



Acquisition Directorate

C5I Recapitalization Onboard USCG Cutters *Sea-Air-Space 2023*

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C5I Recapitalization Onboard USCG Cutters - Renovation Achieves/Extends Asset Service Life

- **CG experiences with Service Life Extension Programs (SLEP) and Major Maintenance Availabilities (MMA)**
- **SLEP and MMA successes over the last two decades**
 - 110-foot Patrol Boat Hull Sustainment Program
 - 270/210-foot Medium Endurance Cutter Mission Effectiveness Program
 - 225-foot Seagoing Buoy Tender MMA
 - 140-foot Icebreaking Tugboat SLEP
 - CGC EAGLE SLEP
- **Renewal is challenged by C5I's shorter lifecycle**
 - Facilities – 50 year
 - Hull, Mechanical, and Electrical (HM&E) – 15 to 20 year
 - Command, Control, Communication, Computer, Cyber, & Intelligence (C5I) – 5 to 10 year



C5I Recapitalization Onboard USCG Cutters - Shorter Lifecycle = Faster Obsolescence

- C5I's shorter lifecycle means that equipment o/b our most advanced assets reaches obsolescence more rapidly

System	Hull 1 Yr 1	Hull 2 Yr 2	Hull 3 Yr 3	Hull 4 Yr 4	Hull 5 Yr 4	Hull 6 Yr 5	Hull 7 Yr 5	Hull 8 Yr 6	Hull 9 Yr 6	Hull 10 Yr 7	Hull 11 Yr 7	Hull 12 Yr 8	Hull 13 Yr 8
Surface Radar 1	Mod 0	Mod 0	Mod 0	Mod 1	Mod 1	Mod 1	Mod 1	Mod 1	Mod 1	Mod 1	Mod 1	Mod 2	Mod 2
Surface Radar 2	Mod P	Mod Q	Mod Q	Mod Q	Mod Q	Mod Q	Mod Q	Mod R	Mod R	Mod R	Mod R	Mod R	Mod R
Air Search Radar	Really Old	Old	Old	Old	Old	New	New	New	New	New	New	New	New
Gun Weapons Sys	Mod 0A	Mod 0B	Mod 0B	Mod 0B	Mod 0B	Mod 0B	Mod 0B	Mod 0B	Mod 0B	Mod 1	Mod 1	Mod 1	Mod 1
Electronic X-measures	Series 2009	Series 2009	Series 2014	Series 2014	Series 2014	Series 2020	Series 2020	Series 2020	Series 2020	Series 2020	Series 2020	Series 2020	Series 2020
Tactical Data Link	Link A	Link A	Link A	Link B	Link B	Link B	Link B	Link B	Link B	Link C	Link C	Link C	Link C
Network Comms Sys	NC 2	NC 2A	NC 2B	NC 2B	NC 2B	NC 2B	NC 2B	NC 2B	NC 2B	NC 2B	NC 2B	NC 3	NC 3
Navigation System	Sextant 6.1	Sextant 6.1	Sextant 7.0	Sextant 7.0	Sextant 7.0	Sextant 7.1	Sextant 7.1	Sextant 7.1	Sextant 7.1	Sextant 7.2	Sextant 7.2	Sextant 7.2	Sextant 7.2
IFF	Mod A	Mod A	Mod B	Mod B	Mod B	Mod B	Mod B	Mod B	Mod B	Mod B	Mod B	Mod B	Mod B

Obsolete -----> Older -----> Newer



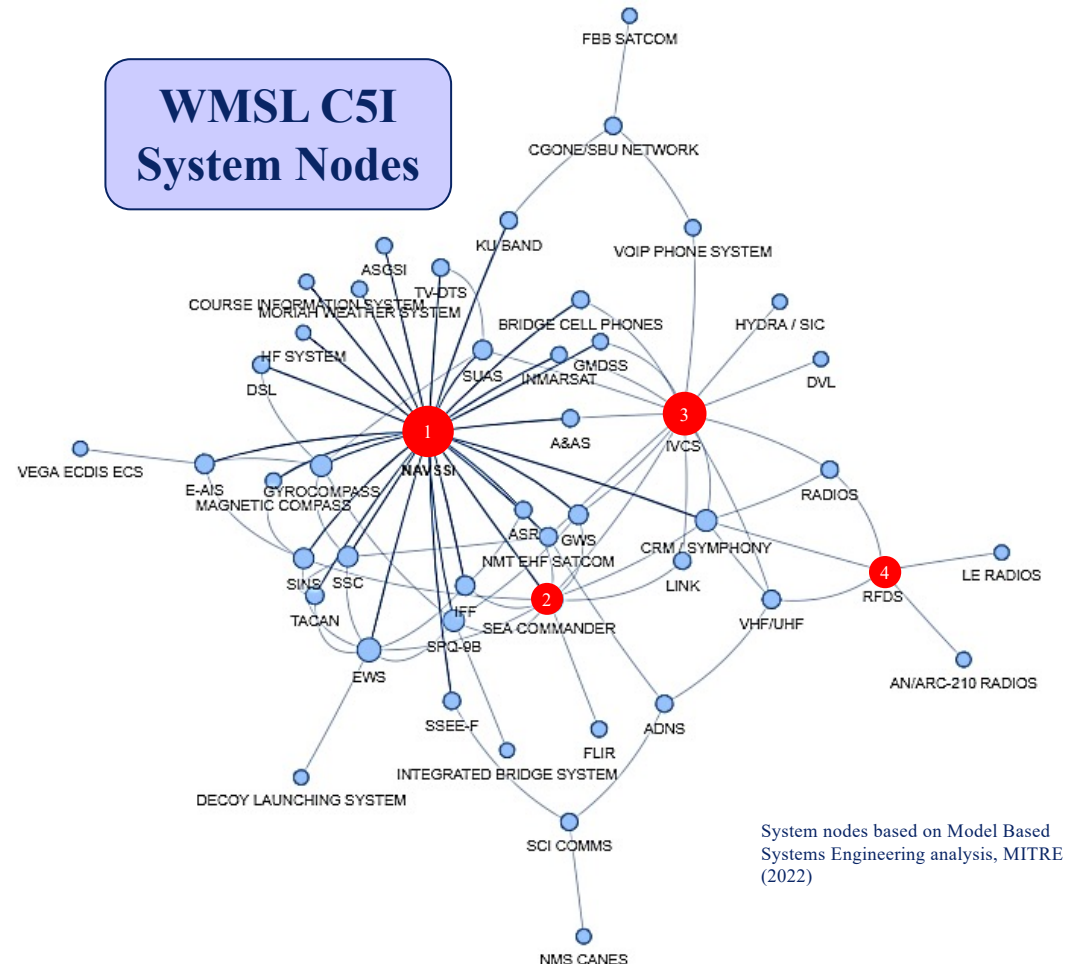
C5I Recapitalization Onboard USCG Cutters - Shorter Lifecycle Requires Rapid Development

- C5I's shorter lifecycle means that C5I equipment o/b our most advanced assets must be rapidly developed
- Sustainment differences between HM&E and C5I encourage “silo-ing” of Program Management
 - CG cutters and aircraft are managed at the asset level
 - CG C5I is managed at the system level across a spectrum of assets
- **Waterfall vs. Agile**
 - Old Mentality – launch the vessel & its out there
 - New mentality – C5I systems are never done & scope creep challenge
- **End to End solutions are problematic**
 - Elevates programs to larger contractors
 - Challenge of defining requirements to enable broad market participation



C5I Recapitalization Onboard USCG Cutters - Unique Challenges of C5I Renewal

- 418' WMSL capabilities and operational success are highly reliant on C5I systems
- Drivers of systems complexity, interdependency, and integration include:
 - # of configuration items: WMSL (~1,200) vs. WMEC (~800)
 - More complex systems: WMSLs carry 25% more C2, Comms, Nav, Sensor, Ordnance & Surveillance Systems than WHECs (& 35% more than WMEC)
 - Software prominence: WMSLs are more dependent on software, strict adherence to cybersecurity reqmts



WMSL ops capabilities are 100% reliant on C5I systems

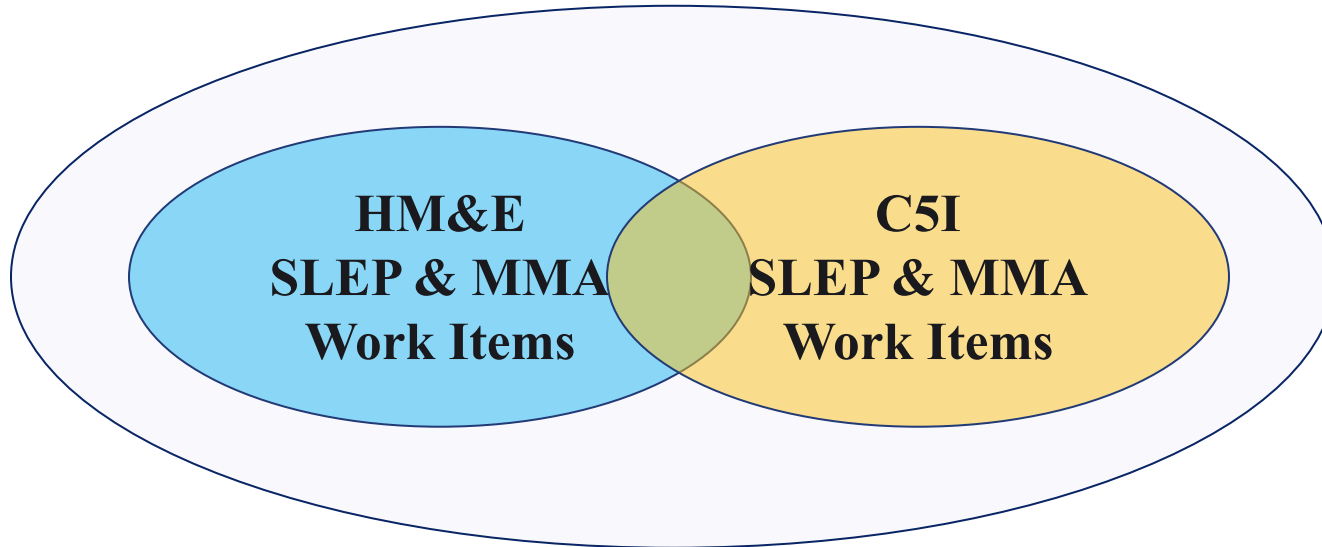


C5I Recapitalization Onboard USCG Cutters - Perfect Storm Drives a different SLEP/MMA solution

- Perfect storm of accelerated C5I obsolescence & the need for rapidly developing C5I solutions

joined with

- C5I's complexity, interdependency, & system integration onboard operational assets drives a different SLEP/MMA solution



C5I Recapitalization Onboard USCG Cutters - An Integrated SLEP / MMA Solution

- **CG In-Service Vessel Sustainment (ISVS) Program for HM&E**
- **Historic sources of acquisition funding – FY21 example**
 - Procurement, Construction, and Improvements (PC&I) 5 year funding
 - FY21 In-Service Vessel Sustainment (ISVS) PC&I Funds - \$82.6M
 - FY21 C4ISR and Software PC&I Funds - \$16.3M
- **Historic sources of sustainment funding**
 - CG cutters have one-year & two-year operations and support (O&S) funding
 - CG C5I has only one-year O&S funding
 - Without multi-year funds sustainment funding, single year operations & support (O&S) funding must meet the need
- **CG ISVS-like Program for C5I Recapitalization**



C5I Recapitalization Onboard USCG Cutters

ISVS-like Program for C5I

Closing Discussion:

- The 418-foot National Security Cutter (WMSL) is our Service's most advanced operational surface asset
- Adapting our Service's C5I recapitalization approach will ensure the continued agile state of operational readiness demanded by our Nation's leaders & feared by our adversaries



Sharpening Our Competitive Edge



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