Holographic Booth Experience

June 9, 2026 Submitted by Tracy Evans, President, Exhibitry, Inc.

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XR EXPERIENCE

A holographic schooner materializes, full-masted and under sail, as if the lake had given her back. A visitor steps closer. The hologram responds: time runs backward, the intact vessel dissolves into the broken wreck resting on the lake bed today, then restores itself again. Narration, sound effects and a musical score carries the visitor through her last voyage, the storm that took her, and the divers who found her more than a century later. At a touch, the scene resolves into a second wreck, and the sanctuary reveals another chapter of its history. A final call-to-action ties both vessels to the present-day New York Blue Economy.

The experience runs on **Exhibitry's HoloTube**, a self-contained holographic platform that needs no glasses, no headset, and no wearable of any kind. Visitors simply walk up and watch the wreck come alive in three dimensions. An interactive touchscreen plays the *Sanctuary Story* and *Blue Economy* videos and carries the full narrative as a silent, subtitled path for hearing-impaired visitors.

> "A cool, compelling new product that could lure attendees into your space with the power of a tractor beam."
> ~Exhibitor Magazine

XR APPROACH

HoloTube is Exhibitry's premier holographic platform, developed and refined over more than a decade of museum, federal, and commercial deployments. It creates a true floating-image illusion that holds up to close inspection, unlike pyramid-glass, spinning-LED, or transparent-screen approaches that reveal themselves from the wrong angle. We have deployed HoloTube for NASA Kennedy Space Center, the National Naval Aviation Museum, and major museums and corporate clients, each refining the platform for public-venue audiences.

BOOTH APPROACH

The experience deploys on HoloTube Horizontal Kiosk, a travel-friendly configuration of Exhibitry's holographic platform. Its horizontal format mirrors the orientation of a shipwreck at rest, and its compact, portable build suits the full range of LONMS venues, from a school library to a museum lobby. The Kiosk travels as a complete modular system: the HoloTube unit, an interactive touchscreen station, interpretive signage carrying wreck and oral histories, and rolling transport cases foam-cut for every component. Everything packs down for transport between venues, and setup takes approximately two hours. The HoloTube platform also scales to larger HalfPipe and Life-Size configurations for venues that can host a larger installation, detailed in Appendix C - HoloTube Configurations.

ACCESSIBILITY

HoloTube asks no more of the visitor than curiosity. No headset, no handset, no instructions, no wait. A visitor walks up and the hologram is simply there, immediate and self-evident, with no staff facilitation. The form is inclusive by nature: wheelchair users, visitors with sensory sensitivities, and those new to immersive media all engage at once, with no separate stations. The interactive touchscreen carries the full narrative visually, captioned and audio-free, for hearing-impaired visitors. A parallel audio track, narration and soundscape engineered as primary content rather than accompaniment, serves sight-impaired visitors, an approach Exhibitry has delivered for public audiences at the Alameda Creek Watershed Center for the San Francisco Public Utilities Commission.

EXPANSION AND DISTRIBUTION

The XR world built for this project is designed as a foundation, not an endpoint. The first two shipwrecks are a starting menu: more can be added as new chapters, building a growing catalog of Lake Ontario maritime history without rebuilding the platform. The same architecture extends to additional Mid-Atlantic sanctuaries and submarine canyons as MARCO and NYSDOS identify future opportunities. And

because the 3D world stands independent of the display hardware, the same content can travel well beyond the exhibit floor. A web-based version could put the wrecks and the sanctuary story in any classroom or living room in the state. The experience could later be adapted as a standalone VR app.

PROJECT REQUIREMENTS

Exhibitry's approach to each of the eight tasks follows. Each is built to meet the RFP requirement and, where it strengthens the result, to exceed it.

TASK 1. PROJECT MANAGEMENT

A shared production book keeps the project's status, open decisions, and next steps visible to MARCO at any time, not just at scheduled reports. Tracy Evans serves as Principal Producer and project lead, with a designated Project Coordinator running ongoing client communication. Monthly written progress reports and bi-weekly virtual check-ins with MARCO staff match the cadence established in the RFP.

Deliverables include: monthly progress reports and check-in meeting minutes. Exhibitry additionally provides: kickoff meeting summary, baseline schedule, risk register, and a close-out report at project completion.

TASK 2. ASSET REVIEW AND VIABILITY ASSESSMENT

NOAA's archive is the raw material. Task 2 turns it into a plan: we draw on decades of media production, from video restoration to photogrammetric 3D, to identify which assets translate cleanly, which need remediation, and where the collection is strongest. Format recommendations follow naturally: which assets drive the holographic 3D scenes, which support interactive touchscreen content, and which serve as supporting 2D media.

Rudy Valle (Senior Real-time Graphics Technologist) leads technical evaluation. Jesse Garson (Senior Creative Producer) leads creative fit alongside Tracy. Wreck selection is collaborative with MARCO during this task.

Deliverable includes: recommendations on media resources to use, with viability and benefits assessment, and recommended XR format options. Exhibitry additionally provides: asset inventory spreadsheet and clearance log.

TASK 3. MODULAR EXHIBIT DESIGN

One person, two hours, any venue. HoloTube Horizontal deploys across the full range of LONMS sites, from a school library tabletop to a museum lobby or conference footprint, set up by a single staffer working unassisted from a quick-start guide. The HoloTube, its backlit display wall, interpretive banner stands, and foam-cut rolling transport cases travel as one modular kit. Three decades of trade show and museum deployment, with exhibits traveling nationally and internationally, inform every component decision, from the holographic enclosure to the transport case dimensions.

The design is interpretively led rather than technology-led. Accuracy, regional relevance, and suitability for audiences from school-age to adult are built into the brief from the start. Design, procurement, and production are treated as one connected chain: the requirements defined here drive procurement in Task 4 and production specifications in Task 5.

Paul Johnson, President of USM Inc., leads the fabrication design effort from his 40,000-square-foot Houston facility. Federal fabrication for NASA Johnson Space Center, Raytheon, and Naval Air Warfare Center training systems sets the standard of durability and finish quality USM brings to the LONMS installation.

Deliverables: modular exhibit design and procurement memo (as outlined in the RFP), including footprint configurations, technical requirements, materials specifications, and venue deployment matrix.

TASK 4. SUPPLIES PROCUREMENT AND INSTALLATION

The exhibit combines Exhibitry's HoloTube platform with standard trade show components. Exhibitry fabricates the custom elements: the HoloTube Kiosk enclosure, its interior optical assembly and integrated touch panel, and custom rolling transport cases sized and foam-cut for safe travel between venues. Standard backdrop, signage panels, and rigging are sourced from established trade show suppliers, chosen for replaceability if components are damaged in transit.

Each unit is verified against the technical requirements established in Task 3. Exhibitry installs at the MARCO-designated pilot venue and tests against the deployment checklist before sign-off. Subsequent test venues receive the kit with installation guides, video tutorials, and remote support.

Deliverable (as outlined in the RFP): a final report itemizing supply needs and costs, verifying that units meet identified project requirements, and detailing deployment and maintenance procedures.

TASK 5. XR EXPERIENCE PRODUCTION

The XR experience described on Page 1 is built on the same dual-depth content architecture Exhibitry developed for NASA's Kennedy Space Center HoloMap. The same installation serves a casual visitor taking a short pass through the story and a maritime history enthusiast moving through the full experience.

Production runs as an iterative process with MARCO and project partners. The storyline, the calls-to-action, and the interpretive framing for each wreck are designed collaboratively, with bi-weekly check-ins serving as both project management and creative review.

The production runs as three parallel tracks. The core experience is produced for the HoloTube platform. A second track produces the interactive touchscreen experience. The third track produces the video components, including the two storytelling pieces detailed in Task 6. All three tracks share assets, voice, and design language so the exhibit reads as one continuous work across every surface.

Deliverables: production schedule and plan; digital advertisement, promotional clip, and branded micro-video; UI and navigation design; sound design and environmental audio; video footage review and editing; XR experience prototype with optional closed captioning; quality assurance and testing reports; documentation and deployment guide including production notes, media asset metadata, deployment guidance, and setup/operation/maintenance instructions.

TASK 6. STORYTELLING MEDIA

The two videos are developed with NYSDOS and project partners through the same iterative process as Task 5. *Sanctuary Story* features the selected wrecks across two centuries of Lake Ontario maritime heritage, drawing on NOAA 360 footage, recreational diver imagery cleared through MARCO, and oral histories from sanctuary communities. *New York Blue Economy* connects the sanctuary to maritime jobs, port infrastructure, recreational tourism in the surrounding counties, and the freshwater science informing federal and state policy, demonstrating the interconnectedness of healthy coastal systems, working waterfronts, and sustainable economic development. Both videos are approximately two minutes with narration, musical score, sound effects and closed captioning. Deployable versions include exhibit displays, social media cuts, the project landing page, and embedded content within the booth touchscreen.

A public-facing communication piece extends the Blue Economy story for press distribution and social syndication, formatted at length suitable for digital and online platforms.

Deliverables: Sanctuary Story video, Blue Economy Story video, public-facing communication piece. Exhibitry additionally provides: storyboards and scripts for MARCO review, sound design and music package.

TASK 7. INTERNAL TESTING AND REFINEMENT

Testing runs collaboratively with MARCO and project partners across two to three build milestones, from first playable through pre-deployment, combining in-person and remote online sessions. Each session evaluates usability, navigation, immersion, technical performance, and interpretive clarity across the supported XR formats, and addresses accessibility for visitors with limited mobility and limited prior XR experience. Feedback is incorporated through iterative refinement passes.

Operational testing runs alongside visitor testing. A single LONMS staffer sets up the complete kit from the quick-start guide, with no Exhibitry support, and confirms the sign-off criteria before pilot deployment.

Deliverables (as outlined in the RFP): testing plan with objectives, criteria, methods, and metrics; structured feedback summaries identifying strengths, issues, and areas for refinement; implementation of refinements; final testing report.

TASK 8. INSTALLATION STRATEGY AND ONE-YEAR SERVICE

A distribution plan accompanies the kit: documented installation procedures, platform compatibility specifications, and access methods. The pilot venue receives on-site Exhibitry installation, staff training, and post-deployment validation. Subsequent venues receive the kit with installation guides, video tutorials, and remote support for first-time setup. Hardware and software compatibility is verified against each venue's approved configuration before deployment.

The one-year service and support framework is presented as a distinct line item, per RFP FAQ guidance. It provides technical assistance, remote and on-site as needed, prioritized by severity with urgent install-down issues addressed first; software updates and bug fixes; minor content updates as required by the State or NOAA; and replacement guidance with vendor support for hardware issues.

Deliverables (as outlined in the RFP): installation instructions, user access guides, FAQs, troubleshooting materials, quick-start instructions, one-year service and support framework (distinct line item), and final report covering deployment outcomes, challenges, lessons learned, and recommendations for scaling.

PROJECT SCHEDULE

The project runs from contract execution through final delivery on December 31, 2026.

Period	Key Activities	Tasks
June 2026	Contract execution; kickoff meeting; baseline schedule and risk register; asset access established with MARCO and NOAA	T1,T2
July to August	Asset viability memo complete; modular design memo and venue requirements complete; XR pre-production (script, storyboard, audio plan); hardware procurement initiated	T2,T3,T5,T6
August to September	Hardware procurement complete; HoloTube enclosure, booth envelope, and signage fabrication underway at USM; XR production active; first playable build	T3,T4,T5,T6,T7
September to October	First testing session and refinement pass; second playable build; storytelling videos in post-production; touchscreen integration and HoloTube audio build complete	T5,T6,T7
October to November	Content-complete XR build; second testing session; videos delivered for MARCO review; pilot venue installation	T5,T6,T7,T8
November to December	Final testing session; pre-deployment build; subsequent venue deployments; service framework activated; close-out report	T7,T8
December 31, 2026	All Task 1 through Task 8 deliverables submitted to MARCO	All

The schedule front-loads asset review and design so production decisions are made against confirmed source material.

RISK APPROACH

Asset availability and clearance. NOAA's 360 video and 3D model library is documented and available. Recreational diver footage and oral histories require clearance through MARCO. Mitigation: Task 2 establishes clearance status before Task 5 production begins; alternative source material is identified during asset viability if needed.

Component and integration lead time. The HoloTube platform is Exhibitry's own technology, built on proven, repeatable components rather than scarce third-party hardware. Mitigation: long-lead items identified and ordered at Task 3 design freeze; backup suppliers identified for standard components.

Fabrication schedule. USM operates a 40,000-square-foot Houston facility with a federal-fabrication track record. Mitigation: design freeze at end of Task 3 with a five-week production window built in, consistent with prior NASA and Naval Aviation Museum deliveries.

BUDGET SUMMARY

The total fixed fee is $300,000, structured by task. All rates are fully loaded (no separate indirect or fringe markup). Hardware, fabrication, signage, shipping, and travel are included within task allocations. Per RFP FAQ guidance, the one-year service and support framework is presented as a distinct line item.

T1. Project Management (7 months): $18,000. T2. Asset Review and Viability Assessment: $22,000. T3. Modular Exhibit Design: $15,000. T4. Supplies Procurement and Installation: $95,000. T5. XR Experience Production: $65,000. T6. Storytelling Media: $28,000. T7. Internal Testing and Refinement: $12,000. T8a. Installation Strategy and Deployment: $10,000. T8b. One-Year Service and Support Framework: $15,000. Contingency (7%): $20,000. TOTAL: $300,000

A detailed budget worksheet (Appendix A) itemizes labor and hardware/travel allocations by task. Exhibitry prices and delivers on a fixed-fee, deliverable-based model rather than hourly billing, so task allocations reflect total committed value per deliverable. Fully loaded rates are available for change-order reference.

QUALIFICATIONS

Exhibitry has produced public-audience XR and holographic exhibits for federal, commercial, and cultural-institution clients for nearly three decades. HoloTube deployments include the Apollo astronaut holograms and HoloMap at NASA Kennedy Space Center, life-size deck-crew holograms at the National Naval Aviation Museum, and a twelve-foot HoloTube at the Go Fish Education Center. Additional relevant work spans NASA Johnson Space Center, the SFPUC Alameda Creek Watershed Center, and Northrop Grumman. The project team brings more than seventy years of combined experience in immersive exhibit production.

Tracy Evans. Principal Producer / Creative Director. 30 years. Rudy Valle. Senior Real-time Graphics Technologist. 12 years. Jesse Garson. Senior Creative Producer / Audio Lead. 12 years. Darren Emanuel. XR Technologist. 9 years. Paul Johnson. President, USM Inc. 32 years.

Additional case studies and downloadable resources are available at exhibitry.com/lonms.

SUBMISSION AND CONTACT

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Appendices

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Appendix A - Budget Breakdown

Exhibitry has deliberately weighted this budget toward experience over infrastructure. The HoloTube Kiosk is a compact, self-contained centerpiece, the minimum footprint that presents professionally in any venue, freeing the majority of the program fee for the holographic experience, the storytelling videos, and the content production that actually moves visitors. ***That balance is adjustable***: a leaner physical build frees additional content budget, and a more elaborate one shifts it the other way. Exhibitry will make either case clearly at Task 1 kickoff.

Task	Description	Labor	Hardware / Travel	Total
T1	Project Management (7 months)	$18,000	-	$18,000
T2	Asset Review and Viability Assessment	$22,000	-	$22,000
T3	Modular Exhibit Design	$15,000	-	$15,000
T4	Supplies, Procurement, and Installation	$29,000	$66,000	$95,000
T5	XR Experience Production	$65,000	-	$65,000
T6	Storytelling Media	$28,000	-	$28,000
T7	Internal Testing and Refinement	$12,000	-	$12,000
T8a	Installation Strategy and Deployment	$10,000	-	$10,000
T8b	One-Year Service and Support (distinct line item)	$15,000	-	$15,000
	Program Fee Subtotal	$214,000	$66,000	$280,000
	Contingency (7%)			$20,000
	TOTAL			**$300,000**

Appendix B - Booth Components

THE MODULAR SYSTEM

The HoloTube exhibit travels as a complete, self-contained system that adapts to venues of any size, from a 10x20 conference footprint to a school library tabletop. The same components serve every configuration. What changes is which components travel to a given venue and how they are arranged. Setup by a single LONMS staffer from a quick-start guide takes one to two hours.

COMPONENTS

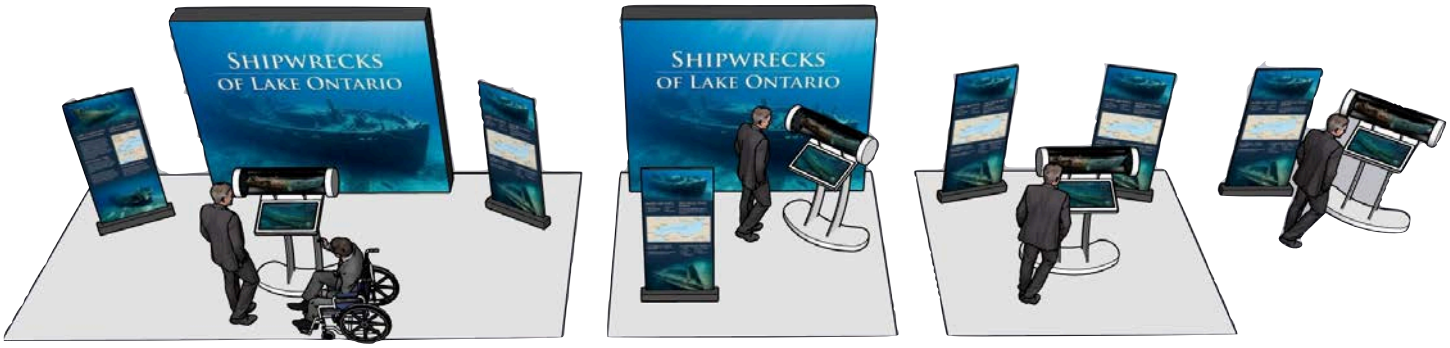
HoloTube Kiosk. The holographic centerpiece and the complete interactive experience. A self-contained unit that presents the wreck as a floating holographic image, with nothing for the visitor to wear or hold. It carries the full narrative, the Sanctuary Story, and the Blue Economy content in one place, set at a viewing height that serves standing and seated visitors alike.

Backlit display wall. A wide, illuminated landscape-format graphic panel carrying high-resolution sanctuary imagery and project identity. The primary visual anchor of the installation in larger configurations.

Interpretive banner stands. Narrow, tall, portrait-format retractable panels on weighted floor bases. Each stand carries wreck histories, oral history content, or contextual sanctuary information. Lightweight, self-standing, and easy to reposition.

Rolling transport cases. Custom-fabricated cases (not shown) sized and foam-cut for every component. Labeled for non-technical operators. The full system ships in cases that fit through a standard doorway.

FLEXIBLE CONFIGURATION



20x10
Conference Hall

10x10
Museum Lobby

8x8
Corner Installation

Tabletop
Library/Classroom

The HoloTube system adapts to any venue without modification to the core experience. The diagram shows four standard configurations, from a full 10x20 conference footprint to a single tabletop for a school library or small visitor center. All four use the same content and the same HoloTube unit. What changes is the surrounding booth elements and how they are arranged on site.

The LONMS installation guide, delivered at project completion, includes specific configuration recommendations for each participating venue based on its footprint, layout, and primary audience. Each recommendation covers component selection, floor plan, setup sequence, and estimated setup time for a single LONMS staffer working from the quick-start guide.

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Appendix C - HoloTube Options

HoloTube Life-size at Kennedy Space Center

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HoloTube Options

The choice is yours. HoloTube comes in a variety of configurations, and any one delivers the same holographic experience, in a different size and presence. MARCO selects the form that best fits its venues, audience, and ambition. The proposal is budgeted at the Kiosk scale, adjustable to either alternate at kickoff.

HoloTube Horizontal Kiosk

Our recommended configuration, and the basis of this proposal. For a program that moves from site to site, the Kiosk is a practical choice: one staffer sets it up and strikes it in minutes, in venues from a school library to a museum lobby.

The hologram is there the moment a visitor walks up. For a rotating deployment, the Kiosk does the most with the least.

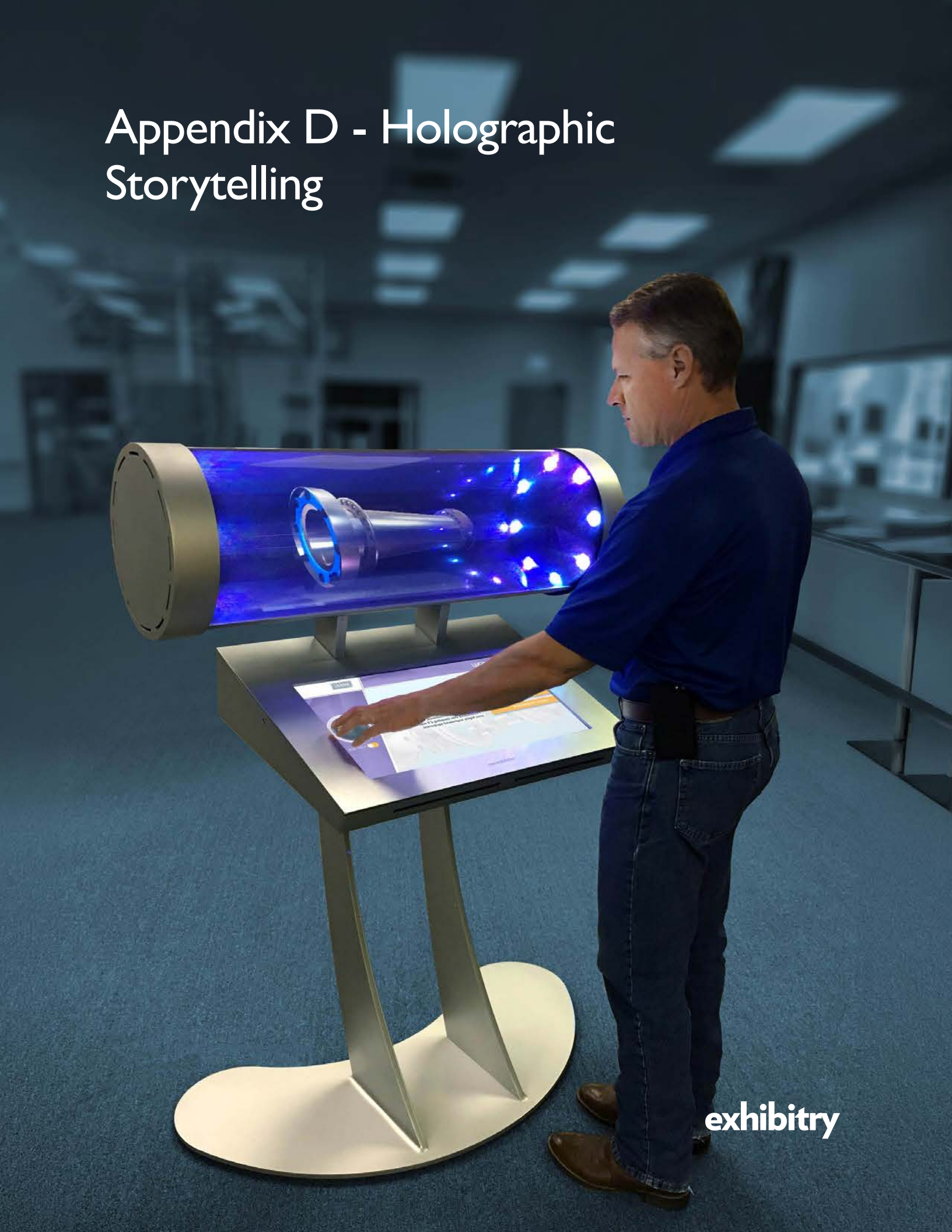
HoloTube EXpress

The step up in presence within the same footprint. The EXpress pairs the Kiosk's portability with a larger holographic display, a bigger, more commanding image in the same floor space, for venues that want more visual impact without a larger installation. At this scale the platform can also host an AI-driven holographic presenter, a conversational guide that answers visitor questions about the wrecks and the sanctuary in real time.

HoloTube Life-Size

The flagship. The Life-Size configuration offers HoloTube's largest holographic display volume and a compelling life-size holographic host, a standing guide, diver, or historical figure who tells the sanctuary's story face to face, at full human scale. Best suited to larger anchor venues and the natural foundation for future-phase expansion of the program.

Appendix D - Holographic Storytelling



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Holographic Storytelling

A visitor reaches toward the broken hull, and it begins to rebuild itself. Timbers draw together, masts rise, sails fill. In a few seconds the wreck resting on the lake bed becomes the schooner she was, under full sail, a century and a half ago. The ship and the wreck are the facts. What happened between them, the last voyage, the storm, the long years in the cold dark water, is the story, and that is what HoloTube tells.

Telling that kind of story well is the hardest thing an exhibit can do, and it is what Exhibitry has spent three decades doing, for NASA, the National Naval Aviation Museum, and science and cultural institutions across the country. The technology is never the point. The device should attract, then disappear. The story is what the visitor remembers.

For example, the HoloMap at NASA's Kennedy Space Center (shown below) is a holographic storytelling installation that brings decades of space history to life for a general audience. The same approach shapes the experience we propose for Lake Ontario.

Those stories emerge from our creative process and our collaboration with clients. The animators, programmers, editors, and producers at Exhibitry work as a true creative partner, building the narrative together with MARCO, NYSDOS, and the sanctuary community, so the history is right, the voices are authentic, and the finished experience belongs to the people who know these waters best. The wrecks of Lake Ontario have a remarkable story. We would be glad to help tell it, together.

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Appendix E - Team Biographies

TRACY EVANS

President / Principal Producer / Creative Director

Years of relevant experience: 30 years founding and leading Exhibitry; preceded by seven years as Multimedia Producer and Animator at Pennebaker Design/LMC Inc., three years at Herring Design, and approximately 10 years as a theatrical producer and professional stage magician.

Role on LONMS: Principal Producer and Creative Director. Senior creative and technical lead across all phases: concept development, stakeholder discovery, modular design framework, XR experience direction, deployment, and one-year service framework. Primary point of contact with MARCO, NYSDOS, OCWG, and the LONMS Sanctuary Advisory Committee.

Education: Bachelor of Arts, Visual Communications, Art Institute of Houston, 1991.

Summary

Tracy Evans is the founder and President of Exhibitry, where for thirty years he has led the design and production of immersive XR, holographic, and interactive exhibits for clients including NASA, Boeing, Northrop Grumman, Lockheed Martin, Merck, the United States Navy, the National Naval Aviation Museum, the San Francisco Public Utilities Commission, ChampionX, SLB, and major museums and educational institutions across the United States. Before founding Exhibitry, Evans created multimedia labs and production departments for Pennebaker Design/LMC (7-years), Herring Design (3 years) and built a decade-long career as a professional stage magician, and credits that background with shaping the company's defining principle: that the most effective exhibit technology is the technology that disappears in service of story.

Relevant project experience (selected)

- Apollo Astronaut Holograms, NASA Kennedy Space Center Visitor Complex (2021). Principal Producer and Creative Director. Life-size holographic displays of Apollo astronauts including Charlie Duke and Jim Lovell, deployed at KSC Apollo/Saturn V Center. Featured in Houston Chronicle, March 2021.
- HoloMap, KSC Gateway Facility. Principal Producer. Multi-era environmental storytelling installation; 11 interactive exhibits.
- Webb Space Telescope HoloTube, KSC. Principal Producer. Holographic storytelling at scale.
- Alameda Creek Watershed Center, SFPUC (2022 to 2026). Principal Producer and Creative Director. Twelve-experience interactive program including Sunol HoloTube, Calaveras Dam Today, multitouch tables with mini-games, Perspectives on the Watershed (360-degree integration), Virtual Artifact Labels, Day in the Life. Currently in Phase 2 (fabrication) under SFPUC contract via S.J. Amoroso Construction.
- Anaheim Education Center. Principal Producer and Creative Director. Sliding x-ray exhibit, 5-participant EV racing game, 5 interactive wall screens. ADA-compliant and bilingual throughout.

- Built on Water, Ontario Museum of Art. Principal Producer. Water-themed gamification for museum public audiences.
- Go Fish Education Center. Principal Producer. Three experiences including 12-foot HoloTube installation explaining the water cycle.
- National Naval Aviation Museum, Pensacola. Principal Producer. Six life-size deck crew holograms; subsequent Apollo astronaut HoloTube conversion for the Navy.
- Merck HoloTube Experiences (2025). Principal Producer. Custom HoloTube HalfPipe with AI-driven avatars deployed at pharmaceutical congresses in Madrid, Chicago, and Berlin.
- SLB Project Neo / Xray Vue. Principal Producer. Custom cylindrical Xray Vue Video Window for SLB oilfield tools; modular, scalable platform for trade shows and customer centers.
- ChampionX PCT Display Kiosk. Principal Producer. Production chemistry visualization kiosk with cutaway model and embedded digital content.
- Oxy / Occidental, The Ion Center, Houston. Principal Producer. Carbon management interactive exhibit.
- Proprietary platforms developed under Evans's direction
- HoloTube. Life-size holographic display platform (multiple form factors: HalfPipe, Forge, Mini).
- VR Vue. Immersive virtual reality system, delivered through the proprietary VR Vue Hybrid Handset, without head-mounted displays.
- TouchFree 3D. Screen-free gesture-based interaction system.
- AI avatar integration framework. Secure conversational AI for public-audience deployment.
- Specialized skills
- Creative direction, concept development, holographic display engineering, XR experience design, public-audience exhibit design, accessibility-first design, federal/state proposal authorship, client relationship management for federally-funded projects, AI avatar deployment, modular exhibit framework design.

Speaking and publications

- "Harnessing Hologram Technologies for Museums: Practical Insights for 2025." American Alliance of Museums Annual Meeting and MuseumExpo, Los Angeles, 2025.
- Featured in Houston Chronicle, "Former magician brings holograms, virtual reality to NASA" (March 2021).

Patents

Mass-participation Movie. US Patent Application 20110194839, issued August 11, 2011.

RUDY VALLE

Senior Real-time Graphics and VFX Technologist

Years of relevant experience: 12 years at Exhibitry.

Role on LONMS: Senior technical lead for XR experience production. Real-time graphics development, software architecture, AI avatar integration, and overall technical execution of the XR deliverable.

Education: Bachelor of Arts, 3D Modeling and Animation, University of Advancing Technology (2007 to 2011).

Summary

Twelve years at Exhibitry as senior real-time graphics and VFX technologist, leading software development across more than thirty-five custom applications on iOS, Android, PC, and Mac platforms. Specializes in real-time graphics programming, game-engine development, VFX pipeline work, and visual design for holographic and interactive exhibits. Cross-disciplinary expertise spanning museum installations, aerospace, and energy-sector immersive projects. Senior technical lead on Exhibitry's HoloTube platform and AI avatar integration work.

Relevant project experience

- Apollo Astronaut Holograms, NASA Kennedy Space Center. Lead software developer.
- Alameda Creek Watershed Center, SFPUC. Lead programmer across the 12-experience interactive program.
- Anaheim Education Center.
- Merck HoloTube Experiences (2025). Programmer and AI integration lead. AI-driven avatar deployment at Madrid, Chicago, Berlin.
- TCS Chennai Experience Center HoloTube AI Avatar.
- AI Digital Media Experience Center, Stage 2 proposal.
- SEC Riyadh / SMS, Digital Transformation Command Center proposal (active). Technical lead on AI avatar architecture, on-prem vs. cloud architecture analysis.
- Halliburton Tablet Experience.
- Specialized skills
- Real-time graphics programming
- iOS and Android application development
- Cross-platform deployment (PC, Mac, mobile)
- VFX pipeline integration
- AI avatar integration (HeyGen, NVIDIA ACE/Tokkio architecture)
- Battletech Universe (Dark Art Images). Lead game developer on a top-down shooter built in Unity 3D, sanctioned by IGP, current intellectual property licensee for Battletech and MechWarrior on PC and Xbox.
- Dark Art Images, Freelance 3D Artist (2011 to 2014). Unity 3D asset production, commercial and TV spots, video promos, 2D fantasy and sci-fi illustrations.

JESSE GARSON

Senior Creative Producer

Years of relevant experience: 12 years at Exhibitry. Prior career includes animation and interactive content production for Disney/Fox, Dreamworks, Paramount, Warner Bros. Co-developer of multiple iOS and Android titles.

Role on LONMS: Senior creative producer. Hands-on across editorial, graphics, motion design, video production, and creative direction. Leads the Sanctuary Story and Blue Economy storytelling videos; supports XR experience UI and visual design; coordinates with animators, videographers, and interactive developers across all 8 RFP tasks.

Education: BA, Hampshire College (Digital Communication and Media, Multimedia, Communications, and Cognitive Science), 1996. Self-defined major in "Computers and Video as Storytelling Media" through the Lemelson Program for Innovation and Invention.

Summary

Twelve years at Exhibitry as senior creative producer, hands-on across editorial, graphics, motion, video production, and creative direction. Career spans animation and interactive content production for Disney/Fox, Dreamworks, Paramount, and Warner Bros. Leads prototyping, design, and storyboarding at Exhibitry, directing teams of animators, videographers, and interactive developers on projects integrating multiple video screens, holograms, touchscreens, body tracking systems, dynamic lighting, and environmental sound.

Relevant project experience

- Gateway, Deep Space Launch Complex, Kennedy Space Center Visitor Complex. Creative lead and content developer for the History of KSC HoloTube Kiosk, James Webb Space Telescope HoloTube, and interactive screens surrounding the Artemis and Dragon space capsules.
- The Anaheim Sustainability Education Center. Creative lead for multiple visitor experiences including the EV Race interactive game, Water Treatment 3D diorama, and Energy Sources kiosks.
- Alameda Creek Watershed Center, SFPUC. Creative lead. Spearheaded development on immersive environmental audio for alcoves, designed and animated content for the Calaveras Dam Today and Day in the Life kiosks, and served as design lead for the 3D topographical map, ADA artifact labels, and interactive touchscreen tables.
- Oxy / Occidental, The Ion Center, Houston. Creative lead and lead animator for large-scale video wall and interactive HoloTube displays; provided expert consultation on DMX lighting and surround audio integration.
- SLB Project Neo / Xray Vue. Video producer and hardware integration consultant.
- AI Digital Media Experience Center. Creative concept development across multiple interactive experiences.
- Water Keepers educational game. Creative lead and animator for this interactive title launched on iOS and Android platforms.
- Disney: Phineas and Ferb Home Media. Creative lead for bonus content and educational game features on The Fast and the Phineas and The Daze of Summer DVD home video releases.
- Hot Shot Business, Disney Online / Kauffman Foundation. Creative lead, animator, and producer for this award-winning online educational business simulation.

- BluRay and DVD bonus features for Warner Bros., Dreamworks, Disney. Creative lead and senior animator for interactive bonus features on Harry Potter, Shrek, Kung Fu Panda, Puss in Boots, and numerous other titles.
- PCFriendly DVD-ROM Content. Senior developer for Windows-based interactive bonus content featured on Ice Age, X-Files (Seasons 3 to 9), Terminator 2, Men in Black, and other titles.
- Holocaust Museum Houston, The Butterfly Project. Consultant and content developer for this community-focused arts education initiative.
- Beckinfield Web Series. Art director, front-end developer, content producer, and managing editor for weekly streaming series and community website.
- National Treasure 2, Disney. Creative lead and lead developer for a series of promotional online video games for the World's Biggest Treasure Hunt.
- Specialized skills
- 2D and 3D animation, motion graphics, animation director and producer (ToonBoom, Adobe Animate, After Effects, DaVinci Resolve, Maya, Cinema4D)
- Director, editor, producer for live event video feeds, short films, social media, and disc special features (Premiere, Final Cut Pro, QLab, Resolume)
- Front-end web development (HTML, CSS, JavaScript), UI and UX development, graphic design, visual identity development
- Interactive game development (Unity3D, Adobe Animate, Java, iOS, Android)
- Storyboarding and prototyping interactive media (web, mobile, Unity3D, Unreal, Java)
- Voice-over performer, director, audio engineer

DARREN EMANUEL

XR Technologist / Real-time 3D and VFX Engineer

Years of relevant experience: 9 years at Exhibitry. Prior experience at the Houston Museum of Natural Science (2012 to 2014, Exhibits Department).

Role on LONMS: XR technologist supporting Rudy Valle's technical lead. Real-time 3D production, VFX, exhibit technical integration. Hardware-software integration for handheld XR units, kiosk programming, asset preparation from NOAA-provided footage and 3D shipwreck models.

Education: Brazosport College, University of Houston.

Summary

Nine years as a cross-disciplinary engineer at the intersection of visual media and technology, combining 3D production, real-time graphics programming, and exhibit technical integration. Background in art, music, and photography expanded into 3D modeling, animation, and interactive media during his tenure at the Houston Museum of Natural Science, where he developed digital and experiential projects. At Exhibitry, develops interactive exhibits that merge visual storytelling with real-time systems and user engagement. Extensive experience designing and building custom embedded electronics and microcontroller-based systems for interactive and experiential applications.

Relevant project experience

- Oxy / Occidental, The Ion Center, Houston. Pre-install lead, hardware staging, technical integration. Hardware integration, R&D, hardware system design.
- SLB Project Neo / Xray Vue. Technical integration lead. Circuit board mounting, screen integration, fabrication coordination.
- Alameda Creek Watershed Center, SFPUC. Software development, hardware integration and R&D across Tables exhibit, Artifact Holotube, Audio Spotlight, Calaveras Dam, Changes to the Valley.
- USAF Academy AI Receptionist proposal. AI security architecture documentation lead. Drafted Section 3 Prompt Injection guidance and overall security framework documentation.
- SEC Riyadh, NVIDIA ACE / Tokkio on-prem AI avatar evaluation (active). Lead technical evaluator for NVIDIA on-prem stack including ACE microservices, Audio2Face-3D, Riva ASR/TTS, hardware specification, NPN partner identification.
- SpinDisplay / GIWOX fan protocol reverse engineering (LumenAir product line). Lead technical investigation of TCP control protocol for 3D fan displays. Lead software development.
- Houston Museum of Natural Science. Experiential exhibits including Welch Chemistry Hall interactives; Game of Life (lead software development, hardware integration); Interactive Periodic Table (lead software development, hardware integration); Powers of Ten Exhibit (animation, compositing, software development); Hall of Paleontology (hardware build and deployment).
- National Naval Aviation Museum. Lead HoloTube development.
- Kennedy Visitors Center, Cape Canaveral Launch Complex Interactive.
- Purdue University Anamorphic Video Wall. 3D modeling, animation, and render.
- Aramco HoloTube. 3D modeling, software development.
- Merck HoloTube. R&D, 3D modeling.

- Anaheim Public Utility Exhibits, Energy Sources exhibits. Lead software development, hardware interface integration. Water Treatment: sliding rail hardware design and integration, lead software development.

Specialized skills

- 3D modeling and animation (Cinema 4D, ZBrush, Blender, Maya)
- Real-time graphics integration
- Hardware and software systems integration
- Interactive media development
- Hardware troubleshooting and field engineering
- AI avatar architecture (NVIDIA ACE, HeyGen, Audio2Face-2D/3D, backend)
- Network protocol analysis and reverse engineering
- Unity3D, Unreal Engine, Adobe Creative Suite, Arduino/ESP32, PC/Mac/Android/Brightsign hardware platforms

PAUL JOHNSON

President, USM Inc.

Years of relevant experience: 32+ years in specialty fabrication, hardware integration, and systems engineering for aerospace, defense, and exhibit applications.

Role on LONMS: President of USM Inc., leading the engineering and fabrication effort on the LONMS modular exhibit. USM is Exhibitry's strategic fabrication partner across federal, museum, and commercial deployments. For LONMS specifically, USM fabricates the HoloTube Kiosk enclosure and its interior optical assembly, and the custom rolling transport cases, delivered as fixed-fee unit deliverables.

Education: Bachelor of Arts, Economics, University of Houston, 1989 to 1992.

Company affiliation: USM Inc. (usminc.com), Houston, TX. USM has been in operation 60+ years as a custom fabricator for government, military, NASA, and industrial clients. USM partners with Exhibitry as a strategic fabrication resource across selected engagements.

Summary

Paul Johnson is President of USM Inc., a 60-year-old Houston-based specialty fabricator serving NASA, the U.S. Naval Air Warfare Center, Raytheon, and a wide range of government, defense, and aerospace clients. USM operates a 40,000-square-foot Houston facility with full machining, fabrication, and assembly capabilities, including 8,000 square feet of CNC machine shop, 8,000 square feet of model shop with CO2 laser cutting, and high-bay fabrication space supported by a 7.5-ton overhead crane and a 30-foot-tall paint booth. Paul leads the engineering, fabrication, and integration of custom hardware including full-scale aerospace mockups, training devices, simulators, scale models, and interactive exhibits.

USM partners with Exhibitry as a strategic fabrication resource for HoloTube units, modular exhibit hardware, and custom enclosure engineering across federal, museum, and commercial deployments.

USM Inc. selected projects

- NASA Johnson Space Center. Space flight hardware fabrication; multiple full-scale Space Station Modules for Neutral Buoyancy Laboratory training; SPDM NBL Training Mockup. Long-running NASA relationship.
- U.S. Pavilion at EXPO. Twelve large-scale models and mockups of U.S. Space Hardware.
- Raytheon Technical Services Company (Houston operations). Ongoing Task Order contract for fabrication of training hardware and electrical panels and components for the space station program.
- Naval Air Warfare Center TSD. F-22 ejection seat mockups; F-18 full-scale cockpit, ejection seat, and canopy maintenance trainer; F-14 full-scale cockpit, ejection seat, and canopy maintenance trainers; SJU5 and SJU6 high-fidelity ejection seat mockups.
- Exhibitry partnership (decade-plus, strategic fabrication)
- SLB Project Neo / Manara Xray Vue (2026). Fabrication lead on curved-screen cylindrical display enclosure. Received SolidWorks files, led production book, and delivered the enclosure as a fixed-fee unit deliverable.
- HoloTube fabrication across multiple Exhibitry deployments.

Specialized skills and capabilities

- Custom mechanical and structural engineering for exhibit and aerospace applications
- Full-scale mockup fabrication (including aerospace cockpit and ejection seat trainers)

- CNC machining and CO2 laser cutting
- Hardware sourcing and procurement
- AV systems integration
- Electronics integration and wire harness fabrication
- Onsite installation supervision (federal facility, museum, and commercial environments)
- SolidWorks design fabrication workflow

USM Inc. facility and capabilities

- **Facility:** 40,000 sq ft, including 8,000 sq ft CNC machine shop, 8,000 sq ft model shop, high-bay fabrication area
- **Equipment:** 7.5-ton overhead crane; CO2 laser cutting; CNC machining; 448 sq ft by 16 ft side downdraft paint booth; 30 ft full-size mockup capability
- **Industry classifications:** Defense and Space Manufacturing
- **Workforce:** 11 to 50 employees with capability to scale via qualified contract labor
- **Materials specialization:** ferrous and non-ferrous metals, plastics, wood
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SANDRA ROSENBAUM

Office Manager / Project Administrator

Years of relevant experience: 30+ years across retail sales, commercial sales, and commercial construction management.

Role on LONMS: Project administration. Monthly invoicing, hours reporting against fixed-fee deliverables, contract administration, billing and licensing coordination, and required progress documentation in coordination with MARCO's Science Program Manager. Primary administrative point of contact for billing.

Education: Associates Degree, Fashion Merchandising and Marketing, Art Institute of Houston, 1988 to 1990.

Summary

Sandra Rosenbaum serves as Office Manager at Exhibitry, overseeing billing, licensing, contract administration, project reporting, and operations. Drawing on more than three decades of management experience spanning retail sales, commercial sales, and commercial construction, she combines business insight with practical leadership to keep projects and personnel aligned. Known for a professional yet personable approach, she believes that strong relationships and clear processes are the foundation of exceptional results in fast-paced creative and technical environments.

Relevant experience

- Exhibitry, Office Manager (2010 to Present). Billing, licensing, contract administration, monthly invoicing, project reporting across all federal/state and commercial engagements.
- Commercial Construction Management. Outside Operations Manager, Reeder Flooring (2004 to 2008); Project Coordinator, Floors, Inc. (2000 to 2004).
- Commercial Sales. Interface, Inc., Showroom Manager (2008 to 2010).
- Retail Sales. The Limited Corporation, Store Manager (1998 to 2000); Clothestime, Co-Manager (1995 to 1998).

Specialized skills

- Federal and state contract billing and reporting (SFPUC at ACWC, Kennedy Space Center)
- Project administration and documentation
- Vendor management
- Software licensing administration
- Quickbooks