Decisive Strike Capabilities … Today and Tomorrow

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NAVAIR

Guidance

PEO U&W Focus Areas

- Cyber Advantage
- Align Investments
- Partnership
- Requirements
- Modularity
- Strengthen Workforce
- Ownership of Technical Standards
- Competence Application
- Product-Oriented Staffing

NAVAIR Commander's Intent

- "Ready to Fight Tonight"
- Reduce Cost & Increase Speed to Fleet
- Align Resources to Support Today's Readiness

CNO Design for Maintaining Maritime Superiority

- 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

Strategic View of Strike Capability

Flexible	Lethal	Extend Reach			Affordable
Launch Platforms	Timeframe	Multi-Mission	Target Sets	Capabilities	Affordable
Air	Near-Term Capability – 2024	Surface Warfare (SUW)	Fixed	Survivable	Trades within the Effects Chain to affordably field capability
Surface	Long-Term Capability – 2030+	Strike Warfare (STW)	Mobile	A2/AD Autonomous / Collaborative Operation	Commonality
Sub-Surface		SEAD/DEAD	Moving land and Maritime targets	A2/AD comms/nav	Open Architectures
				Tactical Ranges	Cost per Kill
				Time Critical	

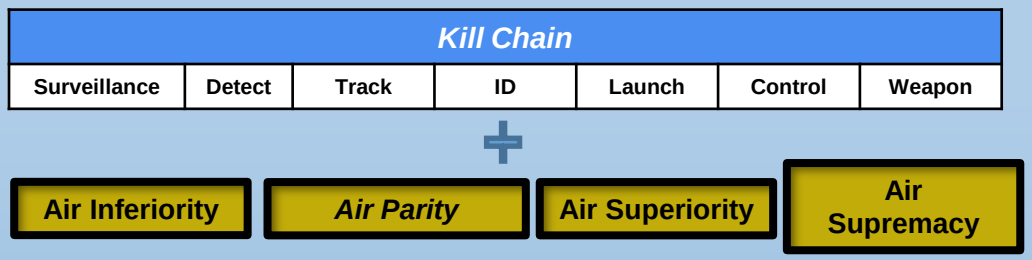
Our Naval Forces require Affordable, Survivable, Long Range, Strike Weapons which pace the threat and have multi-platform launch capability against land and maritime fixed/mobile targets

PEO(U&W) Needs Definition

Capability and Technology Mapping

UAS / Weapons Needed Capability

- Phase of conflict flexible
- A2/AD Autonomous / Collaborative Operation
- A2/AD Communications / Precision Navigation
- Tactical Ranges (sanctuary)
- Time Critical (speed)
- Fixed and mobile / land and maritime targets
- Surface / Sub-Surface / Air Launch Platforms
- Target IOC Near Term – 2024, Long Term – 2030+

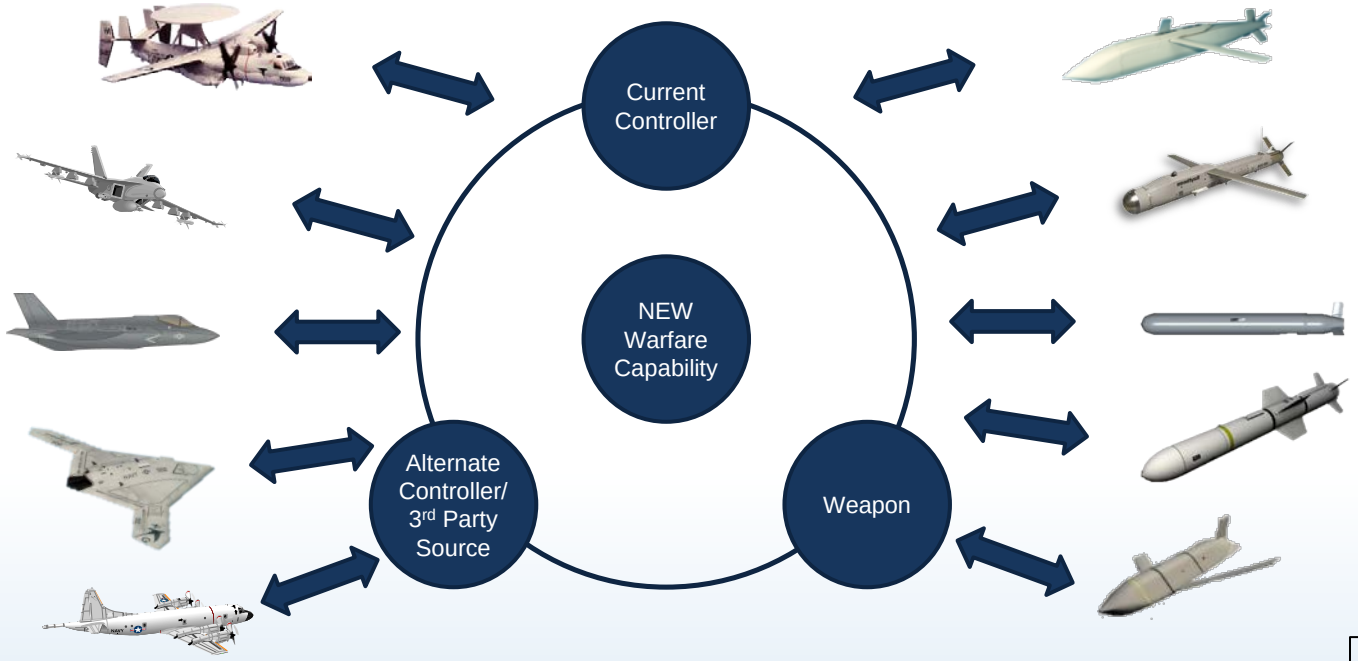


Performance Areas	Identified Technology Areas
ISR Systems	NTM Stand-In
Targeting	Off Board Targeting Sensors / Seekers
Comms	SATCOM Datalinks Network Architecture
Air Vehicle Performance	Advanced Fuels Engine Technologies Boost systems Lightweight structures
Guidance/ Navigation	Anti-Jam GPS Sensors Navigation Systems Autonomous Guidance
Survivability	
Lethality	Payload Warheads Target Accuracy Cyber / Non-Kinetic Effects
Cost/ Affordability	Producibility/Manufacturing
Support	Mission Planning Offboard Systems Test

Kill Chain Gaps drive capability requirements and type of technology needed by Performance Areas

Integrated Fires

- US Navy's common system-of-systems implementation to address advanced threat capabilities in the A2AD environment
- Connects platforms, sensors, weapons and networks to provide advanced capabilities through spatial and spectral diversity



Role Based Implementation

- Shooter
- Current Controller (CC)
- Alternate Controller (AC)
- Third Party Source (3PS)

- "Plug and play" interoperability
- Functionality remains constant: Performance is variable

Implementation Standards

- Common Reference Model (J11, J14, J28)
  - Net Enabled Weapon Capability Interface Model (NEWCIM)
    - Provides unambiguous implementation of the "standard interface" used between role players

- Networked and reusable sensors
- Air-Air, Air-Surface, Surface to Surface implementation

Where do we need innovation?

Kill Chain

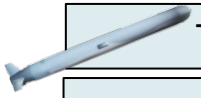
Surveillance	Detect	Track	ID	Launch	Control	Weapon


Triton

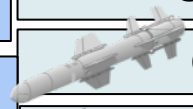
Firescout

MQ-XX


Class I - III UAV

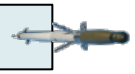

Tomahawk IV


SLAM ER


OASuW


JSOW


SDB II


APKWS


AARGM

Overarching Technology Needs

- Cyber Security
- Data Management / Data Fusion
- Open Architectures / Modularity
- Assured navigation and communications in A2/AD environments
- Non-GPS precision navigation and geolocation for maritime domain
- Operational dynamic resource management

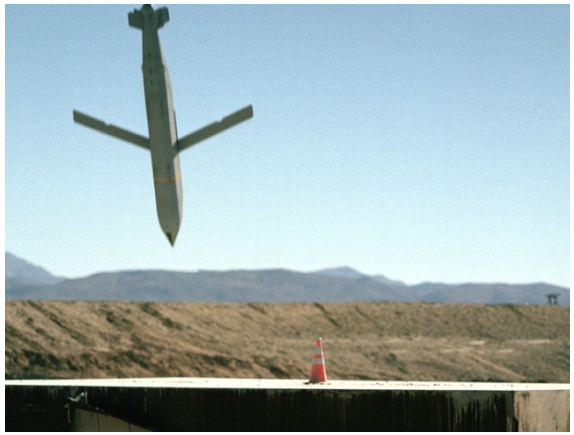
Unmanned Air Systems Technology Needs

- Autonomy
- High bandwidth, low profile/drag, through the rotor, Beyond Line Of Sight (BLOS) communications for rotary wing aircraft
- Multi-vehicle, multi-sensor planning and control
- Reducing bandwidth and/or operator workload by converting sensor data into actionable information
- Sensors for small UAS to detect and avoid non-cooperative airborne contacts

Weapon Technology Needs

- Net enabled/ interoperable weapons
- Multi-mission capability
- Seeker capabilities in day/night, all weather environments
- Expanded engagement envelope
  - Speed / Range -- ENERGETICS
- Insensitive Munitions Improvements
- Alternative weapons (e.g., directed energy) for airborne applications

Focus on the Warfighters' Demands













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Questions?