SUSTAINMENT MANAGEMENT SYSTEM (SMS) SUMMIT 2024

Welcome Address

U.S. ARMY

US Army Corps of Engineers®

ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

WELCOME!

2024 Sustainment Management System (SMS) Summit

Hosted by the **National Academies of Sciences** and the **Federal Facilities Council**

Facilitated by the Sustainment Management Technical Center of Expertise (**SMS-TCX**)

FACILITIES / EVENT LOGISTICS

Event Page/Agenda: https://www.nationalacademies.org/event/42608_07-2024_federal-facilities-council-2024-sustainment-management-system-sms-summit

Sessions livestreamed via Webcast and Zoom Webinars. Sessions will be recorded and intended to be posted following the event.

Free Wi-Fi is available throughout the NAS Building. Open Connect to a Network by opening Wi-Fi settings. In the list of available wireless networks, choose the **visitor** network and click connect. Open a web browser and go to: http://www.nas.edu when the Login Page appears, click **Access the Internet**. No password is required.

There is no food or drink allowed in the auditorium.

Sign-in at slido.com (event code #SMS2024) or scan QR code to participate in discussions.

AGENDA PREVIEW

Wednesday – July 31st, 2024	Thursday – August 1st, 2024	Friday – August 2nd, 2024
MORNING SESSIONS (NAS Auditorium): **8:00 AM—8:30 AM** Welcome, Introductions, and Agenda Review **8:30 AM—9:30 AM** Mr. Michael McAndrew – Deputy Assistant Secretary of Defense for Infrastructure Modernization and Resilience **9:30 AM—10:30 AM** SMS-TCX Program Overview and ESMS Overview (SMS-TCX) **10:30 AM—11:00 AM** BREAK / Networking **11:00 AM—12:00 PM** SMS DoDI and Policy Updates (OSD) **12:00 PM—1:30 PM** LUNCH ***AFTERNOON SESSIONS (NAS Auditorium):*** **1:30 PM—2:30 PM** Federal Panel: Data Quality, Best Practices, and Interoperability **2:30 PM—3:00 PM** BREAK / Networking **3:00 PM—4:00 PM** SDSFIE Presentation on Data Standards and Governance (OSD)	***MORNING SESSIONS (NAS Auditorium):*** **8:00 AM—9:00 AM** ESMS Demonstration (SMS-TCX) **9:00 AM—9:30 AM** BREAK / Networking **9:30 AM—10:30 AM** ESMS Q&A / Suggested Improvements for SMS (SMS-TCX) **10:30 AM—11:00 AM** BREAK / Networking ***MORNING BREAKOUT SESSIONS:*** **Session 1A (*NAS Auditorium*) 11:00 AM—12:00 PM** Mission Dependency Index (MDI) Development (SMS-TCX) **Session 1B (*NAS 120*) 11:00 AM—12:00 PM** SMS-TCX Recent Publications (SMS-TCX) **Session 1C (*NAS 125*) 11:00 AM—12:00 PM** Training Approaches for SMS (DIGON Systems) **12:00 PM—1:30 PM** LUNCH ***AFTERNOON BREAKOUT SESSIONS:*** **Session 2A (*NAS Auditorium*): 1:30 PM—2:30 PM** Bernie AI Model and Beyond (Lawrence Livermore National Lab) **Session 2B (*NAS 120*): 1:30 PM—2:30 PM** NO SESSION **Session 2C (*NAS 125*): 1:30 PM—2:30 PM** Adjust BUILDER Settings to match Business Process (Alpha Facilities Solutions) **2:30 PM—3:00 PM** BREAK / Networking **Session 3A (*NAS Auditorium*): 3:00 PM—4:00 PM** SMS-TCX Student Session (SMS-TCX) **Session 3B (*NAS 120*): 3:00 PM—4:00 PM** Cost Catalog Strategy (SMS-TCX) **Session 3C (*NAS 125*): 3:00 PM—4:00 PM** ESMS API Developer Workshop (SMS-TCX)	***MORNING SESSIONS (NAS Auditorium):*** **8:00 AM—9:00 AM** Facility Sustainment Restoration Modernization (FSRM) Optimization (SMS-TCX) **9:00 AM—9:30 AM** BREAK ***Morning BREAKOUT SESSIONS:*** **Session 4A (*NAS Auditorium*) 9:30 AM—10:30 AM** Navy Facility Investment Model (US Navy) **Session 4B (*NAS 120*) 9:30 AM—10:30 AM** Worst First – Comparing Three KPI Approaches (Alpha Facilities Solutions) **Session 4C (*NAS 125*) 9:30 AM—10:30 AM** Army Functionality (SMS-TCX) **10:30 AM—10:45 AM** BREAK **10:45 AM—11:45 AM (*NAS Auditorium*)** Closing Session (SMS-TCX)

SMS PROCESS IN BRIEF

Inventory

Assess

Predict

Work Planning

Forecast

KEYNOTE ADDRESS: MR. MICHAEL MCANDREW

Mr. Michael McAndrew is the Deputy Assistant Secretary of Defense for Construction within the Office of the Assistant Secretary of Defense (Sustainment). He provides executive leadership on all matters pertaining to DoD's physical infrastructure, to include development and execution of policies, guidance, and procedures for construction, operations, maintenance and repair of DoD's worldwide facilities to enhance and preserve warfighting capabilities and to provide safe working and living conditions for our military personnel and families. His responsibilities include all matters related to real property maintenance; facility operations; and host-nation programs related to facility construction and management.

KEYNOTE ADDRESS

SUSTAINMENT MANAGEMENT SYSTEM (SMS)

SMS-TCX UPDATE – SMS SUMMIT 2024

Approved for Public Release; Distribution is Unlimited

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SUSTAINMENT MANAGEMENT SYSTEM (SMS)

A FACILITY LIFECYCLE MANAGEMENT TOOL

WHAT IS SMS?

An engineered process for asset lifecycle management; utilizes a collection of web-based software applications.

Produces multi-year condition trends and investment requirements at individual component level

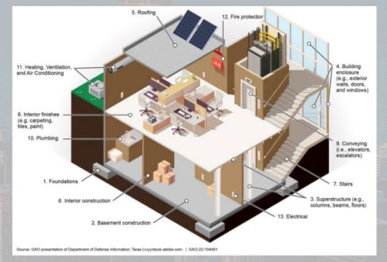
Objectively assess infrastructure, Consistently analyze and prioritize investment requirements, and Forecast investment requirements and consequence/trade-off analysis.

THE SMS PROCESS

Inventory → Assess → Predict → Work Planning → Forecast

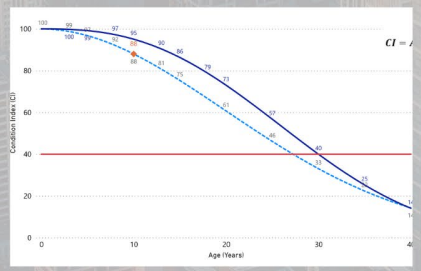
COMPONENT INVENTORY

Building components are catalogued within a component inventory to a granular level. Other details captured include Quantity, Unit of Measure, Expected Design Life, Year Installed & more.



CONDITION ASSESSMENT & FORECASTING

Assessments are used to catalog distresses present in a facility to impact condition scores.



Lifecycle degradation curves are used to determine remaining service life of building components to identify work requirements. These curves can be adjusted by alpha- and beta-parameters and inspection data

WORK REQUIREMENTS IDENTIFICATION

Standards
Threshold trigger investments for assets below performance requirements (CI)

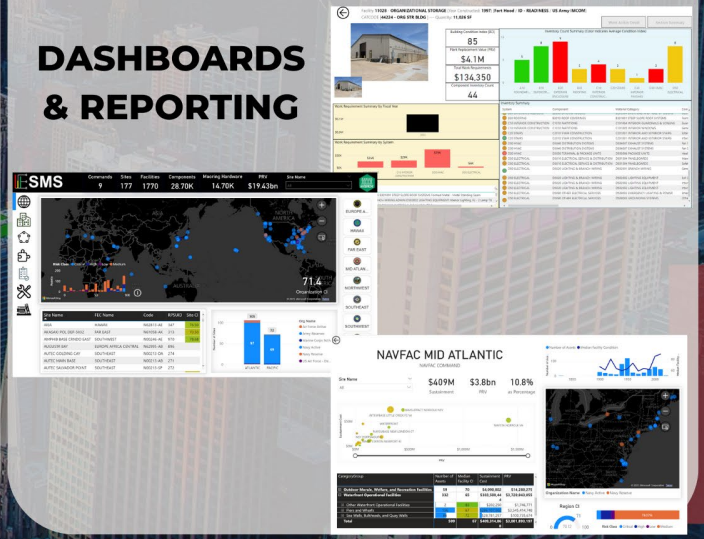
Policies
Rules apply different standards to different assets

Investment Plan
Generate work items for assets failing assigned standards. Costs estimated and ROI optimized

Prioritization
Score each work item according to metrics for risk, impact, financial benefit, etc.

Budget
Identify funding sources and fund work items according to budget rules

DASHBOARDS & REPORTING



Late 1970s — PAVER

1980s and 1990s — ROOFER, RAILER, and BUILDER

2000s — BUILDER Adoption

2013 — OSD Memo DoD SMS Deployed

Today — Widespread Adoption

Tomorrow — ESMS Maturation & Optimization

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WORK ACROSS THE SMS-TCX

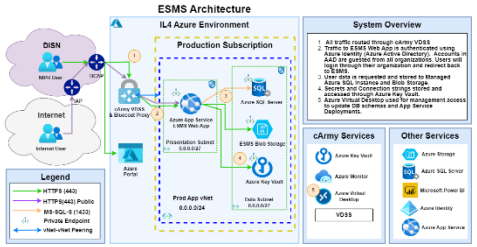
Discover

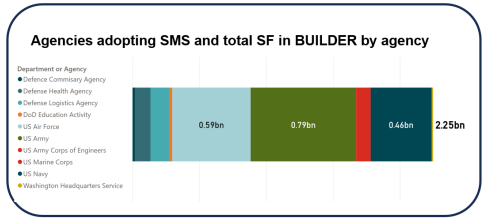
Develop

SMS Enterprise SMS

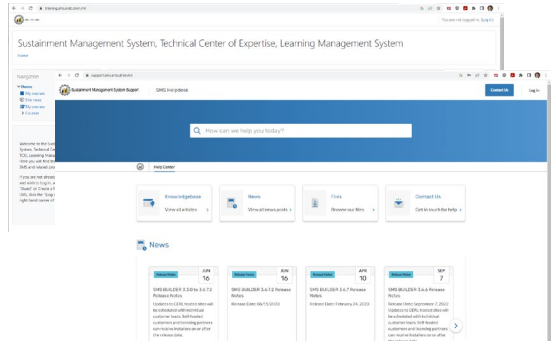
BUILDER

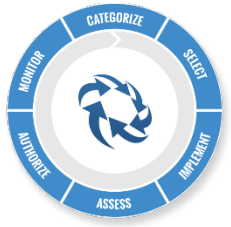
Deliver





Sustain





ENDURING IMPACT OF SMS

Government Agencies using SMS

U.S. ARMY
ERDC DISCOVER | DEVELOP | DELIVER
U.S. AIR FORCE
AMERICA'S NAVY
DEPARTMENT OF THE NAVY UNITED STATES MARINE CORPS
UNITED STATES COAST GUARD 1790
DEFENSE LOGISTICS AGENCY
DEFENSE COMMISSARY AGENCY
DEPARTMENT OF STATE UNITED STATES OF AMERICA
DHA Defense Health Agency
USDA
DEPARTMENT OF COMMERCE UNITED STATES OF AMERICA
dodea DEPARTMENT OF DEFENSE EDUCATION ACTIVITY
NNSA National Nuclear Security Administration
DEPARTMENT OF DEFENSE UNITED STATES OF AMERICA

BUILDER Licensing Partners

AECOM
ATKINS
CALIBRE
Cardno TEC
DIGON SYSTEMS
fm:systems
GOLDENWOLF
NORTH PACIFIC SUPPORT SERVICES
TETRA TECH

BUILDER DEVELOPMENT IN FY24

Releases:
3.6.7.3 – *August 18, 2023*
3.6.8 – April 16, 2024

ATO:
Extension obtained in early 2024.

Full Release Notes: https://support.sms.erdc.dren.mil/news/release-notes

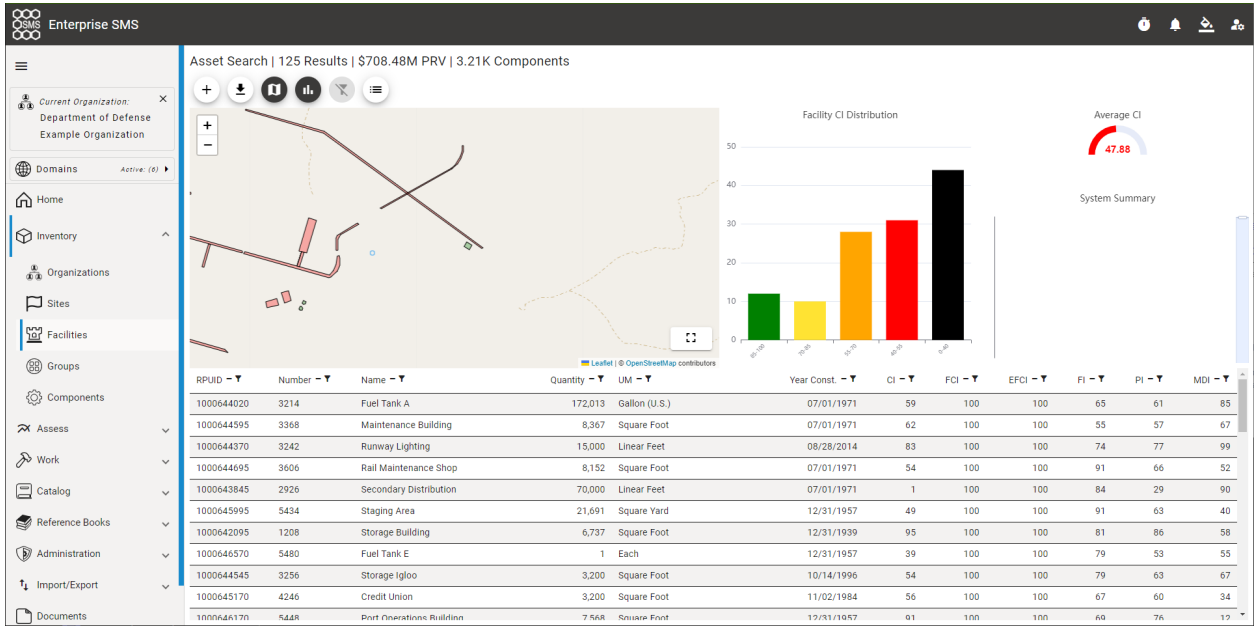
ENTERPRISE SMS

Enterprise Sustainment Management System (ESMS)

- Consolidated platform for facility assessment, performance modeling, investment, and forecasting information for all real property domains
- Aggregates key performance metrics and work needs across entire asset portfolio
- Comprehensive view of mission readiness and operational risks
- Eliminates “stove-piped” legacy systems and information silos

Tech Specs

- **WEB:** Cloud-Native Modern Web Application
- **DATABASE:** Azure SQL Database
- **FIELD:** Windows Desktop/Tablet Application for Field Input
- **HOSTING:** Azure Government Infrastructure
- **ACCESS:** EAMS-A
- **INTEGRATION:** API – Centric Design



ESMS ATO TIMELINE

- Production Environment/URL Established within cArmy Environment (not publicly available)
- Upgrade of RMF version mid-stream triggered re-work causing later Authorization submission
- Authorization Workflow kicked-off in mid-January (Currently in stage 4 of 6)
  - In queue with NETCOM for review (timeline for review not available)
- SMS Team continues to test, fix, and improve the app as well as preparation for data migration
- Further opportunity for familiarization with ESMS (staging site access for CAC holders) and preparation for data migration and cross-Service/Agency collaboration

ESMS DOMAIN UPDATES

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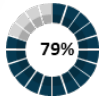
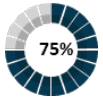
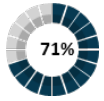
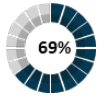
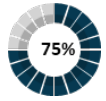
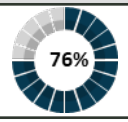
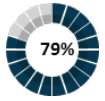
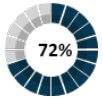
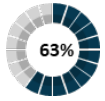
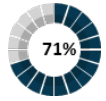
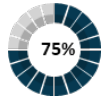
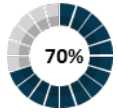
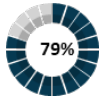
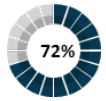
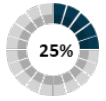
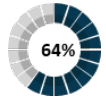
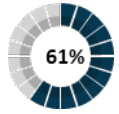
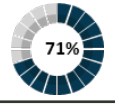
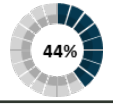
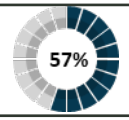
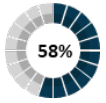
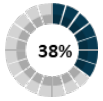
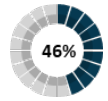
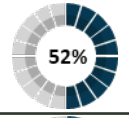
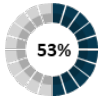
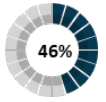
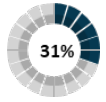
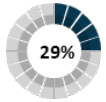
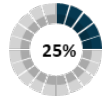
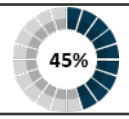
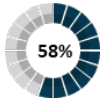
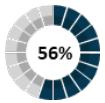
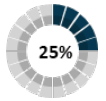
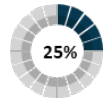
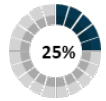
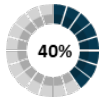
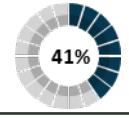
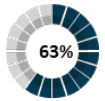
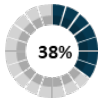
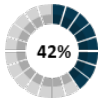
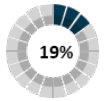
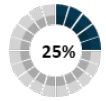
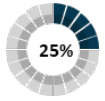
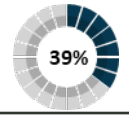
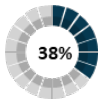
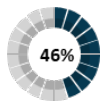
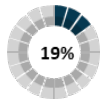
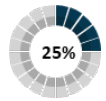
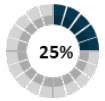
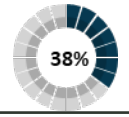
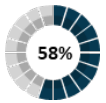
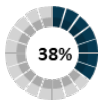
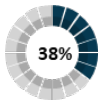
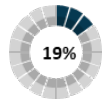
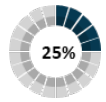
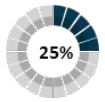
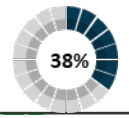
	Real Property Inventory	Component Inventory	Assessment	Metrics	Work Analysis	Reporting	Overall Progress	Primary Actions	Customer Preparation Activities
Buildings								Finalize RP source, import process, and architecture updates. SMS team will begin coordination of data sustainment activities / requirements.	Review and prepare for onboarding process
Utilities								Utilities will align with most Buildings methodology and features. SMS team will complete component reference data (component catalog and costs) and will solution ArcGIS component updates.	Review and Align GIS data
Rail								Rail leverages criteria, methodology from legacy Railer. It is currently being reviewed by SMEs and will be integrated into system.	
Pavement								Pavement leverages criteria, methodology from legacy PAVER. It is currently being reviewed by SMEs and will be integrated into system.	Review and Align GIS data. Coordinate with SMS team for current E-70 files.
Waterfront								SMS team will finalize component reference data (component catalog and costs), assessment criteria and initiate integration into system. Metrics and work analysis calculations will mirror buildings domain.	
Water Control								SMS team will finalize component reference data (component catalog and costs), assessment criteria and initiate integration into system.	
Fuels								SMS team will coordinate with DLA to finalize component reference data (component catalog and costs), and assessment criteria.	
Bridges								SMS team will develop component reference data (component catalog and costs), assessment criteria and initiate integration into system	
Training Areas & Ranges								SMS team will develop component reference data (component catalog and costs), assessment criteria and initiate integration into system	
Specialized Assets								SMS team will develop component reference data (component catalog and costs), assessment criteria and initiate integration into system	

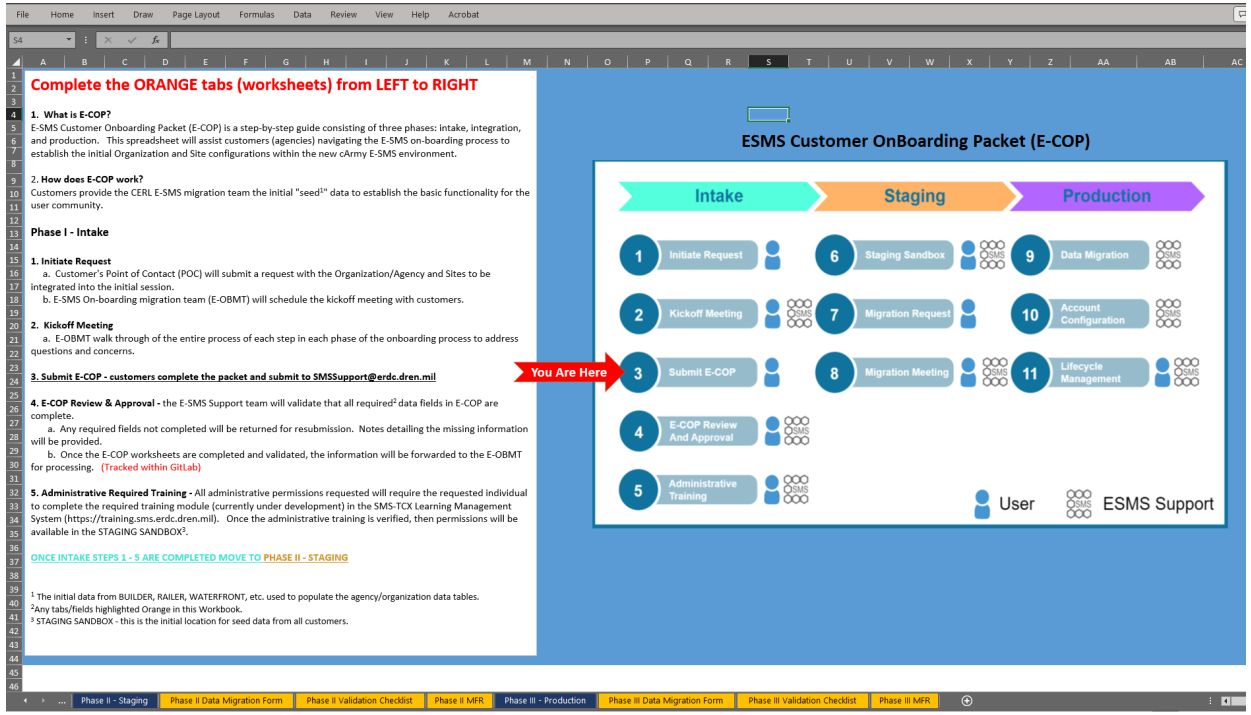
MIGRATION / ON-BOARDING CONSIDERATIONS

Pilot migrations were initially held up waiting for ATO; we have since been working up additional ways to facilitate pilot migrations in a staging environment that can occur in parallel of ATO waiting

Demo of BUILDER Importer during the ESMS Demo session utilizing testing data

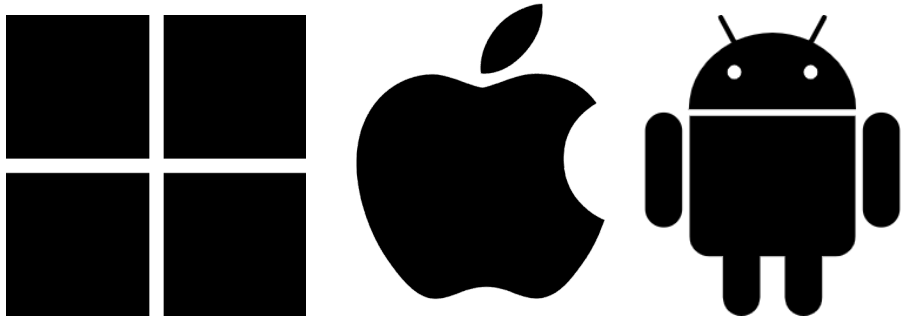
Coordinate with SMS-TCX Service/Agency lead to initiate pilot process

Cross-DoD working-level meetings to devise business rules for real property edge-cases as separate instances are migrated to a central DoD instance of ESMS

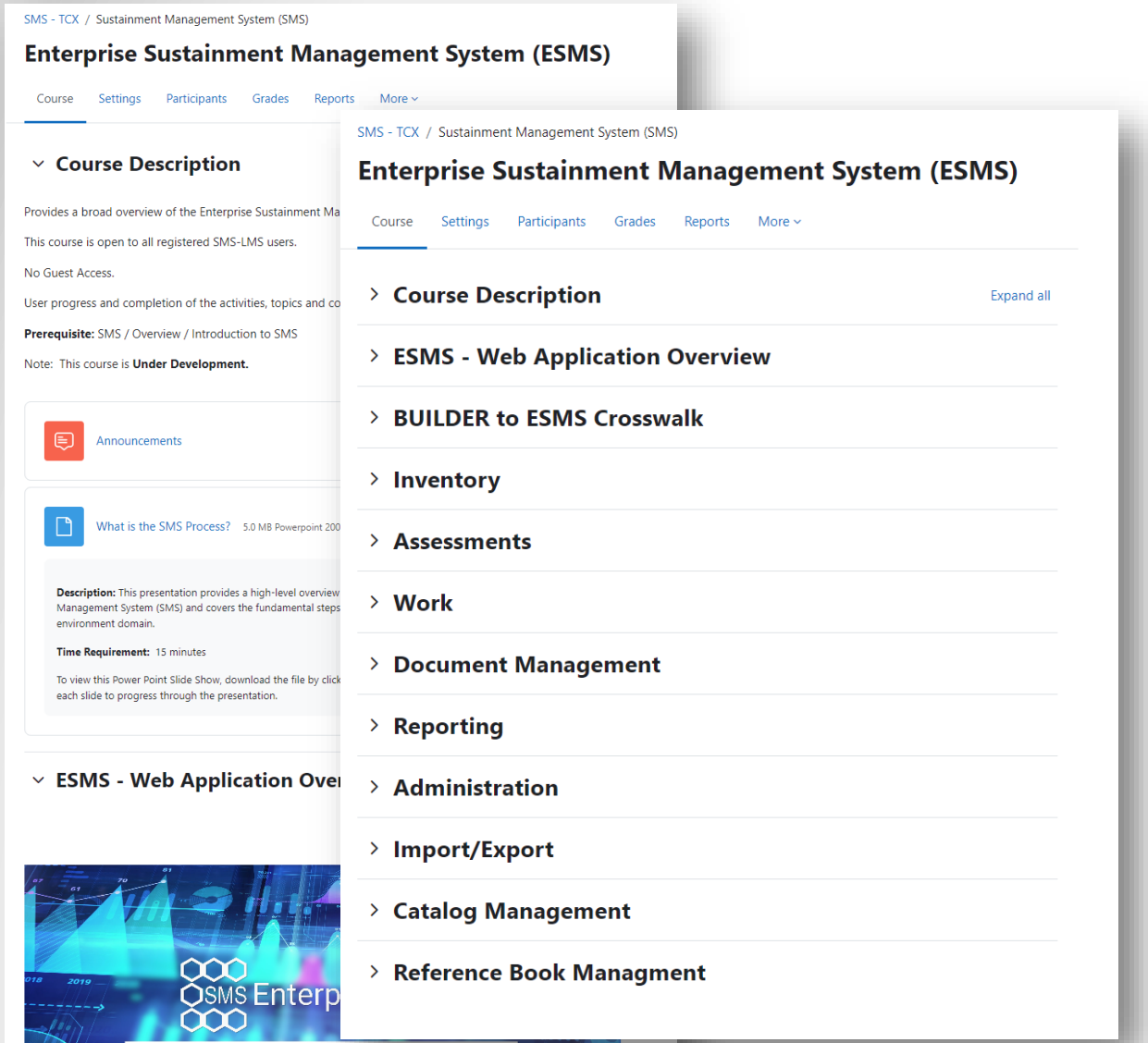


ESMS MOBILE DEVELOPMENT

- ESMS Mobile will be developed based on an existing ERDC platform
- Offline/Disconnected data collection for ESMS
- Updated data storage/transmission protocols
- Inventory/Assessment collection similar to BRED
- GIS enabled for linear assets
- Deployable to Windows, Android, and iOS
- Development efforts delayed as we await receipt of FY24 funding for this effort



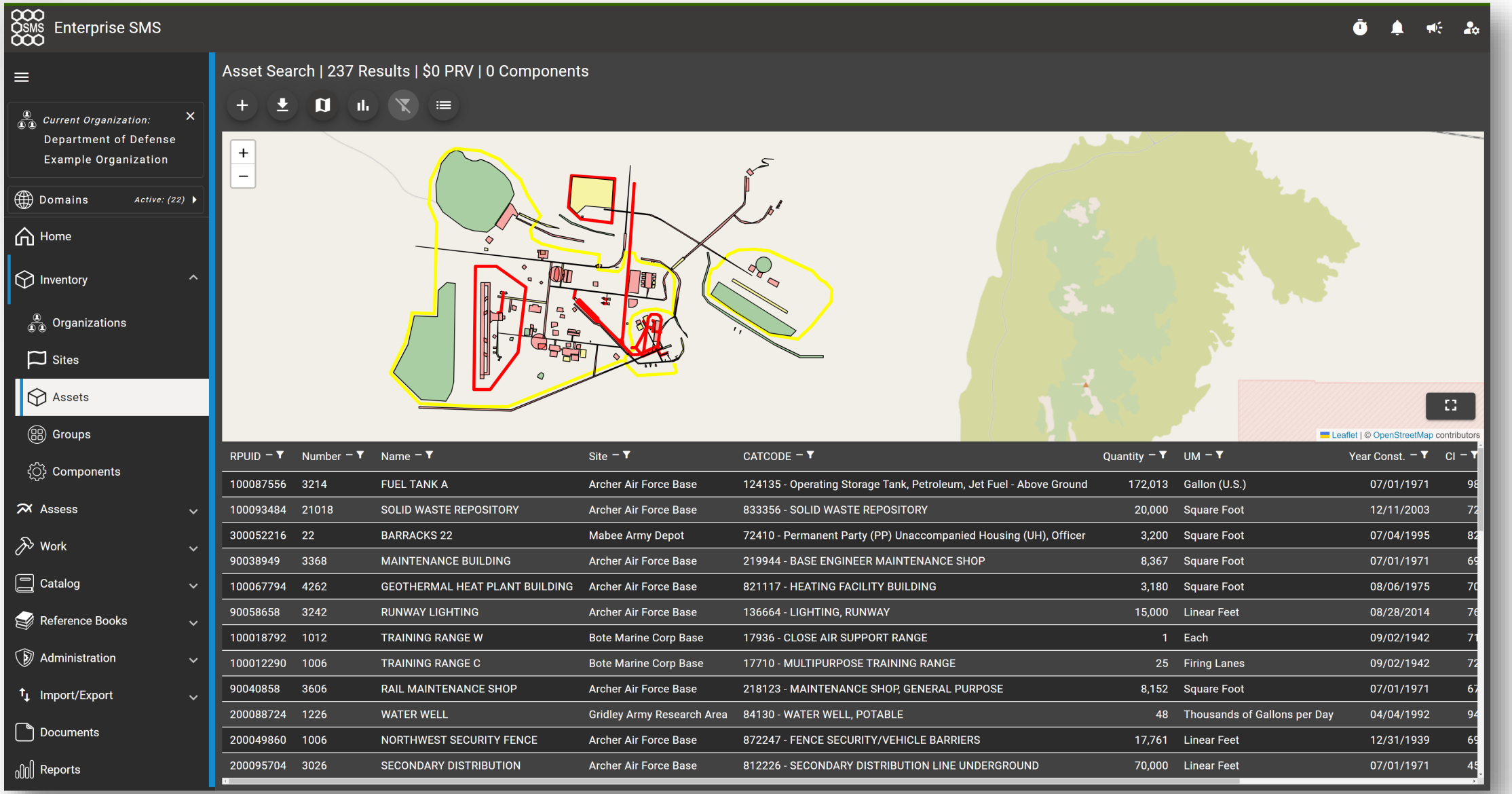
ESMS TRAINING OVERVIEW



Build-out of ESMS Training Videos on SMS Learning Management System site

- What is the SMS Process? ✓
- ESMS – Web Application Overview ✓
- BUILDER to ESMS Crosswalk ✓
- Inventory
- Assessments
- Work
- Document Management
- Reference Book Management
- Administration (specific users)
- Import/Export (specific users)
- Catalog Management (specific users)

HIGH-LEVEL ESMS DEMO



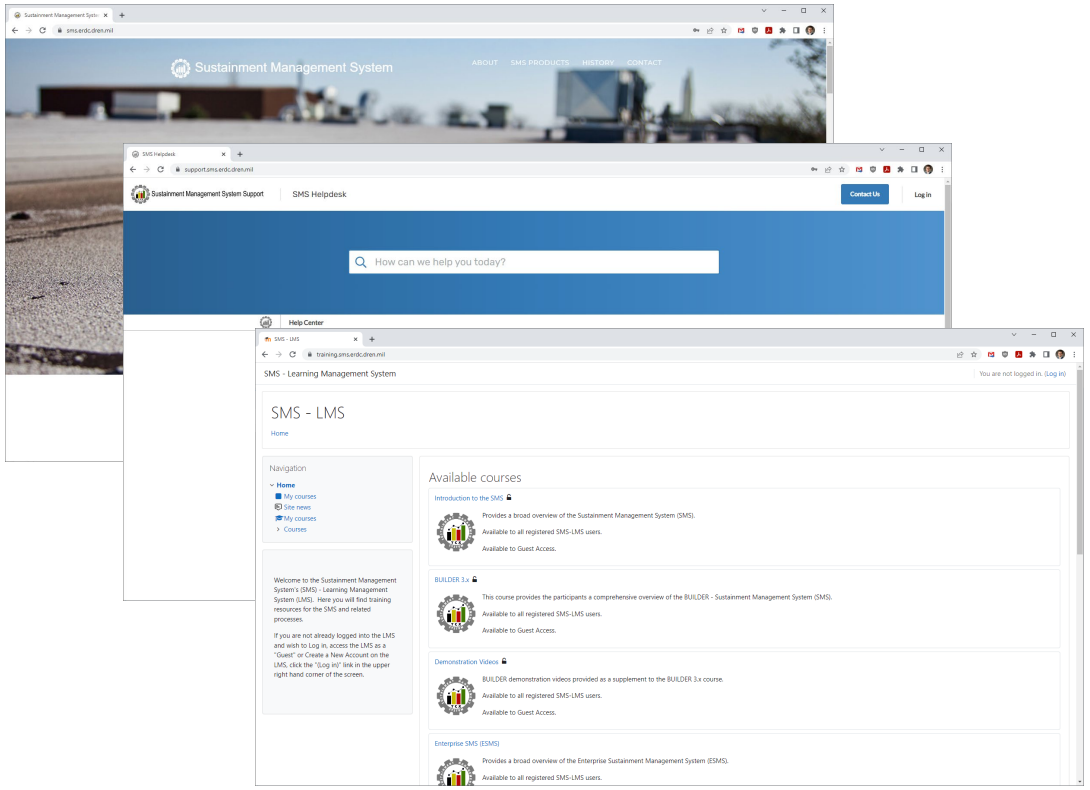
RPUID	Number	Name	Site	CATCODE	Quantity	UM	Year Const.	CI
100087556	3214	FUEL TANK A	Archer Air Force Base	124135 - Operating Storage Tank, Petroleum, Jet Fuel - Above Ground	172,013	Gallon (U.S.)	07/01/1971	98
100093484	21018	SOLID WASTE REPOSITORY	Archer Air Force Base	833356 - SOLID WASTE REPOSITORY	20,000	Square Foot	12/11/2003	72
300052216	22	BARRACKS 22	Mabee Army Depot	72410 - Permanent Party (PP) Unaccompanied Housing (UH), Officer	3,200	Square Foot	07/04/1995	82
90038949	3368	MAINTENANCE BUILDING	Archer Air Force Base	219944 - BASE ENGINEER MAINTENANCE SHOP	8,367	Square Foot	07/01/1971	69
100067794	4262	GEOTHERMAL HEAT PLANT BUILDING	Archer Air Force Base	821117 - HEATING FACILITY BUILDING	3,180	Square Foot	08/06/1975	70
90058658	3242	RUNWAY LIGHTING	Archer Air Force Base	136664 - LIGHTING, RUNWAY	15,000	Linear Feet	08/28/2014	76
100018792	1012	TRAINING RANGE W	Bote Marine Corp Base	17936 - CLOSE AIR SUPPORT RANGE	1	Each	09/02/1942	71
100012290	1006	TRAINING RANGE C	Bote Marine Corp Base	17710 - MULTIPURPOSE TRAINING RANGE	25	Firing Lanes	09/02/1942	72
90040858	3606	RAIL MAINTENANCE SHOP	Archer Air Force Base	218123 - MAINTENANCE SHOP, GENERAL PURPOSE	8,152	Square Foot	07/01/1971	67
200088724	1226	WATER WELL	Gridley Army Research Area	84130 - WATER WELL, POTABLE	48	Thousands of Gallons per Day	04/04/1992	94
200049860	1006	NORTHWEST SECURITY FENCE	Archer Air Force Base	872247 - FENCE SECURITY/VEHICLE BARRIERS	17,761	Linear Feet	12/31/1939	69
200095704	3026	SECONDARY DISTRIBUTION	Archer Air Force Base	812226 - SECONDARY DISTRIBUTION LINE UNDERGROUND	70,000	Linear Feet	07/01/1971	45

SMS INFORMATION RESOURCES

SMS General Information Website
https://www.sms.erdc.dren.mil/

SMS Support Site
https://support.sms.erdc.dren.mil/

SMS Training Site – Learning Management System
https://training.sms.erdc.dren.mil/



BREAK / NETWORKING

ESMS Policy Memo and DoDI

Denise Faldowski, PE
OUSD IM&R
OASD(Energy, Installations, & Environment)

July 31, 2024

Welcome

Denise Faldowski, P.E., LEED AP
Director, Facilities Asset Management
Office of the Secretary of Defense(EI&E)/Infrastructure Modernization & Resilience
Office Phone: 703-614-7697
Telework Phone: 202-603-1136
NIPR: denise.m.faldowski.civ@mail.mil
SIPR: denise.m.faldowski.civ@mail.smil.mil

Policy Memo

Update on ESMS schedule

Terminology

Qualified Technical Inspectors

DoDI

- Establish
  - Army as Lead Component
  - Configuration Support Panel
  - Senior Leader Installations Council
- Incorporate and Rescind Facilities Management Regulation DoD 7000.14-R Volume2B, Chapter 8 Facility Sustainment and Restoration and Modernization (DEC 2016)
- Facility Sustainment, Restoration and Modernization
- Facility Sustainment Model
- SMS
- Demolition and Disposal

LUNCH

Return at **1:30 PM**
to NAS Auditorium

SUSTAINMENT MANAGEMENT SYSTEM (SMS) SUMMIT 2024

Federal Panel: Data Quality, Best Practices, and Interoperability

U.S. ARMY

US Army Corps of Engineers®

ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

FEDERAL PANEL: DATA QUALITY, BEST PRACTICES, AND INTEROPERABILITY

James Livingston – Army DCS G-9
Scott Lehmkuhl – Defense Health Agency
Julie Krebs – National Nuclear Security Administration

FEDERAL PANEL: DATA QUALITY, BEST PRACTICES, AND INTEROPERABILITY

How do you ensure good quality data? How is QA done?

How do you keep the data current and sustained? What challenges do you see with sustainment?

What other systems/process does SMS interact with in your organization?

What best practices you've discovered may be the most valuable in sharing with other services and agencies?

What are some of the most important features you'd like to see in ESMS to better support your processes?

SUSTAINMENT MANAGEMENT SYSTEM (SMS) SUMMIT 2024

Closing Address

U.S. ARMY

US Army Corps of Engineers®

ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

RECENT AND ON-GOING RESEARCH

- Optimal Repair Planning (based on rate of degradation vs. multi-year decision-making)
- SMS as a tool for Decarbonization Decision-Making
- Degradation Modeling Updates (Probabilistic Boundaries; Machine Learning to assign parameters)
- SMS Data/Tools for identifying environmental issues like mold and Corrosion)
- Component Clustering for degradation modeling
- Text Comment Mining for Condition Scores
- Markov Modeling (probabilistic approach to condition state change)
- Image Recognition (Component Identification; Condition Assessment)
- Facility Sustainment Restoration and Modernization (FSRM) Optimization
- Weather Effects (WELDER)
- Sensor Integration
- Data Ingestion/Integration (BIM, GIS, CMMS, API Developer Portal)

ON THE HORIZON

- ATO Imminent
- ESMS Rollout and Field App
- ESMS Training Material ESMS
- Cost Catalog Maturation and Collaborative Build-out
- Functional Assessment Build-out
- Mission Dependency Index Development Methodology Maturation
- Completion of Specialized Requirements for Remaining Domains
- FSRM Optimization Workshops and Model Development
- And more!

SMS SUMMIT

APRIL 22-24, 2025

SAN ANTONIO, TEXAS

RPAA Real Property Asset ASSOCIATION

THANK YOU!

BACKUP

ISSUE/REQUEST TO PRODUCTION APP