

# The Data-driven PMO: Harnessing the power of Data to revolutionize Program Management & Controls

Hasan Riaz

CEO, Newstead Connect

Anas Almadani

Consultant, Newstead Connect

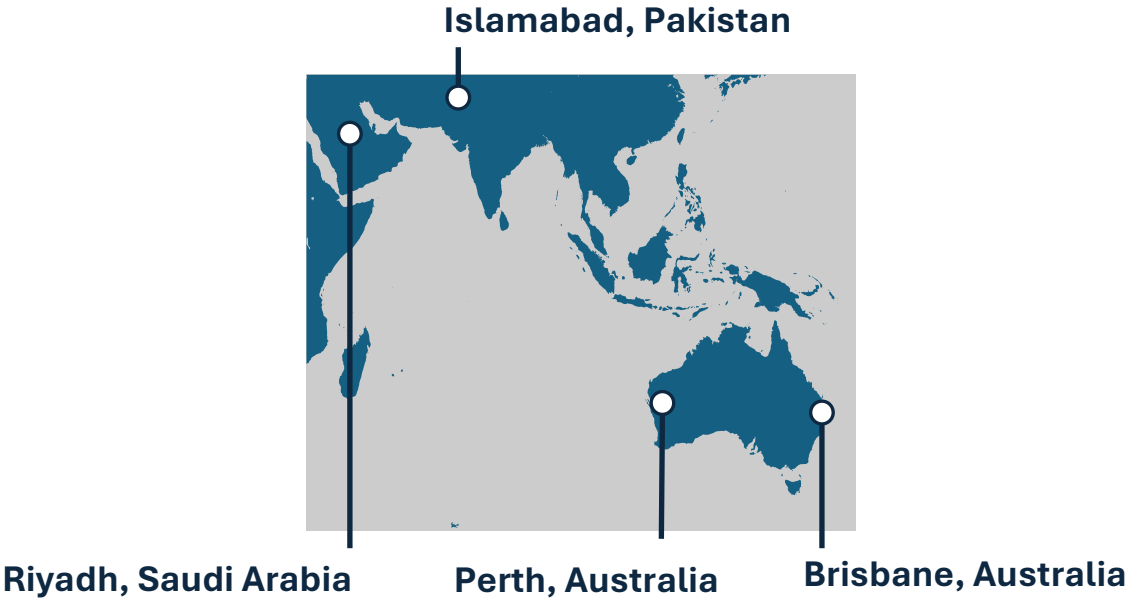
Jana Bader

KSA Partner, Newstead Connect

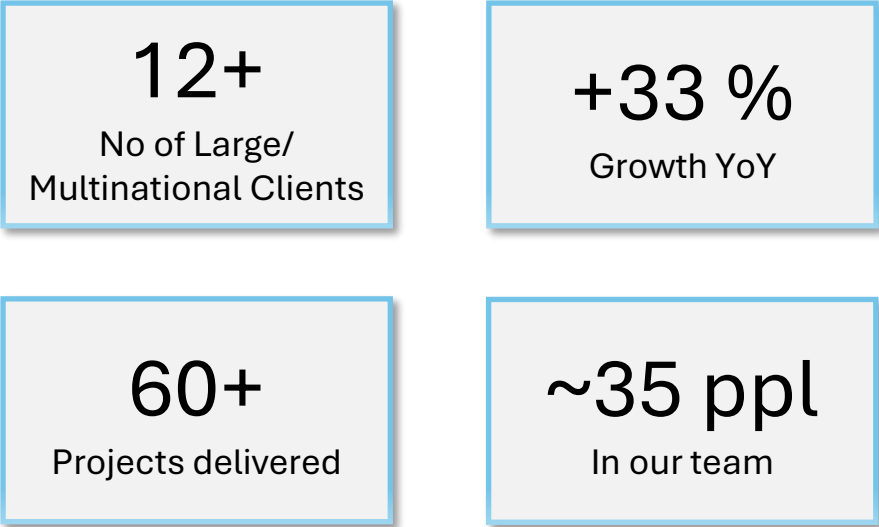


# Who we are?

## Our geographical presence



## Key figures



## Our Journey

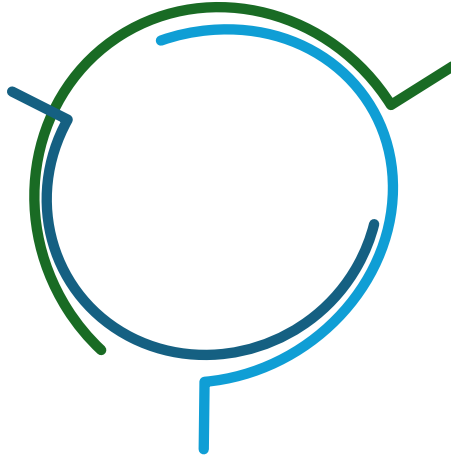


# What we do?

We provide end-to-end, holistic, and next-generation program controls solutions to our partners

## Integrated Project Controls

- Planning & Scheduling
- Cost Management
- Risk Management
- Performance Management



## Transformation & PMOs

- PMO Design & Deployment
- Governance & Framework Development
- Process Improvement
- Organization Change Management



## Data & Business Intelligence

- Data Lake & Warehousing
- Data Analytics & Visualization
- Dynamic Reporting

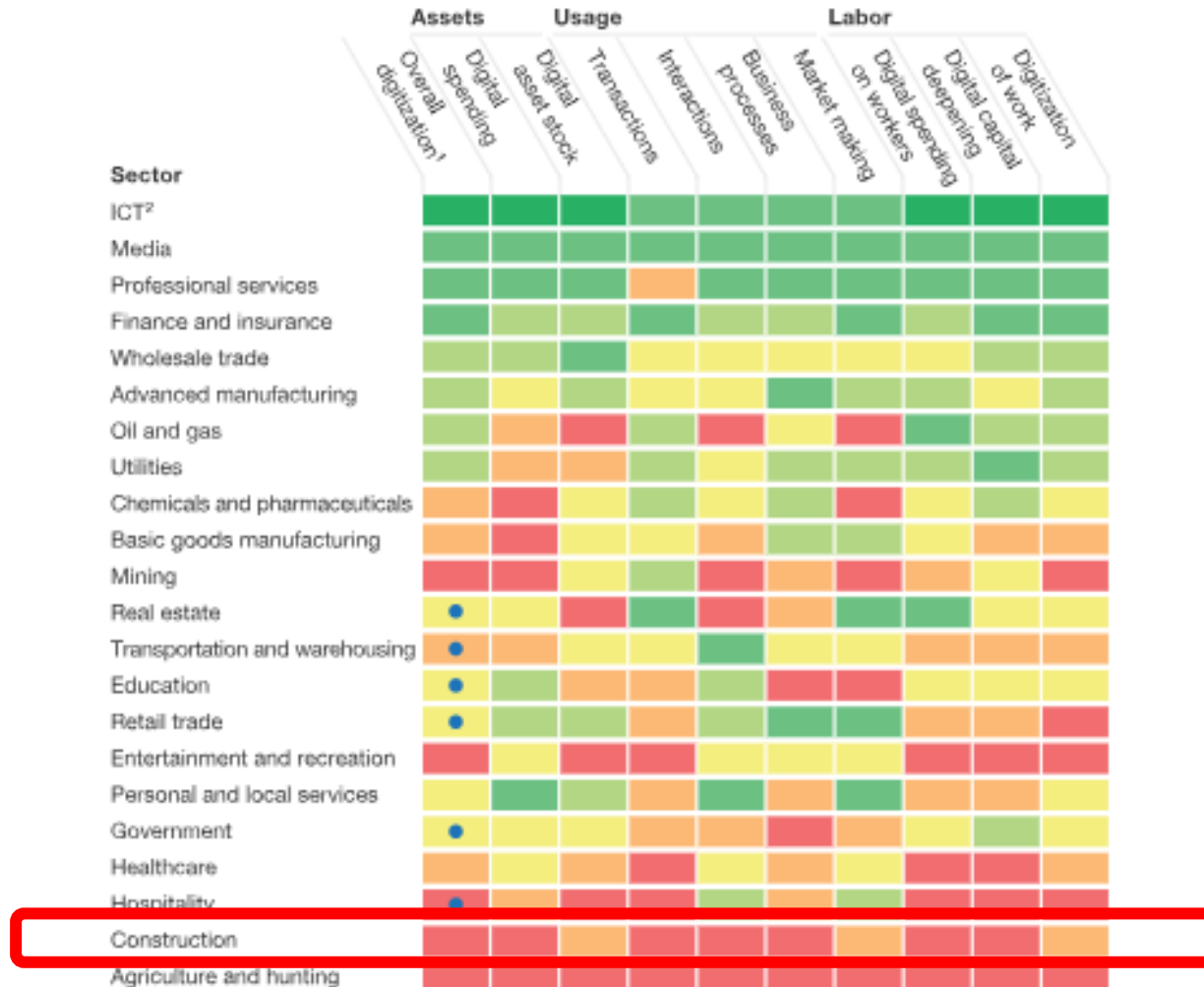
# **The Problem with Traditional PMOs**

# Construction industry is among the least digitized

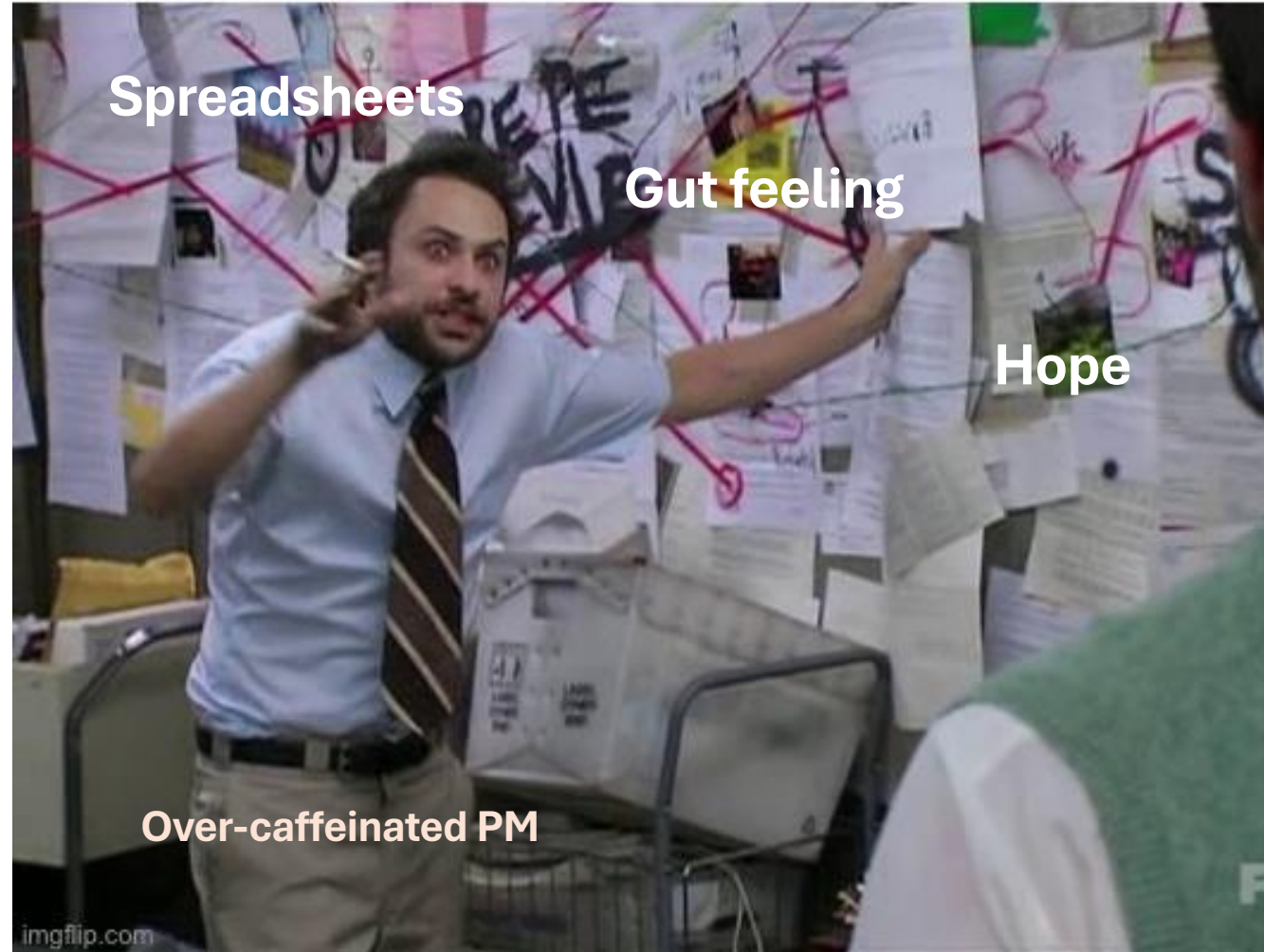
McKinsey Global Institute industry digitization index; 2015 or latest available data

Relatively low digitization Relatively high digitization

● Digital leaders within relatively undigitized sectors



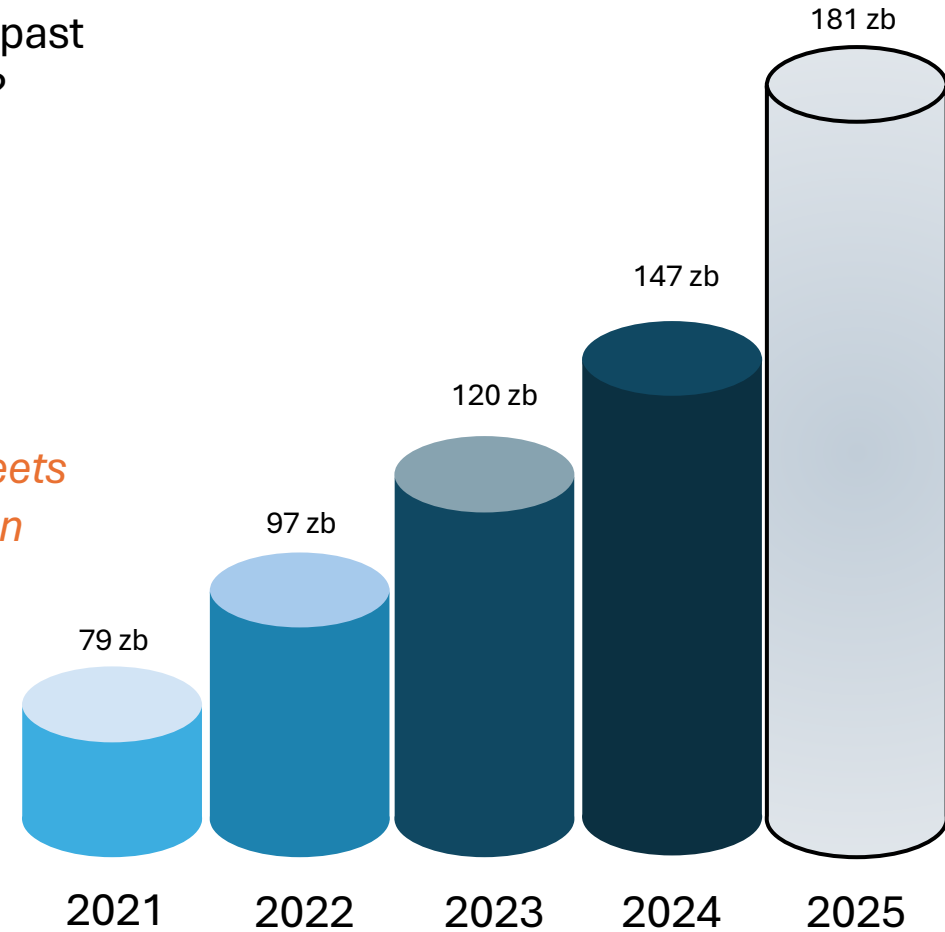
# Yet....our “Real-time” Project Dashboard looks like this



# The Growth in Data creation over time

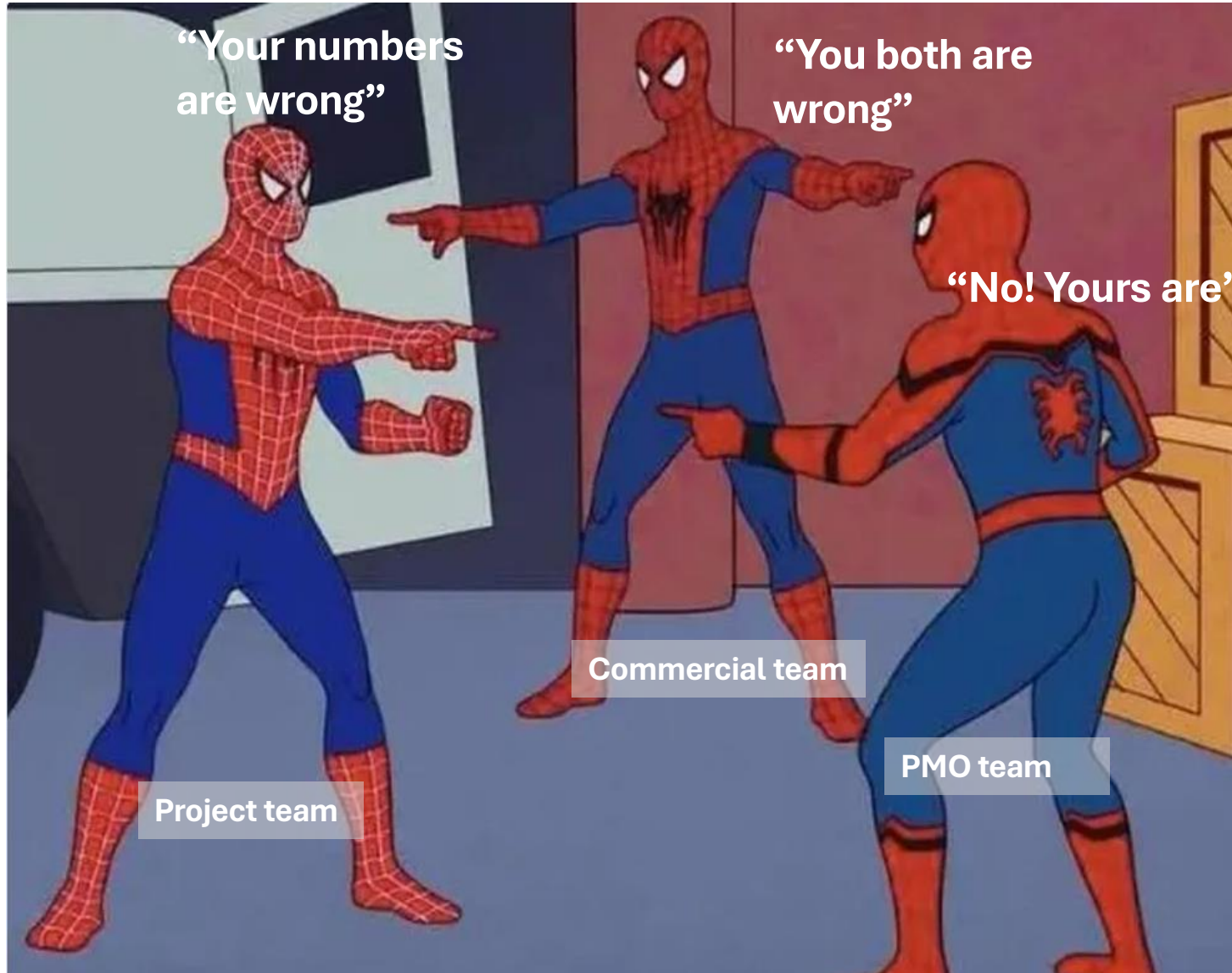
- Did you know that more digital data has been generated in the past **24 months** than in the entire history of humanity before 2020?
- The amount of data created daily in 2024 is 402.74 Million Terabytes. Accounts to 147 Zettabytes as of 2024.

*“Yet, most PMO’s and Programs are still operating with Excel sheets and disconnected reports—tools designed before the iPhone even existed!”*





# PMO Paradox – Data Exists, But It’s a Mess





# You're in a PMO meeting, discussing why a project missed its budget or baseline.

**Someone Asks:**

*Didn't we face this  
issue in another project?  
Can we use that data to  
understand what  
went wrong?*



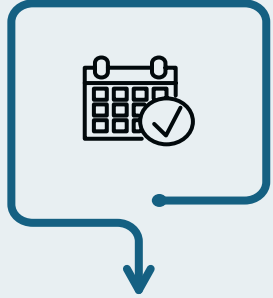
*.....Awkward silence*

*Scrambling through  
spreadsheets, reports,  
and emails.*



**This isn't just frustrating—it's costly.**

# Common data sources on Project



## Schedules

Typically, in Primavera P6 or MS Project.



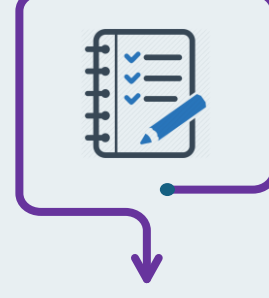
## Cost Trackers

Often maintained in Excel or ERP systems.



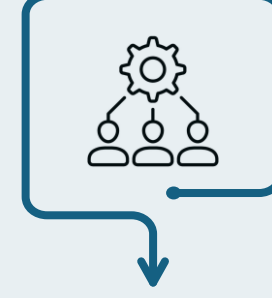
## Risk Registers

Lists of risks, their impact, and mitigation plans.



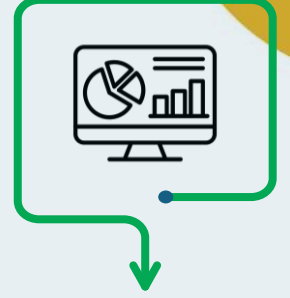
## Action Items

Tracked in task management tools or meeting minutes.



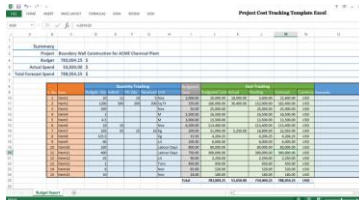
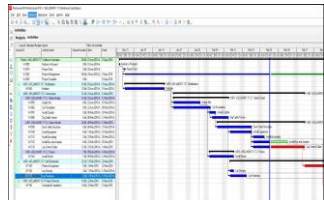
## Resource Plans

Spreadsheets or dedicated software.



## Dashboards

Multiple formats without integration.

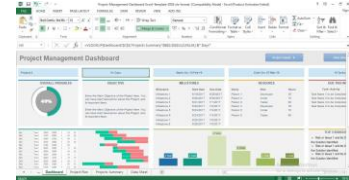


**Risk Register**  
Project name: Common project risks

ID	Date raised	Risk description	Likelihood of the risk occurring	Impact if the risk occurs	Severity	Owner	Mitigating action
1	2017-01-01	Project resources and need to not work defined	High	High	High	Project Sponsor	Complete a business case if not already provided and ensure purpose is well defined on Project Charter and PD.
2	2017-01-01	Project design and deliverable definition is incomplete	High	High	High	Project Sponsor	Define the scope in detail via design workshops with input from subject matter experts.
3	2017-01-01	Project schedule is not clearly defined or understood	Medium	Medium	Medium	Project Manager	Hold scheduling workshops with the project team so they understand the plan and likelihood to exceed tasks to be reduced.

**ACTION LIST**  
With JAM Ranking (List de H. Abandon, 3/2/17)

Activity	VALUE	DIFFICULTY	JAM RANK	OWNER	AS SIGNED
Task 1 - JAM Do it	HIGH	EASY	6	PM	5/2/17
Task 2 - JAM Do it	HIGH	MEDIUM	5	PM	5/2/17
Task 4 - JAM Do it	MEDIUM	EASY	4	PM	5/2/17
Task 5 - JAM Do it	MEDIUM	MEDIUM	4	PM	5/2/17
Task 7 - JAM Do it	LOW	EASY	4	PM	5/2/17
Task 8 - JAM Do it	MEDIUM	MEDIUM	3	PM	5/2/17
Task 9 - JAM Do it	LOW	MEDIUM	2	PM	5/2/17



Data Silo



Data Silo



Data Silo



Data Silo



Data Silo



Data Silo

# **Enter the Data-Driven MVP MO**

# What is MVPMO?

Many legacy PMOs are designed to tick a box, and they don't add value across all key attributes needed to make the PMO valuable to the leadership team. Deploying a **Minimum Viable PMO (MVPMO)** increases maturity on each key attribute and allows for rapid iterations and improvement.

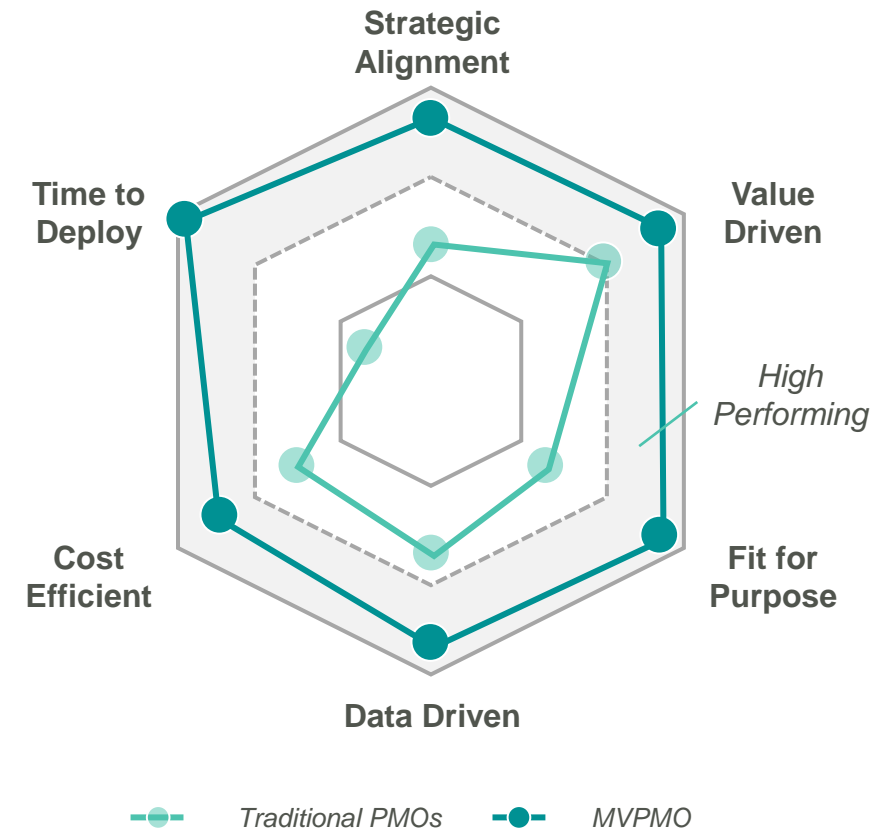
## Traditional PMOs

- Focused on a **limited scope** without regard for the **wider business strategy** or impacts
- **Lacks transparency** of 'how' value is being delivered and whether the **benefits are being realized**
- PMO runs a '**second set of books**' that creates a reconciliation nightmare for the business
- Often **over-engineered**, which drains business resources into low value-add task saturation
- **Reporting is mostly lagging indicators**, with insights unable to provide a meaningful forward position
- Often reliant on **specialized software**, requiring the **embedment of consulting** teams to run the engine room

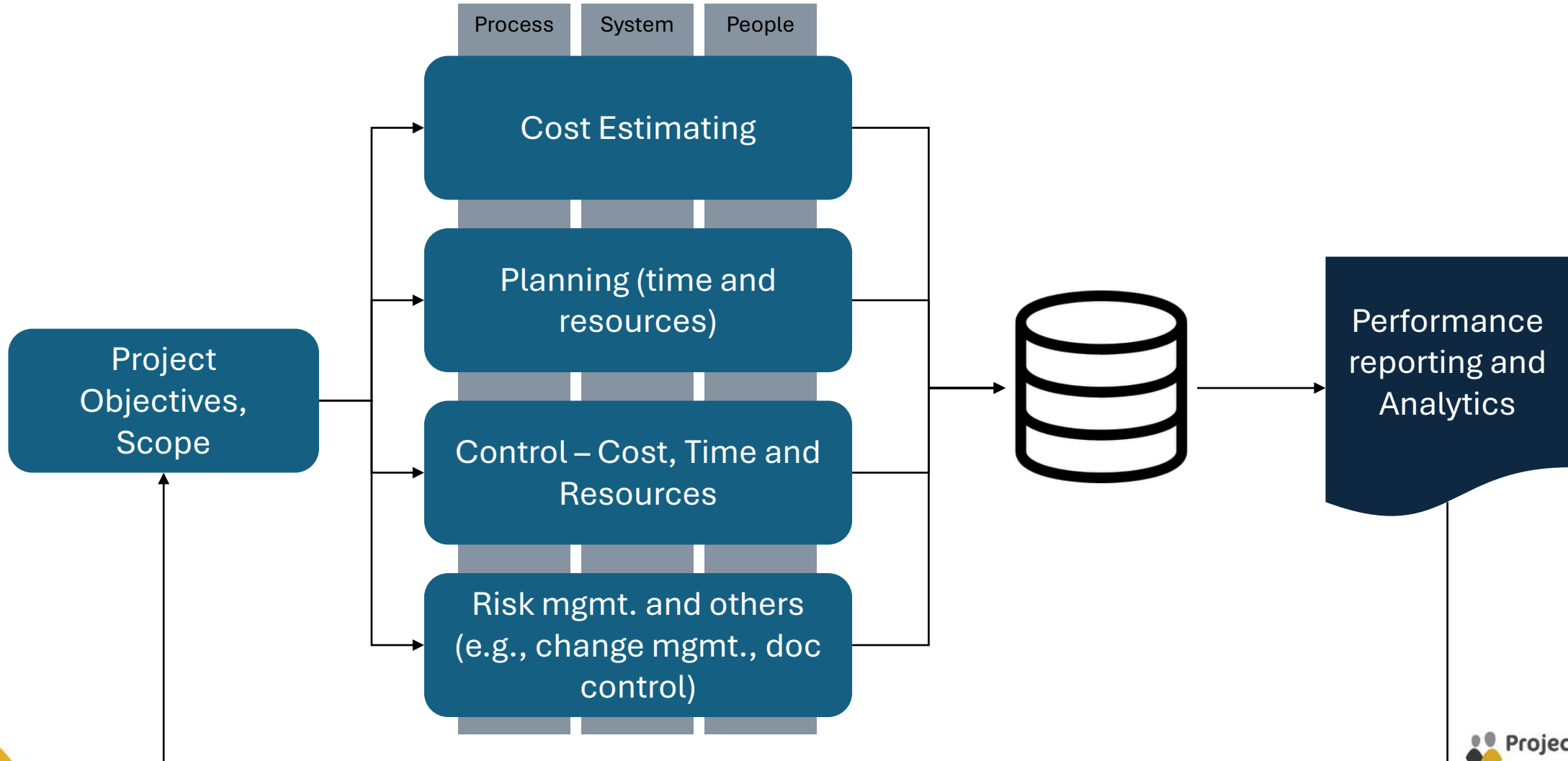
## MVPMO™

- **PMO's objectives & goals are mapped to the underlying business strategy** through measurable metrics
- Designed as a **strategic delivery tool** to **dynamically focus on the necessary interconnects** across the business's agenda, initiatives & people to **maximise and accelerate value delivery**
- **Integrates value delivery** into existing business reporting, so that the value narrative is **consistent & visible throughout the business**
- **Rapid insights** through automated processes that leverage BI & analytics to inform leading indicators to support executive choices as reality intrudes the plan
- **Leaner & faster** to deploy, achieving more with less resources

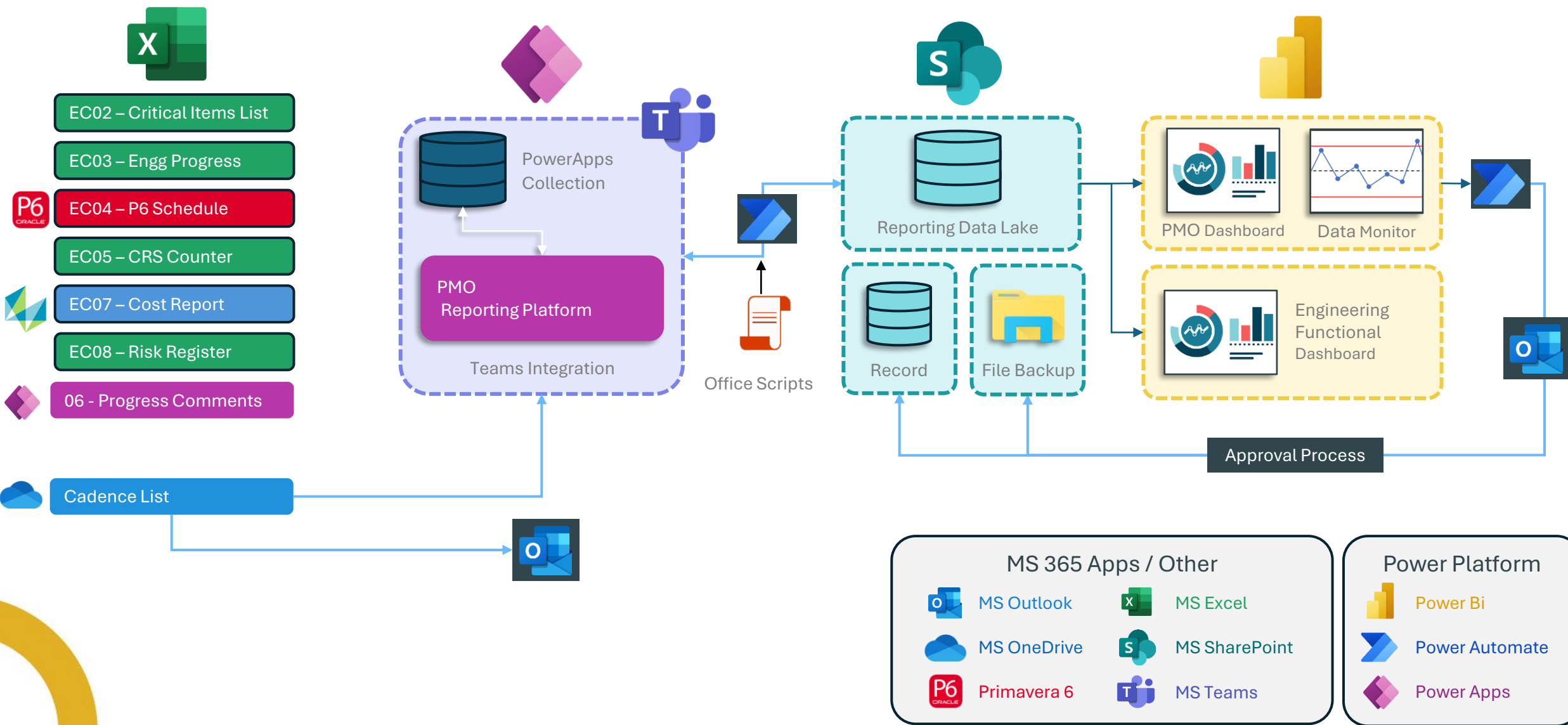
## MVPMO™ Maturity Radar



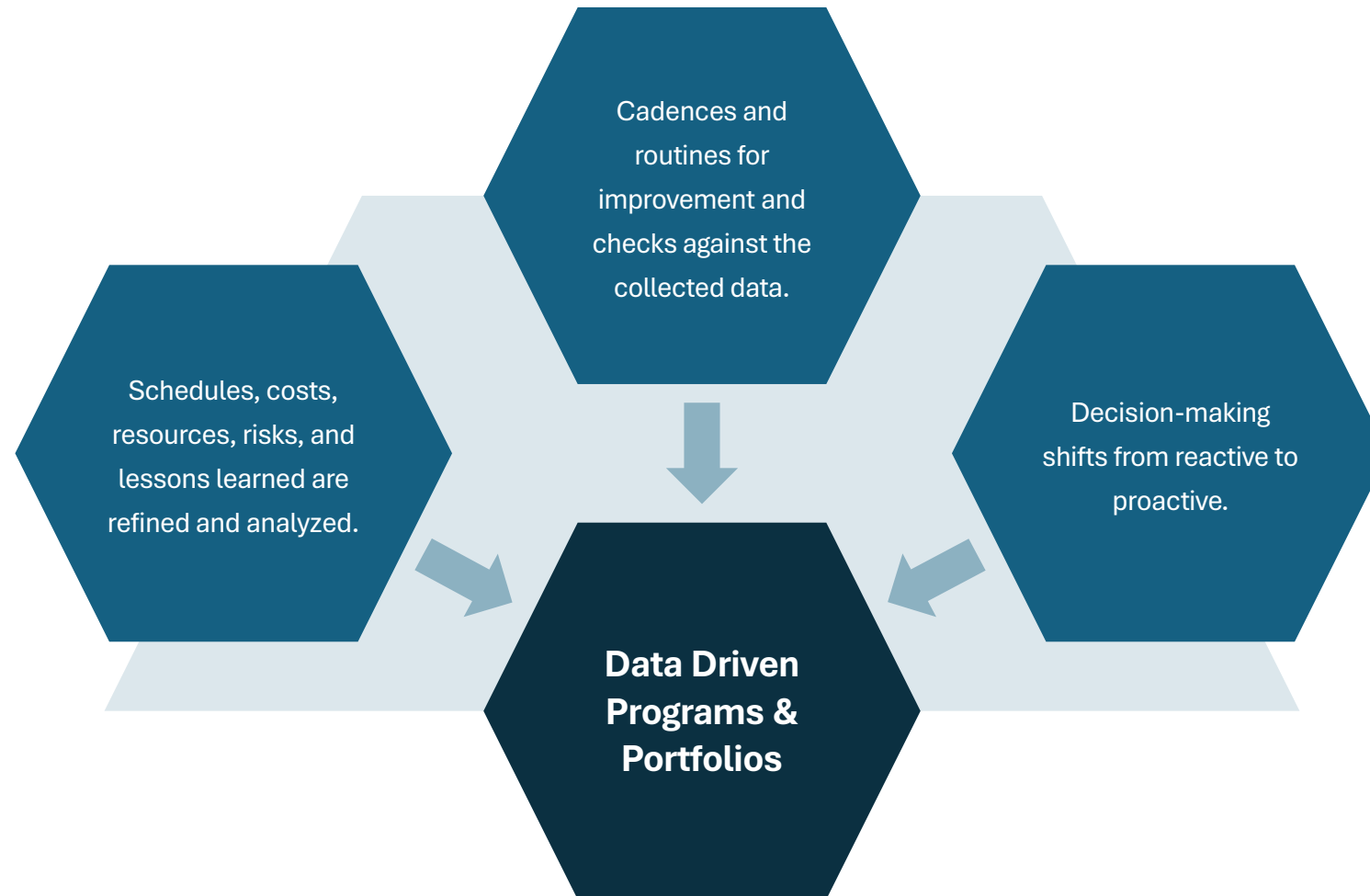
# What does Data-driven mean in MVPMO



# Example Architecture



# MVPMO - A data driven Focused PMO transformed into an intelligence hub





# Case Studies

# Case Study - MVPMO: Data-driven PMO for a Tier 1 Construction Company

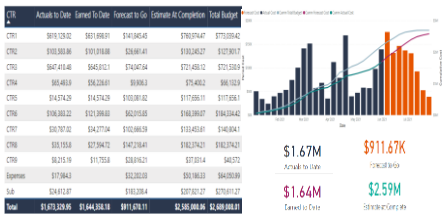
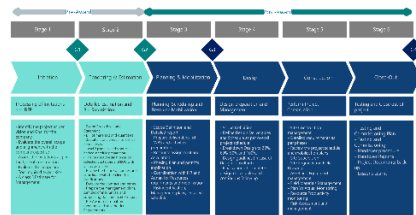
## Client context

- A leading **construction company** undertaking **complex infrastructure projects** with strict deadlines & quality standards.
- Faced challenges in real-time resource allocation, cost forecasting, and progress analytics, leading to reactive decision-making

## Newstead Connect role

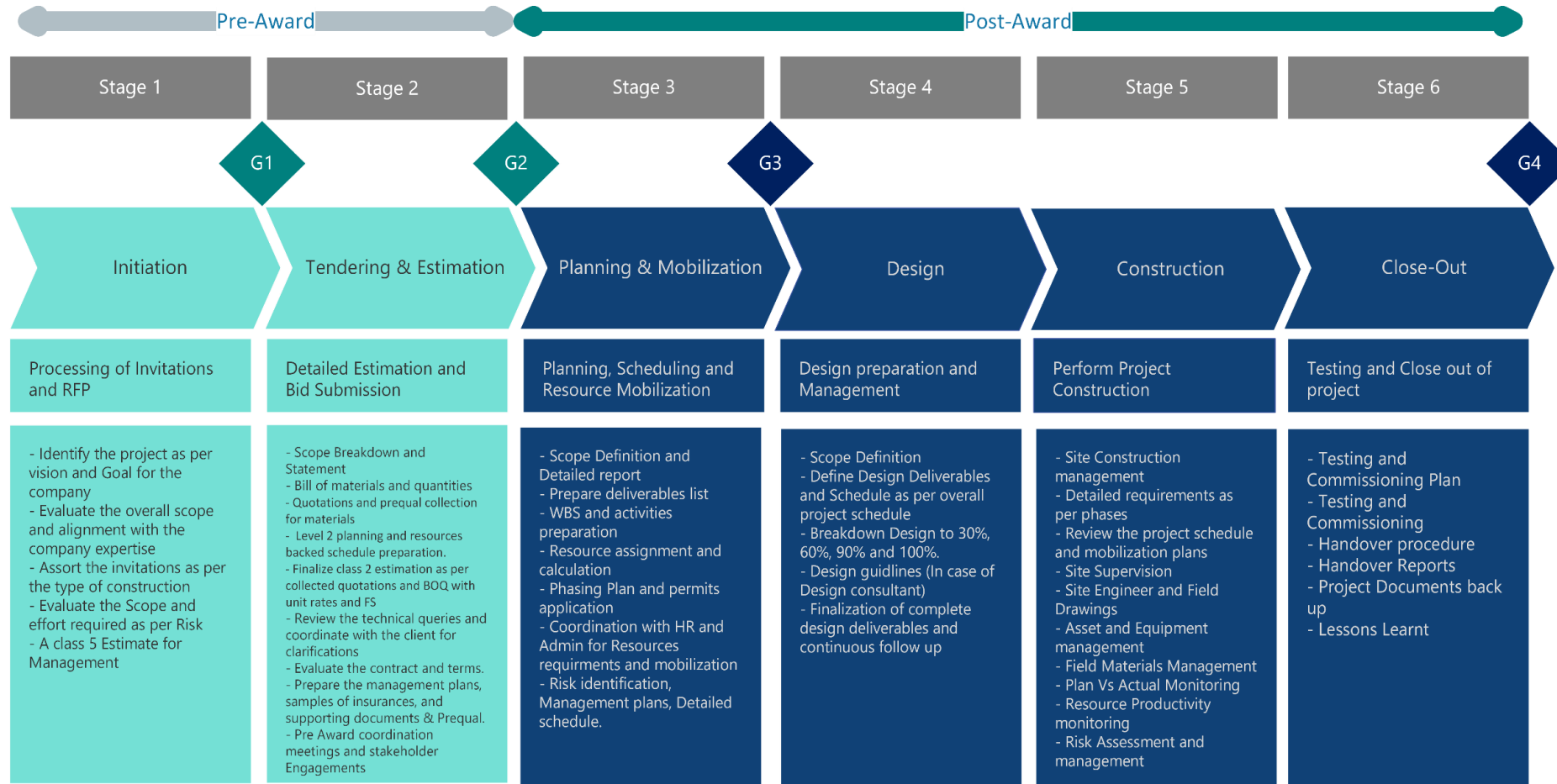
- **Standardized Project Lifecycle:** Developed and implemented a standardized project lifecycle framework to ensure consistency, quality, and efficiency across all projects.
- **Data Centric Project Control System:** Designed a robust project control framework to monitor schedule and cost, tracking budget adherence and providing insights into cost-saving opportunities for ongoing projects.
- **Real-Time Performance Analytics & Reporting:** Established centralized database that was connected to dashboards tracking resource utilization, schedule performance, safety compliance, and financial KPIs, improving transparency across all project stakeholders.

## Results



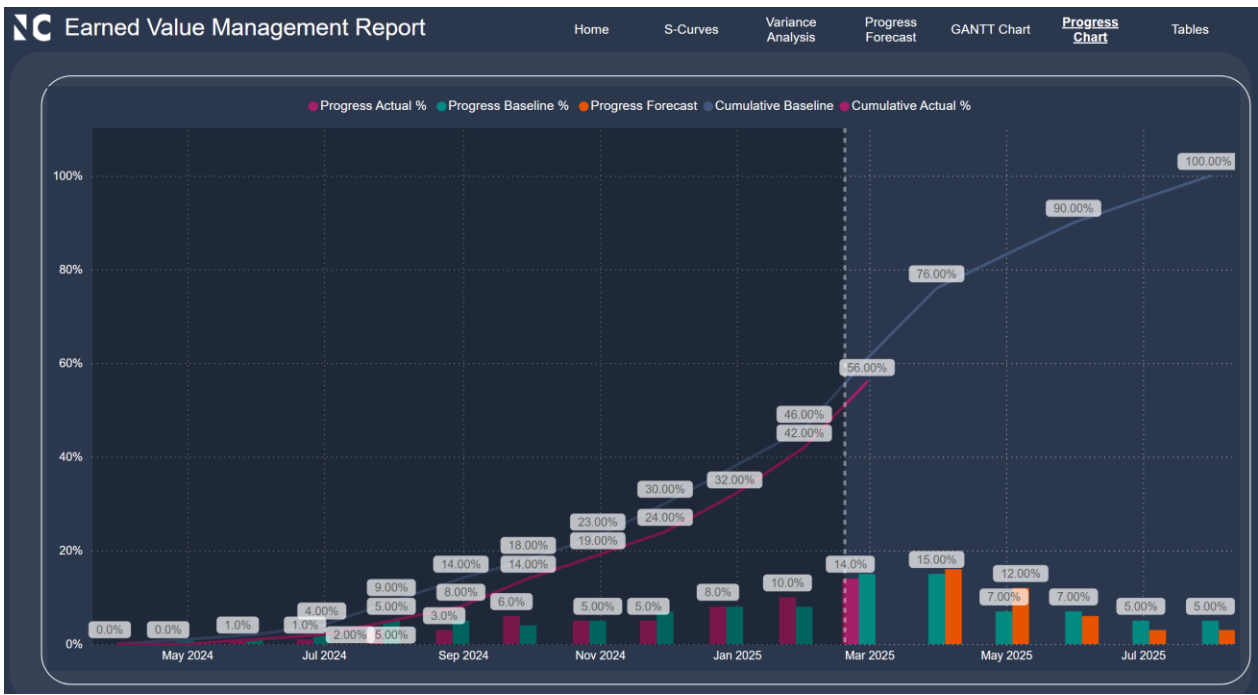
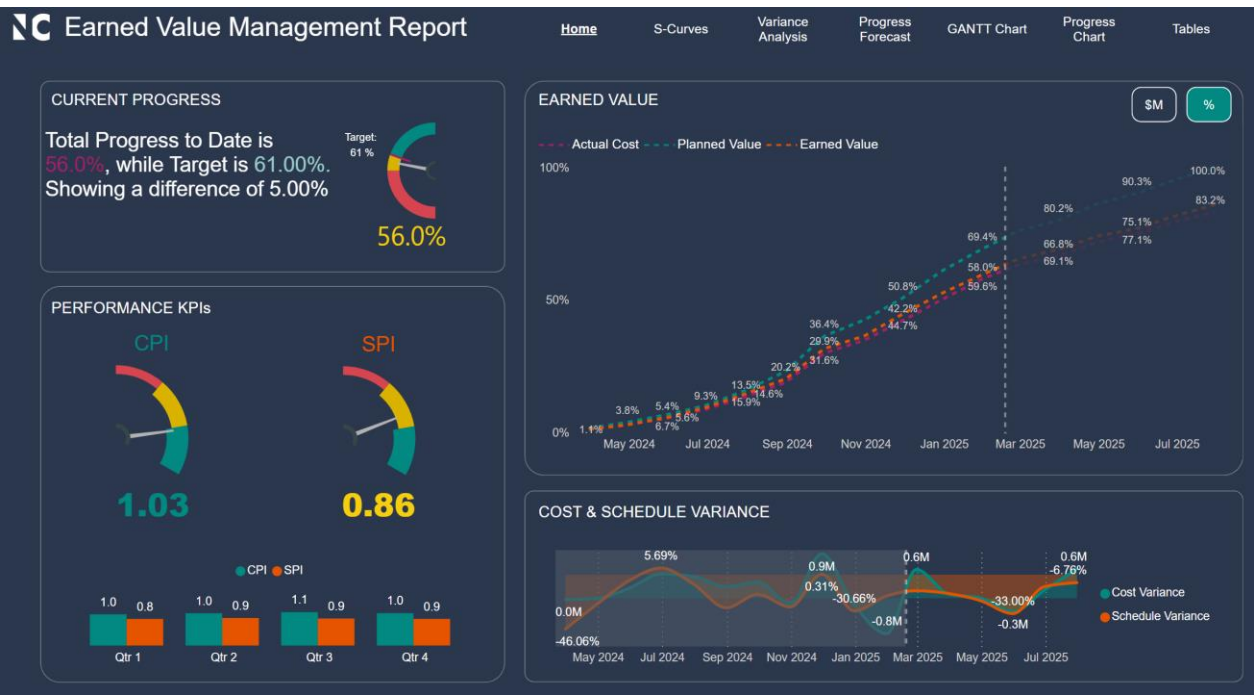
- Enabled the client to maintain a high standard of quality and efficiency across projects through a structured, standardized project lifecycle.
- Delivered a project control system that allowed for real-time budget tracking, supporting proactive financial management across projects.
- Implemented comprehensive reporting tools for clear project visibility, covering safety, cost, and progress, allowing client to track risks and performance effectively

# Standardized Project Lifecycle



**Legend:** G1 = Bid/no bid decision, G2 = Contract Award, G3 = Project Baseline Est., G4 = Close Out

# Integrated EVM Reporting



# Case Study - VaultConnect: Leveraging data to develop Estimation Benchmarking

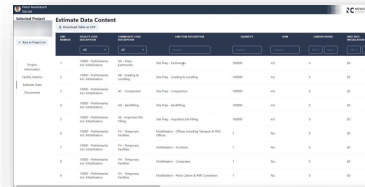
## Client context

- A **major mining company** in Australia managing multiple capital projects across **development** and **construction** phases.
- Faced challenges in **cost estimation consistency**, with estimators relying on **outdated spreadsheets** and varying assumptions.
- Needed a **data-driven benchmarking solution** to improve cost **accuracy**, **standardize** estimation processes, and ensure **competitiveness** in project budgeting.

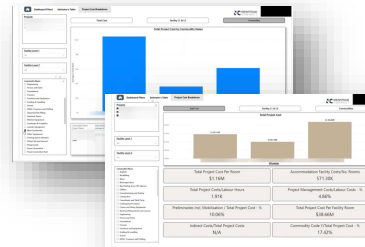
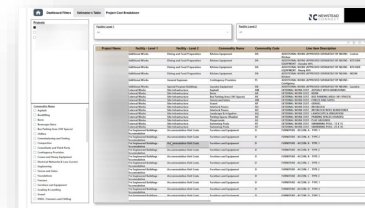
## Newstead Connect role

- **Cost & Productivity Benchmarking:** Developed a centralized VaultConnect database to capture and analyze historical cost, labor productivity, and material rates across different mine sites and project types.
- **Estimate Validation:** Integrated predictive analytics to compare new project estimates against historical benchmarks, flagging potential cost overruns before bid submission.
- **Real-Time Estimation Dashboards:** Designed Power BI-based dashboards that provide live visibility into unit costs, equipment productivity rates, and contractor performance, ensuring transparency across teams.

## Results



Project Name	Phase	Location	Start Date	End Date	Estimate	Actual	Variance
Project A	Development	Site A	2023-01-01	2023-06-30	\$1,200,000	\$1,150,000	\$50,000
Project B	Construction	Site B	2023-07-01	2023-12-31	\$800,000	\$820,000	-\$20,000
Project C	Development	Site C	2024-01-01	2024-06-30	\$1,500,000	\$1,480,000	\$20,000

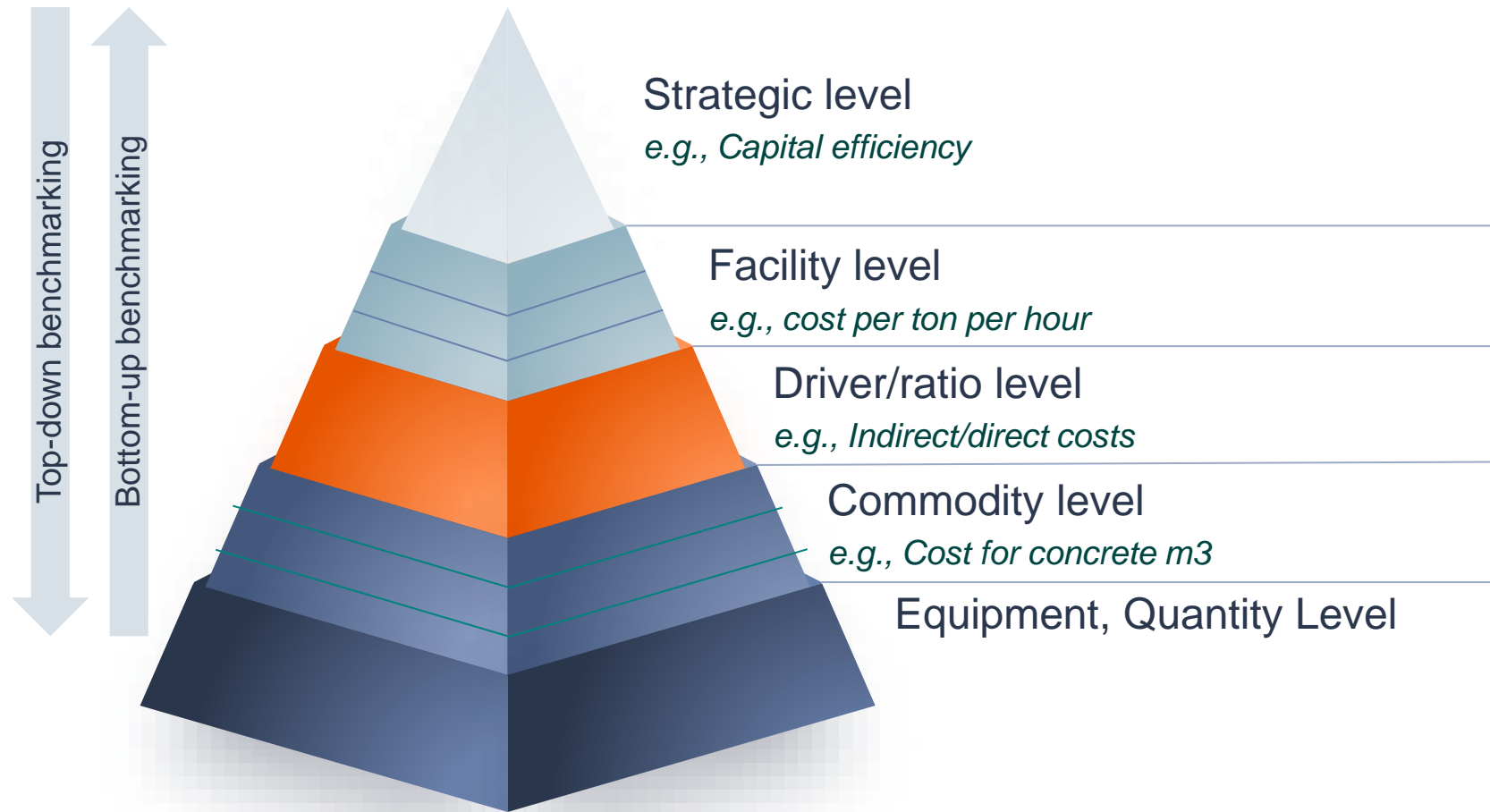



Category	Item	Unit	Rate	Quantity	Total Cost
Labor	Excavator Operator	Hour	\$120	100	\$12,000
	Drill Operator	Hour	\$150	80	\$12,000
	Welder	Hour	\$180	60	\$10,800
	Painter	Hour	\$90	120	\$10,800
Equipment	Excavator	Hour	\$200	50	\$10,000
	Drill	Hour	\$250	40	\$10,000
	Welder	Hour	\$300	30	\$9,000
	Painter	Hour	\$150	60	\$9,000

- **Standardized Estimation Framework:** Eliminated estimation inconsistencies, ensuring data-backed cost assumptions.
- **Significant Reduction in Cost Variability:** Enabled mining project teams to align estimates with actual historical performance.
- **Faster Estimation Turnaround:** Reduced manual estimation effort, allowing teams to focus on optimizing cost structures rather than chasing data..

# We designed a toolkit to provide the benchmarking capabilities we needed

## Benchmarking tool design



Our proposed toolkit allows benchmarking on all different levels enabling both **top-down** and **bottom-up** benchmarking, while remaining **flexible** for changes in business needs

It also supports the incorporation of both **internal** and **external** data for benchmarking, validated with **AI models**

It is designed to receive the **lowest level data** possible and build the higher metrics from there **Every time** that the toolkit process is used the database becomes **more powerful**

# The tool was designed to be used by Estimators but has reached multiple teams in the organization





# The benchmarking toolkit in action

Selected Project

Estimate Data Content

Download Table as CSV

LINE NUMBER	FACILITY CODE DESCRIPTION	COMMODITY CODE DESCRIPTION	LINE ITEM DESCRIPTION	QUANTITY	UOM	LABOUR HOURS	UNIT RATE INSTALLATION
1	10000 - Preliminaries Incl. Mobilisation	AA - Mass Earthworks	Site Prep - Earthworks	100000	m3	0	\$0
2	10000 - Preliminaries Incl. Mobilisation	AB - Grading & Levelling	Site Prep - Grading & Levelling	100000	m2	0	\$0
3	10000 - Preliminaries Incl. Mobilisation	AC - Compaction	Site Prep - Compaction	100000	m3	0	\$0
4	10000 - Preliminaries Incl. Mobilisation	AD - Backfilling	Site Prep - Backfilling	100000	m3	0	\$0
5	10000 - Preliminaries Incl. Mobilisation	AE - Imported Site Filling	Site Prep - Imported Soil Filling	100000	m3	0	\$0
6	10000 - Preliminaries Incl. Mobilisation	YH - Temporary Facilities	Mobilisation - Offices including Tamarak & PHAC Offices	1	No.	0	\$0
7	10000 - Preliminaries Incl. Mobilisation	YH - Temporary Facilities	Mobilisation - Furniture	1	No.	0	\$0
8	10000 - Preliminaries Incl. Mobilisation	YH - Temporary Facilities	Mobilisation - Computers	1	No.	0	\$0
9	10000 - Preliminaries Incl. Mobilisation	YH - Temporary Facilities	Mobilisation - Porta Cabins & 40ft Containers	1	No.	0	\$0

Dashboard Filters

Estimator's Table

Project Cost Breakdown

Projects

Facility Level 1

All

Facility Level 2

All

Commodity Filter

Asphalt

Builtup

Concrete

Excavation

Foundation

Formwork

General

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

Gravel

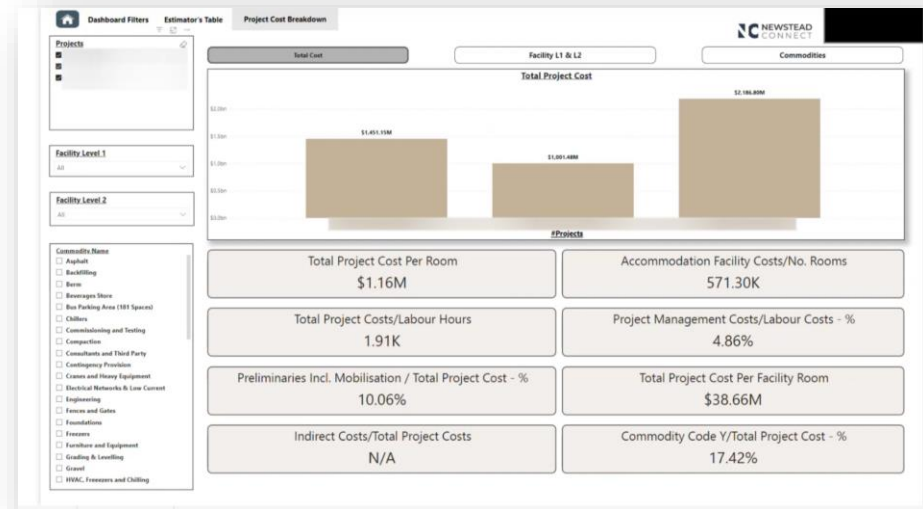
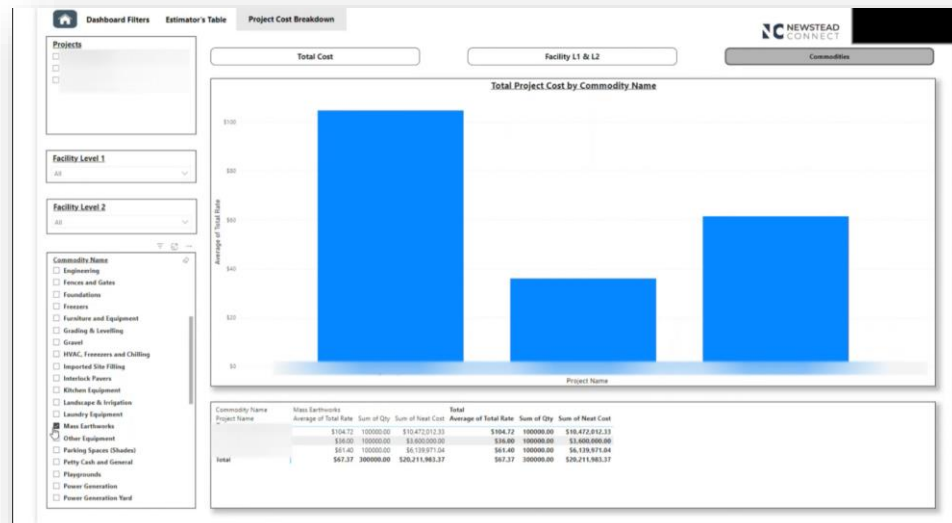
Gravel

Gravel

Gravel

Gravel

<



# Why is data even more important these days?

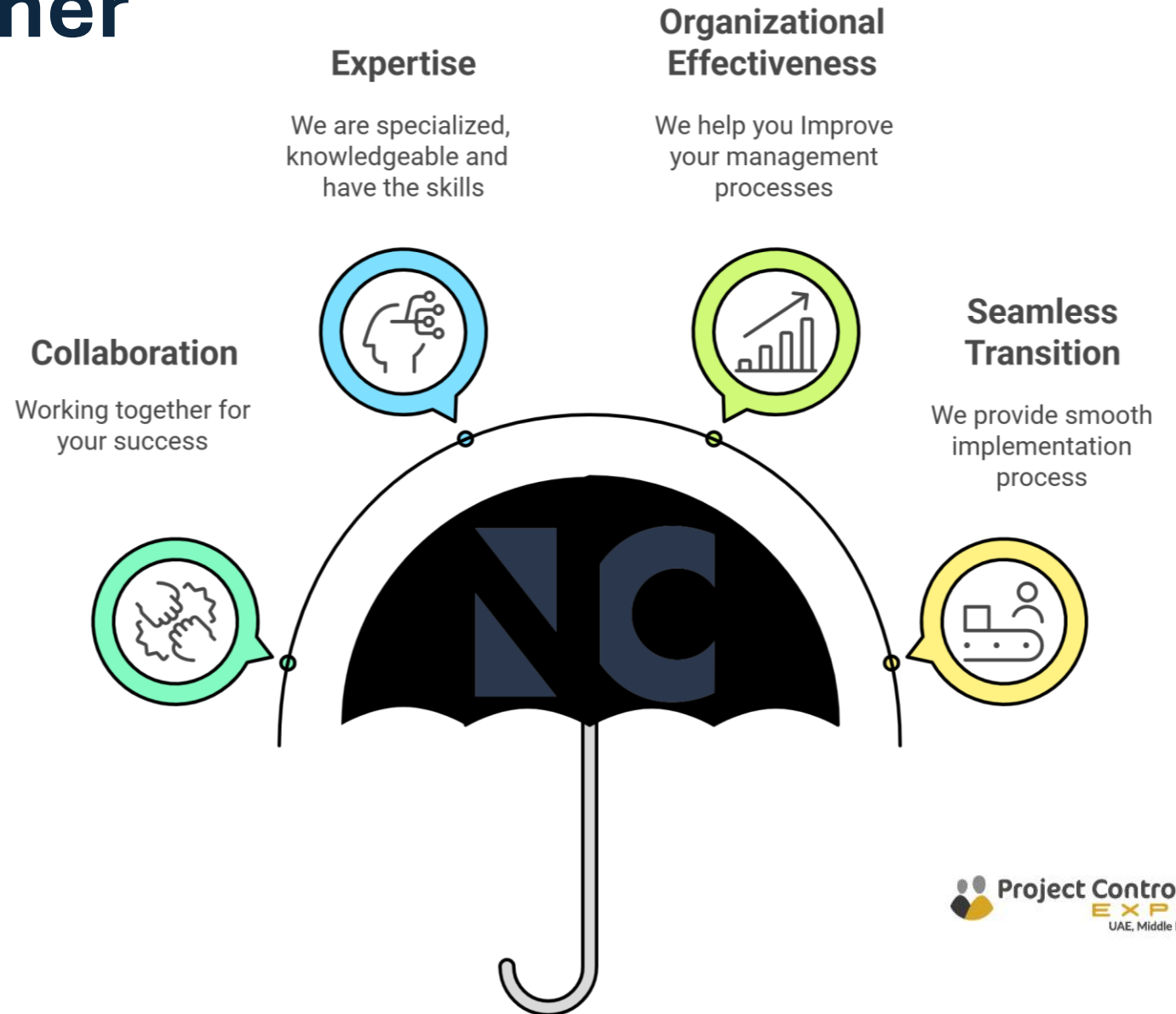
Every software company in 2024:

*"We've added AI!"*



# Newstead Connect: Your MVPMO Implementation Partner

- **Collaboration** – We work together with you to help you succeeded.
- **Expertise** – We are specialized, knowledgeable, and skilled experts.
- **Organizational Effectiveness** – We help improve your PMO management processes.
- **Seamless Transition** – We provide a smooth implementation process of DMO.



The force of data, harness you must.



Without it its lost, the PMO will rust.



# Newstead Connect is positioned well to support Project Organizations

## Why we are the right partner

- Proven expertise in developing real-time portfolio management system tailored to client's needs
- Deep experience in program management controls for diverse portfolios, enabling data-driven decision-making and portfolio optimization
- Demonstrate a strong understanding of Development and Construction Lifecycle
- Strategic presence in Saudi Arabia & Australia providing localized insights and global best practices

For inquiries or further information, please contact:



Hasan Riaz  
Managing Director, KSA  
hasan@newstead.co



Jana Bader  
KSA Business Partner  
jana.bader@newstead.co



Anas Al Madani  
Consultant  
Anas.almadani@newstead.co

# Newstead Connect is positioned well to support Project Organizations

## Why we are the right partner

- Proven expertise in developing real-time portfolio management system tailored to client's needs
- Deep experience in program management controls for diverse portfolios, enabling data-driven decision-making and portfolio optimization
- Demonstrate a strong understanding of Development and Construction Lifecycle
- Strategic presence in Saudi Arabia & Australia providing localized insights and global best practices

For inquiries or further information, please contact:



Hasan Riaz  
Managing Director, KSA  
hasan@newstead.co



Jana Bader  
KSA Business Partner  
jana.bader@newstead.co



Anas Al Madani  
Consultant  
Anas.almadani@newstead.co

