NATIONAL CENTER FOR MANUFACTURING SCIENCES

RAPID INNOVATION PROCESS

NCMS OVERVIEW

Debbie Lilu, Executive VP Sustainment and Business Development, CTMA Program
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The National Center for Manufacturing Sciences (NCMS)

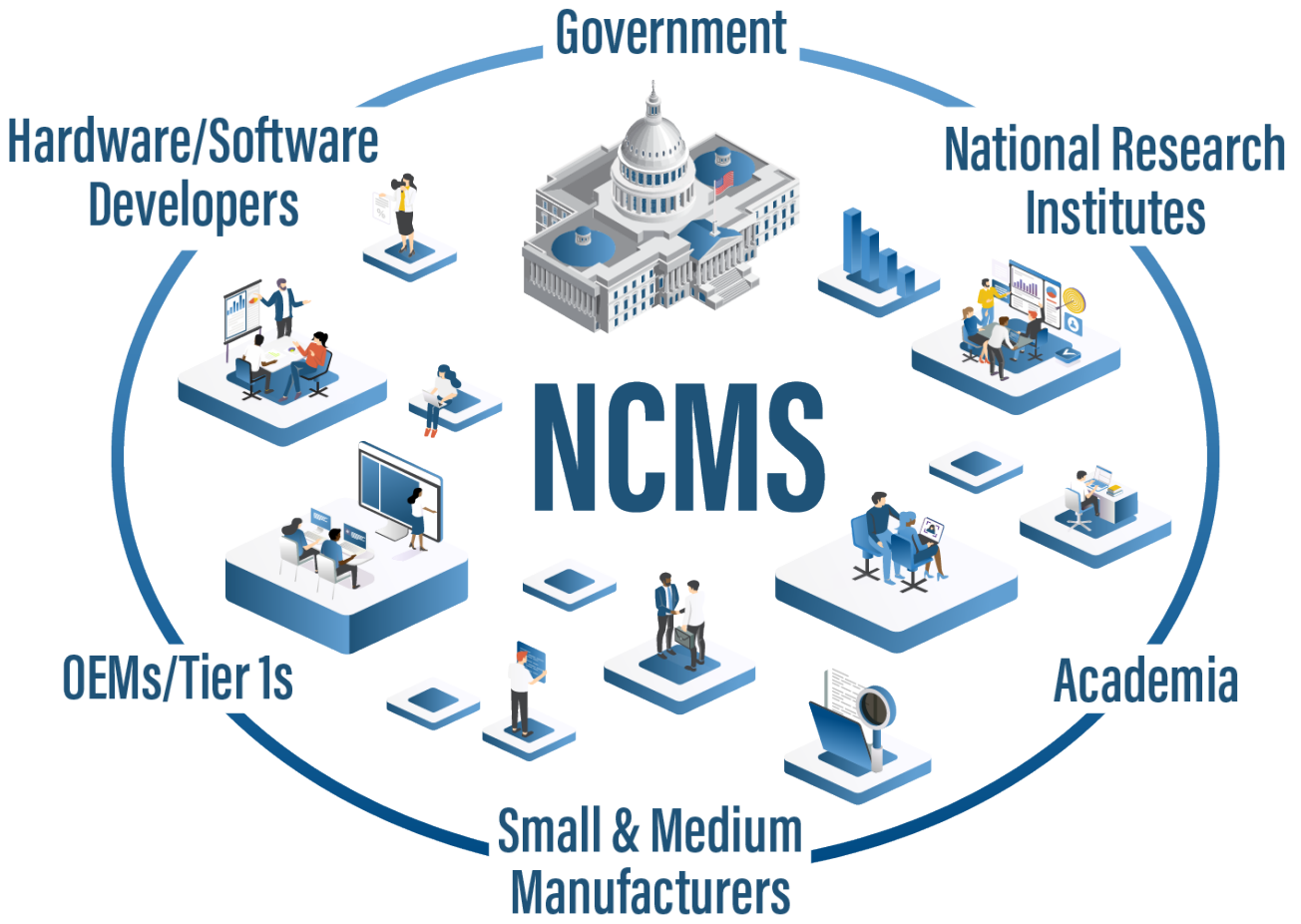
The Nation's Leading Organization for Cross-Industry Collaboration

MISSION

To drive U.S. manufacturing competitiveness by accelerating the development and implementation of technology innovations across US industry and DoW operations

VALUE

NCMS' collaborative framework provides rapid navigation of our trusted network to provide top tier options for our partners and a streamlined execution process to rapidly integrate novel technologies and capabilities



The Commercial Technologies for Maintenance Activities Program

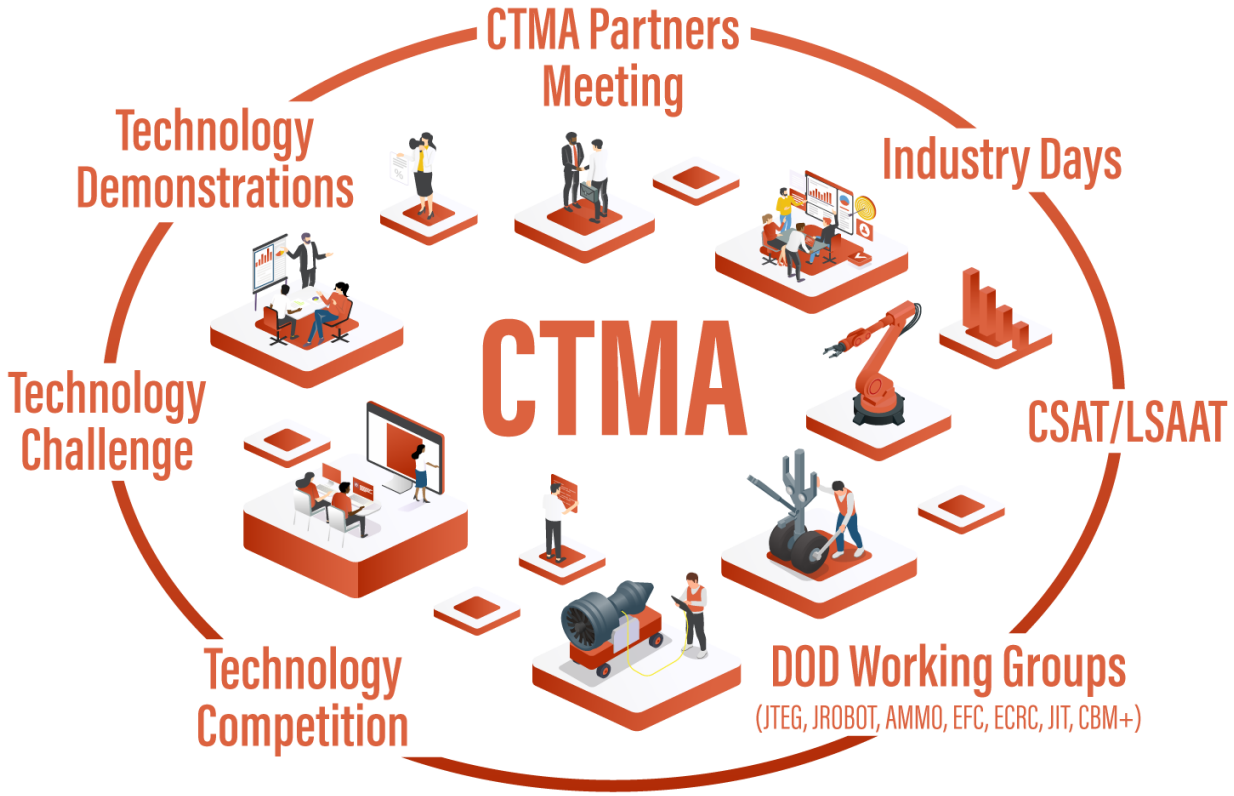
A collaboration framework for trusted partners to work together to fill government technology-based needs

GOALS

- Be the hub of sustainment innovation for DOD
- Be agile and fast – avg. 32 days from MIPR to MOD approval
- Create unity of effort in DoW & Industry / Academia
- Be a key contributor to a high performing sustainment enterprise
- Continuous improvement mindset to streamline processes, procedures and requirements
- Leverage industry resources through partnering

FOCUS

- Agile and streamlined processes rapidly innovate how DoW sustains materiel & warfighter readiness
- Above and beyond customer service and industry partnering
- Transition and implementation – not “science projects”!



The CTMA Program

Demonstration Before Acquisition
Reduce Risk!

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A UNIQUE CONTRACTING VEHICLE

- A joint NCMS/DoW partnership since 1998 focused on DOD maintenance and sustainment that utilizes a cooperative agreement – non-Far based contract – funding via MIPR process
- Governed by 2 CFR part 200 (CAS compliance not required)
- Streamlined business process – Average 32 days! From cradle to MOD approval
- Evaluate / Demonstrate / Validate Advanced Technologies / Process Capabilities / System Sustainment
- Allows DoW to “demonstrate a capability prior to acquisition”

PROJECT REQUIREMENTS

- CTMA cannot be used solely for asset acquisition
- RDT&E (2-5 years POP) and O&M (1-Year POP) oriented projects accepted – as determined by sponsoring activity
- Focus on technology implementation for both public and DoW benefit
- DoW and Industry collaboration throughout
- Satisfies a maintenance and sustainment need
- Industry cost share is leveraged
- Multiple project partners (industry, academia, services) preferred

CTMA Project Impact

CTMA Projects align with our customers superordinate organizational metrics.

COST SAVINGS

Nearly 90% of projects have an impact on cost savings

READINESS

Improved readiness is a critical factor for 75% of CTMA projects

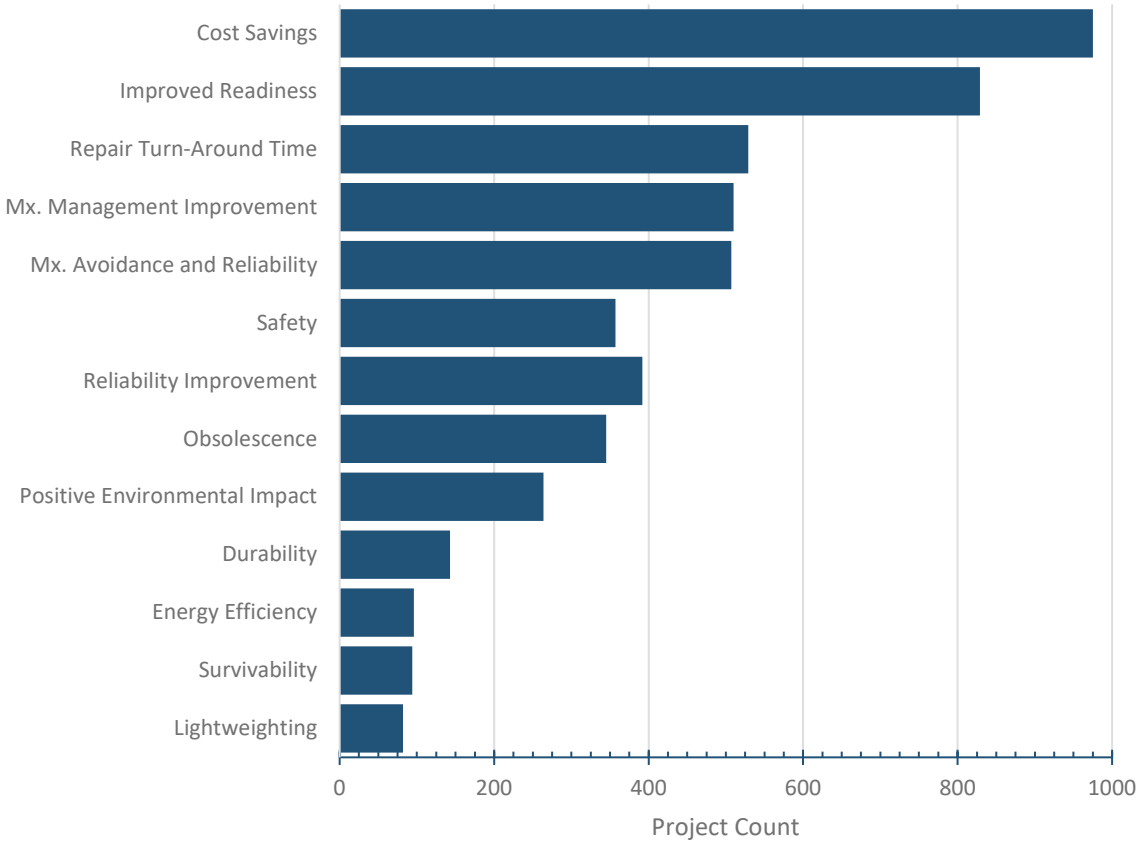
REPAIR T-A-T

Over 50% of projects intend to benefit repair turn-around-time.

MX MANAGEMENT

Maintenance Management Improvement is a key factory of nearly half of all CTMA projects.

PROJECT IMPACT AREAS



Two Paths to Develop A Project

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PROVIDER SELECTED

Government has conducted research and has identified a technology they would like to evaluate/demonstrate

- NCMS works with technology provider to develop concept paper and statement of work
- Project announcement is issued to inform industry what technology the government is currently evaluating
- NCMS and government sponsor provide justification for value added solution and technology partner

TECHNOLOGY FOCUSED

Government has defined a sustainment need but has not yet identified a specific technology or provider

- NCMS develops/distributes a *Sources Sought* identifying the technology need across network
- Submittals provide technology capabilities summary, supporting proprietary information, and cost summary
- Government evaluates submittals and down selects technology provider

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Why use NCMS for an Innovation Cooperative Agreement

A relentless focus on Defense Customer's Mission and Objectives

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Try-it Before you Buy-it

- Built to enable the DoD to **evaluate and validate emerging technologies before making acquisition commitments**.
- This risk-mitigation strategy ensures that only the most effective, mission-aligned solutions move forward into full deployment—**saving time, reducing cost, and increasing confidence in procurement decisions**.

Technology Transition & Implementation

- Many promising technologies fail to transition due to what's often called the **"valley of death"**—the gap between a successful prototype and widespread adoption.
- Through targeted demonstration projects, stakeholder engagement, and transition planning, CTMA enables **faster, lower-risk implementation** of capabilities that improve readiness and reduce sustainment costs.

Streamlined Execution

- NCMS works with all project stakeholders—government, industry, and academia—**to define integration requirements**, ensuring the technology is positioned for seamless transition from prototype to program of record or field-level deployment.
- With deep expertise in **non-FAR based cooperative agreements**, NCMS streamlines project execution while maintaining compliance and accountability.

Speed & Professionalism

- **Speed to Action:** CTMA averages 35 days from MIPR to contract modification.
- **Enhanced Lifecycle:** From concept to initial transition , the average execution cycle is 12-18 months.
- **Proven Performance:** NCMS has executed **over 1,000 projects** with DOD since 1998 – Industry and DOD customer satisfaction!
- **Built for Cooperative Agreements (CA):** NCMS organization is structurally and operationally optimized to **efficiently manage CA projects.**

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Streamlined Cooperative Agreement Process

NCMS in partnership with AMSC and ACC will collaboratively work together throughout cooperative agreement (CA) modification process

Notional 30 Days: MIPR to CA Modification

MIPR to ACC/NCMS

DoW Organization sends MIPRs to ACC/NCMS.

ACC Accepts MIPR

NCMS works with Project Partners to meet requirements and submit the MOD package to ACC

Modification Application

ACC reviews and approves MOD

Modification Review

ACC returns approved MOD to NCMS for final execution

POP Begins

How to get involved with Commercial Technologies for Maintenance Activities Program

Innovate, Maintain, and Advance

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Projects

The CTMA collaborative model is strategically designed to accelerate the transition of innovative technologies into the hands of end-users for real-world evaluation before acquisition decisions are made. Initiatives emphasize demonstration, evaluation, and validation of capabilities supporting informed decision-making and reduce risks associated with technology adoption.

CTMA Outreach

To maximize engagement and awareness, CTMA employs a variety of outreach methods to connect with stakeholders, highlight innovation opportunities, and share success stories:

- Website & Sources Sought Notices
- Quarterly Connector Newsletter
- Sustainment Accelerators Events
- Email Subscription Service

Membership (Not Required)

- Integrated Access to a broader NCMS network
- Connect to the larger NCMS network of members, partners, and customers.
- Project management support.
- Access to member-only information.

Sustainment Technology Accelerator

The CTMA Sustainment Technology Accelerator is a platform to showcase and scale impactful solutions in the sustainment community:

- Attend as an Exhibitor or Attendee
- Networking Opportunities
- Host an Event

CTMA Partners Meeting

This high-impact event showcases successful CTMA project outcomes and facilitates strategic collaboration:

- Success Stories from Technology Implementations
- Future-Focused Insights
- Direct Exposure to DoW Leadership
- Collaboration Opportunities

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NCMS Sustainment Accelerator

Accelerating DoW Maintenance Innovation Through Hands-On Technology Engagement

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PURPOSE

The purpose of the Sustainment Accelerator that is facilitated by NCMS is to provide a unique and collaborative platform where government, industry, and academia can converge to exchange ideas, demonstrate emerging technologies, and build lasting partnerships. These events are more than just exhibitions—they are catalysts for innovation, enabling real-time alignment of capabilities with defense sustainment needs.

DoW Benefits

Benefits for the Department of Defense

- Exposure to Real-World Solution
- Informed Decision-Making for Tech Investments
- Rapid Identification of Transition-Ready Capabilities

Industry/Academia Benefits

- Clearer Understanding of DoW Priorities
- Increased Visibility and Market Access
- Opportunities for Follow-On Collaboration

The Sustainment Accelerator is not just a demonstration event—**it's a strategic engagement tool that unites innovation with mission outcomes.**

Contact Us

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Business Impacts to Date - Events

2026 Events

Event Name	Event Date	Event Location	NCMS Involvement
Sustainment Accelerator : Pearl Harbor Naval Shipyard	01/20/26-01/22/26	Honolulu, HI	Host
Military Additive Manufacturing Summit(MILAM)	02/03/26-02/05/26	Tampa, Fl	Attend
WEST 2026	02/10/26-02/12/26	San Diego, Ca	Booth
Sustainmnet Accelerator: Yokosuka	02/18/26-02/20/26	Japan	Host
Loitering Munitions Systems Summit	03/03/26-03/04/26	Huntsville, AL	Attend
2026 Pacific Operational Science and Technology (POST) Conference	03/09/26-03/12/26	Honolulu, HI	Booth
Technology Industry Days: Air Force Research Lab	03/10/26-03/12/26	TBD	Host
Annual Homeland Security Symposium and Expo	**03/17/26-03/18/26**	**Newport News, VA**	**Attend**
LOA Symposium	03/17/26-03/18/26	Oklahoma City, OK	Booth
Sustainment Accelerator: Australia	03/23/26-03/25/26	Australia	Host
Rapid TCT	04/13/26-04/16/26	Boston, MA	Attend
Sea Air Space	04/19/26-04/22/26	National Harbor, DC	Attend
REPTX (Pacific battle damage exercise)	**04/21/26-05/15/26**	**Honolulu, HI**	**Facilitate**
Modern Day Marine	04/28/26-04/30/26	Washington D.C.	Attend
Sustainment Accelerator: Marine Corps Air Station New River	05/05/26-05/07/26	Jacksonville, NC	Host
Sea Expeditionary and Accelerated Fielding of Advanced Technologies Forum (SEAFAST)	**05/11/26-05/14/26**	**Norfolk, VA**	**Host**
MEDX	**05/12/2026-05/14/26**	**Detroit, MI**	**Booth**
SOF Week	05/18/26-05/21/26	Tampa, Fl	Attend
CSAT	**06/09/26-06/11/26**	**Worcester, MA**	**Booth**
DLA Supply Chain Alliance Sym & Expo	**06/09/26-06/11/26**	**Columbus, OH**	**Attend**
Sustainment Accelerator: Hill AFB	06/16/26-06/18/26	Davis County, Utah	Host
Sustainment Accelerator: U.S. Coast Guard Base Elizabeth City	**06/16/26-06/18/26**	**Elizabeth City, NC**	**Host**
OIB P2P	06/16/26-06/18/26	Location – Hill AFB	Facilitate
Sustainment Accelerator: South Korea	06/23/26-06/25/26	South Korea	Host
Corrosion Control Industry Day	**07/14/26-07/15/26**	**Norfolk, VA**	**Host**
Sustainment Accelerator: Portsmouth Naval Shipyard	07/14/26-07/16/26	Kittery, ME	Host
AM Workshop	07/21/26-07/23/26	Bethesda, MD	Facilitate
Sustainment Accelerator: FRC-E	07/21/26-07/23/26	New Bern, NC	Host
REPTX (Training) Part 1	07/27/26-07/31/21	Norfolk, VA	Facilitate

Events List

Ensuring extensive reach across multiple Services, technologies, & regions

2026 Events Continued

Event Name	Event Date	Event Location	NCMS Involvement
Sierra Army Depot - STRATO Type	07/28/26-07/30/26	Herlong, Ca	Host
Global Expeditionary Logistics Symposium,	**08/04/26-08/06/26**	**Newport News, VA**	**Booth**
Ground Vehicle Systems Engineering and Technology Symposium (GVSETS)	**08/11/26-08/13/26**	**Novi, MI**	**Booth**
Sustainment Accelerator: Puget Naval Shipyard	**08/25/26-08/27/26**	**Bremerton, WA**	**Host**
Sustainment Accelerator: Tobyhanna Army Depot	09/08/26-09/10/26	Coolbaugh Township, PA	Host
JROBOT, Summit 9	**09/09/26-09/11/26**	**Quantico (MCBQ), VA**	**Host / Facilitate**
REPTX (Training) Part 2	09/14/26-09/19/26	Norfolk, VA	Facilitate
CTMA Partners Meeting / CTMA Technology Competition	**09/22/26-09/24/26**	**Jacksonville, FL**	Host
Sustainment Accelerator:Norfolk Naval Shipyard	10/06/26-10/08/26	Portsmouth, VA	Host
AUSA	10/12/26-10/14/26	Washington D.C.	Attend
Sustainment Accelerator: US Army Space and Missile Command / SpaceForce	10/20/26-10/22/26	Huntsville, AL	Host
Sustainment Accelerator: Elmendorf AFB	10/21/26-10/23/26	Anchorage, AK	Host
Sustainment Accelerator: Eielson AFB	10/26/26-10/28/26	Fairbanks, AK	Host
MATB networking event	10/27/26-10/27/26	Norfolk, VA	Host
STRATO Tech	11/03/26-11/05/26	Wichita, KS	Facilitate
Davis–Monthan Air Force Base - STRATO Type	11/17/26-11/19/26	Tucson, AZ	Host
IBAS	11/17/26-11/19/26		Host
DoW Maintenance Symposium	**12/08/26-12/10/26**	**Fort Lauderdale, FL**	**Host / Attend / Booth**

- 16 Sustainment Accelerators & demonstration events
- 2 REPTX
- 1 JROBOT meeting
- 1 CTMA Partners Meeting

CTMA Program Outreach

CTMA Connector

Quarterly Newsletter

Sources Sought

Specific maintenance and sustainment technology solutions

JTEG Forums

Monthly virtual forums discussing technology topics across the services.

Tech Showcases Demonstrations

Delivering technology to DODs doorstep, showcasing technologies to senior leadership and artisans.

Partners Meeting

Real technologies, real results, presented and discussed at our premiere event.

QUESTIONS

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Questions?

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Problem:
Industry 4.0 has driven dramatic changes in the manufacturing and sustainment of products, machinery, and equipment in several industries. The impact can be seen in many aspects of discrete Aerospace and Defense (A&D) manufacturing. However, other industries have not yet fully embraced Industry 4.0.

Proposed Solutions:
The "digital sandbox" concept will encompass demonstrating and maturing comprehensive digital manufacturing and product lifecycle tools to support a future modernized approach to the overhaul, maintenance and sustainment of aircraft carriers and submarines. This digital sandbox tool provides a proving ground for commercial and military shipyards to begin creating digital twins of shop floor work processes for designs, systems, and detailed work instructions.

Advancing a Digital Sandbox for Improved Maintenance and Sustainment

Collaborative Partners / Applications

Primary Federal Sponsors
- SIOP Program Office
- NAVSEA 03
- NAVSEA 04
- Puget Sound Naval Shipyard
- Norfolk Naval Shipyard
- Portsmouth Naval Shipyard
- Pearl Harbor Naval Shipyard

Industry Partners
- Siemens Government Technology
- National Center for Manufacturing Sciences (NCMS)

Potential Application(s):
Potential to be adopted as a model for the private ship repair sector seeking to optimize their ecosystem and improve efficiencies to save costs.

Specific Outcomes:
- Allow for supported decisions on layout alternatives to reach defined objectives within cost constraints.
- Target faster Return on Investment (ROI) from project investments.
- Establish a NAVSEA enterprise simulation management tool (utilize at NAVSEA headquarters as a redundant offsite location to access information from disparate NAVSEA O, I and D level maintenance facilities – which coincides with the "One Shipyard" concept)

Projected Extended Outcomes:
- Reduction in product failure and increased transparency of maintenance or manufacturing processes by using state of the art technology including visualization tools.
- Improved competitiveness of U.S. manufactured products by reducing costs and increasing quality using more automated processes and defect detection technology.