



**Program Executive Office
Command, Control, Communications,
Computers and Intelligence (PEO C4I)**

NDIA C4I Industry Day

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Statement A: Approved for public release; distribution is unlimited (19 OCTOBER 2015)

***Integrated Information
Dominance for the
21st Century***





PMW 150 Introduction



- PMW 150 is PEO C4I's program office for command and control systems. PMW 150 transforms operational needs into effective and affordable operational and tactical command and control (C2) capabilities for the Navy, Marine Corps, joint and coalition warfighters.
- PMW 150 Vision: "Preeminent provider of C2 solutions"
- PMW 150 Mission: "To innovatively meet operational requirements with relevant capabilities, enabling the warfighter to maintain C2 superiority"



PMW 150 Portfolio





Command & Control of Maritime Operations (C2MO) Vision



- Automated Battle Management Aids (ABMAs) for the Command and Control (C2) of the Tactical and Operational Levels of War
- Evolves C2 ABMAs from the “Who & Where” on GCSS-M, to “Who & Where”, “What is”, “What was”, “What Next”, “What If”, and “When” on MTC2
- MTC2 ABMAs to continuously address:
 - Automated Commander’s Intent tracking
 - Integrated high-side ISR enhanced situational awareness, “What Is”
 - Operational assessment, “What Is”
 - Courses of Action (COA) options, “What Next”
 - Historical Analytics, “What Was”
 - COA modeler, “What If”
 - Automated Command Plan tracking

C2MO delivers high speed battlespace

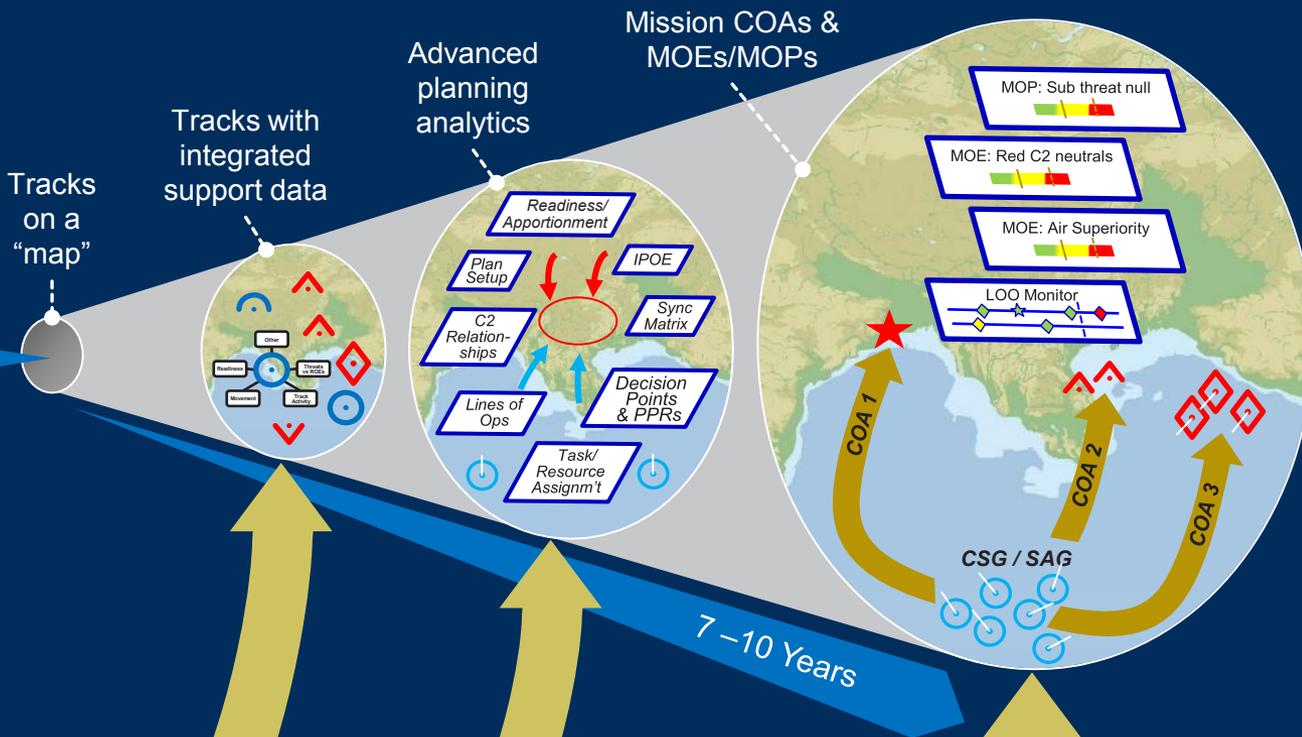
insight and actionable knowledge – “continuous courses of action”

Future C2 of Maritime Operations (C2MO)

Enabling Comprehensive Command Decisions in Maritime Operations

C2MO Challenge:

- Disconnected C2 tools
- Limited info sharing
- Operator intensive – manual data mining and assembling
- Incomplete SA
- Lack of cyber C2 awareness
- Deficient spectrum management



C2MO Delivers:

- Automated kinetic & non-kinetic synchronization across battle force
- Integrated high-side ISR/IO & CS for enhanced SA—“What Is”
- Operational assessment—“What Is”
- Historical analytics—“What Was”
- COA options—“What Next”
- COA modeler—“What If”
- Automated command plan tracking

PHASE I

- HALO COP
 - Relevant Mission Data
- TDL Analytics

PHASE II

- Blue Force and Adversary Readiness
- High Side Data Fusion
- High Speed Deterministic IO/ISR/C2 & Combat System Integration
- OLW and TLW BMAs Advancing the Plan and Execution
- Complete Access to Historical Events

PHASE III

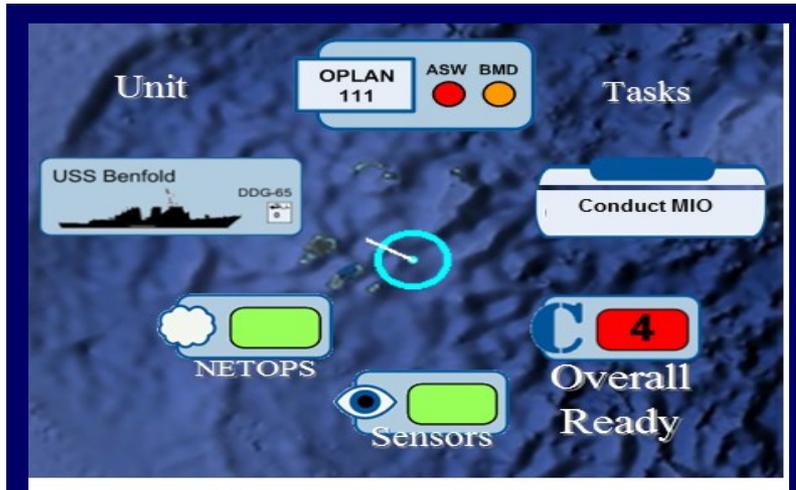
- Automated Assessments & COAs
- Timely, Accurate, and Actionable SA
- Unfettered Data Access Across All Systems and Platforms

C2 Innovation in Support of Integrated Fires

C2MO delivers automated Battle Management Aids enhancing multi-mission platform C2 of non-kinetic/kinetic engagements



MTC2 Program Summary



ACAT: Pre-ACAT IAM (MAIS)
MDA: USD(AT&L) or as delegated
Resource Sponsor: OPNAV N2/N6F1
Program Start Date: 2016 (Projected)

Major Initiatives:

- Widgetized framework
- Aligning to cloud initiative

Stakeholders: USFFC, NAVCYBERFOR, DASN C4I/IO & Space, PEO C4I, NIPO, Joint C2 Capability Area related stakeholders, to include AT&L, JS J6, DoD CIO, DISA

- **Capability/Program Description:** MTC2 is the Navy's Command and Control (C2) system for the Maritime environment.
 - **Replaces GCCS-M** afloat; POR capability introduced at ashore MOCs
 - **Software-only solution**
 - **Next generation C2 capability:** planning, execution, monitoring, and assessment.
 - **Extensive Risk Reduction**
 - **MOSA** for rapid capability insertion
- **Core capability areas (CA):**
 - CA-1 Command leadership tools
 - CA-2 Collaborative command structure
 - CA-3 Enhanced situational awareness
 - CA-4 Disseminate CDR's intent/guidance
 - CA-5 Collaborative planning environment
 - CA-6 Synchronize execution
 - CA-7 Monitor, assess, adapt to battlespace
 - CA-8 Leverage joint/coalition partner capability
 - Multiple Cross Functional CAs



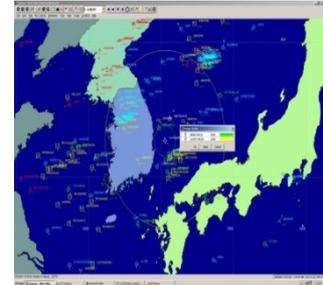
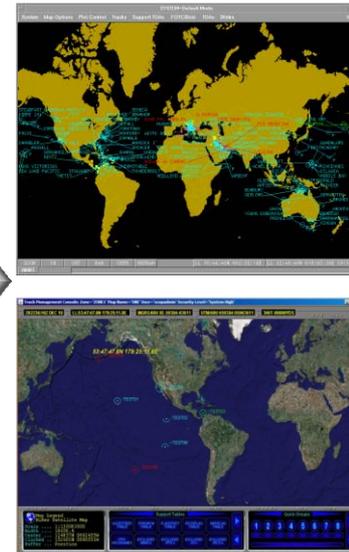
Evolution



Situational Awareness – Core Capabilities

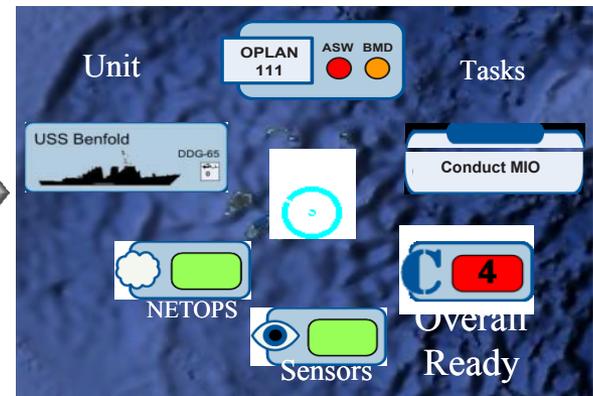
GCCS-M 3.X – 4.1 Attributes

- Flat Map; limited views
- Finite track attributes
- Finite number of tracks
- Color coding map visualization
- Satellite imagery and terrain map visualization



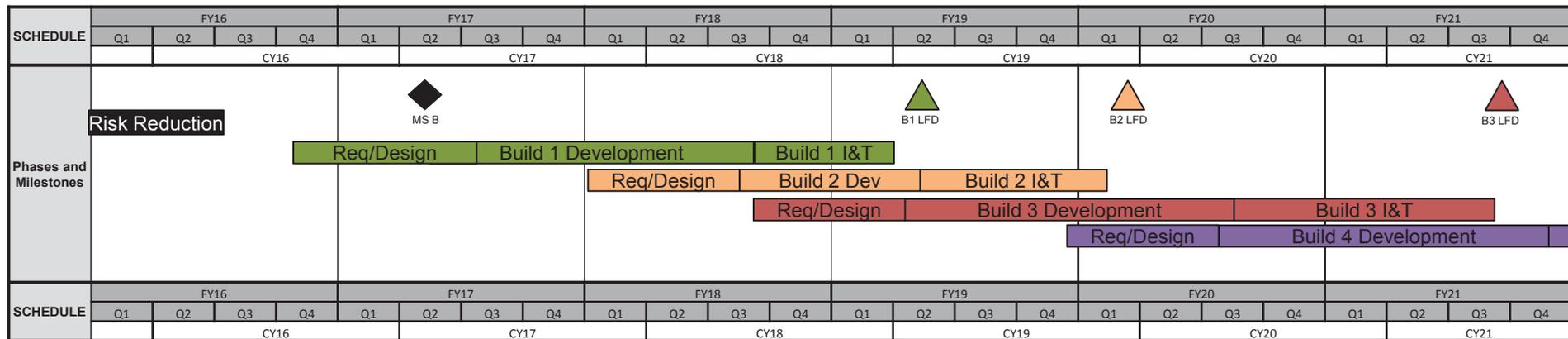
MTC2 Attributes

- Improved data visualization (auto-aggregation of data)
- Increased access to variety of data (e.g., logistics, readiness, etc.)
- Most important track attributes displayed up front (e.g., “halo” effect)
- Smaller hardware and software footprint (hosted software)





MTC2 Notional Deployment



	Build 1	Build 2	Build 3	Build 4
Platforms	LSD, Sub	DDG, CG, LCS, LPD, AEGIS Ashore	CVN, LHD, LHA, LCC, SUBOPAETH	MOC
Capabilities	<ul style="list-style-type: none"> • GCCS-M Core • COP (SA) • Tactical Decision Aids • UL Interfaces • D-DIL environment operations 	<ul style="list-style-type: none"> • Build 1 + • AEGIS Interfaces • Initial Op Planning • Initial GFM-DI Integration 	<ul style="list-style-type: none"> • Build 2 + • Op Planning • Force-Level Interfaces • GFM-DI Integration • Strike Group Readiness • WSM 	<ul style="list-style-type: none"> • Build 3 + • Op Planning • Additional Interfaces • Initial Mission Preparedness • GFM-DI Reach-back • Force Alerting
Fielding	Q2FY19	Q1FY20	Q3FY21	Q3FY22

Approach allows for near-continuous capability deployment to the fleet



Naval Operational Business Logistics Enterprise (NOBLE)



- Providing plan for NOBLE program structure
 - NOBLE: Follow-on to Naval Tactical Command Support System (NTCSS)
 - Centralized acquisition management of four PoRs:
 - Naval Administration & Personnel System (NAPS)
 - Naval Operational Supply System (NOSS)
 - Naval Aviation Maintenance System (NAMS)
 - Naval Operational Maintenance Environment (NOME)
 - Plan as four individual ACAT III Defense Business System programs
 - Target cost savings through efficiencies



NOBLE Background



Crew Management

Personnel
Qualifications
Watchstanding

Spare Parts Management

Receiving, Warehousing, Issuing
Supply Ordering & Tracking
Inventory Control & Accountability

Expeditionary Force Support

Maintenance, Supply, Financial Management
Custody of Assigned Material
Vehicle Fleet Management & Maintenance

Galley

Ordering/Control of Ingredients
Recipes & Food Preparation

Ship's Store

Store Stock Ordering & Control
Point-of-Sale Retail Operations

Maritime Maintenance at Sea

Ships and Subs
Work Order Management
Supply Interface

Operational Aviation Maintenance

Squadron/flight-line (O-level)
Intermediate Maintenance Activities (I-level)
Safety of flight
Work Order Management
Supply Interface / Parts Management

NTCSS As-Is

- 7 Modules
 - R-Supply
 - OMMS-NG
 - R-ADM
 - NALCOMIS-OOMA
 - NALCOMIS-OIMA
 - FSM3
 - ROM3
- 1 Legacy System
 - MicroSNAP
- Liabilities
 - 1990s technical design
 - IA vulnerabilities
 - Multiple versions fielded
 - Static business processes

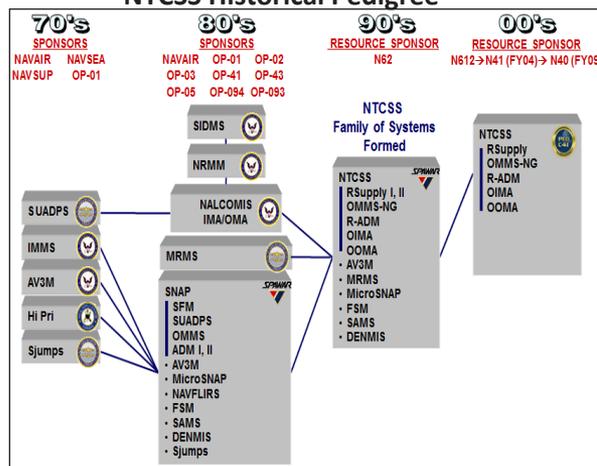
NTCSS Way Forward

- Baseline Consolidation
 - 4 NTCSS versions to 1 by FY17
 - Addresses IA issues
- Interim Solution
 - Aviation Depot Maintenance Capability in the Field
 - Aviation Field Maintenance Global Coordination
 - Operational Force Total Material Visibility, Equipment Management, & Requisition Management
- Code Transformation
 - 15 month proof of concept
 - Platform for modernization
- Future State: NOBLE
 - Open architecture
 - Business process reengineering improvements

NOBLE

- Family of 4 PoRs
 - Naval Operational Supply System (NOSS) [R-Supply]
 - Naval Aviation Maintenance System (NAMS) [OOMA/OIMA]
 - Naval Administration & Personnel System (NAPS) [R-ADM]
 - Naval Operational Maintenance Environment (NOME) [MFOM/OMMS-NG]
- Each with its own set of bounded requirements and Functional Managers
- Overarching architecture and interface standards
 - Open architecture
 - Data standards

NTCSS Historical Pedigree



Legacy Sites/Ships	40
NTCSS Sites/Ships	375
NTCSS Aviation	331

150,000+ Users

2014: Directed to pursue a new acquisition strategy to modernize NTCSS and Maintenance Figure of Merit (MFOM)



NOBLE Family of Programs

Naval Operational Business Logistics Enterprise (NOBLE) Family of Programs

Naval Operational Supply System (NOSS)

Naval Aviation Maintenance System (NAMS)

Naval Administration and Personnel System (NAPS)

Naval Operational Maintenance Environment (NOME)

- Multiple programs organized around bounded functional requirements, each with unique user groups and functional managers
- Each program enters acquisition system independently, based upon technology maturity and available solutions
- Capabilities are delivered when ready, not dependent on the others

Efficiencies and Cost Savings Opportunities

- **System Engineering:** Enforce open system architectures/common cybersecurity requirements, standards, data strategies, interfaces
- **Contracting:** Full & Open competition, increase small business roles, S&T opportunities
- **Process:** Implement common training, installation, test/certification processes and tools
- **Acquisition:** Flex DoD 5000.02 to tailor/streamline staffing and reviews where possible
- **Financial Management:** Implement budget structure (single PE/PU) to allow management flexibility during execution (e.g., Tactical Data Links program)

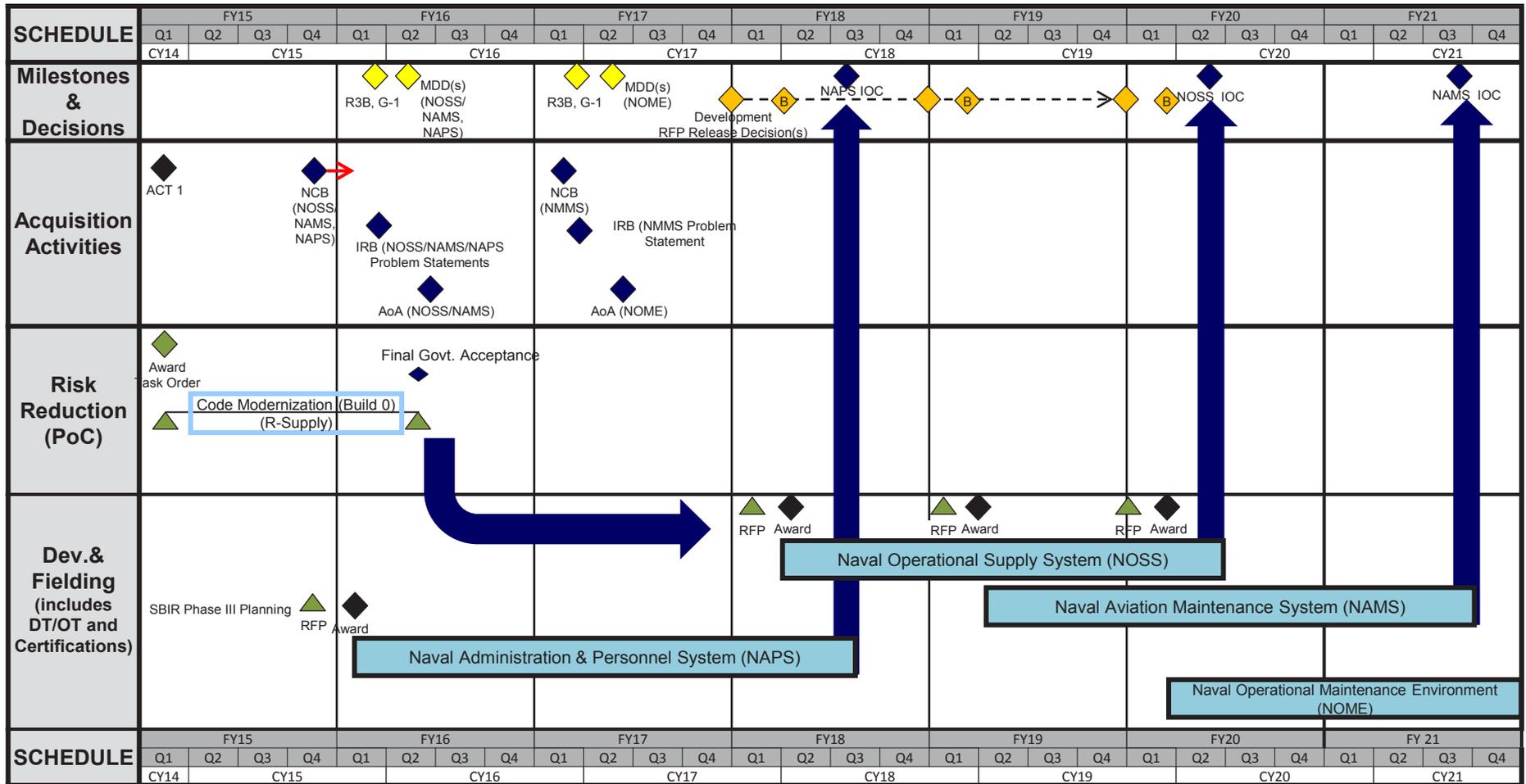
	NOSS	NAMS	NAPS	NOME
Requirement	Operational Supply & Financial Management (R-Supply)	Aviation Organizational & Intermediate Maintenance (OOMA/OIMA)	Administration & Personnel Management (R-ADM)	Afloat Maritime Maintenance & Readiness (MFOM/OMMS-NG)
Requirements Sponsor	OPNAV N414	OPNAV N98	OPNAV N414 <i>TBD – new RS?</i>	OPNAV N43
Resource Sponsor	OPNAV N414	OPNAV N414	OPNAV N414	OPNAV N9I
Functional Manager	NAVSUP HQ/USFF N41	NAVAIR 6.8	OPNAV N414 <i>TBD – new FM ?</i>	USFF N43

NOBLE Family provides modernized capabilities to NTCSS users



NOBLE Notional Timeline

Incremental Fielding Strategy





Small Business Innovative Research (SBIRs)



- Small Business Innovation provides a R&D venue to address technology gaps for:
 - Command & Control, Logistics & Readiness, and Tactical Data Links
- One of the largest SBIR portfolios within PEO C4I
 - Four active SBIRs within Maritime C2, Tactical C2, and Support C2
- Four SBIRs and one STTR (converted to SBIR) will transition to POR
 - Two IDIQ Phase III contracts in process
- RIF for collaboration for Maritime Tactical Command and Control (MTC2)
 - Will award October 2015
 - Successful test in TW15 underway
- Multiple SBIR technologies will be demonstrated in Trident Warrior 2016 (TW16)



Request For Information



<i>Technology</i>	<i>Planned Released</i>
C2P Tech Refresh/Link 22 Production	Q2FY16
Sources Sought for MTC2	Q2FY16



FY16 Contract Opportunities



<i>Title</i>	<i>Scope</i>	<i>Est. RFP Release Date</i>	<i>Est. Award Date</i>
PMW 150 Professional Support Services	Program Acquisition, Contract, Financial, Risk Management & Installation Support Services across PMW 150 for Prime Mission Products	Q3FY16	Q4FY16
PMW 120/150 Admin Support Services	Administrative Support Services across PMW 120/150	Q3FY16	Q4FY16
C2P	Tech Refresh Initial Production	Q3FY16	Q1FY17
C2P	Tech Refresh/Link 22 Production	Q4FY16	Q3FY17
MTC2 Build 1-4	Design, Development & Integration of MTC2 Build 1-4	Q4FY16	Q4FY17