



**Enterprise Resource  
Planning (ERP)  
and  
Advanced Metering  
Infrastructure (AMI)**

**September 5, 2023  
Board Meeting**



# Agenda

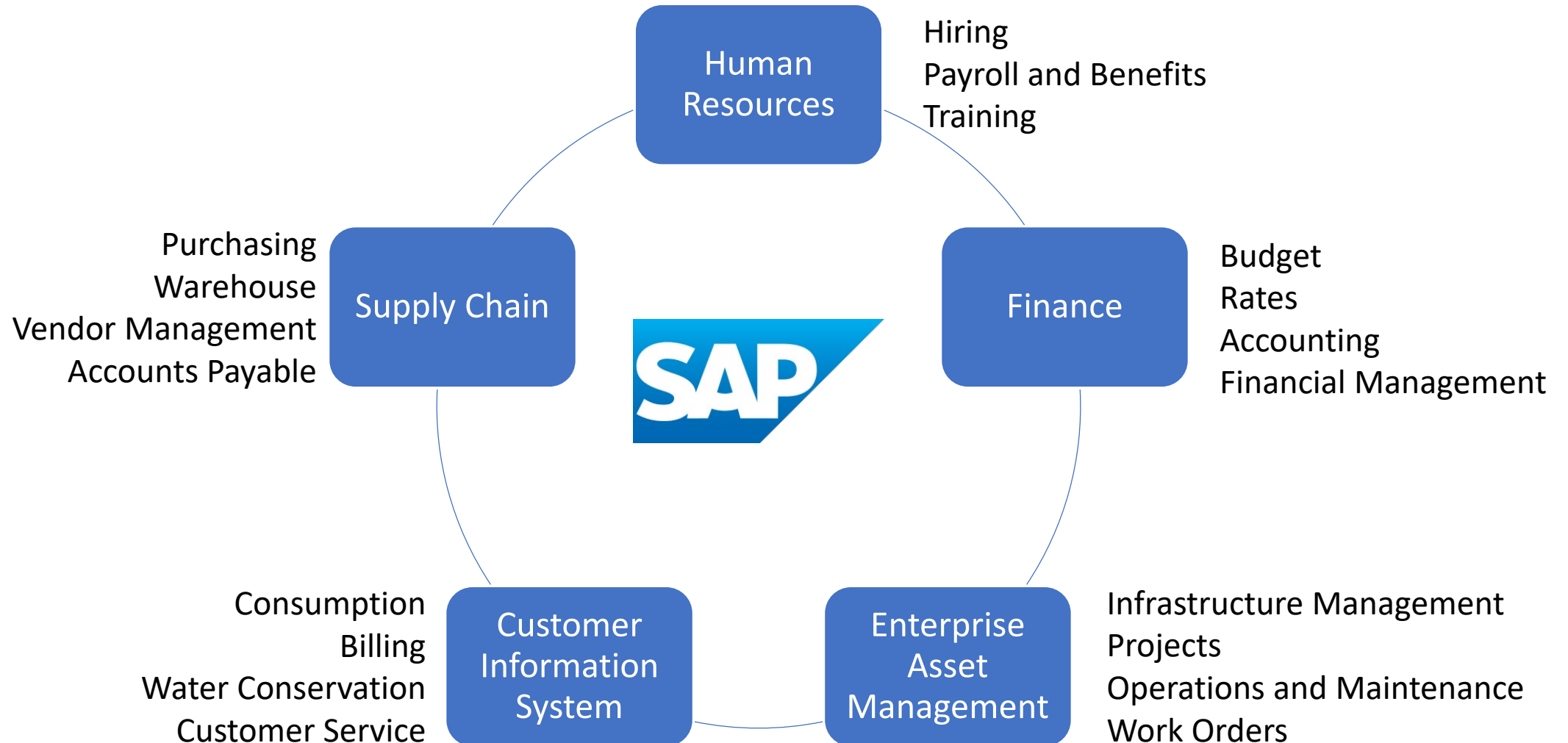
- ERP and AMI Projects – Overview and Background
- Review of Project Risks and Challenges
- Recommended Risk-Based Project Approach

# ERP Project Background

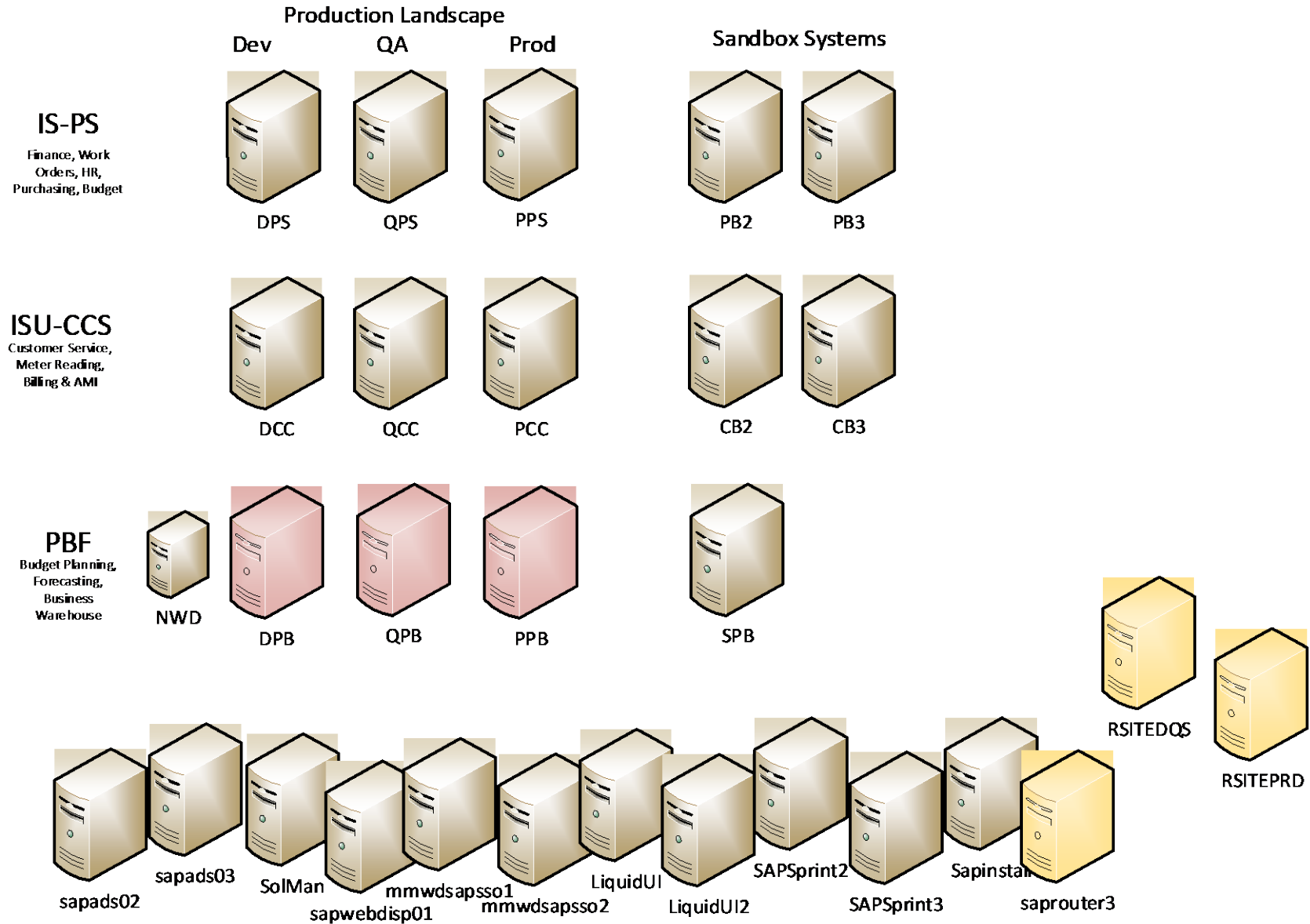
# Enterprise Resource Planning

- Enterprise Resource Planning (ERP) refers to a type of software that organizations use to manage day-to-day business activities such as accounting, human resources, budgeting, procurement, inventory, project and maintenance management, and customer relations.
- SAP has been the District's ERP software for over 23 years
- The District has developed complex integrations and customizations with external work processes and systems such as ESRI GIS, Itron, MVRS, Temetra, and Liquid UI
- SAP is at “end of life” with no more updates planned other than emergency security patches through December 2027

# Major SAP Functions



# SAP System Landscape



# ERP Replacement Plan – Estimated \$10M

- Phase 1 (Year 1) – Initiate Project (CIP funded \$525k)
  - Perform Needs Assessment and Options Review
  - Develop and Issue RFP
  - Conduct Vendor Proposals and Demonstrations
- Phase 2 (Year 2) – Contract Development (CIP funded \$3.9M)
  - Evaluate and Select Vendor/Consultant
  - Prepare bid documents and professional services agreements for Board approval
- Phase 3 (Year 3) – Implementation (CIP proposed \$4M)
  - Execute Data migration, system configuration and customization, and testing
  - Carry out Staff training
  - Prepare for cutover and “Go Live”
- Phase 4 (Years 4-5) – Refinement (Proposed \$850k/yr)
  - Enhance system and implement new functionality

# AMI Project Background



# Advanced Metering Infrastructure

- AMI provides the District and its customers improved information regarding water use
  - Near real-time feedback vs. bi-monthly
  - Potential for decrease in water consumption
  - Anticipated water savings through better leak detection
  - Potential for long-term cost savings
- AMI Project will implement automated meter reading for all the District's customers
  - Currently 5,000 accounts on AMI through pilot project
  - Remaining 55,000 accounts using manual read

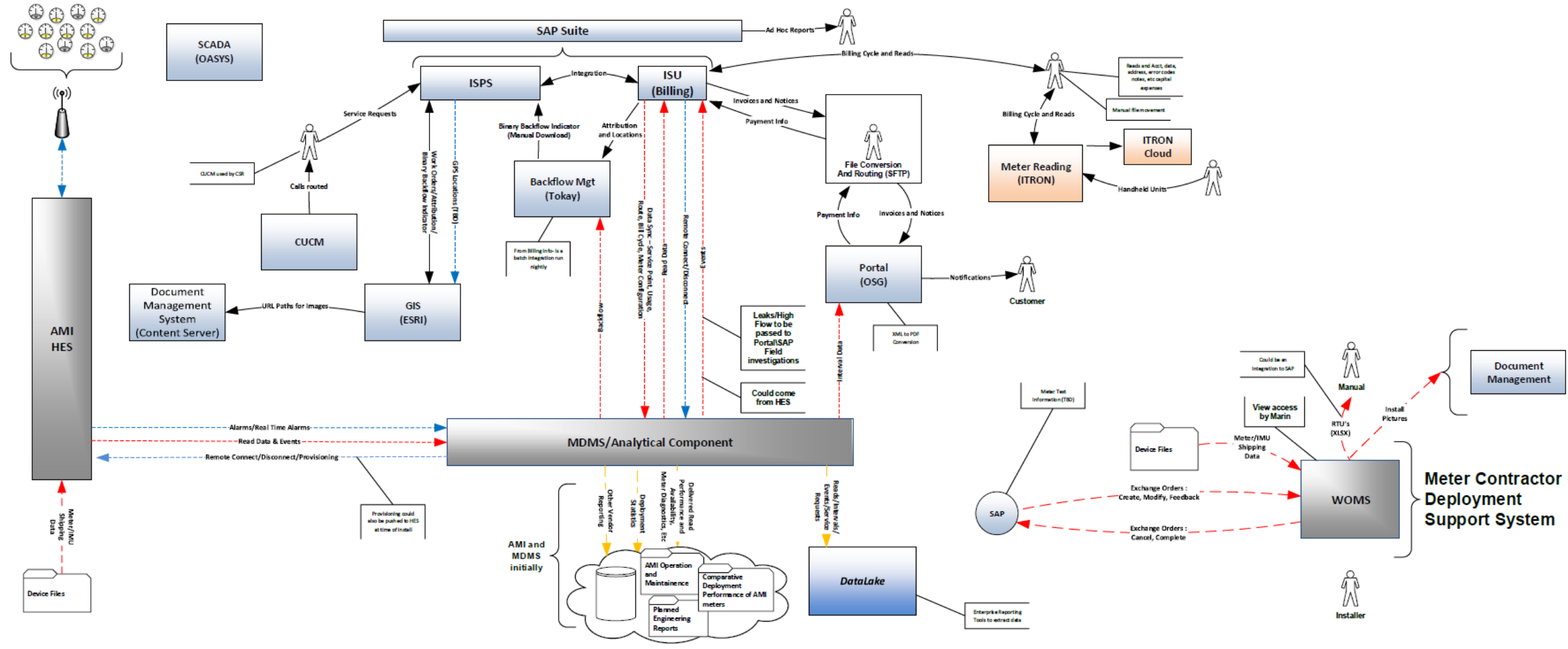
# AMI Components





# AMI Solution Architecture Diagram

March 2022



System	System	System	System
New System (Current Scope)	System to Potentially be removed/retired	Existing Integration or internal vendor integration	Potential Altered integration
Existing System	System to be confirmed	Web Service Based Integration	Integration to be Removed
Future System	Transitional or Temporary System supporting	File Based Integration	Potential Integration to be Confirmed
			Reports or Data Exports Only

**LEGEND**

# AMI Implementation Plan – Estimated \$25.6 M

- Phase 1 (Complete)
  - Conduct Feasibility Study
  - Develop Plan and Roadmap
- Phase 2 (Year 1) – Initiate Project
  - Develop and Issue RFP
  - Conduct Vendor Proposals and Demonstrations
  - Evaluate and Select Vendor/Consultant
  - Prepare bid documents and professional services agreements for Board approval

# AMI Implementation Plan (continued)

- Phase 3 (Year 2) – Back-end Infrastructure
  - Deploy AMI Collector network
  - Install AMI Head-end systems
  - Implement Meter Data Management System
  - Develop AMI data integrations
  - Conduct Testing and Training
- Phase 4 (Years 3-4) – Customer Rollout
  - Develop and Implement Customer-facing AMI Portal
  - Install 55,000 meters
- Phase 5 (Years 5+) – Refinement
  - Enhance system and implement new functionality

# Project Risks

# AMI and ERP Projects are risky

- The District has not implemented IT or technology projects of this scale since the original implementation of SAP over 20 years ago
- Projects of this complexity are exceedingly difficult to implement successfully
  - Gartner Group, a leading IT consultancy, estimates roughly 2/3 of all ERP implementations fail to meet schedule, budget, and/or project objectives
  - AMI Projects also frequently fail to meet project objectives

# Areas of Project Risk

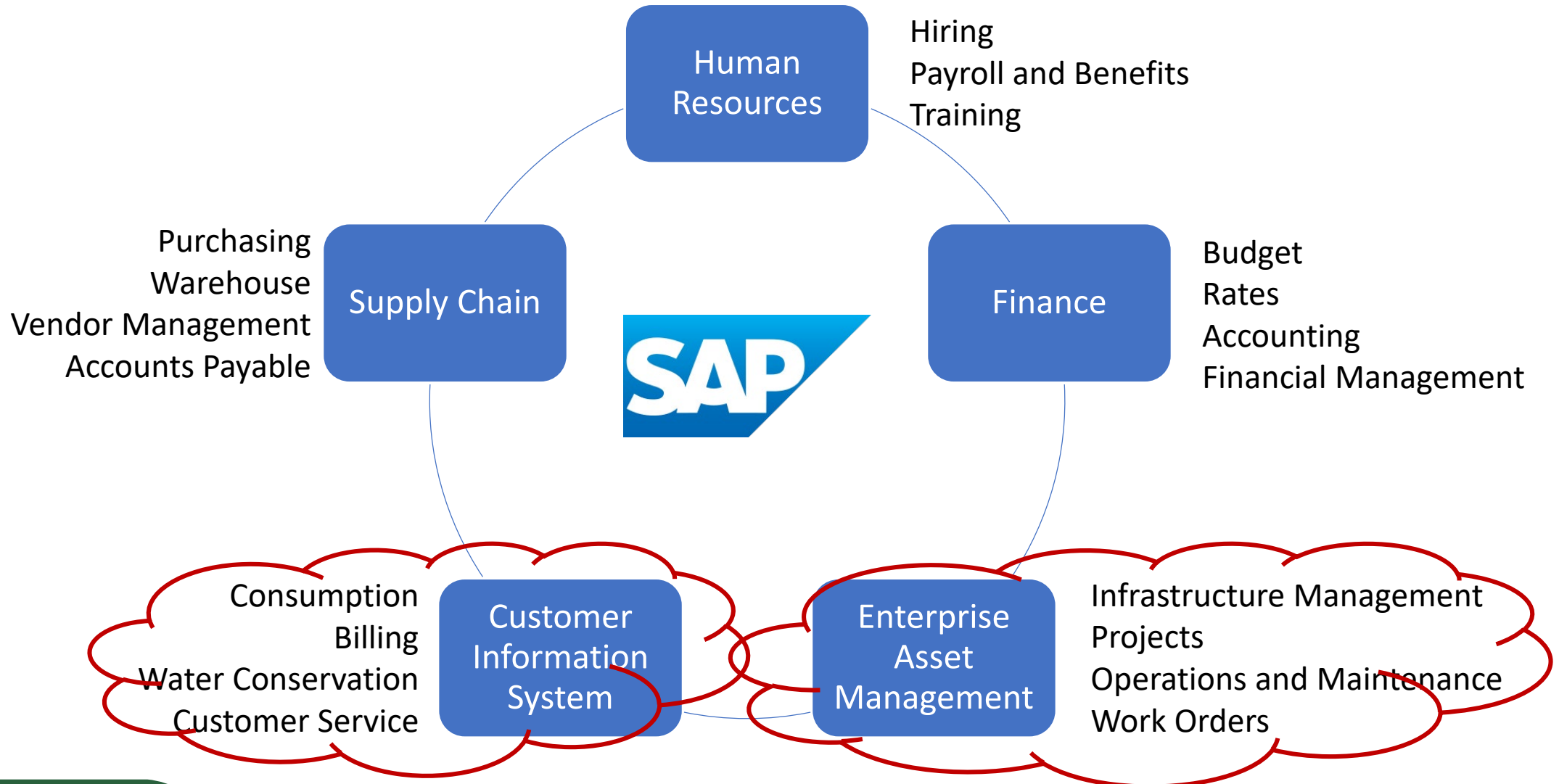
- Scope
- Functionality
- Technology
- Project Management
- Resources
- Vendor
- Change Management



# Complexity Increases Risk

- Both projects are complex
  - Many business processes changed
  - Most employees impacted
  - Large number of interfaces to other systems
- Due to the complexity of AMI and ERP, many employees and systems will be involved in both projects
- Must keep legacy systems functioning for the duration of both projects

# Major SAP Functions

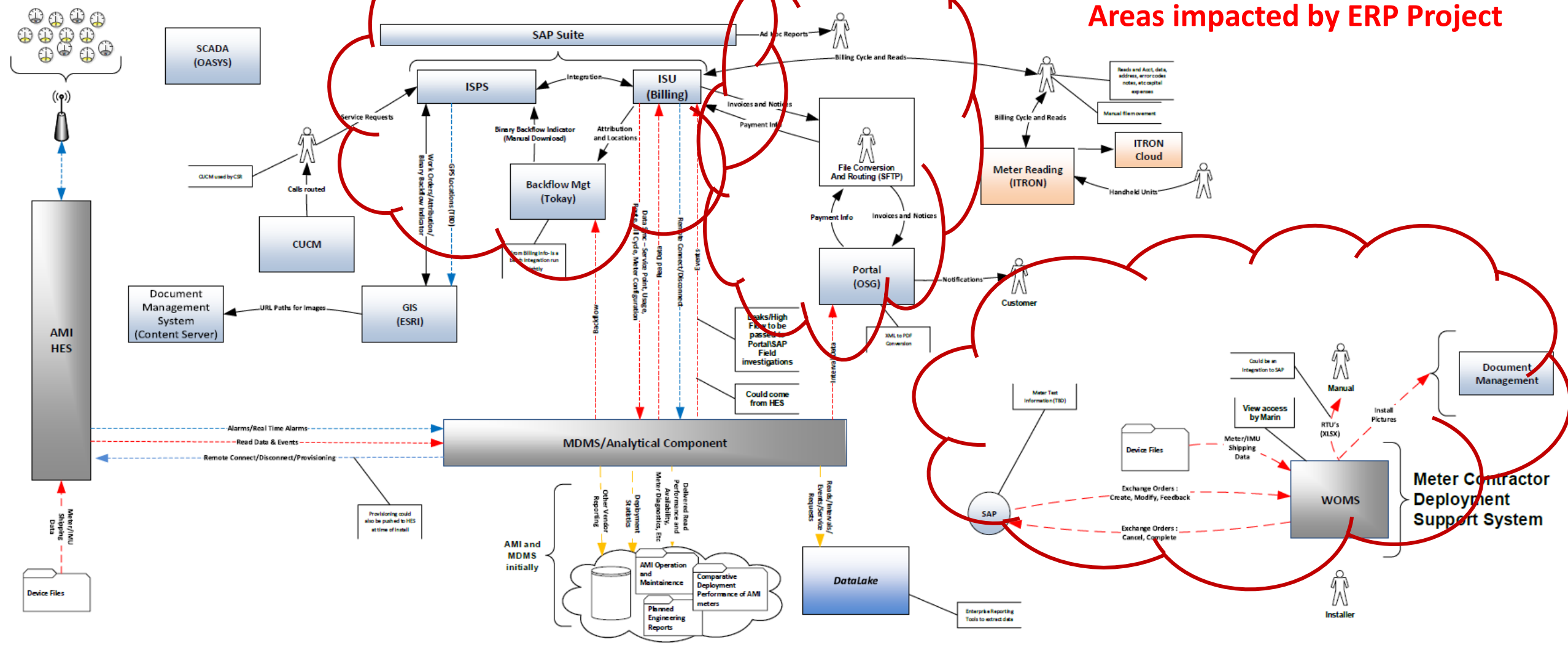




# AMI Solution Architecture Diagram

March 2022

**Areas impacted by ERP Project**



System		System		System		System		System		System	
System	New System (Current Scope)	System	System to Potentially be removed/retired	System	System to be confirmed	System	Transitional or Temporary System supporting	System	Existing Integration or internal vendor integration	System	Potential Altered integration
System	Existing System	System	System to be confirmed	System	System to be confirmed	System	Transitional or Temporary System supporting	System	Web Service Based Integration	System	Integration to be Removed
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LEGEND

# Risk-Based Project Approach

# Full Speed Ahead?

- The AMI and ERP implementations are discrete projects, however:
  - Many workgroups will have significant obligations to both projects
  - Pursuing them simultaneously significantly increases Project Management, Resource, and Change Management risk
- This can be resolved by deferring one of the two projects
- The impacts to deferring these projects must be evaluated

# Advantages/Disadvantages of Phased Implementation

- While a phased implementation allows for appropriate focus and associated risk reduction, a project delay will have impacts
  - If AMI is delayed:
    - Disadvantages: Deferral of project benefits, including potential cost and water savings
    - Advantages: Potential technology and cost improvements
  - If ERP is delayed:
    - Many Disadvantages:
      - Increasing risk of system failure due to lack of support of obsolescent system
      - Deferral of benefits, including more efficient workflows, improved customer interaction, and new functionality
      - AMI/ERP Interfaces would need to be developed and tested twice
    - Advantages: None

# Risk Management Approach

- Implementing the projects in parallel unnecessarily increases the chance of failure in both
- The legacy ERP system represents a larger near-term risk to the District vs. manual meter reading
  - A 4+ year deferral is an unacceptable risk for the ERP system
  - A 3+ year deferral of AMI has minimal risk, and may have benefits
- Recommendation: Begin the ERP Project immediately and initiate the AMI project shortly after the ERP is live and stable

# Next Steps



# Initiate Phased Project

- Near-Term
  - Requirements Gathering and Scope Definition for ERP
  - Hire consultant to assist needs assessment and RFP process
  - Prepare RFP
- Next Year
  - Release RFP
  - Evaluate and Select Vendor
  - Negotiate and Award Contracts
  - Begin implementation

