Achieve the Mission

Decrease Inventory

Decrease Cycle Time

Improve Reliability

Decrease Operating Expenses

NAVAIR

Evolving a Fully Integrated Lean Six Sigma Continuous Process Improvement Systems Approach for Enterprise "End-to-End" Value Stream Excellence

presented to

NPS Acquisition Research Symposium

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May 2007

Report Documentation Page

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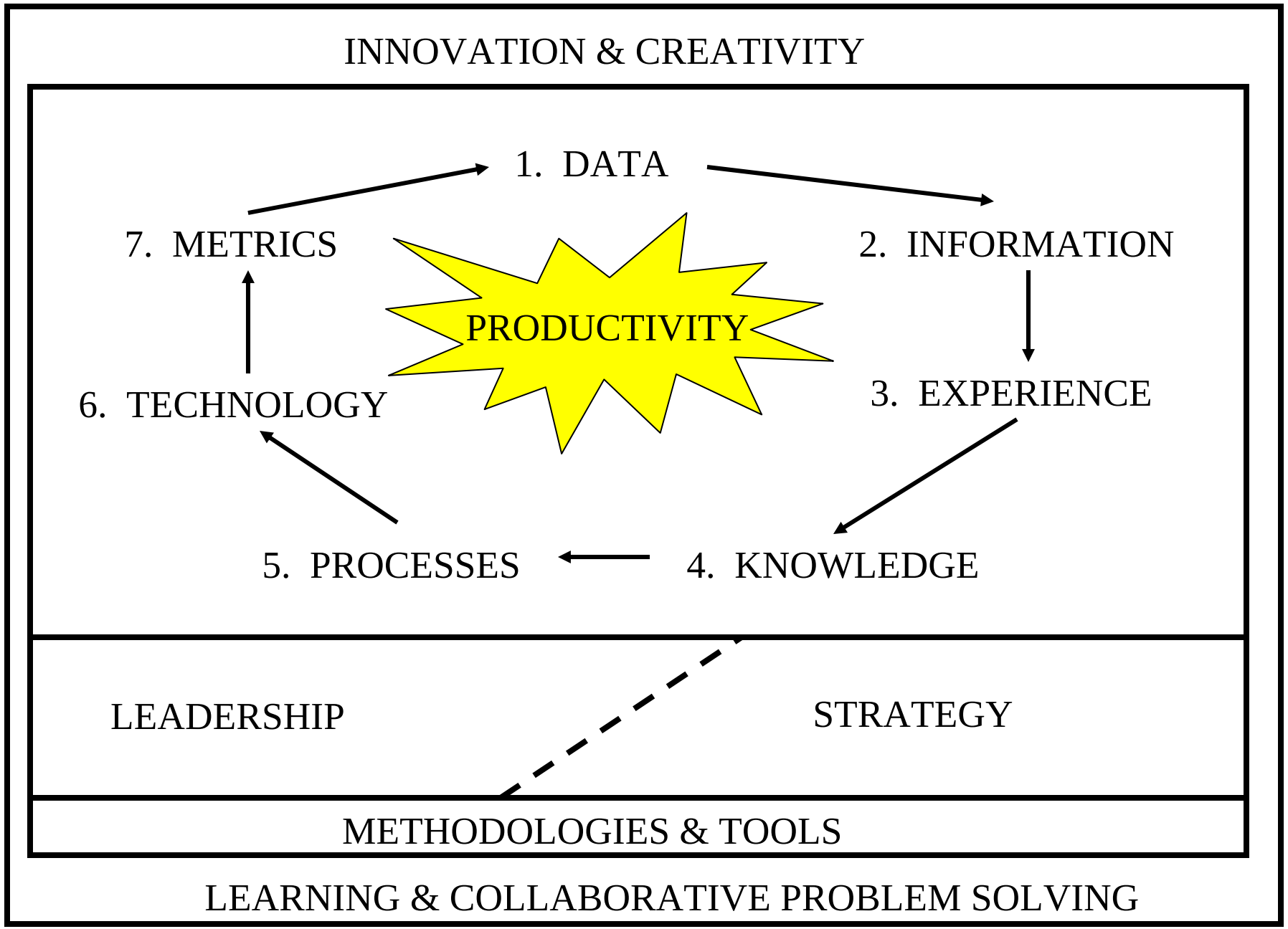
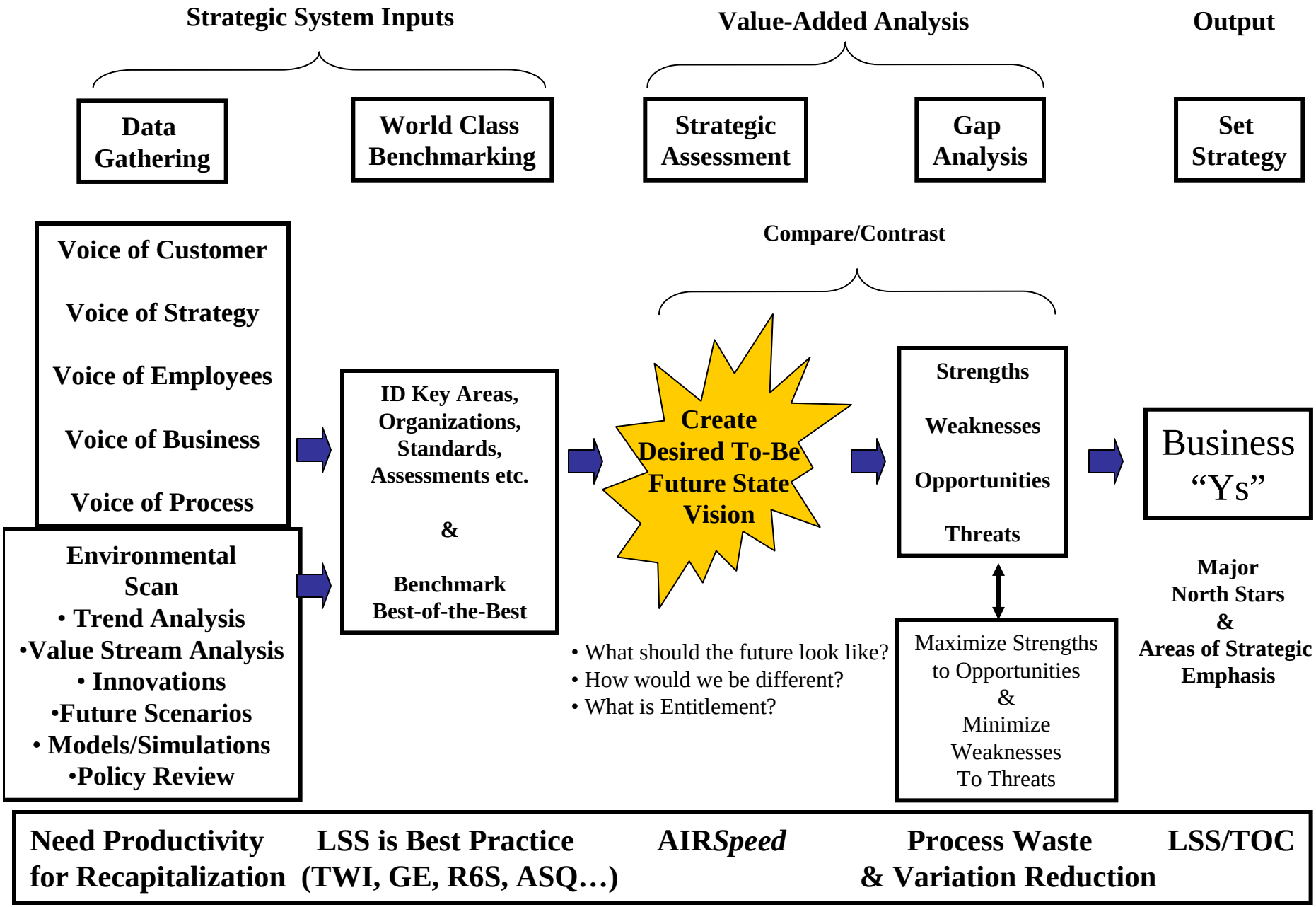
Continuous Improvement Operating System



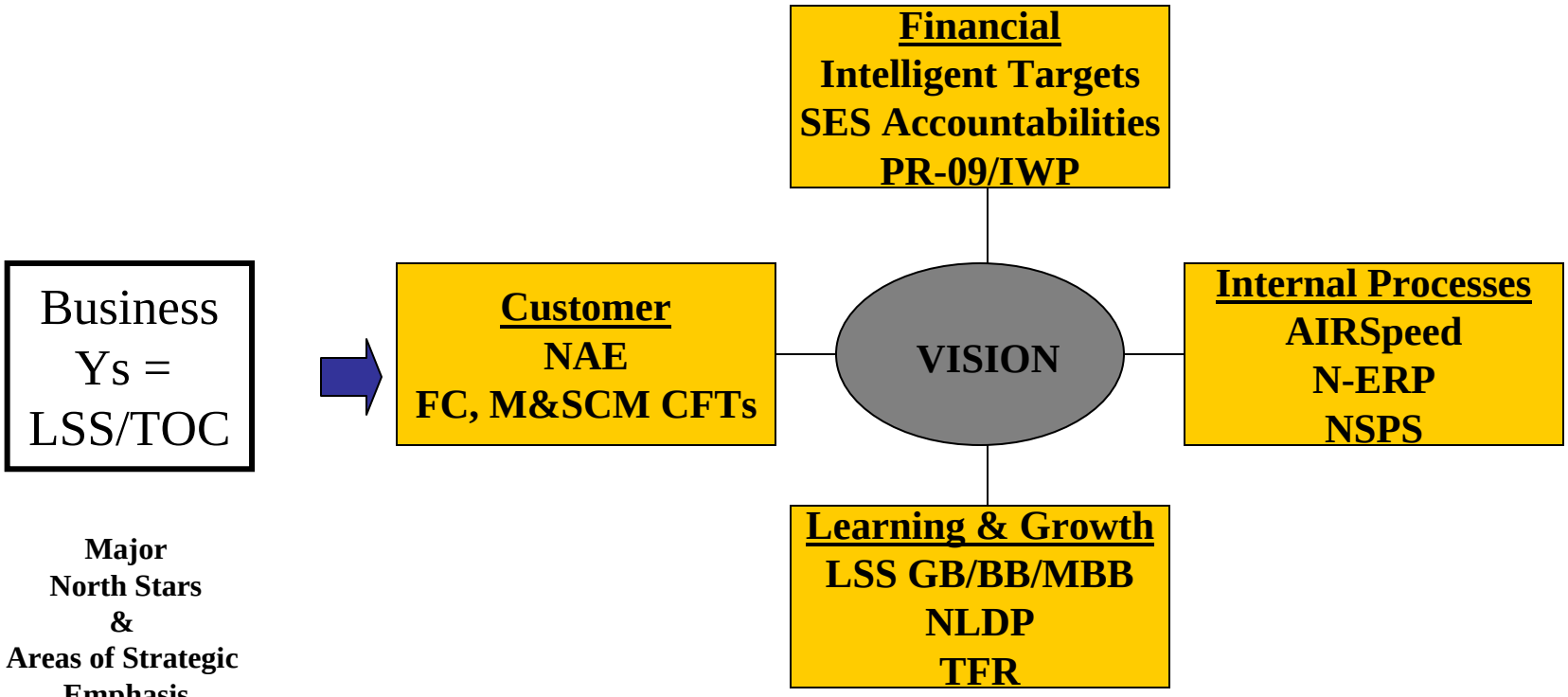
STRATEGIC MANAGEMENT SYSTEM - Phase 1
(AIR*Speed* Case Example at Bottom)



NAVAIR STRATEGIC MANAGEMENT SYSTEM - Phase 2

Our Fleet-Driven Metric: Aviation Units Ready for Tasking at Reduced Cost

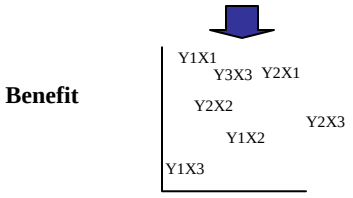
- To Ensure Proper Strategic "Balance,"
Map Business Ys to Balanced Scorecard



NAVAIR STRATEGIC MANAGEMENT SYSTEM - Phase 3

Decompose Ys to Xs	Create Objectives & ID Initiatives	ID Metrics to Measure	Set & Allocate Goals/Targets	Determine Roles/Responsibilities

Business Y	Xs	State Objectives	ID Initiatives	ID Metrics & Indicators (Quality/Cycle Time/Cost/ Performance or LSS Alignment Diagnostic Rating 1 - 5)		Set Targets	Allocate Targets as Required	Set RACI			
				Leading	Lagging			A	R	C	I
LSS/TOC	Achieving the Results (The Big "Y's")	Projects Aligned to Strategic Ys	A&LCS CFT	VSM Activity	# "Ys" ID'd	8 Business Ys by Oct 06	A&LCS CFT, Lvl 1s	PEO(T)	Lvl 1	EDB	CCBU
	Adherence to Recipe	100% Compliance	LSS Alignment Diagnostic	Plans Active	LSS Alignment Diagnostic AVG Score	90% Alignment by Oct 06	Deployment Team	Deployment Champion	Deployment Team	EDB	CCBU
	Effective Program Management of Deployment	100% IMP/S	IMP/S	Granularity of Plan	Quality of Plan	IMS/IMP in Place Oct 06	Deployment Team	Deployment Champion	Deployment Team	EDB	CCBU
	Deployment Strategy	100% Decision Made	Deployment Kaizen	% in work	% Complete	90% Complete Oct 06	Deployment Team	Deployment Champion	Deployment Team	EDB	CCBU
	Candidate Selection & Retention	Processes Established	NLDP	# Budgeted/Planned	# in NLDP	100 NLDP per Yr	AIR-7.0	AIR-7.0	Deployment Champion	EDB	CCBU
	Financial Control	Process Demonstrated and Institutionalized	Deployment Team Initiative	$ TYPE I Planned	$ TYPE I to Date	$47M Type I by Oct 06	CCBU/CPEO	Lvl 1s	DCs	EDB	CCBU
	Communications & Change Management	Alignment	Comm Plan	Comm Plan Execution Status	Alignment Survey	Lvl 5 by Oct 06	Deployment Team	Deployment Champion	Deployment Team	EDB	CCBU
	Project Realization	Demonstrate Type I Savings	Commander's Guidance	Type I/II Savings in Work	Type I/II Savings Accrued	$92M Total Savings by Oct 06	CCBU/CPEO	Lvl 1s	DCs	EDB	CCBU
	Training Coordination & Support	1% BB, 3% GB	LSS Training Program	% in Work	% Achieved	200 BB/500 GB by Oct 06	Deployment Team	Deployment Champion	Deployment Team	EDB	CCBU
	Project Mgmt & LSS Deployment Tracking	Effective Project Tracking Systems	COTS DMS	DMS SS	COI PTT Utility	DMS in Place by Oct 06	Deployment Team	Deployment Champion	Deployment Team	EDB	CCBU



Prioritize the Xs supporting the key Business Ys

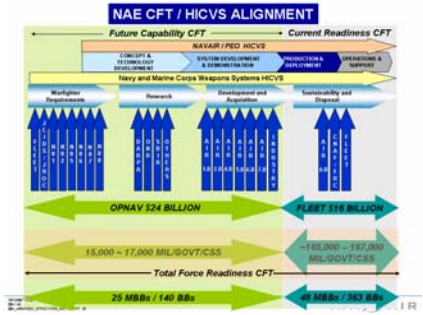
Track Metrics to Allocated Targets Supporting Business Y Stated Objectives

When Target is Achieved, Business Y is Addressed & SMS Process Starts Over

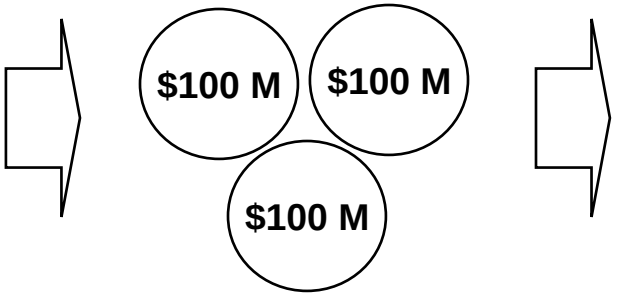
Multi-Strata “Enterprise-level” Value Stream Improvement

Strategic Decomposition & Tactical Clustering

Strategic Enterprise Value Chain:



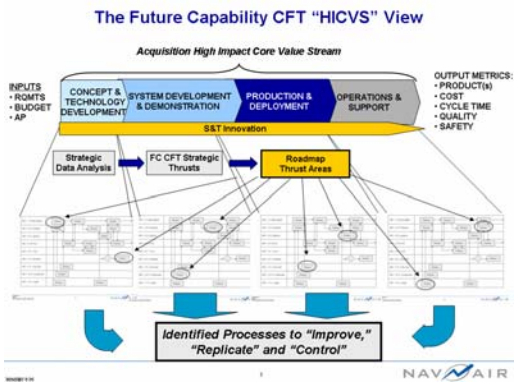
Enterprise-level Opportunities



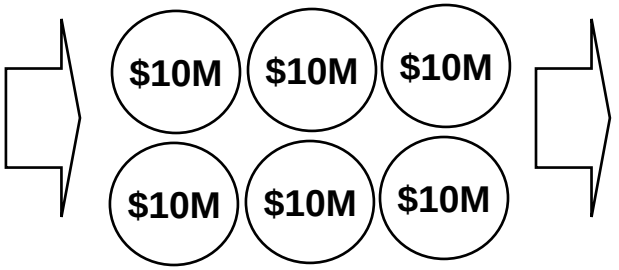
Impact Levers

- Linkage to customers (feedback loops)
- Strategic, policy, mission, organizational and process alignment and clarity
- Culture change / momentum
- Requirements definition

Operational High Impact Core Value Streams:



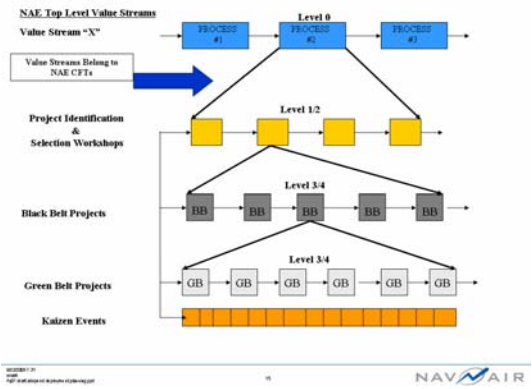
Cultural Transformation, Standardization & Replication



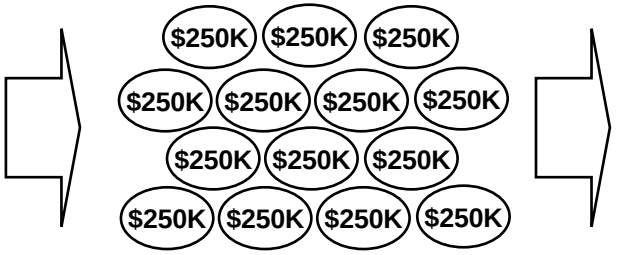
Impact Levers

- Step change improvement in business performance
- Reduce complexity, variation and increase efficiency
- Organizational alignment (Value chain stakeholders)

Tactical Project ID & Selection:



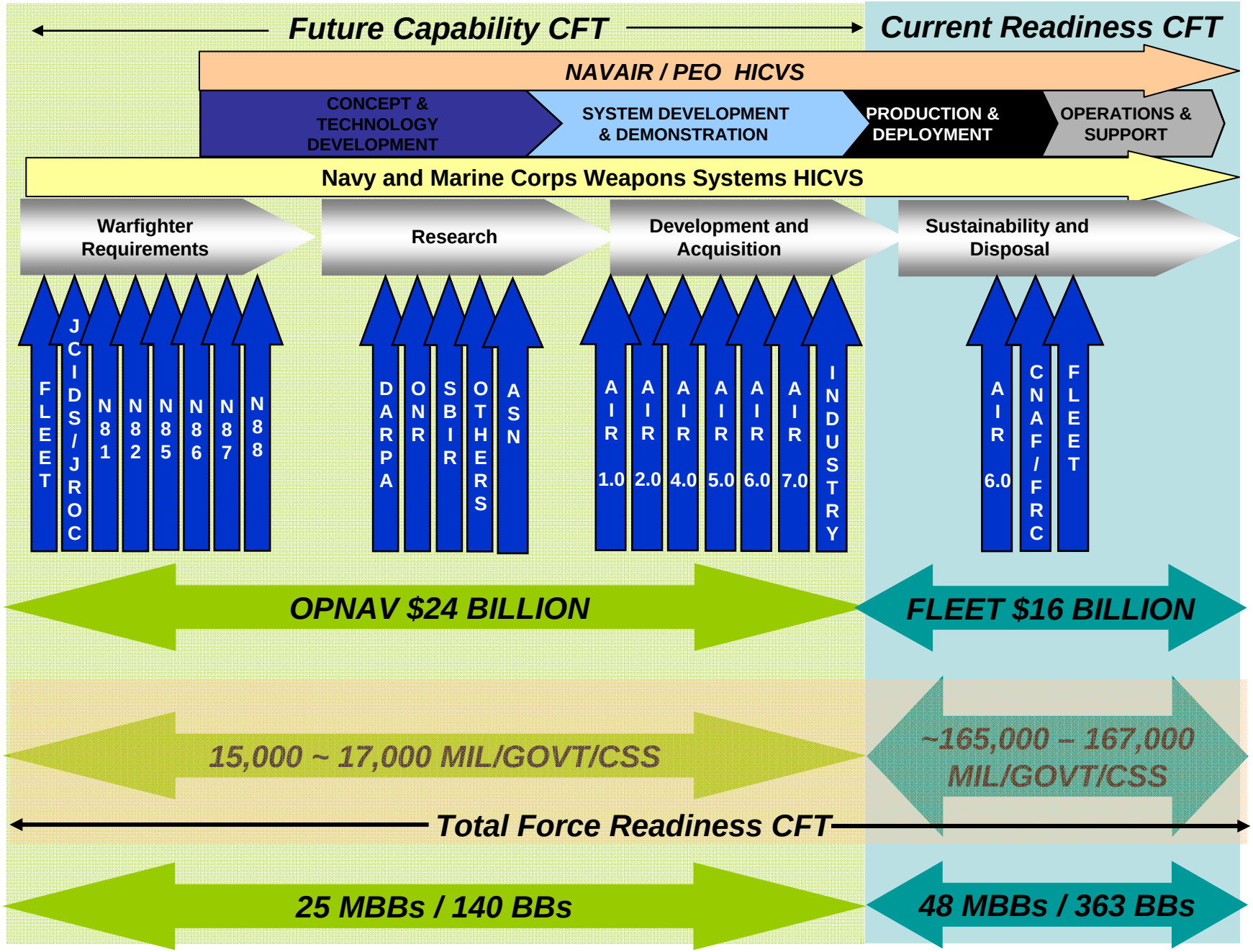
Project-level Benefits



Impact Levers

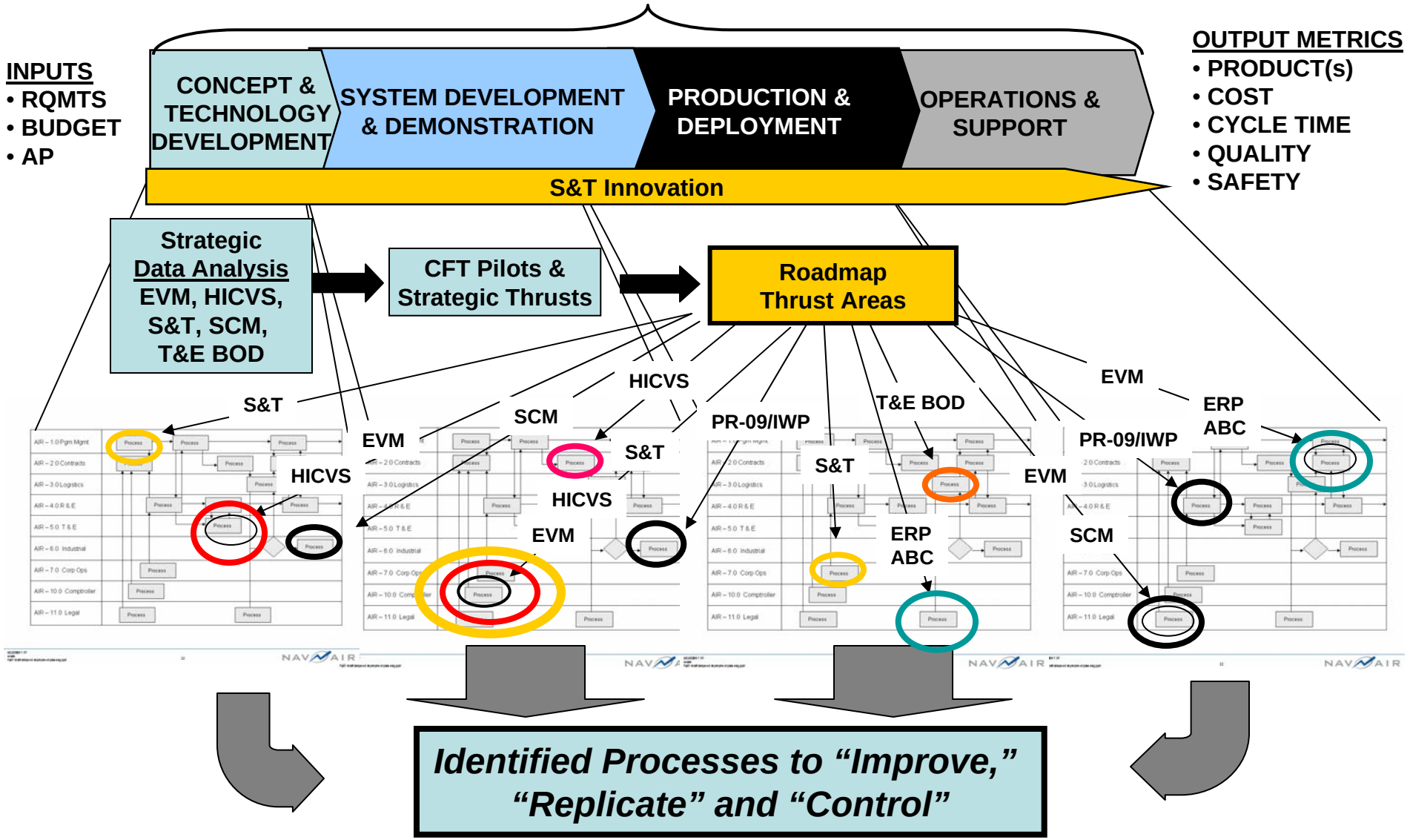
- Multiple tactical projects
- Quality
- Speed
- Cost
- Department productivity
- Interdepartmental communication

NAE CFT / HICVS ALIGNMENT

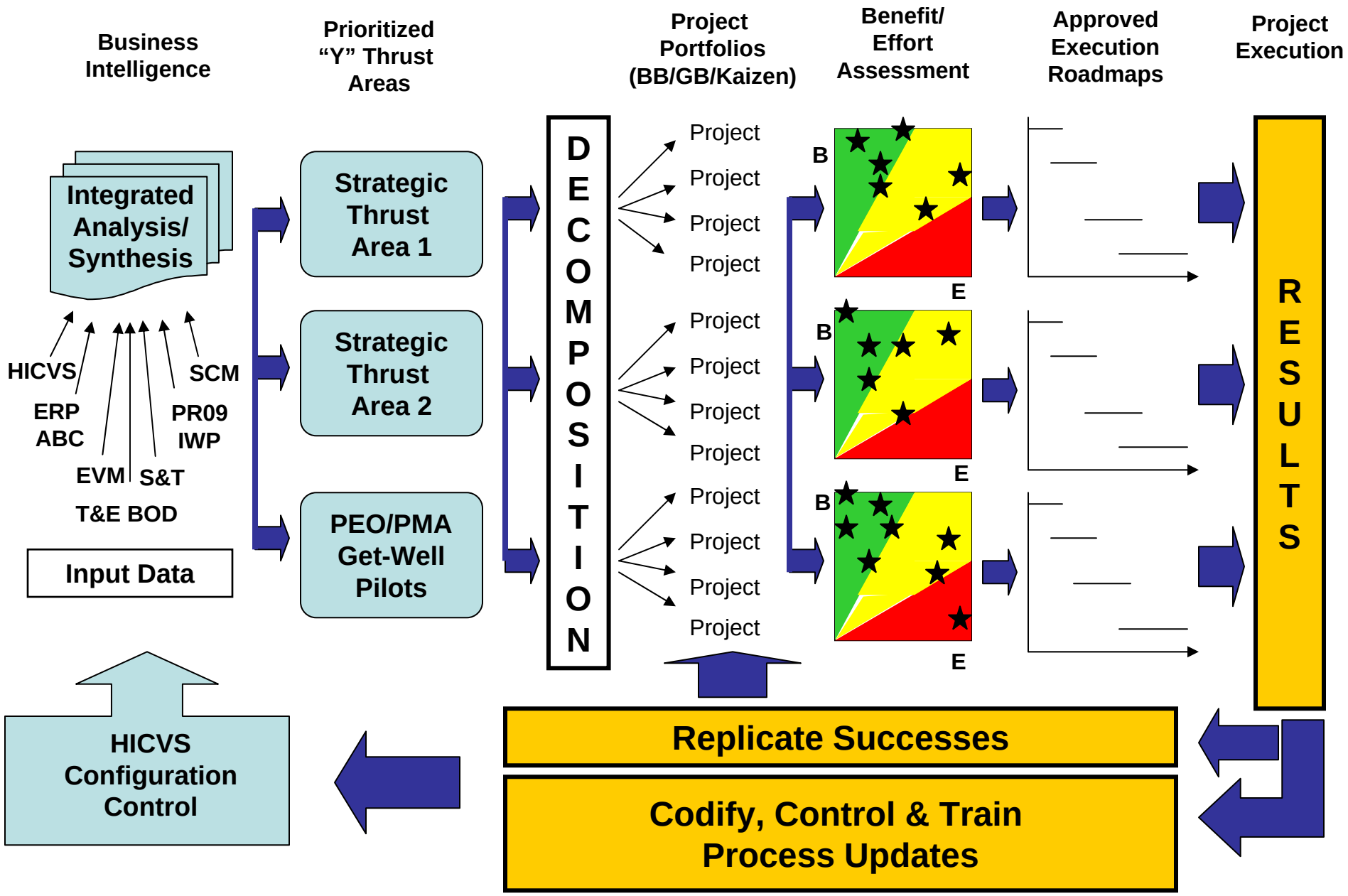


The “HICVS” View

Acquisition High Impact Core Value Stream



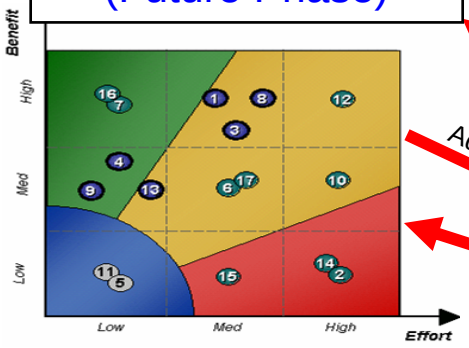
HICVS Productivity Improvement System Approach



AIRSpeed Deployment Management System

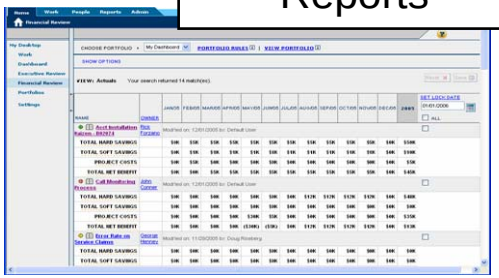
(PowerSteering)

Initial Project List
(Future Phase)



Idea Tracking

Dashboards & Reports

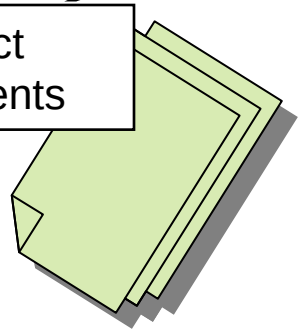


Add Benefits & Effort

Financial & Non-Financial Metric Tracking

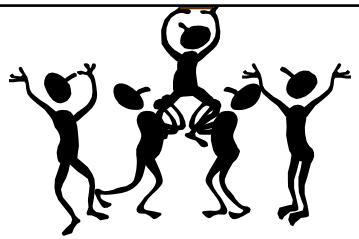
Project Charter
Problem Statement,
Goal Statement

Project Documents



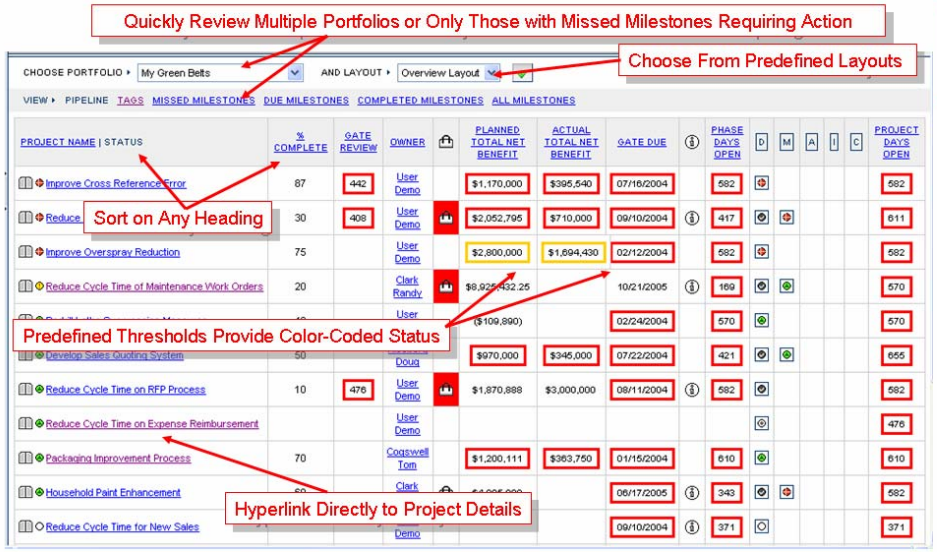
Project Status, Deliverables & Dates

Project Selected & Team assigned to project

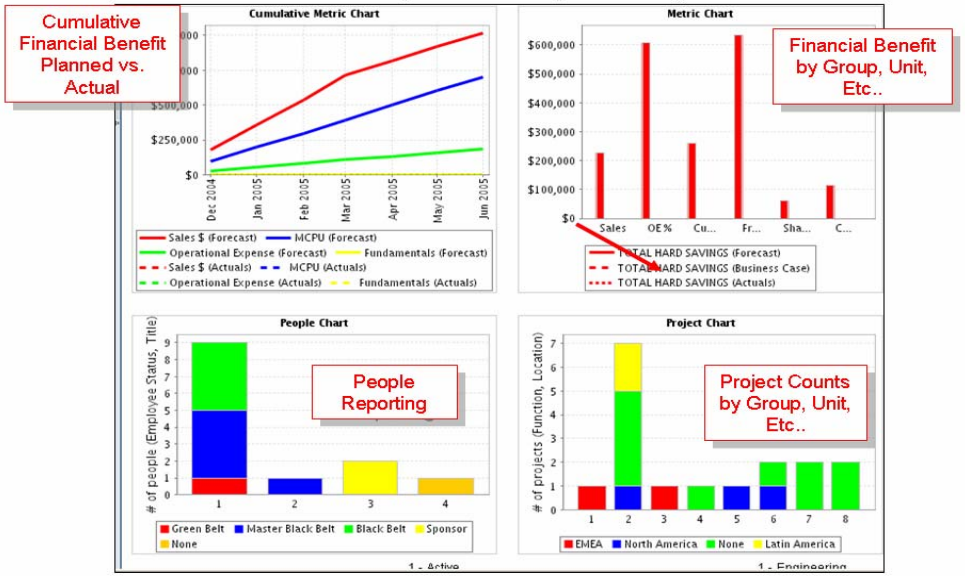


Data Visualization:
Accelerating the Data to Information to Knowledge Value Stream

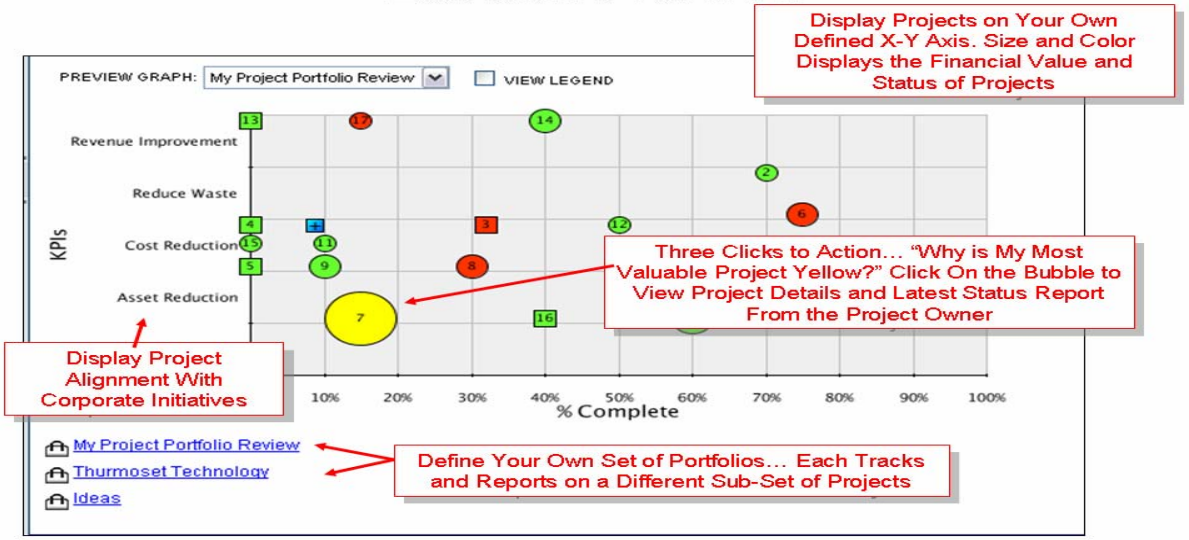
Project Dashboard



Graphic Reporting

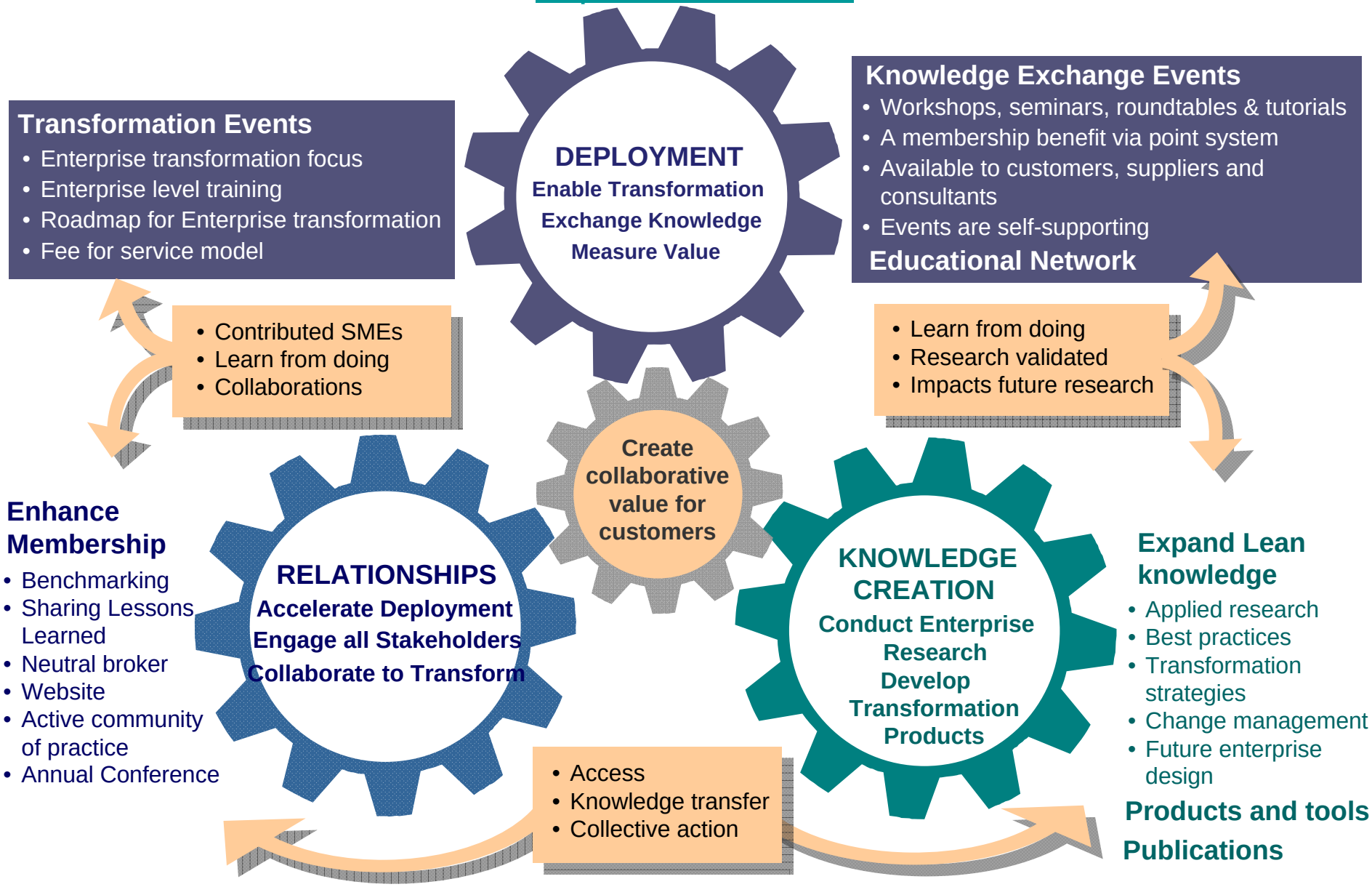


Executive Review



Lean Aerospace Initiative (LAI) Enterprise Excellence Operating Model

http://lean.mit.edu/



DoN Lean Six Sigma (LSS)
Continuous Process Improvement Summary

- DoN is fully committed to deployment of LSS CPI
  - Extensive 2 day SECNAV Leadership training (>1300)
  - SECNAV Regular Guidance
  - SECNAV Monthly Metrics Reporting
  - SECNAV Monthly Strategic Management Reviews
  - Tracking Progress to 3 Year LSS CPI POA&M
- LSS CPI contains all the necessary tools
  - Lean, Six Sigma, Theory of Constraints
  - Leveraging enabling IT
  - Baselining DMAICV for existing processes
  - Leveraging High Impact Core Value Streams
- Self-Sustainment to drive institutionalization & results
- Continuous Process Improvement for Continuous Process Improvement – Maximize ROIC

BOTTOM LINE

The DoN Wants:

1. “Best-of-the-Best” LSS CPI Knowledge/Capabilities
2. Fully Integrated LSS CPI Organizational System
3. Self-Sustainment & Cultural Transformation
4. Innovation for LSS CPI Transformation Acceleration
5. DoN Enterprise LSS/CPI Commonality
6. Maximized LSS CPI Value Proposition
7. Quality, Speed, Cost & Safety Results

DoN Lean Six Sigma (LSS)
Continuous Process Improvement (CPI)

Go to:

a) www.navair.navy.mil

b) DOING BUSINESS WITH US

c) OPEN SOLICITATIONS

d) N00421-07-R-0012
DoN LSS CPI

Breaking the Barriers to Productivity & Effectiveness for our Sailors & Marines

QUESTIONS?

NAVAIR

Contact Information

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301-342-8000

Value-Add Cycle of Continuous Improvement

Innovation & Creativity: Connect the Dots, Relate & Re-Apply

Innovation is critical to everything:

1. how we collect data and what data we collect,
2. how we analyze and integrate data and information,
3. how we gain critical experience,
4. how we expand our knowledge,
5. how we create and institutionalize our future state processes,
6. how we apply and leverage breakthrough technologies,
7. how we replicate and maximize returns on our results,
8. how we collect and analyze our metrics, and
9. how we continuously assess metrics to improve the relevance and impact of the data we collect, and the quality and returns of the Value-Add Cycle of Continuous Improvement.

Value-Add Cycle of Continuous Improvement

- Data: Without high quality data systems, our ability to properly focus and apply continuous improvement is severely limited.

- Information: Our ability to generate, filter and leverage the right information is an essential component for effective continuous improvement.

- Experience: Complex decisions, plans and strategies often rely on a foundation of experience from multiple experts in their fields, providing key inputs which can then be synthesized into optimum, integrated solutions with all aspects and risks fully considered – leading to dramatic reductions in waste and costly rework.

- Knowledge: The synthesis of data, information and experience creates actionable knowledge for value-added application

- Processes: The application of process improvement, standardization and re-use enables extraordinary systemic improvements in efficiency and effectiveness to occur in a methodical, well-disciplined and synergistic manner.

- Technologies: Broad awareness and understanding of available technologies, their benefits, readiness/risks, costs and applicability to the Navy environment is a catalyst for success.

Value-Add Cycle of Continuous Improvement

- Metrics: Provide the critical insight to effectively manage, plan and continuously improve the Enterprise

- Leadership/Strategies: Leaders must excel in developing strategies to achieve excellence in productivity, quality and effectiveness - continuously improving and seeking operational perfection and organizational optimization.

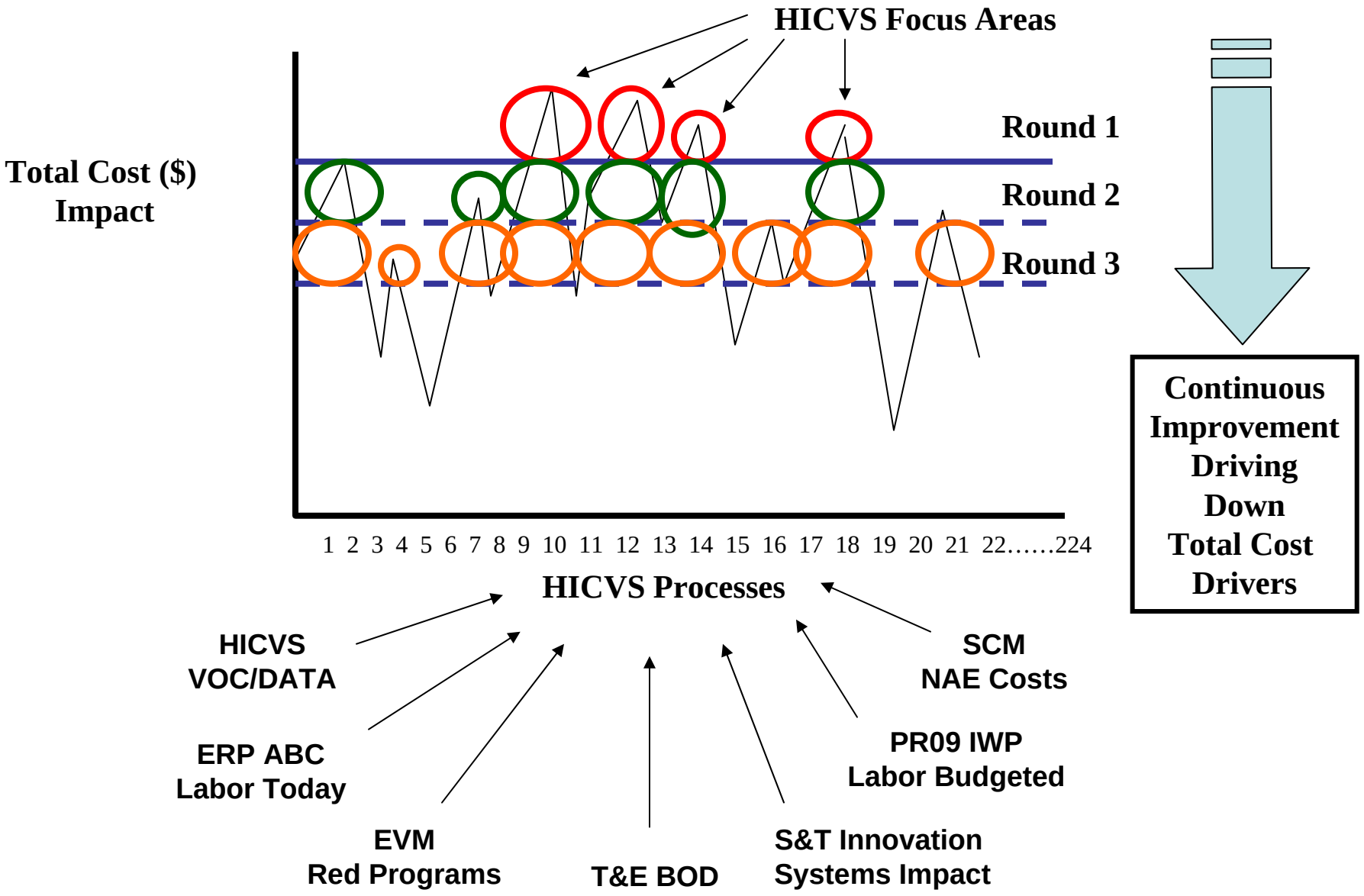
- Methodologies & Tools
  - Including: DMAICV, DMADV, TRIZ etc.
  - Proactive identification and alleviation of system-level constraints to enable the system's performance to meet customer requirements.
  - Mental models enable complexity to be simplified so that improvements can be identified and more effectively instituted.

- Learning: Application of knowledge and expertise through robust knowledge networks and knowledge communities to create new knowledge and apply that knowledge to maximum effect – an effects-based approach.

Continuous Improvement for Enterprise Excellence

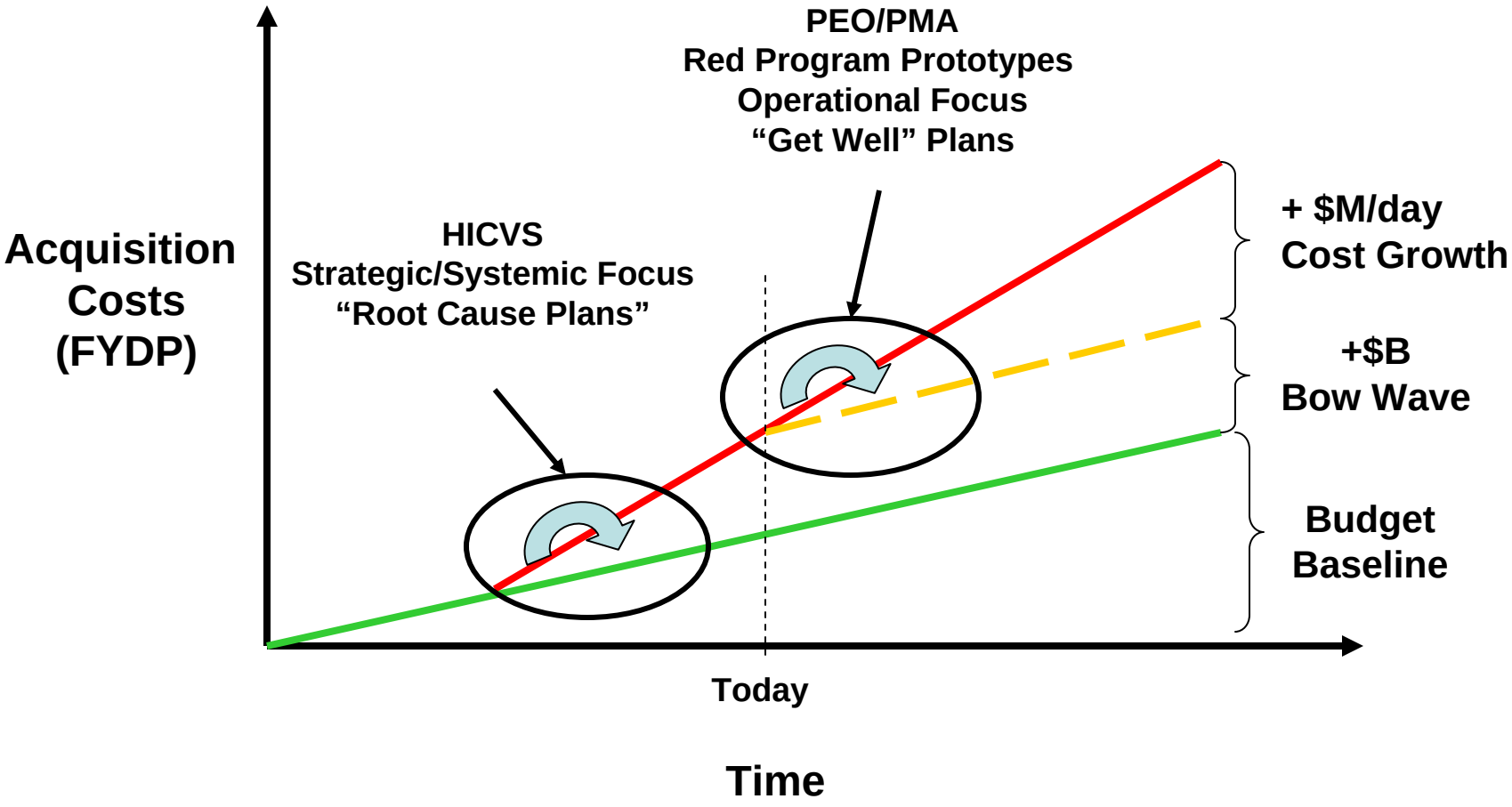
- Develop Strategic Plan: Goals, Objective & Metrics; Decomposed, Allocated, Tracked
  - Base on Internal/External Scan, Benchmarking, S.W.O.T, Balanced Scorecard
- Reinforce AIRSpeed Commitment: Tools, Methodologies & Strategies
  - Apply HICVS End-to-End across NAE inc. linkage to DoN and Industry (87%)
- Converge, Align and Optimize Productivity Improvement Efforts – Integrated Roadmap
- Drive Variation Reduction & Concept of Std: Control & Improve Workflow Mgmt
- Comprehensive “Excellence” Training: Technical, Business, Leadership
- Deploy Knowledge Mgmt: Collaboration, Codification & Repatriation of Expertise
- Drive S&T/Innovation: Capabilities/Opportunities PEOs-driven w/Replication
- Industry win-win contractual incentive clauses for improvements (87%)
- Clean-up & Inter-connect Critical Data Sources: Business Intelligence (PR-09, ERP….)
- Deploy Strategically Aligned Performance Measures & Incentives at All Levels
- Support NAE-related external work business development: Rates, Knowledge, Capital

HICVS: *"Clipping the Peaks" of EVM Drivers & Productivity Barriers/Degraders*

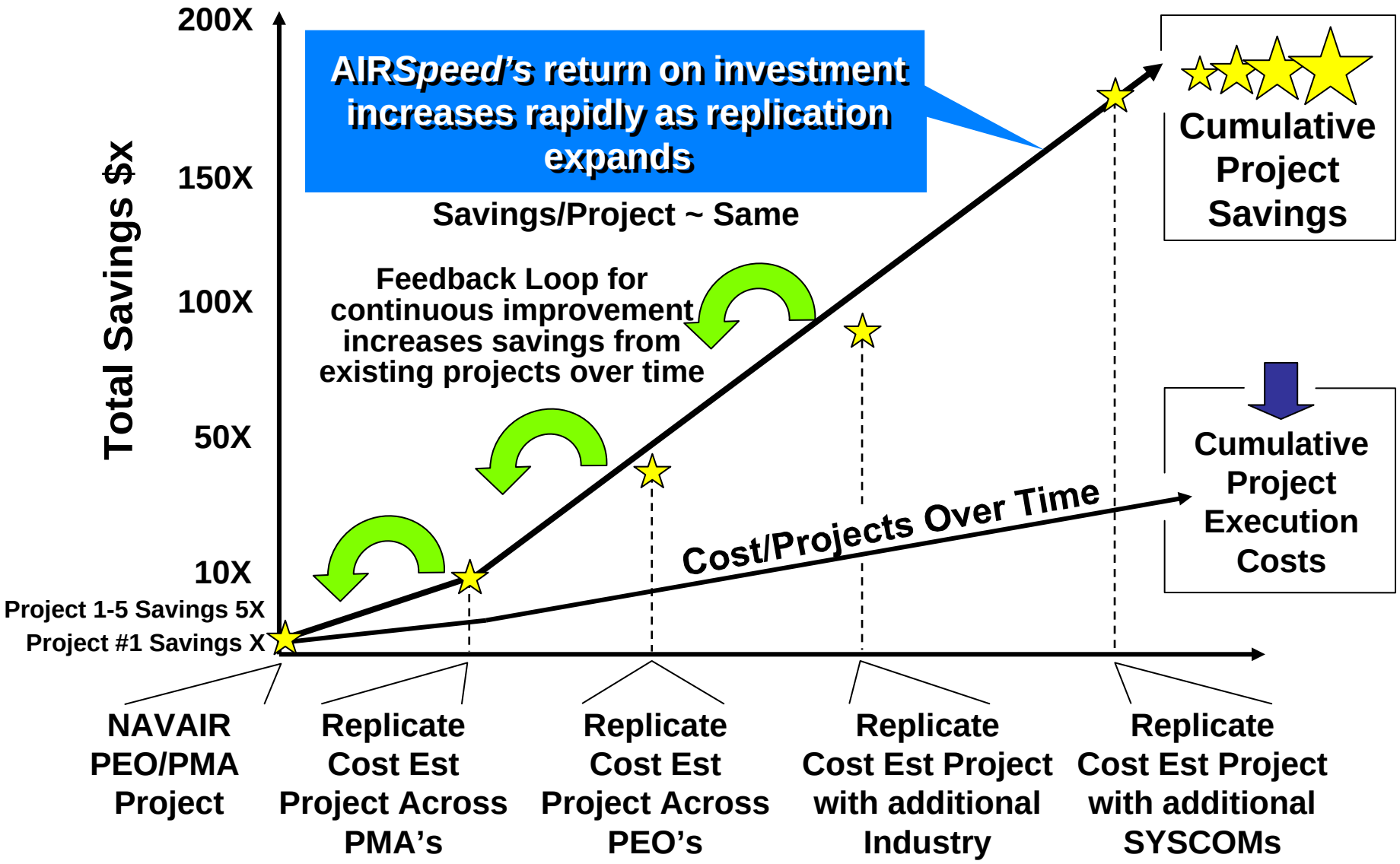


Acquisition Program Cost Growth

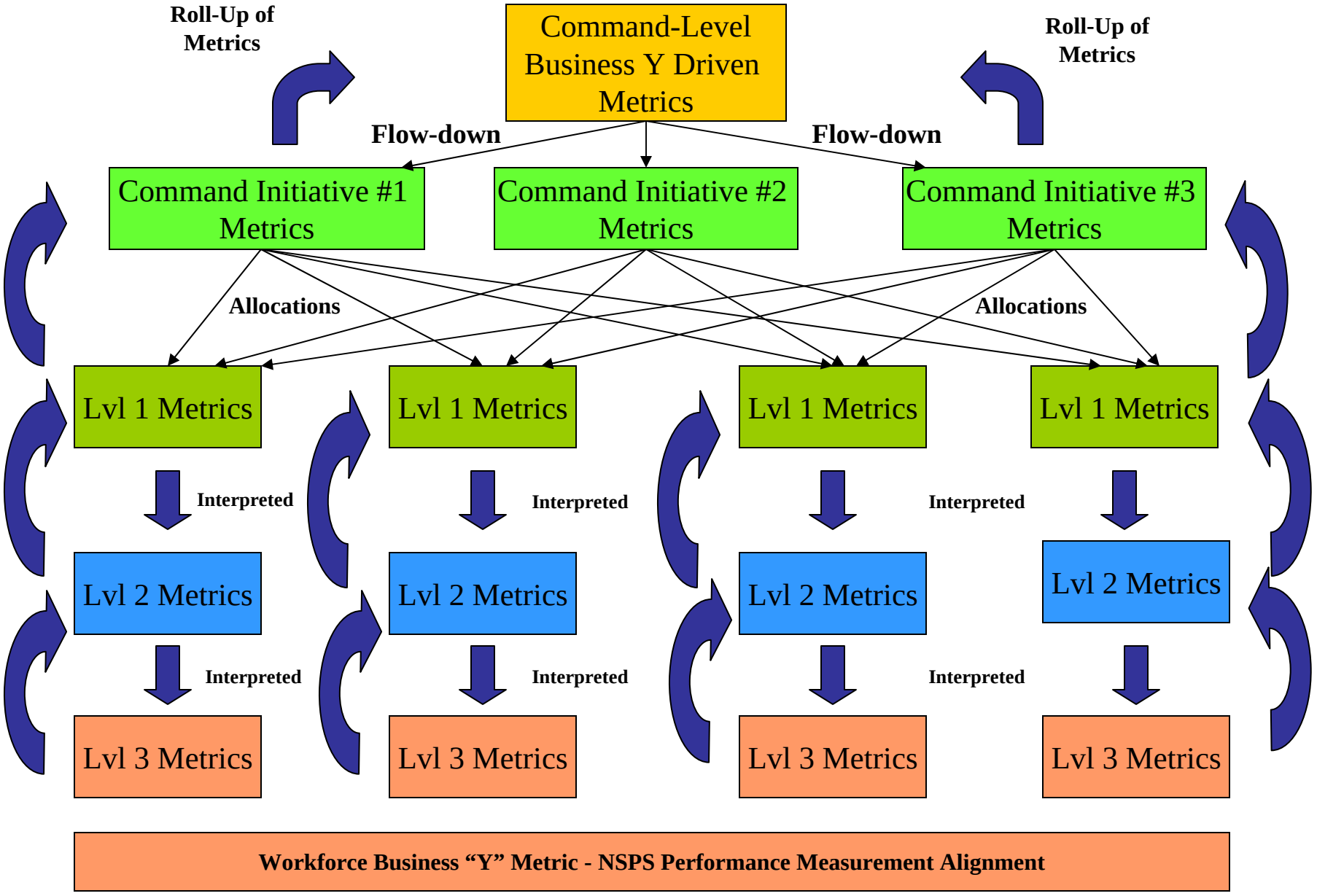
"*Attacking the Cost Challenges with a Balanced Focus for Today and Tomorrow*"



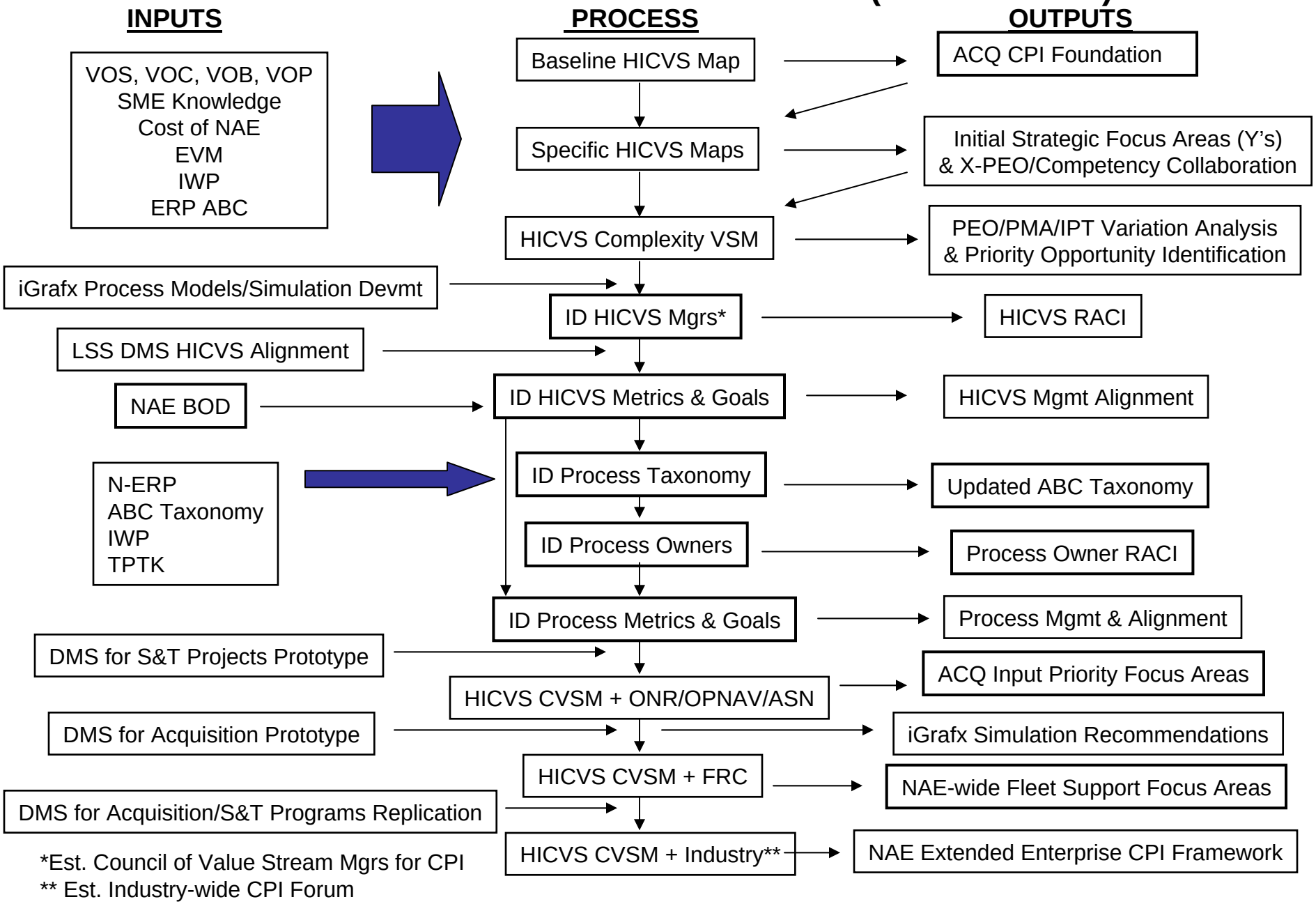
NAE AIR*Speed* – The Power of Replication



Goals Flow-down & Metrics Roll-up

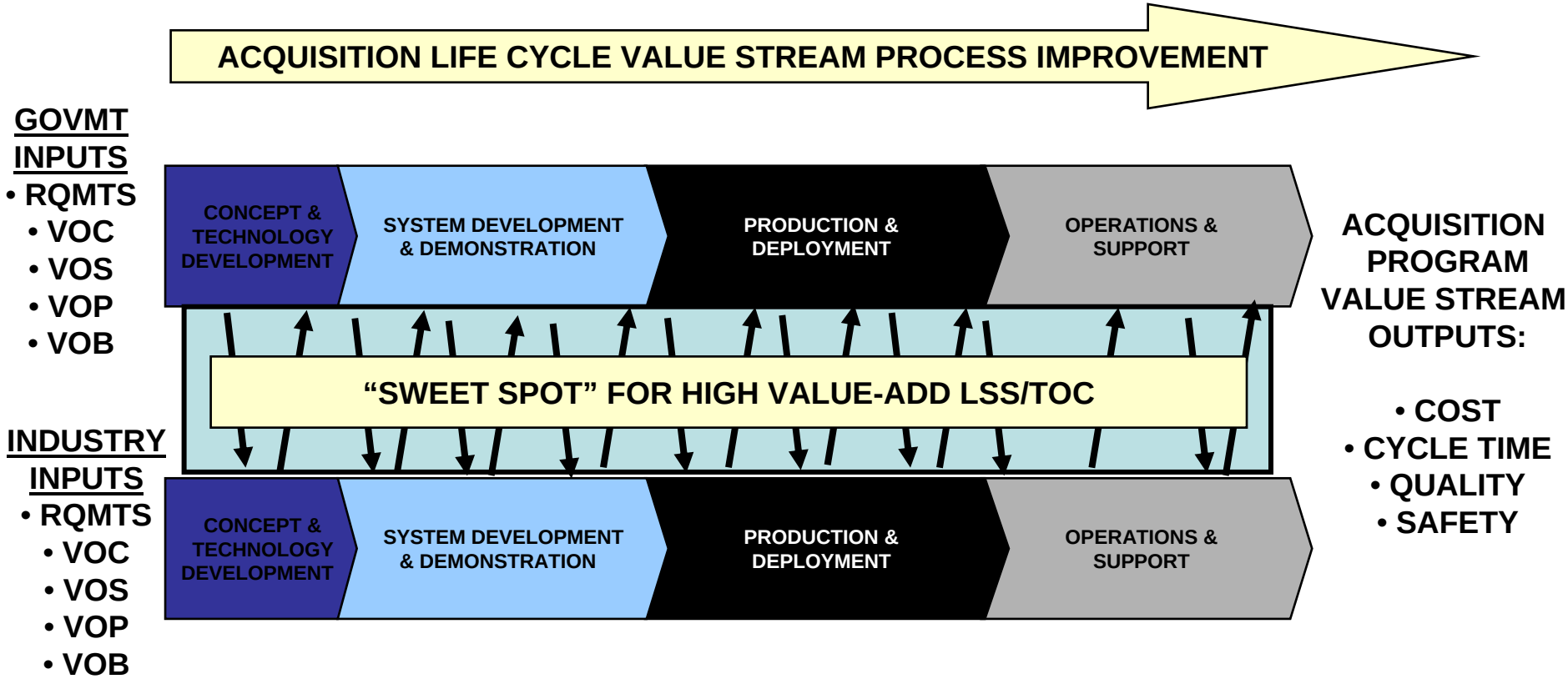


NAE HICVS MULTI-GENERATIONAL PLAN (DRAFT MGPP)



NAE AIR*Speed* INDUSTRY/GOVERNMENT COLLABORATIVE OPPORTUNITIES AT THE SEAMS

"ATTACKING THE NON VALUE-ADDED WORK/PROCESSES BETWEEN THE CUSTOMER & THE SUPPLY CHAIN"



UNDERSTANDING & IMPROVING THE AEROSPACE END-TO-END "VALUE CHAIN": FROM REQUIREMENTS & INNOVATION TO PRODUCT DELIVERY AND SUSTAINMENT