



NORTHROP GRUMMAN

Northrop Grumman Shipbuilding

***Effective Benchmarking
Versus
"Industrial Tourist"***

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Quality and Process Excellence Division**

A Historical Perspective

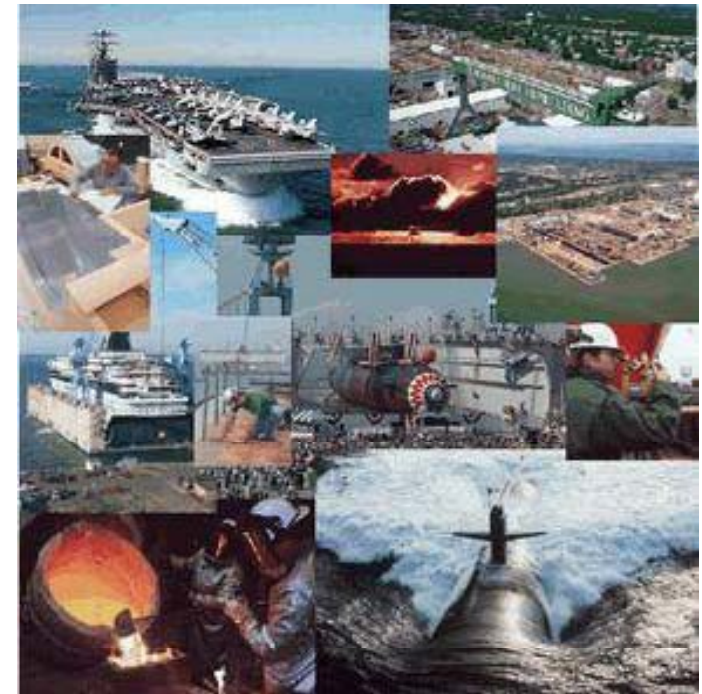


**WE SHALL BUILD GOOD SHIPS HERE
AT A PROFIT IF WE CAN
AT A LOSS IF WE MUST
BUT ALWAYS GOOD SHIPS
COLLIS POTTER HUNTINGTON**

Northrop Grumman Shipbuilding

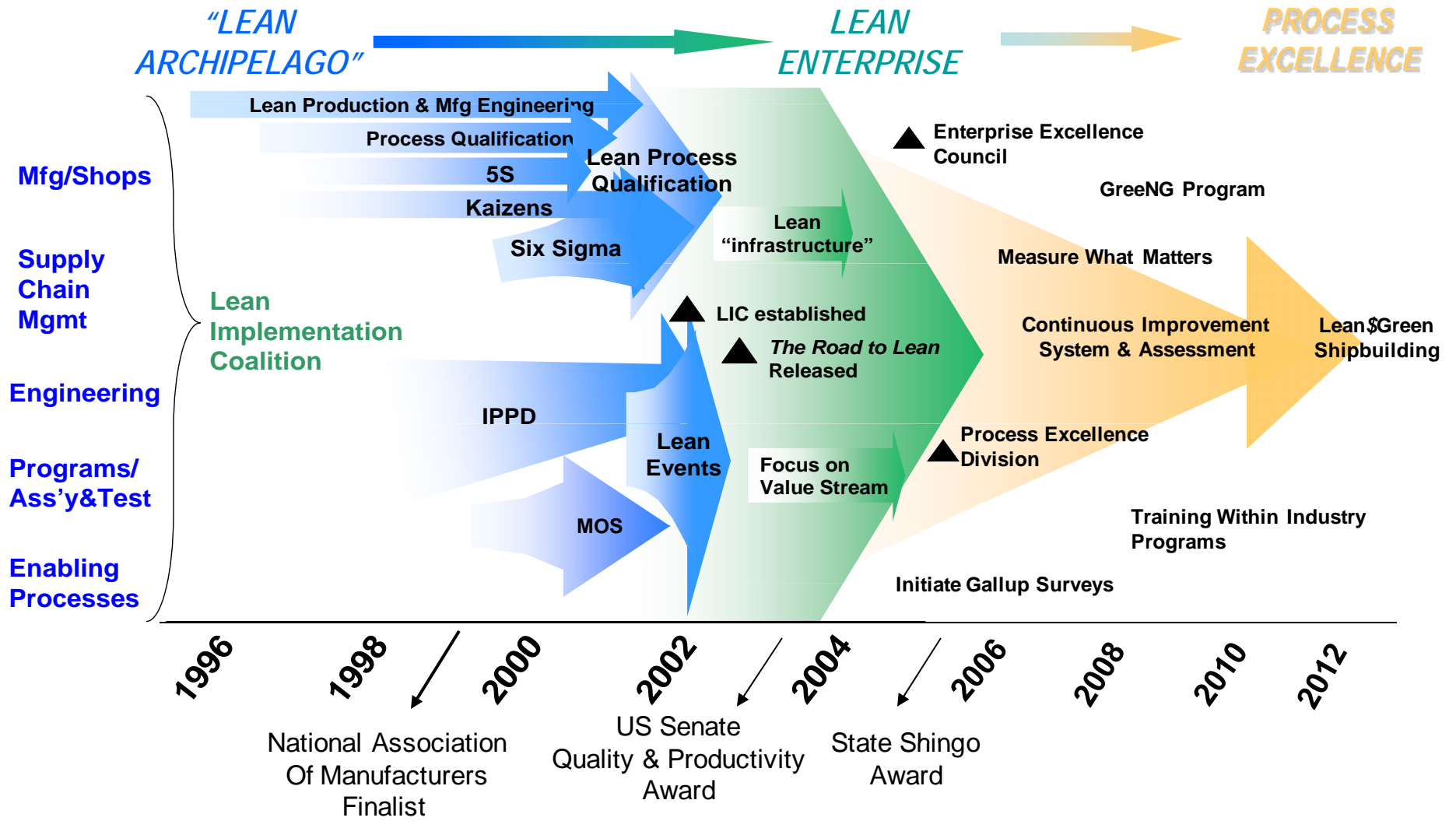


- Over a century designing, building, overhauling and repairing ships for the U.S. Navy, the U.S. Coast Guard and world navies
- The nation's sole industrial designer, builder and refueler of nuclear-powered aircraft carriers
- One of only two companies capable of designing and building nuclear-powered submarines
- One of the nation's leading providers of major surface combatants (destroyers, cruisers, high endurance cutters, and amphibious assault ships) for the U.S. and international navies
- Have built over 70 percent of the U.S. Navy's current surface combatant fleet
- After-market services – maintenance, repair, and overhaul – support a wide array of naval and commercial vessels



The Nation's Military Shipbuilder

Process Improvement – Our History



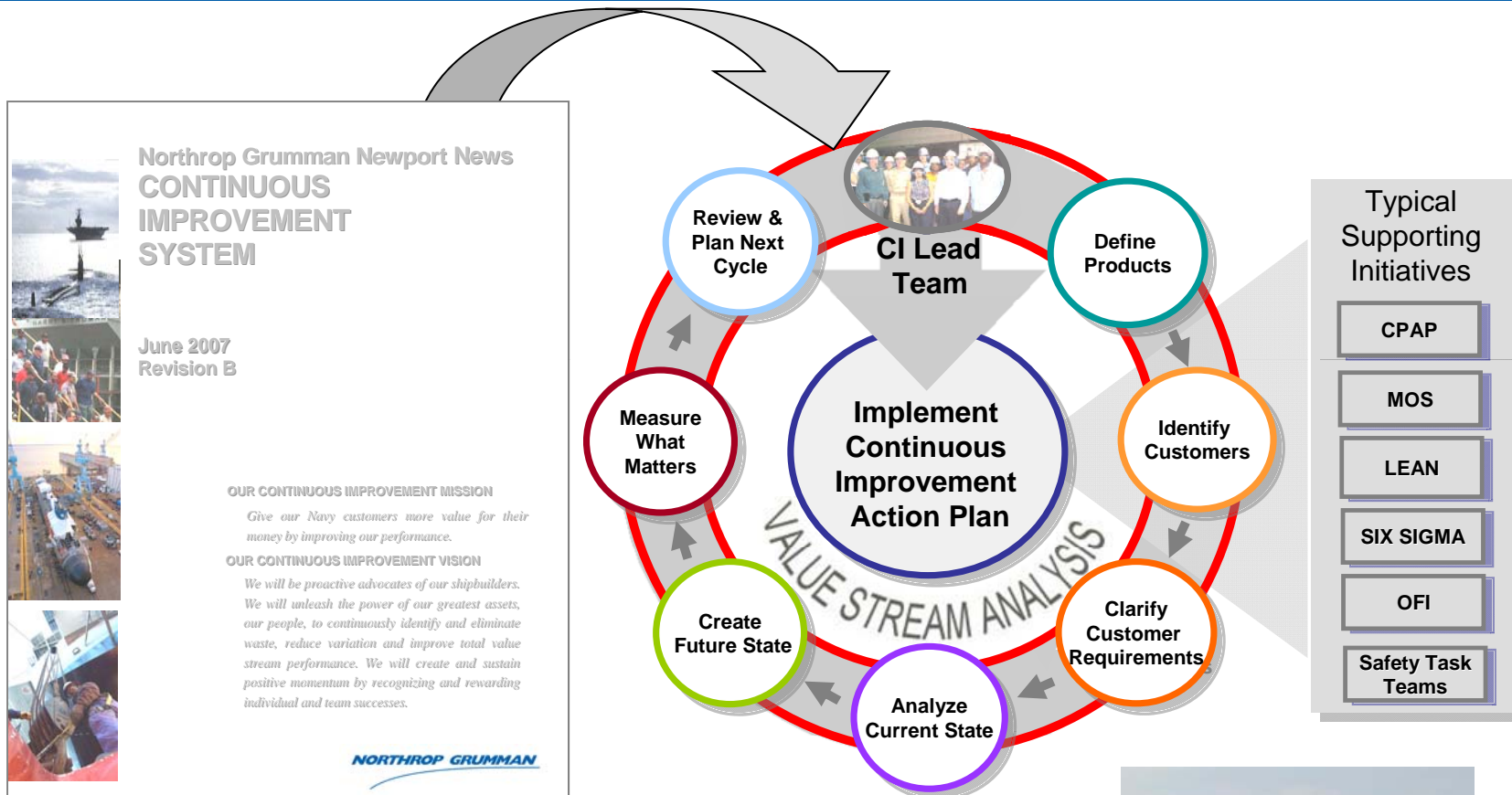
Value Stream Thinking

Value Stream: Refers to all the activities the company does to design, order, produce, and deliver its products to the customer. (Activities can be value adding or non-value adding.)



Value Stream Thinking: Everyone at all levels of the organization and across programs understanding what their products are, knowing who their customers are and what their customers value. It is everyone working together to remove waste from our processes!

Engaging People using the Continuous Improvement System



Our Continuous Improvement System (CIS) provides the common framework to better align our value streams - enabling deck plate success.



"Measuring What Matters"

Enterprise Value Stream Management System

Enterprise - Value Stream - Scorecard

An integrated balanced scorecard for measuring, reporting, and managing the sustainability of an enterprise at all levels; by focusing on key performance indicators of the enterprise value streams to minimize the consumption of resources (human and natural capital) to effectively maximize the creation of value for its customers, stakeholders, and communities.

Enterprise - Value Stream - Scorecard				
Corporate Strategic Goals & Objectives				
1. Customer Perspective - Best in our Industry for Customer Performance				
2. Financial Perspective - Consistently Top Quartile for our Industry for Financial Performance				
3. Operational Perspective - World Class Level of Operational Excellence				
4. People Perspective - World Class Level Place of Employment				
5. Sustainability Perspective - World Class Level Total Corporate Responsibility				
Work Teams Key Performance Indicators (KPI)	Value Streams KPI	Programs KPI	Sector KPI	Corporate KPI
Work Team Measures	Value Stream Measures	Program Measures	Sector Measures	Corporate Measures
Reduced Cycle Time	Reduced Lead Times	Schedule Performance Index (SPI)		Corporate Strategic Goals & Objectives : ---- Customer Financial Operational People Sustainability
Increased Output	Increased Productivity	Cost Performance Index (CPI)		
Increased First Pass Yields	Increased Throughput	Days of Inventory / Turns		
Increased Safety / Skill Levels	Increased Improvement Projects Participation / Engagement	Gallup Survey		
Reduced Scrap / Waste	Reduced Resource Consumption	Sustainability Index (SI)		
People	Process	Performance		

Why Do Benchmarking?

- ❑ Many fortune 500 companies and other large organizations have embraced benchmarking as an important systematic methodology for achieving the organizations **strategic objectives**.
- ❑ Benchmarking is reflected in the Malcolm Baldrige National Quality Award criteria more extensively than any other management concept.

Source: APQC

- ❑ Companies who used benchmarking to measure business performance against their peers achieved 69% faster growth and 45% greater productivity over those who did not.

Source: Price WaterhouseCoopers

What is Benchmarking ?

- ✓ Benchmarking – the systematic process of seeking out and adapting best practices and using benchmarks
- ✓ Best Practice - a practice that fully satisfies customers, produces superior results in one operation, performs as reliably as any alternative and can be adapted elsewhere
- ✓ Lessons Learned – a practice that once performed, leads to an unintended and often undesirable result

Casual VS Effective Benchmarking

*HARD FACTS Dangerous Half Truths & Total Nonsense
by Jeffrey Pfeffer / Robert I. Sutton*

- ❑ There is nothing wrong with doing benchmarking to set standards, close gaps, or prevent reinventing the wheel.
- ❑ The logic behind what works at top performers, why it works, and what works elsewhere is barely understood, resulting in mindless initiations.
- ❑ The first thing people copy is the most visible, obvious, and frequently least important practices.
- ❑ Toyota's success is not a set of techniques or tools --- its their philosophy. Instead of copying what others do we need to understand how they "think".

*You need to ask the question about your new knowledge.....
will this really work in my company?*

How to Become Effective at Benchmarking?

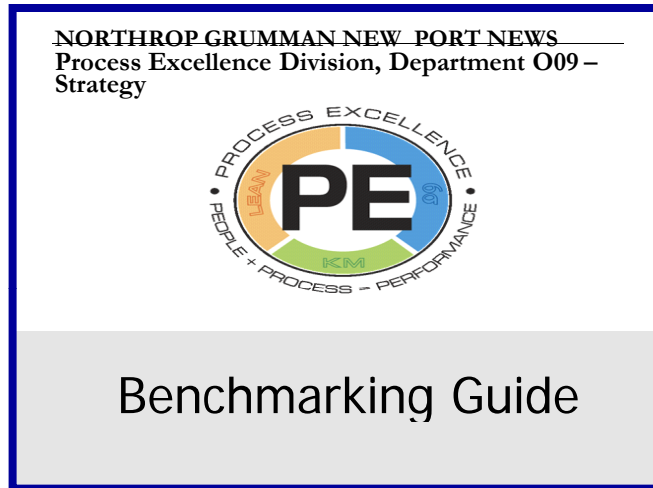
Find “Trusted” Benchmarking Partners

- ❑ APQC, Boeing, Raytheon, Northrop Grumman, others

What We Have Learned

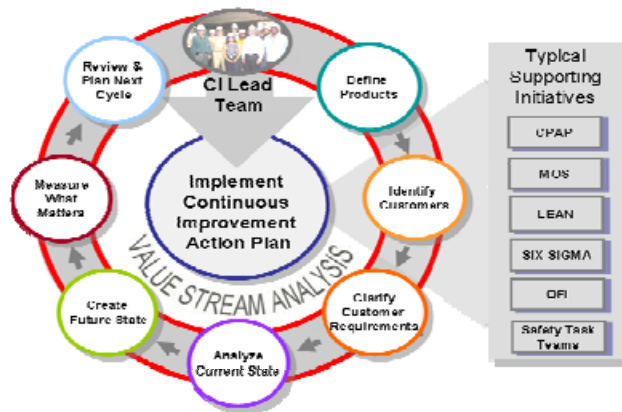
- ✓ Use the APQC Code of Conduct and infrastructure
- ✓ Understand your process “first”
- ✓ What gaps do you want to close
- ✓ Develop questions to find the right partners
- ✓ Benchmarking partners are looking to get value in return
- ✓ Be prepared to offer a reciprocal visit
- ✓ Record findings and share the learning
- ✓ Define an action plan to deploy new knowledge

Benchmarking Guide

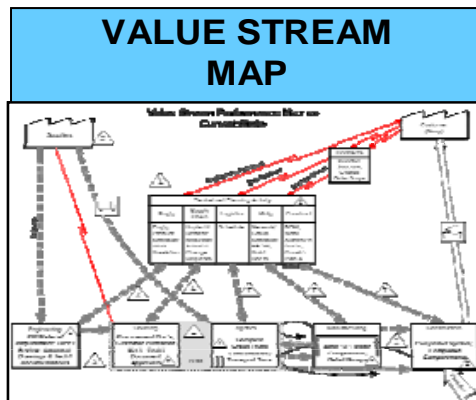


- Defining the responsibilities and steps for identifying benchmarking opportunities
- Outlining how to initiate benchmarking projects with internal and external sources
- Describing how to share and deploy best practices across the sector, enterprise, and with our customers and suppliers

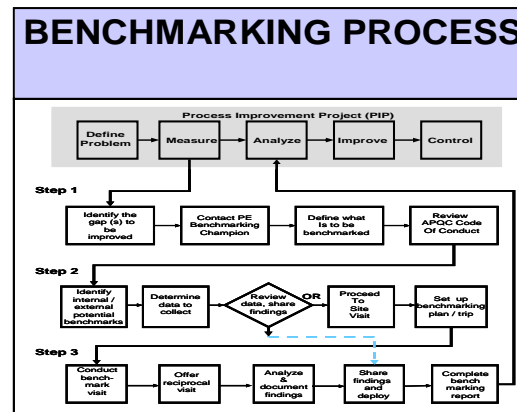
Benchmarking Process Enables Continuous Improvement



Continuous Improvement System



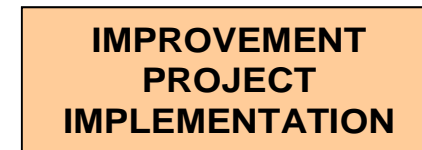
Identify Performance Gap



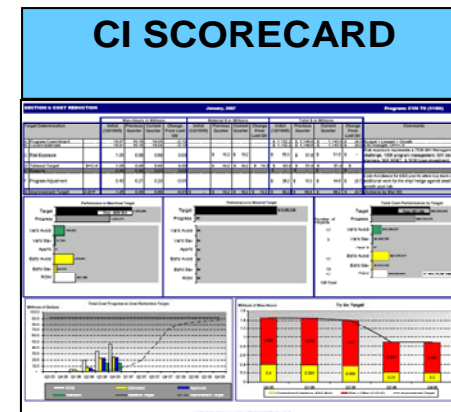
Identify & Benchmark Best Practices

BENCHMARKING REPORT	
Company Information:	
Name	
Address	
Point of Contact	
Hosting Attendees	Visiting Attendees
Purpose	
Key Findings or Takeaways	
Lesson Learned / Best Practices	
Actions Items for Deploying Best Practice	
Notes	

Document and Deploy Best Practices

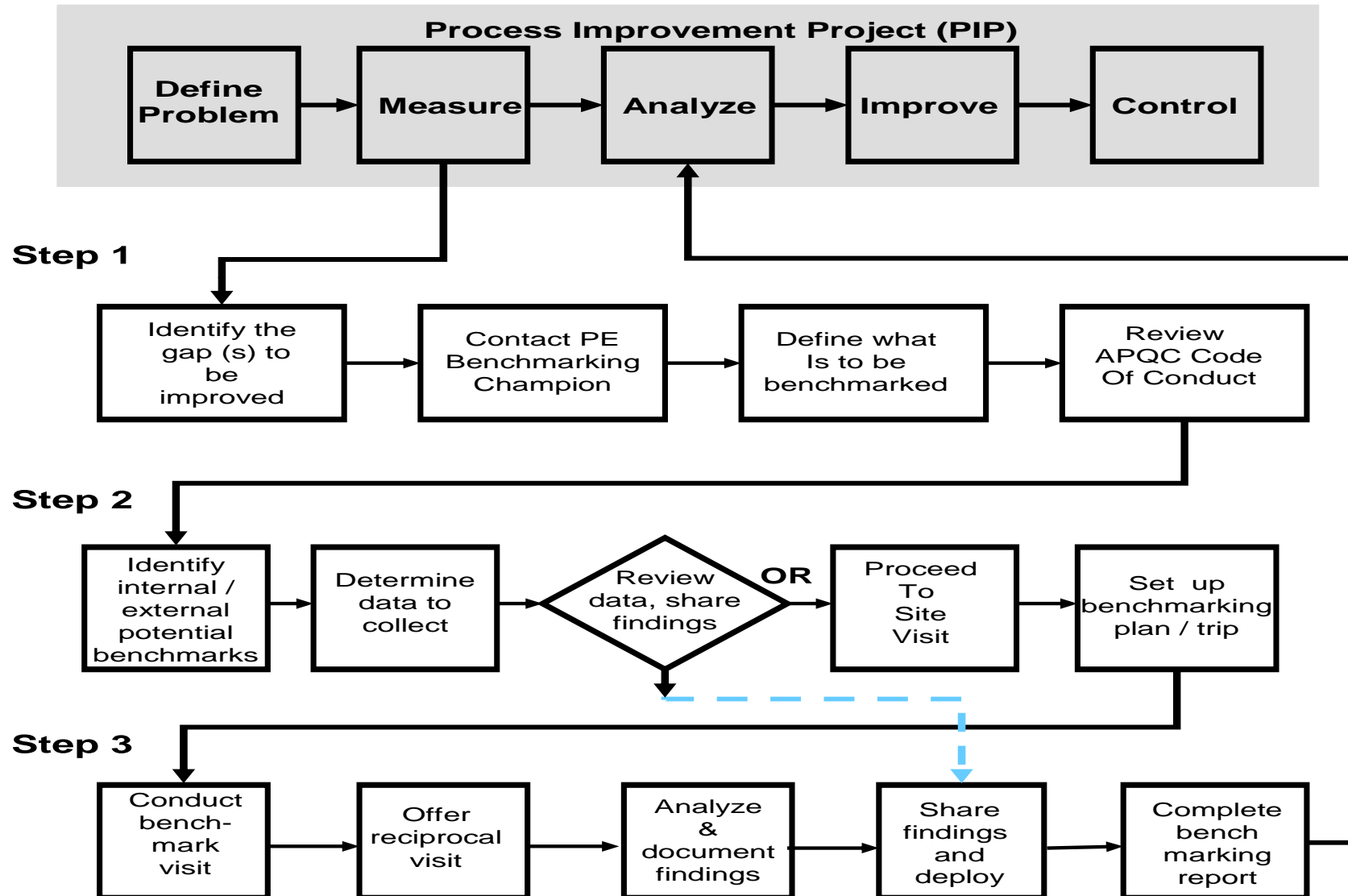


Close Gaps & Improve Performance



Celebrate Success

Benchmarking DM(B)AIC Process



Benchmarking Matrix

Industry “Best In Class”

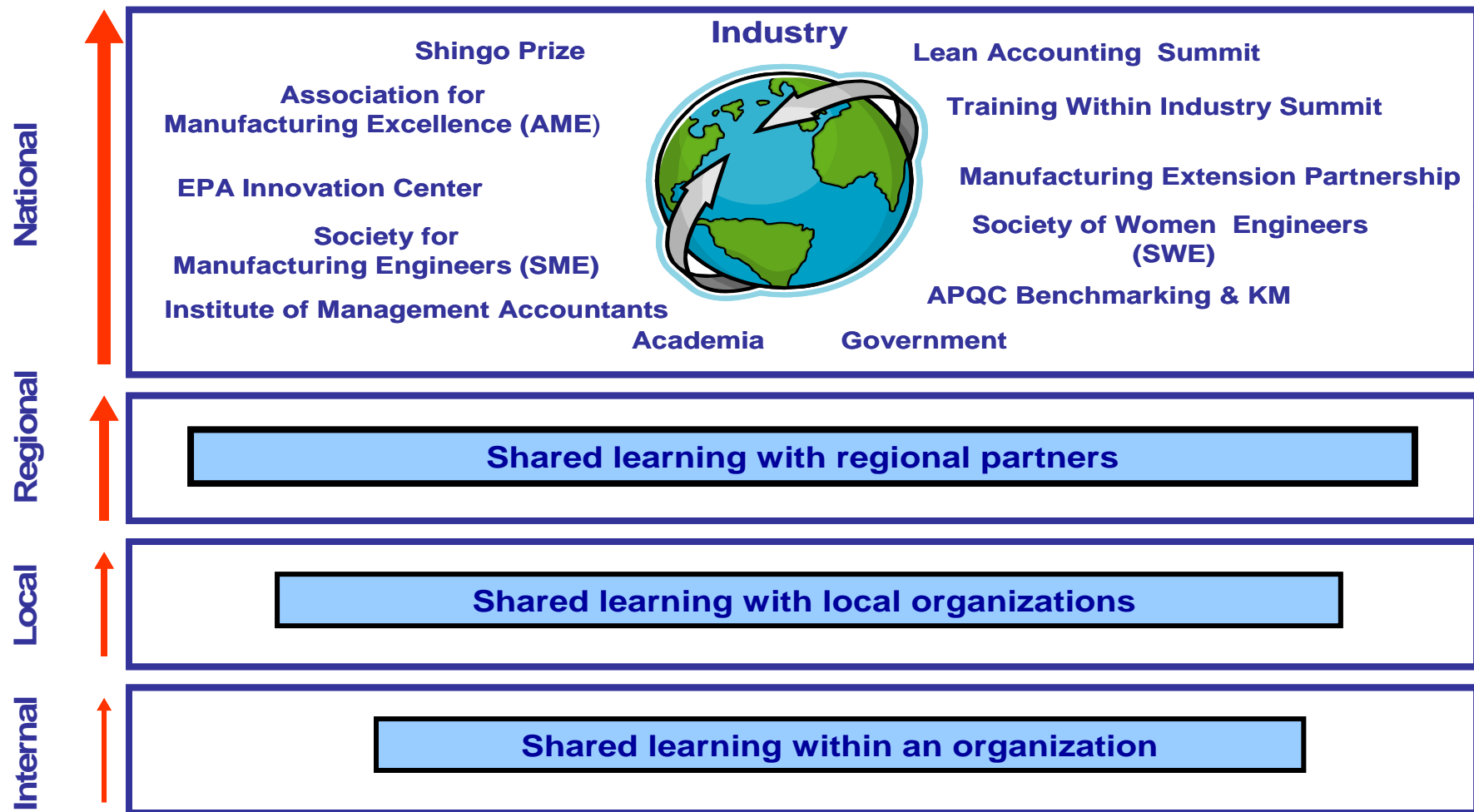
NGSB Process Excellence Benchmarking Matrix	
Industry Best Practices	Industry “Best In Class”
Strategic Planning / Deployment Hoshin Kanri	Toyota Danaher
Business / Quality System	Toyota Danaher Alcoa
Lean Accounting / Balanced Scorecard	Toyota Danaher
Training Within Industry	Toyota ESCO
Enterprise Value Stream	Northrop Grumman Newport News (NGNN)
Idea Creation / Suggestion System	Toyota HON ESCO
Maturity Assessment	Malcolm Baldrige Shingo LESAT
Employee Engagement	Toyota ESCO HON
Customer Engagement	Toyota Dell Disney Ritz Carlton
Supplier Engagement – Best Value Supplier Strategy	AME Best Practice Workshop NGNN Supply Chain
Benchmarking	APQC Raytheon Boeing
Knowledge Management - COP	APQC Raytheon Boeing

Benchmarking Maturity Matrix

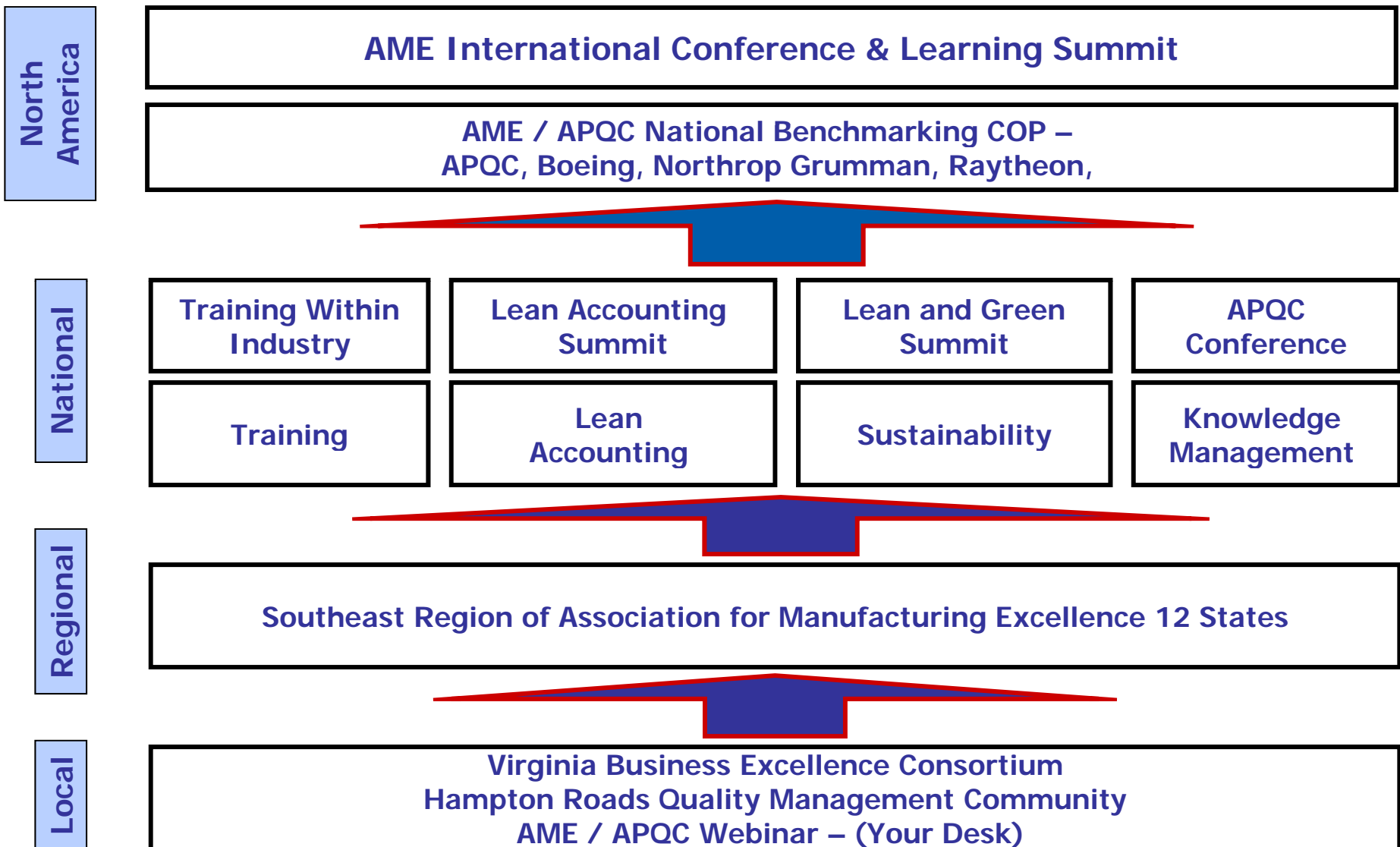
NGSB - Benchmarking Maturity Matrix				
CI Initiatives	Benchmarks	Prior State	Current State - 2008	Future State - 2012
Strategic Planning - Hoshin Kanri	Toyota Danaher - AME Conference	LEAN not part of Strategic Business Plan	Lean Part of the Strategic Business Growth Plan - Silo moving to VS	Lean is key business driver and Value Stream Thinking is in place
Business / Quality System	Toyota Danaher - AME	Silo Thinking	Continuous Improvement System (CIS)	CIS System is deployed and used routinely to prevent problems and improve quality
Lean Accounting / Balanced Scorecard	Danaher - Lean Accounting Summit - AME	Traditional Metrics	Adopting Measure What Matters (MWM)	Defining leading metric to support Key Performance Indicators (KPI) for People, Q,D,C, & Sustainability
Training Within Industry	WW II TWI Shipbuilding - Toyota - ESCO	Started training Supervisor and Foremen	Enhanced Personal Leadership (EPL) - Management Operating System (MOS)	TWI Pillar of CIS - Respect for People (JI) & (JR) and Continuous Improvement (JM) - Standardized Work
Marco Level Value Stream	AME Conference - NGS-NN	Silo Process Mapping	VS Mapping at Marco Level and some VS done at Micro / Silo Levels with Customers & Suppliers	Marco to Micro VS Maps drives all CI project selections and resources distribution
Ideas Suggestion System	Toyota - HON - Industry Award Winners	OFI - Buying Ideas	OFI and CIS System to provide a forum for identifying and implementing ideas	Standardized Work and sharing ideas by most employees (%)
Maturity Assessment	SPQA (Malcolm Baldrige) - Shingo - LESAT - AME	Assessing Part of the Organization	LESAT Enterprise Wide Baseline and developing CIS Maturity Assessment	CI Maturity Assessment for value streams thinking and engagement by all
Employee Engagement	AME - Ventana - Toyota - TWI Summit	Employee Survey	Gallup Survey to measure engagement	Engagement goals met by all departments for best in class
Customer Engagement	TEAM ONE - NSRP - ACIBC	Arms Length	Building Partnerships	Partnerships built and joint decision making is common best practice
Supplier Engagement	VBEC - Honda - Wal-Mart - Raytheon - NIKE	Lowest Bidder - Lots of Suppliers	Lean Supply Management - Reducing numbers and Supplier Delegated Inspection (SDI) Certification	Building a small certified base - Best Value Suppliers
Lean & Green Sustainability	MIT - AME - GE - DuPont - Alcoa - Nike	Cost and Risk Reduction	Moving from reactive initiatives to proactive identification & elimination of Lean and Green wastes	Total Corporate Responsibility (TCR) is a business strategy to sustain and grow industry reputation and market share
Benchmarking - COP	APQC - AME NGS-NN, Raytheon - Boeing	Industrial Tourists	Casual Benchmarking with Guidelines moving to an Effective Process	Proven process and learning is being shared and deployed across value streams
Knowledge Management	APQC - Raytheon - Boeing	Lots of Lessons learned data base	Consolidate lessons learned with COP starting to deploy	Consolidate lessons learned with mature COP in place reaching out to other sectors

Leveraging Internal and External Learning Networks

Leveraging Learning Networks

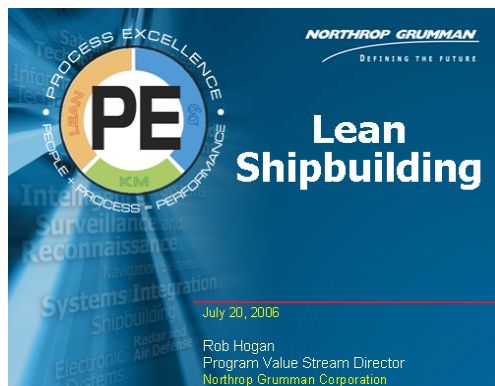


Benchmarking Summit

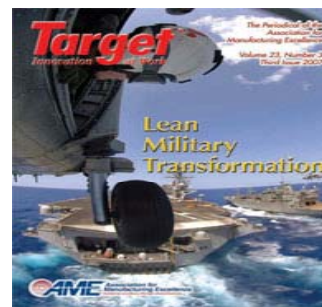


Benchmarking Enablers

National Conferences



Industry Publications



Societies & Associations



Opening Doors for Benchmarking, Networking, and Shared Learning from Conferences, Publications, and Professional Organizations.

Benchmarking Opportunities



Summary of 2010 Benchmarking Events Calendar

Events / Workshops	Date	Location	Takeaways	Slots
SPQA Forum	14-15 Sept	Richmond	Sharing Best Practices to Move Ahead va.org	Open
Lean Accounting	21-22 Sept	Las Vegas	Lean Accounting - Measure What Matters - www.leanaccountingsummit.com	Open
AME National Conference	15-19 Nov	Baltimore	Best Practice Workshops, Keynote Speakers, and Tours - www.ame.org	Open
Companies / VBEC / HRQMC Tours				
VBEC	22-Jun	Richmond	Colonial Webb Contractor - Strategic Supplier relationship www.vbec.org	3
HRQMC	24-Jun	Norfolk	HRQMC - CI Culture - A3 Problem Solving - Value Stream Mapping www.hrqmc.org	3
VBEC	21-Jul	Newport News	Training Within Industry Session - NGSB and Alfa Laval Deployment www.vbec.org	35
HRQMC	10-Sep	Suffolk	HRQMC - Continuous Improvement Forum www.hrqmc.com	Open
NGSB	15-Sep	Suffolk	Target Distribution Center - Warehousing Operations	10
VBEC	12-Oct	Richmond	Creating A Quality Culture - David Mann www.vbec.org	5
Webinars				
AME/APQC Benchmarking	31-Aug	Webinar	AME APQC CoP - Webinar Sharing Best Practices http://ame.org/benchmarking	Open

For additional information on these activities contact Glenn Marshall @ 688 2995 or e-mail Glenn.Marshall@ngc.com or go to PE Website

Benchmarking Report

Company Information: Name Address Point of Contact	
Hosting Attendees	Visiting Attendees
Purpose	
Key Findings or Takeaways	
Lesson Learned / Best Practices	
Actions Items for Deploying Best Practice	
Notes	

**Benchmarking is only effective when a new
"Better Practice" is shared and deployed.**

Benchmarking Initiatives / Summary



- Increasing Deployment of New Knowledge
- Developing a Continuous Improvement Maturity Model for Shipbuilding
- Extending our Value Stream Improvement efforts to our Suppliers and Navy Customers
- Launching Industry Transformational Initiatives:
 - Virginia Business Excellence Consortium (VBEC)
 - National Benchmarking CoP through AME /APQC
 - National Lean Accounting Community of Practice
 - Regional Communities of Practice

"Enterprise Excellence through Shared Learning"

"Always Good Ships"

Benchmarking Resources

Association for Manufacturing Excellence (AME)

www.ame.org

American Productivity & Quality Center (APQC)

www.apqc.org

AME / APQC Benchmarking CoP – Open Forum

ame.org/index.aspx?page=COP

Society of Manufacturing Engineers (SME)

<http://www.sme.org>

American Society for Quality (ASQ)

www.asq.org

Society of Women Engineers

societyofwomenengineers.swe.org

Shingo Prize for Operational Excellence

www.shingoprize.org

U.S. Senate Productivity and Quality Award for Virginia (SPQA)

www.spqa-va.org

Virginia Business Excellence consortium

www.vbec.org

Hampton Roads Quality Management Community

www.hrqmc.com

Questions ?

Thank You!!!!

NORTHROP GRUMMAN

**Come Join
US!**



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