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From Thousands of Models to A Smooth Handover

Lessons from a \$40B airport and the busiest airport in the Middle East

\$40B PROGRAM · WORLD'S BUSIEST INTERNATIONAL HUB · 1,000s OF FEDERATED MODELS



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Thousands of Models, One Giga-Project in Reality



The challenge was never modeling a building. It was making thousands of models behave as one.

Tools Alone Don't Deliver

Choosing the right tools was hard. Making them serve the people behind them was harder.



Chosen deliberately. Deployed properly.

But tools don't deliver outcomes — people do.



Aligning multinational teams across time zones and cultures.



Designing processes that respected local culture and aviation-grade security.



Giving every stakeholder a reason to play by the same rules.

THE STACK THAT DELIVERS



OUTCOMES

What we ship



PEOPLE & CULTURE

Alignment



PROCESS & GOVERNANCE

ISO 19650



TOOLS

Revit, CDE, Revizto

Governance Was the Pillar

With ISO 19650 anchoring information management

Defined responsibilities.

Defined deliverables.

Defined acceptance criteria.

Across every stage — design, construction, handover.



BSI Standards Publication

Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) — Information management using building information modelling

Part 3: Operational phase of the assets

bsi.

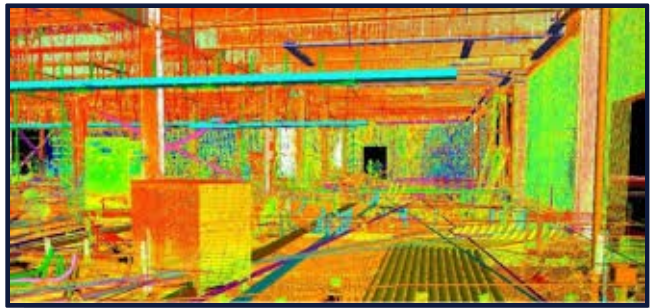
BS EN ISO 19650 • 2020

Information Management Standard

Without governance, no platform, no AI, no dashboard ever works.

Where Design Meets Reality

Laser scanning, continuously linked to BIM



POINT CLOUD · SITE VERIFICATION

0 1

Issues surfaced early.

Problems caught in the model — long before site.

0 2

Assumptions tested against built reality.

Design intent verified, not assumed.

0 3

Decisions made on data, not opinion.

Reality capture replaces guesswork.

Reality capture fed back into the models continuously — not at handover.

By the time something reaches handover, it is already too late to fix it cheaply.

When the Workflow Breaks the Team

Thousands of QR-coded assets,
each carrying 15+ critical attributes embedded in the BIM.

THE PROBLEM

5 people • 2 months

Opening QR images one by one.
Checking corruption, duplicates,
mismatches.

Manual. Brittle. Demoralizing.

THE FIX

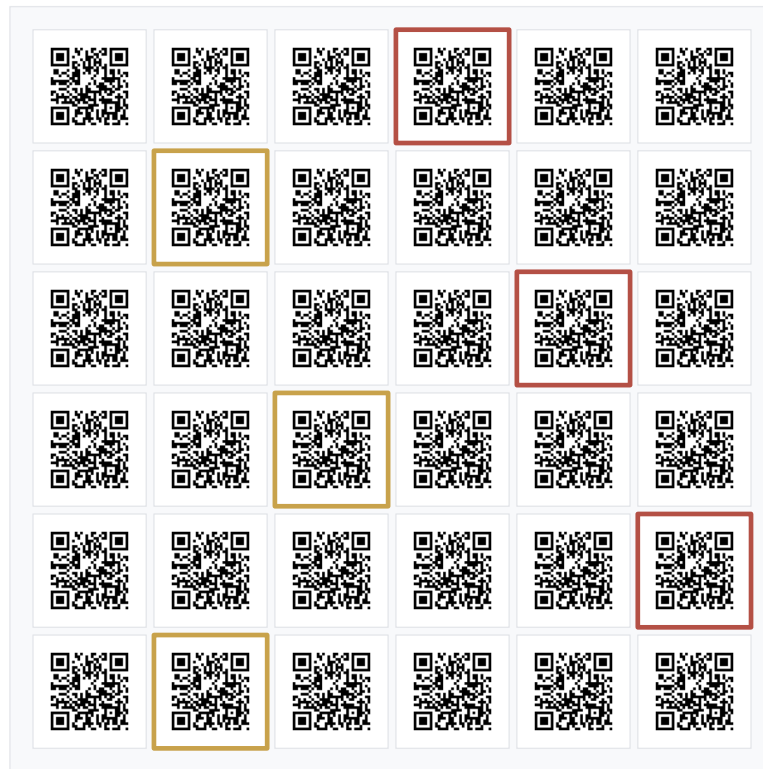
Scan → Populate → Flag

Mobile camera tied to a master
register.

Duplicates highlighted.

Corrupt files reported.

Reconciled against the BIM export.



● Corrupt / duplicate

● Flagged

*Same outcome. A fraction of the time. **An asset register operations could trust.***

That was 2016. The story doesn't end there.

What Discipline Delivered

The results of governance, process, and reality-grounded design



Rework prevented

Issues caught in the model, not on the site.



Carbon and waste, measurably reduced

Embodied carbon and material waste cut at the source.



Sustainability, by decision — not by retrofit

Federated BIM and simulation informing choices in near real-time.



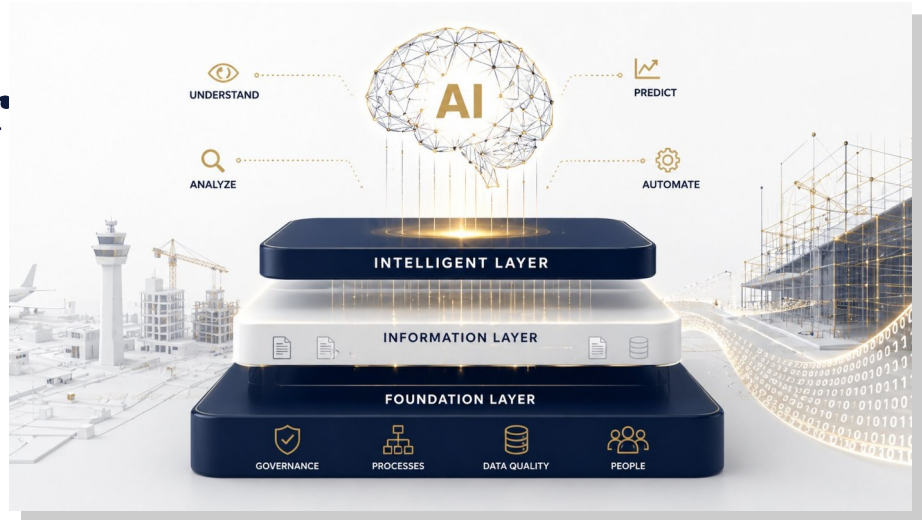
Operations inherited a running start

A trusted asset-level dataset — not a forensic project.

*The digitalization conversation begins **at the start**. Not **at handover**.*

AI as an Intelligent Layer

Everything before this slide was achievable with discipline. What comes next is what AI compounds on top.



01

Computer vision for asset validation

5 people × 2 months in 2016 → AI reads thousands of images in under an hour. The QR story, evolved.



02

RAG over technical documents

Specs, O&M manuals, IFC data — engineers query in natural language, answers grounded in the project record.



03

Predictive operations

Equipment failure, energy anomalies, passenger flow disruptions — anticipated before they surface.

*AI doesn't replace governance, BIM, or process. It **compounds** them.*

Without the foundation, the intelligent layer has nothing to stand on.

What I'd Tell Anyone Starting This Journey

01 Start where you are — not where you wish you were.

Noisy data, siloed departments, disconnected teams. That's the starting condition, not a setback.

03 Chase the mandate.

Nothing survives without strategic alignment. Find the company's north star and tie your work to it.

02 Quick wins, but designed for the ecosystem.

Prove value early. Design every quick win as a piece of the bigger picture — connect the dots from day one.

04 Governance is non-negotiable.

Clear ownership. Clear standards. Clear accountability. Everything else is downstream.

Foundation first. Intelligence second. In that order — always.


THE FLOOR IS YOURS

Thank You.

Questions, challenges, war stories — all welcome.

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SCAN TO CONNECT

 on LinkedIn

