Program Controls Engine

Case Study

Project Controls EXPO
London, UK

Agenda

- Welcome and Introductions
- PgCE Concepts
- Case Study Program Overview
- PgCE Implementation Process
- PgCE Setup and Operational Considerations
- PgCE Dashboards
- Q&A

About us

- Mike Laws is a Programme Manager, Chartered Management Accountant and Knowledge Management enthusiast. I've led teams across the controls functions of major Programs for the last fifteen years, in Defence, Transportation and Rail.

- Prior to Joining AECOM, I was Head of Core Controls (cost, risk and schedule) for the Palace of Westminster Restoration and Renewal Programme, with Particular Responsibility for informing, controlling and communicating the delivery cost and schedule risk estimates.

About us

Jeff Quantrill is Head of Account Management (EMEA) at InEight

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Introduction to PgCE Controls Engine

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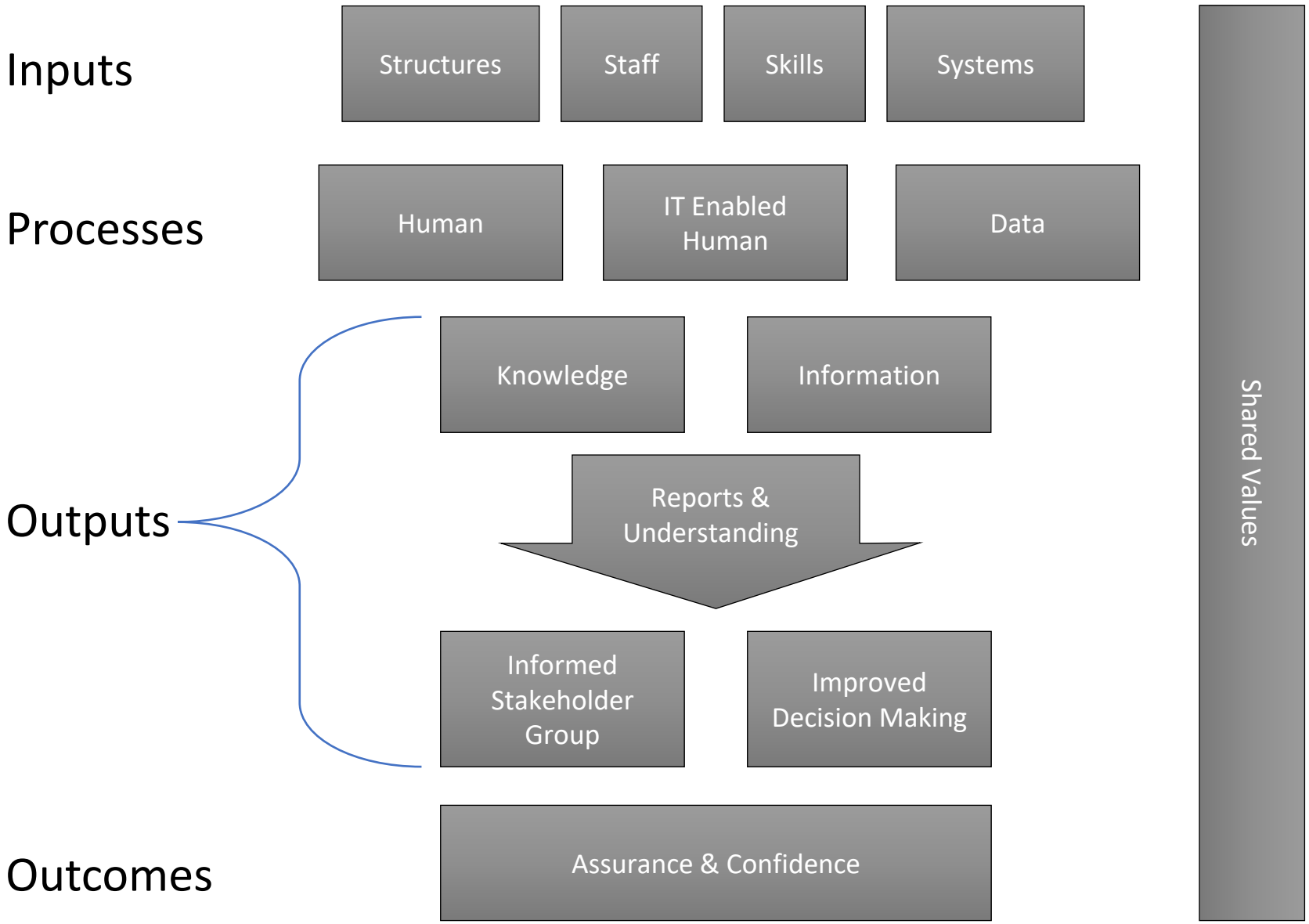
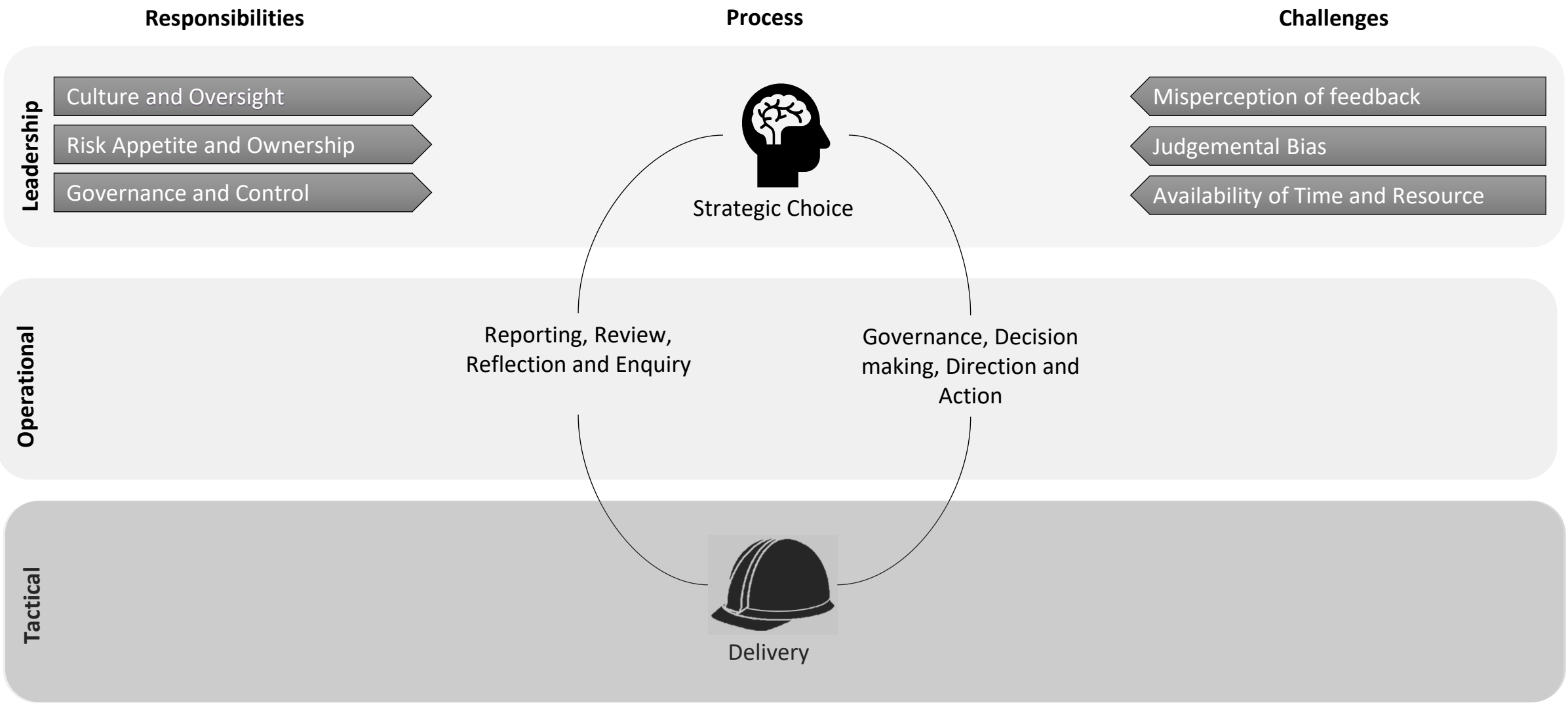
Enablers of Effective Control



- **Program Controls in the Organisational Context**



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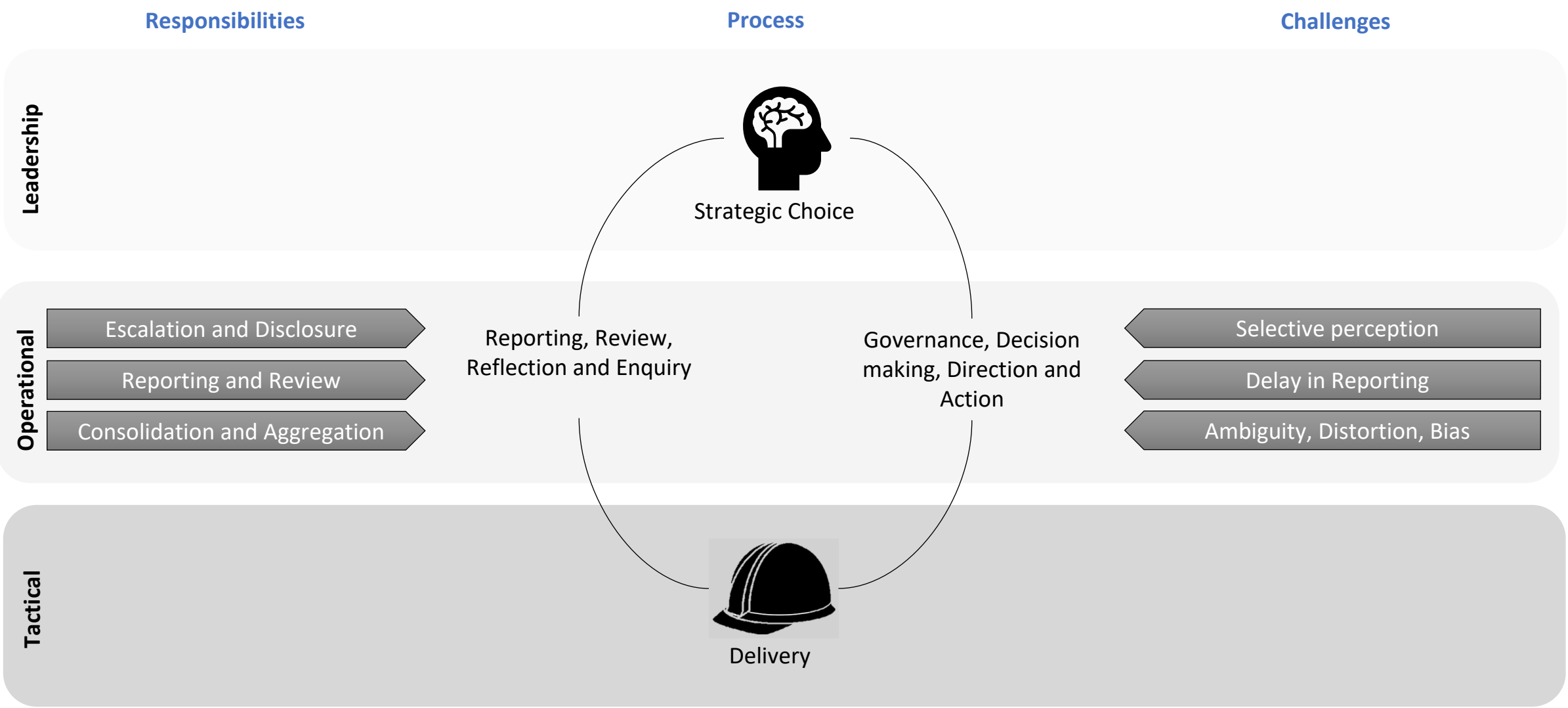

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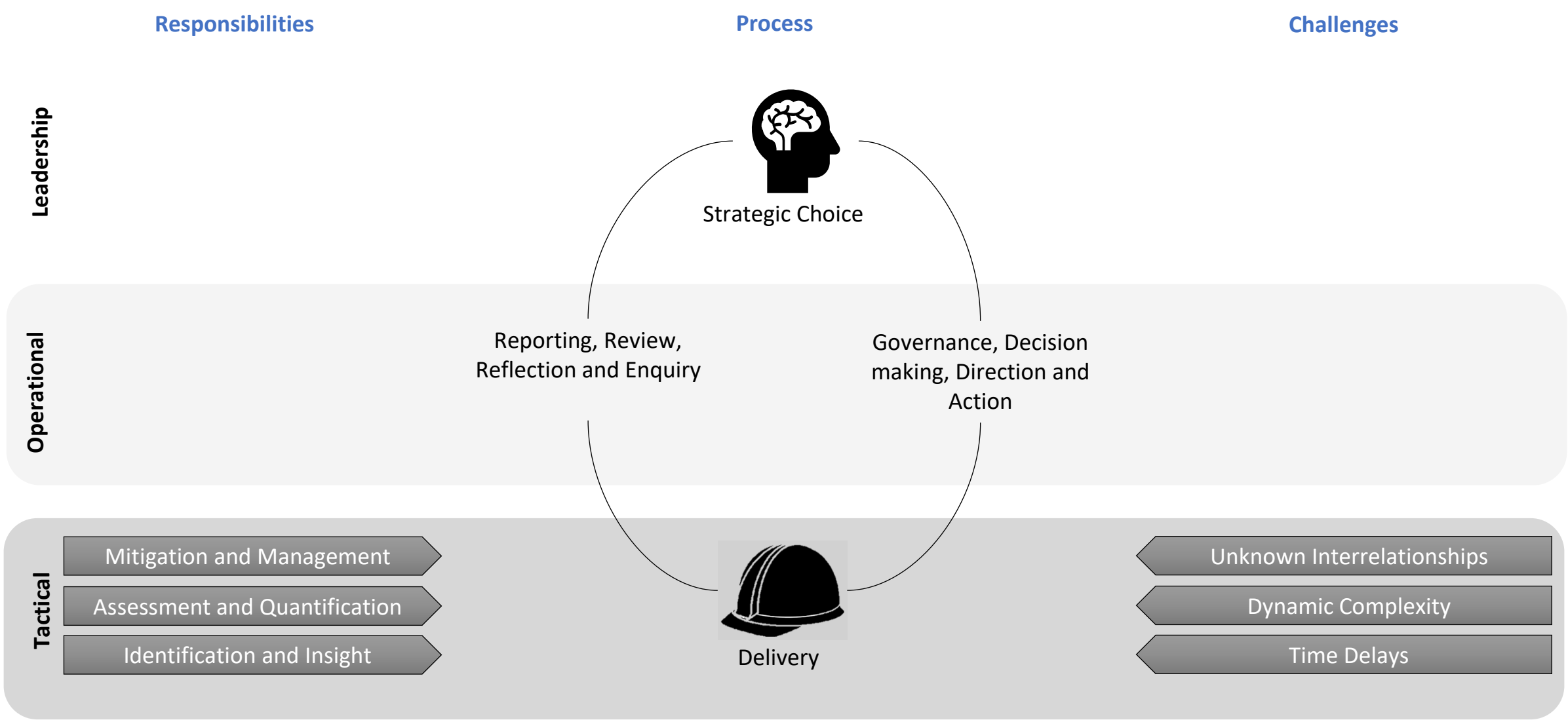

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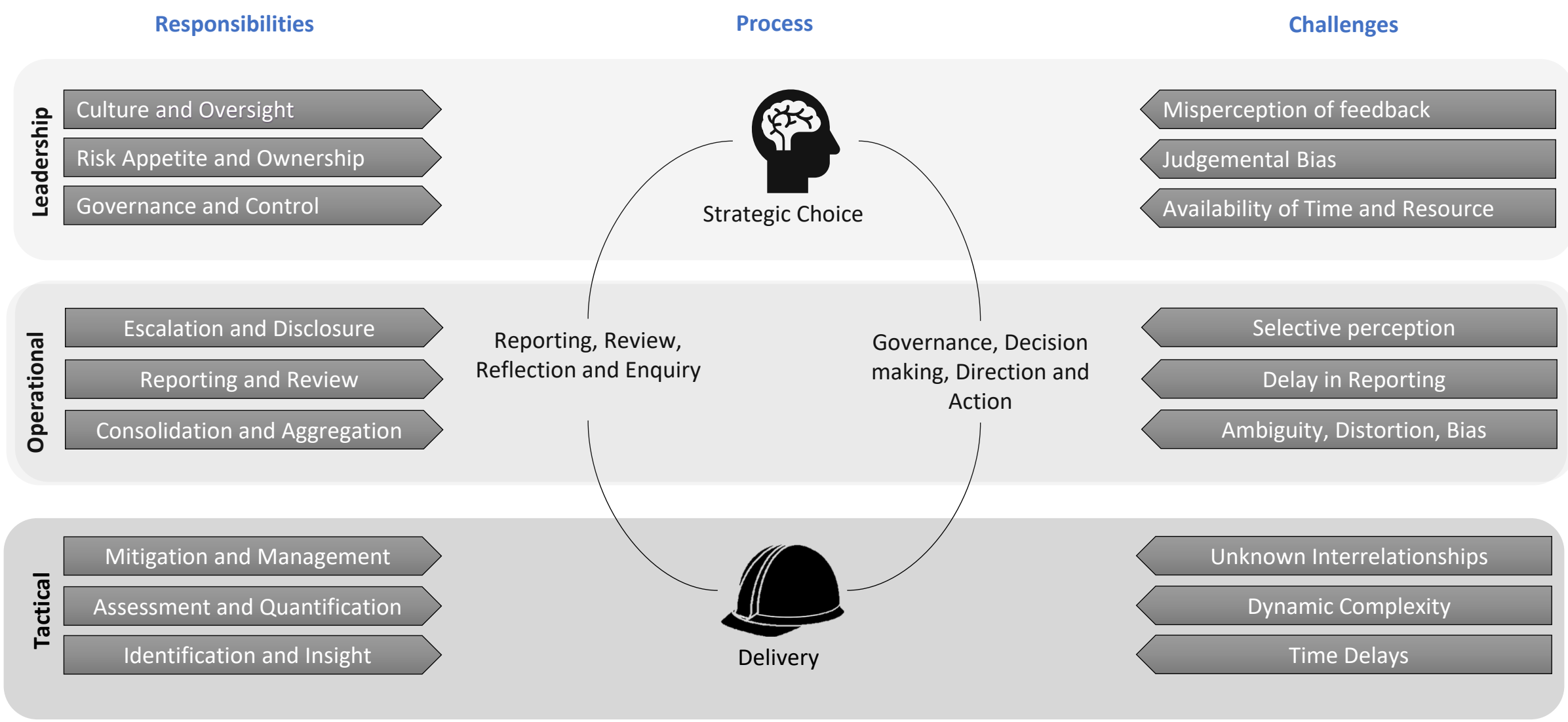
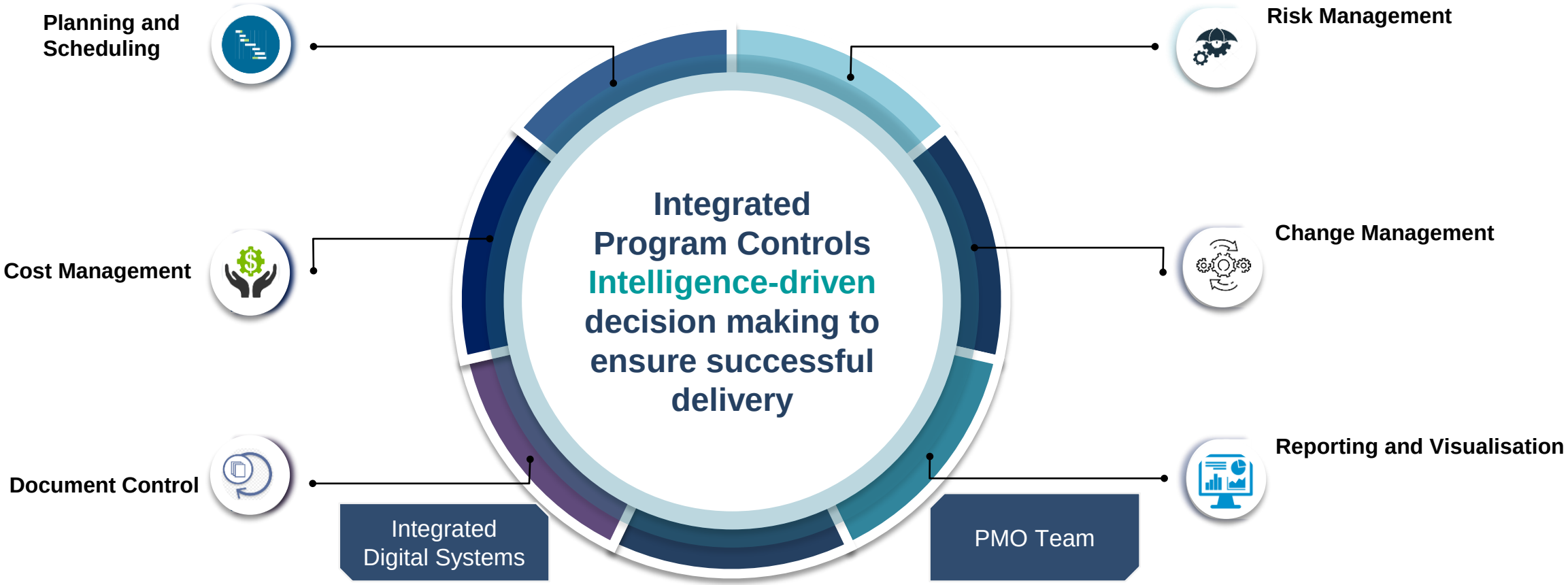


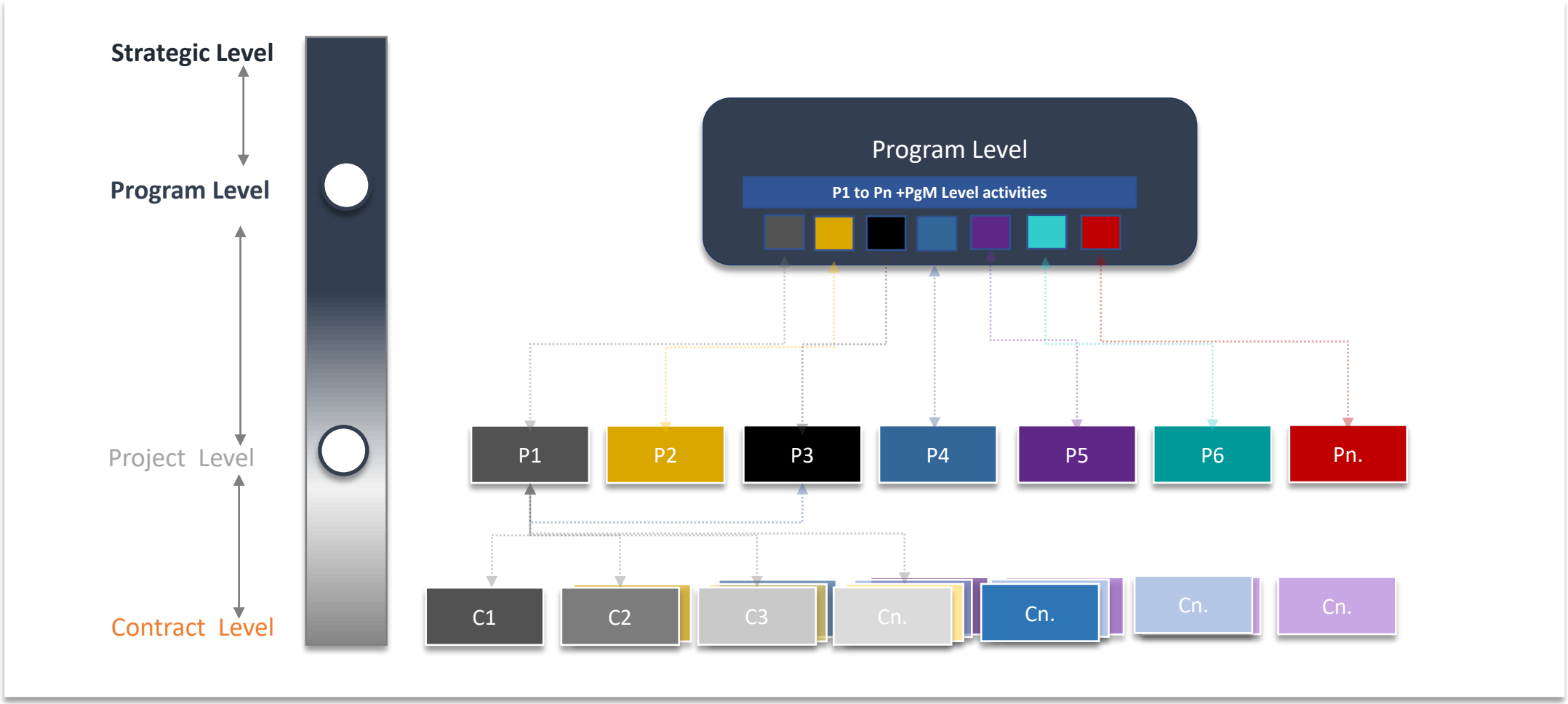
Integrated Program Controls and Digital Framework



Guarantee visibility to all facets of program delivery

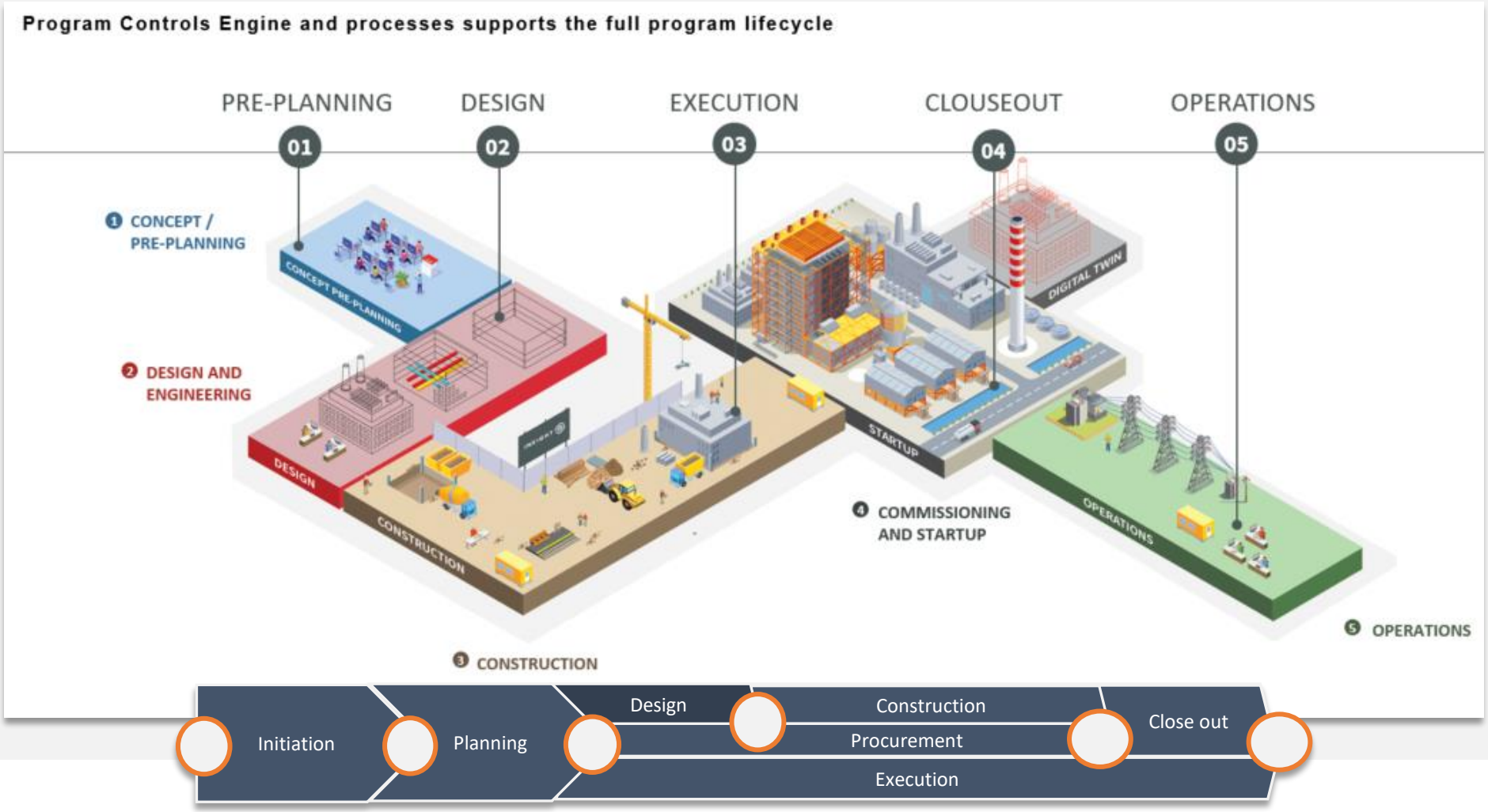
• Program Controls Engine

Seamless data flow through all levels of controls



• Program Controls Engine

Seamless flow of Data throughout Project Lifecycle



Functional Data Integration:

Integration of Controls and Management attributes

Case Study Program Overview

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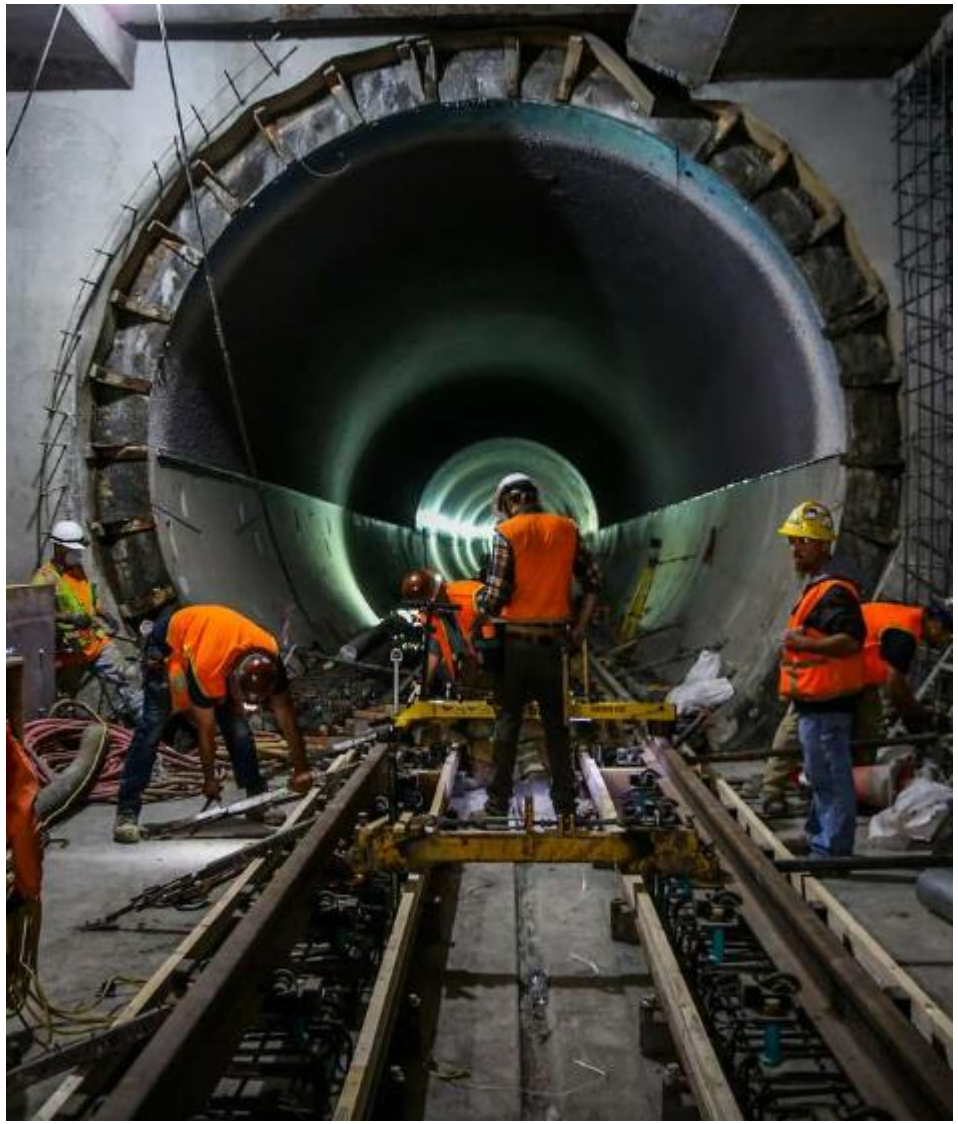
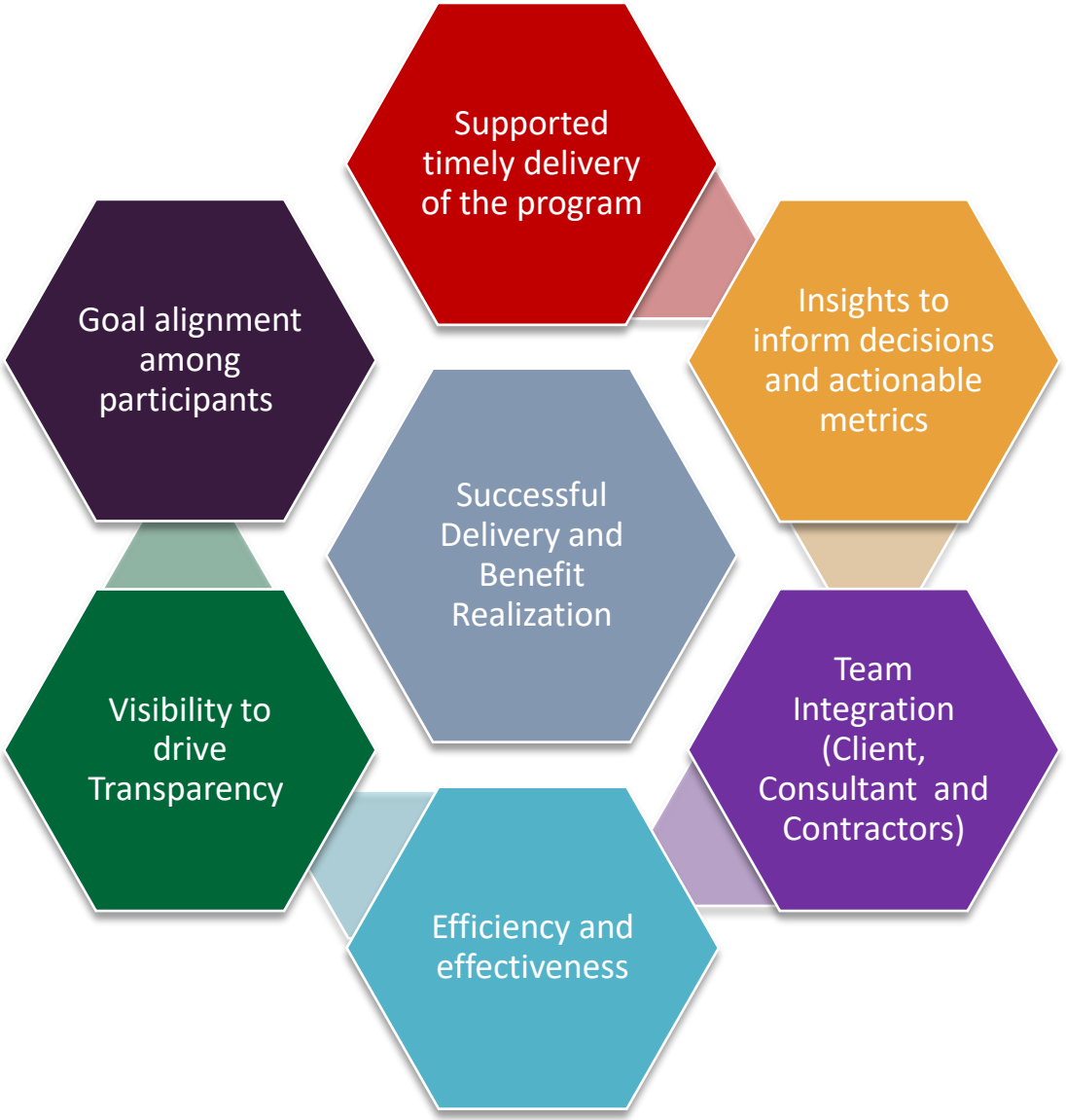
Case Study Introduction



- Strategic Objectives
  - Improve subway performance by implementation of automated communication/coordination between trains
- US Northeast - 5 Year Mid-sized Rail Program
  - Communication Based Train Control
  - 4 Stations
  - Mature Client
  - 3 Primary Contractors
  - Existing Systems – Document Control, Oracle P6
- AECOM Role and Services – PMCM

Desired Outcomes



Challenges

1. Active Program
2. Tight Implementation Timeframe
3. Silos
4. Team Fully Leveraged
5. Existing Systems
6. Existing process inconsistency

PgCE Implementation

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Strategy

1. Consistent and Rapid deployment
2. Tight Implementation Timeframe
2 & 3. Stakeholder engagement and connectivity
3. Silos
4. Initiation Team
5. Design solution to fit the needs
6. Streamline process

Solution Scope and Roadmap Development

Solutions Implementation

Continuous Enhancement

Discovery Analysis

- Program Scope and Structure
- Requirements
- Services Scope
- Resource Plan

Defining Current State

- Current Program Status
- Resource Status
- Existing Data Structures
- Existing Systems
- Exiting process

Defining Desired Future State

- Detail Client Requirements
- Align PgCE Design with Requirements & Current State
- Clarify Resource Requirements

GAP Analysis

- Design Solutions to Meet Requirements
- Evaluate Resource Constraints
- Identify and Mitigate Gaps

Road Map

- Sequence of Solution Implementation
- Implementation Timeline

Implementation

- Data Gathering
- Solution Config and Data Loads
- Training
- Bo Live

Roadmap Transition

Solution Implementation

Solutions Implementation → **Continuous Usage**

Discovery Analysis → Defining Current State → Defining Desired Future State → GAP Analysis → Road Map → Implementation

Solution Scope and Roadmap Development

Priority 1 Deployments (Cost, Schedule, Contract)

Train → Config and Load Data → Go Live → Continuous Operation

Priority 2 Deployments (Risk, Change, Compliance)

Train → Config and Load Data → Go Live → Continuous Operation

PgCE Setup and Operational Considerations

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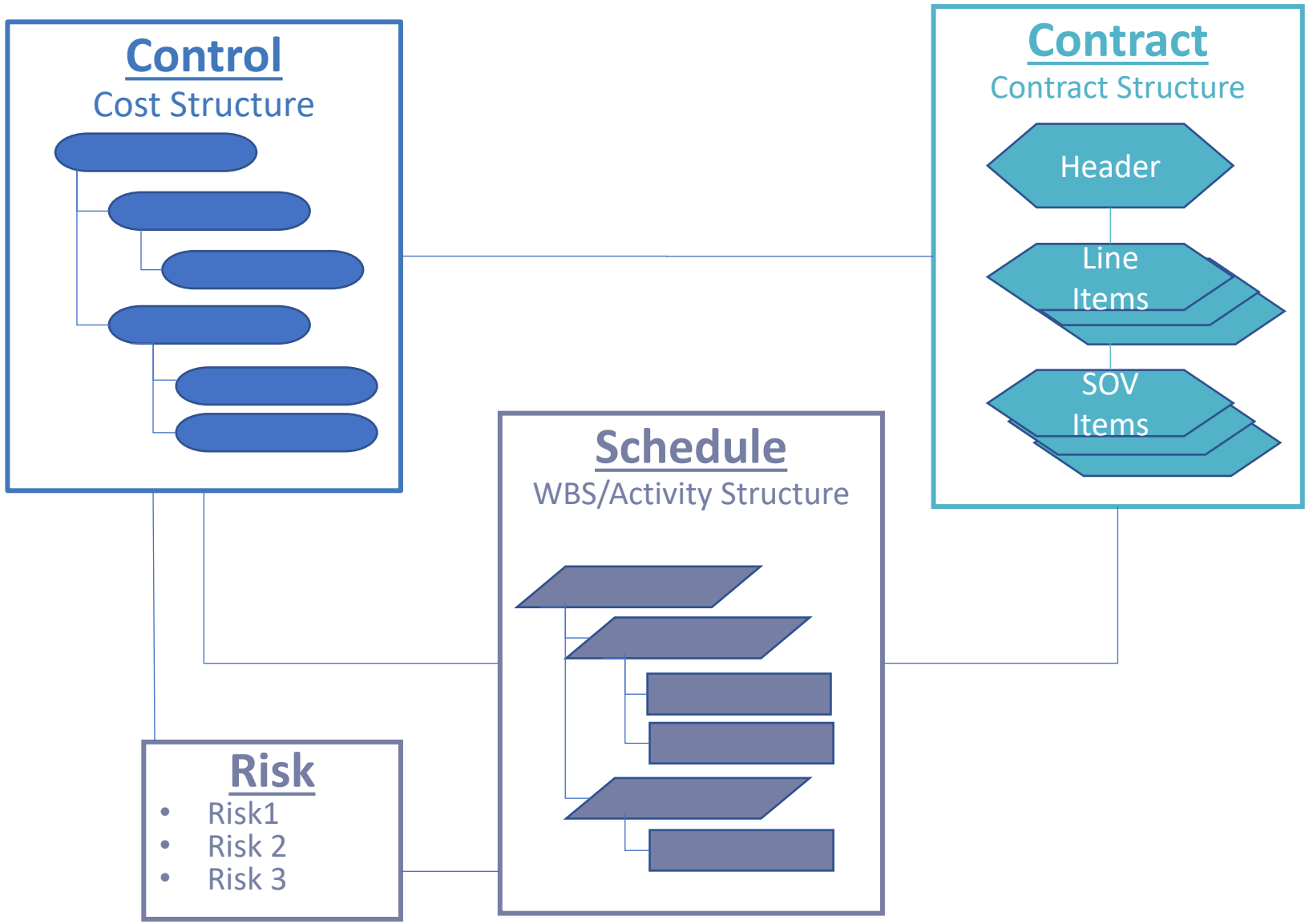
Data Considerations – System Setup



Data Considerations - Operational

Field Inspectors

Status Reporting

Explore
Dashboards/Power BI

Control
Cost Structure

Funding/ Budget Changes

Owner Costs

Contract
Contract Structure

Header

Line Items

SOV Items

Progress Verification

Invoicing

SOV Progress

Schedule
WBS/Activity Structure

Schedule Updates

Risk
- Risk1
- Risk 2
- Risk 3

Owners

Contractors

PgCE Dashboards

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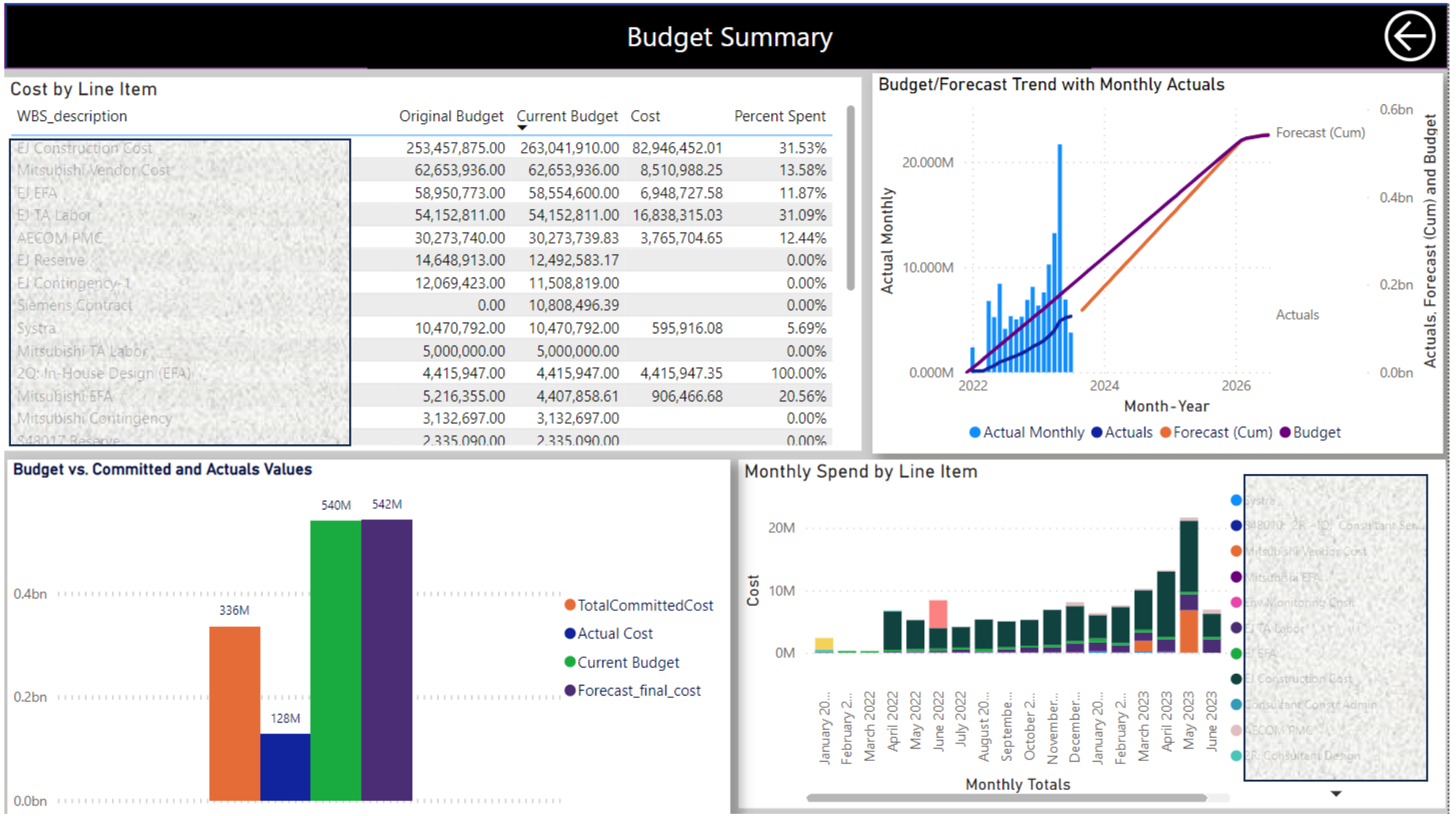
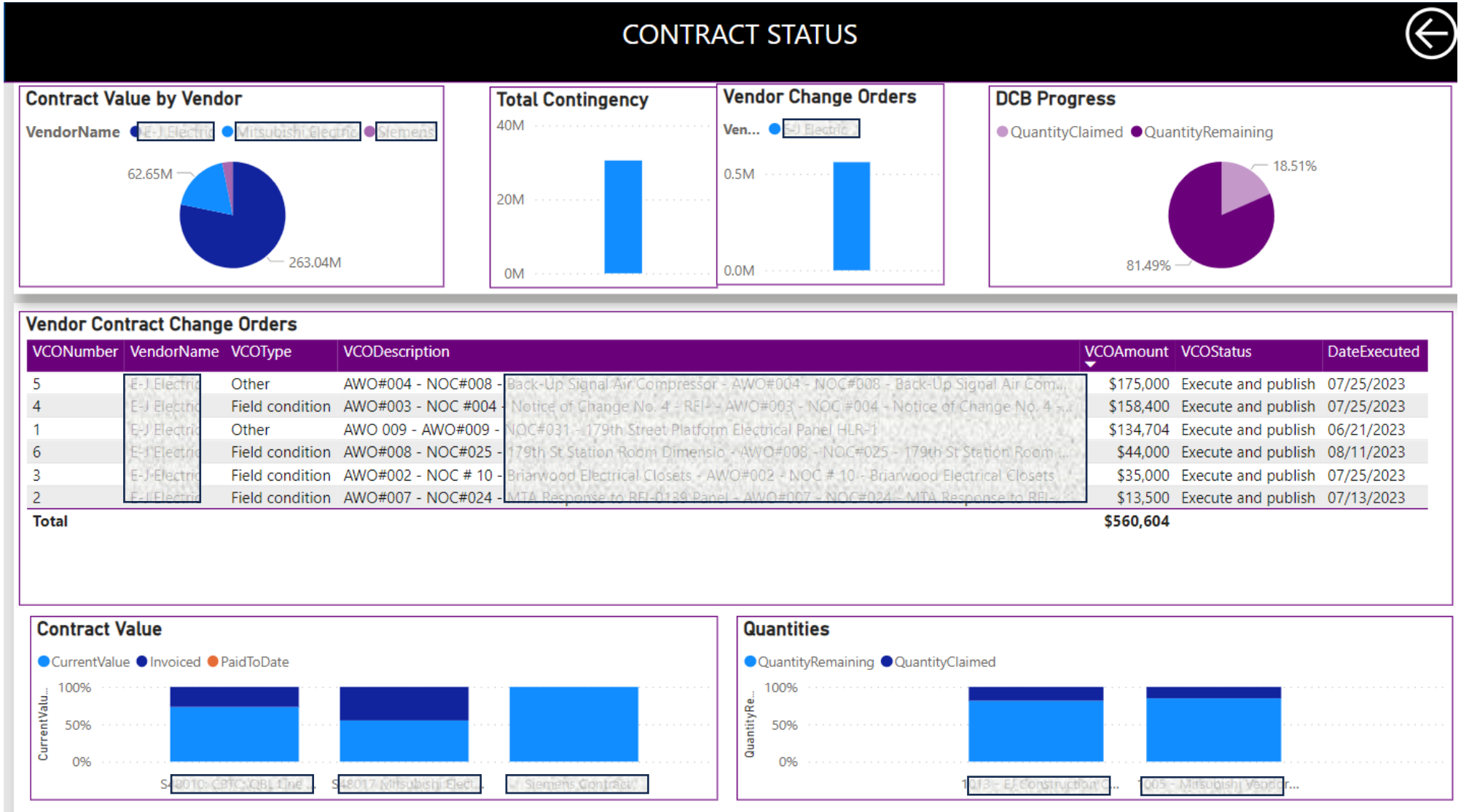
Consolidated Power BI Dashboard

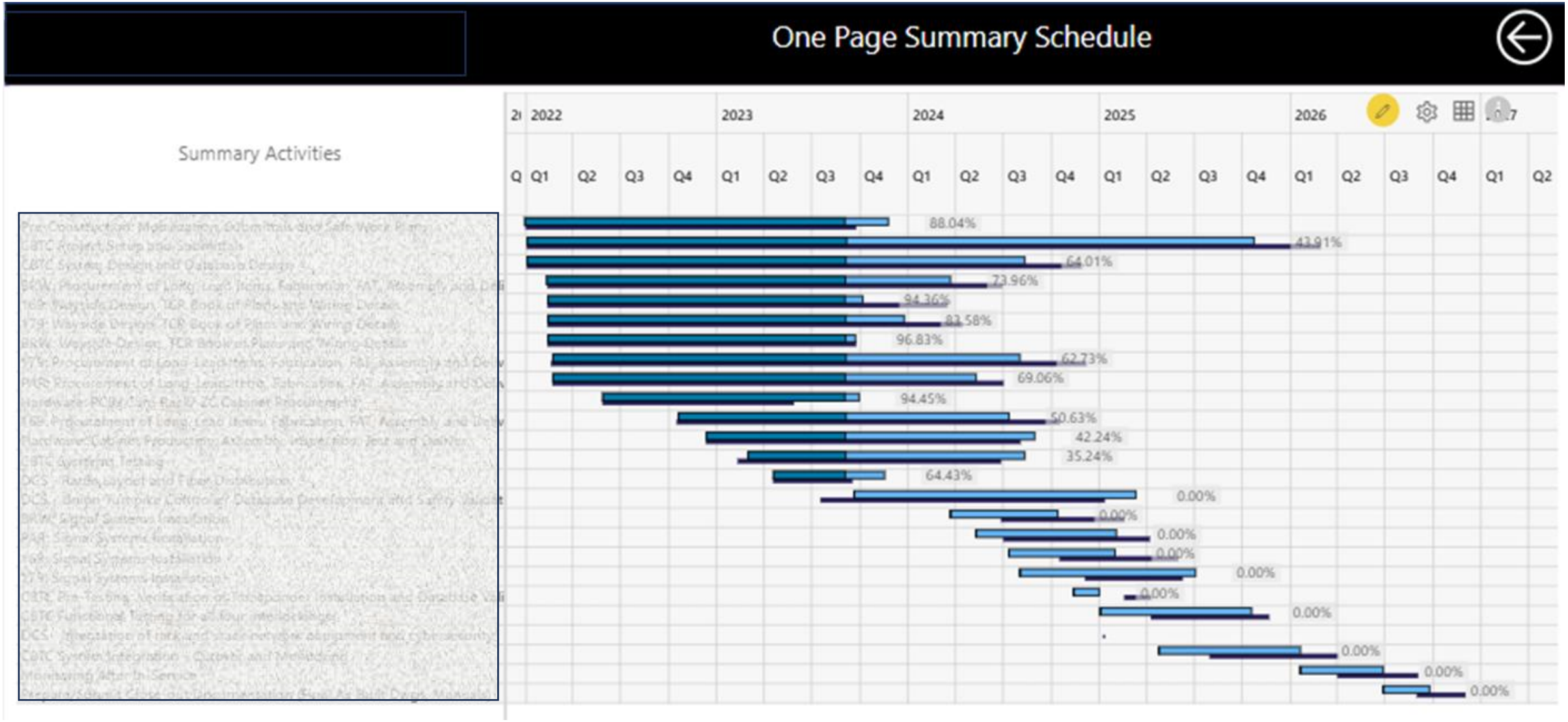
Budget Control



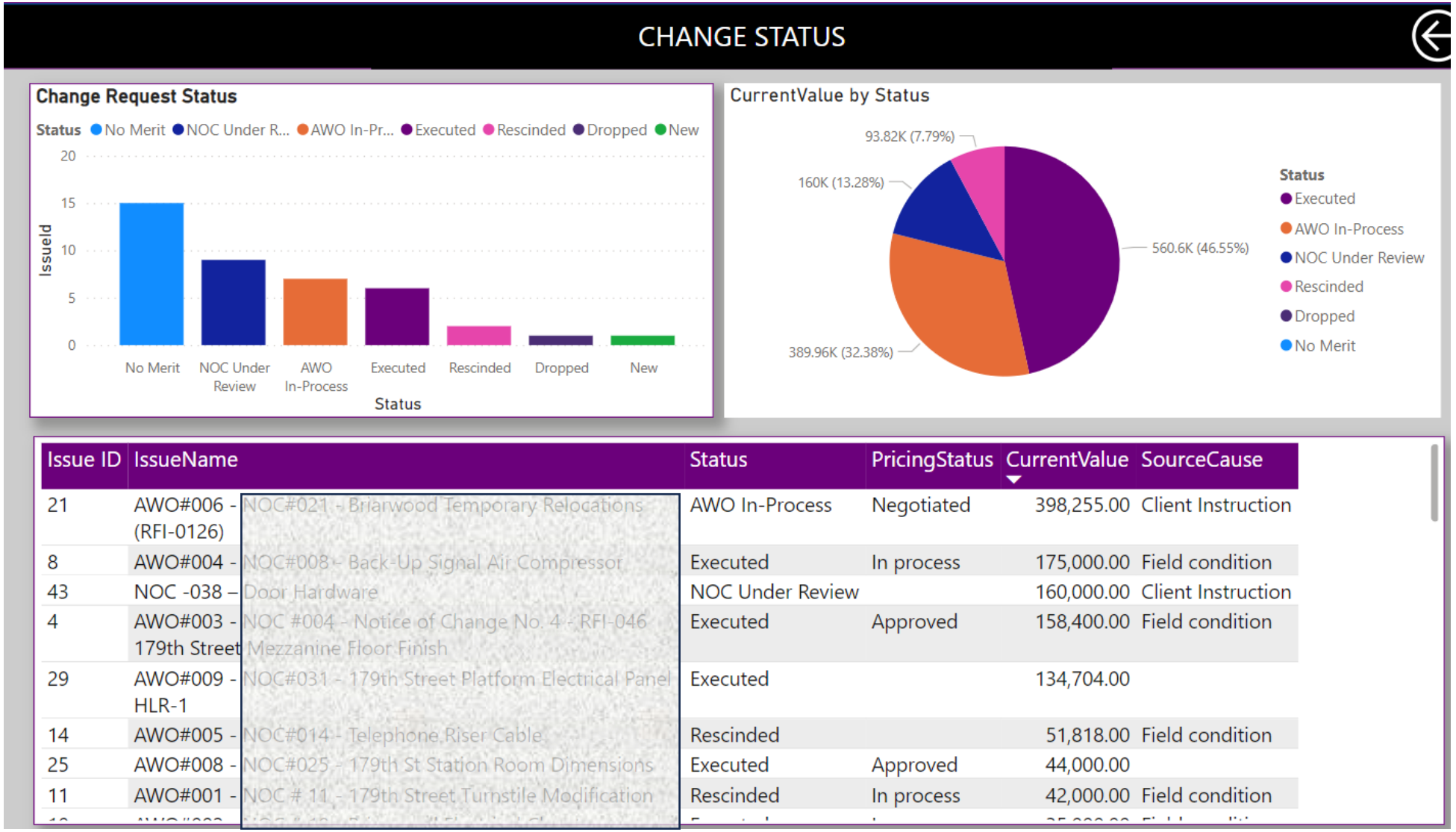
Contractual Control



Schedule Control



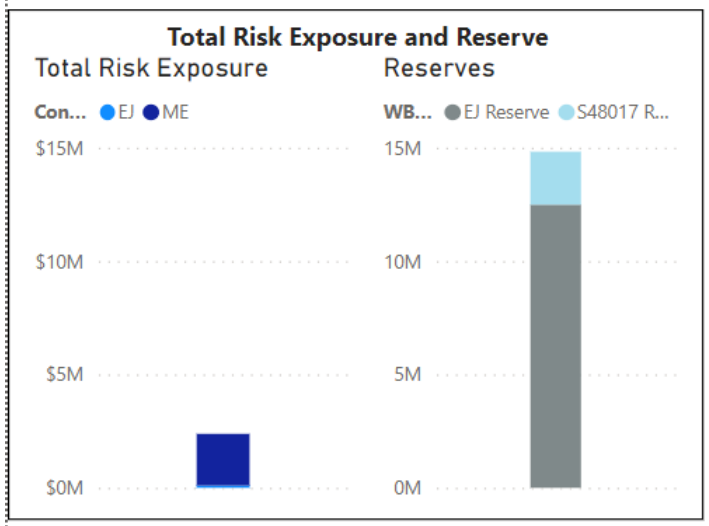
Change Control

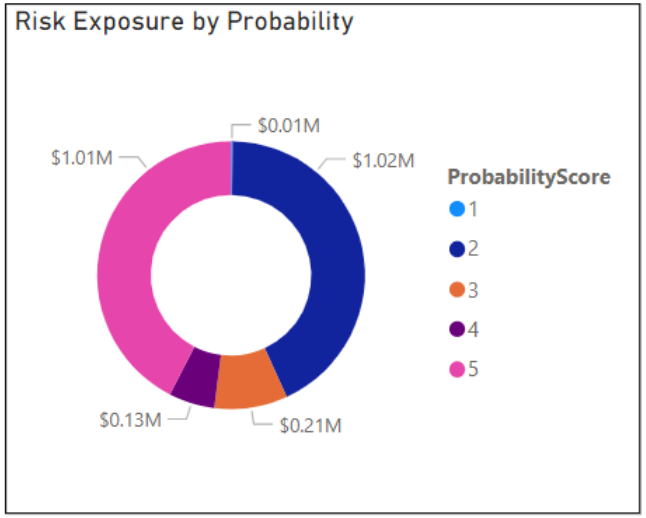


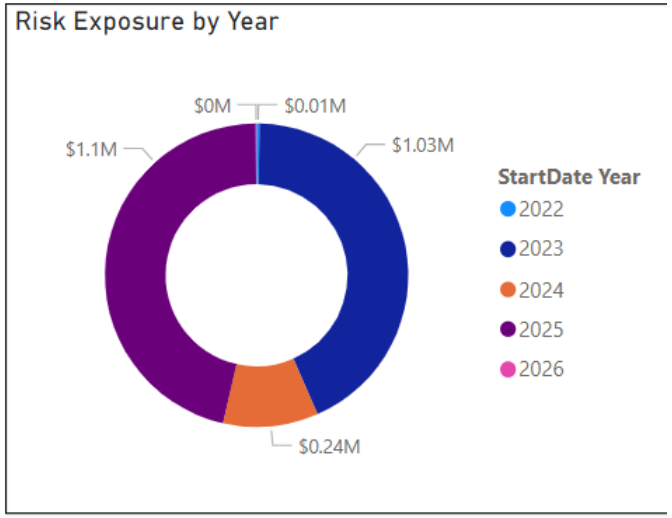
Issue ID	IssueName	Status	PricingStatus	CurrentValue	SourceCause
21	AWO#006 - (RFI-0126)	AWO In-Process	Negotiated	398,255.00	Client Instruction
8	AWO#004 -	Executed	In process	175,000.00	Field condition
43	NOC -038 –	NOC Under Review		160,000.00	Client Instruction
4	AWO#003 - 179th Street	Executed	Approved	158,400.00	Field condition
29	AWO#009 - HLR-1	Executed		134,704.00	
14	AWO#005 -	Rescinded		51,818.00	Field condition
25	AWO#008 -	Executed	Approved	44,000.00	
11	AWO#001 -	Rescinded	In process	42,000.00	Field condition

Risk Control

Risk Summary







2023 Risk Events

ActivityId	ActivityDescription	StartDate	EventId	Title	Probability	Impact	Score	CostImpact
HQT-01010	Mechanical construction	2023-06	CON.05A	Installation and Integration of the Furnish Zone Controller	5	4	20	$1,000
ST-01035	Integrated FAT @Pittsburgh	2023-10	CON.09	ME's inexperience with CBTC	4	4	16	$10,000
DD-01085	Final Database Design Update, Submittal and Approval of the Database	2023-04	CON.34	Approval of Shop Drawing and Submittals	4	3	12	$10,000
HP-01020	1st ZC Cabinet Assembly for FAI & Environmental Testing	2023-05	CON.08A	Long Lead Time - DCS	3	4	12	$1,000
HP-01025	FAI (First Article Inspection) [US] - 1st ZC Cabinet	2023-06	CON.08A	Long Lead Time - DCS	3	4	12	$1,000
HP-01030	FAI Punch List Correction and Acceptance - 1st ZC Cabinet	2023-06	CON.08A	Long Lead Time - DCS	3	4	12	$1,000
ST-01030	Interface Test for the SSI and the Axle Counter	2023-09	PM4		4	3	12	$1,000
ST-01035	Integrated FAT @Pittsburgh	2023-10	PM.04	Contract and Stakeholder Coordination	3	4	12	$1,000
DD-01085	Final Database Design Update, Submittal and Approval of the Database	2023-04	CON.06	CBTC Design Meeting Requirements	2	4	8	$1,000,000

THANK YOU

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