

Redefining the Asset Lifecycle with AI



**Shannon
Miller**

President – Strategy,
Growth & Digital

Jacobs

Jacobs: Challenging Today, Reinventing Tomorrow



40+

Countries

45K+

Talent force

\$12B

Revenue

-  LIFE SCIENCES
-  TRANSPORTATION
-  WATER
-  ENVIRONMENTAL
-  ADVANCED MANUFACTURING
-  CITIES AND PLACES
-  ENERGY

The combination of data and domain knowledge can accelerate our ability to build a more connected and sustainable world



Navigating today's industry requires an evolution in our approach



- Our clients face increasingly complex challenges
- We have the responsibility to evolve our approach
- Our industry is highly regulated and fragmented, making disruption a unique challenge

\$4.5T
Total Addressable Market

Across Critical Infrastructure, Water & Environment, Life Sciences and Advanced Manufacturing

To empower our clients, people, and communities we must innovate with end-to-end, AI-enabled solutions

We have risen to the challenge before

Evolution in Design & Engineering Technology



1950s

Hand Drawings



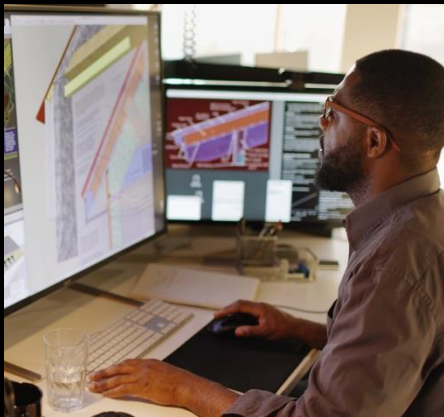
1960-70s

Computer-Aided
Design



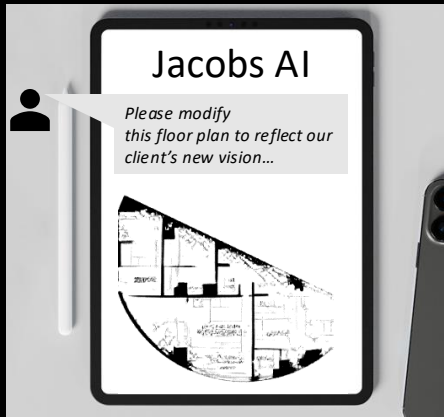
1980-90s

Building
Information
Modelling



2000s

Automated Design

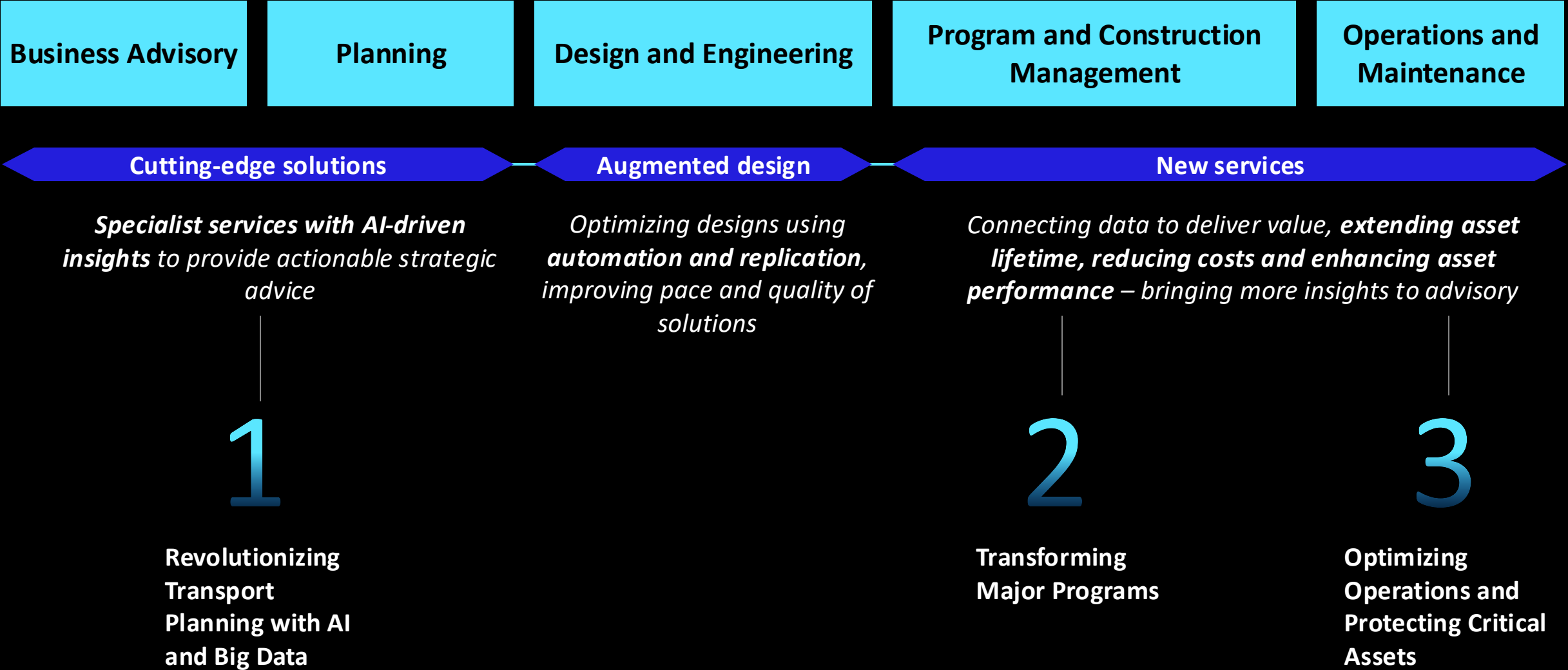


2025

Generative Design

Accelerating pace of change

AI is redefining the entire Asset Lifecycle



Revolutionizing Transport Planning with AI and Big Data

Connecting Communities with Broward County's First-Ever Public Transit Expansion



“The fact that they have the proprietary software, StreetLight, is big, because that means you get a ton of data for knowing where to put the bus routes, pickup spots, fiber optics [...]. We have launched one of the most ambitious programs in the US, and [...] we need the most powerful tool we can get [...] the overall depth of Jacobs is what we want, to get us where we want to be.”

— Beam Furr, Broward County Vice Mayor

Complex Infrastructure Program:

- AI Management of Engineering Services
- Digital Scenario Planning for Active Construction
- Simulation of Origin-Destination Scenarios

Broward County, Florida, USA



15B DATA POINTS
ANALYZED PER DAY

24/7 ACCESS TO ON-
DEMAND INSIGHTS

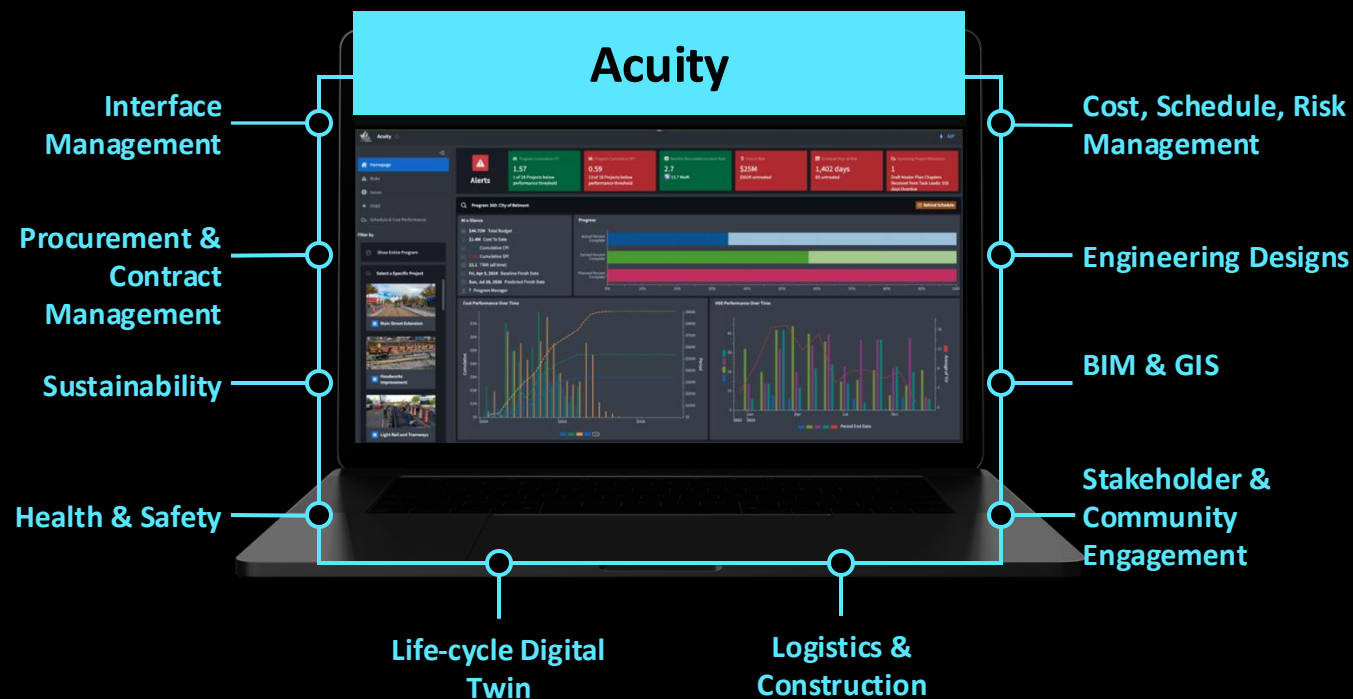


2 Transforming Major Programs

Bridging the gap between physical and digital assets for major programs, enabling data-driven decision making at scale in the most complex projects

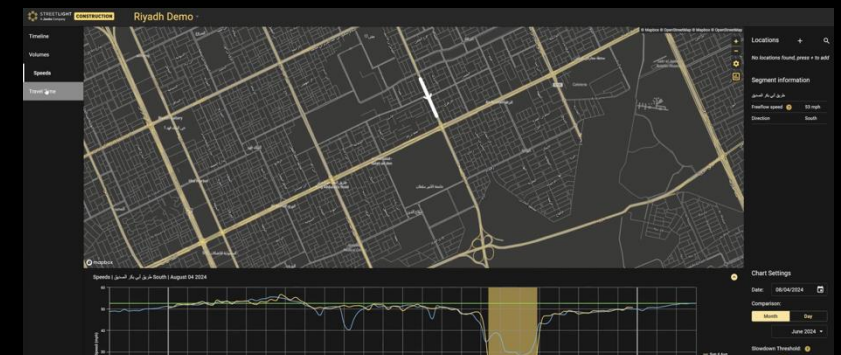
City of Riyadh

End-to-end digital management of all interfaces for the city of Riyadh, enabling data-driven decision making for Riyadh's \$19B Infrastructure Expansion

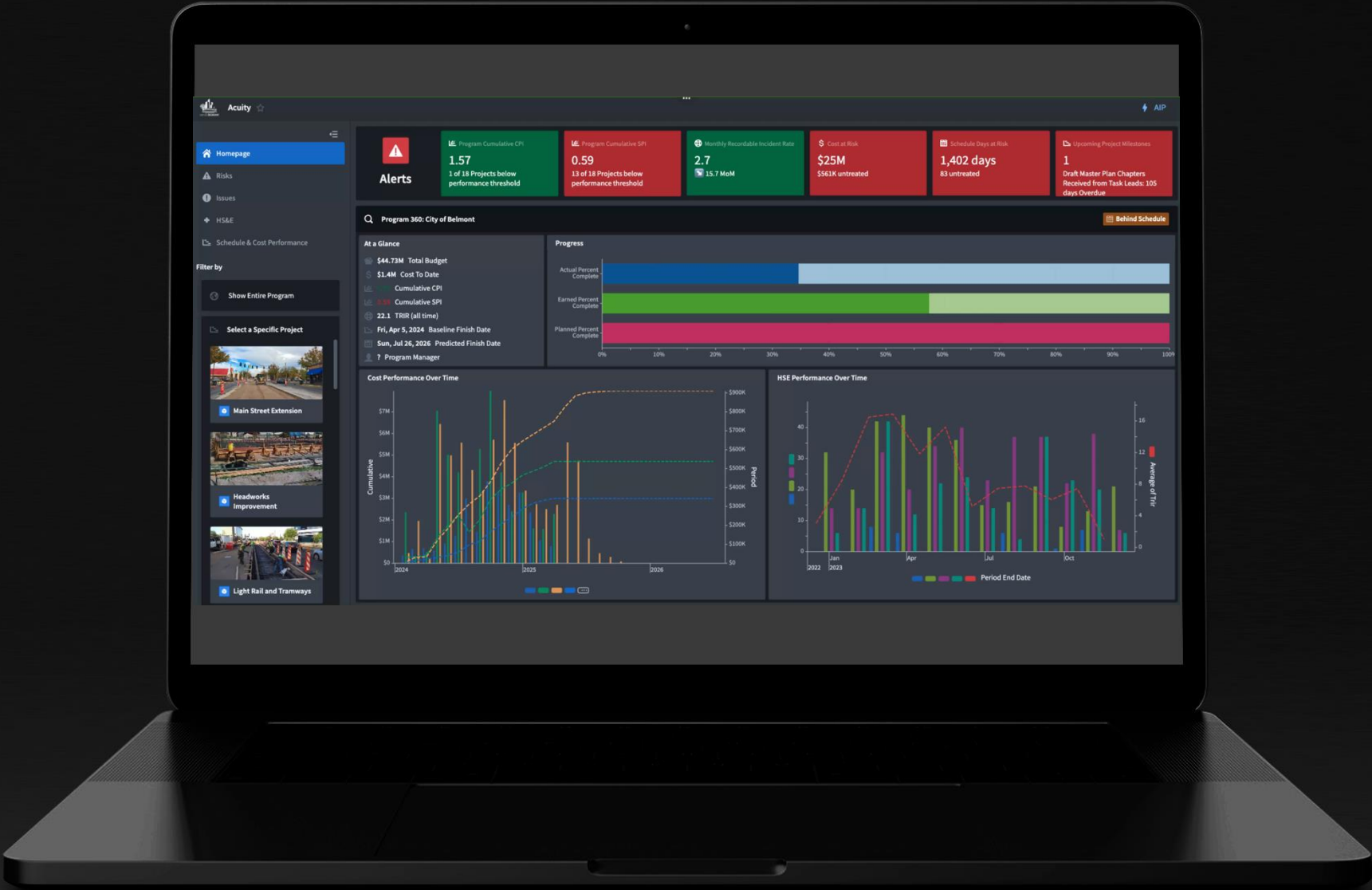


Acuity

- End-to-end AI-enabled program management
- Seamless integration and management of data
- Optimizing the value chain by connecting operations, driving real-time insights and automation



DEMO: POWERING PROGRAMS WITH ACUITY





🏠 Homepage

⚠️ Risks

📄 Issues

⚙️ HS&E

📊 Schedule & Cost Performance

Filter by

🔍 Show Entire Program

📁 Select a Specific Project



🔍 Main Street Extension



🔍 Headworks Improvement



🔍 Light Rail and Tramways



Alerts

📊 Program Cumulative CPI

1.57

1 of 18 Projects below performance threshold

📊 Program Cumulative SPI

0.59

13 of 18 Projects below performance threshold

🌐 Monthly Recordable Incident Rate

2.7

📅 15.7 MoM

💰 Cost at Risk

\$25M

\$561K untreated

📅 Schedule Days at Risk

1,402 days

83 untreated

📅 Upcoming Project Milestones

1

Draft Master Plan Chapters
Received from Task Leads: 105 days Overdue

🔍 Program 360: City of Belmont

📅 Behind Schedule

At a Glance

💰 \$44.73M Total Budget

💰 \$1.4M Cost To Date

📊 1.57 Cumulative CPI

📊 0.59 Cumulative SPI

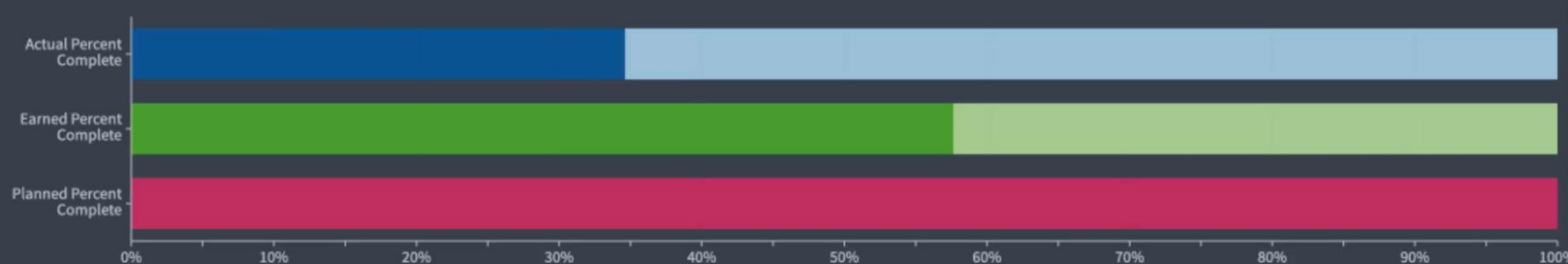
🌐 22.1 TRIR (all time)

📅 Fri, Apr 5, 2024 Baseline Finish Date

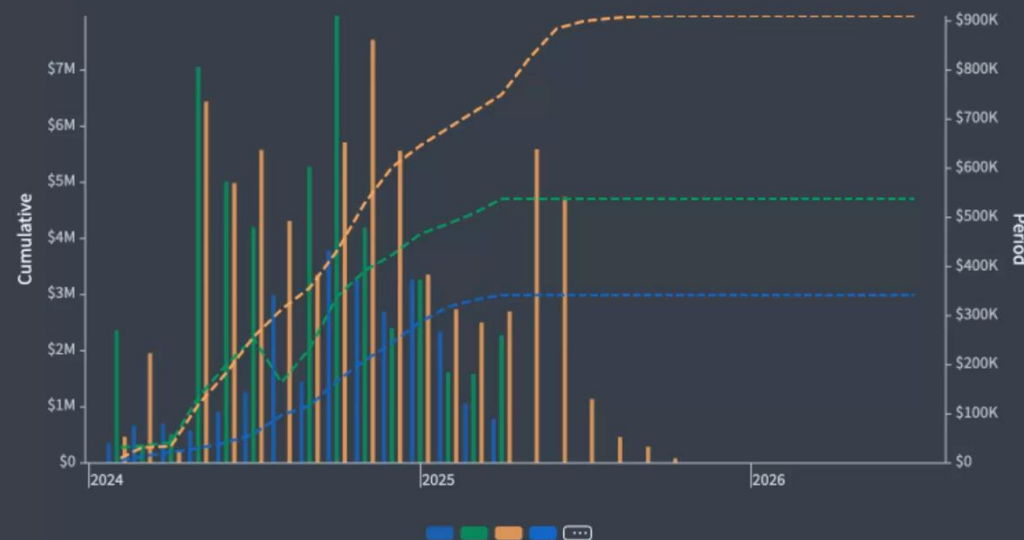
📅 Sun, Jul 26, 2026 Predicted Finish Date

👤 ? Program Manager

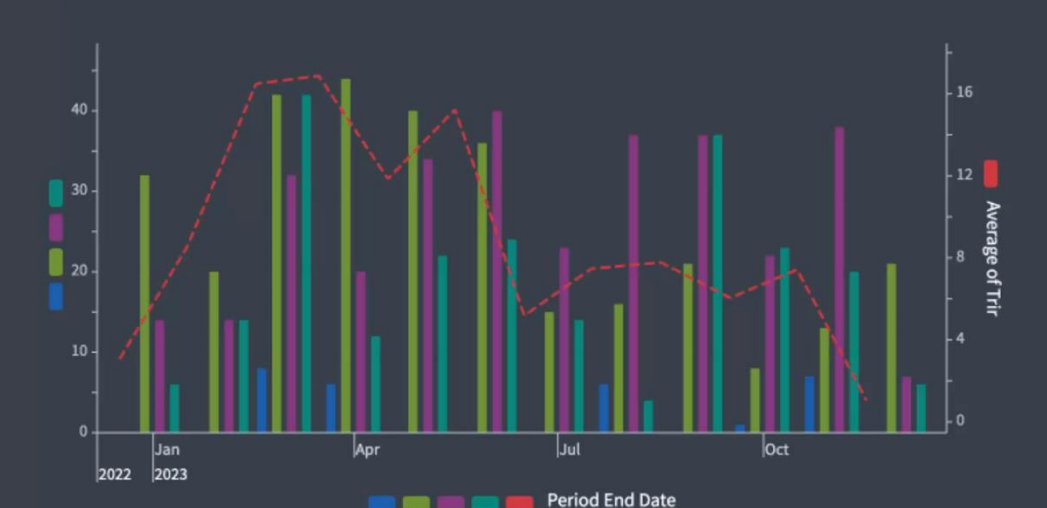
Progress



Cost Performance Over Time



HSE Performance Over Time



Acuity

Homepage

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Main Street Extension

Headworks Improvement

Light Rail and Transit

Column Installations of Left Wing Behind Schedule

Agent Awaiting Review

AIP Summary:

AIP agents have detected that the installation of the left wing columns have been delayed due to faulty concrete batches supplied by StrongCrete Ltd. Notably, similar issues with StrongCrete Ltd.'s concrete have occurred at other construction sites as well. AIP suggests procuring through an alternate supplier to mitigate this risk.

Estimated Impact Summary:

Cost Impact \$250K

Schedule Impact 21 days

Affected Order

Order - 20382B

Supplier - strongcrete ltd.

Parts - Column 38929 +19

Affected Project Details:

Storage Tank

Project Manager - John Doggett

Budget - \$3.500M

Phase - 05-Close-out

1 Review Evidence

2 Model Impact

3 Review Resolution

Supplier Communications

Sender - steve.parwood@strongcrete.com

Extracted Order - 20382B

Extracted Supplier - strongcrete ltd.

Extracted Delay Date - 2024-11-21

Body -
Dear John,

It is very unfortunate to hear that the delivered concrete columns for the order 20382B do not fulfill our expected quality standard. We are very sorry about that. We estimate the delivery of the new columns will arrive by 21th November 2024. Please contact our customer liason team if you require any additional assistance.

Kind Regards,
Steve Parwood

Date - Oct 24, 2024

Defect Images

Images Recieved: Oct 30, 2024, 5:00 AM

Supply Chain Dependencies

strongcrete ltd.

1 (Acuity) Supplier Correspondence

1 (Acuity) Supplier Correspondence

1 (Acuity) Order

20 (Acuity) Parts

20 Concrete Columns

1 (Acuity) Order

rme_advanced_sample_project.lfc

Drone Footage

Images Recieved: Oct 30, 2024, 5:00 AM

Accept and Proceed

Discard Issue



Homepage

Risks

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HS&E

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Main Street Extension



Headworks Improvement



Light Rail and Tramways



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Upcoming

1

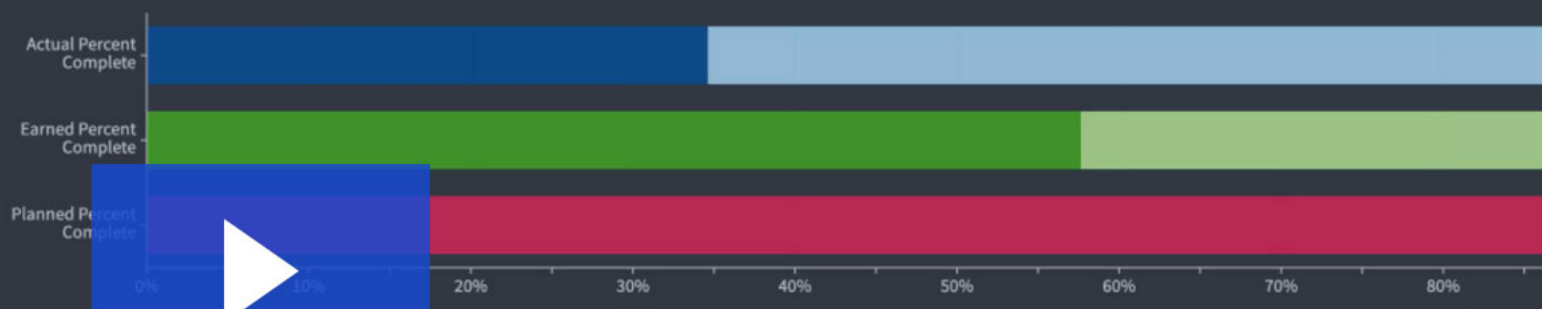
Draft Mas Received days Over

Program 360: City of Belmont

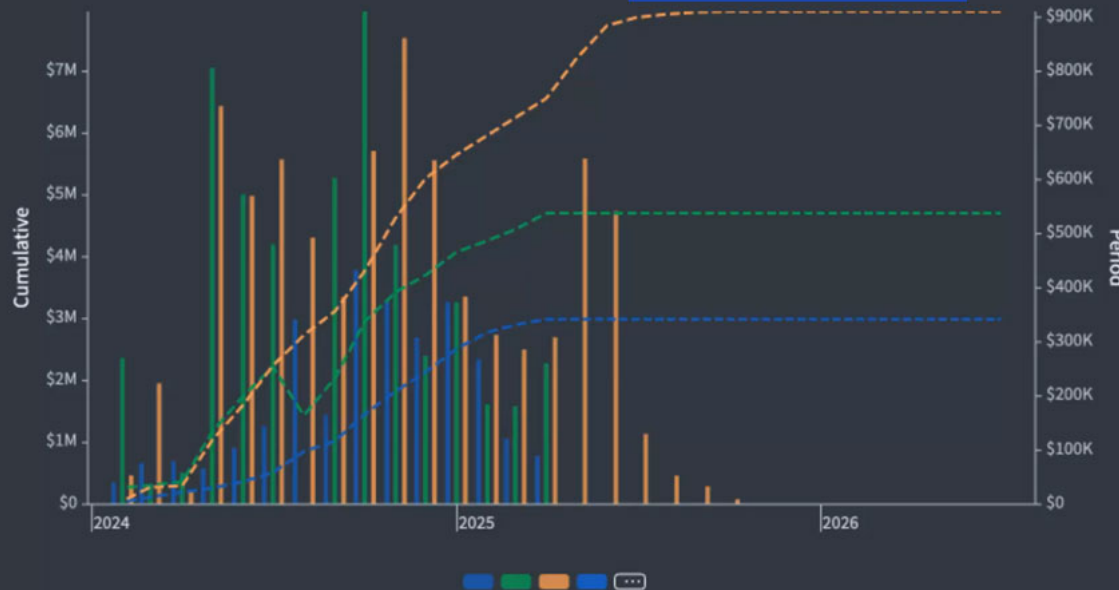
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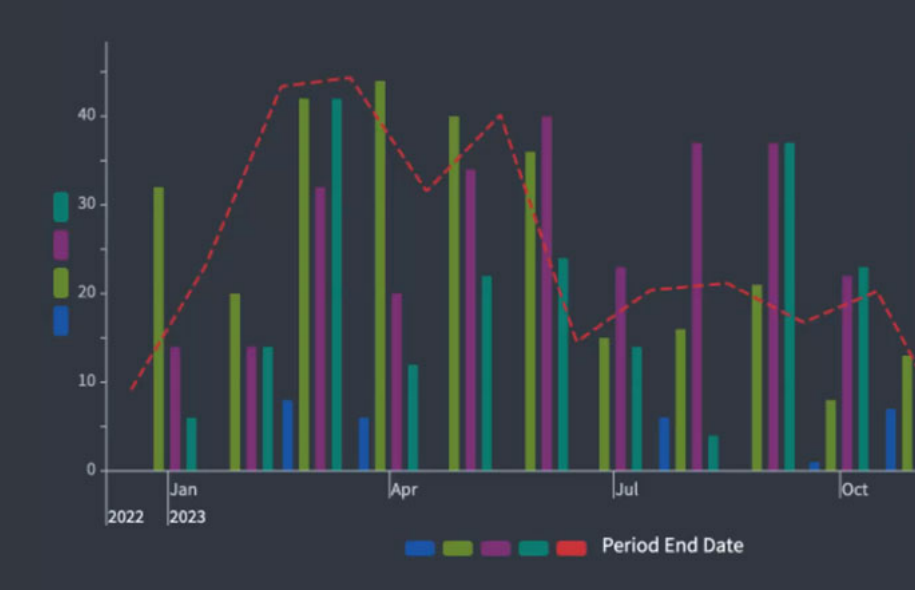
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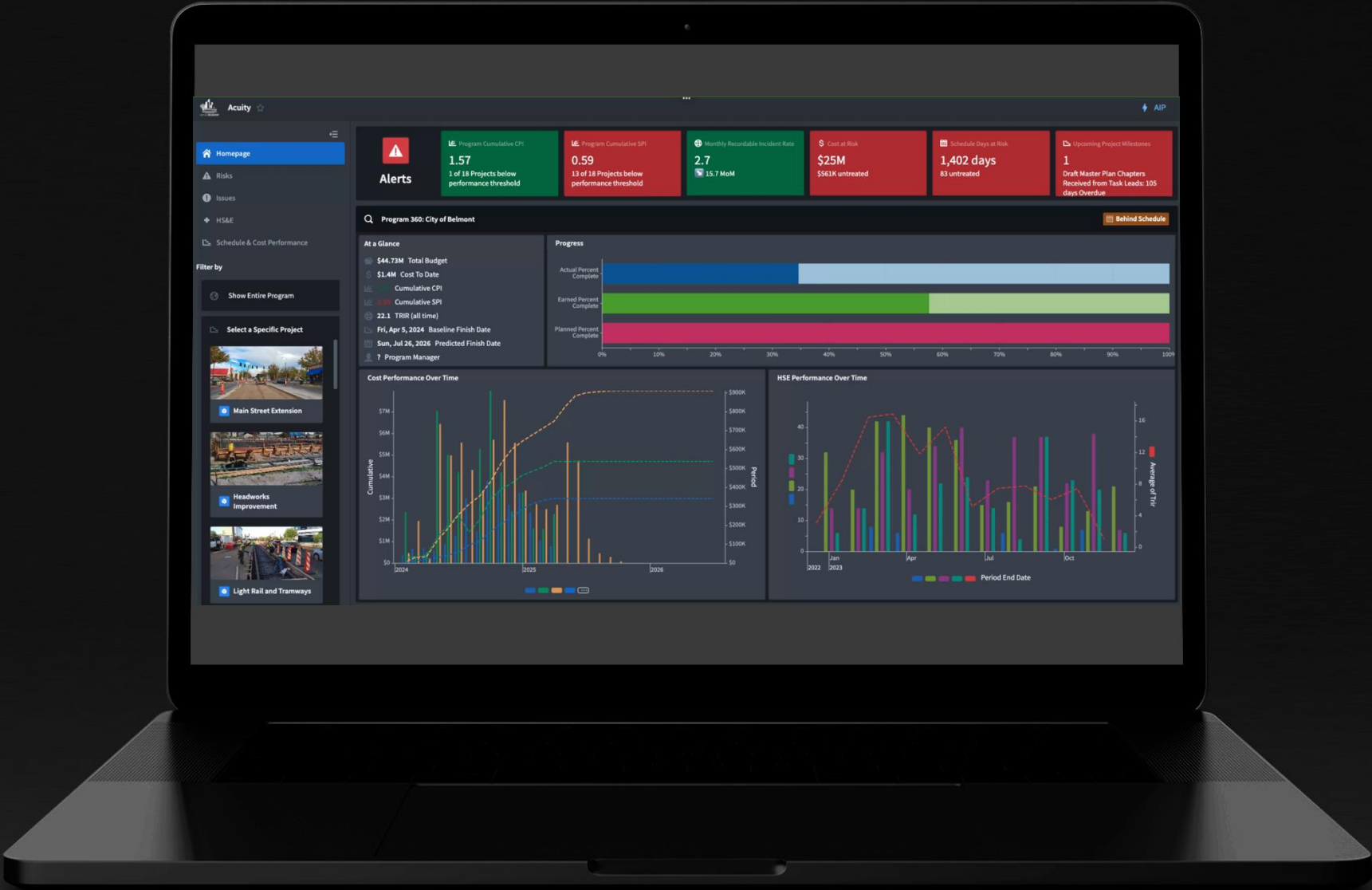
Cost Performance Over Time



HSE Performance Over Time



DEMO: POWERING PROGRAMS WITH ACUITY



3 Connecting an Island Ahead of the Storm

Optimizing Operations and Protecting Critical Assets for the Puerto Rico Aqueduct and Sewer Authority (PRASA)



We face recurrent risks from natural disasters [...] The Digital Resiliency and Response System (DRRS) is poised to significantly transform PRASA's operative capabilities.

— Joel Lugo, Executive Director of Infrastructure, PRASA

- Real-time eyes on the system
- Proactive detection of emergencies and opportunities
- Targeted tracking and pinpointing of affected areas
- Robust OT cybersecurity protecting most critical assets



 **Intelligent O&M**  **Aqua DNA**

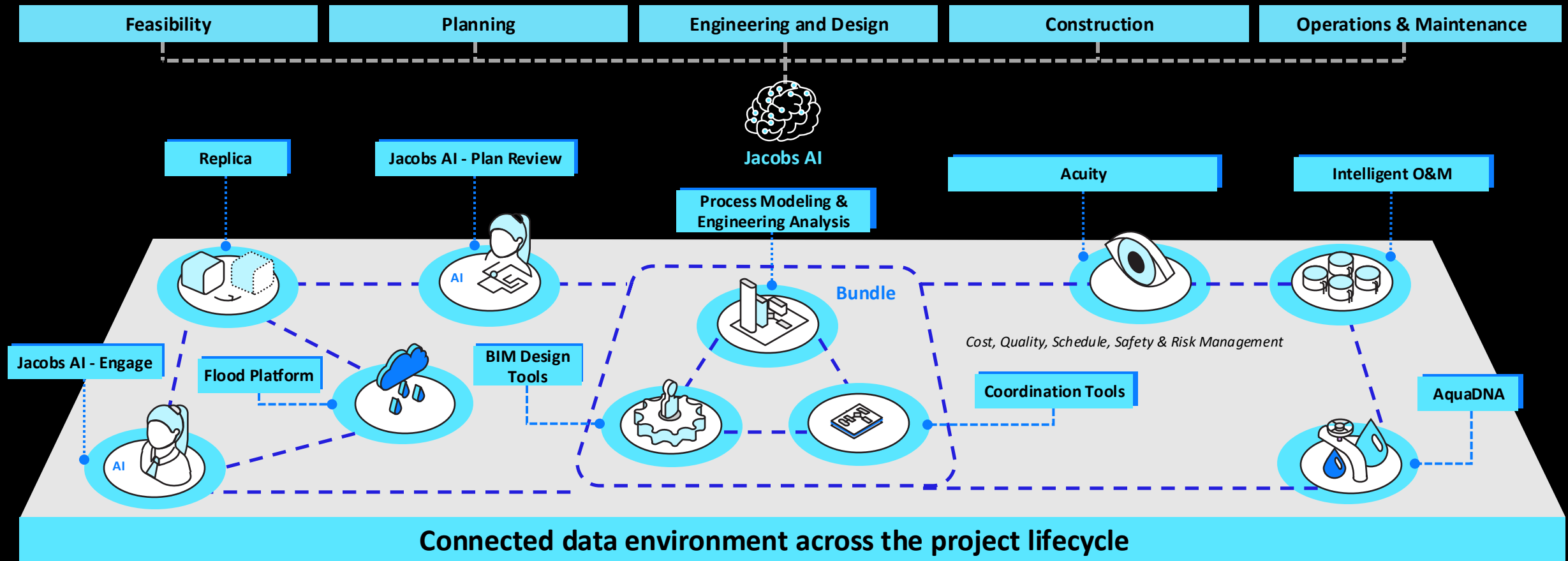
3 mo. TO DEPLOY FROM 0
TO PRODUCTION

+7.5k SCADA SENSORS
INTEGRATED

+3k ASSETS COLLECTING
+500M DATA POINTS

Our Digital Platforms Provide Integrated Use Cases across the Asset Lifecycle

Our Digital One Water Platform - Built by water experts for water experts



Which phase of the asset lifecycle has the highest potential for AI transformation?

A.

Planning & Advisory

B.

Design & Engineering

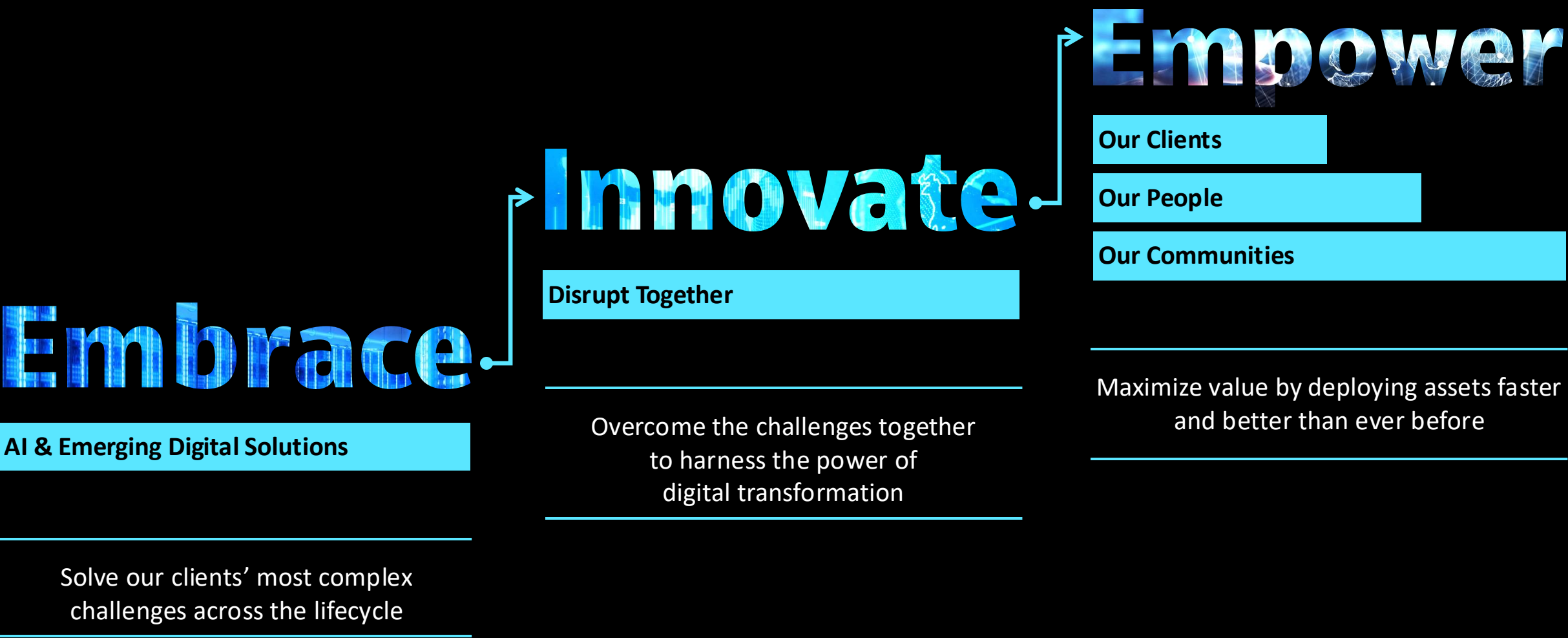
C.

**Program Management &
Construction Management**

D.

Operations & Maintenance

Empowering the Asset Lifecycle with AI



Q&A