

SAM LEDGER

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ENGINEERING LEADER

Experienced Engineering Leader and former US Marine with more than 25 years of experience in product development, program management, leadership, and organizational change management. Work environments cover US Navy Active and Active Reserves, US Marines Active, university research and development, Fortune 500 manufacturing and product development, DOD contracting for the US Marines and US Air Force, federal employment, and small business development. Education includes International Business Leadership from IMD in Switzerland, graduate studies for executive business at Georgetown University and George Washington University, Bachelors of Science in Electrical Engineering from LSU, Graduate Certificate in Project Management from Georgetown University, and Certification in Change Management from Cornell University. DHS Acquisition Program Support 2023 and 2021 "Team of the Year" Member. Clearance: TS/SCI

ACCOMPLISHMENTS

- Led and developed congressionally mandated policy and agency capability for Prohibited Items List change process
- Led and established foundation Open Architecture capability to be used by TSA and EU for future CT Checkpoints
- Led development and delivered the new CT Vendor Prohibited Item detection requirements
- Developed new concept for alignment of programs for funding analysis for TSA Internal Review Board
- Working with Army NVL, led effort for 3D product fabrication used for development of detection algorithms
- Developed new data model combining test data, Human Factors Research, and Operational Risk studies to establish CT vendor design detection thresholds

UNIVERSITY EDUCATION

IMD Business School
Georgetown University
George-Washington University
Louisiana State University

Lausanne, Switzerland
Washington, DC
Washington, DC
Baton Rouge, LA

Graduate Certificate: Business Leadership
Coursework in Executive Business
Coursework for Executive MBA
Bachelor of Science in Electrical Engineering

CERTIFICATIONS

Cornell University
Georgetown University
Project Management Institute

Ithaca, NY
Washington, DC
USA

Change Management
Project Management
The Complete Agile Project Manager

PROFESSIONAL EXPERIENCE

Trident II Production Quality Lead

US Navy SSP

Jun 2023-Pres 40 Hours/week

Responsible for the Trident II Production Quality contracting funding efforts across all production.

- Developed new program that will work with Lockheed Quality Leadership to re-baseline the complete D5LE Quality Program across Lockheed down through Suppliers.
- Developed new LE2 Quality Teaming to provide guidance to Lockheed for including the appropriate quality during each phase of the LE2 program lifecycle.
- Organized and hosting Quality Briefing for SP27 in the Management Center June 18th that will explain the purpose for quality and the LE2 lifecycle for a development and the activities taking place.
- Establishing new training provided to SSP and Lockheed for the T9001 that covers requirements for quality and all engineering effort for the D5 missile.
- Responsible for all budgeting and contracting for Lockheed Quality for LE, and LE2.
- Worked with Lockheed Quality to reestablish workflows for all post production efforts.
- Developed new quality resolution concept that was white boarded with Lockheed Quality, Contracting, and SSP leadership to resolve the quality issues at Eagle Picher, and to return the company to full sustainment capability.

Project Manager/Engineer

DHS-TSA

June 2019-June 2023 40 hours/week

APSS/CPSS Lead

Developed and presented the organizational engagement approaches for the Requirements and Capability Analysis that merged three groups to share engineering information to develop vendor requirements for Prohibited Items and Explosive algorithms.

Lead for the development of the new Checkpoint CT Detection Algorithms Requirements

- Working across the Requirements Development Branch, TSA Testing, and the TSA Program Office, led the development of the new detection algorithm requirements to be used by the TSA CT vendor's development of prohibited items detection.
- Working across TSA and testing organizations, revised and updated all requirements for explosives.
- Working across TSA, revised CT generated image coloring requirements.

Detection Functional Requirements Document Lead

- From vendor testing data, developed a data model used for design detection thresholds integrating Human Factors research and Operational Risk and Case Studies risk rankings for Prohibited Items.

Internal Working Group Member for agency program funding

- Review existing and emerging investments relevant to information and security technology.
- Presented new approach for project alignment for funding considerations that was adopted by Internal Review Board.

Prohibited Items (PI) Policy and Agency Change Management Development

- Led team and completed development of congressionally mandated policy for PI and detailed Implementation Guide.
- Led process development that included cross-agency change management development, documentation, organizational engagement, and external stakeholder engagement with FAA for analysis and decision efforts for submitted PI recommendations.
- Led effort that included process development for TSA "What Can I Bring" and FAA "PackSafe" website harmonization for HAZMAT Materials.

3D Printed Prohibited Items

- Led cross-organizational engagement that includes TSA, DHS S&T, and Army Night Vision Labs for the development of 3D Printed Prohibited Items used for development of PI detection algorithms.

TSA Counter UAS Requirements

- Working with DHS Joint Requirements Counsel, led requirements development for Airport Counter UAS.

Project Manager for Checkpoint Automation (CPAM)/Open Architecture

- Working with cross-functional project team, established project structure to transition CPAM/Open Architecture from an R&D effort working with Sandia National Research Labs to an engineering capability.
- Led cross-functional and organizational team to develop project strategic objectives that included all project documentation to support project lifecycle, and alignment of personnel to support full lifecycle.
- Successfully reached project key milestone assessments that included all Key Performance Parameters.
- With project team, established new project objectives to take development to TRL 7 for final effort that will hand-off to program office.
- Approach adopted by the European Union in July 2020.

Project/Program Manager

CACI International, Inc

Oct 2018-March 2019

Project Manager for Overseas Contingency (OCONUS) US Air Force contingency basing counter UAS (cUAS) located in Qatar, Jordan, Kuwait, and the UAE.

- Conducted Site Surveys for 6 OCONUS bases across four countries to establish baseline for infrastructure work to be conducted to support complete operational install of cUAS.
- Wrote papers for each site that were used as detailed needs statement for infrastructure work to support systems installation.
- Established relationship within country subcontractors to support infrastructure development and assist with final designs.
- Was responsible for staffing and developing organizational structure and work responsibilities for 18 project team personnel, 10 installation team personnel, and 35 operations and maintenance personnel, which includes all logistics for in country housing, transportation, visas, and local sponsorship.
- Established Quality documentation approach with Quality Control Manager and Quality Control Inspectors for all bases.
- Was responsible for establishing all host country authorizations to install permanent infrastructure on contingency basing.
- Established relationship among design team, project execution team, and subcontractors for project design requirements to ensure accuracy of designs and collaboration for development.
- Conducted three weekly IPTs that covers all engineering, project, coordination, and scheduling with 6 OCONUS military bases.
- Coordinated with uniformed personnel and federal government customer all Government Furnished Equipment shipment and security to 6 OCONUS bases.

Business Owner

Global IT Consulting Services, LLC, Washington, DC

May 2012- June 2019

Established small business to assist university professors with commercialization of emerging technology for medical diagnostics, and educational applications for Apple iOS devices.

Business Relations Consulting

- Created business concept and relationship for Louisiana Tech University and top law firm in DC for funding support to expand campus infrastructure, and support for university enterprise center business incubator to connect to federal agencies.

Educational Applications Development

- Created cross-functional team of software engineers, graphics engineers, English as a Second Language (ESL) Teachers, and voice artists to develop an ESL application to help students learn English.
- ESL Application successfully completed and placed on Apple iTunes.
- Presented and marketed application in Singapore at educational conference.
- ESL Application used in select DC Public Schools by children needing to learn English.

Military Standard Chairman/ CTO Engineer

DISA | Ft. Meade, MD

Feb 2008 – May 2012

Chairman for Mil-Std-2525 (symbology) situational awareness imagery. CTO Project Lead for new virtual computing software used for thin client. Project Developer for new organizational collaboration.

Military Standard Chairman

- Working with Johns Hopkins and USMC used research and scientific approaches for Mil-Std-2525 imagery and gained acceptance by all US Services of National Geospatial Intelligence Agency (NGA) new standard approach.
- Identified that DOD C2 program Net Enabled Command and Control (NECC) under development would not work on tactical communication systems, contributing to the cancelation of the NECC program and hundreds of millions of dollars saved.

CTO Project Lead

- Assigned to take over project lead for project bootable media that had been in development for more than two years.
- Following project management and DOD 5000.01 acquisition approaches established product requirements with engineering team and conducted an Analysis of Alternatives (AoA) to identify a COTS solution.
- After one month as project lead discovered and presented an existing program of record within own agency that was fully funded by STRATCOM, and free to all DOD.

Project Developer

- Developed new organizational concept, collaboration after bootable media AoA uncovered three simultaneous programs of record for same product inside our agency.
- Worked with CTO, CIO, and Program Management Offices, developed approach for how engineering support during each phase of project lifecycle could improve communication, improve quality, and reduce time and costs.
- Concept presented to the Vice Chairman of the Joint Chiefs of Staff through DISA Chief for Vice Chair initiatives, getting visibility for approaches and support of concept.

Senior Engineer

SAIC | Arlington, VA

Mar 2005 – Feb 2008

Test Lead for the Internal Tactical Vehicle (ITV) designed for the V-22 Osprey. Senior Engineer for the USMC Automated Fire Support Tactical-Service Oriented Architecture.

Test Lead

- Prevented future potential ITV rollovers by providing design information and corrective action on vehicle ride height optical sensors.
- Eliminated ITV overheating during desert testing by providing operational change due to design weakness, contributing to continued testing and completion of program milestone.
- Eliminated ITV battery power failures by providing new operational changes.

Senior Engineer

- Developed systems network communication's map of Marine Air and Ground Task Force tactical communication systems used for Fire Support providing engineering functionality and operational capabilities.
- System approach contributed to Marine Corps Systems Command adoption prior to new program acceptance.

Z4 Roadster Electrical Planner

BMW | Greer, SC

Oct 2002 – May 2004

Electrical Planner for the Z4 Roadster. US Project Manager for Electrostatic Discharge Control (ESD) and SME for all English-speaking BMW operations. Program Manager for assembly line restructuring. Project development for US plant wide process standardization to improved vehicle assemblies. Worked with representatives from Germany, the UK, and South Africa.

Electrical Planner

- Established new planning position efficiency approach that reduced workload from 8 hours/day to 2 hours/week.
- Prevented potential recall of the X5 by resolving bluetooth technology issue.

Project Manager

- Worked with BMW Munich for proper ESD needs and requirements to established approach for US Plant.
- Developed new way ahead for international ESD compliance by conducting an alternative analysis due to reduction in funding for all projects.
- Developed new procedures for handling and packaging electronics adopted by BMW Group with projected savings of \$5M annually.
- Approach and savings recognized by BMW CFO, contacting manager about impact to BMW Group.

Project Manager

- Led cross-functional team that improved efficiency, quality, and reduced costs by eliminating obsolete systems.

Project Development

- Developed new project to create a standard approach to assembly that improved quality, and reduced stoppages of assemblies for the X5 and Z4.

Manufacturing Project Engineer

CORNING OPTICAL FIBER | Wilmington, NC

Dec 2000 – Jun 2002

Project Manager to save \$200M trans-pacific optical fiber program considered for cancelation by customer from Japan. Manufacturing engineer for trans-pacific optical fiber systems. Project Engineer on development team for new multi-mode high bandwidth optical fiber. Worked with customers in Japan and China, and vendors from England.

Project Manager

- Developed all project requirements and approaches based on customer needs and product return analysis.
- Designed, developed and installed systems that captured and prevented future flawed fiber from being shipped to customer.
- Completed project 2 weeks ahead of schedule with full compliance, saving \$30,000 from estimated project scope.
- Project listed on Corning Intranet as contributing to bottom dollar of corporation.
- Presented capabilities and resolution to senior staff at Corning, and customer from Japan.

Manufacturing Engineer

- Improved product quality by establishing new high precision detection parameters that captured fiber design issues.
- Eliminated test issues for fiber splices by identifying test systems design variability that presented inaccurate readings, providing design feedback to vendor, and operational change for cleanroom.

Project Engineer

- Team member for new 10Gbit high bandwidth optical fiber, designing, testing, and installing systems for quality that helped Corning beat competition to market.

Microfabrication Research Engineer

Louisiana State University | Baton Rouge, LA

May 1996 – Dec 1999 20- 40 hours/week

Responsible for La Tech University X-Ray Photo-Lithography work. Published in two journals for new product and approach developments. Work required collaboration with university professors and researchers from Germany, England, France, China.

- Developed the spin coating approaches for the photo resist materials used for the x-ray photo-lithography efforts.
- Developed the approaches to work with different material filtration for top to bottom radiation dosages to provide 100% yield for microstructure samples.
- Established new approach to annealing the polymers used for x-ray samples that reduced time from 5 to 2 hours.

US Marine

US Marine Corps | Jacksonville, NC

March 1991 - March 1996

NCOIC Flight Support Operations

- Responsible for Operations Flight Support, which included squadron flight scheduling for VIP flights, NATOPS pilot flight training, and aircrew training.
- Restructured Flight Support scheduling approach and engagement to improve communications and maintain flight status for pilots and aircrew.
- Received medal authorized by the Secretary of the Navy for leadership of Air Station Flight Support Operations.

NCOIC Tactical Air Navigations

- Responsible for Marine Corps Air Station Air Traffic Control Tactical Air Navigations systems.
- Responsible for TACAN FAA airspace testing.
- Designed, built, and installed a visual and audible alarm system to notify Air Traffic Controllers if the Air Station non-directional radio beacon was not operating.

US Navy Electrician's Mate

US Navy-USS Shenandoah AD-44 | Norfolk, Virginia

Ships Company

- Ships Company supporting all shipboard maintenance of electrical systems to include ventilation, elevators, and small tooling.
- Certified Emergency Power watch during shipboard emergency situations
- DC Petty Officer for all electrical spaces onboard ship.
- Battery Shop supporting all boat launch power systems and ship shore power establishment.
- Watch Petty Officer for underway engineering operations.
- Damage control electrician on fire team and general quarters for engineering room.
- Plank Owner for the USS Shenandoah.

PUBLICATIONS

Preliminary Results at the Ultra Deep X-ray Lithography Beamline at CAMD: *Proc. SPIE 4019, Design, Test, Integration, and Packaging of MEMS/MOEMS*, 429 (April 10, 2000); DOI:10.1117/12.382294

Link: [Preliminary results at the ultradeep x-ray lithography beamline at CAMD](#)

Fabrication of HARM Structures by Deep-X-ray Lithography Using Graphite Mask Technology: *Microsystem Technologies (impact factor: 0.93)*, 01/2000; 6(3):94-98. DOI:10.1007/s005420050005

Link: [Fabrication of HARM structures by deep-X-ray lithography using graphite mask technology | Microsystem Technologies](#)