Architecting the Performance Support Video Factory Prize Challenge, Career Training Continuum (CTC), PMW-260 & NAWCTSD

Executive Summary: Performance Support Video Factory Prize Challenge

Strategic Context

Naval Air Warfare Center Training Systems Division (NAWCTSD) is proposing a Performance Support Video Factory Prize Challenge. The challenge will evaluate demonstrated working capabilities, rather than relying primarily on lengthy written Full and Open Competition where the solution is not known until after award. The objective is to automate the conversion of AI-augmented data into standardized, highly compressed training videos and establish a rapid transition path to an FY27 award. This capability directly supports the Navy's Career Training Continuum (CTC) by enabling rapid, on-demand, point-of-need training delivery to sailors in austere and afloat environments.

The Prize Challenge will address lifecycle sustainment by requiring both the final video files and the editable production artifacts to be delivered for reuse and sustainment. It also incorporates advanced Configuration Management (CM) capabilities to map each script line and video segment to its governing technical manual, procedure, and equipment configuration; identify affected content when a baseline changes; and support an AI-assisted Subject Matter Expert (SME) review and a re-rendering workflow.

Challenge Architecture

The challenge is architected around a strict down-selected funnel, designed to maximize prototype delivery within a fixed $160,000 total prize pool:

- Phase 1 (Open Call): Applicants will submit a concise Initial Technology plan, production approach, and evidence of existing capability or representative sample outputs. Submissions must address automated baseline Configuration Management and delivery of reusable production artifacts.

- Phase 2 (Top 10 Down Select): The field is narrowed to a top 10 cohort. All top 10 vendors will receive the same general, commercially oriented maintenance task and will autonomously produce a script, storyboard, and source-to-script traceability package. The task will describe a discrete commercial maintenance action, such as replacing an automotive intake manifold, and will not require Navy-specific Government Furnished Information (GFI).

- Phase 3 (Top 5 Demonstration): The field will narrow further to the top five entrants. The finalists will develop Navy-specific prototype videos using scoping data and GFI from the FY27 candidate pool, Mass Communication Specialist (MC) Course of Action (COA) 51-55;, and will demonstrate video production, compression, artifact delivery, source-to-segment traceability, impact flagging, SME correction, and re-rendering. The Top 5 prototype videos are intended for Government retention, editing, sustainment, and

potential operational use. Accordingly, Phase 3 deliverables must meet the minimum Performance Support (PS) production, catalog naming, metadata, captioning, disclaimer, and source-file requirements stated in this Prize Challenge announcement.

Financial Distribution Strategy

To ensure the final cohort is adequately resourced to render high-fidelity prototypes and present them in person, the $160,000 pool incorporates upfront operational stipends. The $160,000 prize pool is separate from the Rough Order of Magnitude (ROM) for the five FY27 candidate videos. Each of the top five teams receives a $11,000 stipend, broken down as $7,000 for prototype production and $4,000 for travel. The final awards combine these stipends with the base prize money:

- 1st Place: $55K base prize + $11K stipend = $66K total capitalization.
- 2nd Place: $30K base prize + $11K stipend = $41K total capitalization.
- 3rd Place: $20K base prize + $11K stipend = $31K total capitalization.
- 4th & 5th Place (Runners-up): Receive the $11K operational stipend.

Evaluation Rubric Matrix

Submissions will be rigorously scored against an updated four-pillar matrix to ensure they meet strict standards for demonstrated performance, military instructional quality, reusable artifact delivery, lifecycle sustainability, and cybersecurity. The minimum PS product conformance requirements will be treated as mandatory acceptance criteria for the Top 5 prototype deliverables; evaluation scoring will distinguish the degree to which vendors exceed the baseline in automation, technical accuracy, traceability, speed, quality, sustainment, and re-rendering capability.

- Tech (5 Key Areas): Evaluating the underlying generative engine's capabilities, ingestion mechanics, synthesis velocity, and Automated Dependency Mapping.
- Experience (4 Key Areas): Evaluating Military relevance ("Mil"), iteration and predictive modification "Speed," "Video Type" versatility, and "Cloud" rendering architecture.
- Script (5 Key Areas): Assessing pedagogical construction, warfare "Area" terminology, and adherence to safety protocols.
- Video Product & Lifecycle (4 Metrics): The final rendered video and sustainment package must pass strict checks for Tech Accuracy, including traceability and artifact completeness; Cyber integrity; visual Quality; and optimized file Size for disconnected shipboard networks. For Phase 3, Tech Accuracy will also include conformance with the applicable PS minimum product specifications, catalog naming convention, metadata package, required disclaimer, captions, and Government-reusable source artifacts.

Part I: Strategic Context and the Readiness Imperative

The Department of the Navy is currently navigating a generational paradigm shift in its fundamental approach to human performance technology, technical readiness, and

organizational learning. Historically, the military has relied heavily upon industrial-age instructional paradigms, characterized by front-loaded, centralized schoolhouse training that emphasizes rote memorization over applied, point-of-need technical proficiency. This legacy model has proven increasingly brittle when confronted with the rapid technological acceleration of modern naval platforms and the distributed, highly contested nature of contemporary maritime operations.

To address this structural vulnerability, the Navy has initiated the Career Training Continuum (CTC) framework, a multi-phased modernization initiative managed under the Program Executive Office for Manpower, Logistics and Business Solutions (PEO MLB) and executed collaboratively by the Naval Education and Training Command (NETC) and the Naval Air Warfare Center Training Systems Division (NAWCTSD). The overarching strategic objective of the initiative is to provide sailors with the precise training required, at the exact moment of operational necessity, utilizing the most pedagogically effective delivery methodology available. This framework seeks to shift the burden of knowledge retention away from the perishable memory of the individual sailor and toward a continuous, career-long learning continuum that is seamlessly accessible directly on the waterfront, the flight line, and eventually, within disconnected afloat environments. However, optimizing the delivery of this training fundamentally relies upon optimizing the underlying instructional design and media production supply chains.

In mid-2023, NAWCTSD, acting in concert with the Central Florida Tech Grove, Team Orlando, the Office of Naval Research (ONR), and the National Security Innovation Network (NSIN), executed a highly successful prize challenge explicitly engineered to resolve a critical upstream bottleneck: the manual, labor-intensive execution of Instructional Systems Design (ISD) Analysis. This competition successfully validated the integration of Large Language Models (LLMs) and artificial intelligence to autonomously generate task analyses, learning analyses, and media selection matrices.

While this algorithmic acceleration of ISD analysis represents a monumental triumph for defense acquisition, it inevitably transfers systemic friction downstream to the media development and delivery phases. The rapid, AI-driven generation of instructional requirements dictates a reciprocal necessity for the rapid generation of the actual instructional media. Specifically, the Navy faces an impending, massive demand signal for high-fidelity, standardized Performance Support (PS) videos—micro-learning assets designed for point-of-need (PoN) consumption by sailors operating complex hardware.

Based on organizational parameters, historical precedents, and documented systemic constraints, this report architects the optimal structure, technical parameters, evaluation rubric, and strategic implementation framework for a follow-on prize challenge. This proposed acquisition strategy focuses on establishing scalable, automated, and hyper-secure solutions for the "Performance Support Video Factory," addressing the Navy's critical mandate to deliver interactive, easily updatable video learning aids to the fleet at the speed of relevance.

The Pedagogical Imperative of Video-Based Performance Support

Historically, shipboard maintenance and emergency response have relied heavily upon tribal knowledge—informal, undocumented procedures passed down verbally among fleet personnel. This reliance creates unacceptable vulnerabilities in operational consistency, compliance, and safety. The systemic integration of Performance Support videos aims to systematically digitize, standardize, and baseline this knowledge across the entire enterprise.

By utilizing short, targeted, YouTube-style instructional media, the Navy directly capitalizes on modern adult learning preferences and cognitive processing models. Extensive academic business case analyses, including comprehensive qualitative and quantitative studies executed by researchers at the Naval Postgraduate School, have unequivocally validated that video-based learning strategies significantly enhance adult vocational training outcomes, provided the content is highly accessible and directly relevant to the physical tasks at hand. These studies validate that video instruction lowers cognitive friction when a user is attempting to parse complex mechanical sequences.

Furthermore, leadership has explicitly noted that providing maintainers with video-based job performance aids represents a critical, tactical response to existing readiness deficits. By facilitating immediate, virtual "reps and sets" for muscle memory validation prior to a sailor's physical interaction with live, highly volatile weapons systems or complex propulsion plants, PS videos directly lower maintenance error rates, reduce rework, and enhance overall combat lethality. Consequently, accelerating the production volume and ensuring the absolute technical standardization and long-term sustainability of these videos is a central, non-negotiable materiel readiness requirement.

Part II: Retrospective Diagnostic of the 2023 ISD Analysis Prize Challenge

To construct an effective, highly resilient structural framework for the proposed Performance Support Video challenge, it is an absolute necessity to rigorously analyze the functional mechanics, bureaucratic constraints, and technological outcomes of the predecessor challenge managed by the Central Florida Tech Grove during the final quarters of 2023. This historical precedent provides the optimal architectural blueprint for rapid defense acquisition.

Part III: Proposed Architecture for the Performance Support Video Challenge

The upstream automation of ISD analysis dictates that the Navy will imminently possess thousands of rapidly generated, highly accurate media requirement matrices. If the actual physical production of these videos remains bound to industrial-age manual storyboarding, traditional live-action filming schedules, and manual post-production editing, a severe supply-chain bottleneck will rapidly materialize, entirely negating the massive time savings achieved by the AI-driven ISD tools.

The proposed prize challenge must therefore focus on demonstrated output of readily available commercial product for the rapid, automated, and standardized conversion of source material and ISD data into functional, highly compressed Performance Support videos ready for austere afloat deployment. The competition must also evaluate the underlying artifact package and lifecycle-management infrastructure needed to reuse, update, and sustain those videos.

Formalizing the Parameters: The Challenge Blueprint

Internal planning sessions and the July 2026 PMW candidate-selection white paper establish a three-phase down-select optimized for actual output, equitable comparison, and FY27 OTA transition. The challenge retains a fixed capitalization pool of $160,000 while progressively increasing the realism of the source material: concise capability evidence in Phase I, a common commercial maintenance scripting task in Phase II, and Navy-specific prototype production in Phase III.

Phase I: The Open Call and Initial Conceptual Submissions

The challenge will open to industry, academia, and non-traditional defense startups. Applicants at this stage will submit a concise capability package rather than a traditional lengthy technical proposal. The package will contain two primary artifacts and evidence of demonstrated capability:

- Initial Technology and Capability Evidence: A concise description of the algorithmic approach, software architecture, commercial generative tools, deployment model, and one or more representative outputs or demonstrations that substantiate the claimed capability.
- Recommendation to Produce Videos & Experience: A production and sustainment plan showing how technology maps to the military instructional constraints, adult learning methods, offline delivery, and the required production-artifact package. Vendors must explicitly explain automated baseline Configuration Management, including how the platform maps videos and editable source artifacts to technical-manual versions, procedures, and equipment configurations.

Phase II: The Top 10 Downselect and Script Production

From the initial submission pool, the evaluation panel will execute a rapid down-selection to identify the top 10 candidates. Selection will emphasize demonstrated capability, feasibility, security, and the credibility of the proposed production and sustainment workflow. The top 10 will then be evaluated through a common, output-based script exercise.

Each of the top 10 vendors will receive an identical, general, commercially oriented maintenance source package rather than Navy-specific GFI. The task will describe a discrete maintenance action that is sufficiently familiar to permit objective comparison but sufficiently complex to test sequencing, warnings and cautions, tool and part identification, and visual planning. Replacing an automotive intake manifold is an illustrative example. Each vendor must autonomously produce a script, storyboard, and source-to-script traceability manifest based only on the provided package.

Phase II task selection criteria include public or government-cleared source availability; procedural completeness; moderate technical complexity; observable steps and components; identifiable safety requirements; no controlled, proprietary, or export-restricted data; and enough source detail to test traceability. All competitors will receive the same source package, evaluation criteria, and response period.

Phase III: The Top 5 Demonstration and Capitalization

Following evaluation of the Phase II scripts, the funnel narrows to the final five teams. These finalists will receive controlled Navy scoping data and GFI drawn from the five planned FY27 Performance Support Video candidates, MC COAs 51-55, and will produce Navy-specific prototypes for the live Prize Challenge demonstration. The challenge rules should define candidate assignment and common evaluation controls so the government can compare vendor performance fairly.

Each top five team will receive an upfront stipend of $11,000, explicitly allocated as $7,000 for prototype production and $4,000 for travel/data collection. In addition to the final compressed video, each finalist must deliver an editable script and storyboard, source or project files needed for government sustainment, captions and transcript, a source-to-segment traceability manifest, configuration-baseline metadata, and evidence that the solution can flag an affected segment, support SME correction, and re-render the revised content to demonstrate live capability and prove the capability works. Because the Government intends to retain and edit the prototype products, these deliverables are not disposable demonstrations and must be structured for Government reuse and sustainment.

Minimum Phase III Product Baseline:

- Final linear Performance Support (PS) video deliverables shall be 1280 x 720 HD at 30 FPS, delivered in MPEG-4 (.mp4) format using H.264 AVC video encoding and AAC audio encoding.
- Audio bitrate shall be between 128 kbps and 192 kbps. For 1280 x 720, 30 FPS video, the normal target video bitrate shall be 3.5 Mbps to 5.0 Mbps unless testing demonstrates that a lower bitrate preserves acceptable quality or a higher bitrate is required.
- Spoken narration and instructional audio shall use AI-based text-to-speech; human-recorded narration is not authorized. Closed captions shall be provided in Web Video Text Tracks (VTT) format.
- Discrete linear PS videos shall not exceed five minutes, exclusive of the required disclaimer, with approximately three minutes or less preferred when appropriate. Compression shall minimize file size without unacceptable blocking, banding, pixelation, motion smearing, loss of legibility, audio distortion, clipping, excessive noise, or synchronization issues.

Naming and Metadata:

- Each finalist shall provide a Government-ready PS Catalog title and metadata package for each prototype.

- For Preventive Maintenance System (PMS) products, the catalog title shall use the format [MIP] [MRC] [Equipment] - [Action], or [MRC] [System/PoR] [Variant] - [Action], as applicable, and shall not exceed 70 characters.
- The vendor shall not create the final stored filename; the Government STePS application will assign the UUID during catalog ingestion.
- Metadata shall be populated from the Government-provided TYCOM scoping information GFI and shall include, as applicable: PS Category; TYCOM; PS Title; PS Description; CLLC COA number; billet/job; platform or ship class; hull ID/name/configuration when applicable; audience rating, skill level, and NEC; source procedure step number; MIP series; MRC; periodicity; technical manual or source document identifier; procedure title and procedure ID; system; subsystem; equipment; applicable rate(s); and learning resource type.
- Metadata shall be delivered in a Government-readable, editable format suitable for ingestion and lifecycle management.

Government-Reusable Delivery Package:

- Each finalist shall deliver the final compliant video; editable script and storyboard; editable source/project files; VTT caption file; transcript; thumbnail image in the same aspect ratio as the video; PS Catalog title; required metadata package; source-to-script and source-to-segment traceability; configuration-baseline information; and sufficient artifacts to support Government review, correction, sustainment, and re-rendering.
- Contractor-only source files, proprietary playback technology, continuous proprietary cloud authentication, or recurring license fees shall not be required to use, manipulate or reproduce the delivered video.

Required Disclaimer, Identification, and Branding:

- Each retained prototype shall display and narrate the following statement prior to content consumption: "Performance Support does not replace the approved Program of Record technical procedures Sailors are required to follow but rather are designed to supplement the approved procedures.
- Performance Support provides a visual aid to support the performance of selected tasks, subtasks, or steps within an approved procedure.” Procedural Demonstration videos shall display the content classification level in the opening sequence and in the final/closing sequence.
- Contractor company logos and co-branding are prohibited.
- Government-provided Navy branding assets and instructions shall be used when provided.

FY27 Finalist Prototype Candidate Set

PMW-260 recommends CLLC MC COAs 51-55 as the primary candidate pool for the Navy-specific finalist prototypes. All five are MC-rating Planned Maintenance System products within the same MIP series and can be supported without sea-going asset coordination.

COA	PMS Candidate (MIP / Equipment)	FY	ROM (AD + DEV)	Duration
51	6541/026-C3 - Paper Drill, FR 3-23	FY27	$3,805 + $7,881 = $11,686	0.5 hr
52	6541/048-69 - Wire Stitcher, FR 3-23	FY27	$3,805 + $7,881 = $11,686	0.5 hr
53	6541/079-C3 - Paper Cutter, FR 3-23	FY27	$3,805 + $7,881 = $11,686	0.5 hr
54	6541/086-69 - Baum D3 Paper Drill, FR 3-23	FY27	$3,805 + $7,881 = $11,686	0.5 hr
55	6541/087-88 - Paper Cutter, Electric, FR 3-23	FY27	$3,805 + $7,881 = $11,686	0.5 hr
Total	**Five FY27 candidate products**		**$58,430**	**2.5 hr**

Based on the listed values, the five candidates have a combined acquisition-development ROM of $58,430. The development ROM is currently scheduled for FY28.

Candidate Selection Rationale

- Reduced Risk through Consistency: The candidates use the same MIP series and rating, and TYCOM prioritization remains grouped, reducing subject-matter variability across the prototype set.
- Leveraging Lessons Learned: PMS videos have been produced previously, providing existing repetitions and lessons learned for evaluation and vendor execution.
- Streamlined GFI Logistics: MC COAs 51-55 require limited GFI from a common, one-stop source, reducing government data-gathering and distribution delays.
- No Sea-Going Assets Required: Required media can be captured in controlled, accessible environments without coordinating access to an operational vessel.
- Favorable Cost and Budget Buffer: The $58,430 total listed ROM is $47,570 below NAWC's $106,000 estimate, preserving funding for iterative corrections and refinement.

Strategic Prize Distribution Mapping

The distribution of the $160,000 total prize pool is calculated to maximize competitive drive while ensuring adequate operational funding for the finalists. This prize capitalization is separate from the $58,430 listed ROM associated with the five FY27 candidate products. The final prize pool distribution integrates the Phase III operational stipends directly into the total award calculus:

Placement Tier	Base Prize Award	Operational Stipend ($7K Script + $4K Travel)	Total Capitalization Realized by Vendor
First Place	$55,000	$11,000	**$66,000**
Second Place	$30,000	$11,000	**$41,000**
Third Place	$20,000	$11,000	**$31,000**
Fourth Place	$0	$11,000	**$11,000**

Fifth Place	$0	$11,000	**$11,000**

Part IV: Deep-Dive Analysis of the Evaluation Rubric

The evaluation of highly complex, AI-generated multimedia submissions must move far beyond subjective, aesthetic assessments of "video quality". The judging panel, composed of elite subject matter experts from NAWCTSD, NETC, and frontline fleet commands, requires a rigidly quantitative evaluation matrix. The core evaluation framework is split across four foundational pillars:

Pillar 1: Tech (The 6 Key Areas of Algorithmic Superiority)

The first pillar focuses strictly on the underlying software architecture driving the video generation and data mapping. The key areas defining this category evaluate the engine's capability to operate autonomously, accurately, and sustainably:

- Ingestion Capability: The system's ability to seamlessly ingest complex, unstructured military technical data and structured ISD matrices without requiring massive manual data cleaning.
- Generative AI Efficacy: The sophistication of the underlying text-to-video or text-to-animation models, specifically their ability to accurately represent complex mechanical geometry rather than generating hallucinatory visual artifacts.
- Synthesis Velocity: The actual computational time required to render a fully compliant, three-minute Performance Support video. True velocity is a paramount scoring metric to "bend the curve" of training.
- Platform Independence: The software's ability to operate without locking the Navy into highly proprietary, closed-loop commercial vendor ecosystems.
- Automated Voice and Captioning Integration: The precision of integrated text-to-speech engines and automated captioning generation, critical for conveying information in high-noise operational environments.
- Automated Dependency Mapping (Core CM Feature): The capability of the generative AI engine to parse input documentation and establish a source-to-segment lineage matrix. In Phase II, the system must map each script and storyboard element to the commercial source package. In Phase III, it must map every rendered segment, script line, and editable production artifact to the source technical manual version, procedure, and equipment configuration.

Pillar 2: Experience (The 4 Key Areas of Contextual Application)

This pillar evaluates the vendor's understanding of the unique constraints and operational realities of the naval warfighter. Four core sub-components are identified:

- Mil (Military Relevance): A vendor's algorithmic capability to accurately represent naval uniforms, rank insignia, shipboard environments, and strict adherence to military procedural safety protocols. A video displaying a sailor violating a safety tag-out procedure is functionally useless and dangerous.
- Speed (Predictive Impact Flagging & Iteration): Evaluates the rapidity of content iteration, specifically powered by AI Predictive Impact Flagging. When a technical manual or equipment baseline is modified by Naval Sea Systems Command (NAVSEA), the video

hosting subsystem must use its AI capabilities to automatically scan the library, cross-reference the updates, and immediately flag all videos requiring content modification.
- Video Type: The versatility of the platform. Can it generate 2D schematic animations, manipulate 3D digital twins, and seamlessly composite live-action footage to support diverse learning styles?
- Cloud: How the system leverages distributed cloud computing architectures for heavy generation phases, while simultaneously ensuring the final output can be entirely divorced from the cloud for offline deployment.

Pillar 3: Script (The 5 Key Areas of Pedagogical Construction)

Before rendering begins, the narrative flow must be flawless. In Phase II, the rubric will test general instructional construction using the common commercial maintenance task. In Phase III, it will test Navy-specific domain accuracy using the selected MC COA source package. The system's automated script generation will be evaluated on:

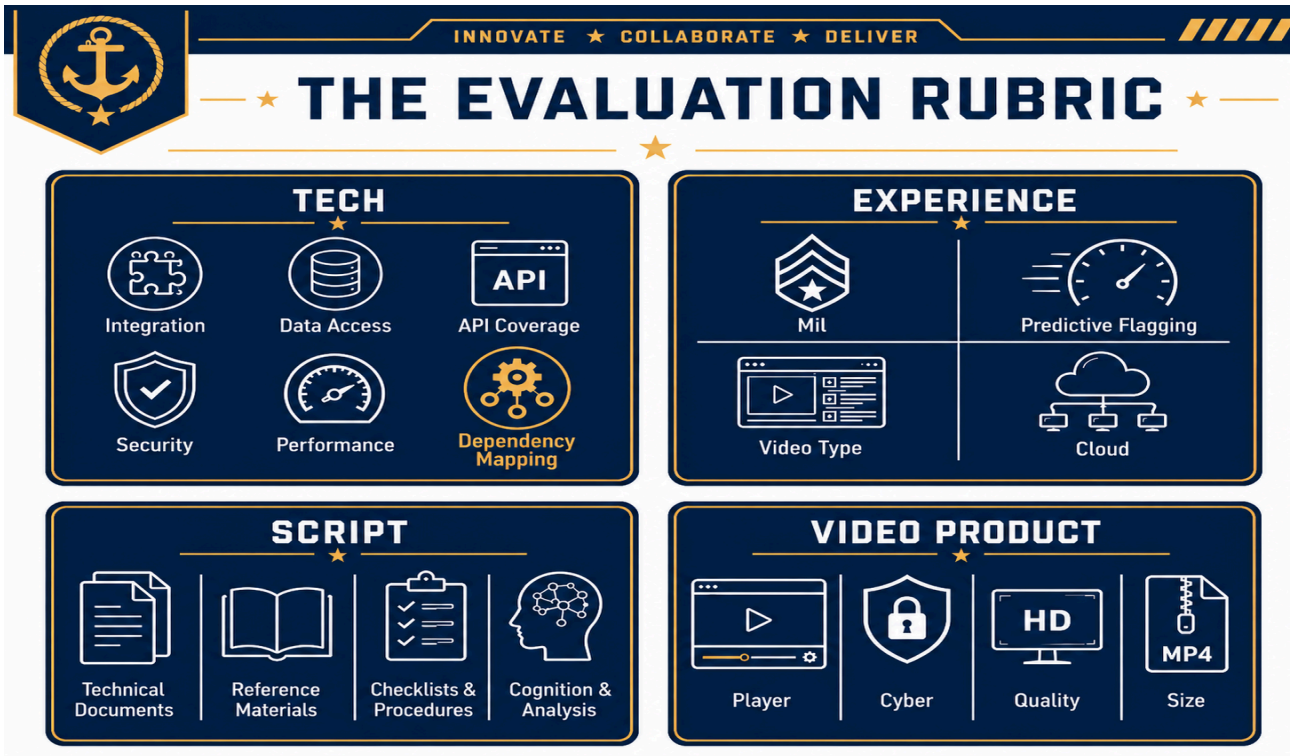
- Area (Domain Applicability): In Phase II, accurate use of terminology for the assigned commercial maintenance domain and avoidance of unsupported Navy-specific claims. In Phase III, accurate use of specialized naval terminology and acronyms relevant to the assigned rating, equipment, and PMS procedure.
- Cognitive Load Optimization: The pacing of the script, breaking down complex mechanical processes into digestible, micro-learning cognitive chunks.
- Instructional Alignment and Traceability: The explicit mapping of each script step, warning, visual cue, and performance objective to the provided source material, with sufficient metadata to identify the affected content when a source baseline changes.
- Clarity and Brevity: Action-oriented instructions designed for sailors under duress, eliminating unnecessary theoretical fluff.
- Safety Protocol Mechanization: The explicit, highlighted inclusion of all warnings, cautions, and hazard notifications embedded within source documentation.

Pillar 4: Video Product & Lifecycle (The Ultimate Output Metrics)

The final pillar evaluates the rendered video and sustainment package across four critical sub-metrics. Artifact completeness and traceability are scored within Tech Accuracy and lifecycle performance:

- Tech Accuracy: Absolute visual and procedural fidelity to the governing source data and official Navy maintenance specifications, including complete delivery of editable production artifacts, captions and transcript, and a source-to-segment traceability manifest. For Phase III, the package must support configuration-baseline identification and controlled re-rendering of an affected segment. Phase III Tech Accuracy will also verify compliance with the minimum video, audio, captioning, naming, metadata, disclaimer, branding, and Government-reusable artifact requirements stated in this Prize Challenge announcement.
- Cyber: Rigorous resistance to supply chain vulnerabilities, malicious code execution risks, and compliance with Zero Trust standards.

- Quality: Visual resolution and framerate clarity necessary to identify minute mechanical components, digital gauge readouts, or wire color-coding in low-light environments.
- Size: The mathematical trade-off utilizing advanced lossless video compression algorithms to minimize megabyte footprint for traversal over heavily degraded or disconnected satellite communication networks.



Part V: Technical Constraints, Cybersecurity, and Afloat Deployment

A prize challenge is only as strategically effective as the operational boundaries and technical constraints placed upon the problem set. If commercial vendors operate in a theoretical vacuum, their solutions will inevitably fail to integrate into the highly restrictive Navy enterprise environment. The July 2026 candidate set reduces prototype execution risk by using accessible PMS equipment and limited GFI, but the resulting solution must still meet the physical, digital, and bureaucratic realities of waterfront and afloat deployment.

The Afloat Delivery Environment and Hardware Limitations

The Performance Support Video Challenge mandates compliance with the operational delivery environment and the minimum product requirements stated in this announcement. For Phase III, final PS video deliverables shall use the required 1280 x 720 resolution, 30 FPS, MPEG-4 (.mp4) container format, H.264 AVC video encoding, AAC audio encoding, and VTT closed captioning. Participants may use advanced or proprietary technologies within their production environment; however, the Government-delivered PS product and sustainment artifacts must remain usable without proprietary playback technology, continuous cloud authentication, or recurring license fees for Sailor consumption. Prototype planning for MC COAs 51-55 shall not depend on access to an operational ship or other sea-going asset; required media capture shall occur in controlled, accessible environments using Government-provided GFI and equipment access.

Cybersecurity, Information Assurance (IA), and Zero Trust

Information Assurance is a vital, non-negotiable component of all strategic and tactical naval operations. Competitors submitting algorithmic solutions must demonstrate a comprehensive understanding of the Department of the Navy's Cybersecurity policy (SECNAVINST 5239.3C) and the necessary integration of automated Certification and Accreditation (C&A) tools.
Any software proposed to automate video generation, hosting, or delivery must be explicitly designed to withstand rigorous scanning for network vulnerabilities, penetration resistance, and fundamental code integrity. Because modern AI tools rely heavily on interconnected, open-source libraries, solutions must seamlessly navigate the Cybersecurity and Infrastructure Security Agency (CISA) open-source roadmap to guarantee that embedded code does not inadvertently introduce deeply hidden supply-chain vulnerabilities into the Navy's foundational training architecture.
Furthermore, the challenge scoring rubrics under the "Cyber" category heavily weight a vendor's ability to seamlessly operate within the DoD's mandate for a Zero Trust architecture. In this paradigm, the identity of the sailor attempting to access the video asset, and the digital integrity of the device they are utilizing, must be continuously authenticated, even when operating in localized, offline, cached, shipboard video hosting environments.

Part VI: Strategic Acquisition Execution and Risk Management

Verified CPO Planning Schedule

The following dates were verified against the signed Collaborative Project Order (CPO) Planning Document.

Period of Performance: 10 August 2026 through 5 November 2026

Procurement and Award Milestones

• 17 July 2026: Complete purchase request and reimbursable/direct-cite actions
• 21 July 2026: Submit the final CPO request for proposal to UCF
• 4 August 2026: Receive proposal response
• 14 August 2026: Award
• 18 August 2026: Contract kickoff

Challenge Execution Milestones

Challenge Execution Milestones

- 20 August 2026 - CTC Release of the complete prize challenge package
- 25 August 2026 – Challenge opens
- 25 August 2026 – NAWCTSD conducts evaluator meeting to review the grading rubric and evaluation process
- 25 September 2026 – Deadline for Phase 1 submissions, 11:59 p.m. Eastern Time, submitted through the designated portal. Submissions must meet the Phase 1 Submission Requirements.
- 25 September 2026 – PMW-260 identifies Fleet SMEs required to support Phase 3 technical accuracy reviews
- 25 September 2026 – PMW-260 provides/receives required TYCOM Performance Support Scoping Sheets and supporting data for development of the Top 5 data packages and site-survey GFI
- 25 September 2026 – PMW-260 confirms the Data Collection Trip location and provides local POCs for the planned October site visit
- 2 October 2026 – Phase 1 evaluation complete and down select to the Top 10
- 2 October 2026 – NAWCTSD provides completed Phase 2 instructions to Central Florida Tech Grove
- 5 October 2026 – Phase 2 begins; Central Florida Tech Grove issues Phase 2 instructions to the Top 10
- 8 October 2026 – Phase 2 submissions due
- 8 October 2026 – Final coordination begins for the Data Collection Trip
- 13 October 2026 – Phase 2 evaluations complete and results provided to Central Florida Tech Grove

- 14 October 2026 – Top 5 vendors identified
- 14 October 2026 - GFI, assigned performance support video, scoping information, and final production instructions issued to the Top 5.
- 14 October 2026 – PMW-260 confirms the site visit location, local POC, and five guides/SMEs supporting the Top 5 vendors
- 21–22 October 2026 – Site Visit / Data Collection conducted for the Top 5 vendors
- 21–22 October 2026 – PMW-260 confirms technical SMEs who will review the final performance support videos
- 2 November 2026 – Final Top 5 performance support video submissions due
- 2–4 November 2026 – Fleet SMEs conduct technical accuracy review of the final performance support videos and document discrepancies requiring resolution
- Prior to 5 November 2026 – NAWCTSD conducts final evaluator coordination meeting and prepares the evaluation team for demonstration-day scoring
- 5 November 2026 – Final Demonstration Day
- 5 November 2026 – Final evaluation and down select to the Top 3

Authorization Dates

• 15 July 2026: Requesting Organization POC
• 26 June 2026: NAWCTSD PM

To execute this prize challenge effectively and rapidly, a disciplined timeline must align notification, submissions, demonstrations, and transition decisions with the FY27 contract award in mind. The schedule must also include government preparation of the common Phase II commercial maintenance package and the controlled GFI packages for the FY27 candidate pool. Leveraging the operational tempo and network of the Central Florida Tech Grove will maximize industry participation and support timely prototype delivery.
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Execution Ecosystem and Market Priming

The initial execution phase focuses exclusively on market research and the widespread dissemination of challenge parameters to non-traditional defense contractors. The Tech Grove alliance network, which effectively penetrates startup ecosystems and commercial technology hubs located far outside the standard DoD orbit, is a critical strategic asset here.
The publication of the official problem statement on federal portals such as SAM.gov will be augmented by a virtual information session. The session should clearly distinguish the common commercial maintenance task used in Phase II from the controlled Navy candidate GFI used in Phase III; explain the MC COA 51-55 selection rationale; define the required artifact and sustainment package; describe afloat network limitations and Configuration Management requirements; and publish the exact structure of the source inputs and evaluation criteria.
Following the Phase I and Phase II down-selects, the challenge will culminate in the live Phase III demonstration. Rather than requiring vendors to generate an entire video on the demonstration floor, a suitable portion of the video can be presented in the time allotted.

Finalists must also arrive with a final prototype developed from assigned candidate GFI and will demonstrate the end-to-end workflow live.

Programmatic Risk Mitigation and Transition Strategy

While prize challenges offer unparalleled speed and unmatched access to innovative commercial technologies, they inherently carry specific programmatic risks that must be proactively mitigated by the NAWCTSD acquisition and legal teams:

- Intellectual Property and Data Rights: When procuring generative AI and automated video-production software, challenge documentation must distinguish the vendor's retained rights in its core algorithms and proprietary models from the government's rights in challenge outputs. The vendor may retain core platform IP, while the Department of the Navy receives full, unencumbered rights to the generated videos and government-funded production and sustainment artifacts derived from Navy-provided source material. The generated video must be delivered with full government rights and have the ability to be updated outside of any platform IP that produces the content.
- Vendor Lock-in and Format Obsolescence: To prevent long-term reliance on a single proprietary ecosystem, final videos must use widely adopted open-standard formats and remain functionally independent from the generating software. Editable scripts and storyboards, captions and transcripts, traceability manifests, baseline metadata, and exportable project assets must remain usable without continued proprietary cloud authentication or legacy licensing fees.
- Required Sustainment Package: A finalist submission is incomplete without the underlying artifacts required for long-term reuse. At a minimum, the package must include the editable script and storyboard, captions and transcript, source-to-segment traceability manifest, configuration-baseline metadata, and exportable source or project files sufficient for government review, correction, and re-rendering.
- The Human-in-the-Loop Imperative (SME Dashboards): While the primary objective of the challenge is massive automation to achieve speed and scale, the absolute elimination of human oversight is a profound operational risk in military environments. The fundamental goal is not to eliminate human involvement entirely, but to aggressively expedite mundane processes and equip humans with superior tools.
  The PS Video Factory platform must provide an intuitive, rapid-response interface for instructional Subject Matter Experts (SMEs). When the platform's AI Configuration Management subsystem flags an asset due to a document update, the change must be routed directly to an instructor dashboard. The dashboard must present a side-by-side comparison of the old source documentation versus the new text alongside the affected video segment. This allows the human instructor to instantly review, validate, manually edit if necessary, and instantly re-render the corrected video sequence before it is officially re-published to the fleet.


INNOVATE ★ COLLABORATE ★ DELIVER
SME RAPID-RESPONSE INTERFACE
SME RAPID-RESPONSE INTERFACE
SME USER
SETTINGS
HELP
CONFIGURATION DISCREPLANCY DETECTED: NAVSEA MANUAL REV 3
1. SPECIFICATION COMPARISON
PREVIOUS MANUAL (REV 2)
OUTDATED SPECIFICATIONS
CURRENT MANUAL (REV 3)
UPDATED PARAMETERS
BOLT DIAMETER
~~0.750 in ±0.010 in~~
0.780 in ±0.010 in
TORQUE VALUE
~~220 ft-lb~~
250 ft-lb
PRESSURE RATING
~~450 PSIG~~
500 PSIG
OPERATING TEMP
~~-20°F to 180°F~~
-20°F to 200°F
MATERIAL
~~AL 6061-T6~~
AL 6061-T651
COATING
~~MIL-DTL-5541 TYPE II~~
MIL-DTL-5541 TYPE III
OUTDATED (SUPERSEDED)
CURRENT (APPLICABLE)
2. VIDEO EDIT & REVIEW
VIDEO PREVIEW
00:00:42 / 00:03:15
TIMELINE
FLAGGED FOR REVIEW
PLAYHEAD POSITION
PROJECT CPM-27
SOURCE NAVSEA MANUAL
REVISION REV 3
LAST SYNC 10:42 AM
STATUS PENDING VALIDATION
VALIDATE & RE-RENDER

Part VII: Broader Implications for Fleet Wholeness and Synthesis

The successful execution of this proposed prize challenge extends its operational impact far beyond localized institutional boundaries. The initial MC COA 51-55 candidate set provides a controlled first application that reduces GFI, access, and cost risk while allowing the Navy to evaluate a scalable, enterprise-wide Performance Support Video Factory with integrated Configuration Management. The validated model can then be applied across Aviation, Surface, and Undersea domains.

As detailed in ongoing Model-Based Systems Engineering (MBSE) Training Wholeness analyses, modernizing the training pipeline at this scale allows for the precise, mathematical correlation of warfare areas, basic skills, and physical training assets. A Sailore must have immediate, point-of-need access to a high-fidelity, standardized, and technically flawless video demonstrating a complex preventative maintenance system (PMS) check directly on the deck plates. This guarantees compliance with the latest technical manual baselines and the immediate, measurable result is a drastic reduction in maintenance-induced casualties. Over the extended lifespan of a major platform, this enhanced capability directly translates to heightened operational availability, significantly extended equipment lifespans, and ultimately, a more lethal, combat-ready naval force.

Furthermore, resolving the video production and sustainability bottleneck ensures that the Department of the Navy realizes the compounded return on its prior investments in AI-driven ISD analysis. Phase III prototypes, reusable production artifacts, and live lifecycle-change demonstrations will provide concrete evidence for an FY27 contract award. Based on the candidate table, the $58,430 listed ROM remains below NAWC's $106,000 estimate, preserving a $47,570 buffer for iterative correction and supporting the goal of accelerated single-year execution rather than a planned two-year schedule.

The strategic imperative to modernize human performance technology within the Department of the Navy requires agile, highly unconventional acquisition methodologies. The traditional cycle of requirements generation, followed by multi-year procurement delays, is structurally incompatible with the velocity of modern technological change and the immediate, pressing demands of the CTC initiative. The Central Florida Tech Grove ecosystem provides the exact, legally validated mechanism necessary to bypass these bureaucratic delays, connecting critical Navy pain points directly with the commercial sector's most innovative minds.

The proposed prize challenge architecture, structured around a common Phase II commercial maintenance task, a Navy-specific FY27 finalist candidate pool, reusable artifact delivery, integrated lifecycle configuration tracking, strict cyber compliance, and austere-network deployment, provides an actionable roadmap to digitize tribal knowledge, enhance sailor proficiency, and elevate the technical readiness of the United States Navy.

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