Technology Rules: Is it a good investment for Bond and Facility Program Management?

Panelists

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- Penny McGrew, Program Manager, Gafcon Inc.

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- John Turner, Vice President, Marketing, Gafcon Inc.

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Agenda

1. Overview

2. Grossmont-Cuyamaca Community College District (GCCCD)

3. Program Management Perspective

4. Building Information Modeling (BIM)

5. Program Controls

6. Summary

GCCCD – District Overview

Two capital bond programs

- Proposition R - $207 million   2002
- Proposition V - $398 million   2012

Technology – District Perspective

Two bond programs Prop R and Prop V

- Then: Program management system

  - Separate from GCCCD's system

  - Only accessible to program management

- Now: Program management system

  - Integrating planning and budget

    - Bids, contract documents, payments

  - Driven by workflows developed for GCCCD

  - Accessible by GCCCD staff

Technology (continued)

Technology has enhanced our communications

- Citizens' Bond Oversight Committee

- Collaboration between district and colleges

- Public Website

Cash flow and bond issuance planning

gafcon

GROSSMONT-CUYAMACA
COMMUNITY COLLEGE DISTRICT

BuildLACCD

SAN DIEGO
COMMUNITY COLLEGE
DISTRICT

Program Management Perspective

Importance of Technology

- Reporting
- Oversight of all projects
- Scheduling and Planning
- Detailed Budgets
- Document Control
- Program Management Plan
- Storage of District Wide Drawings

Program Management Perspective

- Headlights
  - Program Budgets
  - Monitor Project Lifecycle

- Taillights
  - Reconciles project activity to FY accounting
  - Budgets
  - Actuals
  - Fiscal Reporting
  - Fiscal Audits
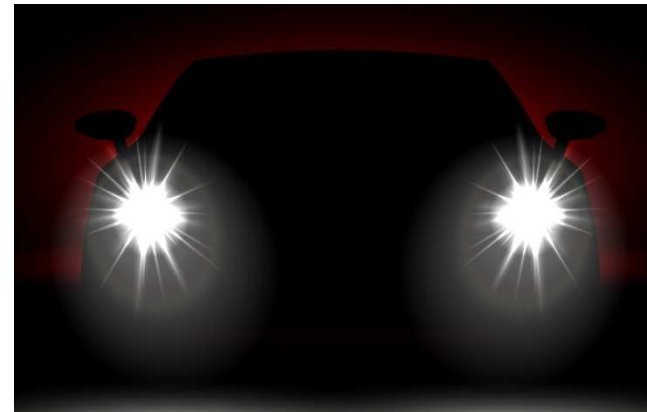
Program Management Perspective:
Collaborative Use
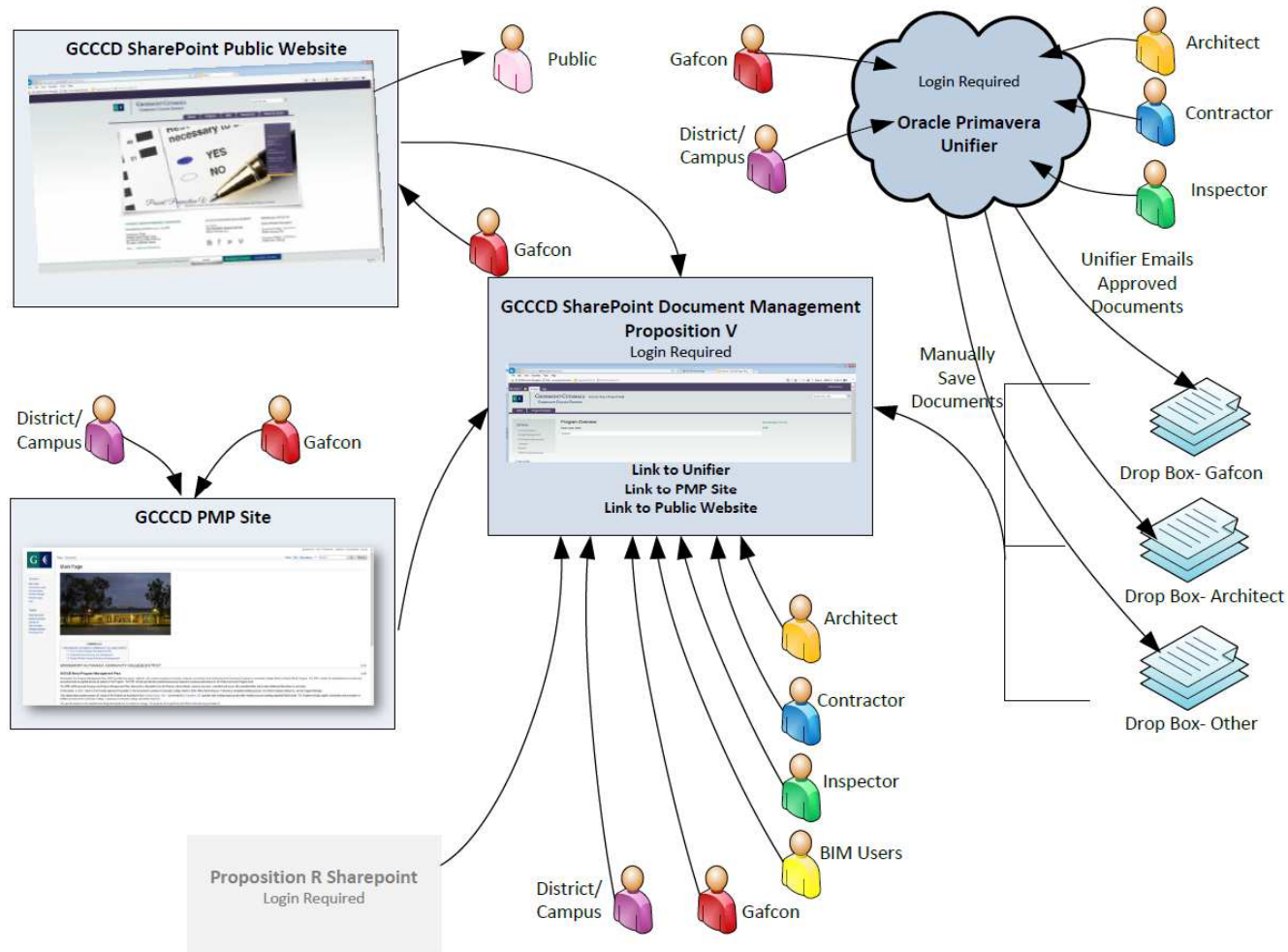
BIM – What is it?

"BIM is a digital representation of physical and functional characteristics of a facility. As such it serves as a shared knowledge resource for information about a facility forming a reliable basis for decisions during its lifecycle from inception onward."

-National BIM Standards

BIM

Estimating

4D

Energy

MEP Coordination

Field

Design Review

Ops Management

CD's/As-Builts

Doc Control

2D CAD

Animation

Space Management
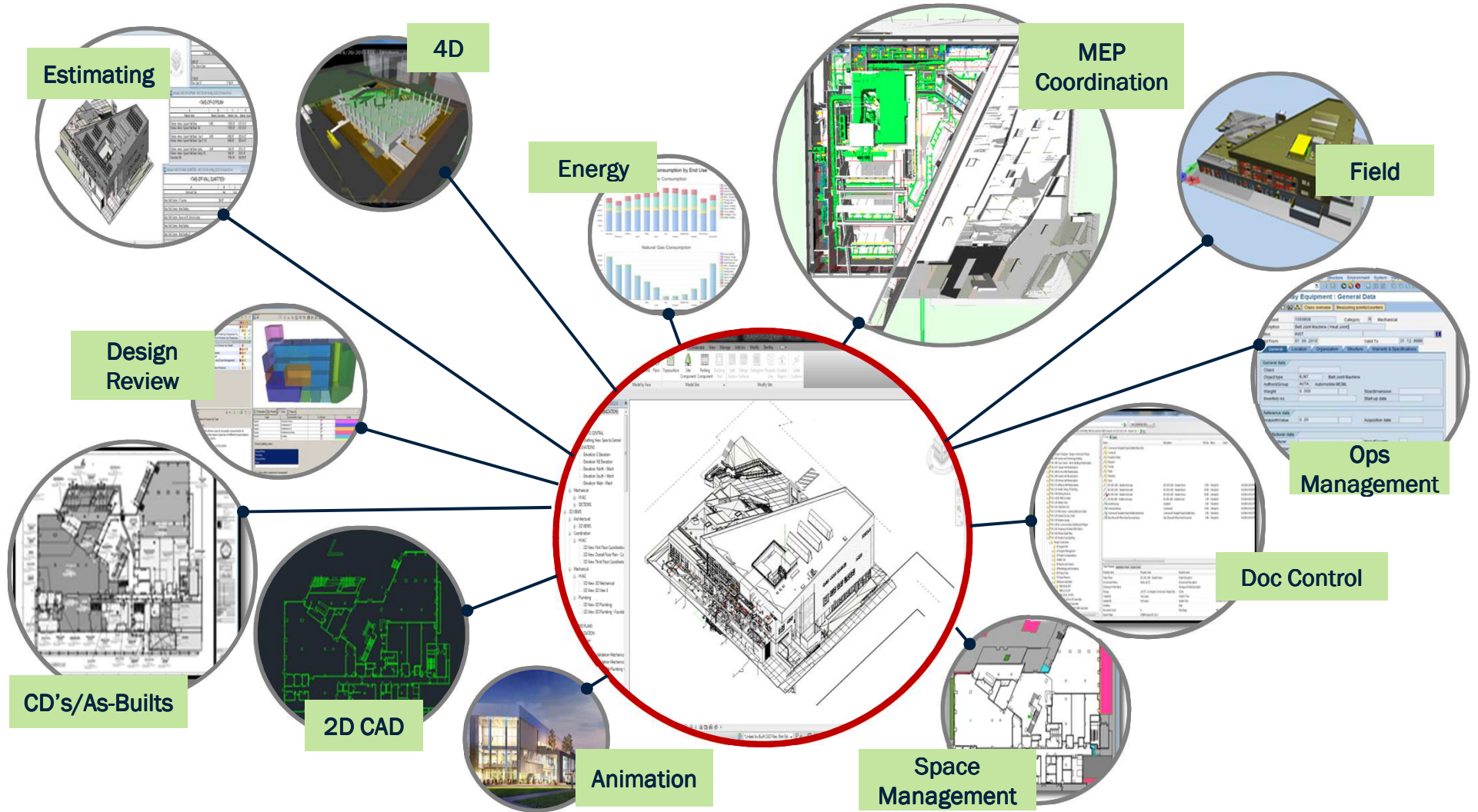
BIM Benefits

Design
- Better visualization of design
- Resolve coordination issues in design
- Expedite design process: Drawings, Plan Checks, Permits
- Get better bids

Construction
- Better trade coordination
- Reduced schedule and cost risk
- Better project planning
- Improved project controls

Operations
- Better building commissioning process
- More efficient project closeout
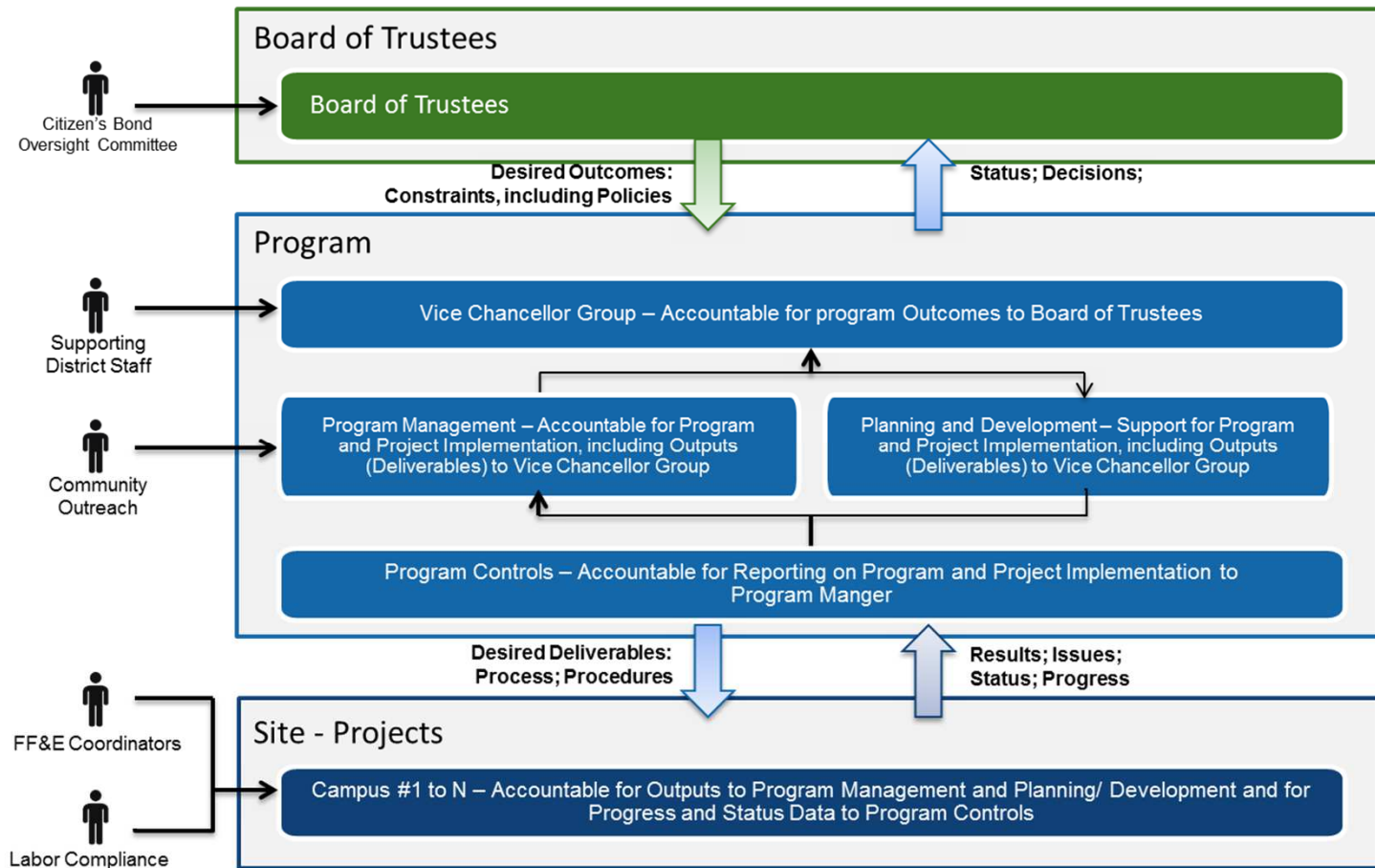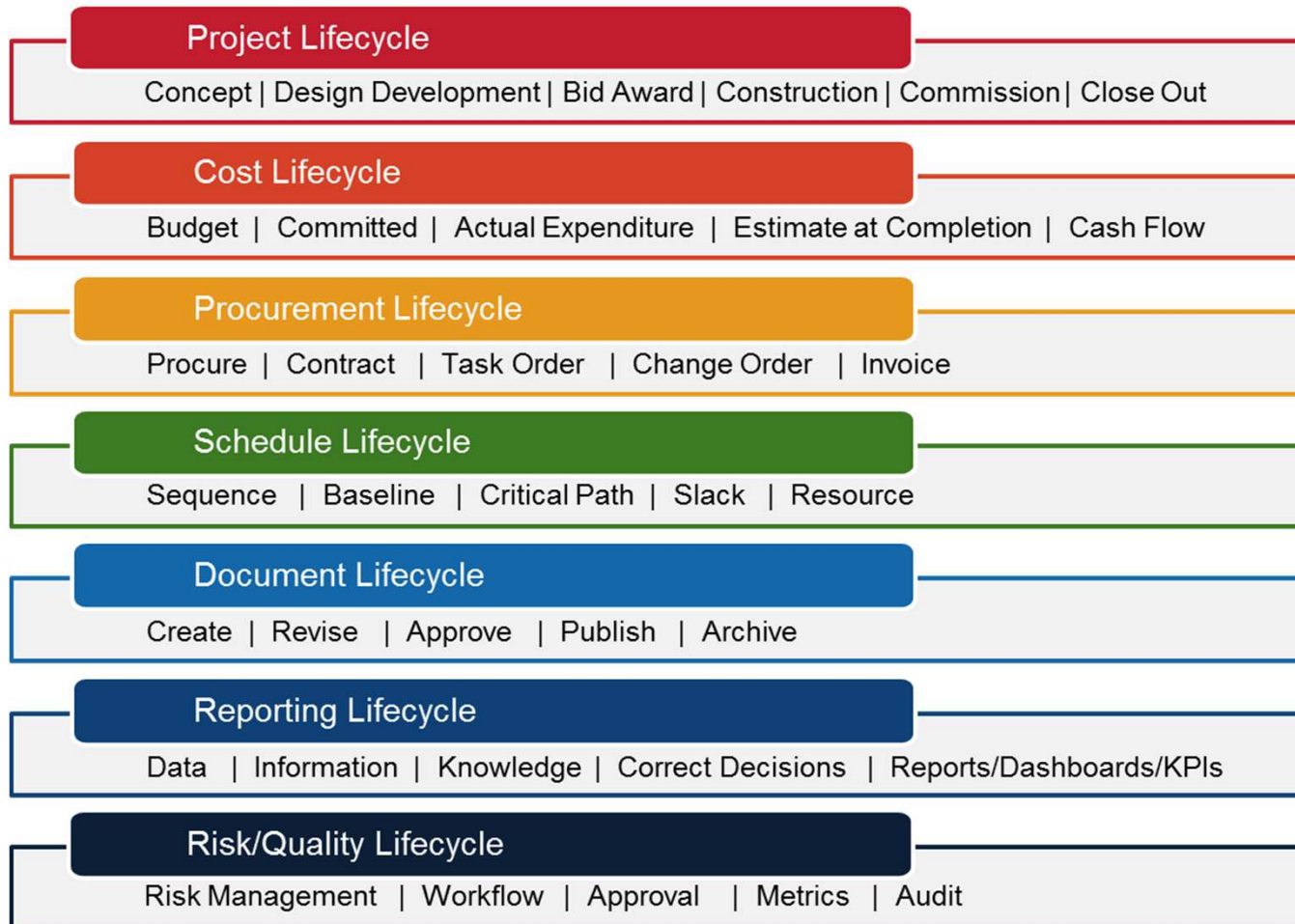- Improve operational performance in facility lifecycle
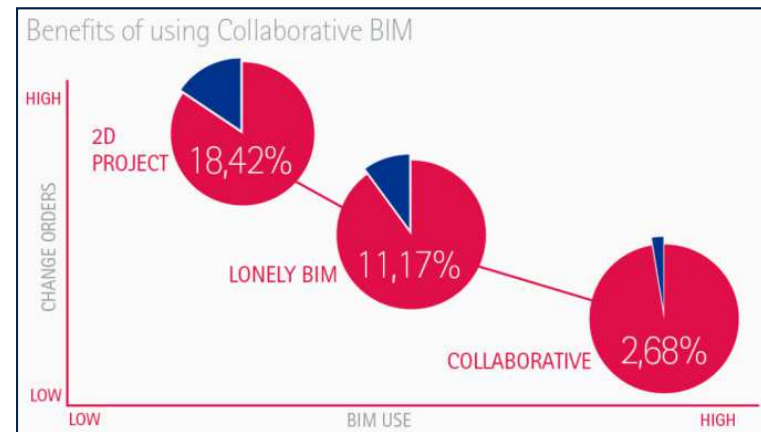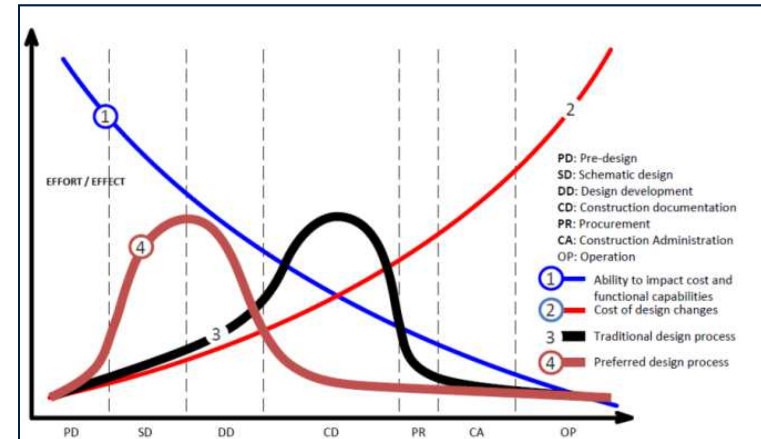
BIM Example

Program Controls:
Accountability, Communication, and Transparency - SDCCD

Program Controls:
Project Perspective

Project Lifecycle
Concept | Design Development | Bid Award | Construction | Commission | Close Out

Cost Lifecycle
Budget | Committed | Actual Expenditure | Estimate at Completion | Cash Flow

Procurement Lifecycle
Procure | Contract | Task Order | Change Order | Invoice

Schedule Lifecycle
Sequence | Baseline | Critical Path | Slack | Resource

Document Lifecycle
Create | Revise | Approve | Publish | Archive

Reporting Lifecycle
Data | Information | Knowledge | Correct Decisions | Reports/Dashboards/KPIs

Risk/Quality Lifecycle
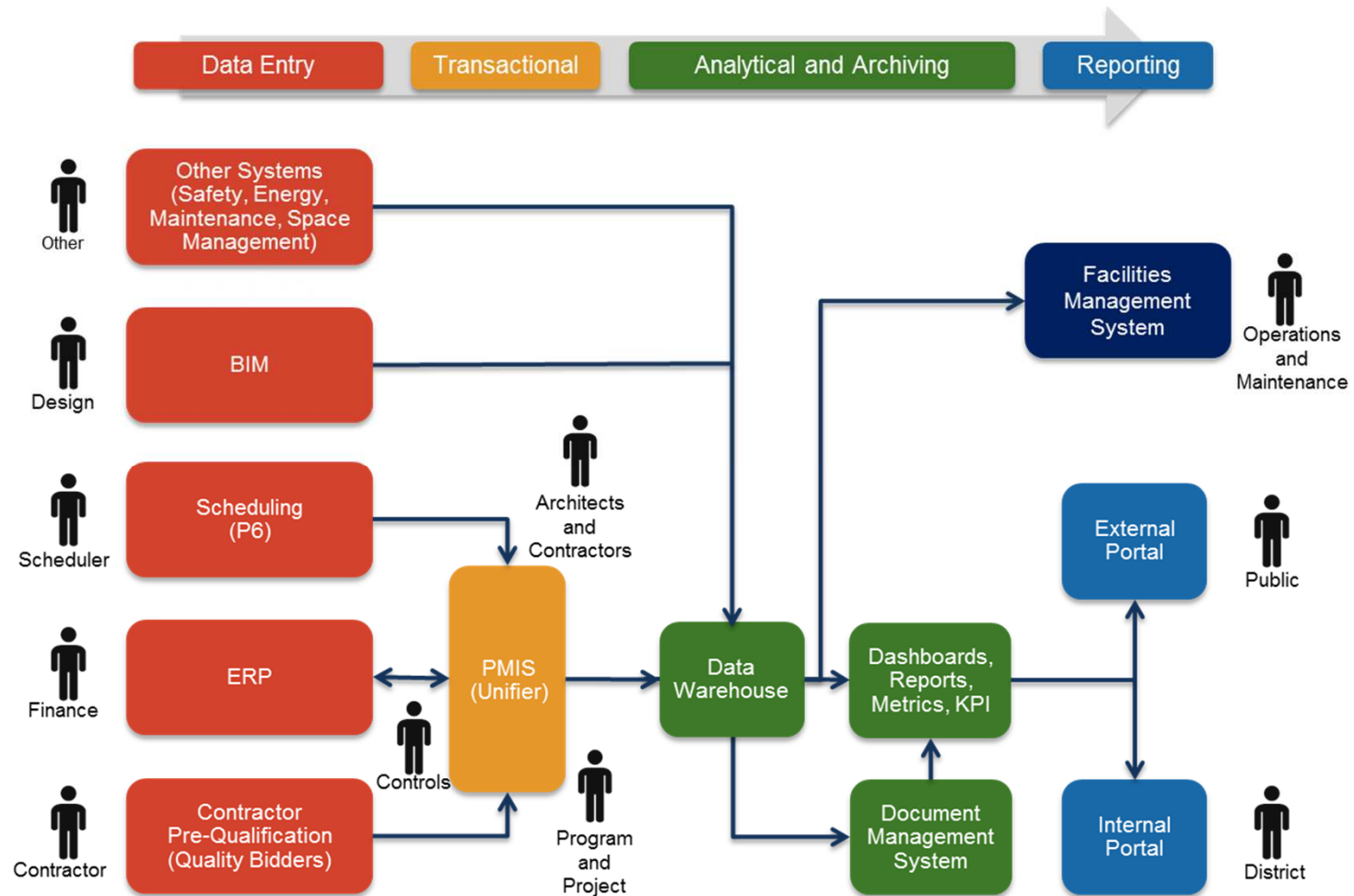Risk Management | Workflow | Approval | Metrics | Audit

Program Controls:
Lessons Learned

- There is no "one size fits all" solution but there is substantial commonality

- Technology is not the problem

  – The processes must be understood and documented (PPMP)

  – The interaction of people with process is the cause of most issues

  – Technology enables the process – if the process is bad problems will pile up faster
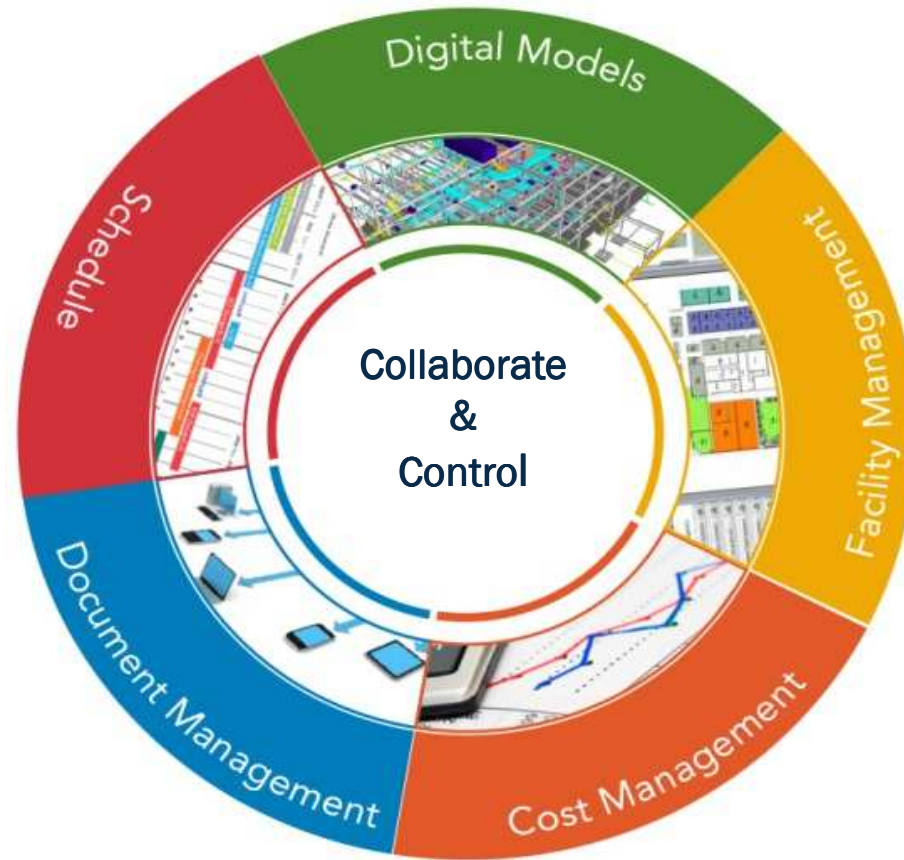
Return on Investment

- Production efficiencies increased by 23%

- Change orders reduced by 48%

- Cost overruns reduced by 20%

- Contractor costs reduced by 15%

- Delivery time to value (bond payments) 10%

- Claims reduced by 16%

- Clean audits with elimination of rework (100%)

- Happy stakeholders (quality of delivery)
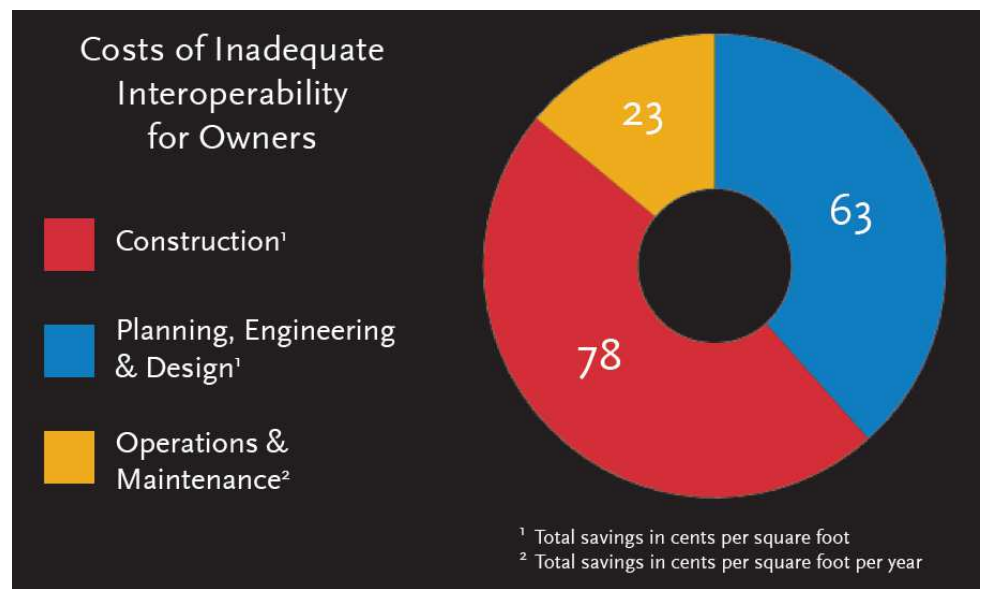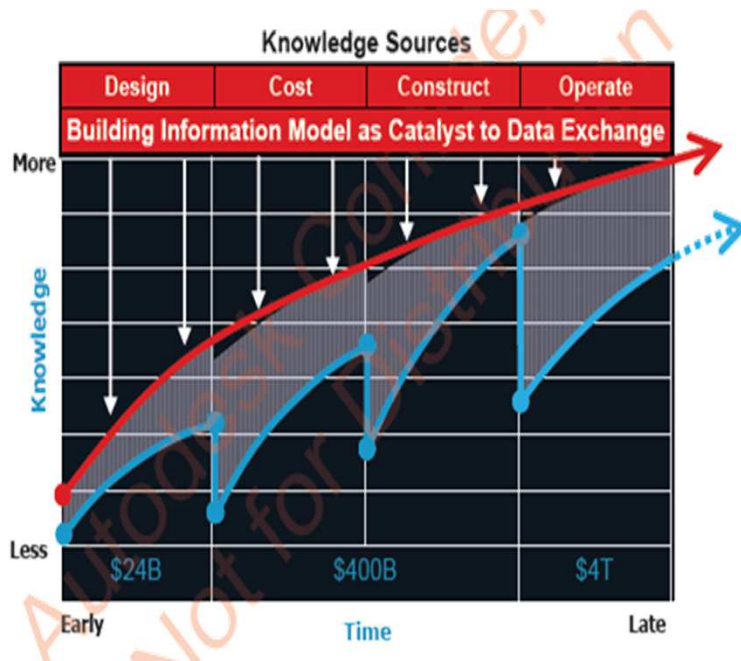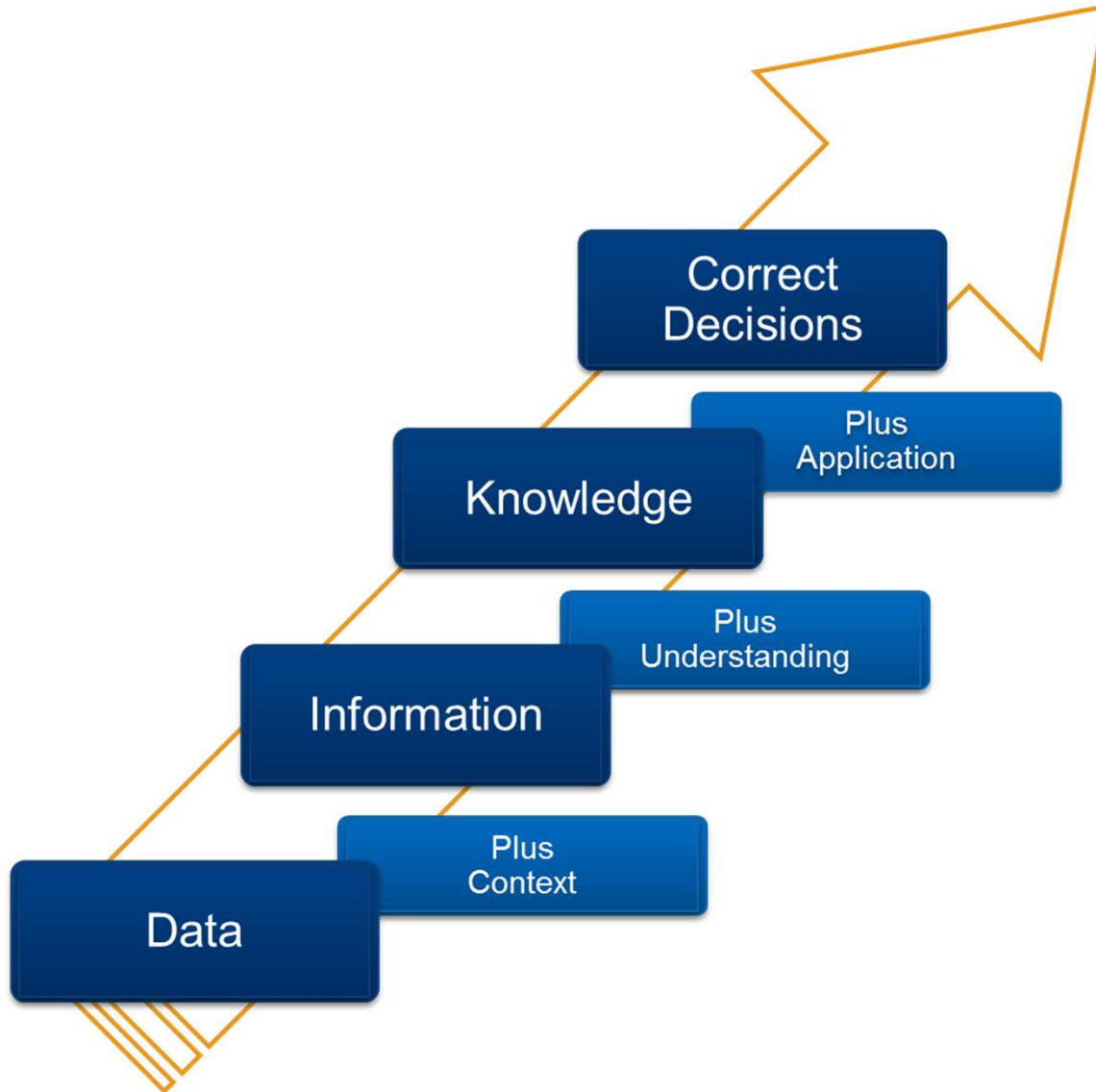
  – What is your reputation worth?

Summary

Lifecycle

Cost Savings of Interoperability

Correct Decisions

Knowledge — Plus Application

Information — Plus Understanding

Data — Plus Context

Conclusion

- Technology Rules - Is it a good investment for Bond and Facility Program Management?

- Questions for the Panel