Stephen Brooke
Digital Delivery Manager

BURNS McDONNELL ®

Digital Delivery Manager

University of
Central Missouri

Bachelor of Science in
Computer-Aided Drafting &
Design

Key Achievements

- 40 Under 40: Champions of Construction 2023 Recipient
- Digital Builder Podcast Ep 85: The Future of Commercial Space Exploration
- ENR Podcast: The Reality of Managing Large Data Sets, Point Clouds, and Best Practices
- Specialized in integrating BIM with cloud platforms like Autodesk Construction Cloud

"Driving innovation through technology and collaboration."

Jeff Danley
Innovation Development Director

Missouri State University
Bachelor of Science
Computer Information Systems

The George Washington
University
Masters Certificate,
Project Management

BURNS McDONNELL®

Innovation Development
Director

Key Achievements

- 25 Years Leading Innovation
- 3 Patents Awarded
- Reached over 100M Customers
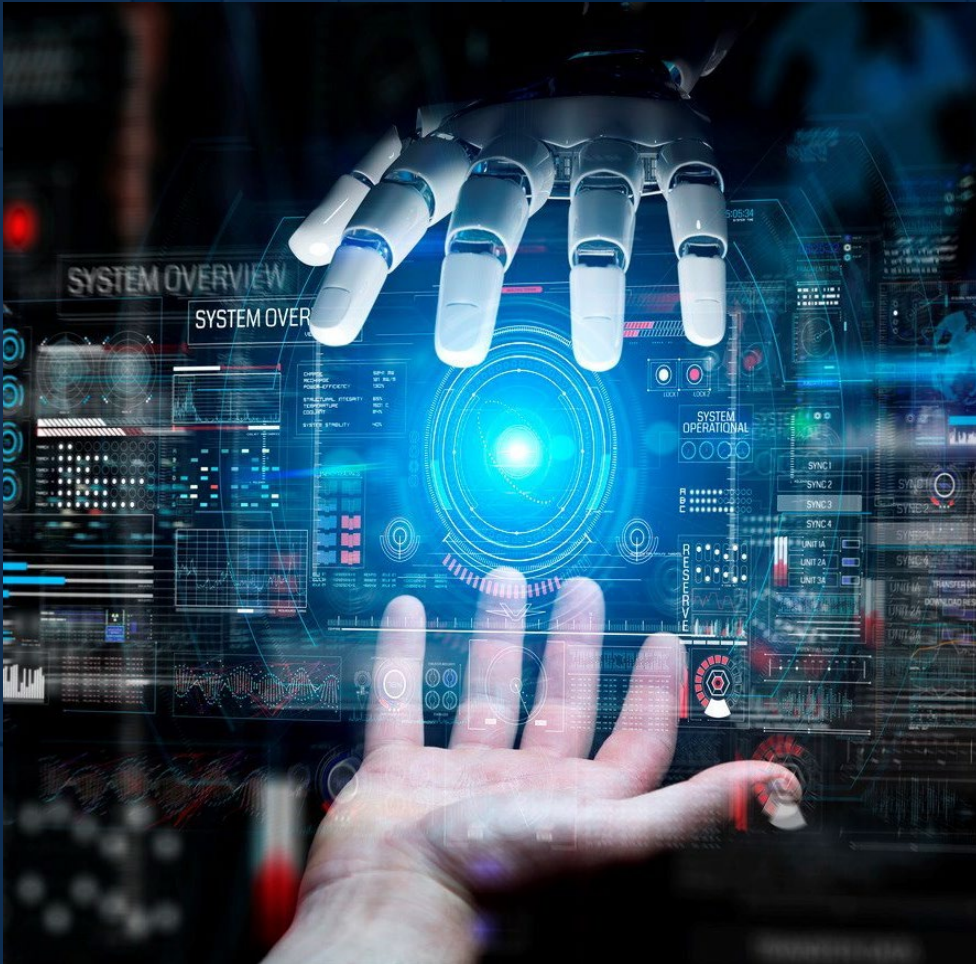- Board Member, Kansas City AI Club

"Driving innovation through technology and collaboration."

You will never experience a slower rate of change than right now.

Introduction:
The AI Overwhelm

- AI is rapidly entering BIM, VDC, and project management workflows

- Why do firms feel overwhelmed by AI adoption?

- Session objectives — learn about:

  Integration, Best Practices,

  Balancing AI ~~vs~~ Humans and

What is your opinion about using AI?

A. Wait and see

B. Test it out

C. Jump in and see what happens

What do you think AI can be used for?

A. Writing resumes

B. Data mining

C. Workflow reviews

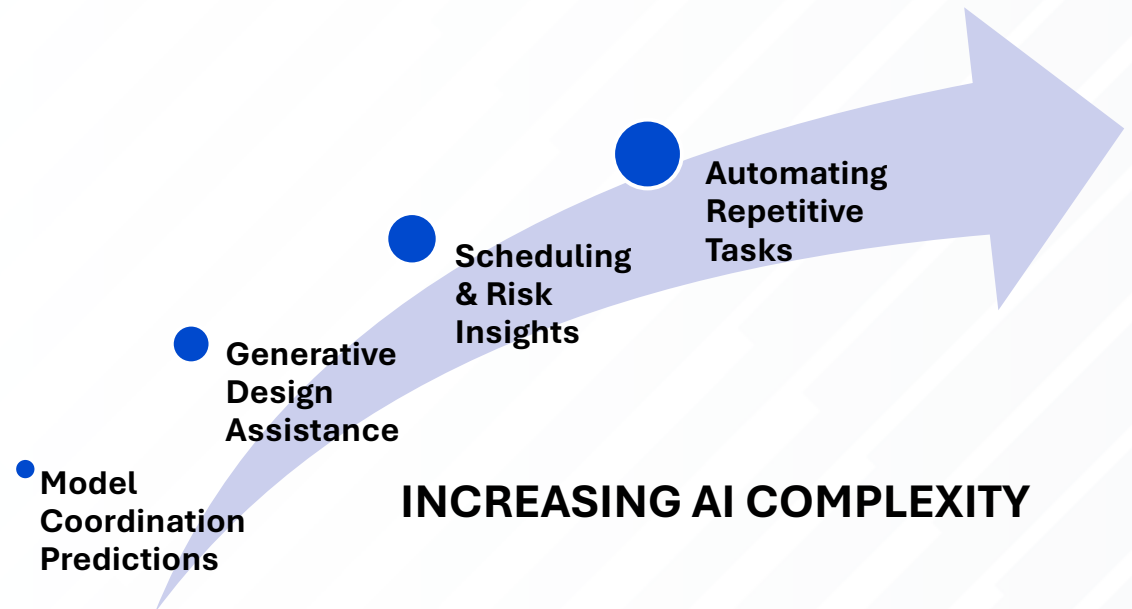D. Operational efficiency

E. All of the above

01

DIGITAL DELIVERY
WORKFLOWS

// How AI Is Reshaping Digital Delivery Workflows

- AI is entering digital delivery—***and*** it's not plug-and-play

- AI is the latest wave after BIM and VDC—***and*** not a replacement

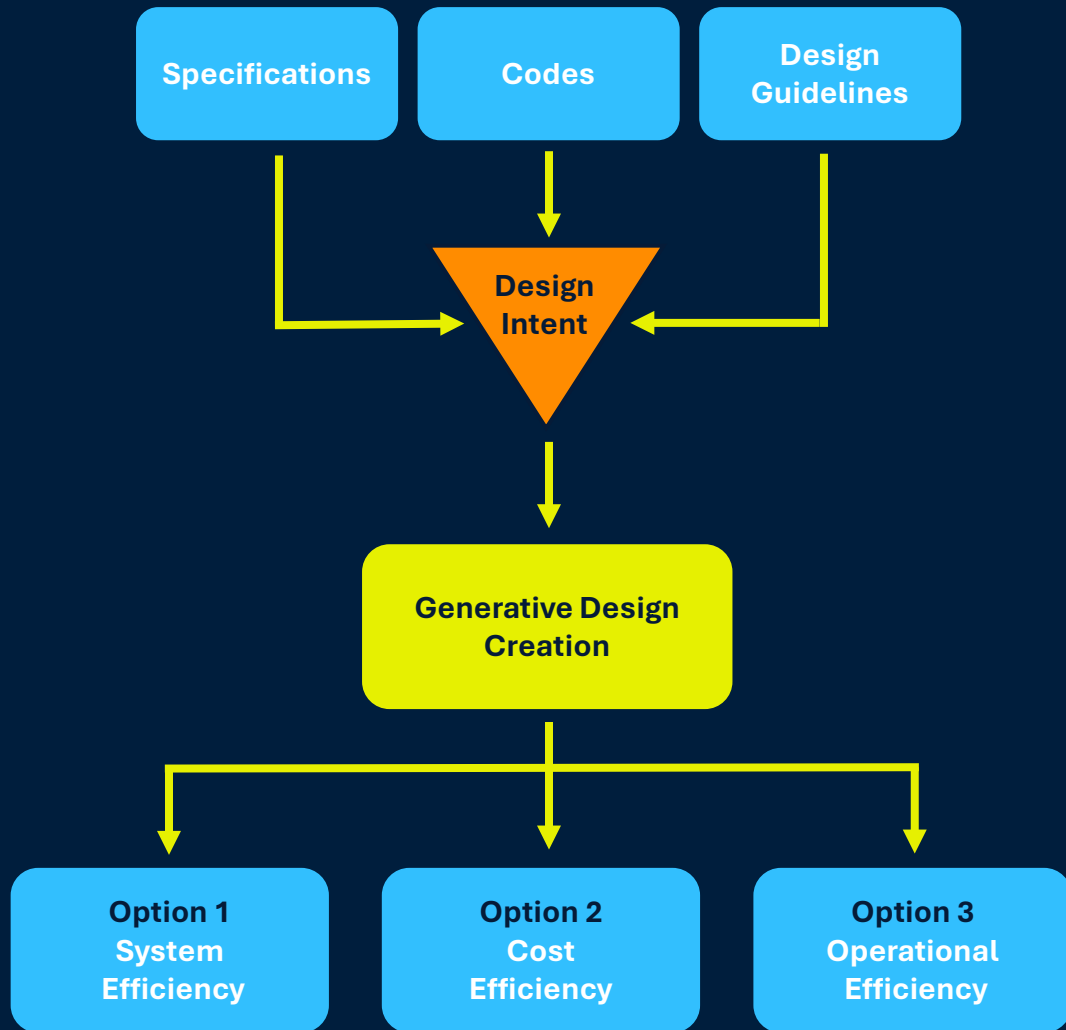- You don't need to master AI—***and*** you do need to understand where it's showing up

Automating Repetitive Tasks

Scheduling & Risk Insights

Generative Design Assistance

Model Coordination Predictions

INCREASING AI COMPLEXITY

Clash Detection Is Evolving from Rule-Based to Predictive

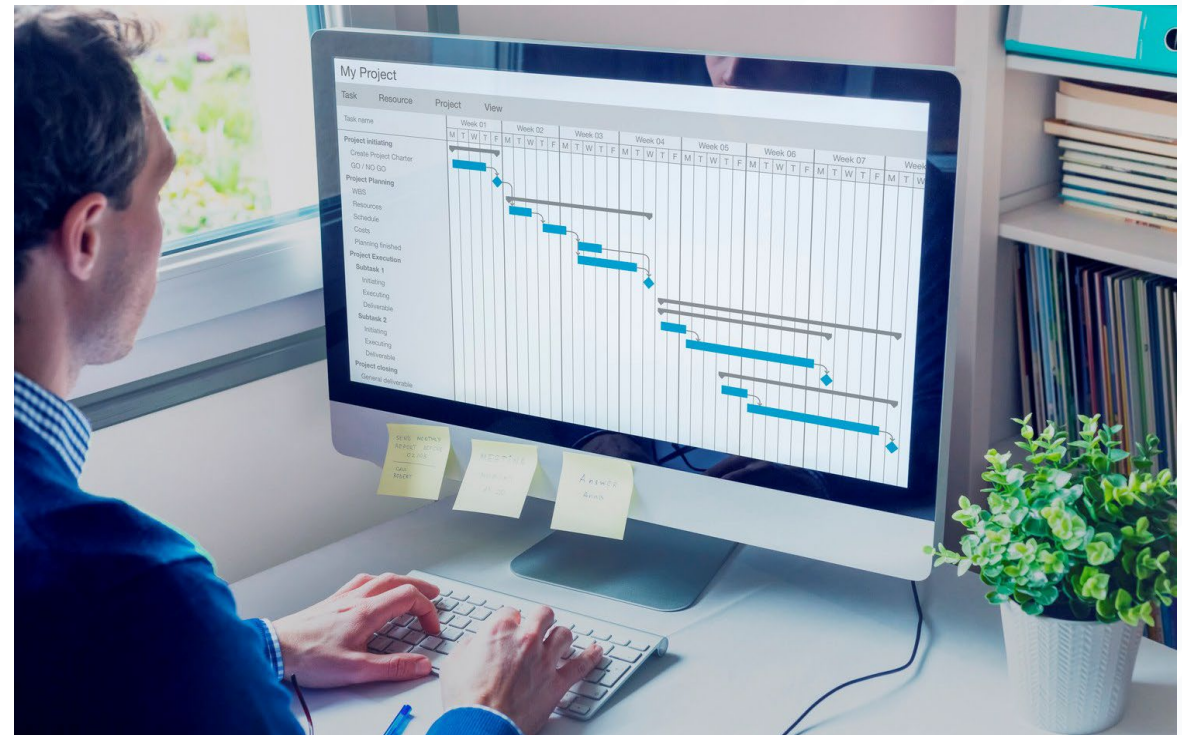*Clients want ==higher model trust== before the first design coordination meeting*

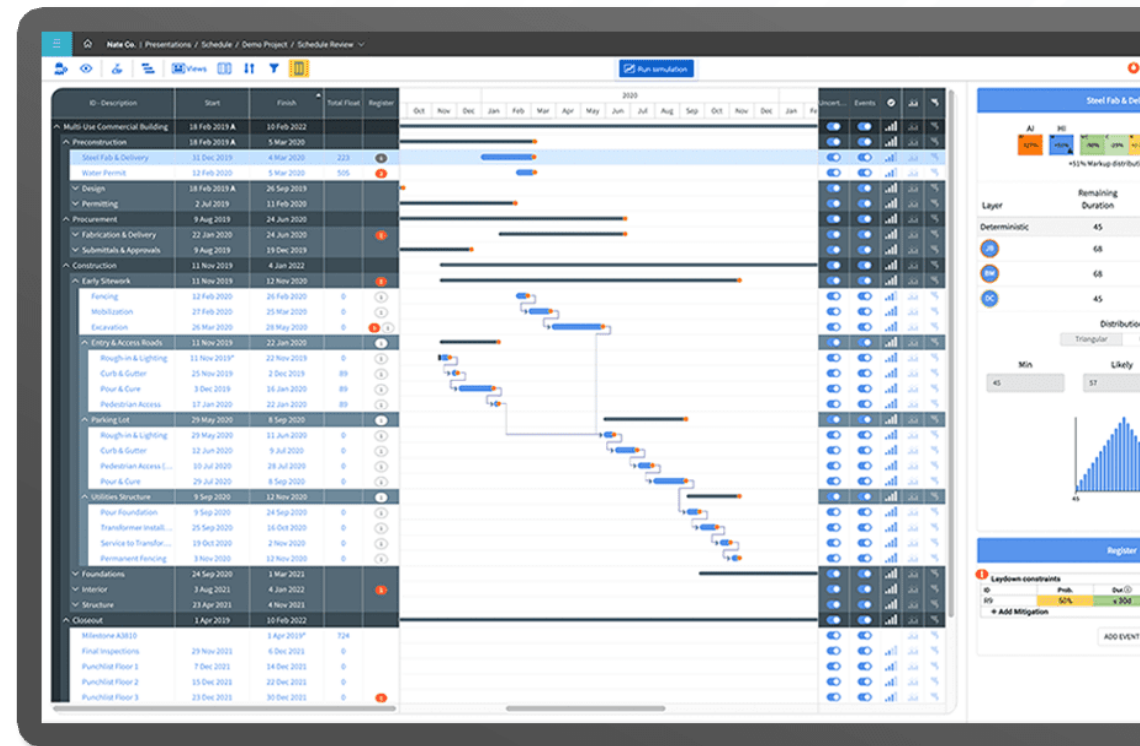## // How AI Is Reshaping Digital Delivery Workflows

- Generative design & automation—what AI can propose, not just draw

- Layout options based on cost, adjacency, code, and constructability

- Exploration of rule-driven model authoring that could evolve into AI-informed generation

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"Show me a forecast, not a guess."

- AI for scheduling and risk—predicting problems before they happen

- Data-driven risk scoring, schedule simulations using pattern recognition (weather, crew availability, prior delays)

- Desired state from owners: "Show me a forecast not a guess."

The Quiet Revolution
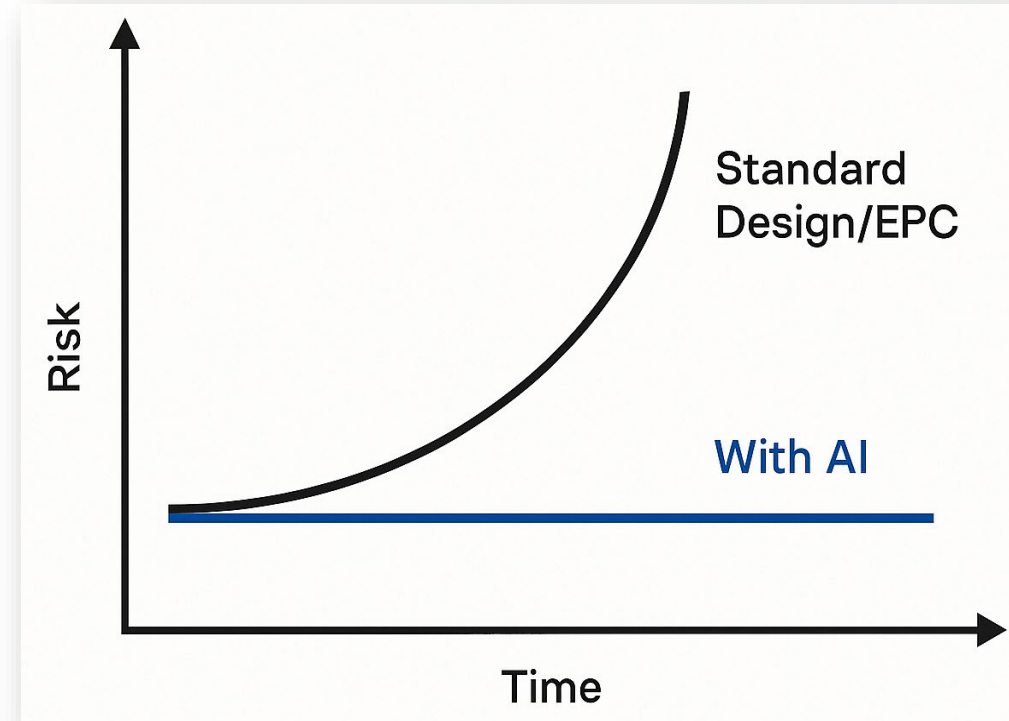
AI is Already Automating

Repetitive Work

// How AI Is Reshaping Digital Delivery Workflows

Examples:
- Model QA (parameter checks, naming consistency)

- Auto-tagging RFIs/photos for context

- Metadata population for closeout/handover

Standard Design/EPC
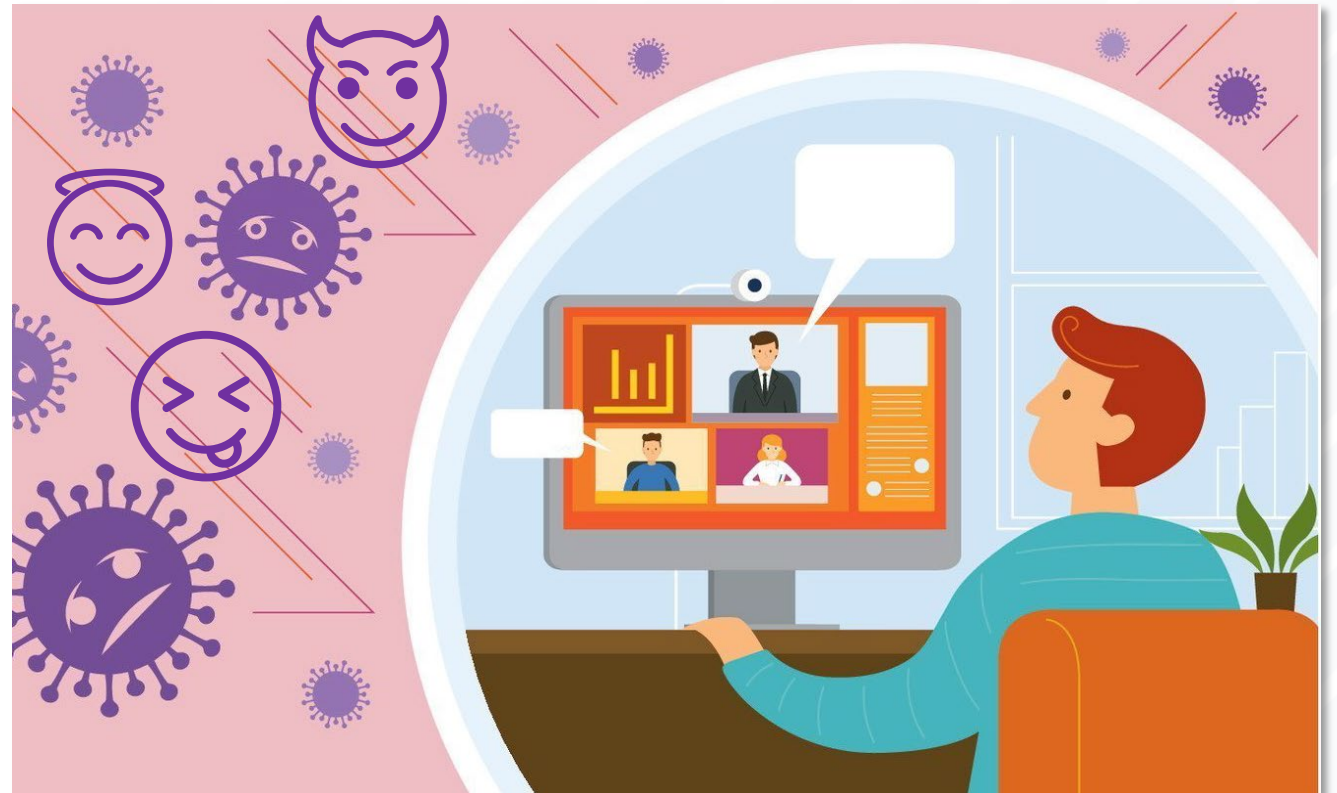
With AI

Risk

Time

02

DIGITAL DELIVERY BARRIERS

What are the biggest barriers to AI for yourself or your company?

Technology is the easy part

// The Biggest Barriers: Data Quality & AI Readiness

- Why bad data is the number one AI adoption blocker

- Structuring BIM and VDC data for AI-powered insights

The Root Cause of Bad Data:

- Downstream effects

- The biggest illusion

- Burns & McDonnell case insight

Structure Project Data Backward From Owner Outcomes

START WITH THE END IN MIND →

Owner Requirements	Commissioning/ Handover	Construction	Pre-Construction	Detailed Design	RFP/ Proposal

⚠ **MISSING BEP REQUIREMENTS**

⚠ **NO QA PROCESS**

⚠ **TURN-AND-BURN MODELING**
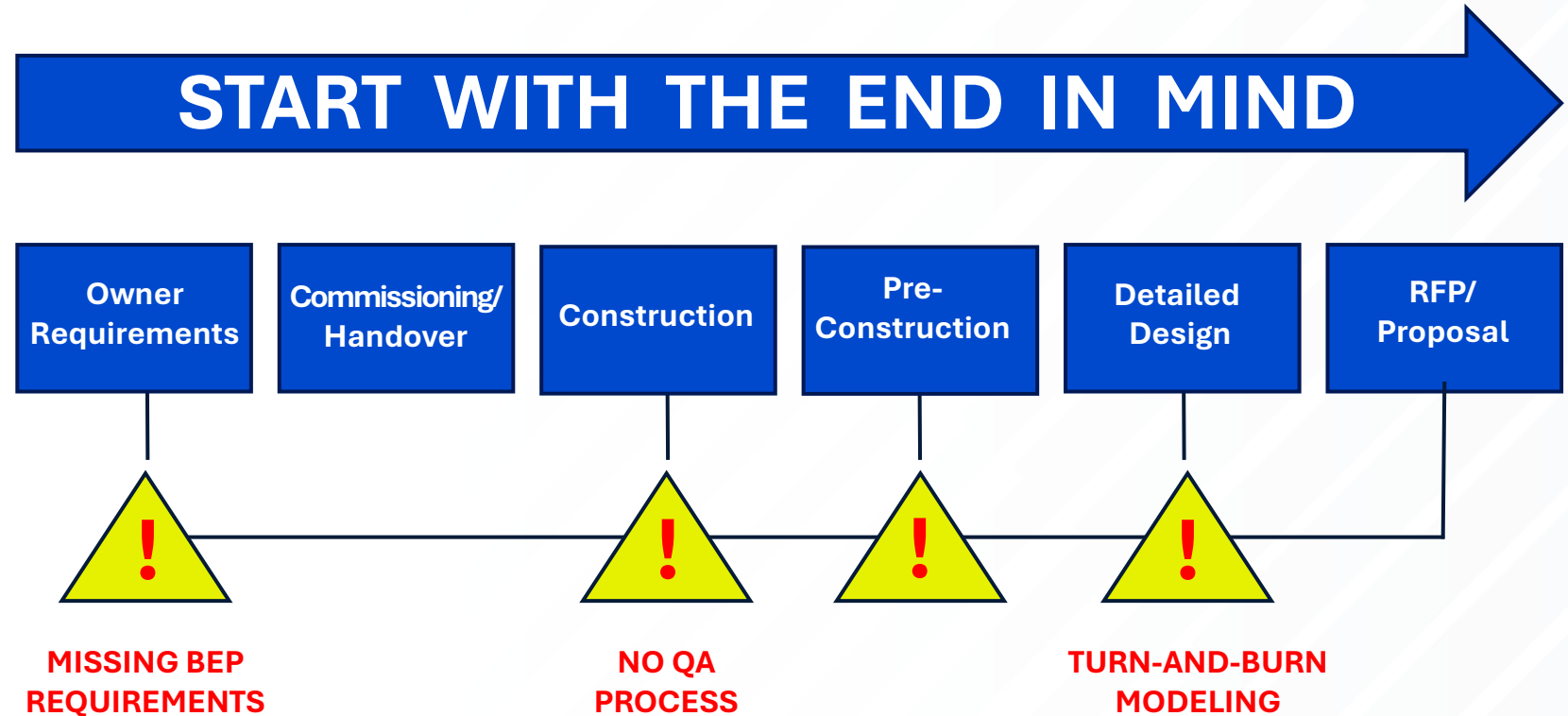
Structuring for Value, Not Just Geometry

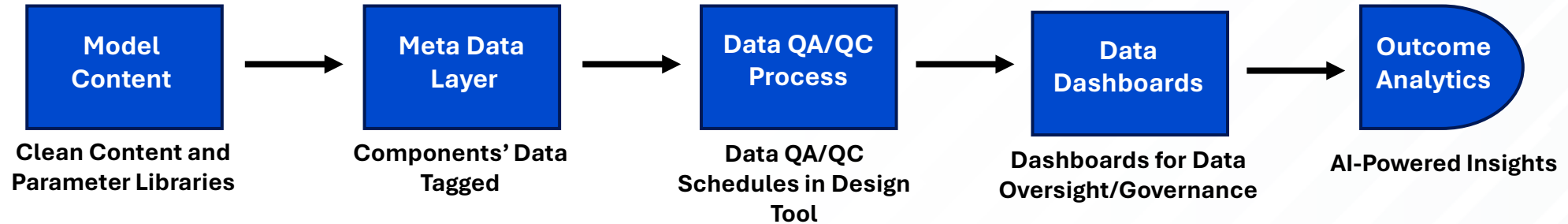| Model Content	→	Meta Data Layer	→	Data QA/QC Process	→	Data Dashboards	→	Outcome Analytics
Clean Content and Parameter Libraries		Components' Data Tagged		Data QA/QC Schedules in Design Tool		Dashboards for Data Oversight/Governance		AI-Powered Insights

QA Is the Bridge Between Modeling and Insights - AI Requires Clean Input, Not Just Clever Tools

GARBAGE IN = GARBAGE OUT

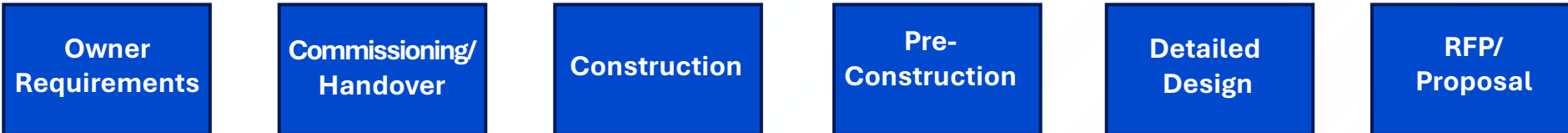| Duplicate/Dumb Parameters = Conflicting Outputs	→	Untrusted Models = Silos and Manual Rework
		Leads to Risk and Extra $$
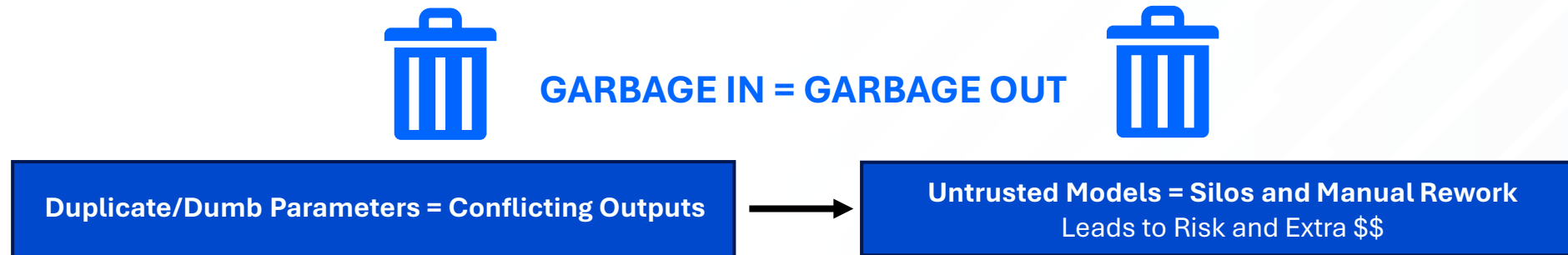
Breaking Silos Means Changing Behavior

Corporate Level Perspective
Structure Project Data Backward
From Owner Outcomes

START WITH THE END IN MIND

Owner Requirements	Commissioning/ Handover	Construction	Pre-Construction	Detailed Design	RFP/ Proposal

03

BALANCING HUMAN EXPERIENCE &
AI AUTOMATION

AI assists and HUMANS lead

- Where should AI make recommendations vs. decisions?

- How can AI augment digital delivery professionals — <u>not</u> replace them?

- How to address user skepticism and resistance to AI tools?

When AI assists and HUMANS lead

Task	AI Role	Human Role
Clash detection	Predicts issues	Reviews and validates
Scheduling	Forecasts risks	Makes mitigation decisions
Generative design	Proposes layout options	Selects based on project needs

GOAL

Utilize AI to inform vs. make decisions

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04

STRATEGIES

// Practical Strategies for Overcoming AI Overwhelm

- The future of AI in project execution

- Building an AI-ready digital delivery team

- How to scale AI pilots into enterprise-wide solutions

- Technology is easy - integrating into existing workflows is challenging

- Cross boundary collaboration among teams

Success = Adapt and Move Forward

// Practical Strategies for Overcoming AI Overwhelm

- Integrate AI solutions into your workflows but go slow to go fast

- Commit to ongoing AI learning and experimentation within your team

- Advocate for ethical AI development and usage in your organization

- Partner across disciplines to unlock AI's full potential and drive innovation — don't work in silos or a vacuum

- Support upskilling initiatives so your workforce is AI-ready and future ready

AI Ready = Go Slow to Go Fast
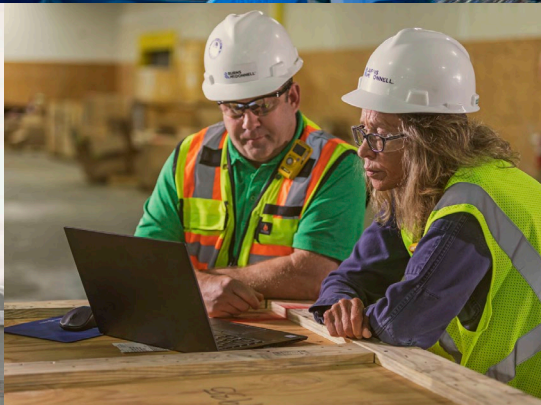
// The Future Isn't Just Smarter Models — It's Smarter Teams

- AI will reward the teams that tag, structure, and validate their models

- Execution teams are shifting from reactive coordination to predictive workflows

- The role of QA/QC will be predictive, not retrospective

- The rise of AI won't flatten roles it will specialize them

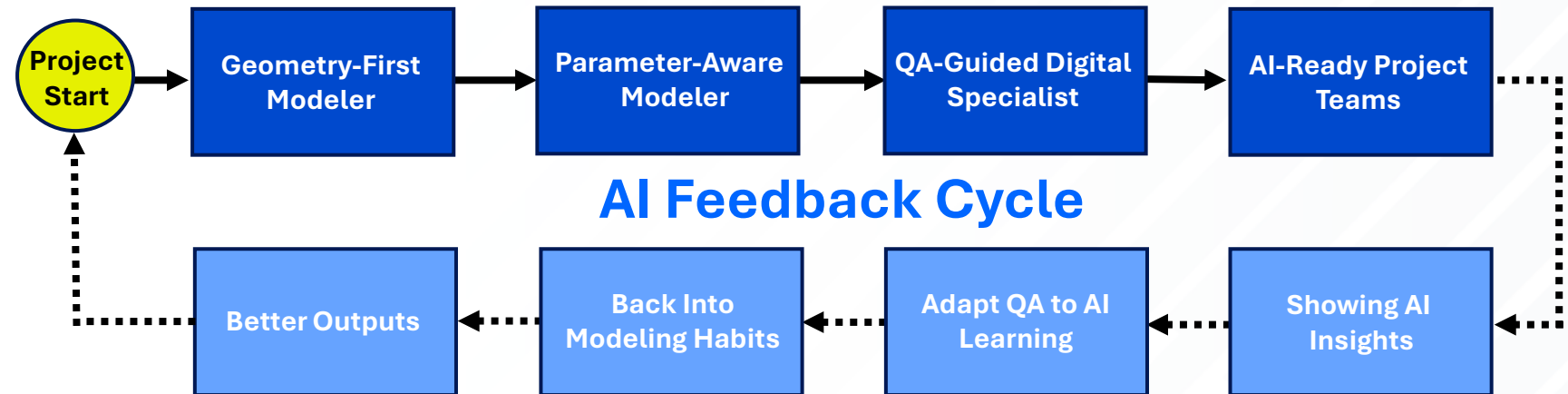- Reminder — check client contract terms regarding AI usage

Real-World Pressure from Clients

In some industries, the demand isn't just for a model it's for a data-rich, trustable source of truth across design, construction, and operations.
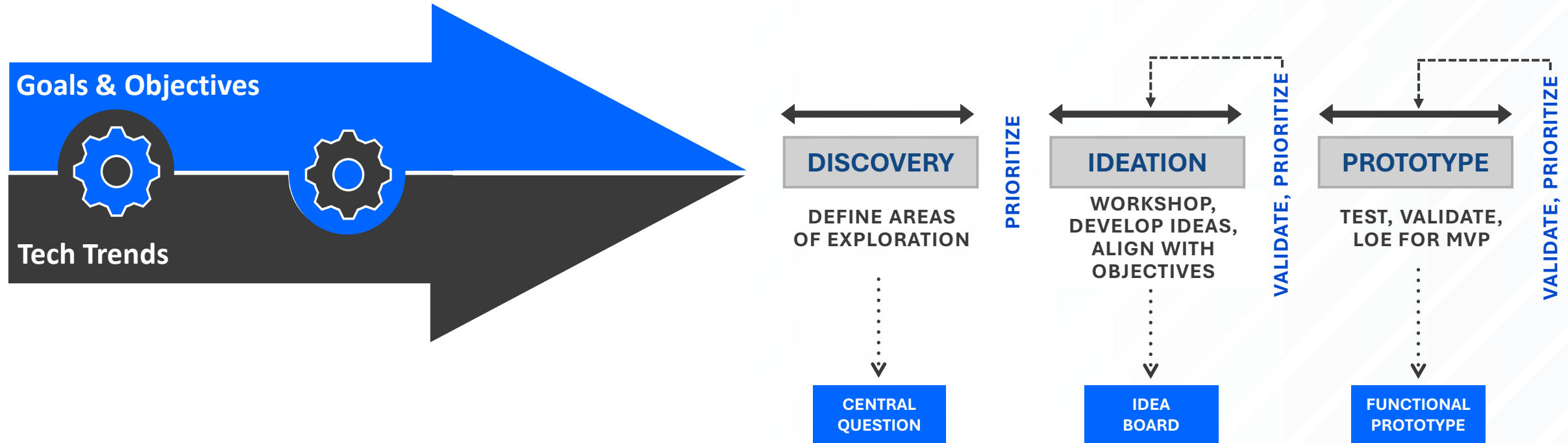
- AI doesn't replace modelers it demands more from them

- Digital delivery managers are evolving into data stewards

- Discipline collaboration must shift from "handoff" to "co-development"

- AI is forcing better habits or exposing bad ones

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Project Start → Geometry-First Modeler → Parameter-Aware Modeler → QA-Guided Digital Specialist → AI-Ready Project Teams
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AI Feedback Cycle

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Better Outputs ← Back Into Modeling Habits ← Adapt QA to AI Learning ← Showing AI Insights
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Goals & Objectives

Tech Trends

DISCOVERY

DEFINE AREAS
OF EXPLORATION

PRIORITIZE

IDEATION

WORKSHOP,
DEVELOP IDEAS,
ALIGN WITH
OBJECTIVES

VALIDATE, PRIORITIZE

PROTOTYPE

TEST, VALIDATE,
LOE FOR MVP

VALIDATE, PRIORITIZE

CENTRAL
QUESTION

IDEA
BOARD

FUNCTIONAL
PROTOTYPE

Strategic Integration

- Integrate AI solutions into workflows gradually
- Advocate for ethical AI development and usage
- User utilizes AI as a strategic tool to accelerate project execution
- Remember that AI assists, and humans lead

Skills & Learning

- Commit to ongoing AI learning and experimentation within your team
- Shift from reactive coordination to predictive workflows
- Develop "parameter-aware modelers" and "QA-guided digital specialists"

Process & Governance

- Establish clear data quality and AI readiness standards
- Structure project data backward from owner outcomes

Culture & Collaboration

- Address user skepticism and resistance to AI tools
- Foster cross-boundary collaboration among teams
- Encourage user feedback for continuous improvement

Technology & Infrastructure

- Ensure robust IT and InfoSec support
- Utilize corporate cloud infrastructure for AI solutions
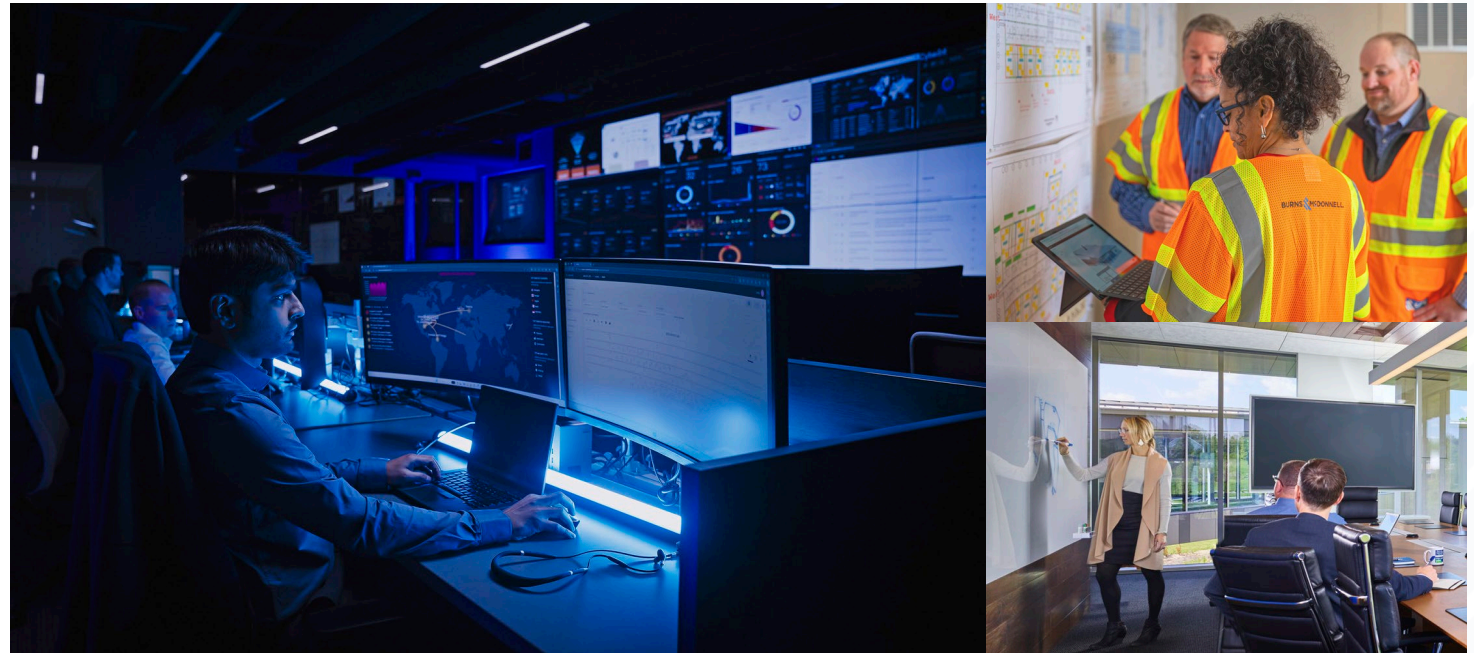- Develop custom AI agents and platform architecture as needed

05

CONCLUSION

// AI = Digital Delivery Accelerator

- AI is a <mark>STRATEGIC TOOL</mark> to help with project execution

- <mark>AI assists, HUMANS LEAD</mark>

- <mark>AI CAN BENEFIT YOUR TEAMS</mark> when using good data

Q & A

Thank You

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