NATO SEASPARROW Project Office (NSPO)
Next Significant Variant (NSV)
Industry Day Opening Remarks

CAPT John Bowman, USN, PEO IWS 12.0/NSPO Project Manager

Mr. Sean Reed
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CAPT. John Bowman, USN
NSPO/PEO IWS 12.0
Project Manager

CAPT. Leonidas Platanakis, HN
NSPO International Deputy
Project Manager

Welcome to the NSPO NSV Industry Day

The Project's Vision

A world where NATO and our Allies protect against threats across the globe, through military and industrial cooperation, providing interoperable defense capabilities.

The Project's Mission

Provide a platform for international cooperation and innovation to manage the development, production, integration, and sustainment of effective, reliable, and affordable weapon systems to protect Consortium and partner nation forces from current and future threats.

Consortium at a Crossroads

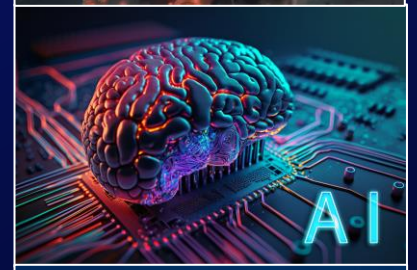
What will follow the ESSM Block 2?

The World Today

How has the world changed since the Block 2's main development?

TECHNOLOGY

What new capabilities are available today?



FUTURE

How can you help us?

MORNING SESSION (0830 - 1200 EDT)		
Time	Session	Speaker(s)
0730-0830	Registration Time/Check-in	VTG Staff
0830 – 0840	Welcome, Opening Remarks	Capt. John Bowman, USN, NSPO / PEO IWS 12.0 Project Manager
0840- 0850	Introduction to NSPOs	Capt. Leonidas Platanakis, HN, NSPO International Deputy Project Manager
0850-0900	NSPO Vision for the Future	Mr. Sean Reed, NSPO / PEO IWS 12.0 Deputy Project Manager
0900-0915	*EARLY MORNING BREAK*	
0915-1000	NSV Roadmap	Mr. Sean Reed, NSPO / PEO IWS 12.0 Deputy Project Manager
1000-1045	NSV Design Drivers & Requirements	Dr. Timothy Munuhe, NSPO Weapons System Analyst
1045-1100	*LATE MORNING BREAK*	
1100-1145	Technology Assessment & Evaluation	Ms. Emma Smith, NSPO Missile Development Lead
1145 – 1300	**LUNCH BREAK**	
AFTERNOON SESSION (1315 - 1515 EDT)		
1300 – 1345	Acquisition Strategy	Mr. David Inman, NSPO Technical Director
1345- 1430	Digital Engineering for NSV Development	Dr. Timothy Munuhe, NSPO Weapons System Analyst
1430 - 1445	*AFTERNOON BREAK*	
1445 – 1500	Closing Remarks & Next Steps	Mr. Sean Reed, NSPO / PEO IWS 12.0 Deputy Project Manager

Introduction to NSPO

CAPT Leonidas Platanakis, HN
NSPO International Deputy Project Manager

1967

On October 21, 1967, the Israeli destroyer INS Eilat was sunk by Soviet-made missiles launched from Egyptian missile boats

The attack kills 47 Israeli sailors and wounds more than 100 others

1968

NATO SEASPARROW Surface Missile System (NSSMS) Project established with 4 charter nations

For speed to capability, Nations plan to adapt AIM-7E Sparrow for surface-to-air

1969

Nations sign the $23 Million Development Contract competitively awarded to Raytheon Company for the Mk 57 NSSMS

Steering Committee Signing

International partnerships grew from 70s to early 90s

(FMS)

Italy leaves the Consortium in 2002

1995

2004

NSSM Develops & Enters Service

ESSM Block 1 Begins

ESSM Block 2 Begins

ESSM Block 2

History & Lessons Learned

2006

NSPO tasked with analyzing cost/benefit/schedule of implementing major improvements to ESSM (Block 1)

2014

Engineering & Manufacturing Development (E&MD) Begins

- Block 2 inherited tech from other US programs, including their restrictions (releasability)
- Development slowed by friction in communication, legacy acquisition methods
- Block 2 experiencing obsolescence issues

2021

Initial Operational Capability (IOC)

INTERNATIONAL COOPERATION

Challenges

- Political climates
- Cultural differences
- National interests & priorities
- Technology transfer
- Diverse solutions
- Executability
- Work share
- World events

Benefits

- Shared Technology and Data
- Shared Costs & Non-Duplication of Efforts
- International Network of Vendors & Experts
- Standardization
- Interoperability
- Common Understanding of Threats & Performance
- Shared Lessons Learned
- Economies of Scale

Decision-making: One Country - One Vote, All Votes Equal

Principle of Unanimity – nearly all decisions have been unanimous

Nations are Partners, not customers

All industry partners will be treated fairly and have advocates at NSPO

PROJECT DIRECTION & EXECUTION

Project MOUs

Define each phase of the project:

- Development
- Production
- Support

AUTHORITY

Steering Committee

Responsible for MOU implementation and execution

One member from each country

Approves budgets, requirements

Provides direction via decisions

DIRECTION

Project Office

Executive Agency of NSPSC

Works for Participating Governments

Internationally Staffed

Executes NSPSC Direction

EXECUTION

Project Execution

Government Support Organizations

Private Industry

Fleet Units

NSPSC Has Authorized NSPO to Begin Studies for the NSV
Goal is AoA Completion in 4 Years

NSPO aims to maximize participation from consortium nation industry partners.

This is *YOUR* opportunity to contribute!

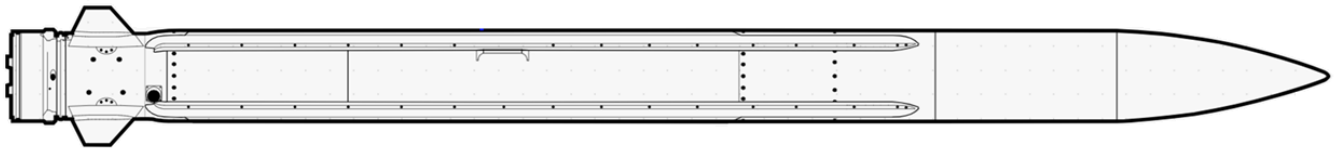
- Contribute your unique skills, expertise, and technologies to the NSV project.
- Gain access to cutting-edge research and development contracting opportunities.
- Expand your market reach within the NSPO consortium and beyond.
- Deliver the Next Generation of Ship Self-Defense Systems to Your Nations.

NATO SEASPARROW Vision for the Future

Sean Reed
NSPO / PEO IWS 12.0 Deputy Project Manager – Civilian

Next Significant Variant (NSV) Vision

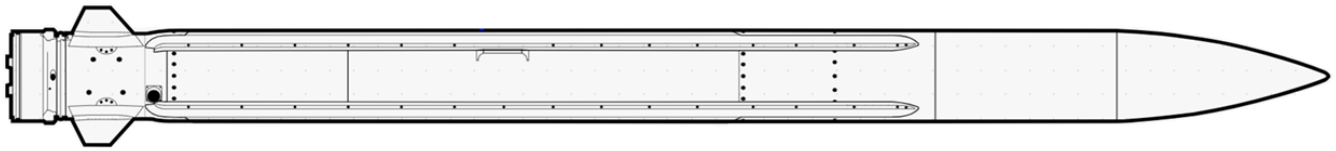
- The NSV of the SeaSparrow
  - Pace evolving threats
  - Open standards and modern Digital Engineering (DE) tools
  - Digitally Designed, Analyzed, Verified, and Maintained
  - Open Architecture based solutions
  - NSPO releasable



Next Significant Variant design will use modern DE tools and will be releasable to NSPO Partners

Next Significant Variant (NSV) Vision

- The NSV of the SeaSparrow
- Four Tenets – What we need from Industry
  - Innovation
  - Digital Engineering and Model Based Systems Engineering
  - Low Cost and Lethal
  - Schedule – The need is now!



We need Industry to bring innovative low-cost solutions

Industry Day: Your Input Matters

- Today is designed to gather your input.
- We are particularly interested in your insights on:
  - How your innovative technologies can address NSV requirements.
  - Potential challenges and risks associated with the NSV development.
  - Opportunities for collaboration and knowledge sharing.
- **Some Areas of Interest:**
  - Cutting-edge Digital Engineering Solutions – MBSE & M&S
  - AI/ML Applications (ex. Missile Guidance and Control)
  - Modern Software Development Techniques (ex. DevSecOps)
  - New Innovative Hardware Solutions (ex. Additive Manufacturing, RISC-V)

NATO SEASPARROW Next Significant Variant (NSV) Roadmap

Sean Reed
NSPO / PEO IWS 12.0 Deputy Project Manager – Civilian

Agenda

- Drivers for Missile Upgrades
- Process for Missile Upgrades
- System Level Focus and the New NSPO Toolset
- Tenets and What We Need from Industry
- Questions

Drivers for Missile Upgrades

- Pace the evolving threats included in the threat matrix; focus on key scenarios
  - Improved multiple missiles verse multiple targets performance
  - Maneuvering supersonic threats
  - Ballistic & hypersonic threats

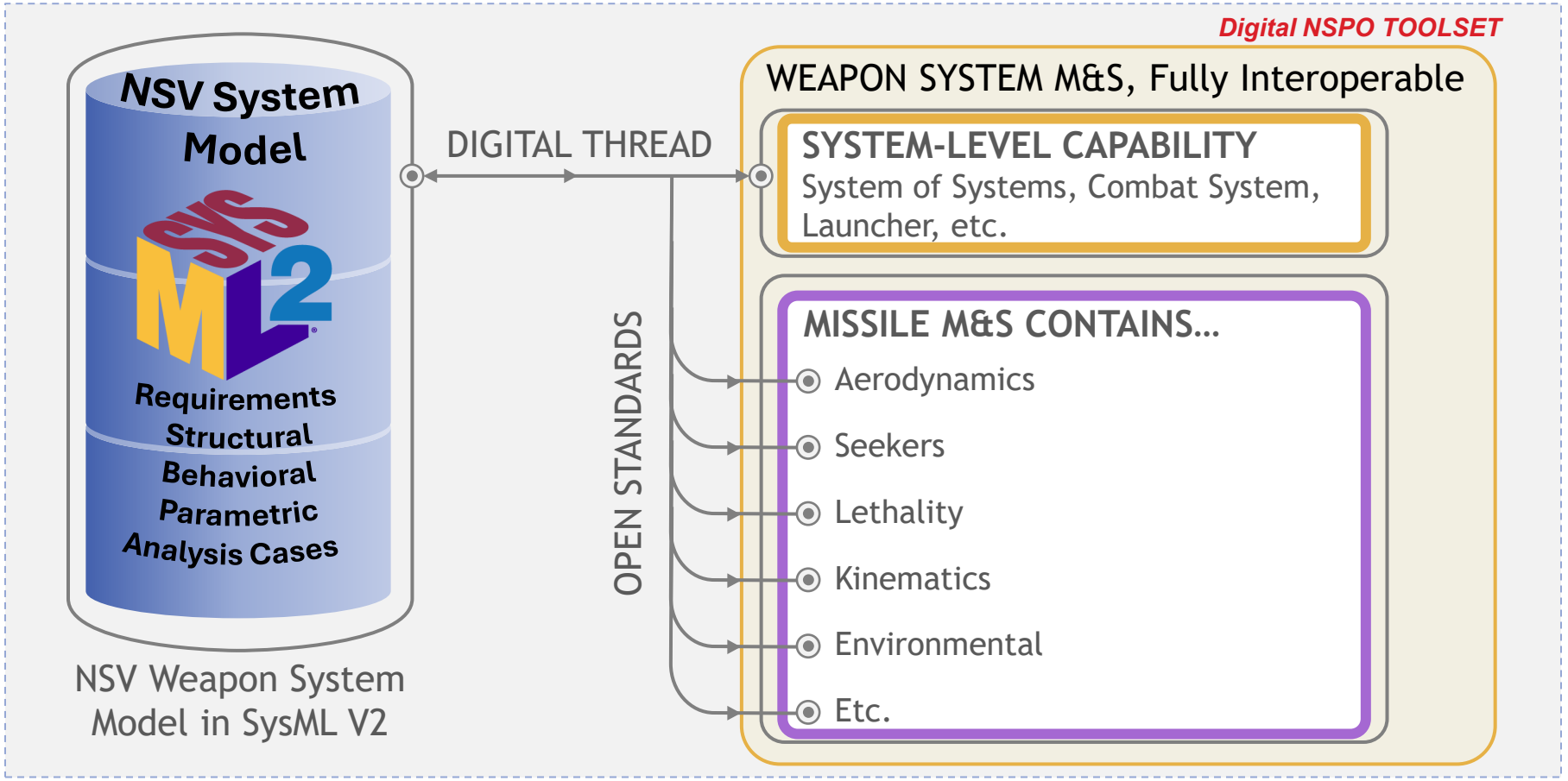
- Address warfighter needs
  - Protection of high value units (HVU)
  - Improved battlespace and engagement timeline
  - Improved combat system performance and autonomous operations

Process for Missile Upgrades

- Use System-of-System approach starting with Model-Based Systems Engineering (MBSE)
- Improve or replace current Modeling and Simulation (M&S) capabilities
- Requirements Panel (RP) scenarios drive the next variant
  - Seeker Assembly, Lethality, Airframe, control surfaces, and Rocket Motor impacted
  - Combat system integration and fire and forget capabilities may be needed
  - Leverage new technologies; e.g., Seeker, communications, composite materials
- Identify Technology Areas based on requirements
  - Conduct technology comparison assessment
  - Analyze and identify viable solution to address identified capability gap
  - Update NSPO toolset (MBSE and M&S tools)

NSPO NSV Digital Engineering Analysis Toolset

Model-Based Systems Engineering (MBSE) approach - Weapon System Level M&S Development

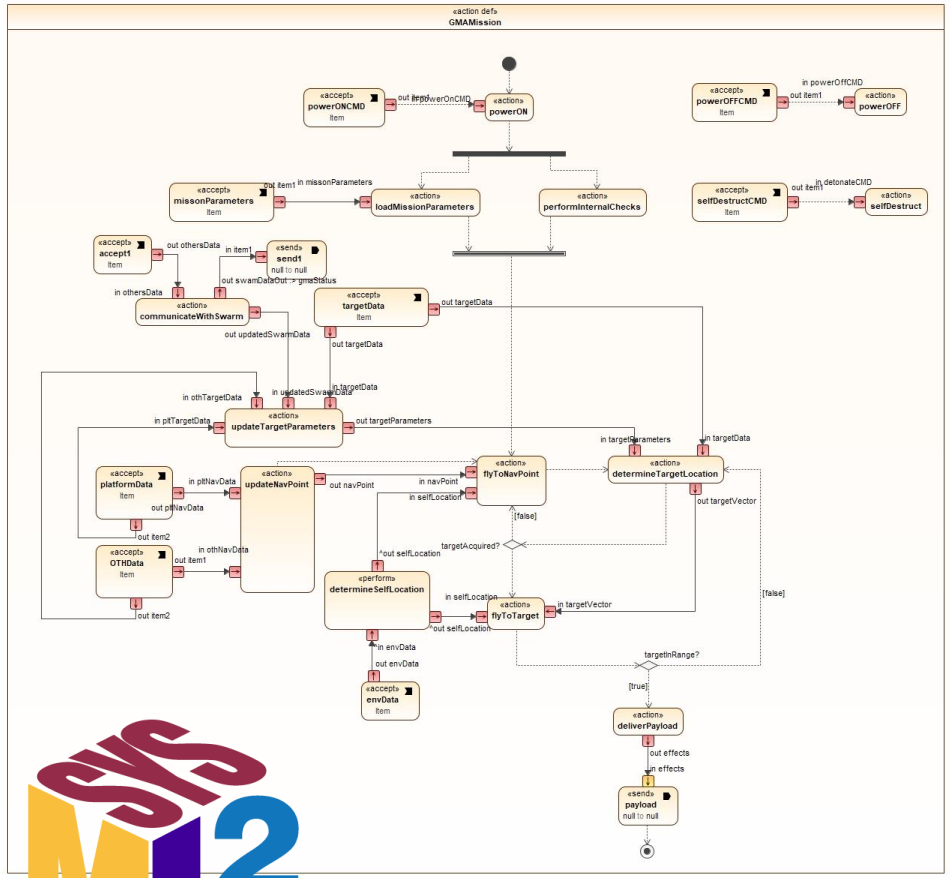


- Built with SysML v2
  - Open standards and interoperability
- Leverages current M&S capabilities across NSPO
- Digital thread connects MBSE, requirements, and M&S tools
  - Supports AoAs and technology refinement

NSPO MBSE Tool Set is a Digital Thread that quantifies the impact of system changes

NSPO Digital Engineering Tool Set (1 of 2)

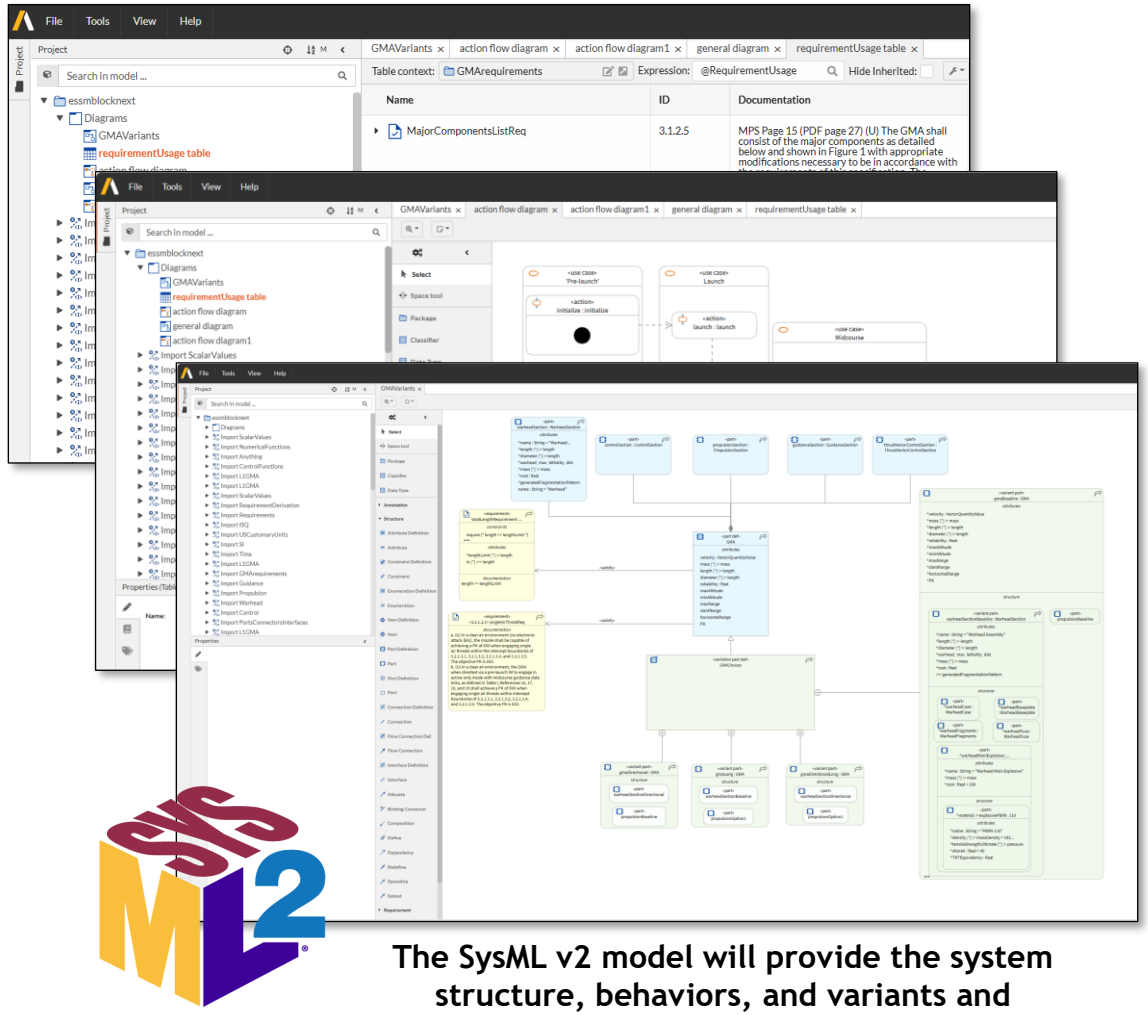
- Purpose – Capability to assess and select tech candidates based on predicted weapon system performance
  - Establish and refine requirements
    - Requirements traceability
    - Integrate M&S into requirements
  - Aid cost and benefit trade space analysis of variants
  - Assess new and alternative technologies
  - Remain agnostic across MBSE tools
- NSPO provides reference architecture
- Vendors provide inputs/models of variants



SysMLv2 analysis cases will be used to quantify variant performance

NSPO Digital Engineering Tool Set (2 of 2)

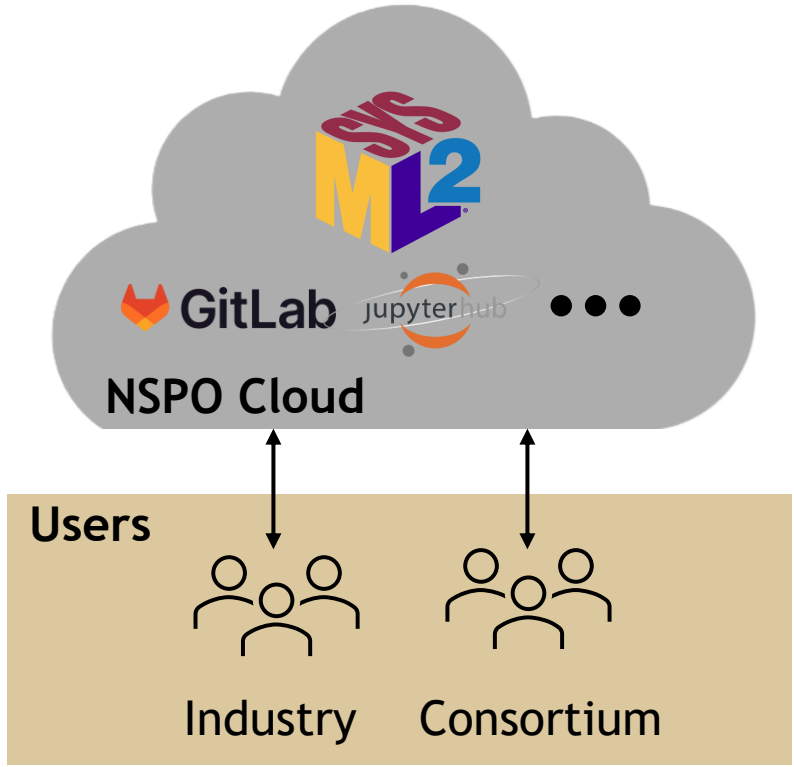
- Primary components
  - MBSE of the weapon system, built on SysML v2
  - M&S tools for the missile, combat system, interfaces, environments, etc.
  - Interoperable using readily available open products and standards
  - Open data and open Application Programming Interfaces (API) approach



The SysML v2 model will provide the system structure, behaviors, and variants and connect data and results to requirements

NSPO Digital Engineering – Cloud Supported

- Share data with industry, government, and consortium
- Collaborative modeling and analysis in cloud environment
- Smooth but **secure access**
  - Multiple users to MBSE tools
  - Integrated suite of M&S tools
- Enhance the efficiency, flexibility, agility, and effectiveness of development
- Seamless access to tools by supporting a wide variety of containerized applications



Cloud-based solutions provide collaborative and secure opportunities for the NSV team

Next Significant Variant (NSV) – What We Need from Industry

- First Tenet - Innovation
  - We have complex and dynamic problems to solve
  - Incremental upgrades will not pace the threat environment
  - Everything is on the table - New sensor concepts, alternative intercept geometries, advanced seeker processing, resilient communications, energy-efficient propulsion, etc.
- What We Need from Industry
  - Prototypes and demonstrators, not just whitepapers
  - Demonstrations; hardware-in-the-loop, software sandboxes, or digital twins
  - Be prepared to show performance tradeoffs

We will evaluate technical alternatives side-by-side: we need honest assessments of where an approach is strong and where it requires more maturity

Next Significant Variant (NSV) – What We Need from Industry

- Second Tenet - Digital Engineering and MBSE
  - This is no longer nice to have, it's a necessity, and is central to how we will define analyze and select solutions
  - We are implementing MBSE with SysML V2 as our modeling language of choice
  - Building digital threads that connect requirements, architectures, simulations
- What We Need from Industry
  - Deliver model-first artifacts. Adopt and support digital twin concepts.
  - Where possible, provide SysML V2-compatible models of your components, interfaces, and expected behaviors
  - Provide open (i.e., not proprietary) Application Programming Interfaces (APIs)

If you can deliver a digital twin of your component that accurately reflects its performance, we can use that twin for technology assessment

Next Significant Variant (NSV) – What We Need from Industry

- Third Tenet - Low cost and lethal
  - Complimentary constraints that force clarity of design
  - Committed to open architecture that enables competition, the integration of third-party capabilities and keeps costs down
- What We Need from Industry
  - Present open architecture solutions. Explain how your product fits into an open-architecture ecosystem and what tradeoffs that entails
  - Show total ownership cost, Provide realistic cost models that include maintenance, software updates, spares, training, and end-of-life
  - Propose modular, upgradeable designs where Diminishing Manufacturing Sources (DMS) or obsolescence thoroughly inform these upgrades

The goal is an affordable weapon system that achieves the lethality and robustness NATO needs without imposing unsustainable acquisition or sustainment burdens.

Next Significant Variant (NSV) – What We Need from Industry

- Fourth Tenet - Schedule – The need is now
  - Operational timelines are pressing, we must break the typical development timelines
  - Threats evolve fast, and the need for NSPO nations fleets are narrow
  - Need options with acceptable risk that can be demonstrated, integrated, and fielded on a realistic schedule over “perfect” solutions that remain on a whiteboard for years
- What We Need from Industry
  - Deliver realistic, executable timelines. Tell us when you can provide a demonstrator, what it will cost, what resources you require from NSPO, and what the critical path risks are.
  - Be prepared for iterative delivery. We will use phased, spiral or agile development and assess alternate approaches.
  - Provide transparent risk and mitigation plans, identify what would keep you from meeting schedule and how you will manage it.

Support accelerated integration events. We intend to host integration and test events where industry demonstrators are exercised against system-level scenarios

Questions?

Acronyms

- NSPO: NATO SEASPARROW Project Office
- NSV: Next Significant Variant
- MBSE: Model Based Systems Engineering
- M&S: Modeling and Simulation
- DE: Digital Engineering
- API: Application Programming Interface

Partnering for the Future: The Next Significant Variant Acquisition and Development Strategy

Dave Inman
NSPO Technical Director

NSV: Addressing Evolving Threats – Ensuring Maritime Superiority

- The maritime threat environment is rapidly evolving, demanding continuous improvements in our defensive capabilities.
- The NSV is a critical initiative to ensure the ESSM remains a highly effective weapon against emerging threats, safeguarding the fleets of NSPO consortium nations.
- **Key Drivers:**
  - **Pacing the Threat:** Maintaining a technological advantage against advanced adversaries.
  - **Platform Flexibility:** Ensuring compatibility with diverse naval platforms and combat systems.
  - **Warfighter Needs:** Delivering enhanced capabilities that directly address warfighter requirements.

NSV – System-of-Systems Approach

- The NSV development will utilize a System-of-Systems (SoS) approach, leveraging Model-Based Systems Engineering (MBSE) from the outset.
  - Comprehensive analysis, optimization, and integration across all key components and subsystems
- **Key Technology Areas:**
  - **Seeker Assembly:** Advanced sensing and targeting capabilities.
  - **Lethality:** Improved warhead effectiveness and target defeat mechanisms.
  - **Airframe:** Enhanced aerodynamics and maneuverability.
  - **Control Surfaces:** Precision control for optimal flight performance.
  - **Propulsion:** Increased range and speed.
  - **Combat System Integration (Potential):** Seamless integration with existing combat systems.
  - **Fire-and-Forget Capabilities (Potential):** Enhanced autonomy and operational flexibility.

NSV Acquisition Fundamental: Digital Engineering

- A cornerstone of the NSV acquisition is a robust Digital Engineering (DE) framework, built on a strong modeling & simulation (M&S) suite integrated with a continuously developed MBSE systems model.
  - Single shared representation of NSV and other systems, allowing seamless data exchange, collaboration, and continuous refinement throughout the development lifecycle.
- **Key Elements:**
  - **SysML V2 & Open Standards:** Ensuring interoperability and data exchange.
  - **Leveraging Existing M&S Capabilities:** Reducing development time and cost.
  - **Updated NSPO Toolset (MBSE & M&S):** Providing a common platform for collaboration.
- **Benefits:**
  - Improved collaboration among geographically dispersed teams.
  - Faster requirements refinement and validation.
  - Accelerated technology assessment and integration.
- We will use non-traditional contracting to enable rapid development to outpace our continuously evolving threats

NSPSC Decisions – Investment in the Future

- The NATO SEASPARROW Project Steering Committee (NSPSC) has demonstrated its commitment to the future of the ESSM by authorizing the NSPO to commence studies for the Next Significant Variant (NSV) through official decisions.
- These decisions reflect the Consortiums' critical need to leverage modern technologies and capabilities to meet evolving threats.
- In support of the NSPO partnership between consortium nations, the NSPO is committed to maximizing participation from industries within all consortium nations.

Contracting Approach: Agile & Efficient

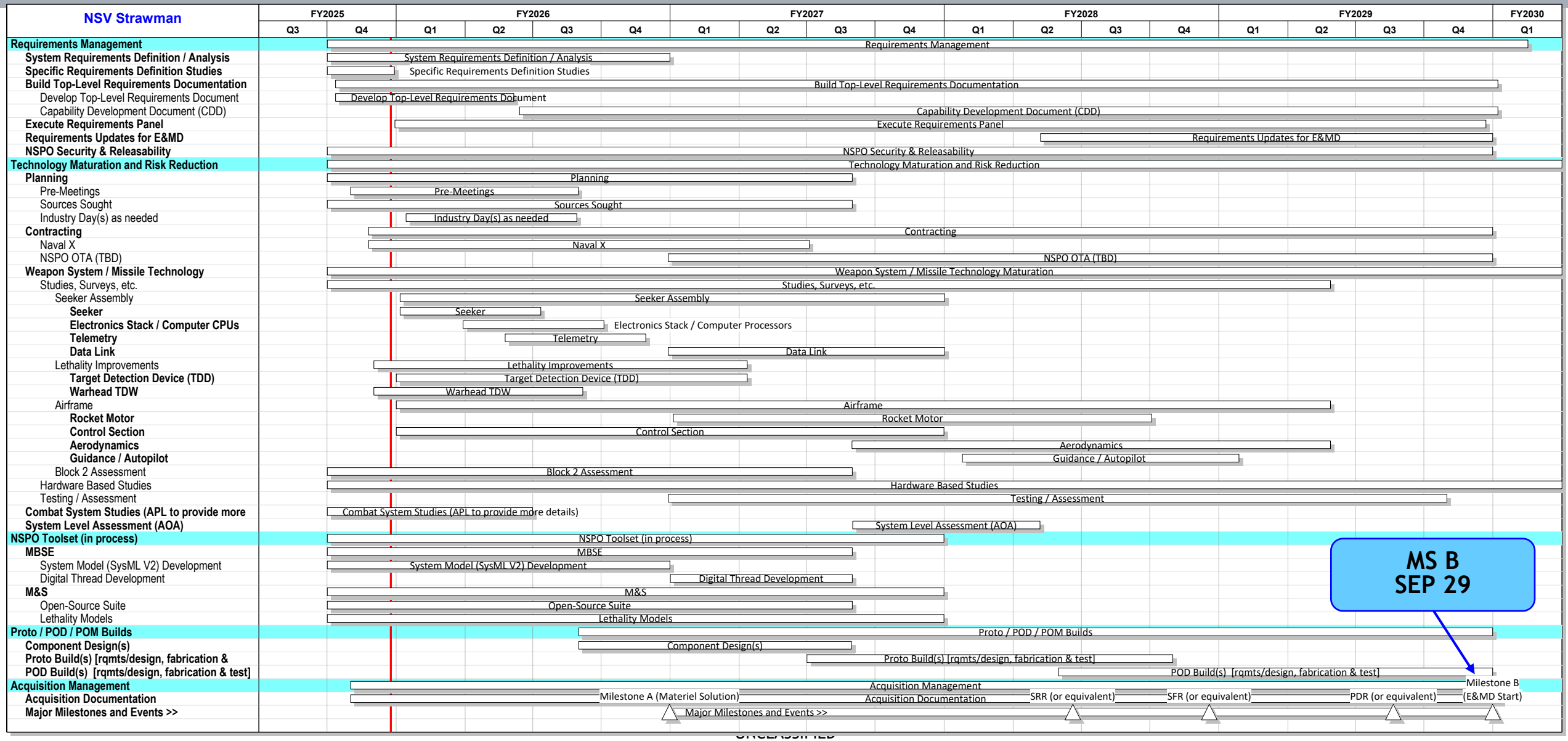
- To facilitate rapid innovation and efficient technology insertion, we are employing a dual-path contracting approach.
- **Contracting:**
  - Enable quick prototyping, testing, and experimentation
  - Experienced in working with innovative non-traditional contractors
- **Other Transaction Authority (OTA) Consortium with International Providers:**
  - Supports long-term technology development and specialized needs
  - Shortens time to contract with NSPO
  - Supports collaboration within the consortium
- **Both paths can lead to follow-on production contracts, ensuring a smooth transition from R&D to deployment.**

NSV Timeline: From Concept to Capability

- The following timeline provides a high-level overview of the NSV development schedule.
- **Our goal is to achieve Milestone B by September 2029.**
- **Key Milestones still being fleshed out will include:**
  - Release of RFI's (Requests for Information)
  - Completion of Initial Studies
  - Analysis of Alternatives (AoA)
  - Technology Down-Selection
- **We encourage you to identify opportunities for your company to contribute throughout this process.**

NSV Schedule

3/23/2025



Next Steps: Engage, Innovate, Collaborate

- We are actively pursuing the following key activities:
  - Studies in high-priority areas (e.g., Seeker technology).
  - Developing the new NSPO toolset to support MBSE and M&S.
- NSPO aligns to the proposed approach and starts the Material Solution Analysis (MSA) phase of acquisition within the scope of the current MOUs.
- **Next Steps for You:**
  - Engage with the NSPO team and sign up for SAM.GOV to learn about and respond to NSPO postings.
  - Innovate and propose creative solutions to our technical challenges.
  - Collaborate with us to shape the future of the ESSM.

Questions?

NSV Performance Objectives

Timothy Munuhe, Weapon Systems Analyst

Capabilities

- **Demonstrate performance against the following threat types:**
  - Supersonic radial inbound
  - Supersonic weaver
  - High Divers
  - Raids
  - M vs. N
- Self-defense & high-value asset protection

Technology Assessment & Evaluation

Emma Smith, Missile Development Lead

Drivers and Focus Areas for NSV

Main Drivers for the Hardware and Software

- Stressing scenarios and requirements
- Modular open architecture design
- Modern Digital Engineering (DE) tools
- Releasability to entire NSPO consortium
- Compatibility with consortium systems
  - Mk 41 Quad-pack (10" Diameter)
  - Combat systems (current and future)

Key study focus areas for FY 2026-2028 are as follows:

- Modeling & Simulation (M&S)
- Model-Based Systems Engineering (MBSE)
- Seeker Assembly
- Rocket Motor/ Kinematics
- Datalink
- Lethality

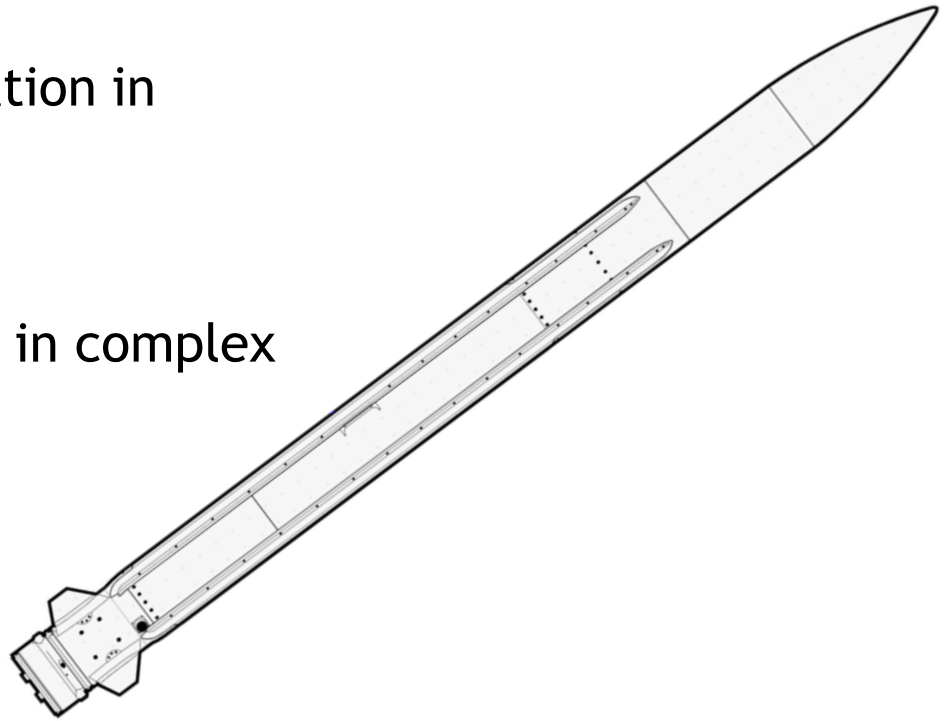
This list will grow as the studies progress and the initial design is established

Currently In Work & Next Steps

- Currently in work:
  - Open-Source Modeling & Simulation
  - Model Based Systems Engineering (MBSE)
- Current Open Request:
  - Seeker Assembly Sources Sought on SAM.gov
- Future Requests:
  - More details on next slide

Technology for NSV

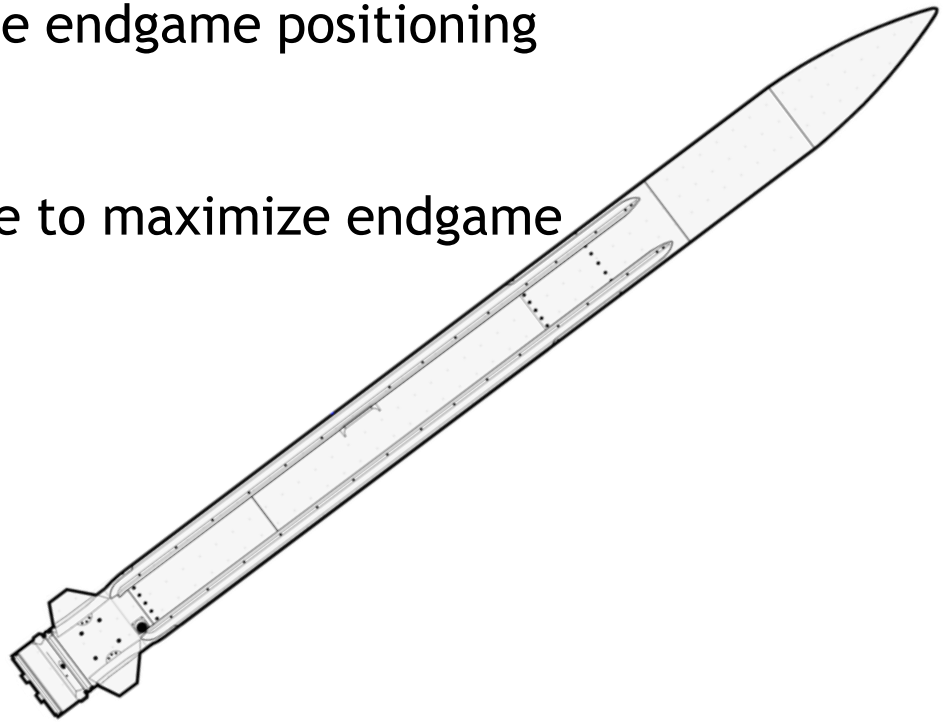
1. Advanced Propulsion System
   - Will drive performance against pacing threats through range and endgame maneuverability
2. Datalink
   - Communications will support weapon system coordination in stressing scenarios
3. High-Performance Seeker
   - Will identify and track intended targets, guide missile in complex and contested natural and RF environments



Innovation in these key domains is central to NSPO's goal of achieving the required performance for NSV.

Technology for NSV

4. High-Accuracy Guidance and Navigation
   - Drives guidance accuracy at ranges necessary for pacing threats
5. Advanced Control Section
   - High maneuverability and responsiveness to maximize endgame positioning
6. Enhanced Lethality
   - Advanced target detection and warhead performance to maximize endgame lethality against pacing threats



Innovation in these key domains is central to NSPO's goal of achieving the required performance for NSV.

Technology Assessment Process

- Clearly define the performance requirements and constraints of each missile subsection or component
- NSPO will conduct a broad survey to connect with industry partners to identify solutions to the requirements
  - Sources sought/request for information will be posted on SAM.gov
- Each alternative will be analyzed under representative operational scenarios to assess its technical performance
  - Depending on the schedule, either the new NSPO Toolset or verified and validated modeling tools will be used
    - Preference given to the NSPO Toolset
- The team will use a structured decision matrix/"analysis of alternatives like" table to compare a variety of technologies, from the sources sought results
  - Will include evaluation criteria such as technical performance, program priorities, manufacturing readiness, lifecycle costs, integration complexity, and risk factors via a weighted scale
- The NSPO subject matter expert team will score each alternative against the criteria
  - Result will be a data-driven recommendation balancing performance, cost, risk, and schedule, with documentation supporting the rationale for the selected design path

Assessment will be rigorous and data-driven to prioritize technologies that meet the NSV requirements.

NSPO Toolset Vision and Mission

Timothy Munuhe
NSPO Weapon Systems Analyst

NSPO Tool Set – Getting Started

- Need – NSPO needs a digital acquisition capability to establish and refine requirements, assess alternate technologies, and conduct cost/benefit analysis to facilitate the design and development of the next variant of the ESSM/Weapon system: A fully releasable NSPO capability. The need for this digital capability spans the acquisition lifecycle.
- The toolset must have several primary components
  - MBSE model of the weapon system
  - M&S tools for the missile, combat system, interfaces, environments, threats etc.
  - Interoperable using readily available open architecture products and standards
  - Modular open system approach
  - Start with SysML v2 and open-source modeling and simulation tools
- The effort will start with a proof-of-concept prototype. The focus will be on proving the concept works and building the capability to balance requirements with cost and schedule.
- The follow-on phases will focus on the needs of each phase of the acquisition process. The specificity of the MBSE modeling and the pedigree of the M&S tools will increase throughout each phase.

Why SysML v2? New Capabilities Motivate Investment

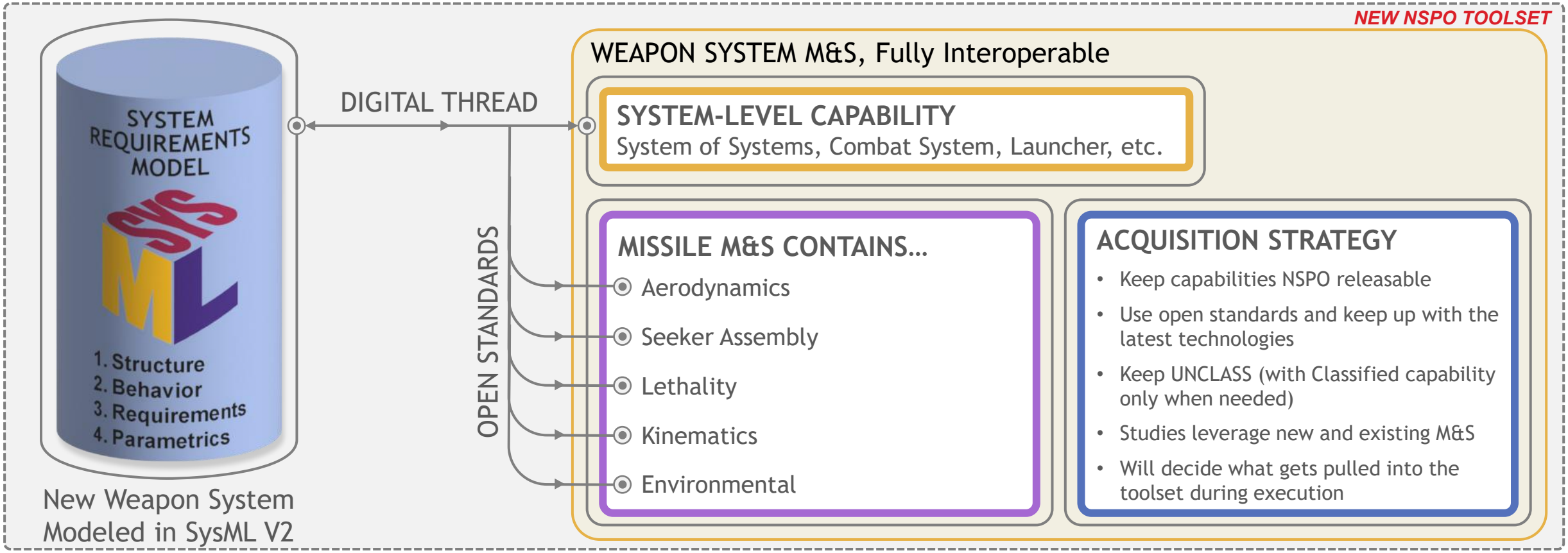
- MBSE efforts with legacy tools plagued by friction in data management: no universal data standard --> forces custom data transfer tools (APIs) and/or vendor lock-in with single tool suite that handles many functions (Cameo)
  - Single-vendor tool suites risk cost increases by lessening competition and forcing use of sub-optimal tools or inefficient workarounds

➢ NSPO investing in capability of SysML v2-powered MBSE-M&S toolset to dramatically streamline path to acquisition of future missile variant

- ➢ Objective: To design and evaluate all-up-rounds and missile subsystems digitally using a government-owned toolset that is competitively developed and scales with the NSV's acquisition phase
- ➢ MBSE systems model framework currently in development (high-level viewing in Afternoon Session – Digital Engineering & MBSE)

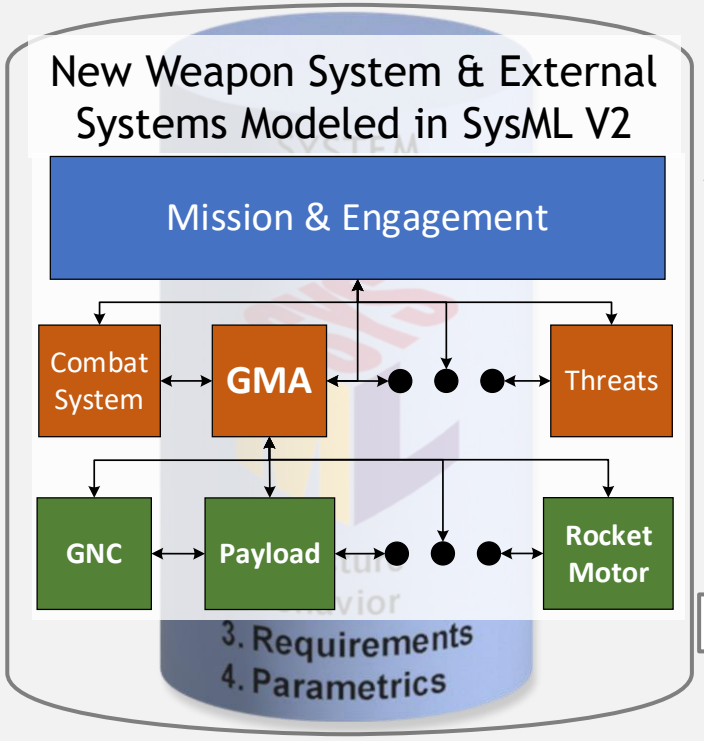
Need – Improved/Integrated Weapon System Requirements and Technology Analysis Toolset

Model-Based Systems Engineering approach - Weapon System Level M&S Development



- Develop a new NSPO releasable capability leveraging SysML V2 taking advantage of open standards and interoperability
- Leverage current M&S capabilities across NSPO to assist in technology assessment and the new NSPO toolset
- Digital thread = Ability to connect MBSE and M&S tools to facilitate Requirements and Technology refinement

NSPO Toolset – Model-Based Systems Engineering (MBSE) Model



NEW NSPO M&S TOOLSET

DIGITAL THREAD

WEAPON SYSTEM M&S

- Read systems model parameters for GMA design, engagement scenarios and simulate engagements/actions
- **Return results to systems model for storage and processing**

Automatic Reporting

Req's Verification

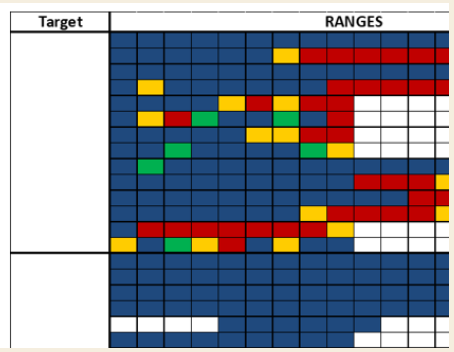
***Notional**

Analysis of Alternatives

	Performance			Technology		Combat System		Cost Sched	
Seeker Concept	Blue-Sky	Electronic Attack	Stream Raid	Missile Seeker	AUR Design Impact	Hardware Interface Impact	Pre-Terminal Support	Risk Reduction	
Concept 1									
Concept 2									
Concept 3									

***Notional**

Performance Tables

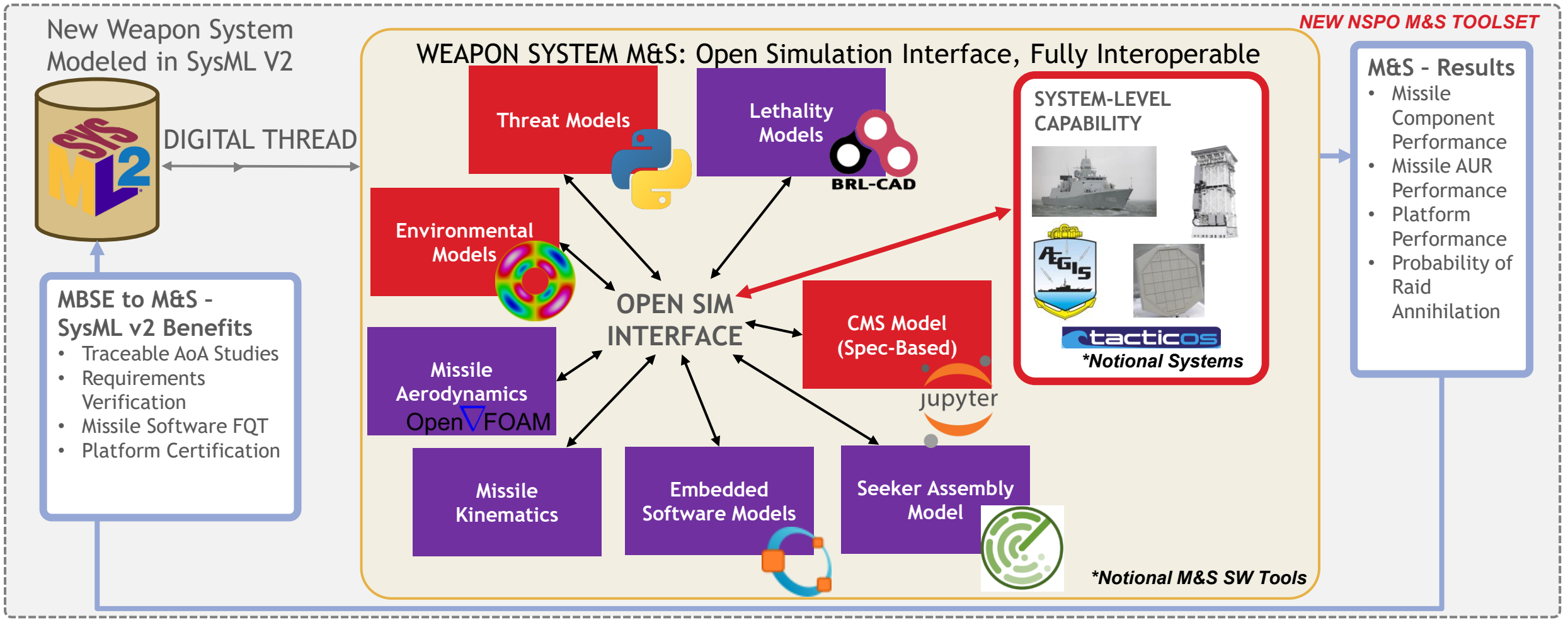


		Simulations			
Requirements		Sim_1	Sim_2	Sim_3	Sim_4
Performance	1 v 1	☑			
	Raids		☑		
	Weather			☒	☒
	Surface	☑			☒

- ✓ Systems have same representation for all reviewers at any given time: **Team is Aligned**
- ✓ Same framework for all GMA alternatives: **Enables an Impartial Review**
- ✓ Data co-located and organized: **Faster Research**
- ✓ Controlled access for all information: **IP and Nations' info protected with limited friction**

- ➢ **Automatic reporting shortens development and review cycles**
- ➢ **Requirements verification run automatically with M&S results and SME input**

NSPO Toolset – M&S Transformation



- **Open Simulation Interface:** Flexibility to run NSV standalone or leverage System-Level Capability
- **Simulation Pedigree:** M&S Inputs and Results connect to the authoritative source of truth (SysML Model)
- **M&S Fidelity:** As the NSV program develops, M&S capability will increase in parallel

NSPO Toolset – M&S Transformation Phases

- Proof of concept – Prove viability of the Open-Simulation Interface: Model the basic constructs of a missile, combat system interface, and operating environment in SysML v2
- Initial capability – Facilitate the assessment of alternative solutions at the all-up-round level: study various combinations of key components (i.e., rocket motor, warhead, seeker)
- **Acquisition Decision - Milestone B**
- Developmental Testing (DT) – Refine simulation for the selected configuration: improve model based-on live-fire test data
- Operational Testing (OT) – Validate simulation: satisfy OT requirements (i.e., Runs-for-Record)

Next Steps

- MBSE: develop missile systems model architecture
  - Studies on current missile technology to inform future variant design
- M&S: develop M&S tool suite up to missile Analysis-of-Alternatives capability while ensuring Government Unlimited Rights and usage of continuously maintained and updated software
- Cloud Infrastructure: stand up cloud network able to host integrated toolset, at across classification levels, while providing controlled access to developers, SMEs, and NSPO consortium partner nations

Investing in MBSE-M&S Toolset to Streamline Acquisition of Future Missile Variants

Backup

Questions?