It takes a village to implement CMMS

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AGENDA

- ❑ Introduction
  - ✓ Why a CMMS?
  - ✓ Pitfalls of CMMS Selection and Implementation
  - ✓ Learned Lessons 1 & 2
- ❑ Framework of Success
  - Team Structure
  - Strategic Planning
  - Software Procurement
  - Implementation Planning
  - Implementation
  - Systems Integration
  - Sustainability
- ❑ Learned Lessons Continued
- ❑ Benefits
- ❑ Questions

INTRODUCTION

Current State of CMMS Industry

- 40-50% of CMMS implementations are either failures or do not achieve business objectives
- Clients have less money, less staff need for productivity improvements

DEFINITIONS

ASSET MANAGEMENT:

"Sustainable Decision Making"

- Assessment of Utility Assets
- Identification of Critical Assets
- Lowest Lifecycle costs for Assets
- Develop a long-term funding strategy

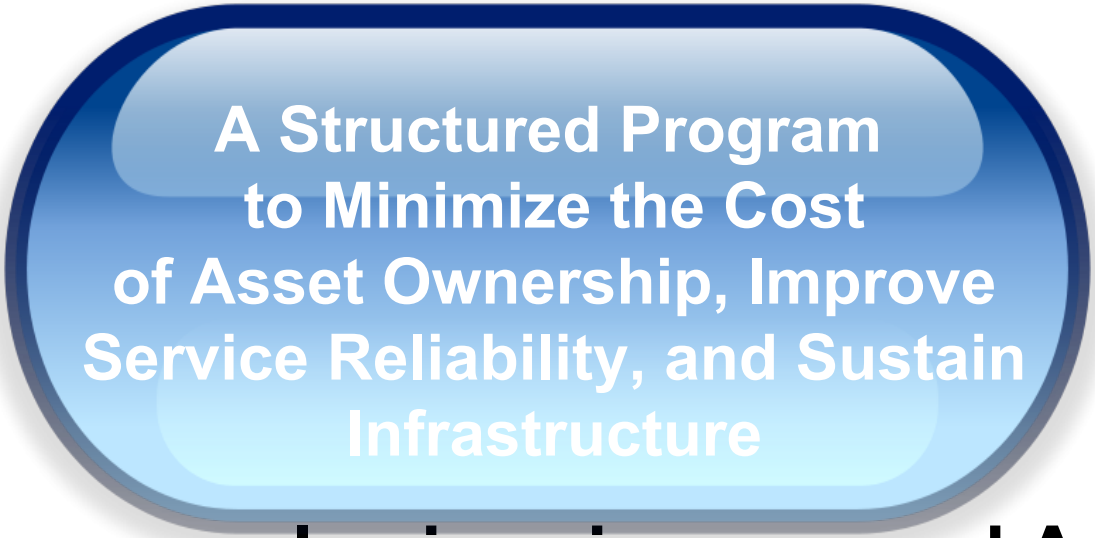
DEFINITIONS

COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM (CMMS):

"A Tool to Effectively Maintain Assets Through Their Operating Life"

- Corrective and Preventive Maintenance Work Orders
- Track Costs to Operate Assets
- Information at Fingertips for Operators
- Reporting analysis – key to improved decision-making

WHY a CMMS?



- **A key puzzle piece in any good Asset Management Program**

WHY a CMMS?

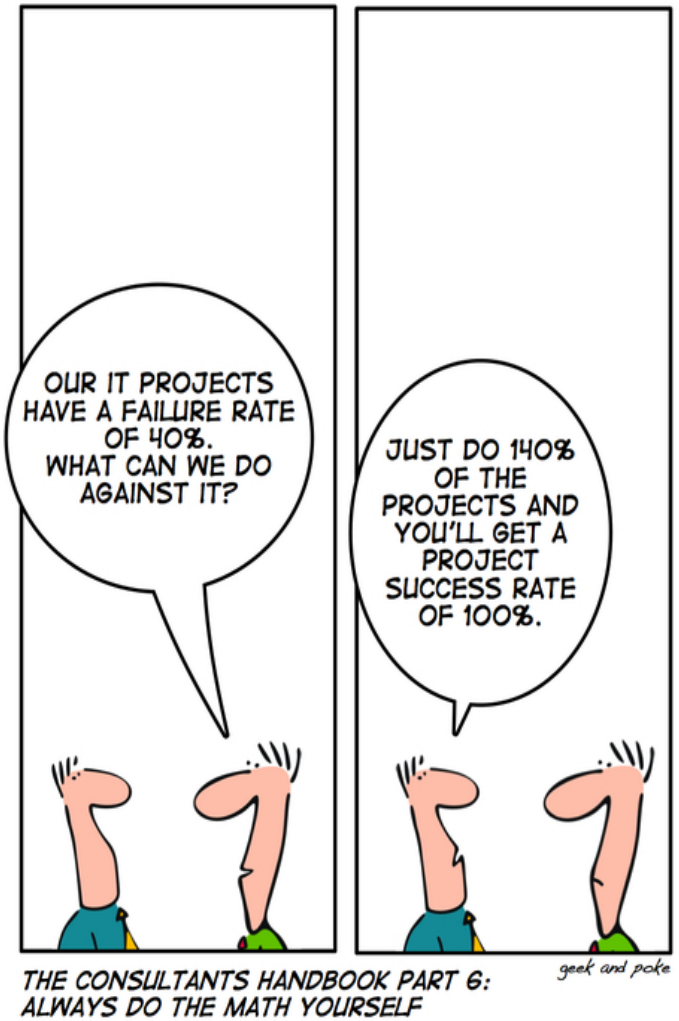
Doing the RIGHT work…
At the RIGHT Time…
With the RIGHT Resources!

Pitfalls of CMMS

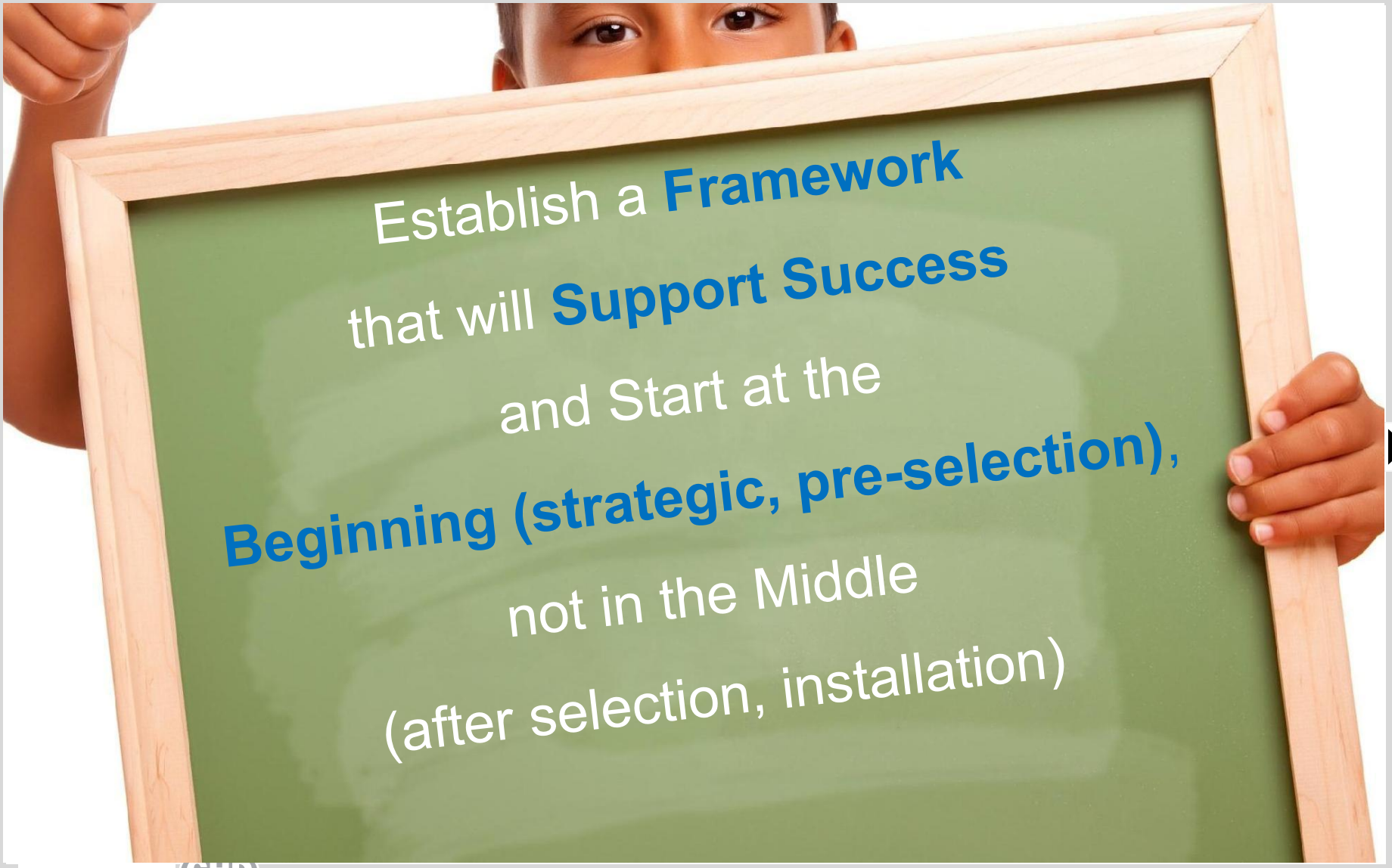
40-50% of Implementations Fail

WHY?

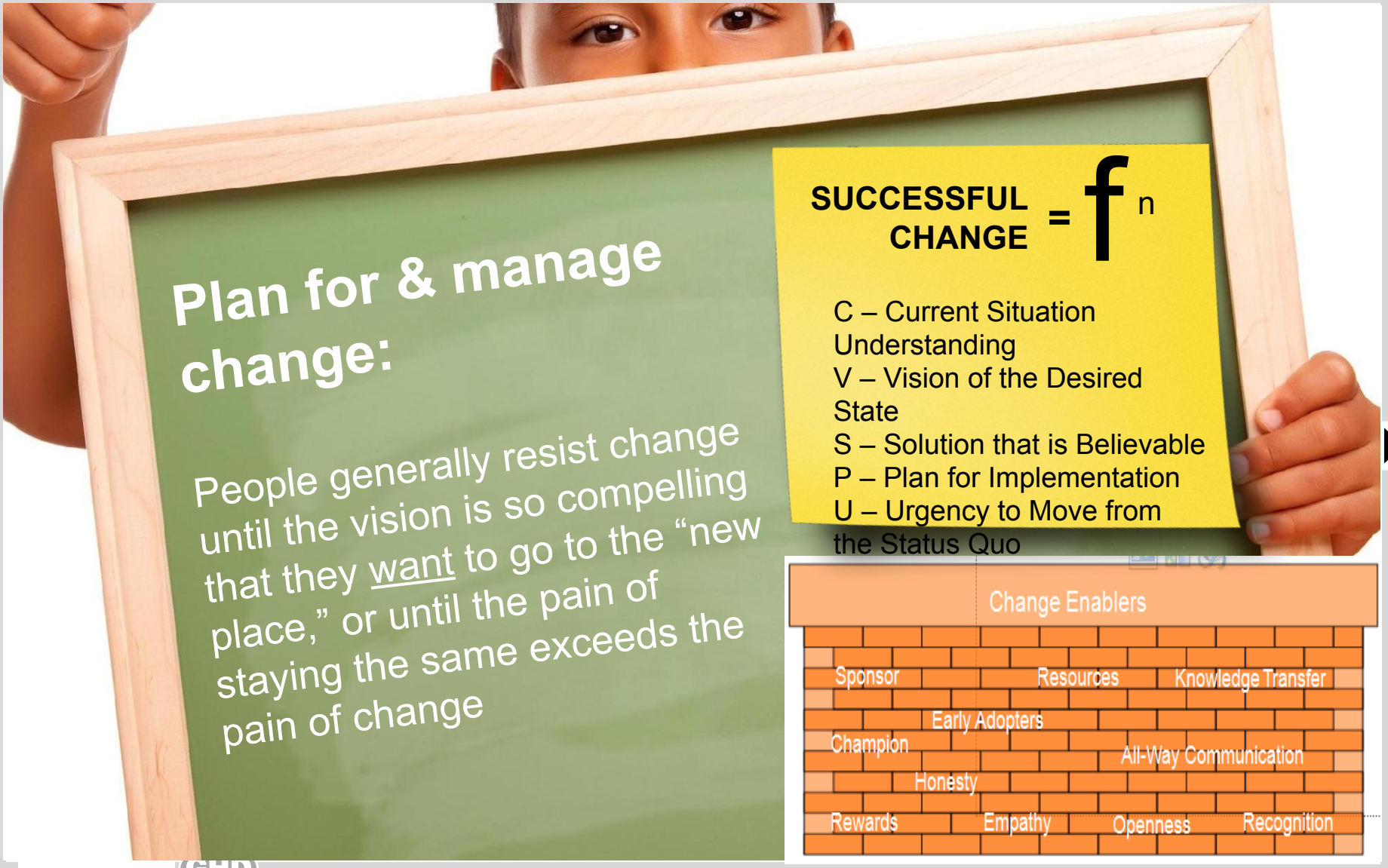
- Don’t involve all stakeholders
- Don’t plan for the long term
- Don’t anticipate necessary effort for planning, setup, and data entry
- Don’t change business practices to take advantage of new systems
- Don’t integrate or transact with other key business systems



Learned Lesson 1



Learned Lesson 2



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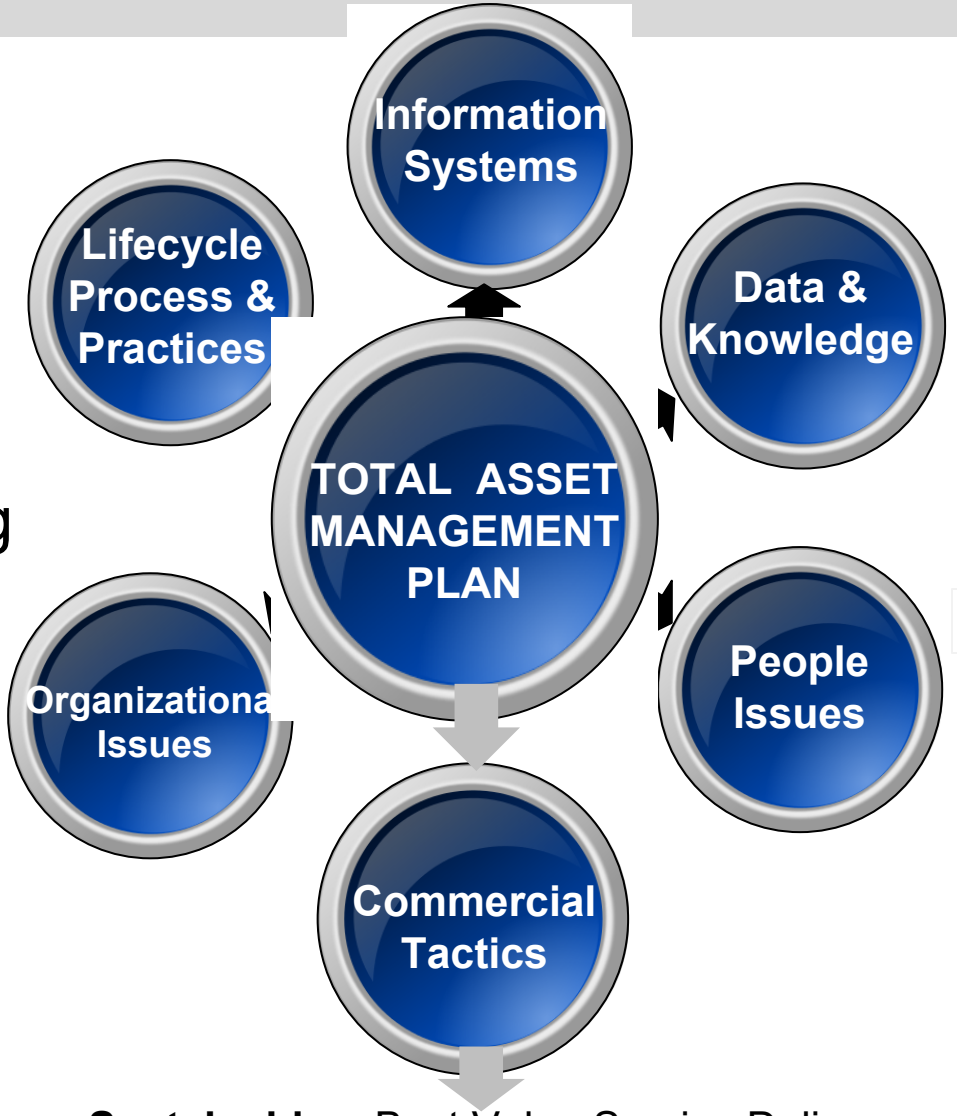
- ❑ **Questions**

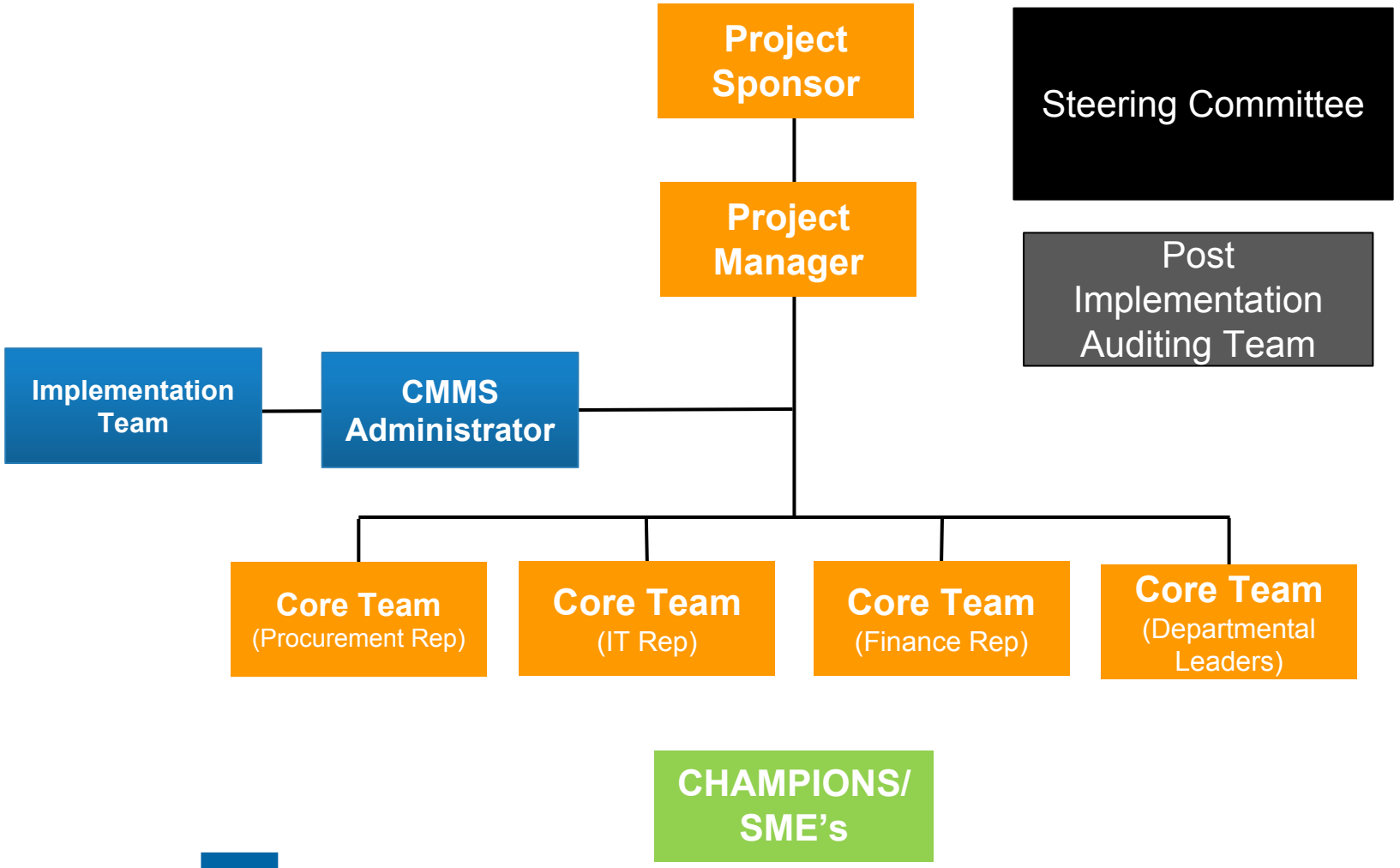
FRAMEWORK of Success

- Team Structure
- Software Selection
- Implementation Planning
- Implementation
- Sustainability



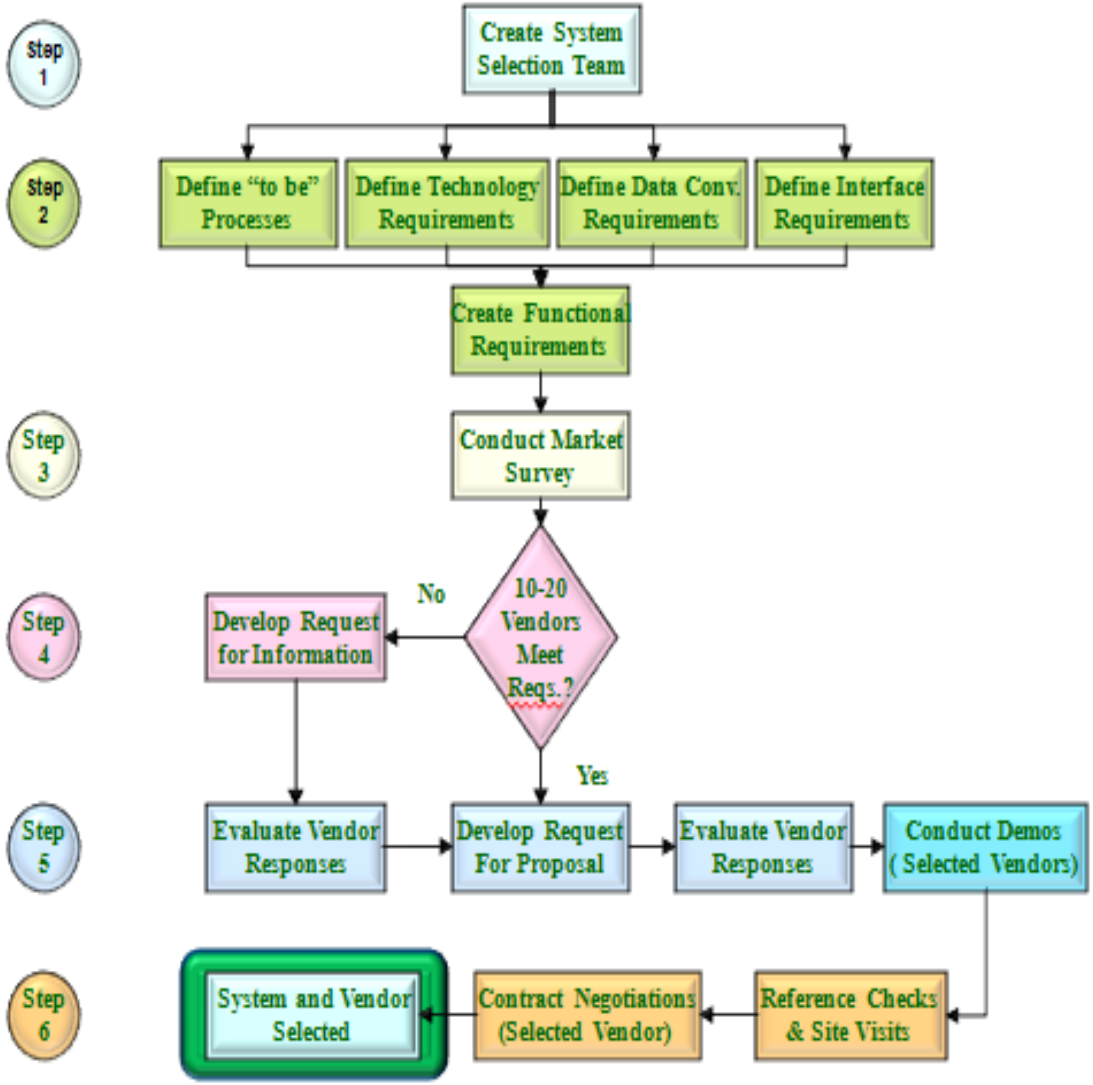
Sustainable – Best Value Service Delivery

EFFECTIVE Team Structure



SOFTWARE Selection

- Evaluate Needs and Develop Functional Requirements
- Support RFP Development
- Develop shortlist vendor demonstration script/instructions and scoring approach
- Perform reference checks, site visits
- Select and award



FUNCTIONAL REQUIREMENTS

Example Tools

Requirement Number	Requirement Description	Supported	Priority	Comments
	General System Requirements			
	General			
GS-01	Provides a menu driven interface.	S	Critical	
GS-02	Ability to create or designate user-defined fields in each application.	S	Critical	
GS-03	Ability to perform a search on any field in any application.	S	Critical	
GS-04	User-defined fields are searchable.	S	Critical	
GS-05	Dropdown value lists may be associated with user defined fields.	S	Critical	
GS-06	Ability to define and re-arrange the system menus.	S	High	
GS-07	Ability for custom setting of mandatory and non-mandatory input fields.	S	Critical	
GS-08	Ability to set default values for any field in the system.	S	High	
GS-09	Ability to hide or un-hide fields on any screen.	S	High	
GS-10	Ability to alter database structure for the application's tables through the system administration module - i.e., add fields, change field sizes or data types, etc. Changes supported when upgrading.	N	Medium	
GS-11	Ability to change labels on user screens.	S	High	
GS-12	Ability to move fields on any screen.	S	High	
GS-13	Ability to create and modify clones of standard applications or screens, then assign user groups to the clone instead of the standard application.	S	High	
GS-14	Ability to set up custom views for different departments.	S	High	
GS-15	Ability to create dashboards that display KPIs (key performance indicators)	S	High	
GS-16	Ability to create in-boxes for individual users containing links to critical information for each user.	S	High	
GS-17	Ability to create, save, and edit queries.	S	High	
GS-18	Ability to create custom screens	S	High	
GS-19	Ability to create custom web forms for access by internal or external users	S	High	
GS-20	Ability to attach documents to assets, work orders or locations. Attachments allow any file type	S	Critical	
GS-21	Ability to develop workflow processes to automate notifications, approvals, status changes and routing of Work Requests, Work Orders, Purchase Requests and Purchase Orders	S	Critical	
GS-22	Workflow processes development/configuration supports temporary or permanent back-up approver assignments.	S	Critical	
GS-23	Workflow processes can initiate automatic e-mail alerts and notifications (via Exchange Mail Server).	S	Critical	
	Security			

Tabs	Vendor ABC Scoring Summary	Critical Priority Flagged Summary
General System	449.0	100% (24/24) Supported in standard Configuration
Assets	385.3	100% (24/24) Supported in standard Configuration
Work Management	1261.4	100% (12/12) Supported in standard Configuration
Materials Management	591.6	100% (2/2) Supported in standard Configuration
Fleet	158.9	87% (13/15) Supported in standard Configuration
Geographic Information System	135.8	77% (17/22) Supported in standard Configuration
Mobile	106.5	No Items Flagged as Critical for Mobile
Call Centre	102.0	No Items Flagged as Critical for Call Centre
Advanced Asset Management	124.5	No Items Flagged as Critical for Advanced Asset Ma
Total Score "Vendor ABC"	3315.0	93%

Tabs	Vendor ABC Scoring Summary	Critical Priority Flagged Summary
General System	432.5	83% (19/24) Supported in standard Configuration
Assets	357.7	75% (18/24) Supported in standard Configuration
Work Management	1251.6	100% (12/12) Supported in standard Configuration
Materials Management	594.0	100% (2/2) Supported in standard Configuration
Fleet	161.5	100% (15/15) Supported in standard Configuration
Geographic Information System	166.0	0% (0/22) Supported in standard Configuration (SEE
Mobile	106.0	No Items Flagged as Critical for Mobile
Call Centre	81.6	No Items Flagged as Critical for Call Centre
Advanced Asset Management	124.5	No Items Flagged as Critical for Advanced Asset Ma
Total Score "Vendor ABC"	3275.4	67%

Tabs	Vendor ABC Scoring Summary	Critical Priority Flagged Summary	
General System	413.3	88% (21/24) Supported in standard Configuration	
Assets	383.9	96% (23/24) Supported in standard Configuration	
Work Management	1234.7	92% (11/12) Supported in standard Configuration	
Materials Management	578.6	100% (2/2) Supported in standard Configuration	
Fleet	158.4	87% (13/15) Supported in standard Configuration	
Geographic Information System	138.2	77% (17/22) Supported in standard Configuration	43% (3/7) Supported in standard Configuration
Mobile	105.6	No Items Flagged as Critical for Mobile	95% (21/22) Supported in standard Configuration
Call Centre	97.2	No Items Flagged as Critical for Call Centre	90% (18/20) Supported in standard Configuration
Advanced Asset Management	109.3	No Items Flagged as Critical for Advanced Asset Management	67% (14/21) Supported in standard Configuration (no Riva)
Total Score "Vendor ABC"	3219.2	88%	90%

Tabs		Vendor ABC Scoring Summary
	Vendor-Instructions	
GS	General System	449.0
A	Assets	385.3
WM	Work Management	1261.4
MM	Materials Management	591.6
FL	Fleet	158.9
GIS	Geographic Information System	135.8
MO	Mobile	106.5
CC	Call Centre	102.0
AA	Advanced Asset Management	124.5
	Total Score "Vendor ABC"	3315.0

Instructions for use of the WAMS Functional Requirements Workbook

This Excel workbook is a tool to assist in preparing your response to the functional requirements listed in the

1. Functional and Technical Requirements are contained in a series of worksheets accessed by clicking the tabs at the bottom of the page.
2. You must fill in response codes in the "Supported" column in each table. The response codes can be selected from the dropdown tab in the cells of that column. The response will be S, C, F, R, M, N or T which are defined as follows:.

S - Supported in standard configuration
C - Supported with minor modifications to standard configuration
F - Supported in future version (provide release date)
R - Support through custom report development
M - Supported with modification (customization)
T - Supported with 3rd party or partner product

N - Not Supported

3. If you respond with a C, F, R, M or T you must enter a comment in the Comments column to explain how the requirement is supported.

RFP EVALUATION

		RATING:	EVALUATOR: Team Consensus
Work/Asset Management Information System Software		5 = Excellent 4 = Good 3 = Average	DATE:
Vendor ABC PROPOSAL SHORTLIST EVALUATION FORM		2 = Below Average 1 = Poor 0 = Unacceptable or Missing	
EVALUATION CRITERIA	Maximum Points (%) Available	Rating (As Above except Section 6, see Evaluation Criteria comment)	Weighting	Calculated Score
1. Submission - Evaluation of the Proponents Proposal Response (10%)	10			
Responsiveness to the RFP, completeness/comprehensiveness of the submission (Meets outline as required in the Proposal Preparation and Submission section of the RFP)		4	0.5	2
Quality and appropriateness of the proposed project implementation approach (Section 2 / 3. Project Implementation Approach)		4	1	4
Offered additional value-added solutions or ideas		4	0.5	2
Submission - Evaluation of the Proponents Proposal Response Sub-Total				8
2. Ability of Product Offered to Meet Specified Requirements (25%)	25			
Ability of the product offered to meeting specified WAMS System Requirements (Section 3A)		4	1	4
Functional Requirements Scoring (Section 3B, Appendix A) SCORE = 3315 3300-Up = 5 3200-3299 = 4 2900-3199 = 3 2800-2899 = 2 0-2799 = 1		5	0.5	2.5
Functional Requirements: (GS) General System Functionality (consider scored results, Supported column responses - are they aligned/appropriate considered together with offered comments and other information contained throughout proposal?)		4	0.5	2
Functional Requirements: (A) Assets Functionality (consider scored results, Supported column responses - are they aligned/appropriate considered together with offered comments and other information contained throughout proposal?)		4	0.5	2
Functional Requirements: (WM) Work Management Functionality (consider scored results, Supported column responses - are they aligned/appropriate considered together with offered comments and other information contained throughout pro		4	0.5	2
Functional Requirements: (MM) Materials Management Fu (consider scored results, Supported column responses - comments and other information contained throughout pro				
Functional Requirements: (FL) Fleet Functionality (consider scored results, Supported column responses - comments and other information contained throughout pro				
Functional Requirements: (GIS) Functionality (consider scored results, Supported column responses - comments and other information contained throughout pro				

Work/Asset Management Information System

SUMMATION OF CMMS SHORTLIST EVALUATION

EVAULATION CRITERIA	Maximum Points (%) Available	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC
1. Submission - Evaluation of the Proponents Proposal Response (10%)	10	8	5.25	3	8	6.5	4.5	5	7.5	3
2. Ability of Product Offered to Meet Specified Requirements (25%)	25	19.75	13.2	17.375	17.125	15.625	14.75	10.75	15	8.375
3. Product Ability to Interface to Existing Systems (20%)	20	10	0	11	14	12	6	12	16	2
4. Technical Capabilities and Experience of Personnel Assigned to Project (10%)	10	7	1	0	8	8	5	5	8	4
5. Experience in Similar Projects (10%)	10	8	1.5	3	8	6.75	4	6	7.5	4.5
6. Fees: License, Services and Maintenance Support (25%)	25	10.72	17.81	-0.74	15.97	5.54	14.13	13.64	7.12	6.48
TOTAL RANKING SCORE		63.5	38.8	33.6	71.1	54.4	48.4	52.4	61.1	28.4
FINAL RANKING (1 through 9)		2	7	8	1	4	6	5	3	9
Request Shortlist Interview/Demo (Yes or No)		TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
		Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC

Example Tools

VENDOR DEMONSTRATION

Demo (GS) General System Functionality (address between 10:00 a.m. - 10:20 a.m.)

Perform in order most appropriate for demonstration purposes, not required to be in order as displayed below.

Script Number	Description
	User Interface
GS-01	Demonstrate how the department managers user interface (dashboard, start center, home page) can be specific to issues specific to their role.
GS-02	Demonstrate the ability to create links to critical information on a user's dashboard.
GS-02	Demonstrate the ability to create links to critical information on a user's dashboard.
GS-03	Demonstrate the search capabilities (on core-application fields as well as user-defined or custom fields).
GS-04	Demonstrate the ability to create, save, and edit queries.
GS-05	Demonstrate ease of use features for users (searching, navigating, etc.)
	Configuration
GS-06	Demonstrate ability to add new fields to the database and user interfaces (screens): - designate user defined fields in various applications, - perform a search, or report, on any field in any application (including user-defined fields and/or custom fields), - dropdown value lists associated with user-defined/custom fields.
GS-07	Modify an application screen: - change the label for a field, - hide, unhide, move fields, - define a default value for a field, - define field as mandatory, - set audit trail for a field.
GS-08	Ability to manage workflow to automate notifications, approvals, status changes and routing of Work Requests, Work Orders, Purchase Requests and Purchase Orders including: - the assignment of temporary or permanent back-up approvers, - automatic e-mail alerts and notifications (via Exchange Mail Server).
	Navigation
GS-09	Demonstrate the available navigation techniques including navigating through a system/location/process hierarchy.
GS-10	Demonstrate the navigation and linking from one module/application to another.
	Associating/Linking Documents
GS-11	Demonstrate the ability to attach or link documents to assets, work orders, inventory items, etc.
GS-12	Demonstrate the ability to automatically print attached/linked documents for an asset when printing a work order for the asset.
	Reporting
GS-13	Demonstrate the ad hoc reporting capabilities.
GS-14	Scenario 1: Department Manager logs in and clicks on an inbox (or dashboard) to view a listing of open Work Order's for their department. Manager narrows the list by crew member, demonstrate new list being exported to a document (MS Excel) for printing.
GS-15	Scenario 2: Department Manager opens a saved yearly report (query) that displays the maintenance costs for assets sorted highest to lowest. Export to .pdf.
GS-16	Demonstrate, explain custom reporting development tools as included in proposed solution.
	Other
GS-17	Other General System configuration, ease-of use, navigation, security, data import/export and reporting functionality as relative and as time allows.

Work/Asset Management Information System Software (CMMS)

Vendor ABC DEMONSTRATION EVALUATION FORM

4 = Good
3 = Average
2 = Below Average
1 = Poor
0 = Unacceptable or Missing

DATE:

EVALUATION CRITERIA	Maximum Points (%) Available	Rating	Weighting	Calculated Score
1. Experience/References (Pass or Fail)	Pass/Fail			
Quality and appropriateness of References (Reference Calls)		Pass	NA	NA
Follow-up calls, site-visits appropriate and desired?			NA	NA
Experience/References Pass-Fail				Pass
2. Demonstrated Ability to Meet System Requirements (25%)	25			
Meets Stated Database Requirements		5	1	5
Meets Stated Server Requirements		5	1	5
Meets Stated Client Requirements (web-based)		5	0.5	2.5
Acceptable Hardware Requirements		5	1	5
Acceptable Virtualization Support, (Hyper-V)		5	0.5	2.5
Proposed Product Arrangement (modules included - complete solution? modules well connected/integrated?)		5	0.5	2.5
GIS, proposed solution supports ESRI's ArcGIS 9.x or 10.x		5	0.5	2.5
Ability to Meet System Requirements Sub-Total				25
3. Demonstrated Ability to Meet Integration Requirements (25%)	25			
Integration Tools and General Approach to Integrations (Immediate and Future)		5	1.5	7.5
Financial Integration Strategy		5	1	5
GIS Integration Strategy		5	1.5	7.5
Fuel Management Integration Strategy		5	1	5
Ability to Meet Integration Requirements Sub-Total				25
4. Demonstrated Ability to Meet Functional Requirements (50%)	50			
Demonstration: (GS) General System Functionality		5	2	10
Demonstration: (A) Assets Functionality		5	1.25	6.25
Demonstration: (WM) Work Management Functionality		5	1.25	6.25
Demonstration: (MM) Materials Management Functionality		5	0.75	3.75
Demonstration: (FL) Fleet Functionality		5	1	5
Demonstration: (GIS) Functionality		5	1.25	6.25
Demonstration: (MO) Mobile Functionality		5	0.75	3.75

Work/Asset Management Information System Software

SUMMATION OF CMMS TECHNICAL (SHORT-LIST PROPONENT DEMONSTRATIONS) EVALUATION

EVALUATION CRITERIA	Maximum Points (%) Available	Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC
1. Experience/References (Pass or Fail)	Pass/Fail	Pass	Pass	Pass
2. Demonstrated Ability to Meet System Requirements (25%)	25	25	25	25
3. Demonstrated Ability to Meet Integration Requirements (25%)	25	25	25	25
4. Demonstrated Ability to Meet Functional Requirements (50%)	50	50	50	50
TOTAL TECHNICAL SCORE		**100.0**	**100.0**	**100.0**
FINAL RANKING (1 through 3)		**TBD**	**TBD**	**TBD**
Award - Final Negotiation (Yes or No)		TBD	TBD	TBD
		Proponent: Vendor ABC	Proponent: Vendor ABC	Proponent: Vendor ABC

Examples of Tools

IMPLEMENTATION Planning

STRATEGIC PLANNING

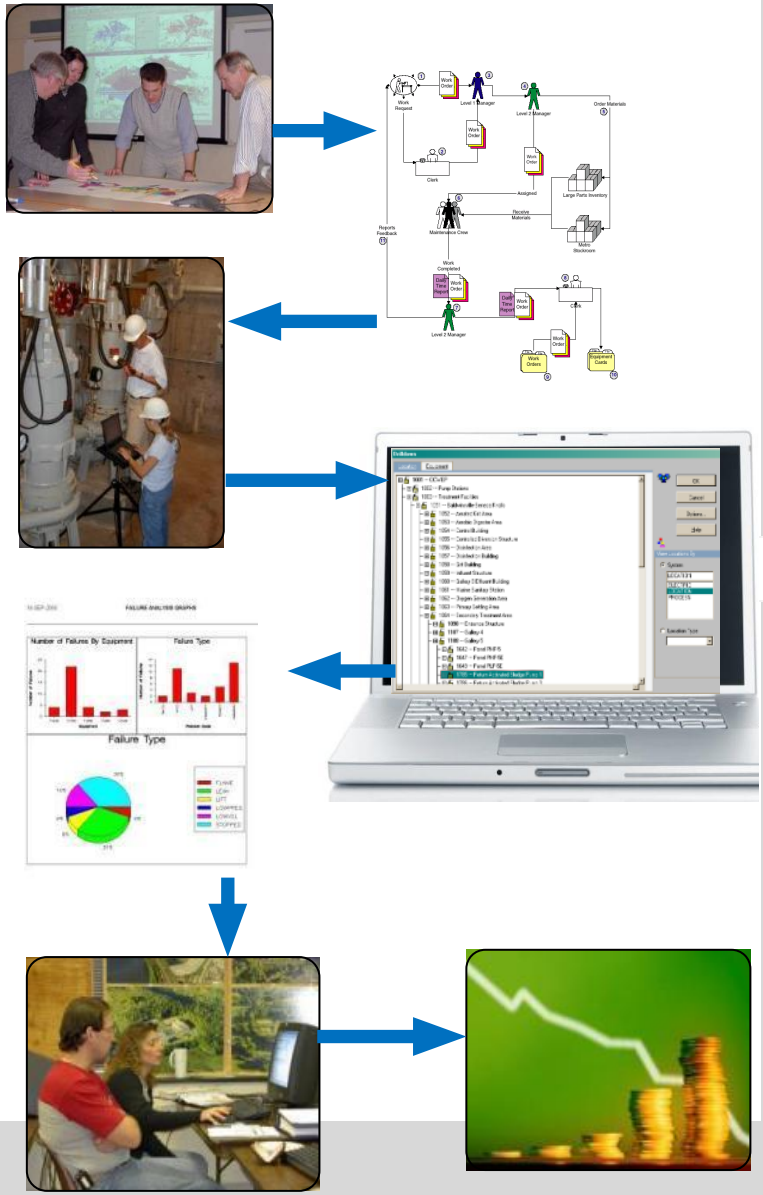
- Vision, mission, project success factors
- SWOT analysis
- Level of service performance measures
- Change management planning
- Risk management
- Lessons from other projects

BUSINESS PRACTICE DESIGN

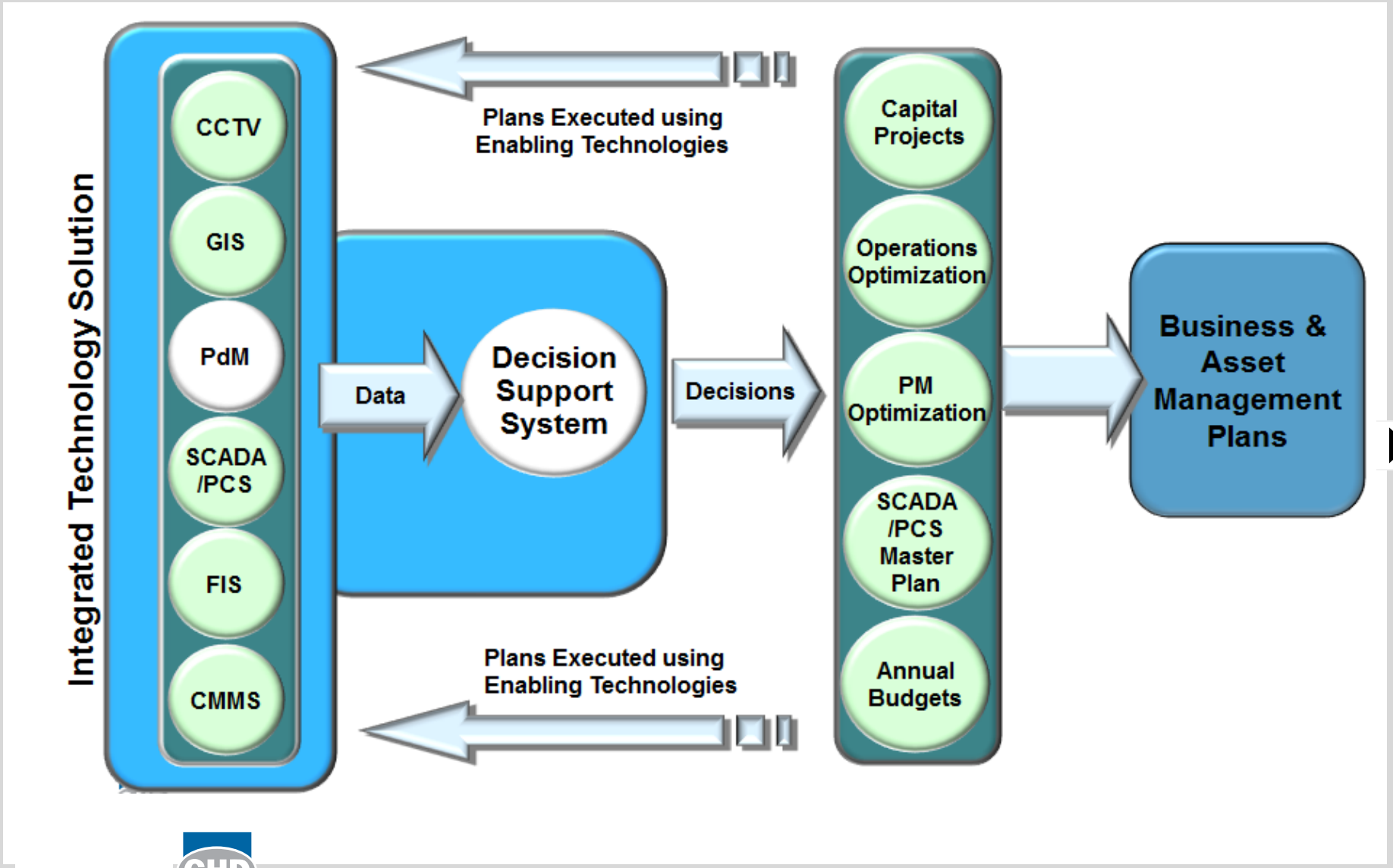
- Perform detailed business process and integration design
- Develop, document data standards

IMPLEMENTATION

- Software installation
- System configuration
- Data QA/QC and import
- Custom report development
- Mobility implementation
- Custom training aides / tool development
- End-user training
- Go-live tasks
- Post go-live monitoring and reviews



INTEGRATION Business Optimization



SUSTAINABILITY

Evolve Team Structure from selection, implementation to

long-term sustainability and growth

- Post-implementation reviews, auditing, user surveys (six months)
- Plan change to meet evolving business issues, changing workflows, reporting requirements, available upgrades, and post-implementation review findings
- Utilize a Steering Team to facilitate change

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- ❑ **Questions**

LEARNED Lessons

- ☑ Plan for the long term
- ☑ Seek input from all levels of the organization
- ☑ Assign a CMMS administrator

LEARNED Lessons (cont.)

- Form a Steering Team
- Implement Asset Management Functions within CMMS
- Do not force existing processes into new CMMS because.
- Take advantage of the opportunity to implement and incorporate strategic work and asset management practices

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SUCCESSFUL CMMS

Successful CMMS selection and implementation will result in:

- Streamlined business processes which improves decision making
- Improved insight into asset health
- Optimized maintenance work
- Balanced resources at optimal availability and maximized resource utilization
- Preserved institutional knowledge (aging workforce)

QUESTIONS?

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