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Automating Insights:

Scaling Portfolio Reporting with Data-Driven Strategy

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Introduction

Jason Rymer

Associate Director (Data Analytics)

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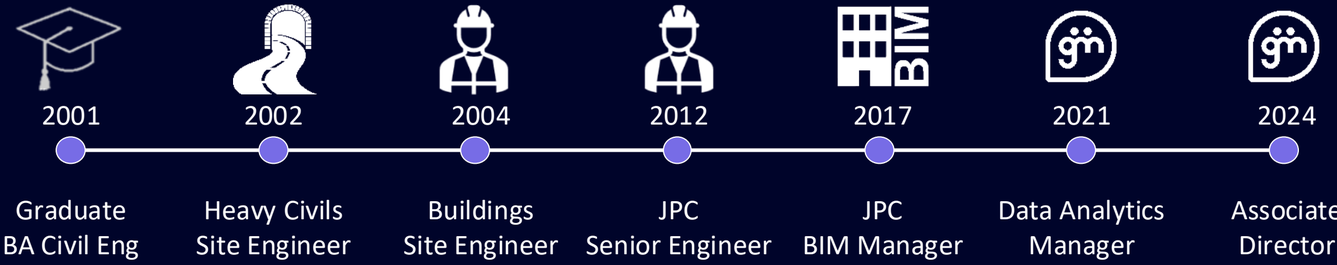
- Bachelor of Science - Engineering (Civil / Environmental)
- Over 20+ Years experience in the Construction Industry
- 5+ years in information systems and analytics
- Specialist in digital integration and transformation
- Specialist in Data Engineering and Analytics

My Career Journey



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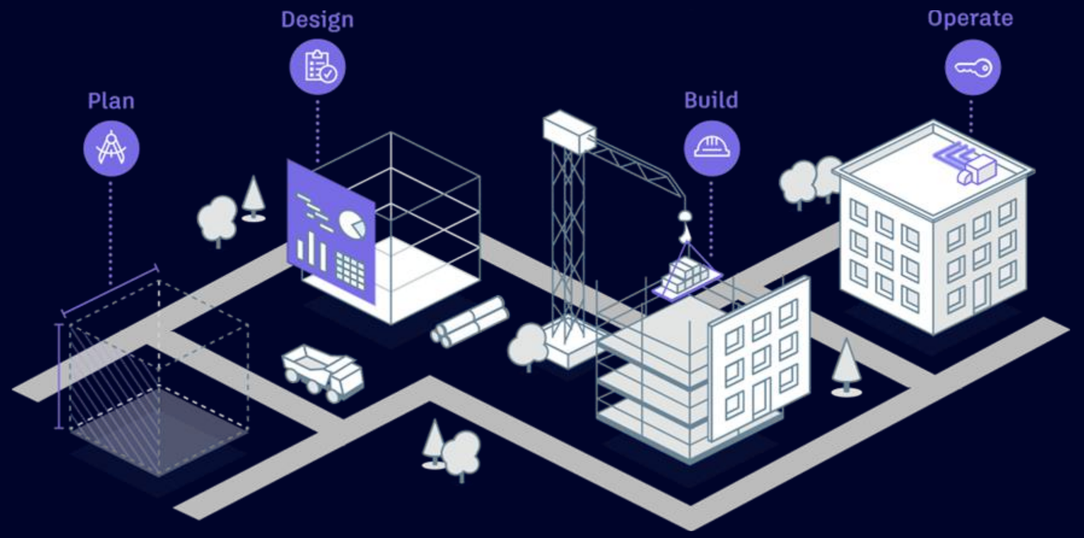
Our Approach

- Digital Governance
- Data Management

Our Expertise

- Digital Transformation
- Project Management
- Cost Management
- Portfolio Management

Applied to these Stages



Construction Digital Maturity

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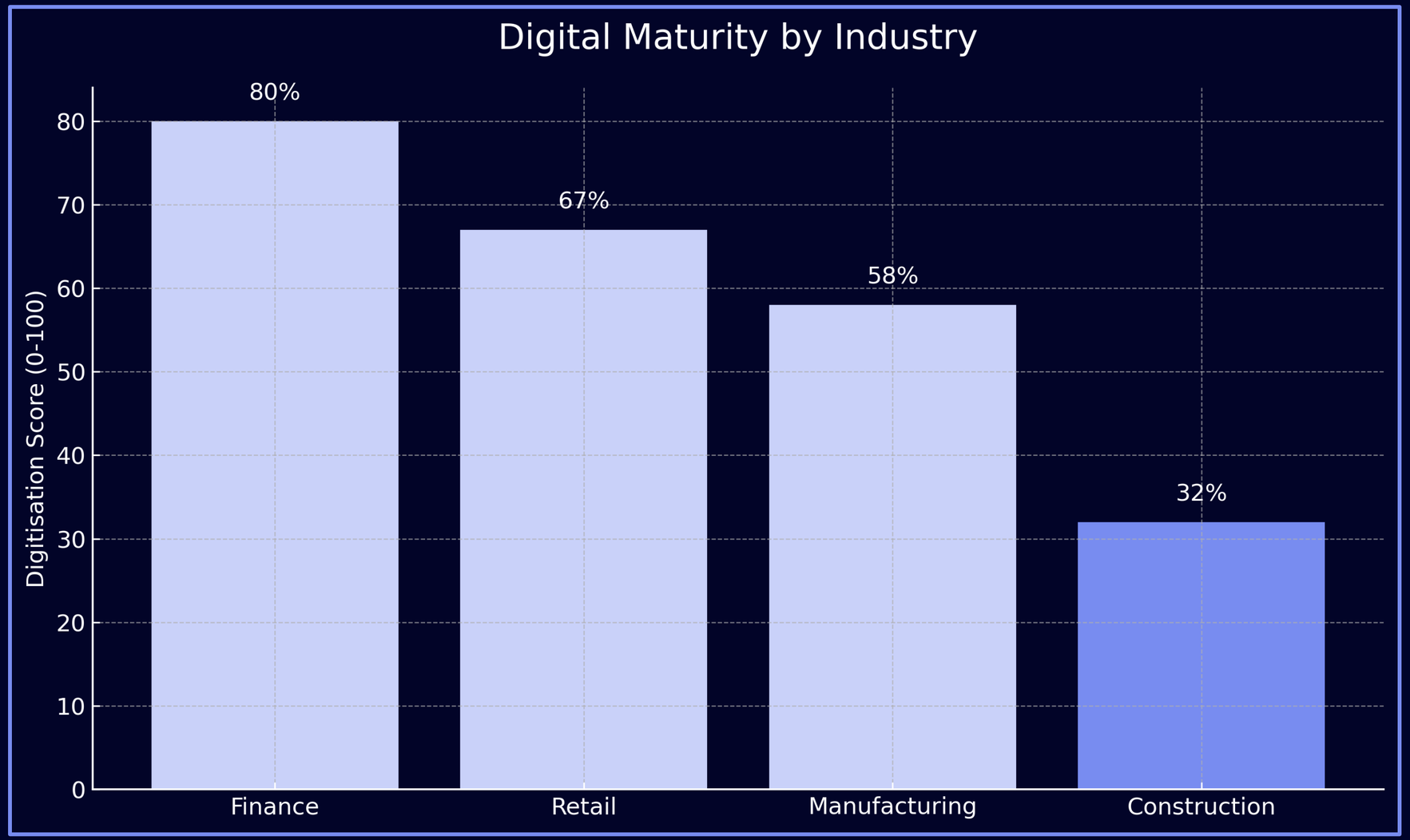
Construction second least digitised industry world

81% of mega projects run over schedule & budget

83% of workers in industry are field based



Source: McKinsey & Company – *"The Next Normal in Construction"* and *"Reinventing Construction: A Route to Higher Productivity"*. Additional figures informed by BCG and World Economic Forum industry benchmarking on construction digitalisation.

Construction Digital Maturity - Gaps

Construction second least digitised industry world

81% of mega projects run over schedule & budget

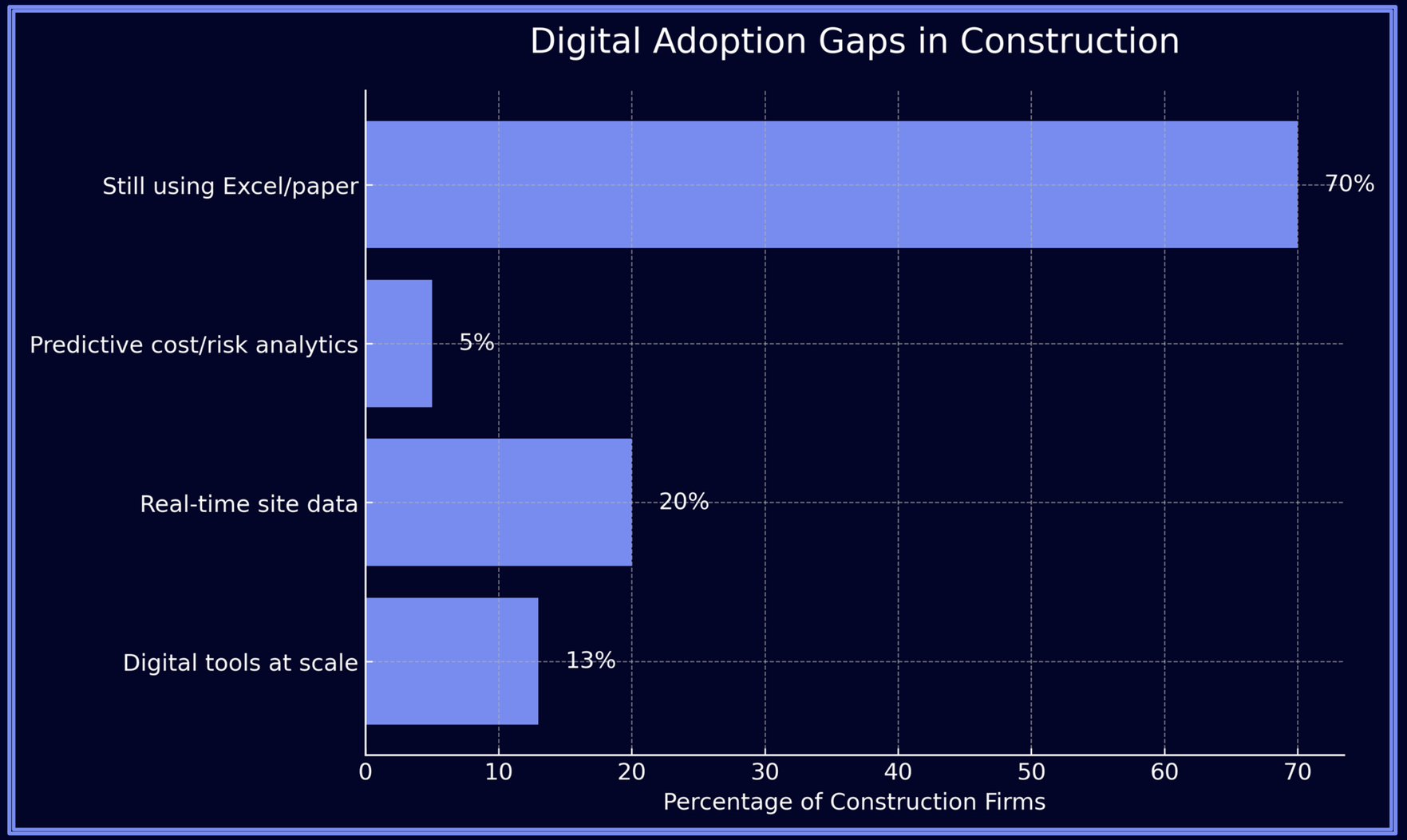
83% of workers in industry are field based

Over 70% of firms still rely on Excel or paper-based reporting for planning and costing

Less than 5% use predictive analytics for cost or risk management

Fewer than 20% integrate real-time data from the field

Only 13% of construction companies are using digital tools at scale across projects



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Construction Digital Maturity – Opportunities

What are the opportunities if the industry does digitise?

Time Efficiency

- 20–30% reductions in project delays
- 1–20% increase in labour efficiency with improved reporting from the field
- Up to 40% reduction in administration time with automation

Cost Certainty

- $1.6 trillion additional value annually if productivity improved via digitisation
- 15% cost reduction on digital projects
- Budget confidence with Accurate forecasting

Risk Visibility

- Predictive analytics to provide early risk warnings
- Governance at every stage reduces rework and claims

Source: McKinsey & Company – *"The Next Normal in Construction"* and *"Reinventing Construction: A Route to Higher Productivity"*. Additional figures informed by BCG and World Economic Forum industry benchmarking on construction digitalisation.

Why Projects Still Fail

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- Lack of standardisation
- Manual Processes
- Misaligned schedules and budgets
- Outdated and Siloed Data
- Lack of real-time visibility on project
- Fragmented and inconsistent communication

The impact on the project is:

- Teams waste time firefighting instead of delivering
- Leadership lacks real-time visibility for confident decision-making

The Foundation for Digital Transformation

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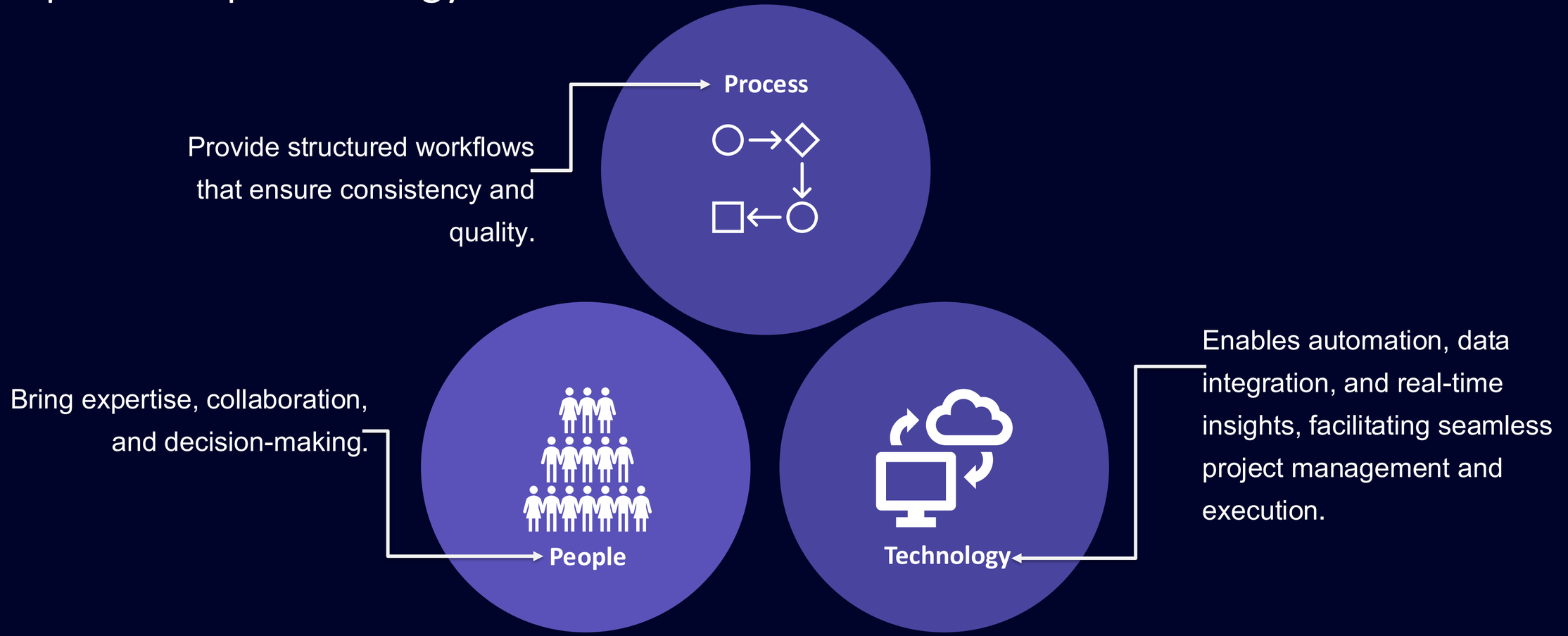
People | Process | Technology



People | Process | Technology

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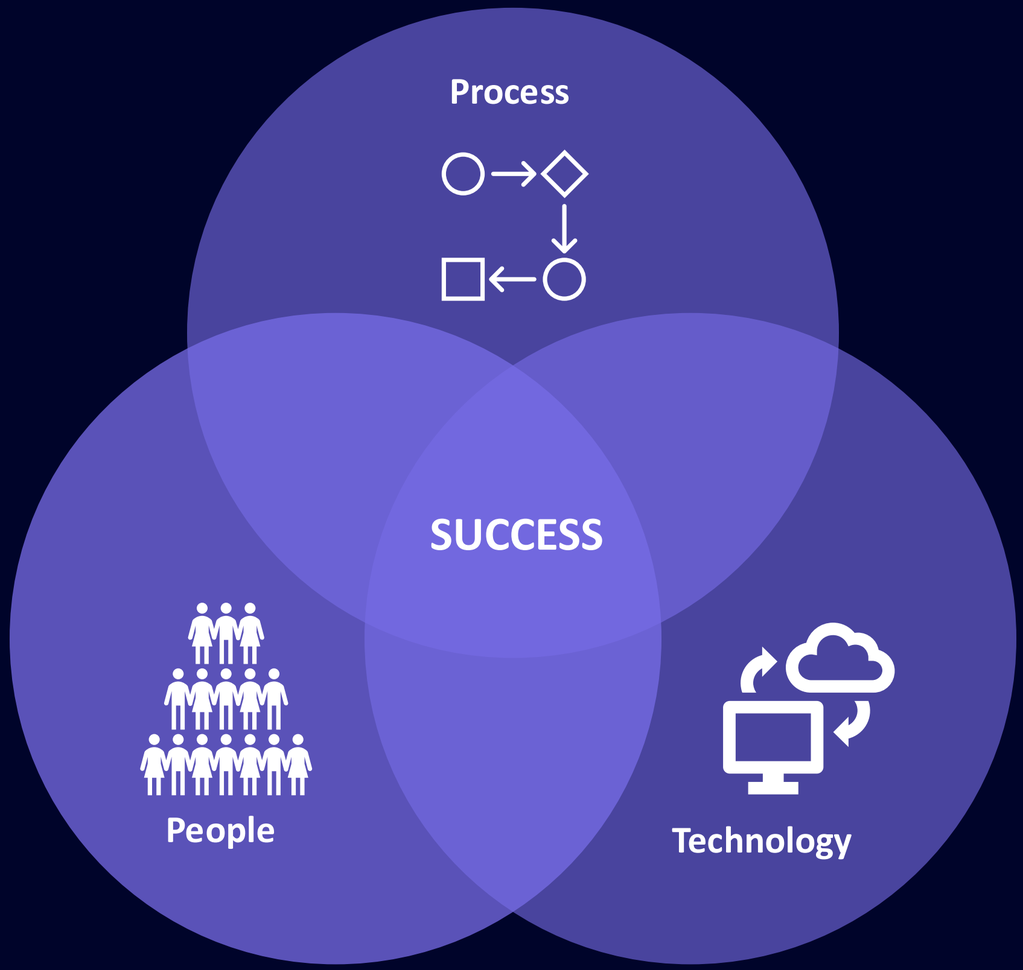

Evolving world of a Digital Construction

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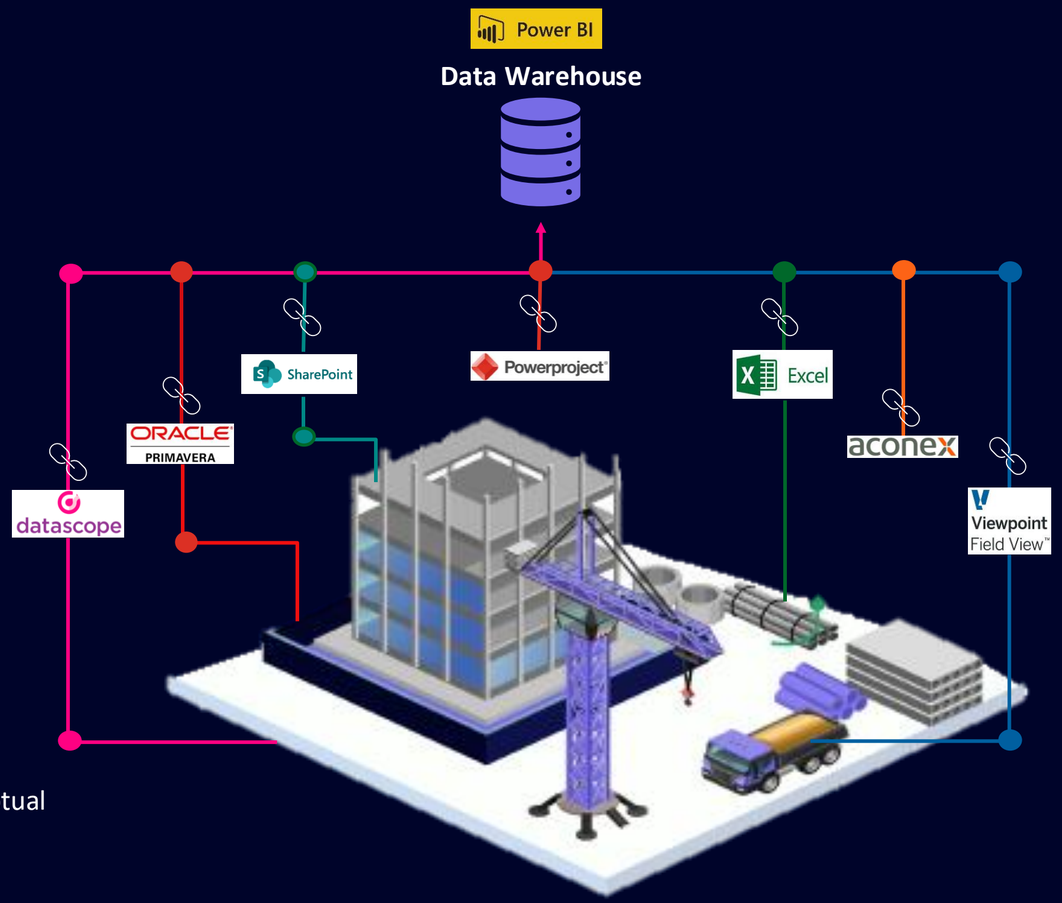
Traditional Meeting

Approach: Manual, static, conceptual

Tools: Sticky notes and whiteboards

Efficiency: Time-consuming, manual follow-up needed



Modern Meeting

Approach: Automated, real-time, data driven

Tools: Dashboards, data visualisation

Efficiency: Efficient, data available instantly

Connected Reporting Solution

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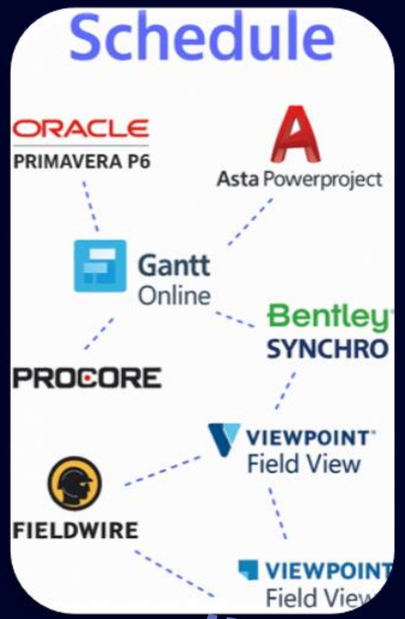
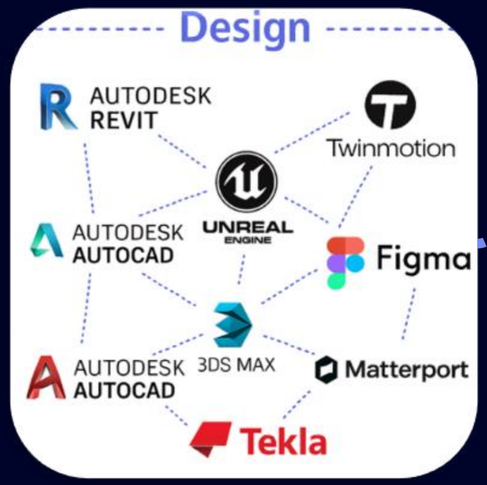
- Connect to Existing Systems
- Access Siloed Data Centrally
- Enable Real-Time updates
- Centralise Reporting
- Scalable Enterprise Solution





- Portfolio
- Executive Summary
- Schedule
- Risk
- Cost
- Planning
- BIM
- Quality
- Health & Safety
- Commissioning

Building a Data Foundation

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- Being data-driven starts with clean, structured foundations
- Good governance and taxonomy
- Standardised processes
- Automate data capture at source
- Built on centralised system that scales

GagaMuller succeed by combining construction knowledge with data engineering

Schedule Management

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- Clearly define the project scope
- Standard work breakdown structure (WBS)
- Developed to the right level of detail
- Additional meta data to provide context for
- location, work package, cost codes
- Integrated with field apps like WayLoader to capture real time data from the field
- Monitor and adjust in real time

Cost Management

- Clearly define the project scope
- Standard work breakdown structure (WBS)
- Right level of detail
- Accurate cost estimation
- Change control process
- Risk management
- Monitor budget verse actual to control cost

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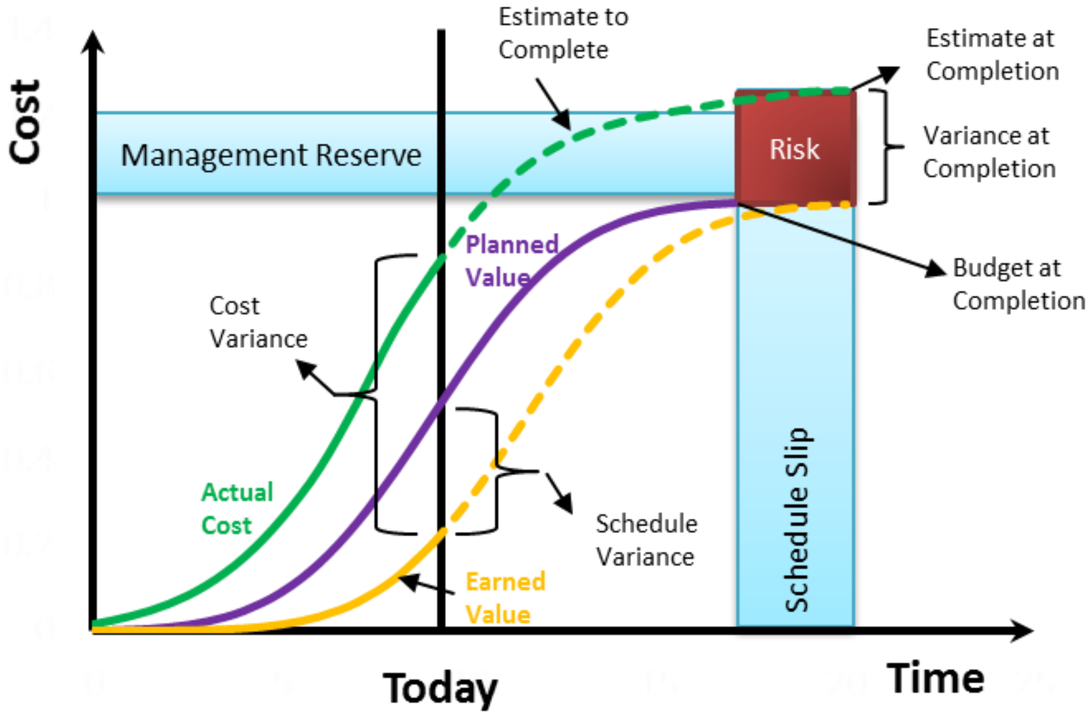
Earned Value Management (EVM)

- Alignment of Scope, Cost & Time
- Provides quantitative approach to measuring project performance
- EVM helps identify potential problems early
- Improves overall project control by providing increased visibility



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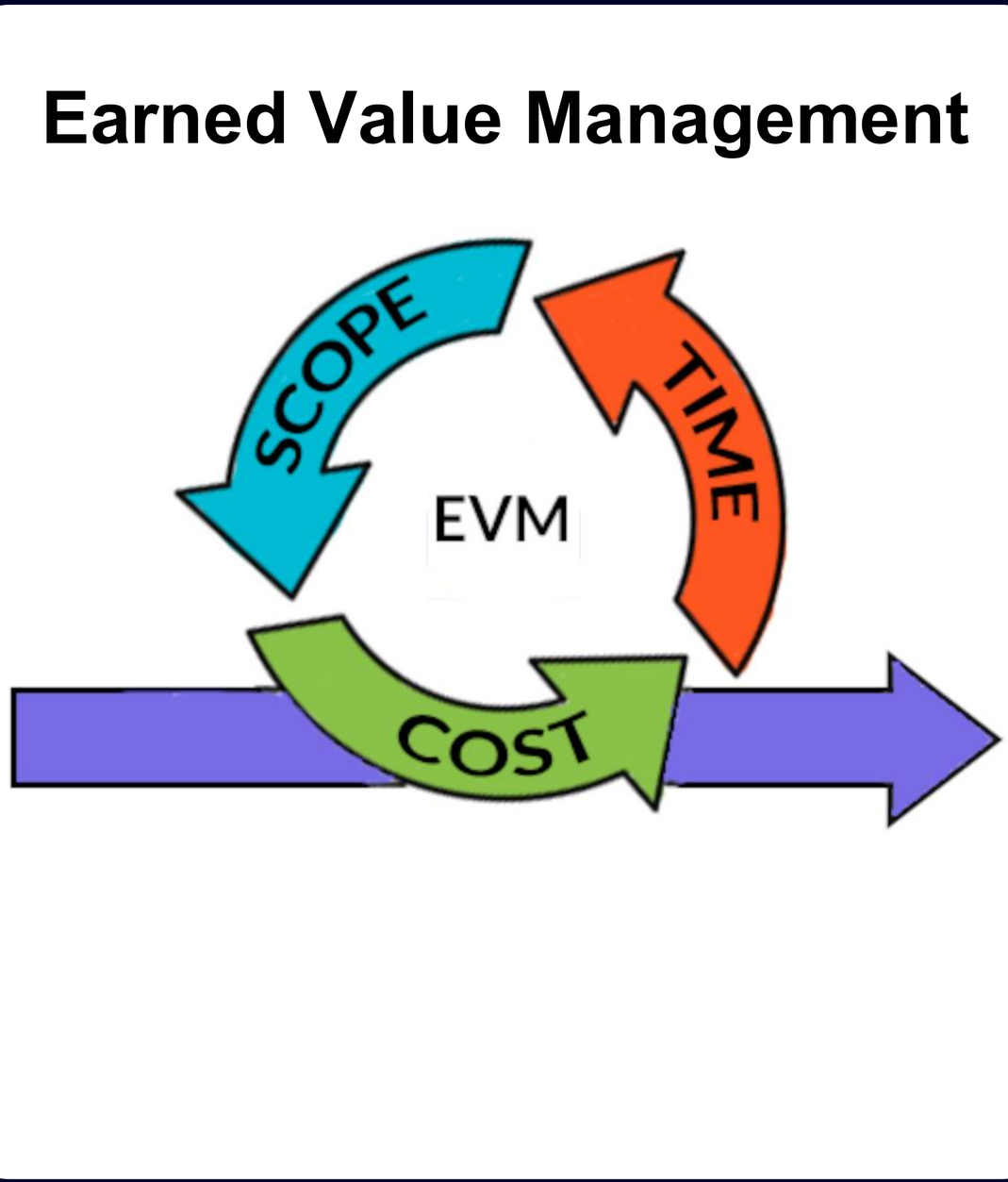
How to Apply (EVM)

- Develop detailed cost plan
- Develop Detailed Schedule
- Define rules of measure
- Define WBS and cost coding standards
- Define clear scope for each package
- Apply costs codes to schedule tasks
- Validate and stress test EVM model
- Capture live progress
- Monitor and Adjust to mitigate risk



EVM Reporting

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Earned Value Management (EVM)

Construction Task KPI's

Total Cost	Planned Cost To Date	Actual Cost	Delta	SPI
€ 268,742,197	€ 69,037,861	€ 62,211,220	-€ 6,826,641	90%

Reporting Date
6 Jan 2025

Clear Filters

FILTERS

Date: All

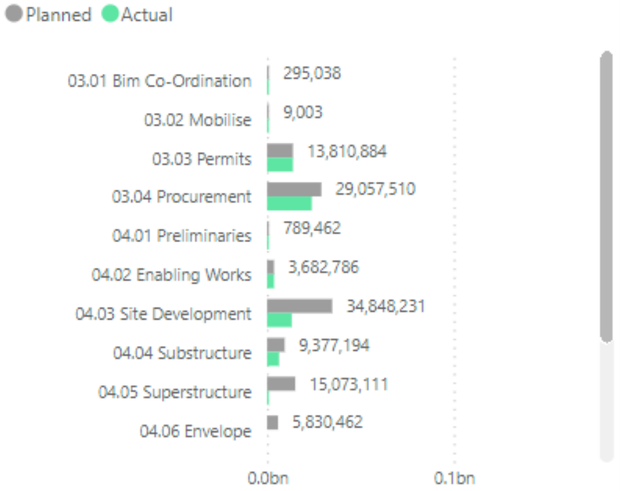
WBS Category: Multiple selections

Area: All

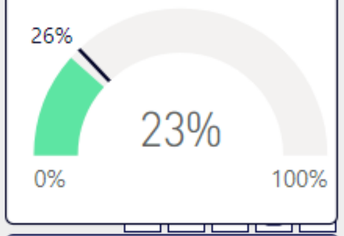
Package: All

Status: All

Planned Vs Actual (Days) by WBS



% Progress (Cost)

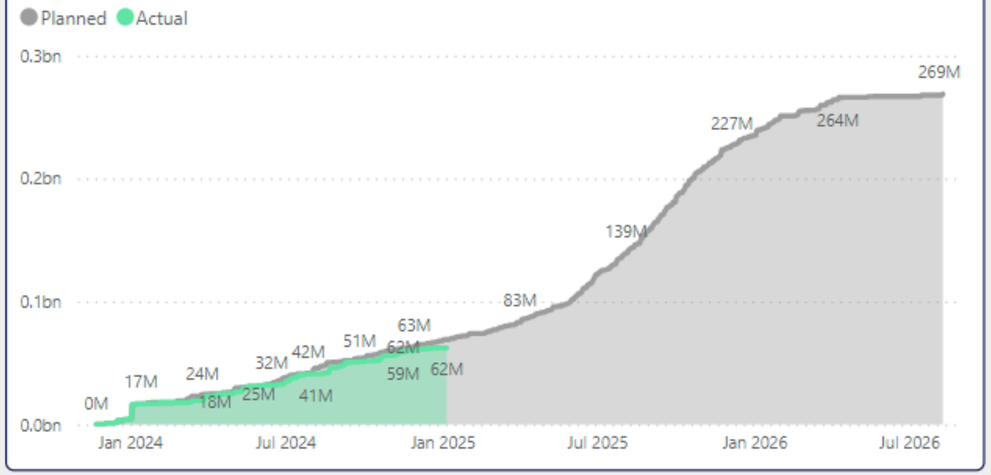


WBS	SPI(Days)
04.01 Preliminaries	100%
04.02 Enabling Works	100%
04.03 Site Development	70%
04.04 Substructure	94%
04.05 Superstructure	40%

Work Package Breakdown

WBS Category	Planned To Date	Total Actual	% Complete	SPI (Cost)
03.01 Bim Co-Ordination	€ 295,038	€ 291,996	99%	99%
03.02 Mobilise	€ 9,003	€ 9,003	100%	100%
03.03 Permits	€ 13,810,884	€ 13,810,884	100%	100%
03.04 Procurement	€ 23,899,650	€ 23,899,650	82%	100%
04.01 Preliminaries	€ 789,462	€ 789,462	100%	100%
04.02 Enabling Works	€ 3,682,786	€ 3,682,786	100%	100%
04.03 Site Development	€ 18,925,806	€ 13,176,825	38%	70%
04.04 Substructure	€ 6,823,220	€ 6,384,952	68%	94%
04.05 Superstructure	€ 415,827	€ 165,662	1%	40%
04.06 Envelope	€ 52,886			0%
04.07 Fit Out	€ 333,299			0%
04.08 External Plant				0%
04.09 External Works				0%
04.11 Commissioning				0%
Total	**€ 69,037,861**	**€ 62,211,220**	**23%**	**90%**

Planned v Actual (Cost)



Activity Register

Activity Description	Planned Start	Planned Finish	Status	TotalCost
BLD01/02 - Procurement - CFCI - WP 2800 - Steel - Stage 2 Market Pricing	03-Nov-2023	23-Nov-2023	Complete	€ 13,372
TBS - Pre-Construction - Comms - Identify fibre requirements	23-Nov-2023	27-Nov-2023	Complete	€ 101,972
TBS - Procurement - Foul Drain - Apply to Drainage Authority for licence to discharge	23-Nov-2023	27-Nov-2023	Complete	€ 55,472
TBS - Pre-Construction - Comms - Request fibre quote	30-Nov-2023	01-Dec-2023	Complete	€ 25,493
TBS - Procurement - Electrical - Agreement of New Temporary Substation'	23-Nov-2023	04-Dec-2023	Complete	€ 280,423
TBS - Procurement - Electrical - Appointment of Utilities Consultant	23-Nov-2023	04-Dec-2023	Complete	€ 280,423
TBS - Procurement - Electrical - Establish TBS requirements	07-Dec-2023	11-Dec-2023	Complete	€ 101,972
BLD01/02 - Procurement - CFCI - WP 6000 - MEP - Stage 2 Market Pricing	23-Nov-2023	14-Dec-2023	Complete	€ 217,879

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Tangible Outcomes

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- 30% time saved on reporting
- Faster decision-making at senior levels.
- Increased predictability and reduced rework
- More aligned teams and unified communication
- A culture shift towards action based on Data
- Enabled for AI and predictive analytics

Questions

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