



# **High-Velocity Maintenance Supporting Expeditionary Forces**

**2004 DoD Maintenance Symposium**

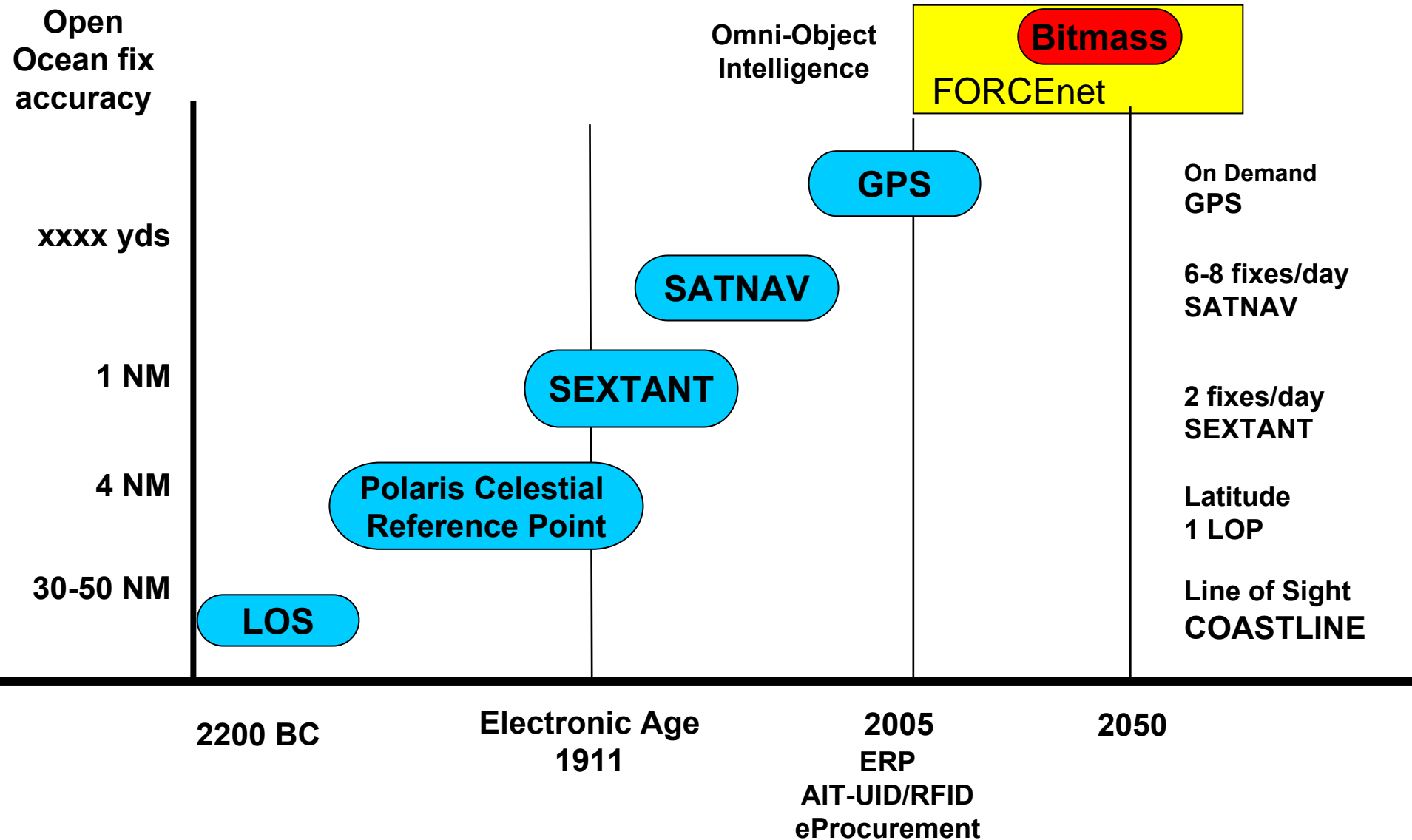
**Nick Kunesh**  
**Deputy Assistant Secretary of the Navy**  
**(Logistics)**

*27 October 2004*



# Navigation to TAV/ITV Analogy

## Bitmass enables Lead-time Reduction





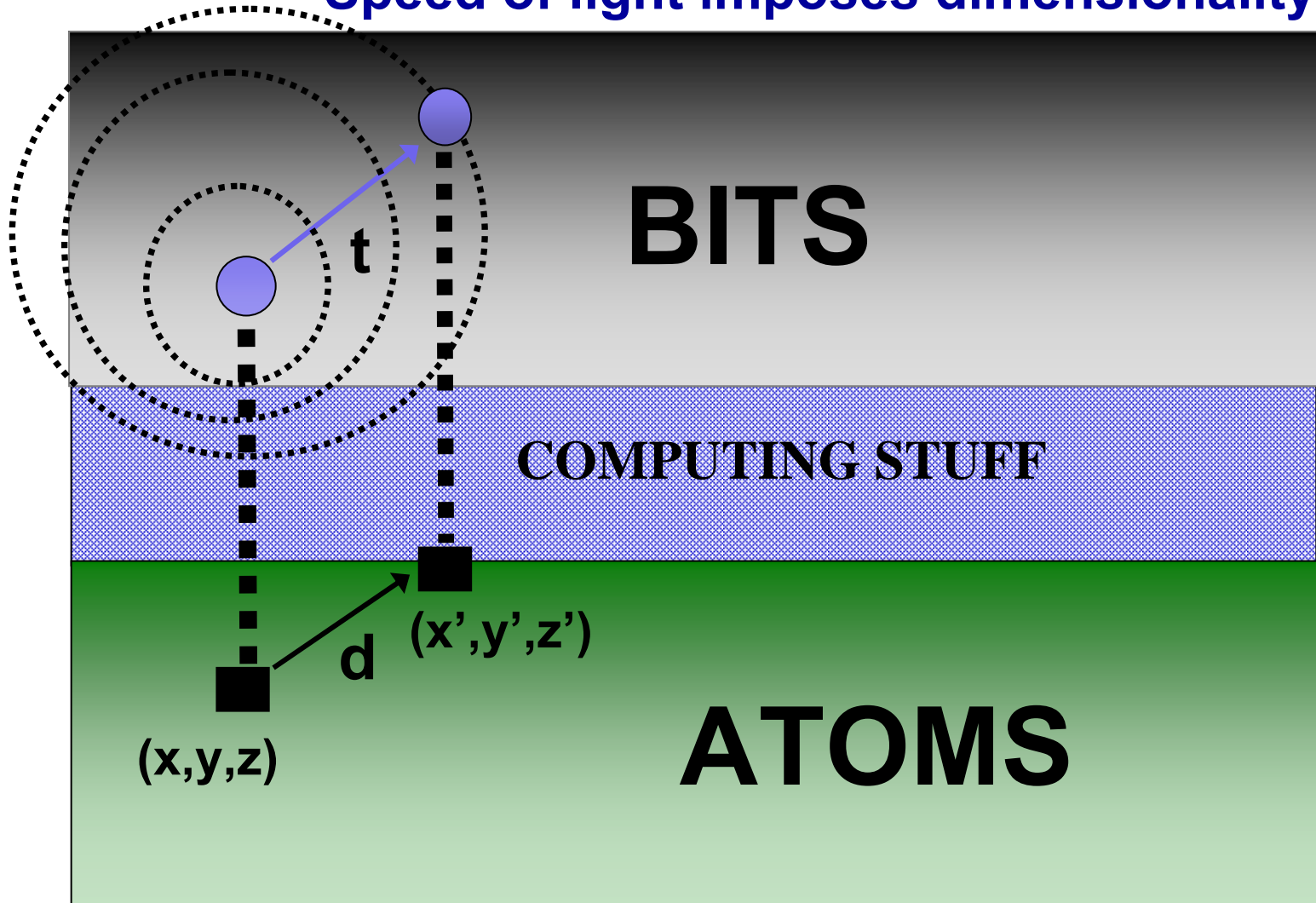
# Bitmass (n)

- 1. The property that bits becoming increasingly intertwined with atoms**
- 2. For a physical object, the collection of bits it supports**



# What is it?

Speed of light imposes dimensionality





# Bitmass Examples



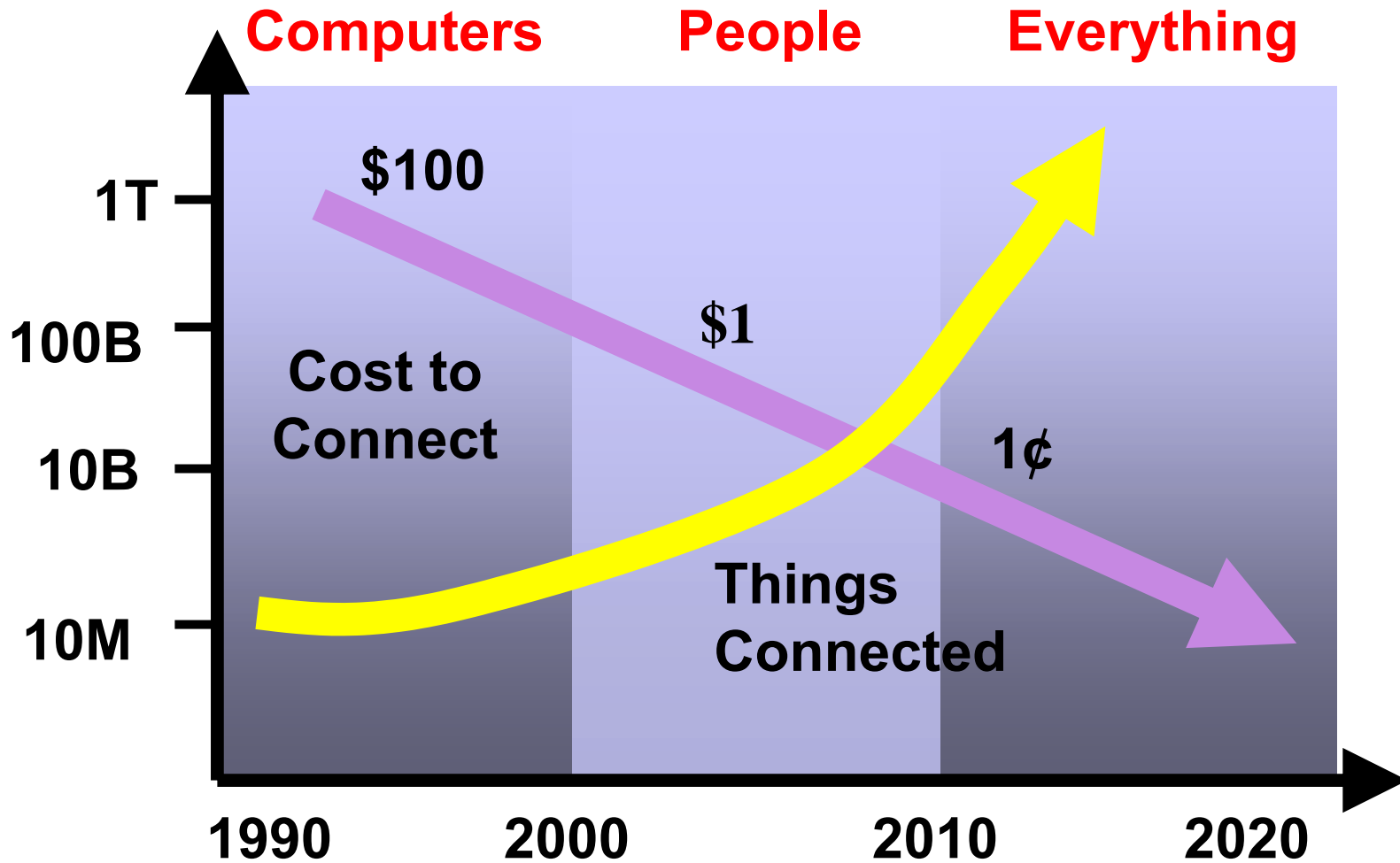
**Space shuttle tiles**

**“Tell me what  
happened to your  
friends”**





# Connectivity The Revolution





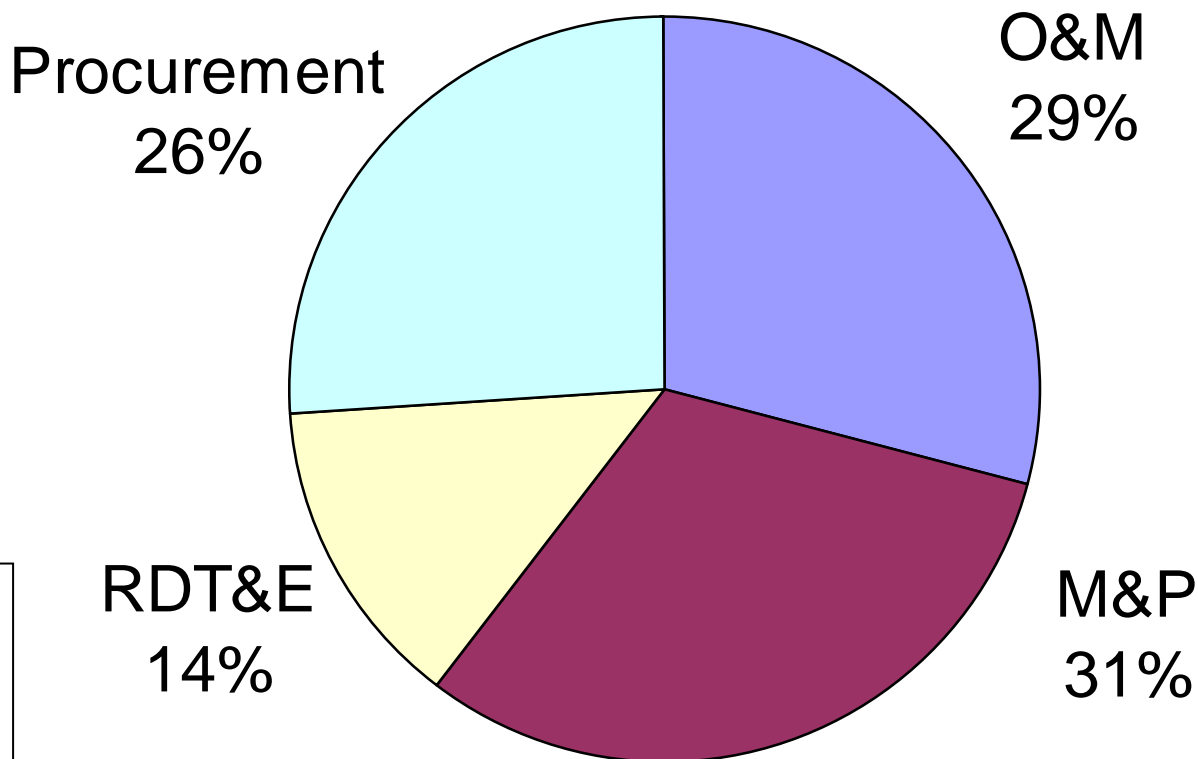
# ...The über-device?





# DoN Total Obligation Authority (TOA)

## FY 05 DoN Budget



**FY04 TOA**  
**\$115.1B**

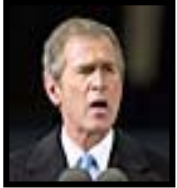
**\$119.4B** →

**65% is people**





# The Need to Transform What Are Our Leaders Saying?



“...transforming the military. What is different today is this sense of urgency: The need to build this future force while fighting this present war. It is like overhauling a car engine while you are going 80 miles an hour.”

George W. Bush

President of the United States

“We simply have to transform this place. It is every bit as important to the success of the global war on terrorism as the other things we’re doing.”

Donald B. Rumsfeld  
Secretary of Defense



“...we will create an enterprise culture and achieve Operational Excellence...like most major corporations, we need to build a process centered organization that eliminates the variation between goals and results through Six Sigma improvements.”

Gordon R. England

Secretary of the Navy

“...I am the one Chief that is asking for fewer people. This year 7,900, without getting into details I believe I can expect that curb to continue because what I’m trying to do is to figure out how to learn from industry and lean manufacturing techniques and the things that will allow us to provide the greatest opportunity to the people who decide they are going to commit themselves in our profession.”



Clark

ADM Vern

Chief of Naval



# Navy / Marine Corps Acquisition Source Document *Blueprint for the Future*

John Young, ASN (RD&A)



# Guiding Principles

## The Naval Acquisition Team must **WORK AS A BUSINESS**

- Spend Naval funds like taxpayer dollars – seeking to continuously reduce cost and conserve the taxpayers' capital
- Continuously remove government bureaucracy barriers
- Survey the market for joint or lower cost solutions constantly
- **Use metrics and management tools to achieve results**
- Know the likely outcome of a contract – cost and schedule – when we sign the contract
- Construct contracts which hold people accountable to a realistic cost target and schedule, recognizing risk



# Methods and Tools

## In 2004, we start an Initiative - Lean Six Sigma Initiative to achieve our Op Ex Goals

- **Six Sigma** is a method used by leading businesses like GE, Honeywell, Motorola. It has resulted in breakthrough innovation, greatly improved customer satisfaction, as well as having saved billions of dollars.
- **Enroll Leadership.** We will be conducting a number of on boarding sessions for Six Sigma with senior leaders in DOD, NAVY, and most importantly Defense Contractors. We will require Six Sigma training for direct reports.
- **Target the problem:** We will start with identifying key processes in the Navy's Acquisition System and target problem areas for breakthrough projects. We will focus on Innovative Excellence, Staying on Schedule, Stable budgets.
- **Measure:** We will determine the metrics on which to assess mission effectiveness of these processes. We will measure what we do and evaluate our performance against established metrics.
- **Analyze:** We will analyze where the breakdowns are in inputs and outputs. We will make improvements so as to better be able to deliver on schedule and on budget with less complexity and waste, and we will make these sustainable.
- **Control!** We will make improvements to our processes, make sure these improvements are sustainable, and make sure the savings are signed off by the controllers office.



# Methods and Tools

## We will work with industry and measure our organic businesses against the best industry benchmarks

- Every program will seek to continuously cut government and industry cost
- Each SYSCOM commander, PEO and PM should ensure that at least five (5) lean events are held in each depot or industrial activity – government and industry
- Each SYSCOM commander and PEO should seek to apply Six Sigma or Theory of Constraints in at least one area of their business enterprise
- Each SYSCOM commander and PEO should identify a set of internal metrics for the year and plan to turn in a report card on those metrics
  - One metric will be cost and schedule performance for all programs and activities under your leadership
- Each DASN, PEO and PM should seek to reduce the volume of acquisition documents by 50%, including only essential, relevant information
- Each DASN, PEO and PM should seek to have final approval of acquisition documents within the Navy Enterprise in no more than 90 days



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# **DASN Logistics Continuous Improvement Methodology Survey Results**



# Background

- **Purpose:**
  - Determine the extent of use and effectiveness of Continuous Improvement (CI) Methodology within DoN Industrial Activities.
- **Developed three online surveys:**
  - **Commanding Officer**
    - CI tools and metrics used
    - Impact of CI on activity's performance
  - **Transformation Manager(s)**
    - Number and type of CI qualifications
  - **Program Managers**
    - Understanding and use of CI tools
    - Effectiveness of the CI tools

Activity Group	Activity	Commanding Officer	Transformation Manager	Production/ Process Manager
<b>AIMDs</b>	AIMD NAF Atsugi	0	1	11
	AIMD NAF Atsugi (NIPPI)	0	0	0
	AIMD NAF Misawa	1	1	6
	AIMD NAPRA Atsugi	1	1	1
	AIMD NAS Brunswick	1	1	5
	AIMD NAS Fallon	1	1	10
	AIMD NAS Jacksonville	1	1	33
	AIMD NAS Lemoore	1	1	28
	AIMD NAS North Island	1	3	35
	AIMD NAS Oceana	1	3	31
	AIMD NAS Sigonella	1	1	4
	AIMD NAS Whidbey Island	1	1	56
<b>MALS</b>	MALS 11 Miramar	1	1	1
	MALS 12 Iwakuni	1	5	8
	MALS 13 Yuma	0	0	0
	MALS 14 Cherry Point	1	1	7
	MALS 16 Miramar	1	2	0
	MALS 24 Kaneohe Bay	1	1	28
	MALS 26 New River	1	0	0
	MALS 29 New River	0	0	0
	MALS 31 Beaufort	1	1	6
	MALS 36 Futenma	0	0	0
	MALS 39 Pendleton	1	1	2
<b>MCA</b>	MCA Blount Island	1	1	2
<b>MCLBs</b>	MCLB Albany	1	1	3
	MCLB Barstow	1	3	5
<b>NADEPs</b>	NADEP Cherry Point	1	1	30
	NADEP Jacksonville	1	2	36
	NADEP North Island	1	2	28
<b>NSYs</b>	NSY Norfolk	1	9	27
	NSY Pearl Harbor	1	1	18
	NSY Portsmouth	1	1	17
	NSY Puget Sound	1	9	38
<b>Warfare</b>	NAVC Lakehurst	0	1	8
	NAVS China Lake	1	1	2
	NSWC Corona	0	1	2
	NSWC Crane	1	1	16
	NSWC Dahlgren	0	2	17
	NSWC Indian Head	1	2	3
	NSWC Port Hueneme	1	1	5
	NUWC Keyport	1	2	3
	NUWC Newport	1	1	93
	SSC San Diego	1	1	3
<b>SIMAs</b>	SIMA Ingleside	1	8	13
	SIMA Mayport	1	1	1
	SIMA Norfolk	1	4	111
	SIMA NSSF New London	1	1	1
	SIMA Pascagoula	1	1	1
	SIMA San Diego	1	2	10
<b>SRF</b>	SRF Yokosuka	1	1	9
<b>Total</b>	<b>Sum</b>	<b>42</b>	<b>88</b>	<b>774</b>

50 Sites 46 Sites responded 42 COs 904 total responses



Activity Name	# of People	# of Workcenters	Total \$ Value (millions)
AIMD NAF Atsugi (11)	NA	NA	NA
AIMD NAF Misawa (6)	160	53	NA
AIMD NAPRA Atsugi (1)	194	5	\$46
AIMD NAS Brunswick (5)	325	20	\$325
AIMD NAS Fallon (10)	118	29	\$9
AIMD NAS Jacksonville (33)	850	57	\$43
AIMD NAS Lemoore (28)	830	60	\$875
AIMD NAS North Island (35)	850	71	\$200
AIMD NAS Oceana (31)	1855	60	\$3,400
AIMD NAS Sigonella (4)	430	42	NA
AIMD NAS Whidbey Island (56)	1100	62	\$250
MALS 11 Miramar (1)	650	120	NA
MALS 12 Iwakuni (8)	560	45	\$550
MALS 14 Cherry Point (7)	1000	50	\$450
MALS 16 Miramar (0)	25	54	\$300
MALS 24 Kaneohe Bay (28)	650	54	\$10
MALS 26 New River (0)	600	NA	\$161
MALS 31 Beaufort (6)	1000	60	NA
MALS 39 Pendleton (2)	600	43	NA
MCA Blount Island (2)	1000	24	\$50
MCLB Albany (3)	845	48	\$140
MCLB Barstow (5)	760	50	\$172
NADEP Cherry Point (30)	4100	351	\$800
NADEP Jacksonville (36)	4500	460	\$890
NADEP North Island (28)	3300	442	\$558
NSY Norfolk (27)	7800	21	\$1,000
NSY Pearl Harbor (18)	5100	60	\$560
NSY Portsmouth (17)	4500	100	\$580
NSY Puget Sound (38)	10166	304	\$1,194
NAWC Lakehurst (8)	NA	NA	NA
NAWS China Lake (2)	400	NA	\$26
NSWC Corona (2)	NA	NA	NA
NSWC Crane (16)	2840	27	\$1,064
NSWC Dahlgren (17)	NA	NA	NA
NSWC Indian Head (3)	1500	21	\$286
NSWC Port Hueneme (5)	2200	85	\$581
NUWC Keyport (3)	2130	25	\$300
NUWC Newport (93)	2800	85	\$830
SSC San Diego (3)	3750	800	\$1,400
SIMA Ingleside (13)	400	40	\$8
SIMA Mayport (1)	696	44	\$22
SIMA Norfolk (111)	2600	110	\$27
SIMA NSSF New London (1)	1500	12	\$100
SIMA Pascagoula (1)	240	26	\$4
SIMA San Diego (10)	2500	108	\$42
SRF Yokosuka (9)	2300	90	\$195
<b>Sum</b>	<b>79724</b>	<b>4218</b>	<b>\$17,447</b>

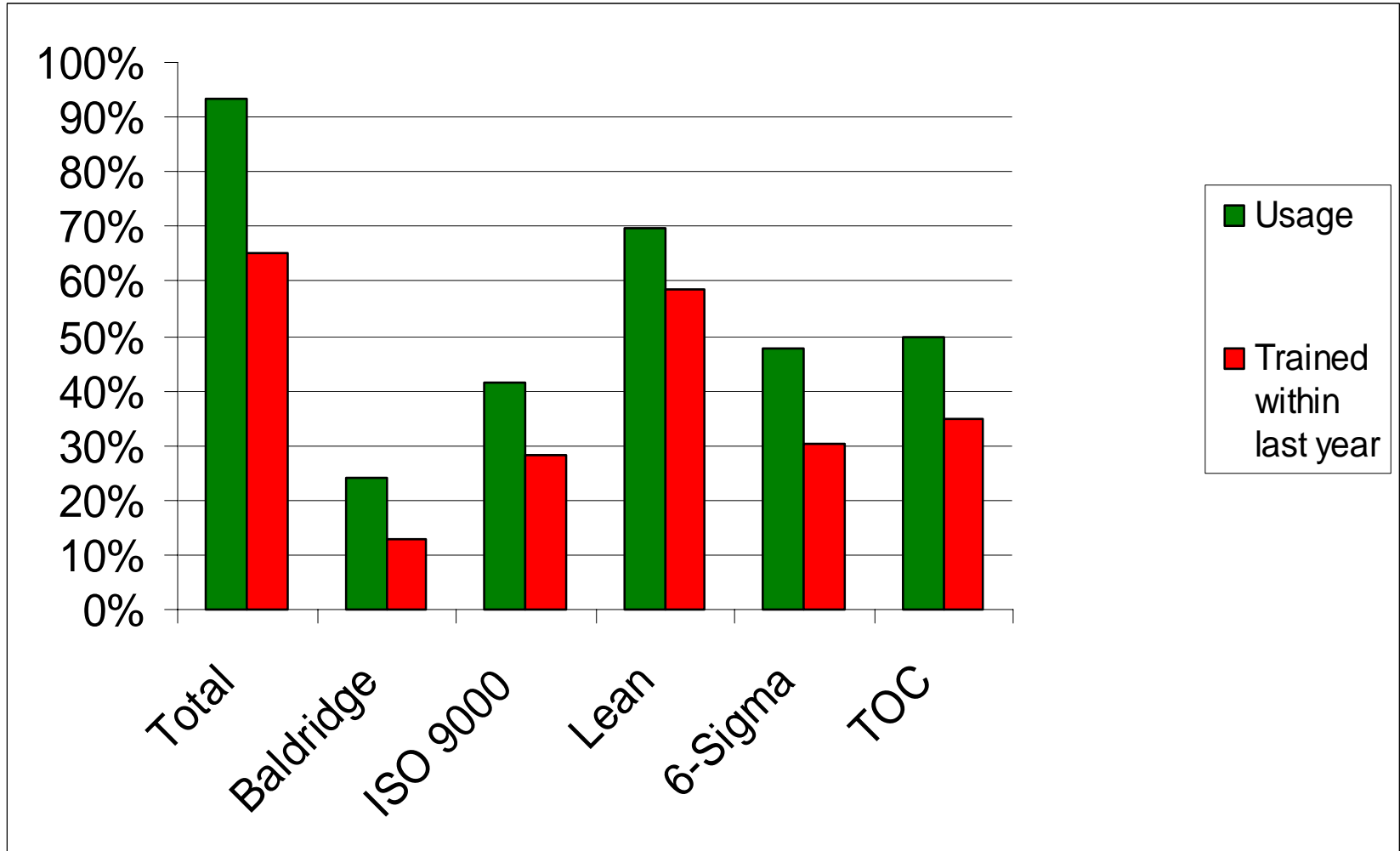
79,724 People

4,218 Work-Centers

\$17,447M COGS

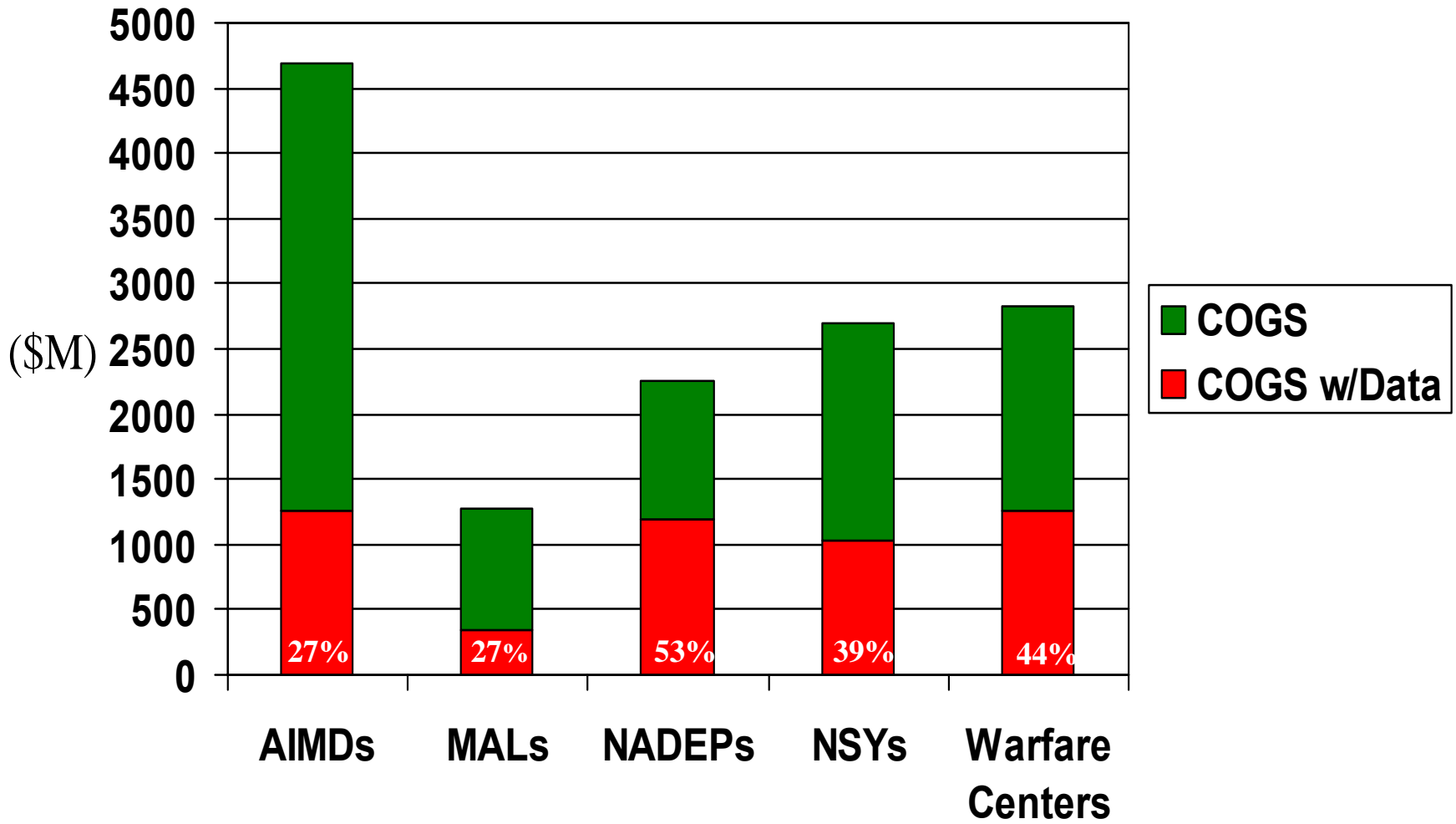


# CI Method Penetration & Training

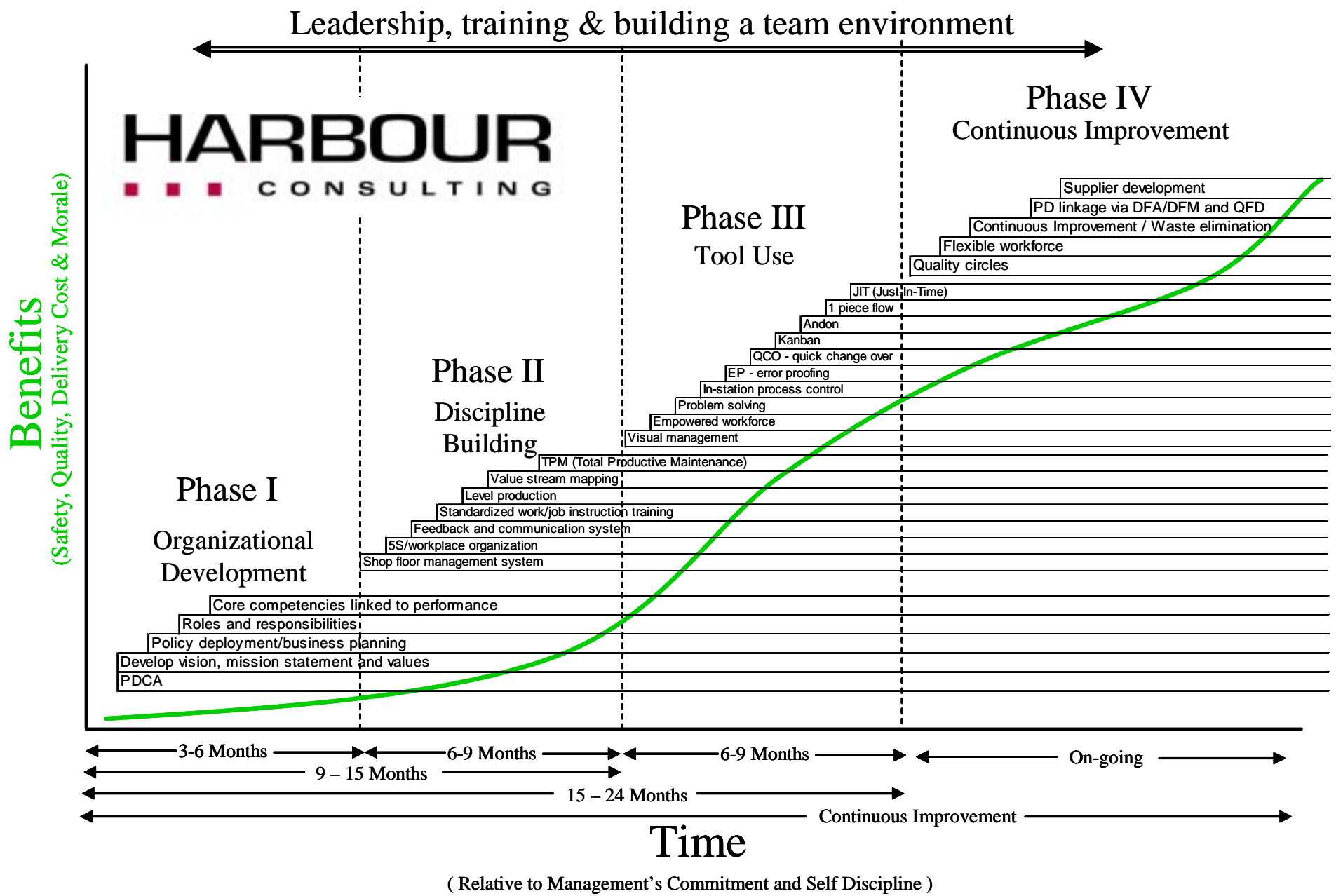




# Cost of Goods Sold (COGS) vis-à-vis Data Availability in Work Center



# Harbour Lean Implementation Curve





# The Hawthorne Effect

- **Professor Elton Mayo examined productivity and work conditions at the Hawthorne Plant from 1927 to 1932.**
- **Workers behaviors may be altered when they know that they are being studied with corresponding change in output. Includes breaks, group pressure, working hours and leadership. Good stuff but not enough and not always sustainable.**
- **We want engaged leaders who are Process Change champions willing to learn about and apply the use of efficiency methodologies that attack non-value added activities.**
- **Combination of Hawthorne Effect and Process Changes gives us the output we desire.**



**Lean-Pathways/AirSpeed  
Accelerated Improvement Workshop  
Onboard  
USS Harry S. Truman (CVN-75)  
2 April 2004**

**700 Division  
BRU-32**

**Navy MANTECH's**



**AIR Speed**

**The Way Ahead**