

NSRP USCG Product Lifecycle Management Data Requirements Interface Mapping

NSRP Joint Panel Meeting

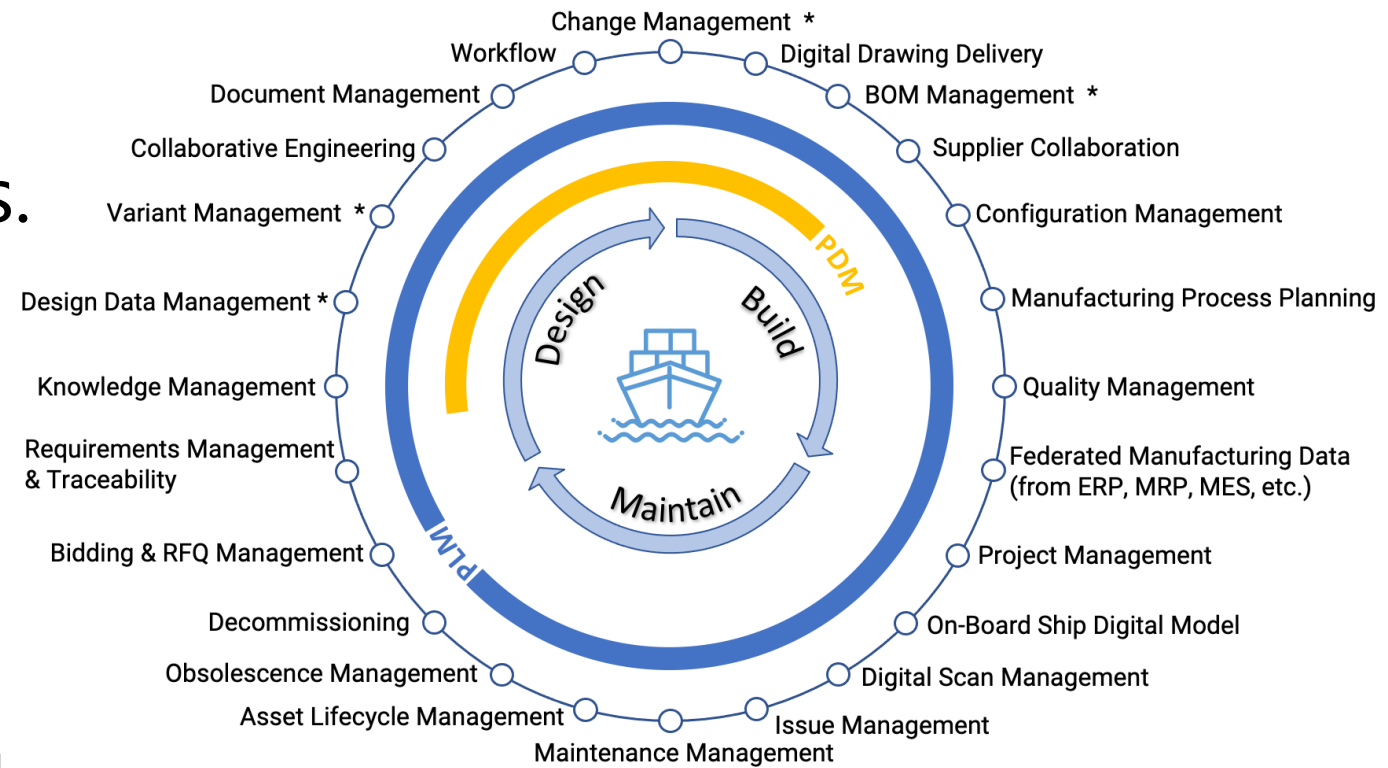
5 May 2026

Agenda

- Background and Objectives
- Phase 1 Project Objectives
- Findings from Discussions with USCG and Shipyards
- ShipConstructor → ShipbuildingPLM (SPLM) Alignment
- USCG System of Systems Data Flow
- Project Status
- Phase 2 Objectives
- Summary

Background & USCG Sustainment Challenges

- Digital maintenance, repair, and overhaul (MRO) shift; leverage shipyard 3D model/PLM data via interfaces.
- Challenges: >80% contracted depot maintenance; scattered configs; obsolescence.
- PLM Solution: Single source, metadata included, federated transition to legacy sunsetting.



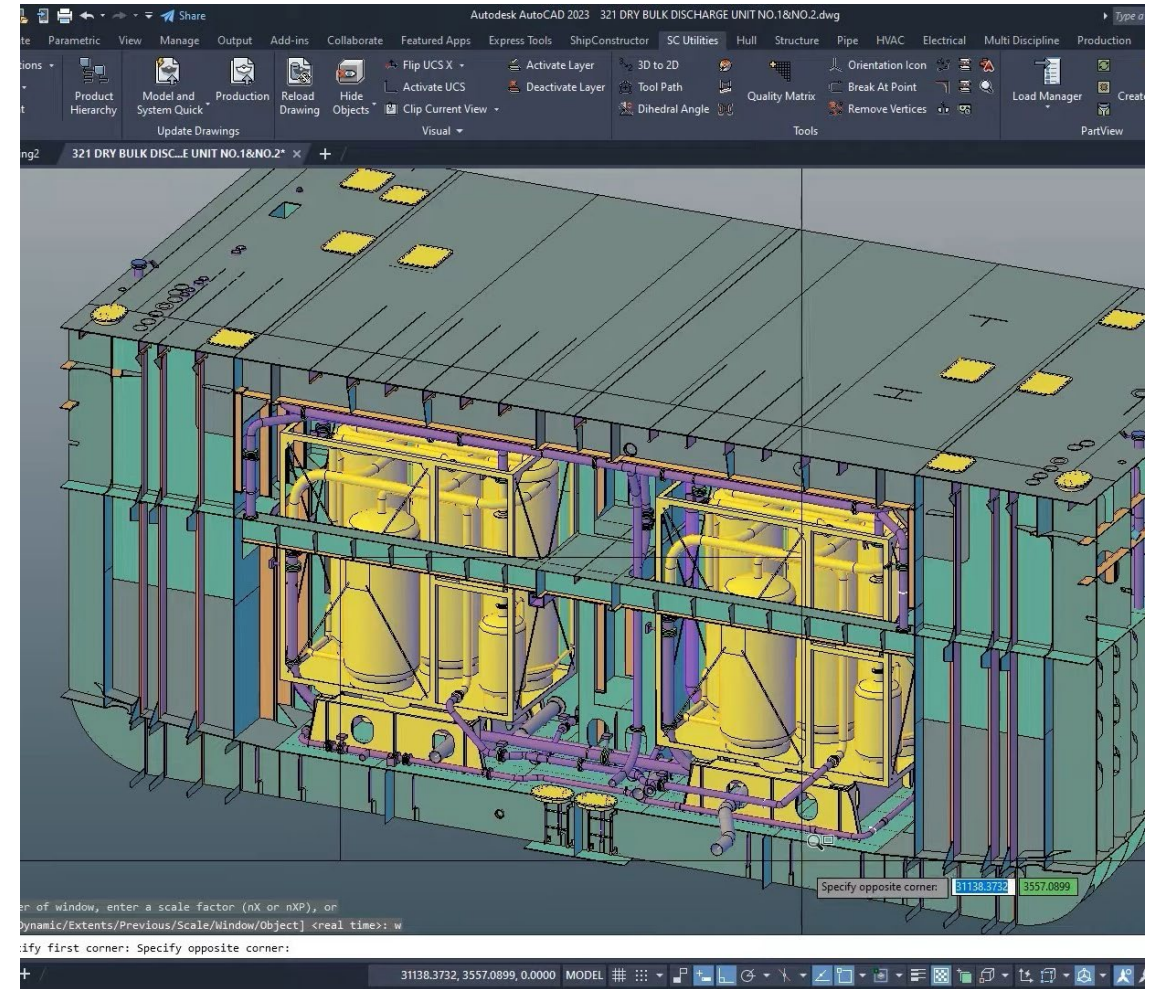


Background & USCG Sustainment Challenges

- USCG Surface Forces Logistics Center (SFLC) has five product lines
 - Long Range Enforcer
 - Medium Endurance Cutter
 - Patrol Boat
 - Icebreaker / Buoy and Construction Tender
 - Small Boat
- USCG SFLC Engineering Services Division (ESD) serves as the design agent for MRO for all cutter and boat classes
 - 221 cutters across 6 classes
 - 2 icebreaker classes
 - 1,337 boats of many classes

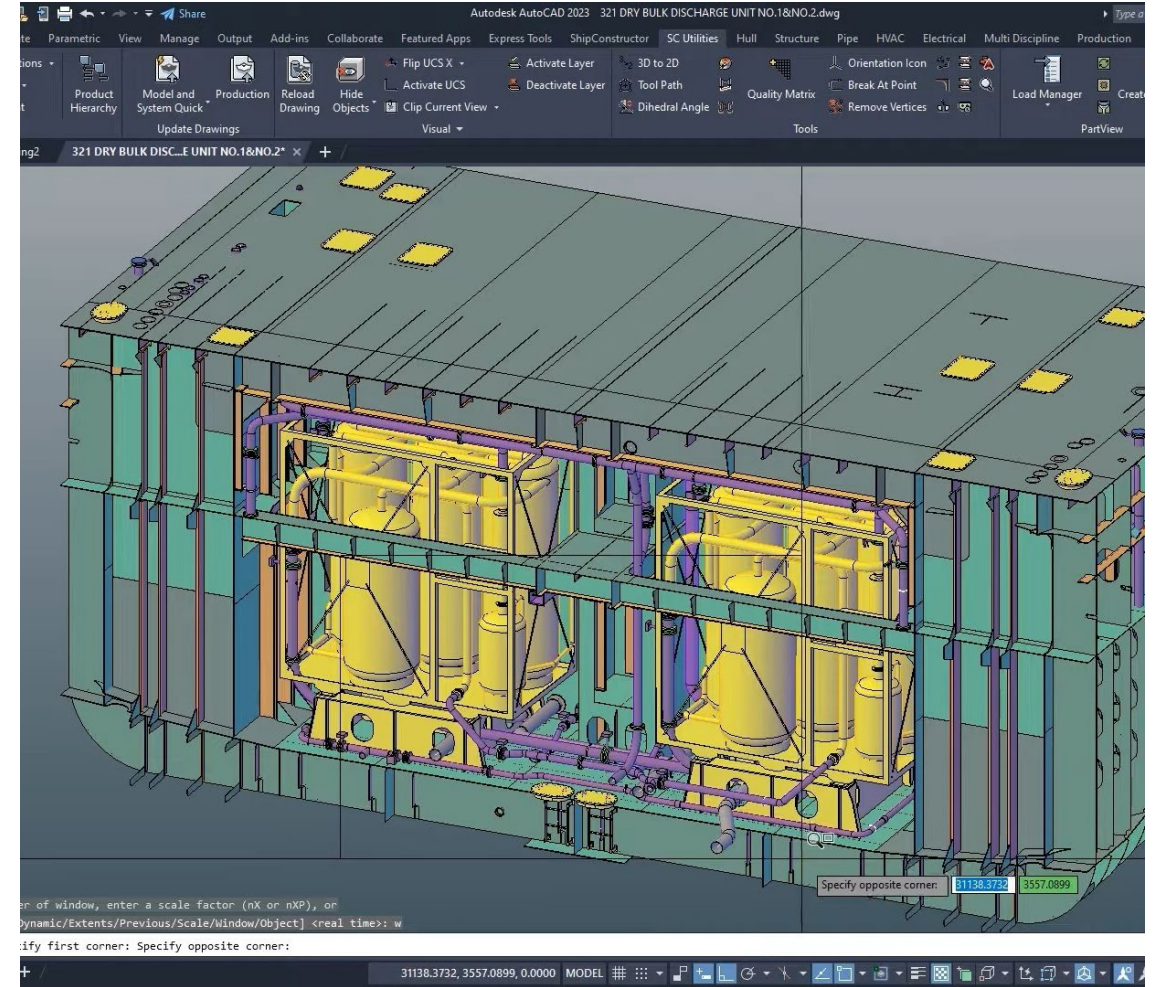
Overall NSRP Project Objectives

- Harvest sustainment data from 3D build models.
- Map USCG SPLM needs to interfaces/connectors.
- Develop/test software for shipyard SPLM → USCG SPLM data flow.



Phase 1 Project Objectives

- “Crawl, walk, run”
- Learn sustainment data needs and what shipyards provide.
- Map USCG SPLM needs to interfaces/connectors.
- Simulated simple use cases for shipyard SPLM → USCG SPLM data flow.



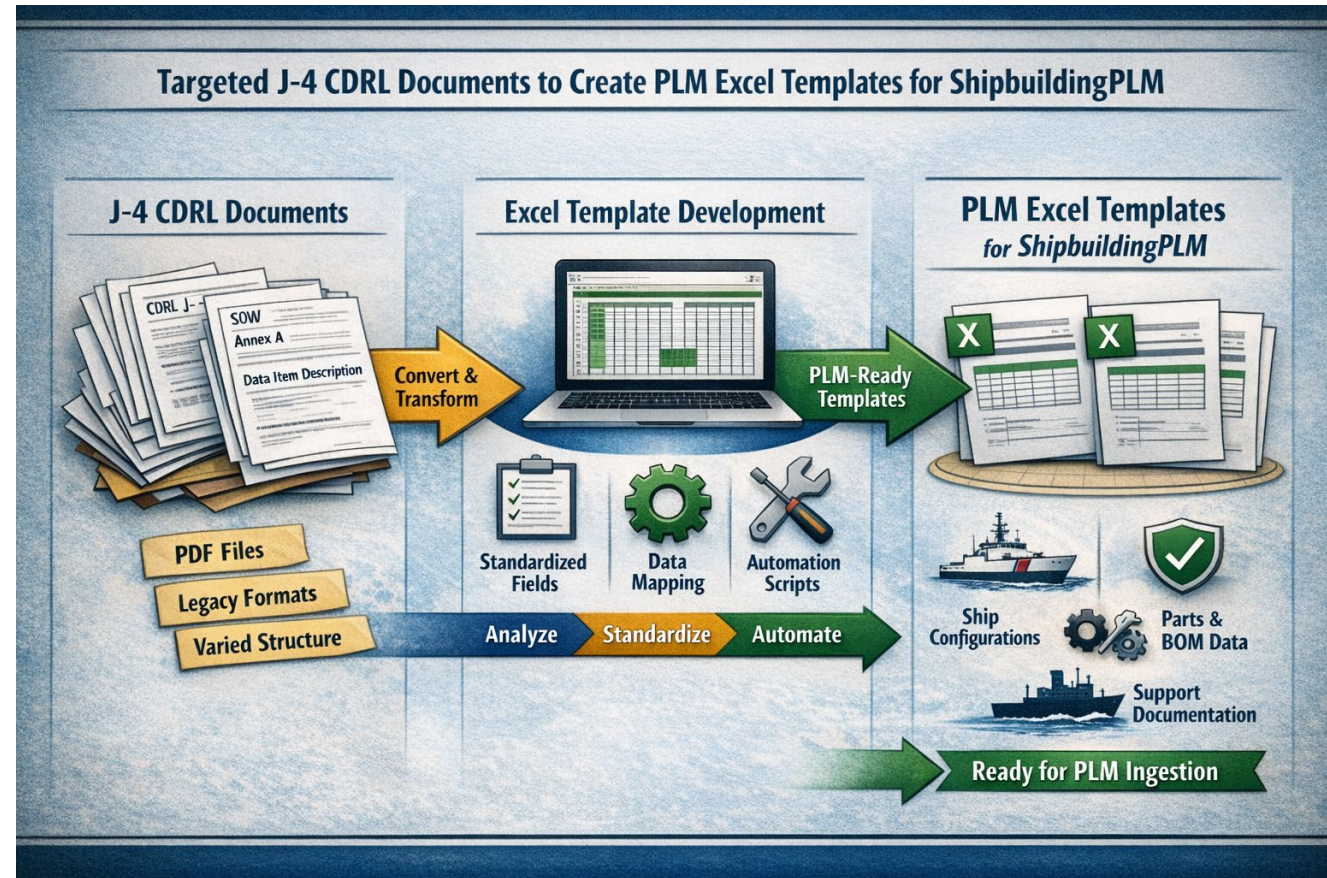
Current Status (Phase 1 Effort)

- ~800 MB USCG datasets processed.
- Workflows/CDRL maps for Eastern (OPC), Austal (OPC), and Birdon (WCC).
- Tasks 1-5 (Project Initiation, Data Transfer Requirements, Gap Analysis, Initial SPLM configuration, evaluation of configuration) complete.



CDRL Mappings Across Programs & Templating

- Developed from shipyard reviews (Aug-Sep 2025).
- WCC (Birdon): Detailed map (90 deliverables, e.g., Management Plans → IDE/CWD; Equipment Lists → FLS/EAL).
- OPC (Austral/Eastern): Aligned structures (design reports, analyses, BOMs to FLS/NESSS).
- Template: Maps CDRL formats/timings/targets to PLM objects (e.g., .dwg → 3D models, .xlsx → BOMs, ECPs → Change Objects).



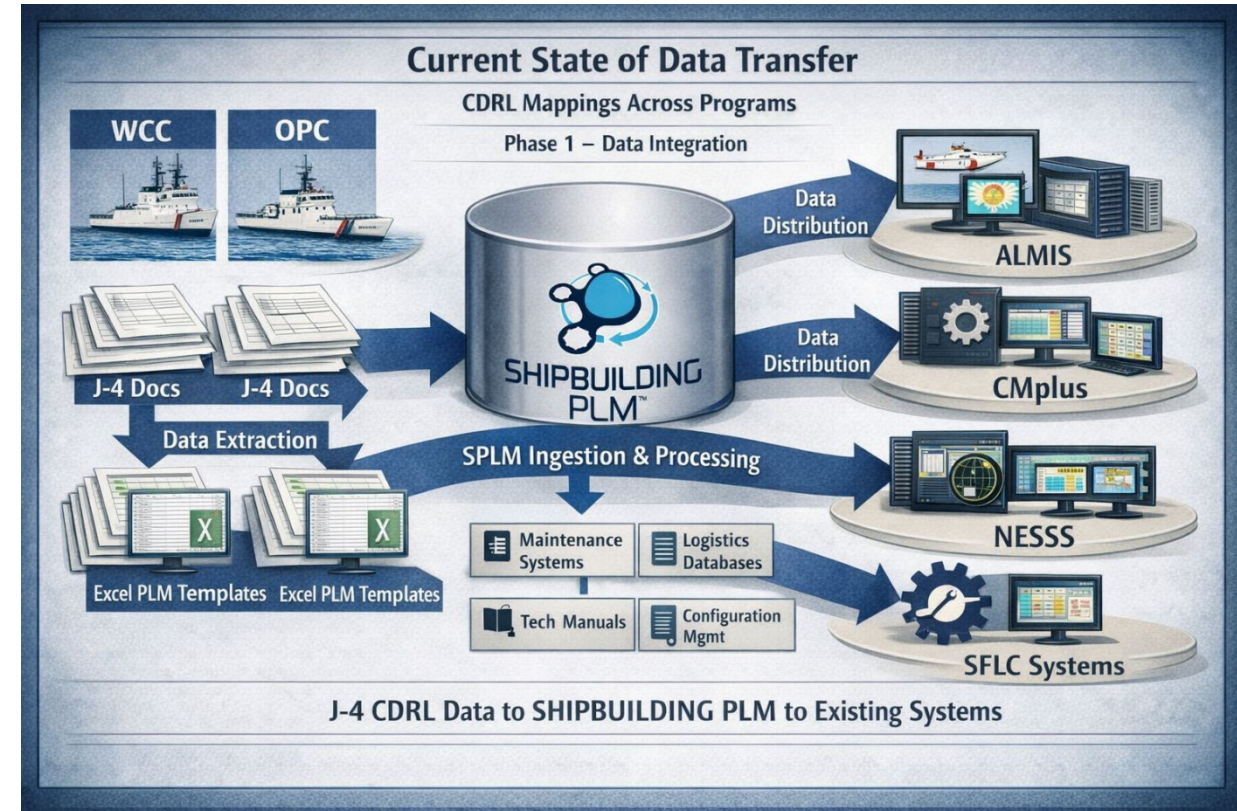


Initial Software Interface Dev. (Task 4)

- Activities Completed: Reviewed USCG/shipyard interviews re: data transfer requirements and gaps for user needs (current/future MRO).
- Developed Entity Relationship Diagrams for data transfer (ShipbuildingPLM → future USCG PLM + legacy systems).
- Configured PSV 3D model (non-ITAR test case): Added item types for MRO relevance (e.g., maintenance metadata, from prior NSRP projects).
- Established SPLM instance on in-house server to simulate USCG environment (avoids production approvals).

Initial Software Interface Dev. (Task 4)

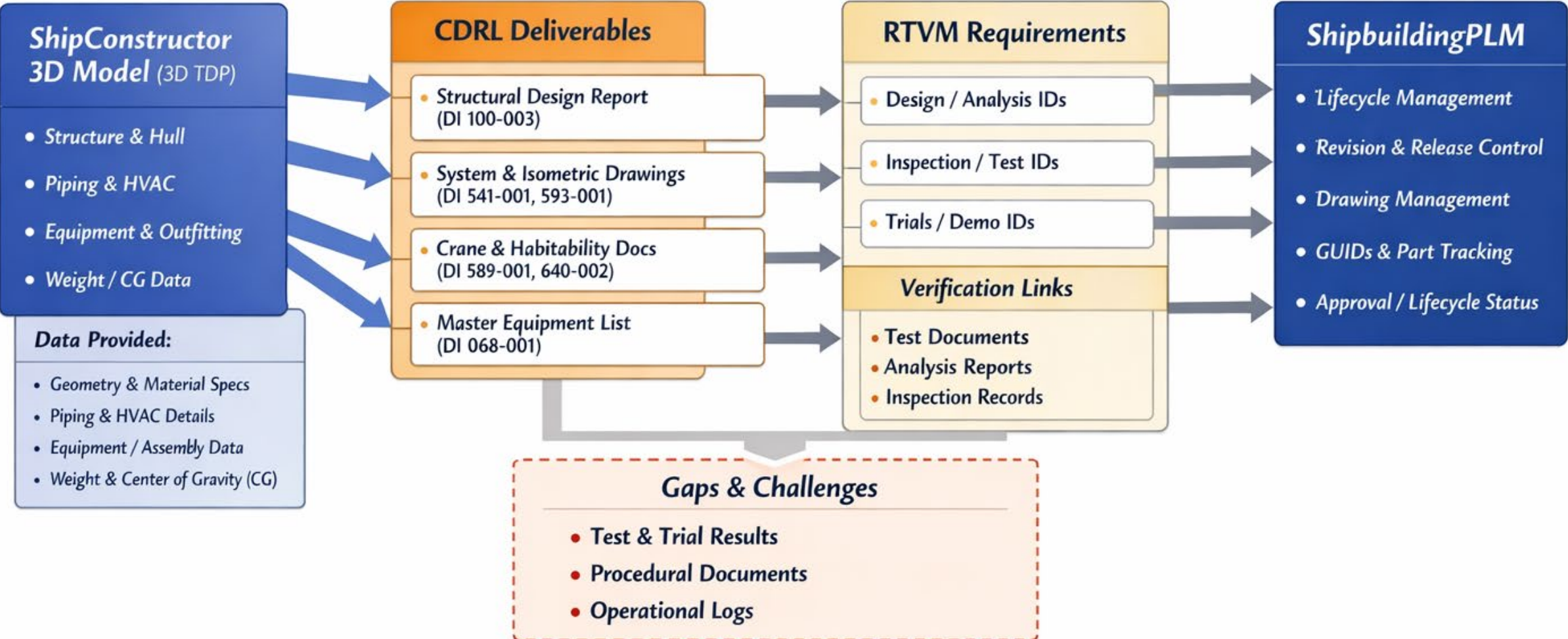
- Key Assumption: Federated approach—support legacy systems (no interruption to fleet support); phase out over time.
- Benefits: Enables contractual deliverable improvements during construction + MRO data extraction.



Initial Software Evaluation (Task 5)

- PSV Model data loaded in SPLM to support demonstration and evaluation of simple use cases
- Incorporation of Requirements Traceability and Verification Matrix (RVTM) as a data requirement
- Established login credentials for selected USCG personnel for remote access to SSI systems for test and evaluation
 - Firewall issues noted for USCG computers
- Executed successful Phase 1 Review and Workshop on 26 March 2026

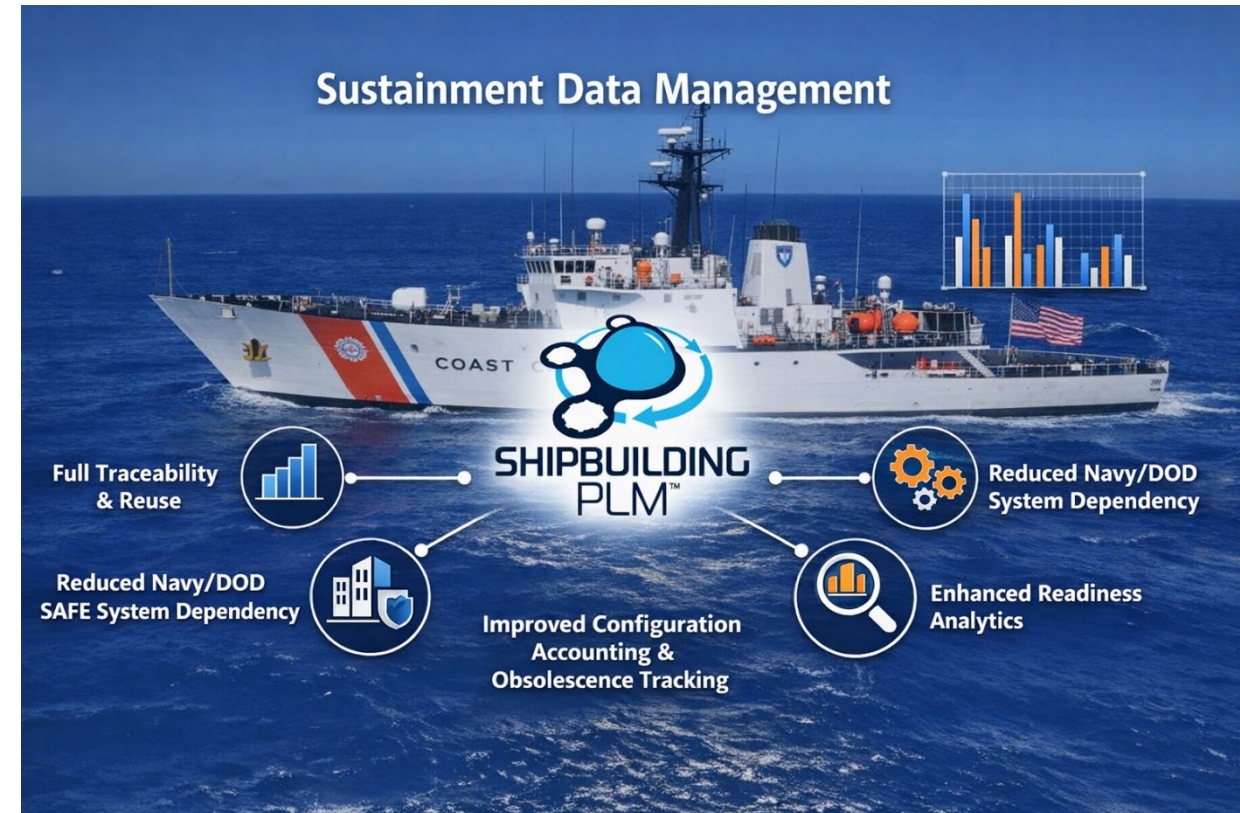
CDRL & RTVM Alignment with SC & SPLM





Value Proposition for USCG

- Authoritative sustainment data from new construction yards with traceability/reuse.
- Reduced Navy/DOD SAFE dependence for CDRLs.
- Improved config accounting, obsolescence handling, readiness analytics.
- Quantified (from project metrics): 60-75% reductions in data retrieval/validation time.





Next Steps

- Receive NSRP authorization to proceed with Phase 2
- Work out IT issues to allow improved USCG access to ShipbuildingPLM
- Incorporate feedback from interactive workshop to guide Phase 2 technical activity

Questions

