

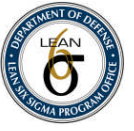
Department of Defense Lean Six Sigma Deployment

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Director

Department of Defense
Lean Six Sigma Program Office

23 September 2008

UNCLASSIFIED



Agenda

- ★ The role of the Department of Defense
- ★ The problem
- ★ The solution
- ★ The progress
- ★ The road map for change

Acronyms defined:

- ★ DoD = Department of Defense
- ★ OSD = Office of the Secretary of Defense
- ★ LSS = Lean Six Sigma
- ★ CPI = Continuous Process Improvement

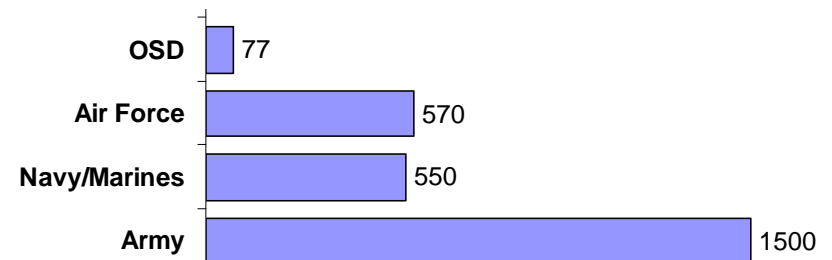


Defending the United States is a large responsibility

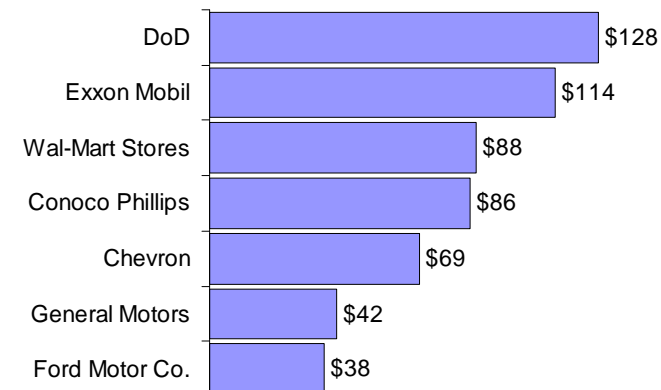
- ★ \$515 Billion budget
- ★ 5 Million people are committed to our national defense
- ★ Imagine DoD in terms of a country*
 - By population, it is greater than 43% of the world's countries
 - By GDP, it is the 16th largest* economy

Largest LSS deployment ever undertaken

Workforce (in thousands)

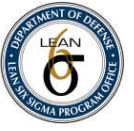


Net fixed assets (in billions) excluding military equipment



*1 - World Bank, 2006

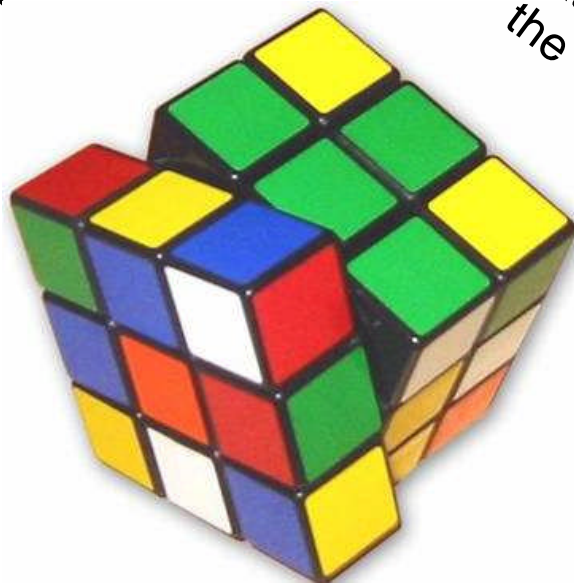
*2 - w/ supplemental



DoD is an extremely complex global organization

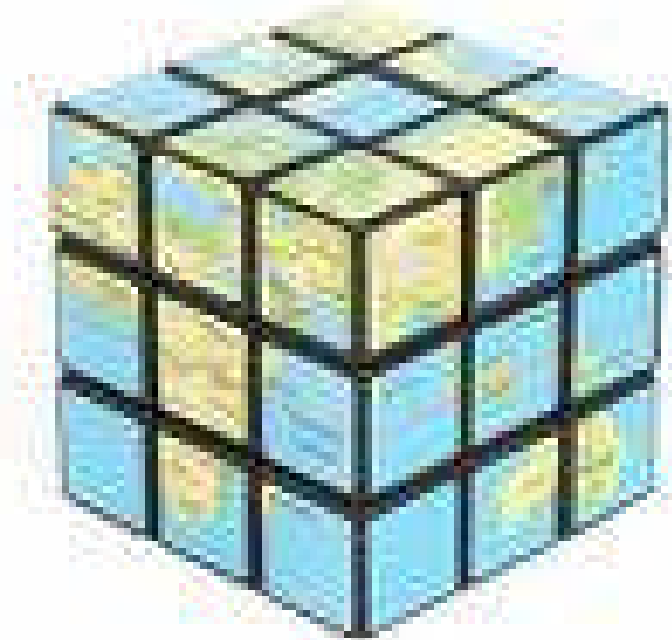
Varying LSS Maturity

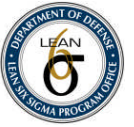
Located Around
the Globe



42 Distinct
Organizations

DoD Matrix Organization
Structure



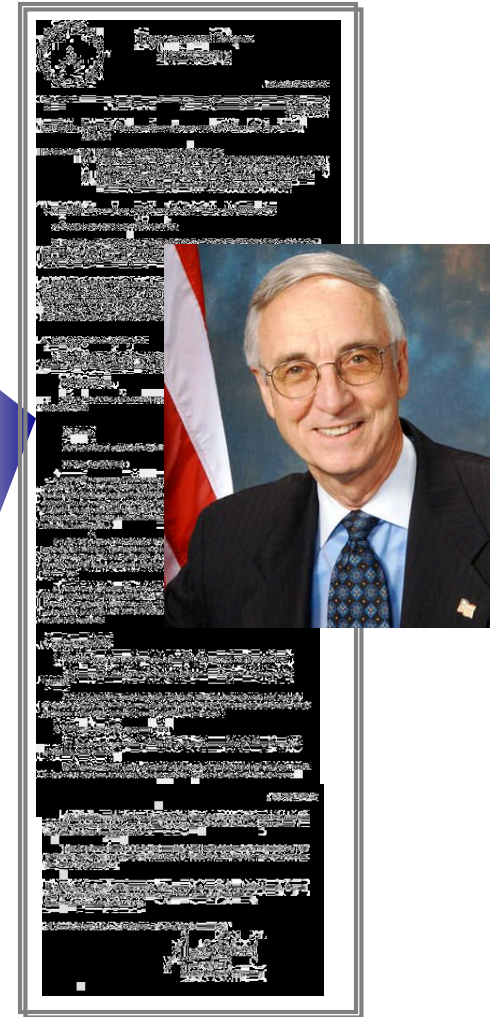


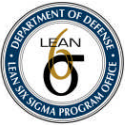
Continuous Process Improvement is DoD strategy

★ On May 12, 2008, the Deputy Secretary of Defense issued a **Directive** to all DoD components, establishing policy to use LSS to improve:

- Productivity
- Performance against mission
 - ★ Availability, reliability, cycle time, investment, and operating costs
- Safety
- Flexibility to meet DoD mission needs
- Energy efficiency

Lasting change starts with policy that transcends administration changes





The world is changing at a faster rate than the DoD

★ Change

- Middle East
- Technology
- Economy
- Dynamic political/military situations

★ The status quo is unacceptable



FREEDOM



SECURITY

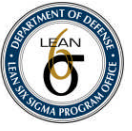
★ The DoD provides

- Protection of the country
- Presence in foreign nations
- Protection from terror
- Protection of allies and political interests around the world
- Humanitarian aid



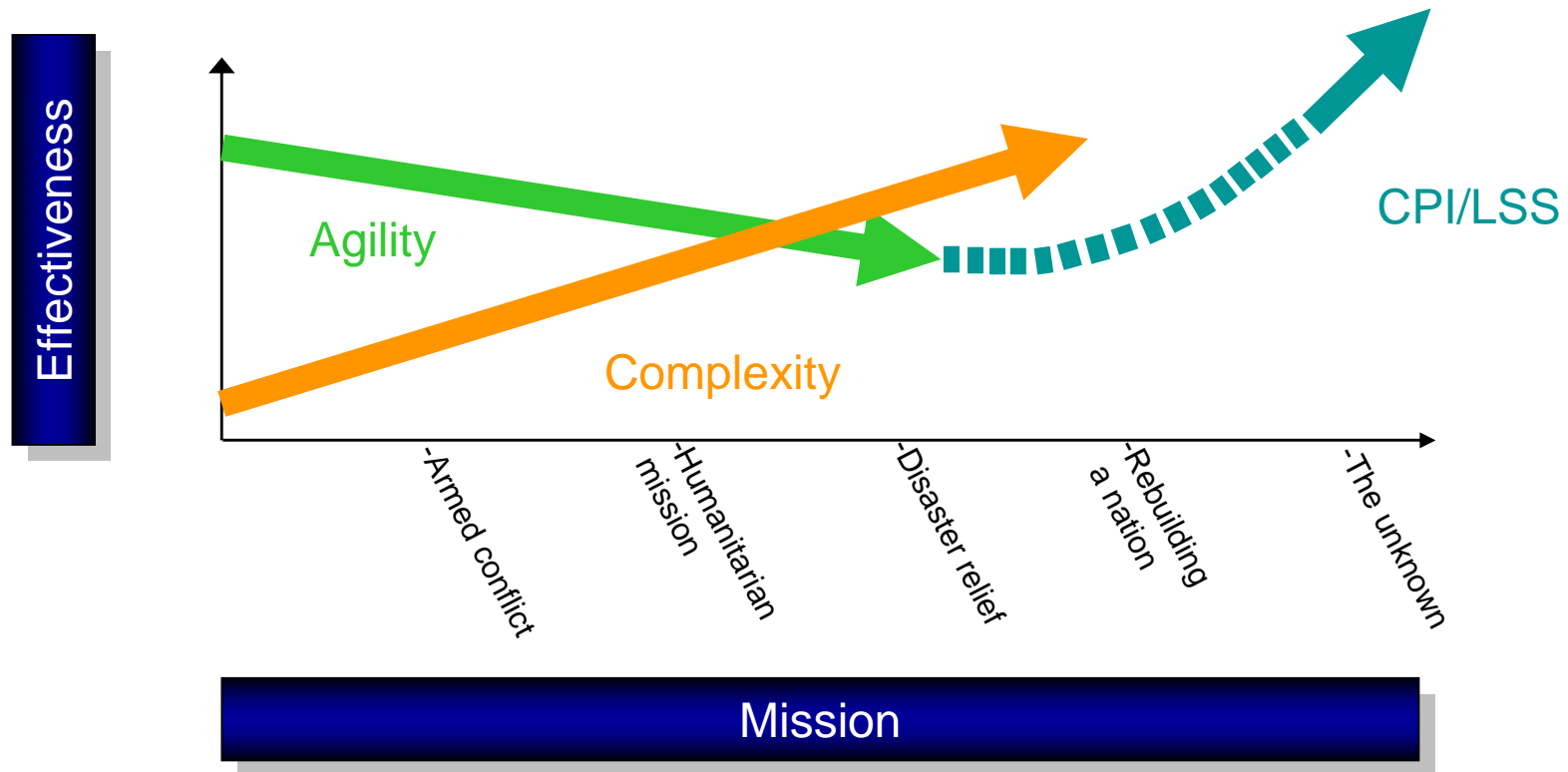
HOPE

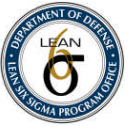
Is the DoD flexible enough to face the next crisis?



DoD's success depends on agility

- ★ The threats to our nation are evolving and challenge DoD's capacity to adjust or evolve

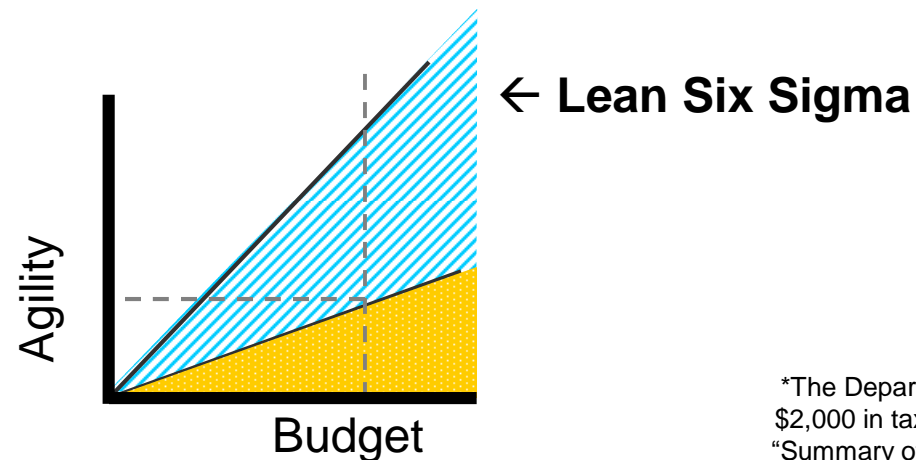




Lean Six Sigma leverages a proven methodology to maximize the taxpayer dollar and increase agility

- ★ To create and sustain process and organizational change
 - Lean eliminates waste and improves flow
 - Six Sigma reduces variation and improves quality
 - First make it effective, then make it efficient, then make it last

DoD performance



DoD annual spending
per US citizen*

*The Department receives approximately \$2,000 in taxes for each American citizen. "Summary of Internal Revenue Collections and Refunds, by Type of Tax" (accessed 23 January 2008) available from <http://www.irs.gov/pub/irs-soi/>

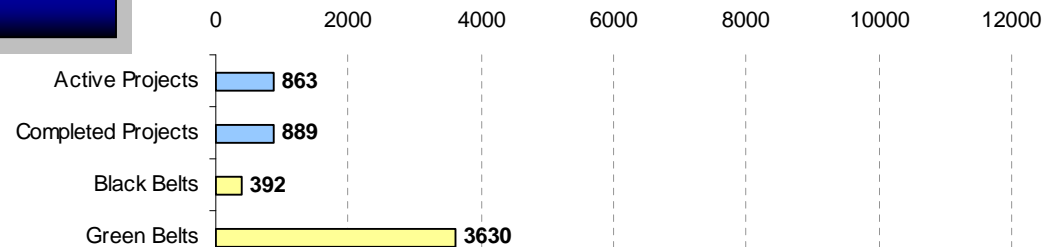


DoD LSS deployment is a work in progress

Deployment Summary

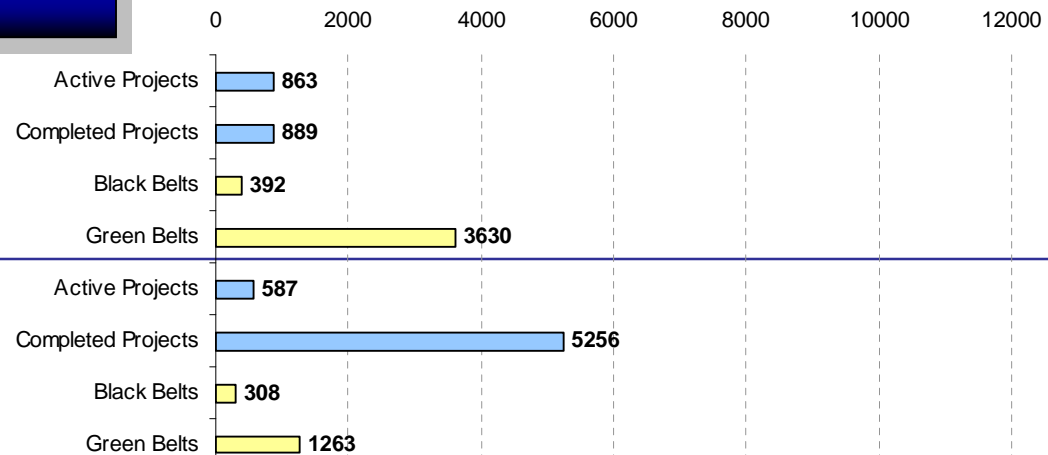
OSD, DoD Agencies and Field Activities

Deployed in October 2007



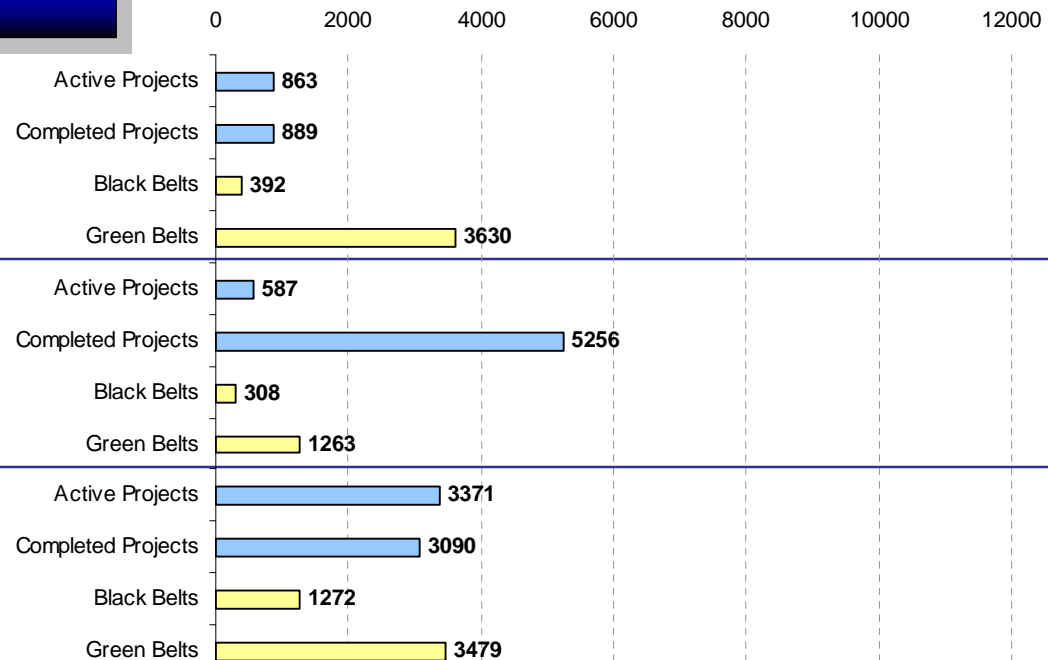
Air Force

Deployed in May 2006



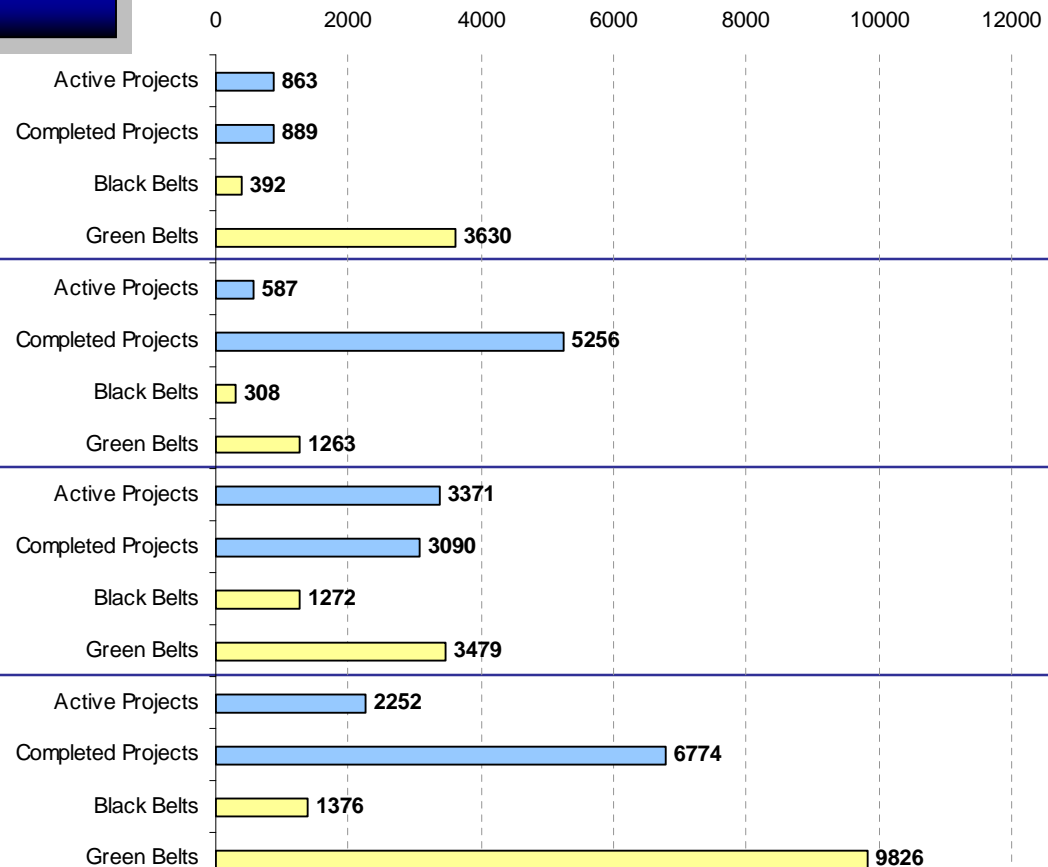
Army

Deployed in August 2005



Navy

Deployed in January 2003



*All data based on September 2008 DoD LSS Data Call



Operational Improvements – Example #1

Heavy Expanded Mobility Tactical Truck (HEMTT)

Mixed Model line

- ★ 6 different vehicles
- ★ 26 different variants



Silver Medallion Recipient



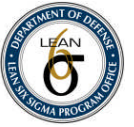
Key Achievements:

- ★ Improved productivity from 2003 hrs/vehicle to 1100 hrs/vehicle
- ★ Increased output from 13 vehicles per month to 32 vehicles per month
- ★ Decreased lead time from 120 days to 30 days

Results Achieved:

- 75% cycle time improvement
- Reduced rework by 51%
- Meet or exceed delivery requirements of assets

Warfighter Advantages – Dependable, Workhorse – the “Dragon Wagon”



Operational Improvements – Example #2

AN/TYQ-23 Tactical Air Operations Module (TAOM)

Key Achievements:

- ★ Created a work balanced, streamlined, pull process in order to generate value while providing exceptional service to the Warfighter
- ★ Reduced cycle time from 180 days to 120 days
- ★ Decreased direct labor hours per unit from 5,019 to 4,240
- ★ Cost savings of \$386K through July 08



Results Achieved:

33% cycle time improvement
15% reduction in direct labor hours



Silver Medallion Recipient



Operational Improvements – Example #3

US Army Armament Research, Development and Engineering Center



Key Achievements:

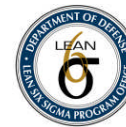
- ★ **Procurement Administrative Lead Time**
 - Integrated Army, Department of State and contractor approval and review processes
 - 24 months reduced to 11 months (savings: \$2M), milestones met
- ★ **M734A1 Mortar Fuze Production Yield**
 - Analysis identified design deficiency
 - Re-design reduced scrap from 5.0% to 0.1% (savings: \$50K/month)
- ★ **Insensitive Munitions Waiver Process**
 - Streamlined PEO-Ammunition's approval process
 - 2+ year cycle reduced to 7 months
- ★ **120mm Mortar Fin Malfunction Investigation**
 - Developed corrective actions to release suspended mortar ammunition (stockpile worth \$200M)
 - Reduced risk in future procurements

Results Achieved:

Fiscal Year	ARDEC Cost Benefit/Avoidance (\$M)
FY01	\$38
FY02	\$1,511
FY03	\$670
FY04	\$105
FY05	\$542
FY06	\$58
FY07	\$300
Total :	\$3224M



First Federal & DoD Recipient of the Malcolm Baldrige National Quality Award



Transactional Improvements

Government Purchase Card Rebates

DEFINE

Define – GPC Rebate Process
Defense Intelligence Agency

Problem Statement: DIA directorates fail to process credit card purchase reconciliation in a timely manner which results in the loss of rebate money. The amount of rebate is directly proportional to the time of reconciliation.

Business Case: As a result of this project, DIA will increase the amount of rebate by 30%.

Unit: GPC Transaction

Defect: Processing that is longer than 7 working days from receipt of statement

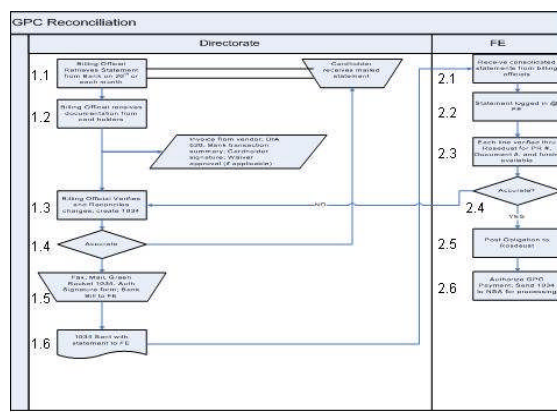
Start: Receipt of Credit Card statement from bank

Stop: Accurate GPC documentation is sent to NSA for processing

Scope: Purchase made by directorate, invoice processed through DIA and NSA, rebate made to directorates

An effective reconciliation process will result in greater cash rewards to directorates

MEASURE

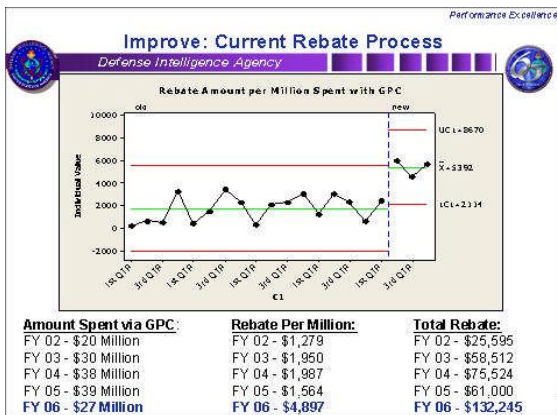


ANALYZE

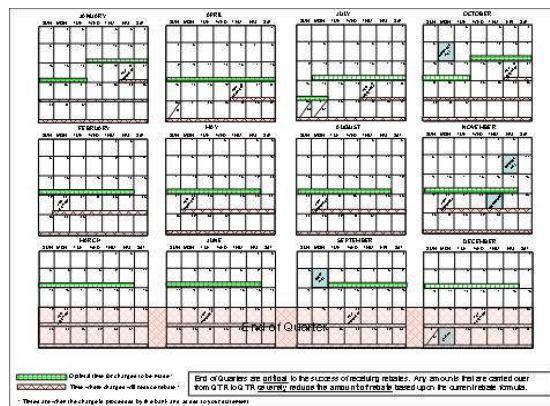
Improve: FMEA Results
Defense Intelligence Agency

Rank or Score	Potential Cause	Current Control	RPM	Action
1	Controlled and tracking throughout the month	Bank Personnel Mechanism available to assist if staff haven't logged in their statements	243	1) GPC with bank to determine who has been missed account. 2) Train staff on GPC 3) Develop job aid to guide Non-reason critical leaving policies
2	Alternate billing office/department - single point of failure	If there is a failure to send to CTR (DXY) then FE will alert AGPC to take action	243	Close coordination between AGPC and FE, 9 working days beyond billing date.
3	CTR is Billing Office not putting in date	If there is a failure to send to CTR (DXY) then FE will alert AGPC to take action If there is a failure to send to CTR (DXY) then FE will alert AGPC to take action	243	Close coordination between AGPC and FE, 9 working days beyond billing date.
4	Writing on statements (not to quality) - if the AGPC doesn't give the CTR the statement then CTR can not verify and make payment. Billing office AGPC will not see a credit delinquency if it is available in 30 days	If there is a failure to send to CTR (DXY) then FE will alert AGPC to take action If there is a failure to send to CTR (DXY) then FE will alert AGPC to take action	243	Close coordination between AGPC and FE, 9 working days beyond billing date.
5	Lack of common systems	Reconciling monthly delinquency list	243	Scrub Delinquency List, Work with Bank
6	Writing official GPC caused by CTR (Accounting compliance issue)	1) Reconciling and verify bank account 2) Reconciling and verify bank account	243	Reconciling and verify bank account
7	Processing the statements late/42 days	None	243	Policy that is not out on when vouchers should be submitted.
8	Availability of Voucher	None	243	Identify and train back-up, manage schedule
9	Effective documents by FE, not a work item, CTR, Customer Billing Cycle	None	243	Close coordination between AGPC and FE, 9 working days beyond billing date.
10	GPC Unavailable to FE	Reconciling monthly delinquency list	243	Reconciling and verify bank account

IMPROVE

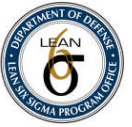


CONTROL

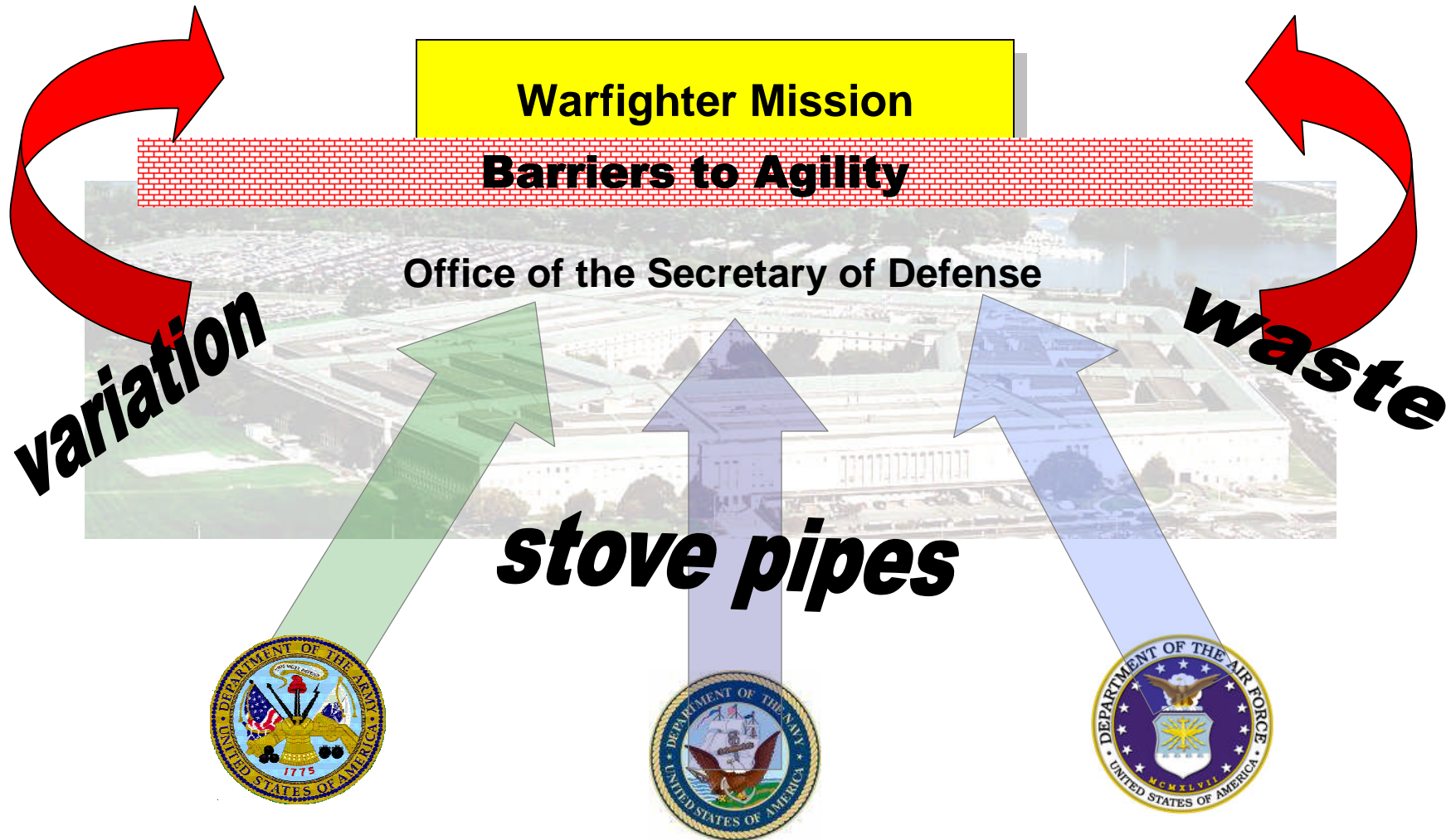


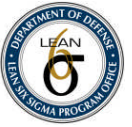
RESULTS

- 319% increase in rebate per million spent with GPC
- Standardized Processes can now benefit from IT solution.
- Agency is better prepared for increased footprint (DODIIS/ JIC/JAC)

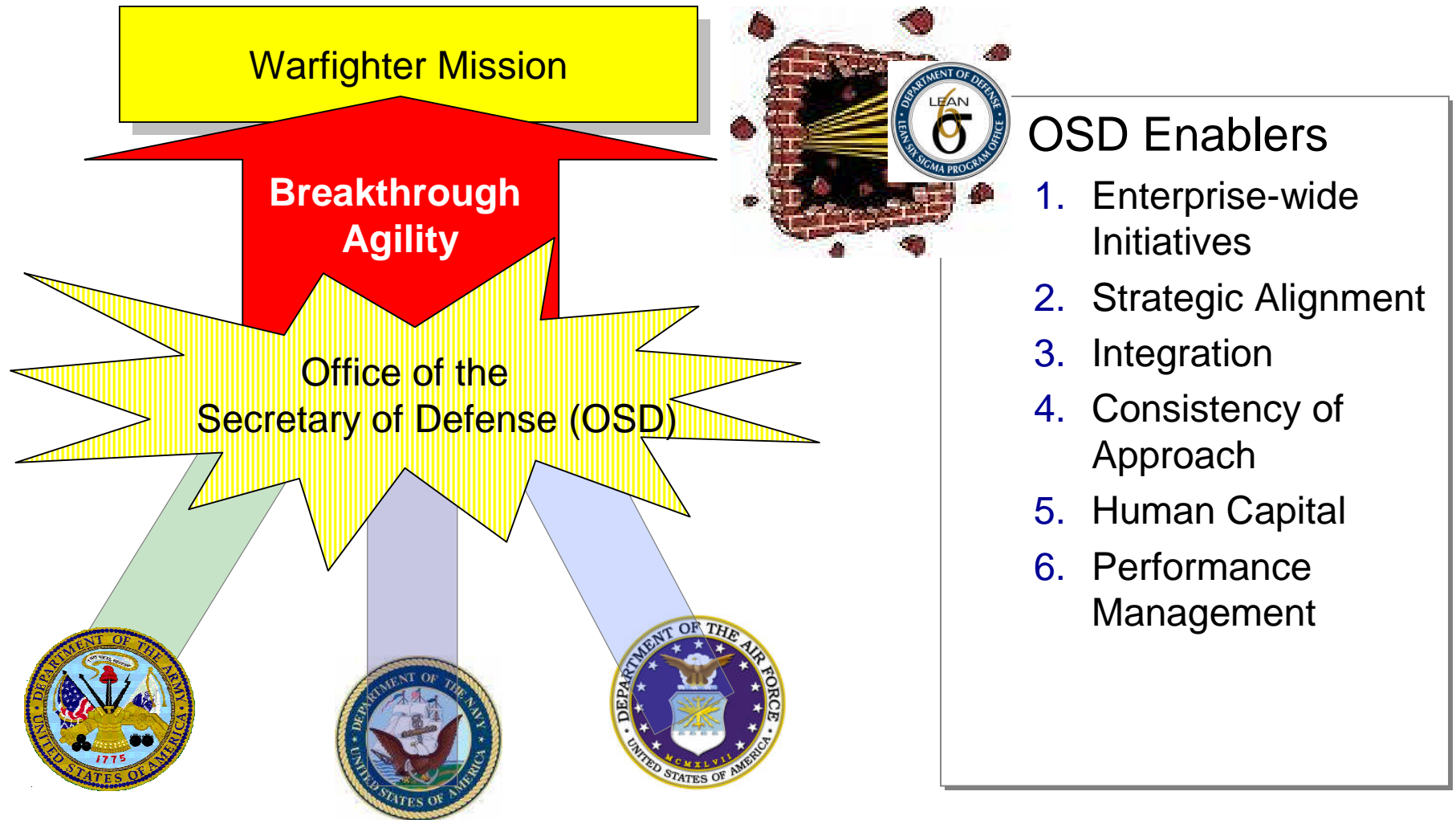


Current barriers to breakthrough change



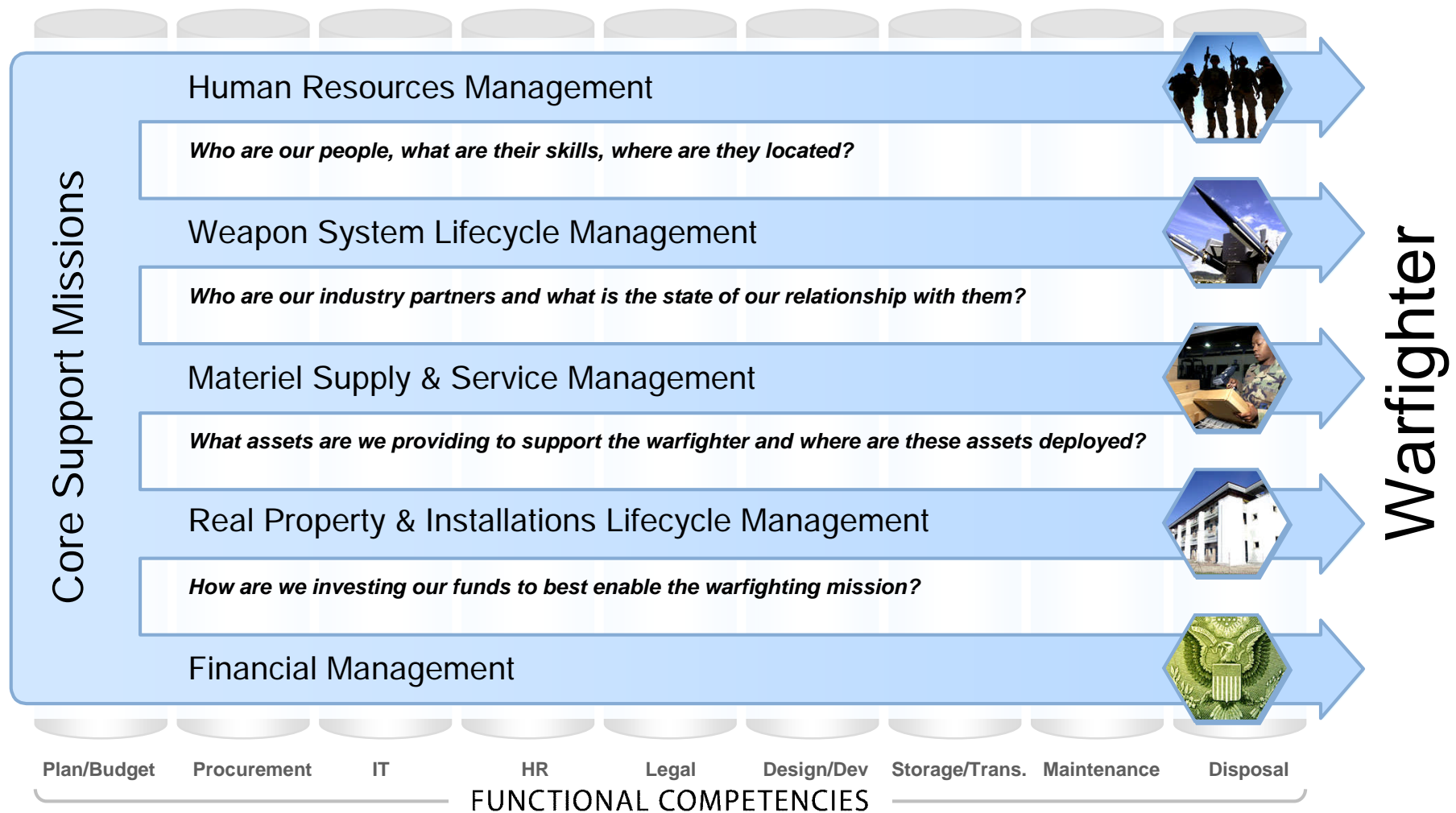


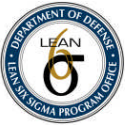
DoD needs enterprise-wide solutions to solve enterprise-wide problems to achieve exponential results



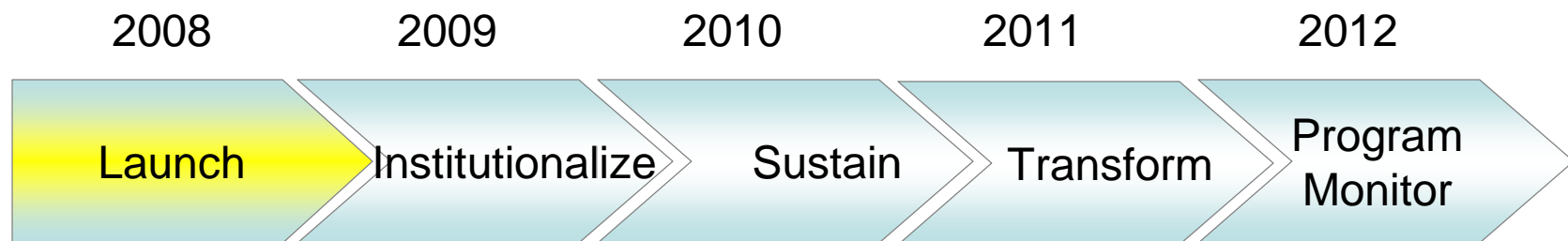


The Department of Defense as an Enterprise



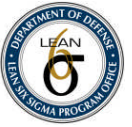


Deployment strategy transforms DoD by 2011



Keys to deployment success:

- ★ Leadership commitment
- ★ Strategic alignment (project selection)
- ★ Measurement
- ★ Consistency of approach: training, belt selection
- ★ Integration: knowledge management, replication, tracking, lessons learned

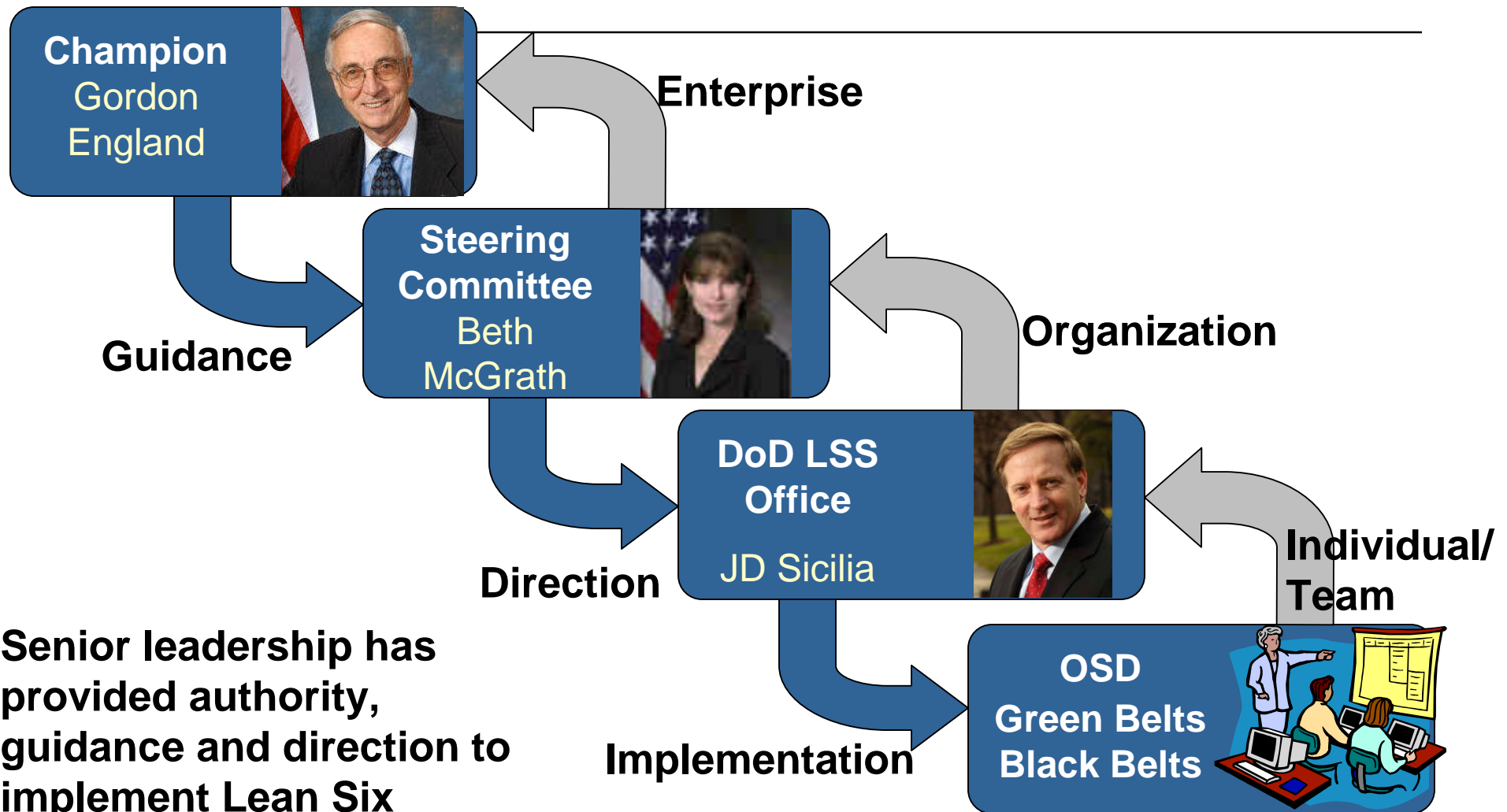


Critical Success Factors

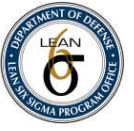
- ★ DEPSECDEF Involvement
- ★ Established DoD CPI / LSS Program Office
- ★ DoD CPI/LSS Directive
- ★ Governing Body - Senior Steering Committee
- ★ Deployment Progress Metrics (Data Calls)
- ★ CPI/LSS Guidebook
- ★ Training and Certification
 - OSD Body of Knowledge and Course Curriculum
 - Training (Since Sep 07): 20 Champion classes; 19 one-week Green Belt courses; 9 three-week Black Belt courses
 - FY09 classes available: 12 Green Belt and 4 Black Belt
 - Certification Standards
 - 2nd of many DSD Certification Ceremonies
- ★ 2008 DoD CPI Symposium (1100+ attendees)



OSD Implementation



Senior leadership has provided authority, guidance and direction to implement Lean Six Sigma



Focus On Excellence

Perfection may not be attainable,
but if we chase perfection
we can catch **excellence**.

- Vince Lombardi

*From Deputy Secretary of Defense, Gordon England
CPI Symposium, May 14, 2008*



Look to the Future

