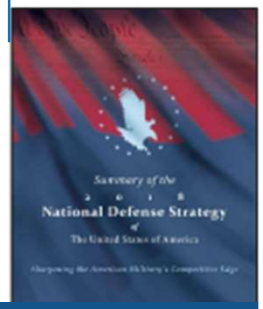
PMS 406 UNMANNED MARITIME SYSTEMS

JANUARY 12, 2022

CAPT Pete Small

NAVY STRATEGY HIGHLIGHTS UNMANNED

"…advanced autonomous systems…to gain competitive military advantages" (NDS)



National Defense Strategy

Memos: Project Overmatch & Novel Force

"…accelerating the development of the unmanned capabilities and long-range fires enabled by [Project Overmatch]" (Novel Force)

PMS 406 Strategic Plan

Unmanned Campaign Framework

"Through a capabilities-based approach, we can build a future where unmanned systems are at the front lines of our competitive advantage." (UCF)

2018 | **2020** | **2021**

"Cost-effective platforms and manned-unmanned teaming will increase the capacity of the fleet and expand our ability to distribute our forces" (AaS)

Advantage at Sea

CNO Navigation Plan

Intelligent Autonomous Systems

"Unmanned platforms play a vital role in our future fleet" (NAVPLAN)

"To seamlessly integrate [Intelligent Autonomous Systems] as trusted members of the Naval Enterprise" (IAS)

UNMANNED MARITIME SYSTEMS ACQUISITION

ASN (RDA)

PEO Unmanned and Small Combatants (PEO USC)

Expeditionary

PMS 420

MCM USV

MHU

Knifefish

PMS 495

Barracuda

PMS 408

MK18 MOD 2

Viperfish

MK18 MOD 1

Lionfish

MESR

PMS 340

MK18 MOD 1

Lionfish

Undersea

PMS 406

Orca XLUUV

Snakehead LDUUV

Razorback

Core Technologies

Surface

MUSV

LUSV

Enabling Capabilities

ACCELERATE | INNOVATE | DELIVER

UNMANNED SURFACE WARFARE

USV PROTOTYPES

2019 Overlord USV1 Nomad

2019 Overlord USV2 Ranger

2023 Overlord USV3 Vanguard

2022 Overlord USV4 Mariner

2023 MUSV #1

2020 Sea Hunter

2021 Seahawk

REQUIREMENTS

ENABLING CAPABILITIES

- Reliable Hull, Mechanical & Electrical Systems
- Advanced Networks and Radios
- Integrated Combat System
- Vessel Control Software
- Sensory Perception and Autonomy
- Platform and Payload Prototyping

PROTOTYPE OPERATIONS

FUTURE SURFACE COMBATANT FORCE USVs

LARGE USV

MEDIUM USV

UNMANNED UNDERSEA WARFARE

SNAKEHEAD PHASE 1 PROTOTYPE

LTV 38/48/54" PROTOTYPES

RAZORBACK DRY DECK SHELTER (DDS)

TORPEDO TUBE LAUNCH & RECOVERY (TTL&R)

REQUIREMENTS

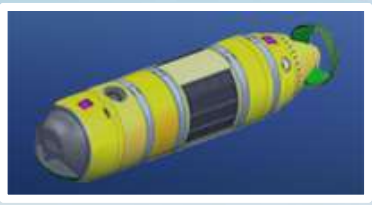
CORE TECHNOLOGIES

- Autonomy and Command and Control
- Payloads
- Endurance
- Platform Integration

PROTOTYPE OPERATIONS

NAVSEA WARFARE CENTERS KEYPORT

SNAKEHEAD PHASE 2



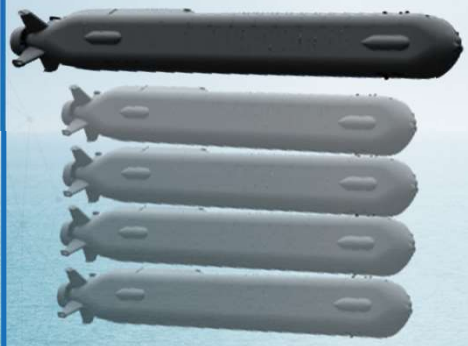
SUBMARINE-HOSTED DIVERLESS LAUNCH AND RECOVERY UUVs

RAZORBACK TTL&R

UNDERSEA PAYLOAD DELIVERY

PROTOTYPE DELIVERY PLATFORMS

ORCA XLUUV



MEDUSA DEMONSTRATION

REQUIREMENTS

CORE TECHNOLOGIES

- Autonomy and Command and Control
- Payloads
- Endurance
- Platform Integration

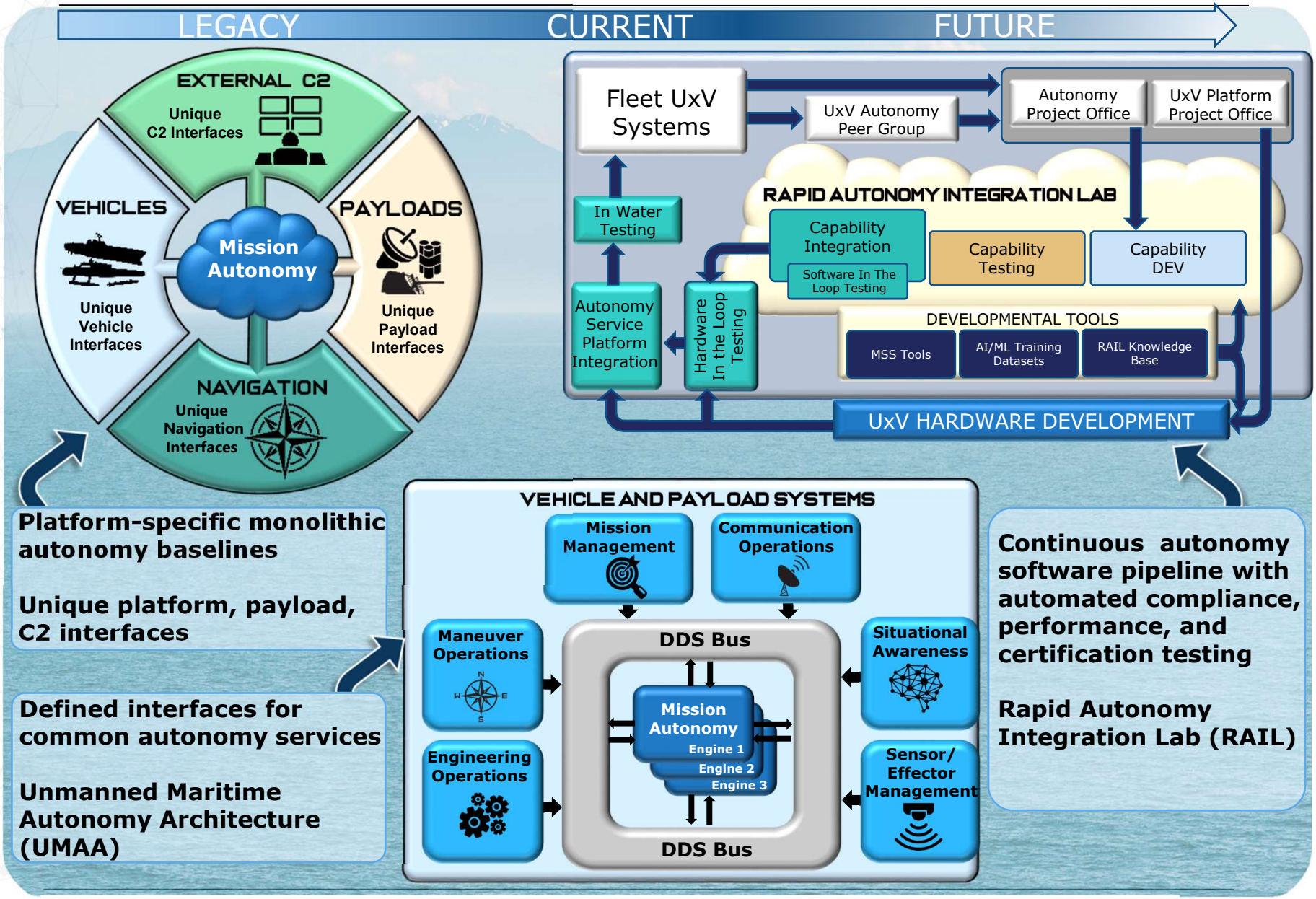
PROTOTYPE OPERATIONS

UNDERSEA PAYLOAD DELIVERY

XLUUV + PAYLOADS

MEDUSA + PAYLOADS

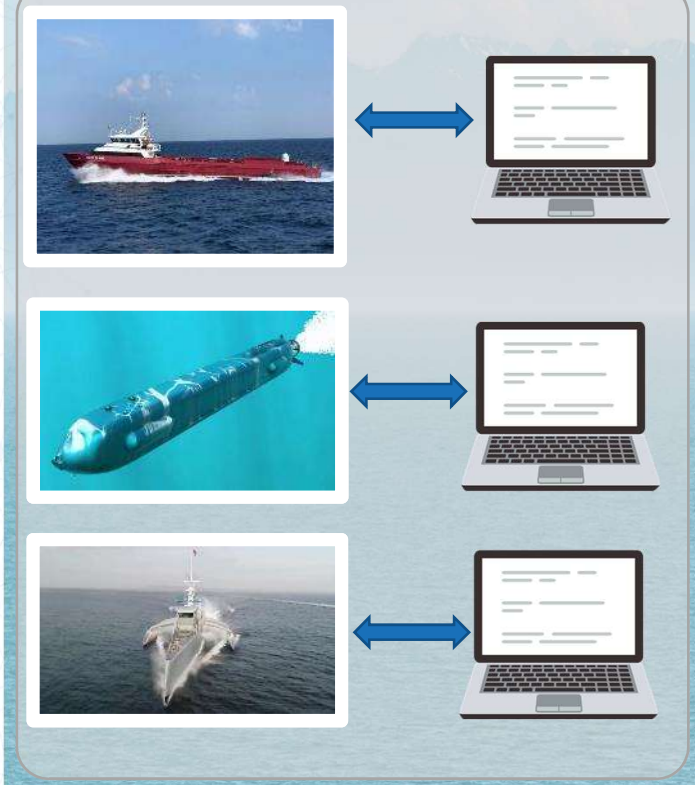
AUTONOMY DEVELOPMENT

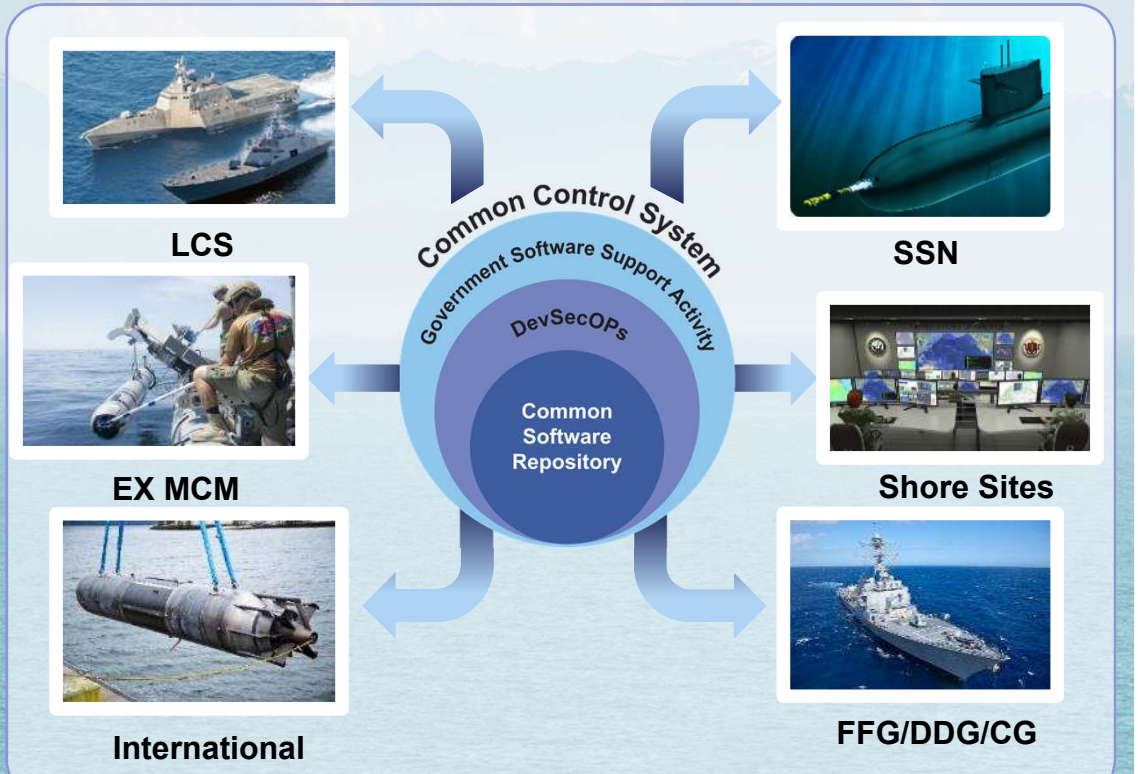


Distribution A: Approved for Public Release; Distribution Unlimited

COMMAND AND CONTROL SYSTEM DEVELOPMENT

LEGACY → FUTURE





One to One C2 Solutions

Not Integrated Ashore or Afloat

Not Interoperable

Common core software (Common Control System-CCS)

Common Government developer and Software Support Activity

Integration into ashore control centers (UOC) and afloat combat systems by Government PMOs