Supervisors of Shipbuilding

SUPSHIP Bath
DDG51 (Arleigh Burke Class)
DDG1000 (Zumwalt Class)
Detachment Marinette, WI
LCS1 (Freedom Class)
Detachment San Diego
T-AO205 (John Lewis Class)
T-ESB (Expeditionary Sea Base)

SUPSHIP Gulf Coast
DDG51 (Arleigh Burke Class)
LHA6 (America Class)
LPD17 (San Antonio Class)
LPD17 Flight II (LX[R])
LCAC (Landing Craft)
Small Boats (LCU, 40PB)
T-ATS (Tug & Salvage Fleet)
UISS (Unm Influence Sweep Sys)
Detachment Mobile, AL
LCS2 (Independence Class)
T-EPF (Spearhead Class)

SUPSHIP Groton
SSN-VA (Virginia Class)
SSBN-CLB (Columbia Class)
Submarine Repair
MTS (Moored Training Ship)

SUPSHIP Newport News
CVN78 (Ford Class)
Carrier Repair // Inactivation
Carrier Refueling (RCOH)
SSN-VA (Virginia Class)
SSBN-CLB (Columbia Class)
Submarine Repair
MTS Inactivation

Coming soon:
FF, T-AS(X), T-AGOS(X), T-ARC

NAVSEA 04Z

1 CAPT (Vacant)
10 Civilians

4 SUPSHIPs
3 Detachments

1243 Direct CivPers
310 Reimb CivPers
+ 118 Military
1671 Total

7 Major Shipbuilders &
Smaller yards

60,000 employees

$228+ B
Contract Value

~$14B Annual
Shipbuilder
Progress
Payments

1-1 (Rev 30 Sep 18)

Enabling the Drive to 355 Ships!

Left panel (NAVSEA):

NAVY'S DESIGN FOR MAINTAINING MARITIME SUPERIORITY

MISSION
We design, build, deliver, and maintain ships and systems on-time and on-cost for the United States Navy

EXPAND THE ADVANTAGE

MISSION PRIORITIES
- ON-TIME DELIVERY OF SHIPS & SUBMARINES
- CULTURE OF AFFORDABILITY
- CYBERSECURITY

LINES OF EFFORT
- STRENGTHEN NAVAL POWER
- ACHIEVE HIGH VELOCITY LEARNING
- STRENGTHEN NAVY TEAM
- EXPAND & STRENGTHEN OUR NETWORK OF PARTNERS

Foundational Lines of Effort are the Critical Drivers for Overall Mission Success

ORGANIZATIONAL CHALLENGE:
Instill HVL principles and effectively manage idea flow, solve problems, and share knowledge through the ingenuity and collaboration of our workforce

★★★ PEOPLE ★★★

HIGH VELOCITY LEARNING

THE FORCE BEHIND THE FLEET
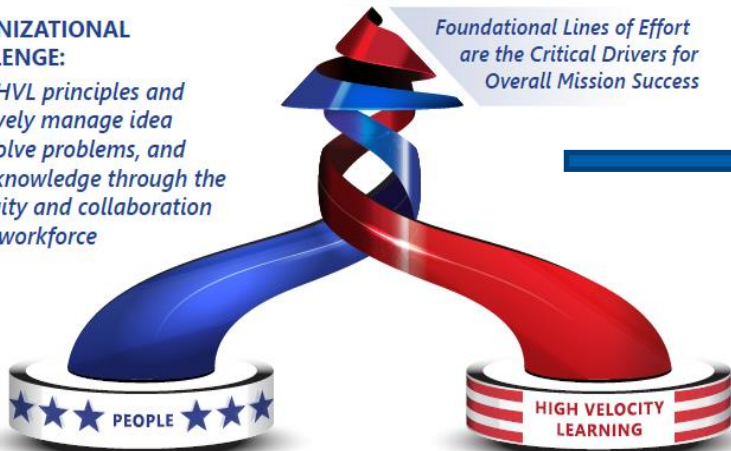
Design for Talented People
- Empowered Employees
- Sustainable Talent Pipeline
- Motivated Employees
- Growth and Development

Design for High Velocity Learning Environment
- Innovation and Creativity
- Collaboration
- Knowledge Sharing
- Problem Solving

LEADERSHIP CHALLENGE: *Create Direction, Alignment and Commitment*

Right panel (Newport News):

NAVY'S DESIGN FOR MAINTAINING MARITIME SUPERIORITY

MISSION
Serve as NAVSEA's advocate for aircraft carrier and submarine shipbuilding, overhaul and repair contracts with HII-NNS to include oversight of technical, quality, cost and schedule.

Ready in 2020

MISSION PRIORITIES
- Deliver CVNs and SSNs on-time
- Integrated Digital Shipbuilding
- Maintain Cybersecurity while moving to iDS

LINES OF EFFORT
- STRENGTHEN NAVAL POWER
- ACHIEVE HIGH VELOCITY LEARNING
- STRENGTHEN NAVY TEAM
- EXPAND & STRENGTHEN OUR NETWORK OF PARTNERS

Foundational Lines of Effort are the Critical Drivers for Overall Mission Success

Organizational Challenge

Learn lessons from our failures and share best practices across all platform projects (CVN and SSN)
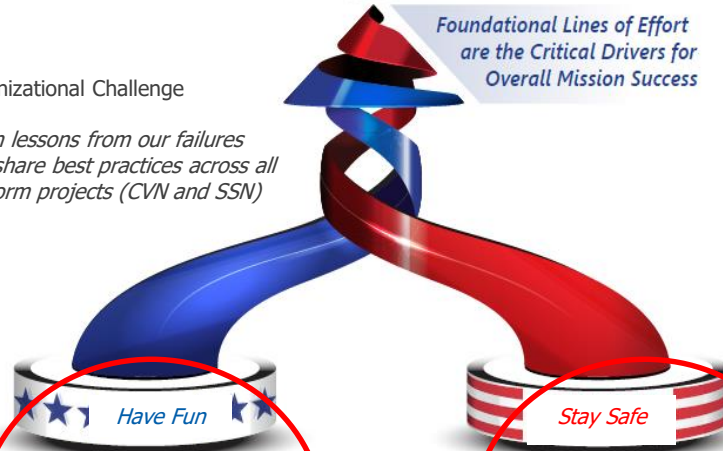
Have Fun
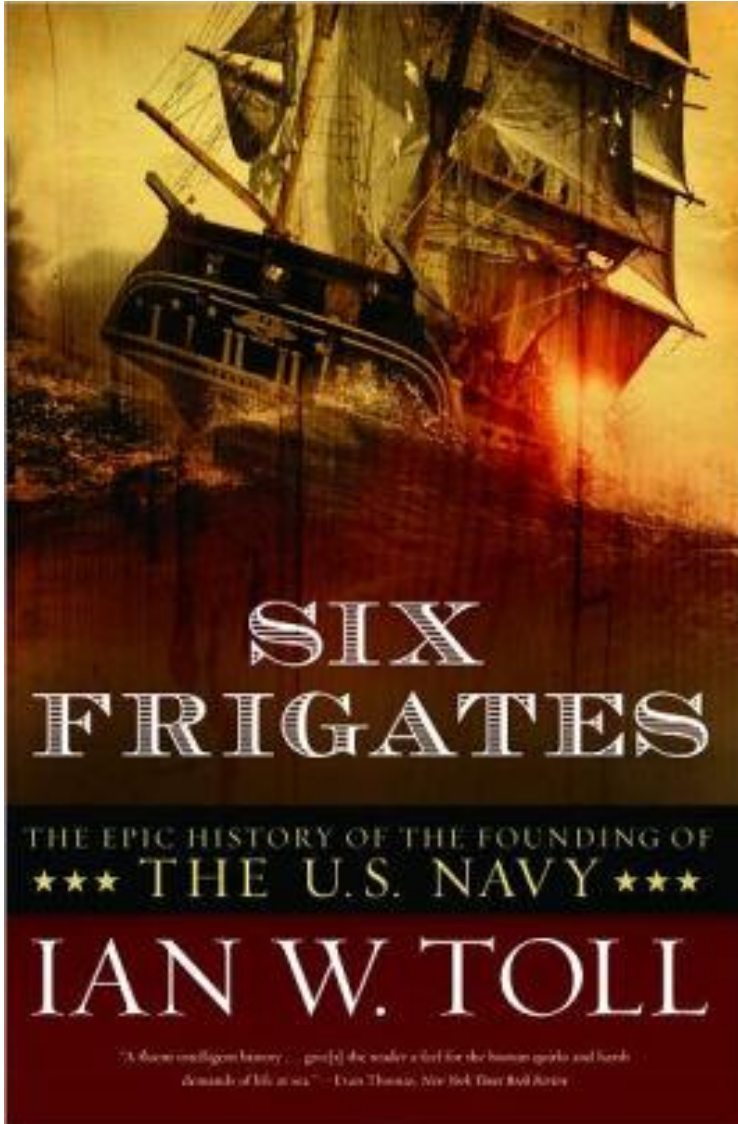- *Choose* to be in a good mood
- EAA/MWR Activities
- Command picnic
- Command Holiday party
- Special emphasis programs

Stay Safe
- Be aware of your surroundings!
- Always wear PPE
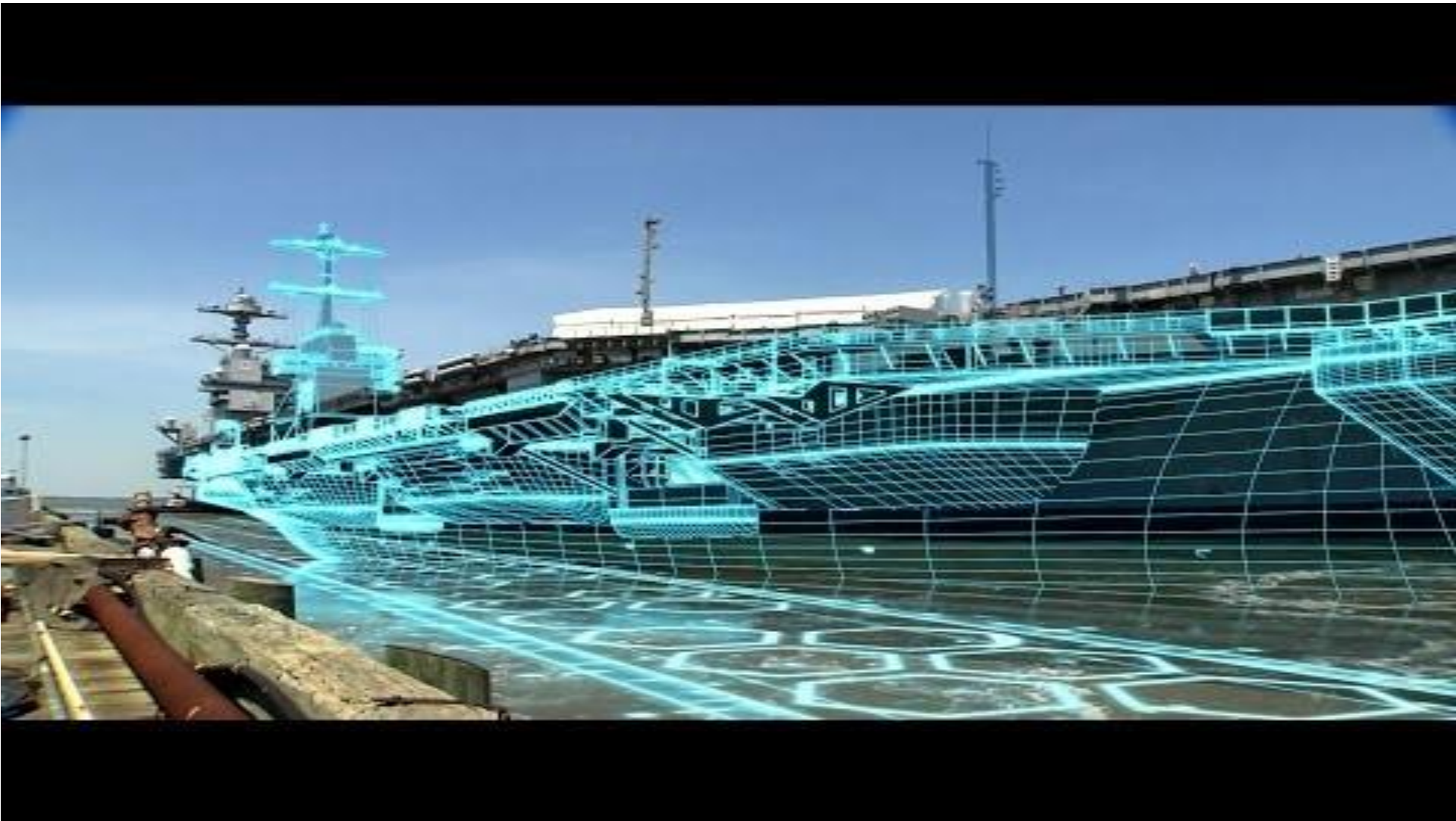- Stop unsafe practices on the spot!

THE FORCE BEHIND THE FLEET

LEADERSHIP CHALLENGE: *Create Direction, Alignment and Commitment*
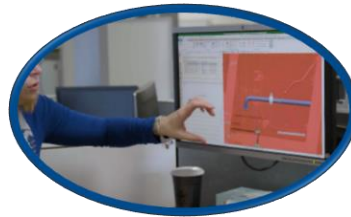
Six Frigates: The Epic History of the Founding of the U.S. Navy

- Revolutionary War
- War of 1812
- Barbary Pirates
- Ship Construction
    - Pots of Money (TOC)
- How do we achieve a Culture of Affordability in Shipbuilding?
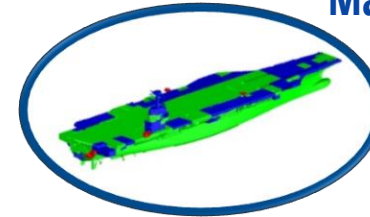   - If you don't like change……

Digital Transformation Video

integrated Digital Shipbuilding (iDS)

Digital Transformation: Digital Portfolio

Visual Planning

Model-based Manufacturing

Full 3D Product Model and PLM

Visual Build Management

DESIGN

BUILD

SUSTAIN

Visual Work Instructions
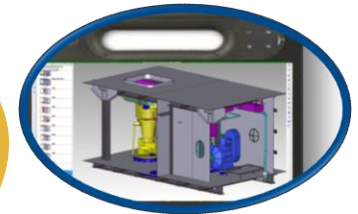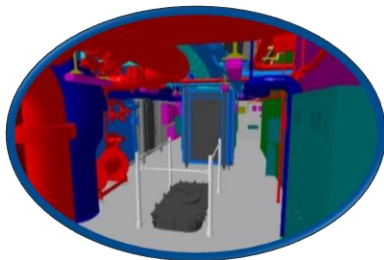
Laser Scanning / Reality Capture

Augmented Reality

Shipyard Work Integrated Management System (SWIMS)

Mobile Shipbuilder

Digital Transformation: Digital Products
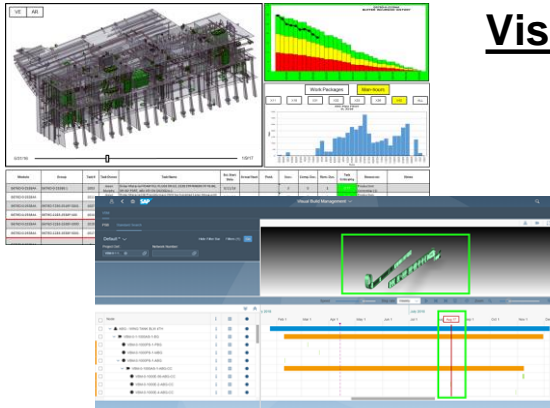
Visual Build Management (VBM) - DEMO

- For construction supervisors
- Powerful visual tool for sequencing, coordinating, and managing assembly work
- Marries visualization, best practice sequencing, critical-chain project management, and eventually advanced analytics

- How it helps
  - Defines optimal sequence for complex major assemblies
  - Reduces waiting
  - Reduces rework (one trade undoing another's work)
  - Mitigates affects of inherent variability in our business (eg weather effects, etc)
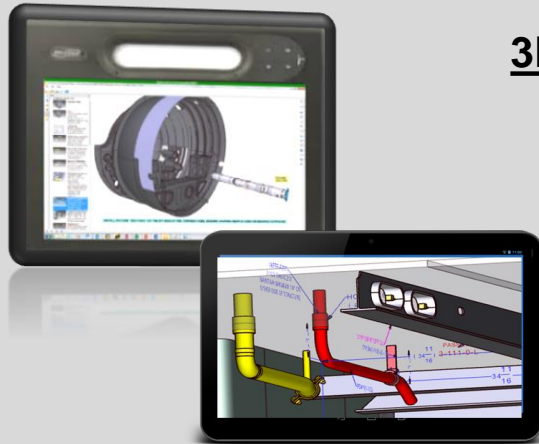
3D Interactive Visual Work Instructions (VWIs) - DEMO

- Craftsmen-focused
- Digital, 3D interactive replacement for drawings
- Detailed, step-by-step instructions for production
- Delivered on a mobile device

- How it helps
  - Less off-the-job time (eg getting drawings)
  - Higher first time quality
  - Faster time-to-talent: Complex work now assigned to junior mechanics
  - Fewer turnbacks to Engineering
  - Higher shipbuilder engagement; Less frustration

Visual Work Instructions

Construction Drawings

Product Model

Work Package

Visual Work Instruction

Digital Transformation: Major Work Streams

New Programs

FORD-Class Carriers: CVN 80/81

- Fully annotated 3D Product Model
- Visual Work Instructions (VWI) replace drawings
- Visual Build Management (VBM) for all complex work
- Fully saturated mobile workforce
- Fully-deployed MES via SAP
- Augmented Reality apps in high-value areas

**COLUMBIA Class
Ballistic Missile Subs**

Ongoing New Construction

FORD-Class Carriers : CVN 79

- Partially annotated 3D Product Model
- Increasing use of 3D and 2D digital VWIs
- VBM in high-value applications
- Largely mobile workforce
- Fully-deployed MES
- Augmented Reality apps in high-value areas

VIRGINIA Class Attack Subs

In-Service Ships

Nimitz-Class Carrier Overhaul

- Limited 3D Product Models
- Increasing use of Laser Scanning to digitize ship geometry
- 3D and 2D digital VWIs in pockets
- Partially mobile workforce
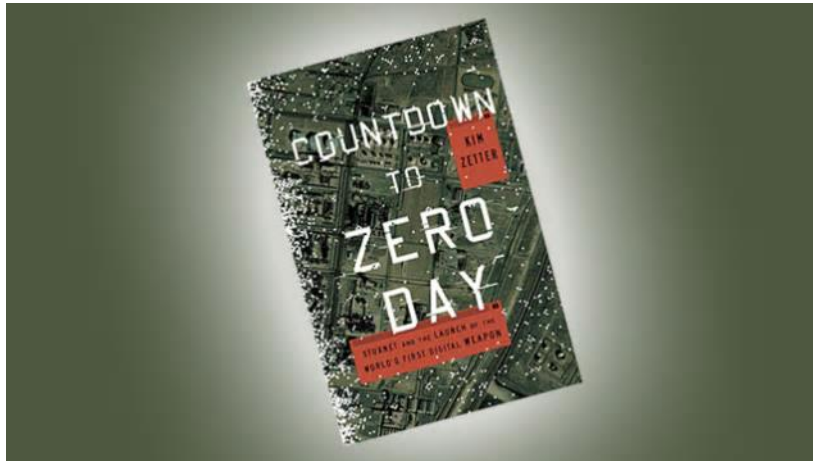- Fully-deployed MES
- Augmented Reality apps in high-value areas

Submarine Fleet Support

Submarine Modular Construction

Countdown to Zero Day: Stuxnet and the Launch of the World's First Digital Weapon

Closing Thoughts

- Culture of Affordability in Shipbuilding doesn't mean overall savings for the Navy
    - Must figure out how to Maintain them (Integrate Public and Private Shipyards)