Advancing Weapons Capabilities in Multi-Domain Environments

March 28, 2017

Presented to:
PSAR 2017

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- **PMA-201**: Precision Strike Weapons
- **PMA-208**: Navy Aerial Targets and Decoys
- **PMA-242**: Direct and Time Sensitive Strike
- **PMA-262**: Persistent Maritime UAS
- **PMA-263**: Small Tactical UAS
- **PMA-266**: Multi-Mission Tactical UAS
- **PMA-268**: Unmanned Carrier Aviation
- **PMA-280**: Tomahawk Weapons System
- **PMA-281**: Strike Planning and Execution Systems
Mission Area Lead Integrator for Surface and Strike Warfare (MALISS) ensures System of Systems (SoS) mission wholeness for the Surface and Strike Warfare (SUW/STK) mission areas.
Imperative

- Exponential world
- Complex maritime environment and operations
- Capable Maritime Adversary
- We have no more capability margin

Challenges

- Disaggregated Data Bases with no Common Interpreter
- Risk Avoidance Behavior Stunting Innovation and Delivery of Capability
- Culture of Platform Focused Resourcing and Development

Enablers

- Virtual Environments Driven by Existing Data
- Collaborative Planning and Execution
- Resilient Networks with Off-Ramps Enabled by Autonomy

Outcome Focus

- Deliver Fully Integrated and Interoperable Capability
- Speed to Fleet
- Deliver Lethality at Range
Threat Environment

- Adversaries Military & Maritime Growth
- Aircraft (5th Gen)
- Ships (effective reach and capability)
- Weapons (long range, high speeds)
- Network Capability (Interconnected)
- Cyber Capability

What performance curve are we on?

Linear vs Exponential
Challenges

• Peer adversaries with regional advantages
• Fleet has areas of “game changing” capability
  − Undersea system
  − Integrated Tactical Networks
  − Modularity
  − Our people
• Opportunity for capability enhancement
  − Combat Identification lacking
  − Susceptible to electronic attack
  − Limited integrated non-kinetic effects
  − Human oriented decision speed
• Limited distribution and cooperative processing of sensor data and machine aided analysis
  − Fleet fights with platform centric mindset
  − Sensor and fire control is trending toward a more integrated, distributed and capable maritime force
Enablers

• Role-Based Execution: Maximizing the number of systems that can access and execute multiple functions using common data – PLATFORM AGNOSTIC

• Collaborative Behavior: Data Use, Mission Planning, Sensors, Weapons

• Direct Application of Autonomy across systems: Enables near real-time KILL WEB capability

• Extended Reach: Propulsion Technology Improvements
With Collaboration, networked sensors work together to build a complete picture, providing:

- Increased mission effectiveness/lethality
- Reduced Salvo Sizes
- Increased Commander’s Flexibility
Functional Roles for Networked Sensors, Platforms and Weapons

We Must Focus on Data Needed to Fill Multiple Roles – Not the Platforms
Mitigate operational challenges associated with:

- Rapid Decision Making
- High heterogeneity and/or volume of data
- Data sharing among assets/service/partner nations
- Intermittent Comms in a contested environment
- High Complexity of coordinated action
- Danger of Mission
- High persistence and endurance

In order to:

- Improve flexibility to quickly respond to battlespace changes
- Improve mission effectiveness
  - survivability, lethality, target detection, ID
  - interoperability with other entities (e.g. services, international partners)
- Optimize use of high value assets
- Minimize operational risk to humans
- Minimize operational cost (e.g. reduced human workload, reduced salvo sizes, reduced attrition, reduced fuel)
- Operate effectively in a comms/GPS degraded or denied environment
We Must Focus on Data Needed to Fill Multiple Roles – Not the Platforms
TANG event sponsored by N98 resulted in 27 concepts.
PEO(U&W) Focus Areas

Partnership
Cyber Advantage
Modularity

Requirements
Strengthen Workforce
Ownership of Technical Standards

Align Investments
Product-Oriented Staffing

Competence Application

“Ready to Fight Tonight”

Reduce Cost & Increase Speed to Fleet
Align Resources to Support Today’s Readiness

EXPAND AND STRENGTHEN OUR NETWORK OF PARTNERS
STRENGTHEN OUR NAVY TEAM

ACHIEVE HIGH VELOCITY LEARNING AT EVERY LEVEL
STRENGTHEN NAVAL POWER AT AND FROM SEA

Integrity
Accountability
Initiative
Toughness