# *ALAMEDA COUNTY WATER DISTRICT*

43885 So. Grimmer Boulevard
Fremont, CA  94538

## ENGINEERING & INFORMATION TECHNOLOGY COMMITTEE

## AGENDA

Wednesday, February 4, 2026

<u>4:15 p.m.</u>

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This agenda and all accompanying materials can be viewed on the Alameda County Water District website at: www.acwd.org.

1/30/2026

1.    Public Comments

2.    Update on the Distribution Programmable Logic Controller Replacement Project

      Presenter:  Ricky Vera, Project Engineer

3.    Overview of the Project Engineering Construction Management Platform (Procore)

      Presenter:  Kerri Smyth, Project Engineer

# Alameda County Water District

## *Agenda Item 2: Update on Distribution Programmable Logic Controller (PLC) Replacements Project*

Presenter: Ricky Vera,
Project Engineer

EIT Committee
February 4, 2026

# Agenda

1. Project Background

2. Program Review

3. Project Approach
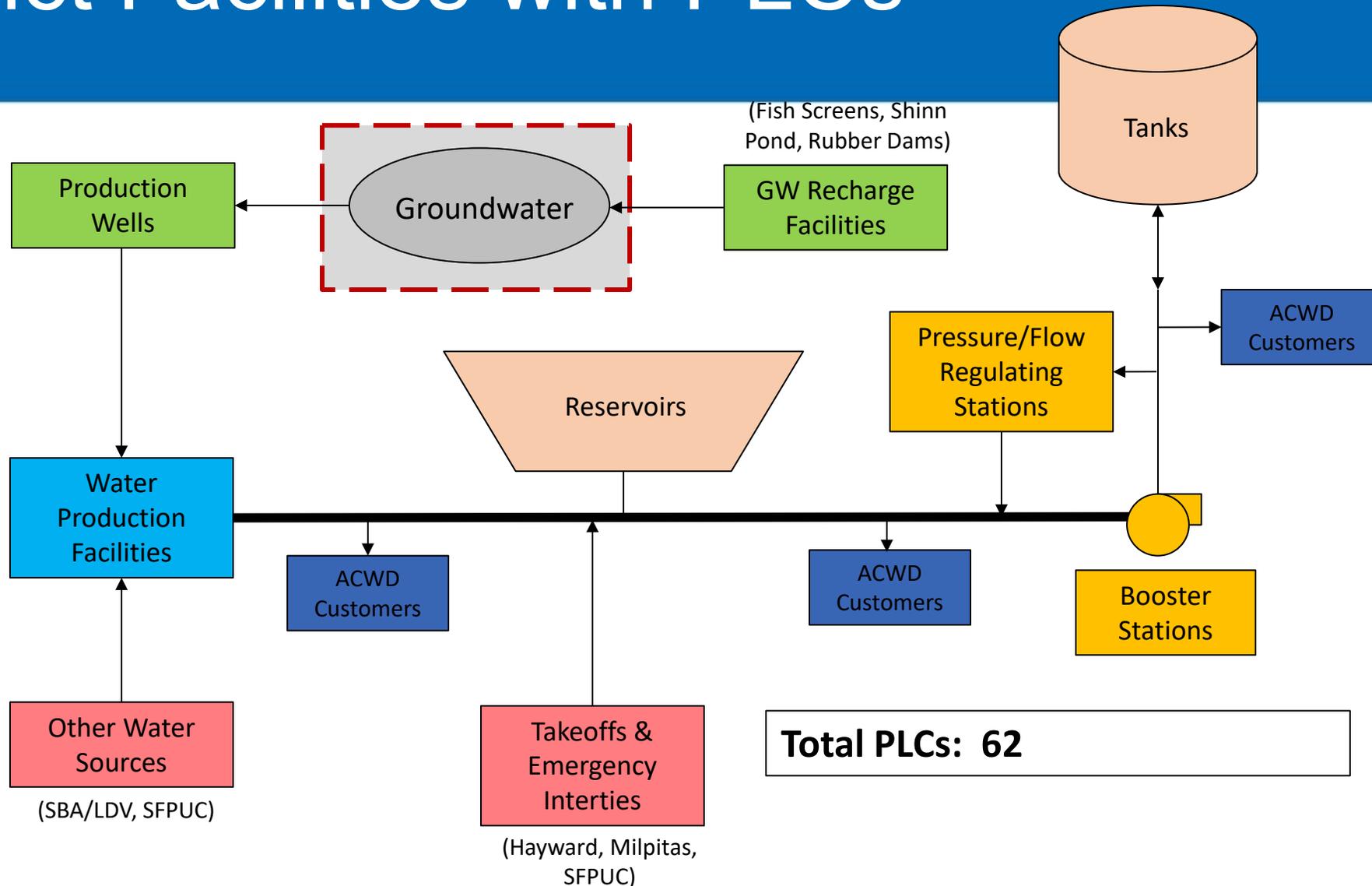
4. Review of Completed Sites

5. Next Steps

# What is a Programmable Logic Controller (PLC)?

**PLC Programming Language/Environment:**
- ProWORX 32 (Old)
- EcoStruxure (New)

PLC CPU

SCADA

Reporting

Field Devices

Field Devices
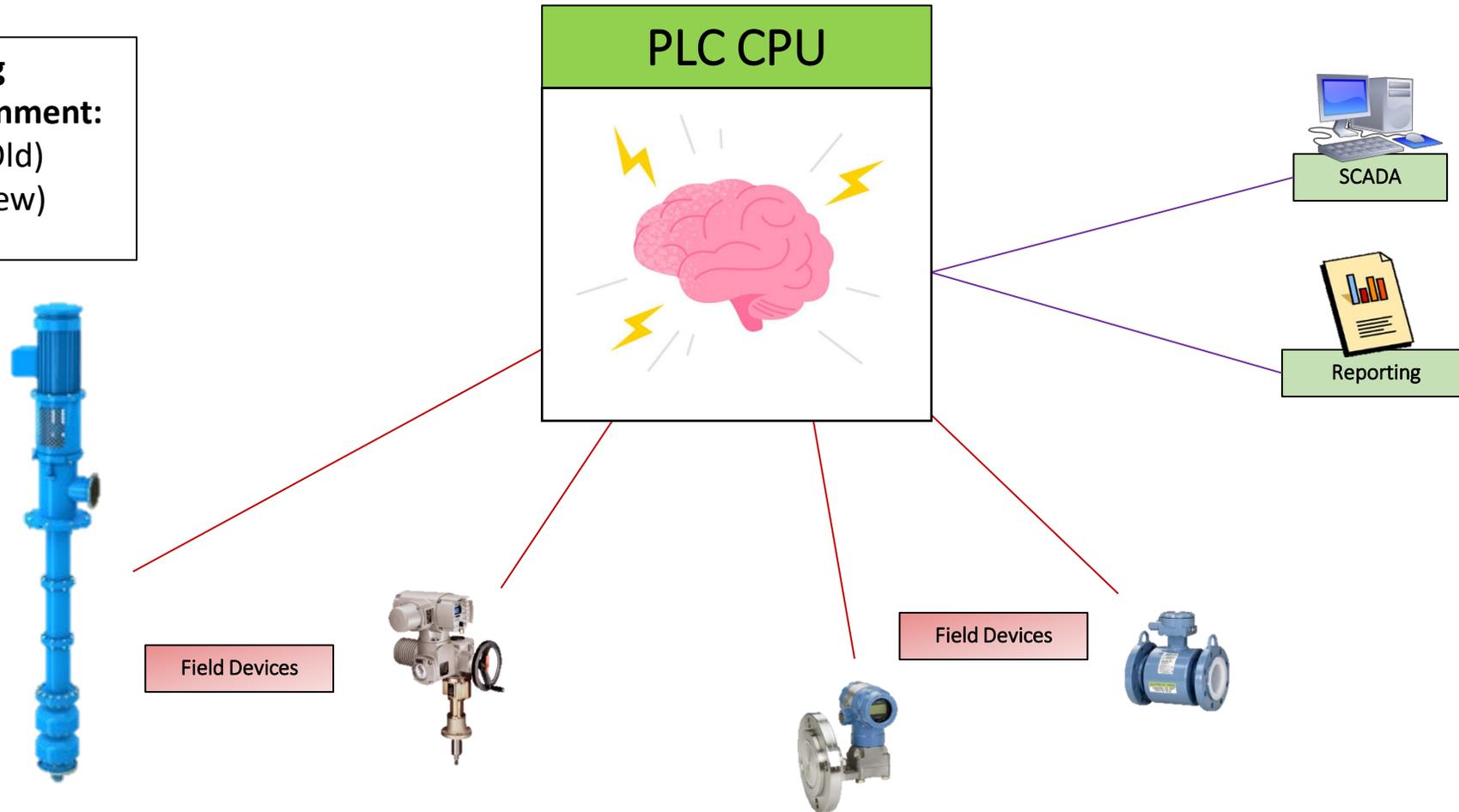
# District Facilities with PLCs

# Program Driver

## Existing PLC Hardware is obsolete

- End of commercial life – 2000.
- End of support – 2008.
- Limited/depleted spares in stock.
- ~50% of all PLCs are older than 15 years
- All PLCs included in the Phase-3 Project were installed prior to 1999

## Existing PLC Software is obsolete

- End of commercial life – 2012.
- Not compatible with new PLC hardware (nor Windows 10)
- Training and support uncertainty.
- District has adopted a new software platform standard.

# Project Approach

Outage Restrictions

- Scheduling is based on production needs and availability

- Outage is limited to one work week M-F

Construction Process

- Facility shutdown

- Demolition of existing equipment

- Installation of new Equipment

- Testing and commissioning

# Scope of Work for Phase 3

Upgrade the following (8) PLCs:

- Scott Creek Booster Station

- Rancho Higuera Booster Station

- Avalon Tank

- Washington Booster Station

- Mayhew Reservoir

- PR-3 Regulator

- FR-2/PR-2 Regulator

- FR-1 Regulator

# Existing Facilities

Washington Booster MCC

Washington Booster PLC

FR2/PR2 Regulator PLC

# Completed Sites – Booster Stations

Rancho Booster PLC



- Only PLC replacement, minimal site work

- PLC Programs are much larger than other sites

- Longer commissioning process
    - Running pumps, pump lockouts in addition to all instrumentation
    - SCADA Control Testing
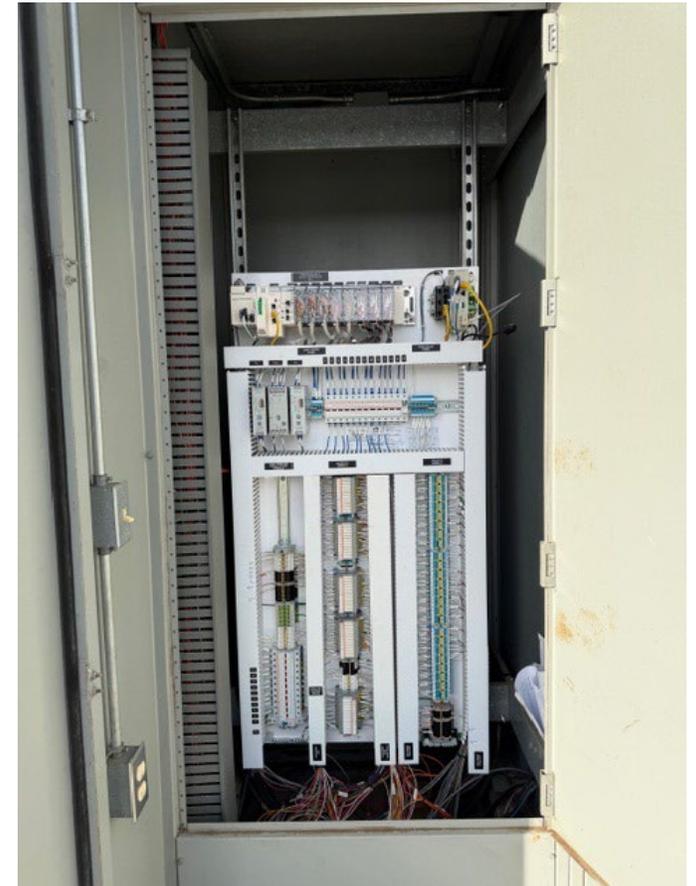
# Completed Sites – Regulating Stations

- More site work than Booster Station PLCs

- Smaller PLC Programs

- Shorter Commissioning Process

PR3 Regulator PLC

FR2/PR2 Regulator PLC

# Completed Sites – Avalon System

- Replaced Rancho Higuera, Scott Creek Booster Stations, and Avalon Tank

- Tank acts as the hub for Avalon PLCs

- PLCs had to be replaced sequentially

- No interruption in supply to Avalon Zone

Avalon Tank (New)

Avalon Hts Booster (E)

Rancho Higuera Booster (New)

Scott Creek Booster (New)
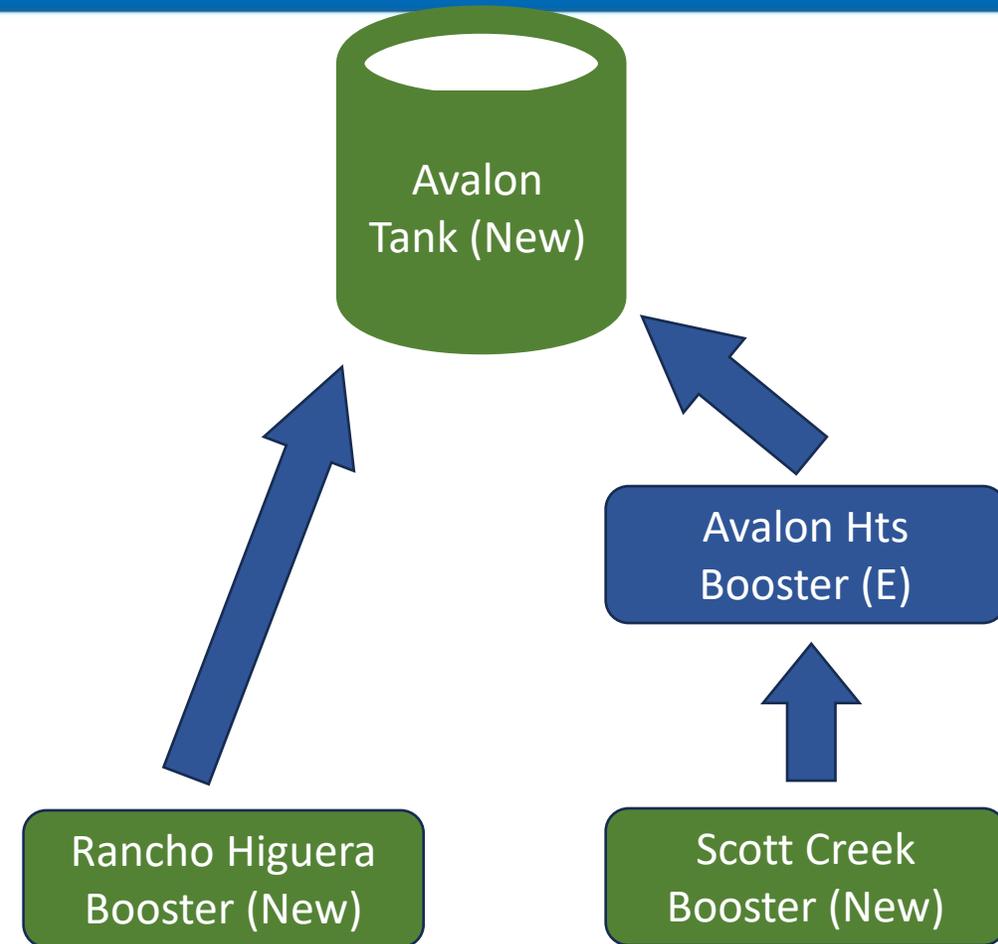
# Next Steps

- One more site for Phase 3, to be completed Q3 FY25/26

- PLC Replacement Program is ongoing:

  - Goal of 4 replacements per year on average

  - Continue exploring & streamlining delivery approach

- Major Facility PLC Replacements are (e.g. Desal) under their own project, cause break in Distribution PLC Program

# Questions



Ricky Vera - Project Engineer

# Alameda County Water District

## *Agenda Item 3: Overview of the Project Engineering Construction Management Platform (Procore)*

Presenter: Kerri Smyth,
Associate Engineer

# Agenda

- Background
  - Construction management
  - Previous processes
- What is Procore
- Initial Implementation
  - Project Management tools
  - ACWD Implementation
  - Results
- 2025 Enhancement: Financial Management

# Why Now?

CIP Project Trends:
- Increasing Project Volumes
- Expanding Main Renewal Program
- Complex and Fast-Paced such as PFAS Treatment Project

Importance of communication and timely action for high-quality construction outcomes.
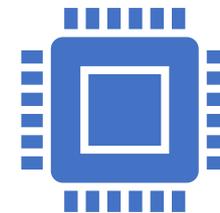
Manual processes and workflows in need of modernization, automation and streamlining.

# Background
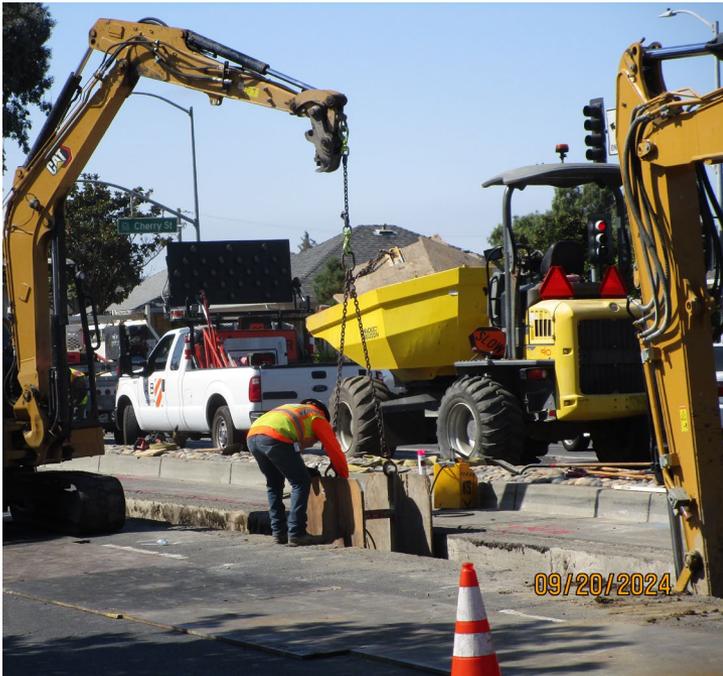


- What is Construction Management?
  - Planning, coordinating and overseeing a construction project.
  - Apply Project Management principles.
  - Control of Project scope, cost, schedule, quality and safety.
  - Successful Project delivery on time and within budget.
- Construction Management at ACWD
  - In-house and consultants.
  - Consultants have used their Procore licenses on ACWD projects.
  - In-house CM historically performed manually via email & spreadsheets.

# The Procore Construction Management Platform

- PE evaluated construction management platforms, adoption rates, and references from other utilities.

- Procore is a construction management software as a service

- It is the most widely used in the construction industry for Contractors and Owners, as well as most taught in academic settings.

# Initial Procore Implementation



- Core & Project Management tools
- "Procore Admin" training & system configuration
- PE team training
- High engagement rates & project performance transparency
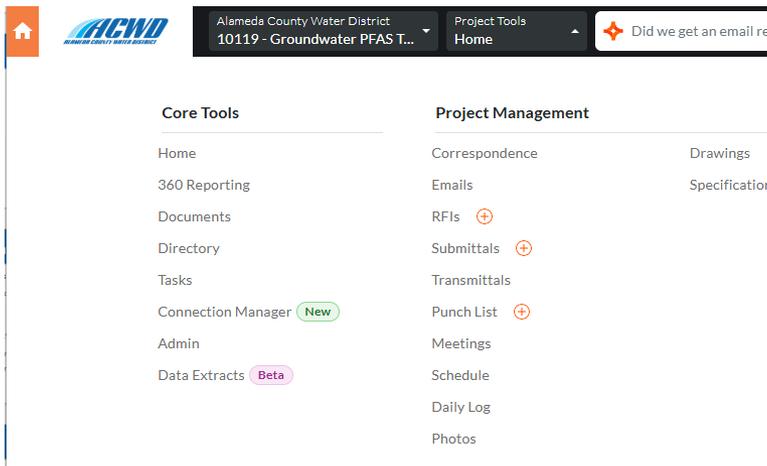
# Procore Implementation Results

- Internal Survey:
  - 8 construction projects managed with Procore.
  - Pros: Document exchange, organization, RFIs, submittals, Docusign integration
  - Room for improvement: Additional SOPs/training, change order process, progress payments, & Procore tool integrations.

- Action Items:
  - Procore Enhancement: Financial Management
  - Training session & SOPs
  - Tool configuration updates
  - User feedback for Procore's roadmap

# 2025 Procore Enhancement: Financial Management



- Features include commitment administration, change management, and progress payments

- Completed configuration and training

- Expected benefits:
  - Automated documentation & reporting
  - Pre-built workflows
  - Increased efficiency
    - Less manual processing
    - Streamlined approvals

# Questions?