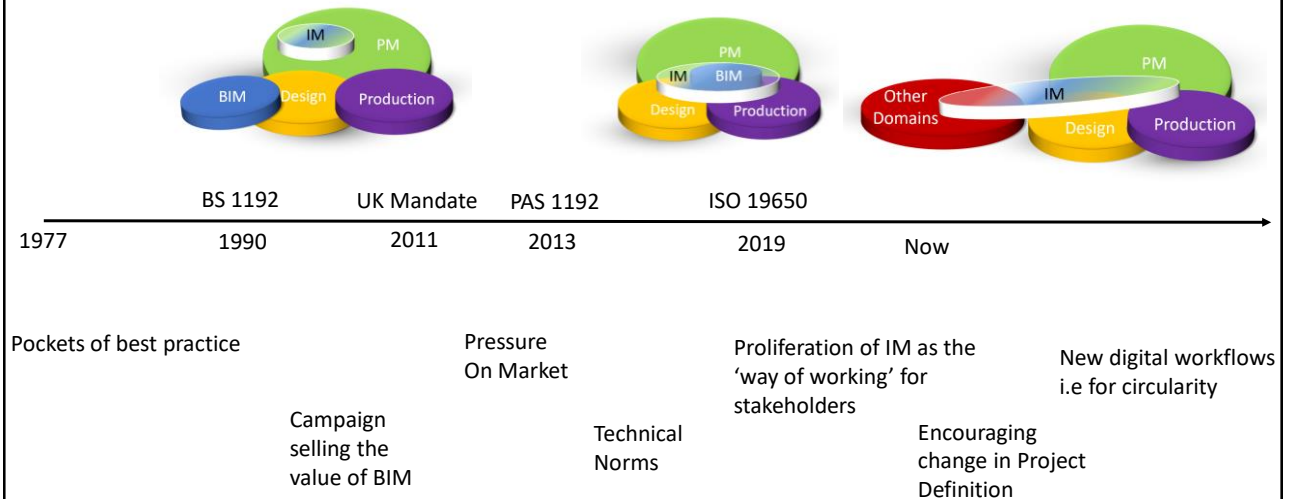
Paradox - we are centralising the manner in which physically decentralised information is created!

A process of decentralisation and agreeing between parties the process of managing information



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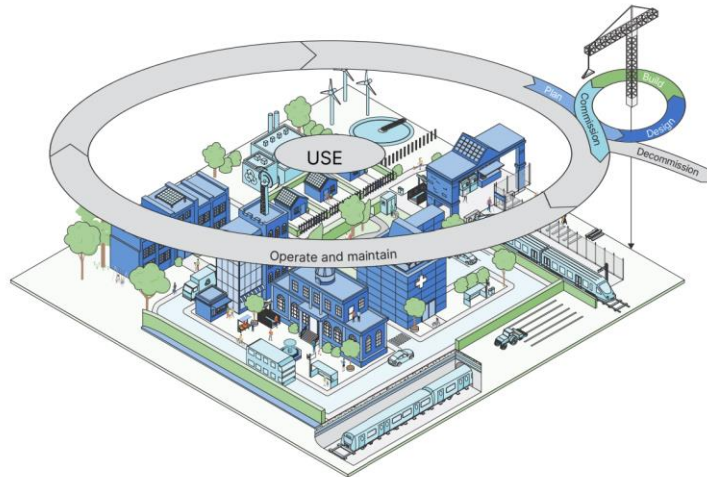
The evolution into ISO19650 and beyond



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Connected Digital Environments

“Connected Digital Twins”

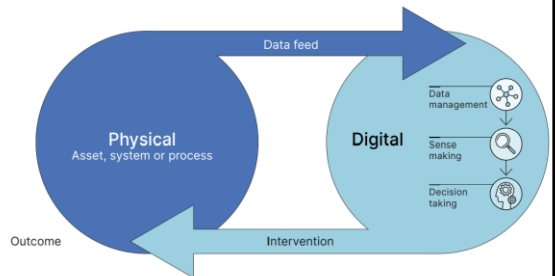
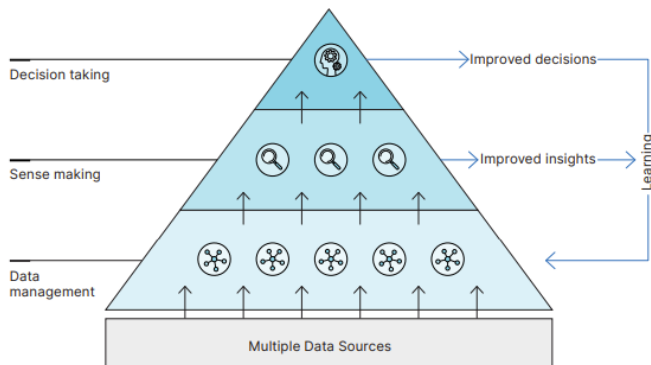


https://www.cdbb.cam.ac.uk/files/gemini_papers - what are connected digital twins.pdf

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Connected Digital Environments

“Connected Digital Twins”



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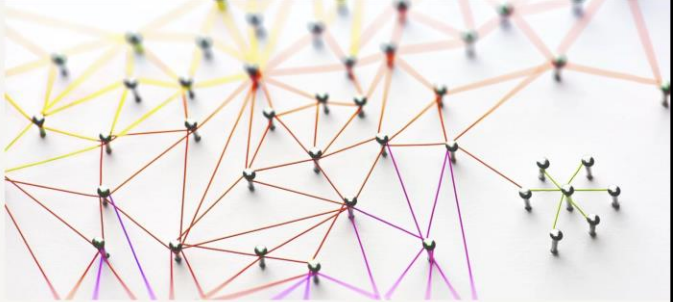
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Digital Moata Smart infrastructure Augmented delivery Advisory Ventures Stories Experts

About Services Marketplace Our digital DNA

Information management

The leading enterprises of today are built on effective information management; our experts support asset owners and operators drive better business performance through connecting data, people, systems and thinking.

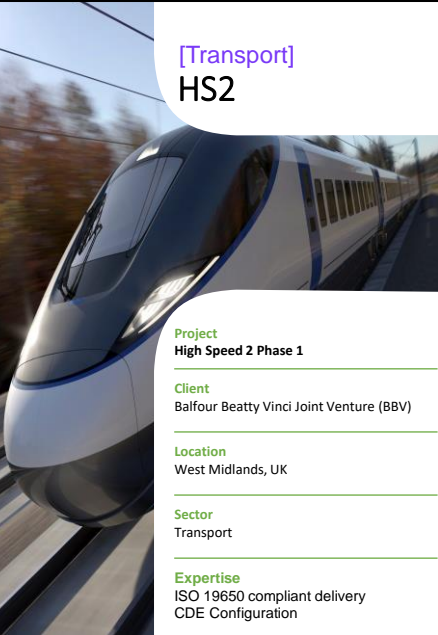


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[Transport] HS2



Contact to learn more:



Clara Moreno
Principal Digital Consultant

Clara.Moreno@mottmac.com
+44208 774 2439

Click to learn more:

Project Case Study

Related Artefacts

Project
High Speed 2 Phase 1

Client
Balfour Beatty Vinci Joint Venture (BBV)

Location
West Midlands, UK

Sector
Transport


Expertise
ISO 19650 compliant delivery
CDE Configuration

Opportunity
How do you manage over 1000 engineers producing model content from production centres across the world? How do you make sure this information consistently meets the standards and that the data requirements are fully understood?

Solutions
A component catalogue approach was used to explicitly define the level of information required against each engineering component. After approval by the Client and Contractor, this information was managed using Moata Intelligent Content. Moata Intelligent Content reduced abortive copy and paste effort of modelled content, instead a single library is used by all delivery teams. The library is available to all supply chain partners as well as the client.


Outcome

- Over 85,000 hours modelling time saved.
- Over £4.1M savings
- Over 15000 components used from the library so far




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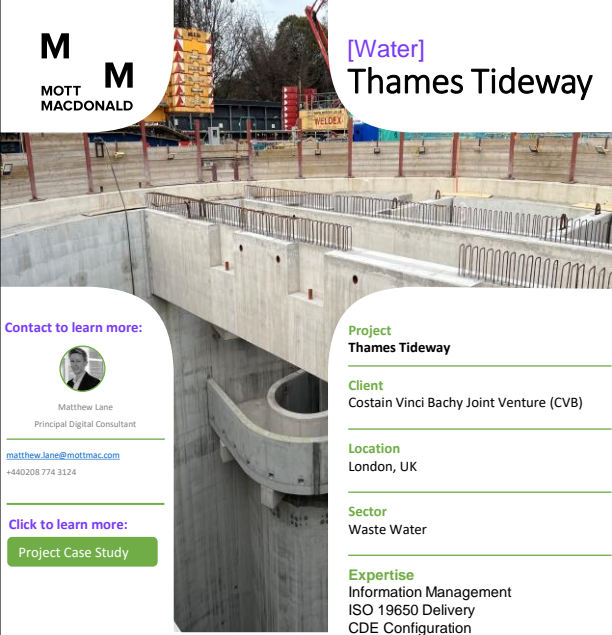
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[Water]

Thames Tideway





Opportunity
Working for client CVB JV, Mott MacDonald were responsible for the detailed design of the eastern section of the £5b wastewater scheme. Mott MacDonald established and implemented robust Information Management practices to drive the design coordination throughout the design development phase.

Solutions
Implemented and configured the project Common Data Environment, implementing BS1192 compatible workflows to control the production and sharing of design information.


Used model-driven progressive assurance workshops to drive stakeholder engagement with the design throughout the design development phase.

Adopted model-based delivery to eliminate the need for drawings at early design stages.

Outcome

- 32% design production savings in comparison to traditional delivery methods
- 6 month reduction in design schedule
- 350 drawing deliverables replaced with intelligent 3D models.

Contact to learn more:



Matthew Lane
Principal Digital Consultant

matthew.lane@mottmac.com
+440208 774 3124

Click to learn more:

[Project Case Study](#)


Project
Thames Tideway

Client
Costain Vinci Bachy Joint Venture (CVB)


Location
London, UK

Sector
Waste Water

Expertise
Information Management
ISO 19650 Delivery
CDE Configuration




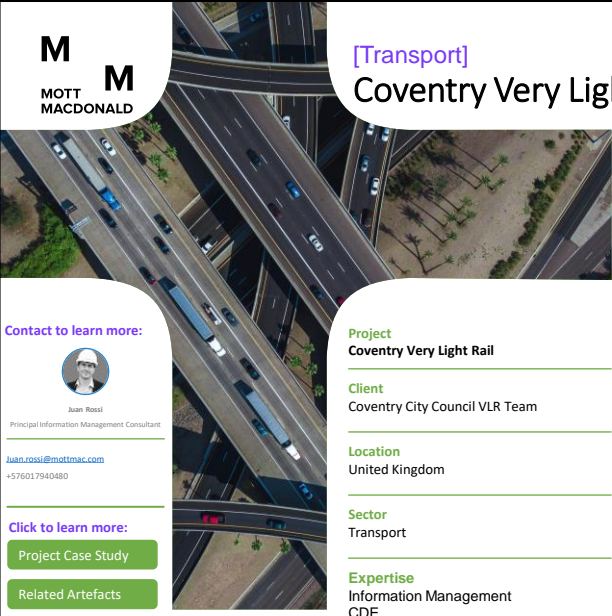
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[Transport]

Coventry Very Light Rail






Opportunity
Coventry Very Light Rail (VLR) is a research and development project, using the latest automotive expertise developed in the region to deliver an innovative and affordable light rail system. The ask was to support the Coventry VLR client team in setting the optimum information requirements (ISO 19650 compliant documentation) for the Coventry Very Light Project.

Solutions
The approach combined our deep domain knowledge of LRT with world-leading digital expertise to form a team that supported the Coventry VLR client team in setting the optimum information requirements for this exciting project. The work was set around a series of stakeholder engagement workshops, at which information was gathered that helped surface the BIM benefits and priorities for the project. As outputs were gained from the workshops and were analyzed, the documents were progressed by the team. This workshop-based methodology has been impactful, and the workshops were tailored for this specific scope, which focuses on the development of ISO 19650-compliant documentation.

Outcome
The Mott Macdonald team covered all areas of work required and led the CCC team successfully through the processes and discussions to produce the documents. Developing the following documents as an outcome of the support:

1. Organisation Information Requirement
2. Asset Information Requirement (Light version)
3. Project Information Requirement
4. Exchange Information Requirement
5. Information standard
6. Production methods & procedures

Contact to learn more:



Juan Rossi
Principal Information Management Consultant

juan.rossi@mottmac.com
+576017940480

Click to learn more:

[Project Case Study](#)

[Related Artefacts](#)


Project
Coventry Very Light Rail

Client
Coventry City Council VLR Team


Location
United Kingdom

Sector
Transport

Expertise
Information Management
CDE

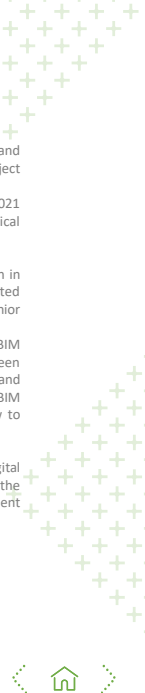


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[Energy]

Scottish and Southern Electricity



Contact to learn more:



Juan Rossi
Principal Information Management Consultant

juan.rossi@mottmac.com
+576017940480

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[Project Case Study](#)

[Related Artefacts](#)

Project
Scottish and Southern Electricity

Client
Scottish and Southern Electricity

Location
United Kingdom

Sector
Energy


Expertise
Information Management
Information Requirements
CDE Configuration

Opportunity
Mott MacDonald were appointed as BIM advisors for the Scotland to Shetland HVDC Link Project in 2020, with the scope including production of the Project information requirements (PIR) for the client project team. Following the success of the Shetland HVDC Link project, since January 2021 Mott MacDonald have been appointed as BIM Advisors to create a Technical Framework hierarchy for SSE Transmission.

Solutions
The first task was to define the ambition and vision for the BIM application in SSEN. We established a BIM vision, to describe the drivers and expected outcomes for the adoption of BIM in SSEN following engagement with senior decision makers, via strategy building workshops. The next step was to collaborate on upskilling and implementing the BIM processes on a pilot project. From the beginning of 2022, we have been working closely with the SSEN Skye Reinforcement Works Project team and ASTI projects on bringing good information management practices using BIM whilst adopting a train the trainer approach to upskill SSEN staff on how to replicate the process on further projects.

Outcome
Through this project, we have been providing support on how to adopt digital solutions and the creation of artefacts aligned with the ISO 19650 series for the procurement phase, to set the foundations of good information management practices. The following ISO19650 aligned artefacts has been created:

1. Project Information Requirement (PIR)
2. Exchange Information Requirement (EIR)
3. Information Standards, Methods and procedures (SMP)
4. Level of Information Need matrix
5. Responsibility Matrix
6. Pre-tender BIM Execution Plan template
7. Capacity and Capability Assessment
8. Master Information Delivery Plan template







In Summary:
 ISO19650 adds the process + organisation layers for information management
 ISO19650 provides a language to communicate about what you need

Thank you





