



Showcase Exhibitor Directory

2023
CTMA Partners Meeting
Royal Sonesta New Orleans, LA

How do you address urgent, critical needs for technology innovations?

If a solution seems unknown or out of reach, NCMS is available to assist you in finding the right provider, with the right innovation, at the right cost.



Sources Sought solves challenges

NCMS has deep experience in rapidly locating cutting-edge technologies to solve issues and challenges, while meeting urgent needs.

Through Sources Sought, NCMS connects you to our comprehensive network of trusted, proven companies, who provide extremely specific and often hard-to-find technologies.

Working directly with our government customer, NCMS develops a high-level description of the specific need with required criteria included. We then alert our network to that need, and conduct market research into more companies if novel or supplementary capabilities are sought. NCMS acts as the gatekeeper, collecting and reviewing submitted proposals to ensure only qualified companies with a proven track record are delivered. The customer makes all final determinations for moving forward, and the entire process is tailored to the customer's timeline.

Why we're successful:


- Our trusted network of technology providers
- Our proven system of solicitation and follow-through
- Our expert facilitation of the process
- Our extensive track record of successful technology introduction
- Our ability to leverage Section 806 language to fulfill USG competition requirements

What our partners are saying:

“Sources Sought was effective in allowing us to quickly push out an urgent military requirement to the larger commercial/industrial base beyond common major defense companies to mitigate a major programmatic delay. We plan to make Sources Sought another tool in our tool belt to help discover new vendors who can fill various part requirements going forward.”

— Lt. Col. Joseph Lay, Materiel Leader, B-1 Systems Engineering Branch, Tinker AFB

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Welcome From NCMS President and CEO

I want to warmly welcome all the government, industry, and academic attendees to our 2023 Commercial Technologies for Maintenance Activities (CTMA) Partners Meeting in New Orleans! The Partners Meeting is the only forum devoted to improving Department of Defense (DOD) maintenance and sustainment. This year's event is especially exciting because the CTMA Technology Competition has returned, and the new “Show Us Your Technology” Workshop has been added.



The Partners Meeting will feature keynote speeches from dynamic DOD and industry leaders about critical maintenance and sustainment issues. Additionally, interactive maintenance-focused technology panels and breakout sessions will highlight the everchanging nature of maintenance and sustainment. Simultaneously, the event provides the opportunity to network with key DOD leaders and a vast array of industry and academic innovators focused on collaboration and meeting technology gaps.

The meeting also includes the NCMS Technology Showcase, an exhibition of our partners' state-of-the-art technologies and services. This exhibition will demonstrate how companies are advancing maintenance and enhancing warfighter readiness. Informative presentations by the six finalists of the 2023 CTMA Technology Competition will be featured on Day 2, providing an opportunity for both commercial and government entrants to showcase innovative ways of making maintenance and sustainment operations more agile, effective, efficient, and affordable. An Overall Award winner will be selected by the judges, and a People's Choice Award winner will be selected by the audience. NCMS will make available \$50,000 in project support funding for both winners.

Finally, the new “Show Us Your Technology” Workshop will bring interactivity to new heights on Day 3. During this exercise, teams of four will be challenged to develop and provide a solution for one of four realistic scenarios and present their solution to the attendees. This chance to collaborate and problem-solve will be a great way to close this year's meeting.

NCMS's goal is to facilitate a vibrant exchange of knowledge, assist in filling unmet needs, and accelerate technology transition from US manufacturers to the Armed Forces. Through our CTMA Program, NCMS brings together industry, academia, and government to achieve this objective.

Creating an exciting and worthwhile Partners Meeting is a great example of what we can achieve working together. Your attendance, ideas, innovations, and action will drive the next generation of maintenance technology and promote improved warfighter readiness, so we greatly appreciate your contributions.

Sincerely,

Lisa Strama
NCMS President and CEO

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Upcoming Events

June 20–21, 2023
 Cold Spray Action Team (CSAT) 2023 Meeting
 Worcester, MA
<https://www.coldsprayteam.com/csat-2023>

August 15-18, 2023
GVSETS & APBI
 Novi, MI
<https://www.ndia-mich.org/events/gvsets>

June 22, 2023
 Large Scale Additive Action Team (LSAAT) 2023 Meeting
 Worcester, MA
<https://www.largescaleadditiveteam.com/>

September 26-28, 2023
 NCMS Technology Showcase, Puget Sound Naval Shipyard
 Bremerton, WA
<https://www.ncms.org/events/>

July 17–18, 2023
 NCMS Technology Showcase: Tinker Air Force Base
 Oklahoma City, OK
<https://www.ncms.org/events/>

December 18–21, 2023
 DOD Maintenance Symposium
 San Diego, CA
<https://www.sae.org/attend/dod>

August 14-17, 2023
 DOD Corrosion Prevention Technology and Innovation Symposium
 Tucson, AZ
<https://www.dodcorrcon.org/>

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About NCMS

The National Center for Manufacturing Sciences (NCMS) is a cross-industry technology development consortium, dedicated to improving the competitiveness and strength of the US industrial base. As a member-based organization, it leverages its network of industry, government, and academia partners to develop, demonstrate, and transition innovative technologies efficiently, with less risk and lower cost.

NCMS enables world-class member companies to work effectively with other members on new opportunities – bringing together highly capable companies with providers and end users who need their innovations and technology solutions. NCMS members benefit from an accelerated progression of idea creation through execution.

NCMS was formed in 1986 to strengthen North American manufacturers and respond to global

competition. The balance between long-standing experience and fresh innovation requires a unique intersection of highly capable companies, access to efficient, effective contracting vehicles and relationships built on credibility and trust.

Through NCMS, companies with innovative technologies can collaborate with end users and develop solutions to meet their requirements. NCMS has long-established relationships, a stellar reputation, and credibility among end users. Coupled with our collaborative power to partner small R&D companies with top-tier OEMs, the results are innovations and opportunities to develop, refine and provide user-centric solutions.

For more information about NCMS, our various contract vehicles, or membership information, please visit www.ncms.org.

About the CTMA Program

The Commercial Technologies for Maintenance Activities (CTMA) has a relentless focus on defense maintenance, sustainment, and logistics. Created in 1998, CTMA is a Cooperative Agreement in partnership with the Office of the Deputy Assistant Secretary of Defense, Materiel Readiness (ODASD-MR) and NCMS. Its objective is to ensure American warfighters and their equipment are ready to face any situation, with the most up-to-date and best-maintained platforms, data, and tools available. CTMA provides technology demonstrations, evaluations, and validations in support of reliability and sustainment and must always benefit the US military, industrial base, and the public good.

CTMA offers an agile and streamlined contracting vehicle in partnership with industry and academia to advance the development, integration, and use of commercial sustainment technologies and processes which can improve warfighter readiness.

CTMA Benefits:

Agile Collaboration: A proven way of quickly organizing initiatives that meet the need of the government sponsor.

Risk Reduction: The CTMA project model validates requirements prior to acquisition—delivering project results directly to the government sponsor and end user.

Streamlined Transition: A unique platform for industry and the DOD to work in collaboration to find and evaluate technologies at best cost.

Technology Showcases: Delivering the latest commercial technology breakthroughs directly to the DOD’s doorstep.

CTMA Technology Focus Areas

ADDITIVE & ADVANCED MANUFACTURING

Just as technology is rapidly changing the fundamental nature of manufacturing worldwide, corresponding changes are being brought to bear throughout the life cycle of manufactured assets. Whether on the upstream, with digital model-based engineering design foundations, or on the downstream, with automation, robotics and artificial intelligence used in modern manufacturing processes, the tools and infrastructure continue to evolve. Advanced manufacturing is transforming the way products are brought to market and sustained. Likewise, additive manufacturing is changing the very nature of what can be manufactured and how the manufacturing process is executed.

BUSINESS IT AND ANALYTICS

Sustainment leaders and maintenance managers make a multitude of decisions every day, such as which component should be inducted to maximize production at the lowest cost. Other decisions center on which tools to invest in and processes to improve to maximize the effectiveness of maintenance and sustainment operations. With the advent of new IT capabilities, disparate data types can be absorbed and integrated to present information more effectively, providing decision-makers with greater insight. The Internet of Things (IOT), machine learning, natural language processing, artificial intelligence, and ever-expanding internet bandwidth and speed are enabling business IT and decision analytic capabilities, radically changing the very nature of when and how maintenance is executed.

CBM+/PREDICTIVE MAINTENANCE

Across the DOD, maintenance has largely been conducted with time-honored approaches: unscheduled maintenance is prevalent, and

when a system breaks, maintainers react by troubleshooting and correcting the problem. This legacy maintenance strategy is the leading driver of weapon system non-availability and exorbitant sustainment cost. However, with rapid advances in sensing technologies as well as artificial intelligence and data science, predictive maintenance is now within reach. The DOD recently completely revamped condition-based maintenance-plus (CBM+) policy to accelerate the adoption, integration and use of these transformative capabilities and shift from largely reactive maintenance to proactive and predictive maintenance. Service leadership is staunchly committed to implementing and executing CBM+ across their vast sea-going, aviation and ground-system enterprises.

COATINGS AND CORROSION PREVENTION

Recently, the DOD issued a report to Congress citing corrosion as a leading weapon system readiness driver, costing the department and the taxpayers in excess of \$20B annually. The DOD has as a result established the Corrosion Prevention and Control team, and each military service has appointed a corrosion executive in their expanded efforts to combat corrosion and its effects on readiness and cost. These authoritative and collaborative bodies seek to fundamentally change the way the DOD has battled corrosion by developing and implementing a multi-faceted solution set, which includes novel primers and coatings, cold-sprayed protective layers, improved substrate material formulae, advanced washes and application methods, innovative non-destructive inspection tools, artificial intelligence-based algorithms, CBM+ focused sensors, and robotic solutions to name a few.

ENERGY, ENVIRONMENTAL, AND HEALTH & SAFETY

In order for the DOD organic industrial base as well as field-level sustainment activities to remain ready, relevant and resilient, close attention must be paid to worker safety and health, environmental concerns and hazardous waste, and energy availability and its efficient use. One of the lessons learned during COVID-19 is that personal protective equipment (PPE) is critical to continued and extended maintenance operations, without which, weapon system readiness would suffer. Maintainer health and safety are at the heart of every process and procedure across the DOD's vast sustainment enterprise; but advances in PPE technology, automation, eco-friendly chemicals, and process monitoring are rapidly changing the way industry and the DOD are taking care of their people. At the same time, greater efforts are aimed at improving process efficiencies and output, while reducing waste streams.

ENHANCED INSPECTION

Prior to every military operation, weapon systems and equipment must be thoroughly inspected to ensure safe and reliable performance as well as mission completion.

Additionally, every maintenance action is predicated on an in-depth and sometimes complex inspection of material condition. The sheer volume of inspection taking place across the DOD on a daily basis is mind-boggling. As most inspection is performed manually by experienced artisans, maintainers, and quality assurance specialists with “calibrated eyeballs,” a great opportunity exists to completely re-think how the DOD can enhance its inspection capabilities via innovation and technology insertion. Non-destructive inspection and testing (NDI/NDT) will continue to advance as new sensor technology matures, new imaging

technologies are employed, AI-based interpretive algorithms are developed and validated, electronic diagnostics progress, built-in-testing expands, and the use of automation and robotics is integrated into maintenance.

FACILITIES AND INDUSTRIAL PROCESS MODERNIZATION

The National Defense Strategy calls for improving the readiness posture of the DOD's weapon systems through innovative and sustainable methods. The recently issued OSD Sustainment Strategy aligns with these goals and calls for modernizing and innovating the organic industrial base (OIB) in order to remain relevant, competitive and cost-effective. The 19 major maintenance depots and arsenals constitute the DOD's OIB, many of which have not had a major update since World War II. Through novel approaches that enable the modeling and simulation of process operations, many maintenance facilities across the OIB are now working to optimize MRO processes and are investing in tools and technologies that maximize production at the best overall cost.

RELIABILITY IMPROVEMENT (HARDWARE)

In the maintenance realm, less is more—the less a system requires maintenance, the more it is ready for its intended purpose. Unexpected material failure of weapon systems and components initiates a labor-intensive and often expensive chain of events necessary to return the equipment to ready status. The DOD refers to this as the “sustainment kill chain,” which begins with system failure of fault indication, requires experienced inspection-test-troubleshooting, initiates supply ordering and fulfillment, necessitates trained maintenance action and quality assurance, and ends with system-level check and test in hopes of achieving first-time repair yield. With the rapid growth of advanced manufacturing capabilities

and digital engineering, designing for ultra-high reliability is now within our reach. Artificial intelligence and machine learning coupled with advanced modeling and simulation capabilities enables astounding increases in the reliability of components and systems and minimizes the surprise unscheduled failures that begin the sustainment domino effect.

WORKFORCE DEVELOPMENT AND VISUALIZATION

Even with the greatest set of tools in the world, broken military hardware will remain that way until a maintainer with the right skillset is applied to the process. The DOD’s maintainers are the single greatest asset the sustainment community possesses, and the readiness of America’s fighting forces is directly dependent on the competency of those individuals. Traditionally, maintainers are trained in a classroom environment, where many

of the training materials are paper based. Similarly, many of the maintenance manuals and guides needed by maintainers to sustain the readiness of military equipment are paper-based as well. But today’s generation of maintainers are attuned to multimedia learning, with content presented on their phones, tablets, laptop computers, 3D goggles and gaming consoles. These electronic media coupled with enhancements via artificial intelligence, machine learning, augmented reality and virtual reality technologies open up an entirely new way to train the workforce and guide maintainers through the most complex maintenance tasks with greater precision and repeatability than ever before achievable.

DEPARTMENT OF DEFENSE MAINTENANCE SYMPOSIUM
 CULTIVATING GLOBAL INTEGRATED SUSTAINMENT IN A CONTESTED ENVIRONMENT
12.18.23 DECEMBER 18–21, 2023
 SAN DIEGO, CALIFORNIA



SAE.ORG/DOD

Speakers

Dr. Vic S. Ramdass, Deputy Assistant Secretary of Defense for Materiel Readiness

Dr. Vic S. Ramdass, a member of the Senior Executive Service since 2009, is the Deputy Assistant Secretary of Defense for Materiel Readiness. In this capacity he serves as the principal advisor to the Assistant Secretary of Defense for Sustainment in the oversight of the Department’s \$90 billion maintenance program. He is also responsible for the development of policies and procedures to ensure the Department meets statutory requirements to provide core depot level maintenance support of major weapon systems, military equipment, and commodities.



Prior to his current position, Dr. Ramdass served as the Army’s Director of Maintenance Policy and Programs in the Office of the Deputy Chief of Staff G-4, Headquarters Department of the Army, Washington, DC. In this position, Dr. Ramdass was responsible for setting conditions for the Army to achieve sustainment capabilities (national through tactical) that support ready forces through integrated maintenance and life cycle policies, programs and operations. Prior to that, he served in numerous Senior Executive Service positions, following over 12 years on active duty in the US Army. He is an Acquisition Corps Member, Level III certified in Test and Evaluation, Program Management and Logistics. In addition, Dr. Ramdass has served as an adjunct Embry-Riddle Aeronautical University Professor for more than 23 years.

Mike Kelly, Sustainment Director, Advanced Development Programs (Skunk Works®), Lockheed Martin Aeronautics Co.

Mike Kelly leads a portfolio of development activities focused on delivering effective and affordable sustainment solutions for current and future systems. Prior to joining Lockheed Martin in 2018, Mike held senior sustainment roles with Northrop Grumman Aerospace Systems and served in the US Navy as an Aerospace Maintenance Duty Officer, retiring at the rank of Captain. Mike concluded his uniformed career as the Assistant Chief of Staff/Force Materiel Officer for Commander Naval Air Forces, and commanded Fleet Readiness Center Southwest. Mike is a graduate of Tulane University and the Naval Postgraduate School and is a recipient of the CNO’s Captain Virgil Lemmon award for Naval Aviation Maintenance Excellence. Mike was also an Aviation Week Laureate Award nominee in 2011 for his work as leader of Team Tomodachi.



Moderators

Janice Bryant, Strategic Technology Manager, Naval Sea Systems Command (SEA 05T1)

Janice Bryant is currently the Sustainment Technology Manager for NAVSEA 05T. Ms. Bryant began her career as an engineer in the Naval shipyards, and has added extensive experience during the last 25+ years across NAVSEA sustainment. She directs a \$25M portfolio focused on rapid development and fielding to assess, maintain and repair our fleet. She is a long-term Principal for the Joint Technology Exchange Group and is always ready to share, consider, guide, think and engage to #GETSHIPSDONE.



Josh Chapman, Project Manager, NCMS

Josh Chapman supports the CTMA Program as a project manager and has been working in new project formation and project execution for almost three years. Prior to joining NCMS, Mr. Chapman worked as a Project Manager with Cisco Technology on the Bank of America account. There he excelled in establishing processes and mentoring new project managers added to the account. Currently, Mr. Chapman serves as the Senior Enlisted Advisor as a Gunnery Sergeant for his unit of the US Marine Corps Reserves, stationed out of Selfridge ANGB in Michigan. He has served for over 20 years with 10 years as active duty and 10 years reserve. His vast knowledge and background in the DOD allows him to fit right in with government and industry partners.



Debbie Lilu, Vice President, Maintenance and Sustainment, Business Development, NCMS

In her current role, Debbie Lilu serves as CTMA Program Principal. She has over 35 years of experience in the automotive and aerospace industries and working with the Department of Defense. Ms. Lilu has extensive expertise in managing complex, collaborative technical projects and understands how to bring new technology to commercialization. She has identified and developed new funding sources, augmenting program resources and monitoring project performance through implementation and commercialization. She has a proven track record leading a team for securing over \$2B in funding across all of the armed services.



Dr. Albert Lowas, Technical Director, Air Force Sustainment Center, Air Force Materiel Command, Tinker AFB, Oklahoma

Albert F. Lowas, III, based at Tinker AFB, oversees and provides senior technical guidance on all engineering related to the procurement and management of all USAF spare parts, on all aspects of process engineering support for the USAF depots, and on the insertion of advanced technologies into those depots. In this capacity, he is charged with assessing the application of systems engineering and technical management principles to the development and implementation of policies concerning depot process integrity programs,



depot technology selection and implementation, and the establishment of engineering innovation centers. Dr. Lowas also assesses and advises on the health of the AFSC engineering workforce.

Steve McKee, Director of Enterprise Maintenance Technologies, Office of the Deputy Assistant Secretary of Defense for Materiel Readiness

Steve McKee, in his current role as Director of Enterprise Maintenance Technologies, serves as the CTMA Program Officer for OSD. Prior to his current position, he served for 18 years working with Navy sustainment organizations and 13 years in uniform as an Army engineer. In 2020, he received the Office of the Secretary of Defense Award for Excellence, having been instrumental in standing up the Joint Robotics Organization for Building Organic Technologies (JROBOT). Mr. McKee possesses an understanding of the challenges facing our sustainment communities and a keen desire to partner with all those who can help improve the readiness.



Frank Schuster, Director of Program Execution, NCMS

Frank Schuster oversees new project formation, processes, coordination, and program operations for NCMS. He provides leadership and management to ensure mission success of the CTMA program, with a focus on safeguarding and enforcing program requirements as well as NCMS organizational vision and core values.



He was previously the Chief Operating Officer and logistics subject matter expert for Troika Solutions. Prior to that, Mr. Schuster led his own independent consulting firm that supported several DOD initiatives, including multiple NATO logistics data exchange exercises, asset management, maintenance and configuration management, life cycle management, CBM+, asset tracking and visibility, and supply and warehouse management. Additionally, Mr. Schuster served as the Combat Engineer Operations Chief in the Marine Corps Reserve before retiring in 2014 with 24 years of service.

Travis Shea, Project Manager, NCMS

Travis Shea currently manages multiple CTMA projects ranging from blockchain, to manufacturing, to airless tire design. Before joining NCMS, Mr. Shea worked in the field of test and evaluation for combat vehicles, small arms, and crew-served weapons. He also briefly worked on an engineering team manufacturing light tanks and in maritime radar design, manufacturing, and implementation. A Navy veteran, Mr. Shea has served on five overseas deployments to the Middle East, Africa, and South and Central America. As a current senior NCO in the Air Force Reserve, he specializes in the contingency C2/airfield management space. Mr. Shea's experience has brought him from end-user to T&E before acquisition and fielding, and now finally to conception and R&D of maintenance/sustainment solutions for the warfighter.



Exhibitor Directory for NCMS Technology Showcase at Royal Sonesta New Orleans, LA

ADVANCED/ADDITIVE MANUFACTURING

Siemens Digital Industries Software Supply Chain on Demand



Siemens Xcelerator technology enables digital transformation by building comprehensive digital twins of products, facilities and operations and connecting them to the physical industrial and operations live data. This technology comprises an integrated portfolio of software, services, and an application development platform that unlocks a powerful industrial network effect.

Problem Statement

In current and future military conflicts, military forces need the ability to regenerate capabilities in the most demanding of environments. Various technologies (e.g., additive manufacturing, cold spray, computer numerical control machines, robotics) must be operable within the combat areas. Connectivity to cloud solutions may be degraded or severed for extended periods complicating the effective use of these solutions to support national and allied objectives.

Solution Statement

We will be standing up a Teamcenter PLM deployment in a secured GovCloud environment to manage technical data packages of many formats to support any/all military branches deployed globally. These forward deployed soldiers, sailors, airmen, marines and vanguards will be enabled with an Amazon Edge device and a 3D printer to pull applicable printing programs onto the

snowball when in range of internet connectivity, then additively manufacture these parts in the field when disconnected from the Wide Area Network.

Benefits Statement

Speed to Field: The DOD needs distributed and maturing capabilities in various locations as soon as possible; good-enough solutions now are preferred to perfect solutions never. (#BiasForAction, #DeliverResults)

About the Company

Siemens Digital Industry Software specializes in cutting edge manufacturing technologies, including product lifecycle management, mechanical/electrical/software design, manufacturing operations, manufacturing execution & 1D/3D simulation tools. Siemens is the top industrial software company globally and we work very closely with all branches of the US Department of Defense as well as industry partners such as NCMS.

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BUSINESS IT AND ANALYTICS

Naval Systems Incorporated**NAVAIR Reliability Control Board (RCB) Readiness Degradors**

Determining which components or systems are most negatively impacting an aircraft fleet's readiness is not a trivial task. NAVAIR has used the CTMA vehicle to fund a prototype degrader list algorithm, including data pipeline engineering, data cleansing, model building, and dashboard development.

The prototype algorithm required data wrangling and fusion between NAVAIR maintenance, fleet readiness, and NAVSUP and DLA supply chain data sources, as well as advanced analytics, to build a readiness degrader list that provides a standard target for all stakeholders. The degrader algorithm combines factors from three primary focus areas: supply, maintenance, and open activity, which are each comprised of multiple sub-pillars and metrics. These primary focus areas are then weighted separately to account for their impact on readiness and are combined into one score that primarily provides the rankings for each degrader list.

Problem Statement

Manually creating a list of readiness-degrading systems and parts can be time consuming. Development is required of a model that can accurately automate the creation of readiness degrader lists for USN and USMC aviation platforms using readily available data sources to equip maintainers with a data-driven, decision-making tool.

Solution Statement

The solution includes the engineering of highly automated, reproducible, and fault-tolerant data pipelines and extract-load-transform (ELT) procedures to ingest each required data source into a structured query language (SQL) database.

The disparate data sources are fused to produce a derived data set that captures statistical analyses and patterns from source data to construct a readiness degrader list. Lastly, a suite of dashboards has been developed to provide users access to the degrader list, as well as the underlying data sources.

Benefits Statement

The RCB readiness degraders list and associated methodologies have been rolled out to approximately 68 USN, USMC, and USAF aircraft platforms. The RCB project recently completed a version 2.0 reengineering effort, which was a ground-up re-development of the algorithm and dashboards to incorporate lessons learned, new data sources, and newly available analytics tools. The RCB has been instrumental in producing increasing readiness trends.

About the Company

Naval Systems, Inc. (NSI) was founded in 2004 as an engineering services company with the Navy's Naval Air Systems Command (NAVAIR) as its primary customer. Since then, NSI has grown to over 300 employees and some 200 subcontractors, with its headquarters near NAS Patuxent River, MD, and offices located across the US and overseas.

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CBM+/PREDICTIVE MAINTENANCE

Astrolabe Analytics, Inc.**Battery Analytics for Electric Vehicle Platform Development and Operations**

The DOD has a need for low-cost, autonomous delivery vehicles for all missions and terrain, be it land, marine, or air. In each case Li-ion batteries will play a role as either a primary or auxiliary power source, and the battery will be pushed to its limits. Vehicle operators and maintenance organizations must know how much longer the battery will be able to perform, both for the current mission (battery state of charge) and for future sustainment (battery state of health). Astrolabe has developed methods for forecasting battery health and performance in electric aircraft, which can in turn be applied to related platforms across the DOD. The benefits of this technology apply across the lifecycle of new vehicle platforms. In the design phase, we can help develop certification bases (e.g., with the FAA) and standard operating procedures around battery systems safety and performance for autonomous and electric vehicles. Astrolabe can also help monitor the performance of battery-powered assets in the field to help forecast end-of-life issues, thereby reducing maintenance costs and ensuring high system safety and uptime.

Problem Statement

Vehicle operators and maintenance organizations must be able to determine the health of Li-ion batteries and know how long these batteries, especially for autonomous vehicles, will be able to perform.

Solution Statement

Our machine learning methods enable state-of-the-art lifetime prediction of battery health across a range of different scenarios:

- Temperature ranges
- Load profiles
- Battery chemistries

We have patent-pending methods for online and offline health monitoring of EVTOL battery packs. Battery forecasts can in turn be used across the product lifecycle to inform warranty design, quality control, field operations, and retirement.

Benefits Statement

- Platform design phase: Develop certification bases and standard operating procedures around battery systems safety and performance for autonomous vehicles (including land, air and marine)
- Operations phase: Analytics can be extended to help monitor performance of other battery-powered systems to improve key metrics like reducing maintenance hours, reducing battery replacement costs, and ensuring system safety and uptime

About the Company

Astrolabe is a battery analytics company headquartered in Seattle. We provide solutions for battery data management infrastructure and predictive analytics for a range of applications. We are working to deploy software solutions to bring new battery technology to market safely and securely.

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CBM+/PREDICTIVE MAINTENANCE

Edlore

Optimizing Equipment Maintenance: Streamlined Processes for Empowered Maintainers

At the core of our software platform is a centralized repository that houses all equipment manuals, ensuring easy access to critical documentation. Maintainers can quickly reference relevant information while working on equipment, eliminating the need for physical copies, and reducing the risk of errors. To enhance understanding and facilitate maintenance procedures, our platform offers interactive 3D exploded views of equipment and augmented reality (AR) and virtual reality (VR) technologies.

Through our platform, work order management is streamlined, allowing maintainers to efficiently create, assign, and track tasks. In cases where additional expertise is required, maintainers can engage in video chat sessions with remote experts.

Problem Statement

The existing equipment maintenance processes lack efficiency and pose safety risks for maintainers, leading to increased downtime, suboptimal maintenance schedules, and potential errors in critical tasks.

Solution Statement

Through our software platform, maintainers have access to a centralized repository that houses equipment manuals, eliminating the need for physical copies and reducing the risk of errors. Interactive 3D visualizations and augmented reality capabilities enable maintainers to explore and comprehend complex components, improving their understanding and accuracy in maintenance tasks. The platform enables real-time video chat support with remote experts and enables maintainers to capture and attach images and videos during maintenance.



Benefits Statement

By providing streamlined access to manuals, interactive visualizations, and expert support, we enhance efficiency and safety in maintenance tasks. Maintainers can quickly access critical documentation, eliminating errors and saving time. Interactive visualizations enable better understanding of complex components, leading to improved accuracy and productivity. Furthermore, our platform facilitates proactive maintenance practices through the capture and analysis of critical maintenance data.

About the Company

Through our software platform, we are a company that helps maintainers to service equipment more efficiently and safely by providing them tools on their mobile and desktop devices such as repository of all their manuals, 3D exploded views, Augmented Reality, Virtual reality and AI and ML tools for predictive and preventative maintenance. They can also set up work orders through our software and get video chat help from remote experts.

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CBM+/PREDICTIVE MAINTENANCE

Redhorse Corporation

Condition Based Maintenance Plus CBM+ Model Factory for DoD CBM+ Programs

Redhorse Corporation’s deep data science expertise unlocks accurate part failure and supply chain forecasting, enabling improved aircraft and ground vehicle availability for critical missions. By leveraging best in class analytics platforms, best practices, and human-machine teaming, our team is providing leap-ahead advancements to the Air Force and Marine Corps CBM+ programs. Redhorse can help you accelerate your CBM+ program today.

Problem

The DoD seeks a more agile and expeditionary force capable of competing with adversaries in a technically complex operating environment. Amid this backdrop, all Services face a daunting array of challenges to maintaining a ready force, and when called, to sustaining combat power. Budgetary pressures, constrained supply chains, and the inherent unpredictability of complex organizations maintaining complex mission profiles all make the intersection of maintenance and supply critical to improving platform availability and reducing mission failures.

Solution

Redhorse provides successful CBM+ solutions that leverage the following key capabilities:

- Proven understanding of the CBM+ process to drive mission outcomes.
- Recent and relevant experience supporting enterprise Digital Transformation efforts.
- Cross-functional teams with the right mix of mission and technical expertise, and an informed approach to user and stakeholder engagement.
- Commercial best practices for capturing and articulating user feedback to drive continuous product improvement.

- Deep data science/machine learning experience with extensive experience applying NLP to deeply technical, real-world data problems.
- Commitment to delivering full government purpose rights for all data deliverables.
- Responsiveness to changing priorities and flexible approach to contract management.
- Proactive, transparent communications practices; “no surprises” for any stakeholders.

Benefit

Redhorse is the first company to tackle this challenge at enterprise scale though its support of the USAF RSO CBM+ program, exceeding expectations. We are covering 16 platforms and program offices, hundreds of unit codes, and thousands of records, gaining unparalleled understanding of what it takes to develop a successful CBM+ program within the DoD.

About the Company

Redhorse Corporation’s (Redhorse) mission is to “change the way government interacts with data and technology”. Redhorse supports digital transformation using our innovation services methodology, combining Design Thinking, Lean Startup, and Agile Development to deliver useful data-intensive products to users, rapidly and iteratively.

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CBM+/PREDICTIVE MAINTENANCE

Universal Synaptics**Portable Intermittent Fault Detector (PIFD)**

The PIFD is a patented advanced diagnostic instrument that can simultaneously and continuously monitor all unit under test (UUT) circuits individually at the same time, detecting intermittent faults that occur, even as short as 50 nanoseconds (0.00000005 seconds) in duration.

Problem Statement

No Fault Found (NFF) test results are primarily driven by intermittent faults. Intermittent faults have become a significant concern, maintenance and life-cycle cost driver, and a materiel readiness degrader within the DOD. Conventional ATE was not designed to detect intermittent faults and is incapable of detecting and isolating momentary intermittent faults that cause NFF, leaving them unrepaired.

Solution Statement

The PIFD is a patented advanced diagnostic instrument that can simultaneously and continuously monitor all unit under test (UUT) circuits individually at the same time, detecting intermittent faults that occur, even as short as 50 nanoseconds (0.00000005 seconds) in duration. In addition to detecting and isolating intermittent faults, the PIFD AutoMap™ artificial intelligence feature automatically interrogates and stores the as-configured wiring, eliminating the need for hardcoded test program set software, reducing cost, increasing efficiency and speed to the fleet. The PIFD also detects any open, short, ohmic, impedance, drift, or mis-wiring problem in UUTs.

Benefits Statement

The Portable Intermittent Fault Detector™ (PIFD™) was specifically designed to detect and isolate intermittent faults, enabling them to be repaired. The PIFD accomplishes this task by monitoring ALL lines ALL the time —no scanning or sampling.

By identifying and correcting the root causes of random, intermittent failures, reliability increases on the diagnosed systems and sub-systems. The PIFD is the only approved wire test set for the F-35 JSF global program.

About the Company

Universal Synaptics with its partner Lockheed Martin is the industry leader in detecting and isolating elusive intermittent faults in compliance with the Department of Defense MIL-PRF 32516. The massive digital testing void with conventional scanning test equipment led to the development of the patented Portable Intermittent Fault Detector™ (PIFD™), and other products in our family of Intermittent Fault Detectors.

The primary business purpose of the partnership is to assist sustainment organizations to solve their intermittent failure problems, increase system availability and reduce No Fault Found while collaborating across existing and new platforms.

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COATINGS AND CORROSION PREVENTION

10X Engineered Materials, LLC.**New Bio-soluble Abrasive Blast Media**

Superalloy is an engineered alloy of oxide minerals created through highly controlled formulation and tempering (high heat + rapid cooling). The process creates non-crystalline (amorphous) particles that resist breakage under stress of high-speed mechanical impact.

Problem Statement

Abrasive blasting is a slow, dusty, and dangerous process. 10X's superalloy abrasives are bio-soluble, fast, much more efficient, and completely safe. Proper use of our products enable faster asset return to service.

Solution Statement

Superalloy particles remain intact when blasted and do more work per pound because they are able to deliver more energy per particle to the surface. This means that it takes fewer particles to do the work which translates to significantly less pounds of abrasive needed per square foot. Superalloys may use up to 80% less when compared to other abrasives. Superalloy abrasives make cleanup simpler and less costly, decrease vacuuming time, and lower disposal costs. The enhanced energy delivery per superalloy particle not only results in lower dust and consumption, but also in higher productivity and faster blasting. Resistance to shattering virtually eliminates embedment leaving an ultra clean surface with inherent rust bloom delay.

Benefits Statement

- Lower dust, safer blasting, reduced consumption
- Faster blasting
- Unmatched surface quality

About the Company

The founders of 10X Engineered Materials are mostly engineers and scientists that have spent their careers conceiving new ideas and commercializing new technologies to improve things, even old and stale technologies like cooling cycles or water filtration. In that world, 10X is a sort of the holy grail for quantum-leap improvement that innovators aspire to. When we uncovered superalloy abrasive technology and set out to commercialize it, we named the company in that spirit of always thinking big and striving for truly disruptive positive impact. From the start, our goal has been to develop an abrasive and a company 10 times (10X) better than anything else, and while this may be a stretch, we'll do our best to try!

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COATINGS AND CORROSION PREVENTION
Atmospheric Plasma Solutions, Inc.
An Innovation in Surface Preparation



PlasmaBlast® is field-deployable and easily portable, with a handheld, ergonomic precision plasma pen and a power supply that weighs less than 35 pounds. With compressed air and electricity, PlasmaBlast® harnesses a “cold” plasma beam to vaporize paints, sealants, and epoxies. The process converts a significant portion of the removed organic coating into water vapor and carbon dioxide, leaving a small volume of solids that can be safely collected with a HEPA vacuum. Testing conducted by NAVSEA 05 documented that this method does not cause changes to the substrate metallurgy.



- Is safer, environmentally friendly, and requires minimal containment and clean-up.
- Delivers significant time savings to meet work schedules.
- Enables fast training, ease of operation, and low maintenance requirements.
- Offer a media- and chemical-free solution.

About the Company

The mission of Atmospheric Plasma Solutions, Inc. (APS) is to be the leading provider of innovative atmospheric plasma solutions for a broad range of emerging applications in defense and commercial markets. APS has perfected the delivery of plasma at atmospheric pressures using only compressed air and electricity. The company’s systems are used by the US Navy, US Army, pharmaceutical manufacturers, Fortune 100 firms, and more.

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Problem Statement

Protecting and maintaining assets in highly corrosive environments has been a challenge for centuries. Assets that require precision coating removal around compromised structures require a precision tool that does not impact the structure leading to failure. Removal of any metal or damage to surfaces must be avoided in these scenarios, which disqualifies highly abrasive removal methods.

Solution Statement

The PlasmaBlast® 7000-M Surface Preparation System is an effective solution for:

- Non-Destructive Inspection (NDI/NDT).
- Spot coating removal for repair, rework, and weld preparation.
- De-painting in locations where grit and water blasting are restricted.
- Effective removal of coatings from corners, cracks, crevices, and other tight spaces.

Benefits Statement

The PlasmaBlast® system offers the benefit of total surface preparation, including coating removal, cleans surfaces, and promotes adhesion:

- Requires only compressed air and electricity to operate.



COATINGS AND CORROSION PREVENTION
BlastOne
IntelliBlast – The Blast Pot of Tomorrow | Introducing a Cloud Based Product to the Corrosion Control Industry

The corrosion control industry is heavily influenced by the productivity of blasters and the amount of abrasive used, which affects project schedule and cost. Contractors with limited knowledge of day-to-day jobsite activity create issues such as excessive abrasive use, worn nozzles, and compressor malfunctions, leading to increased costs and project delays.

BlastOne has developed IntelliBlast, a technology that monitors and reports real-time metrics such as abrasive and compressed air consumption, blasting pressure, and operator blasting time. Project managers can access an online dashboard to monitor performance and make necessary changes to prevent unforeseen costs. IntelliBlast helps identify issues such as excessive abrasive use, worn nozzles, and underperforming blasters, allowing project managers to make informed decisions to keep projects on track. Overall, IntelliBlast can help improve productivity, reduce costs, and increase efficiency.

Problem Statement

- A need exists for more advanced corrosion control technology that monitors and reports abrasive metrics in real-time.
- Project managers need increased knowledge of day-to-day jobsite activity, to monitor performance and make changes as the project carries on.

Solution Statement

- Real time monitoring (via the integrated system mounted HMI) of inlet air pressure, temperature, dew point, outlet hose air pressure, abrasive flow rate and operational time per hose
- Automatic adjustment of abrasive flow rate via the metering valve for optimal performance
- Optimization of settings for different abrasive type and blast nozzle size combinations

- System alarms can signal low or high abrasive flow rate, low or high air pressure, and other factors.

Benefits Statement

- Optimize blasting by automatically adjusting blast pot settings during the blasting process
- Monitor system inputs to determine system efficiency
- Control abrasive flow rate to maintain optimal blasting
- Raise alarms on connected mobile devices when system settings are not optimal
- Report system usage and performance over a selectable timeframe

About the Company

Originally established nearly 50 years ago to provide technical consulting, BlastOne is a single source supplier of abrasive blasting systems, equipment, abrasives and world-class industry technical support. The company operates across Australia, New Zealand, North America and Europe.

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COATINGS CORROSION AND PREVENTION

DAES Group

Defense MRO Technologies—Automation and Corrosion Control



EPOLY advanced epoxy repairs for gearbox housings was named a 2021 CTMA Technology Competition finalist. This leading epoxy resin solution has proven to be an ideal solution for light alloy structural housing repair on commercial aviation applications. It offers a proven epoxy-based repair process that has been approved by leading regulatory bodies, major airlines, MRO operations, and engine and component OEMs. What sets EPOLY apart from other epoxy-based repair processes is the patented chemical formulae and unique curing process. While alternatives have developed, none have a broad acceptance in the industry.

Until recently the manufacturer has focused primarily on business with OEMs and commercial MRO sources. This approach has successfully transitioned EPOLY repairs widely to commercial aviation but has resulted in limited successful DOD applications. The bottom line is EPOLY is ready, proven, durable, cost-effective and in many cases, approved by the OEMs for use in repairing magnesium gearboxes. The DOD continues to slowly explore the use of additive processes to repair gearbox housings when a “camera-ready” solution exists that can be rapidly deployed.

Problem Statement

- Most gearbox housings are made of a light alloy material, usually aluminum or magnesium alloy.
- During overhaul these housings are found to have defects that may deem the housing as non-repairable by traditional repair methods such as metal spray, welding, plating, brazing, etc.

Solution Statement

EPOLY is a two-part thixotropic epoxy which can be applied in multiple ways. The EPOLY compound has a 275° F curing process. EPOLY properties include: hard as mild steel, self-lubricating,



corrosion resistant, operating temperature range –65° F to 450° F, resistant to fuel, oil, skydrol and red hydraulic oil, cavitation resistant, application thickness of 0.2 inches.

Benefits Statement

- Aerospace PROVEN repair solution for light alloy housings, with hundreds of aerospace component approved solutions
- Savings of up to 85% of the new part price and enables unlimited repeat repairs
- Can be used on all material that can withstand the 275° F cure temperature
- Especially compatible with repair of aluminum and magnesium alloy materials

About the Company

The DAES Group is a global service provider that supports OEMs, commercial airlines, military, and MRO operations. With 16 offices around the world, we provide turnkey and customized solutions, making us your trusted one-stop-support partner.

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ENERGY, ENVIRONMENTAL, HEALTH, AND SAFETY

GVS

Respiratory Protection



We offer high-quality certified respiratory protection that’s designed for hazardous working conditions across a wide range of industries and applications. Protecting people drives everything we do at GVS RPB.

Problem Statement

Workplaces can sometimes expose employees to harmful or dangerous substances.

Solution Statement

GVS produces high quality personal protection equipment to ensure the safety of employees in a wide variety of hazardous environments.

Benefits Statement

The benefits of eliminating and reducing exposure to workplace hazards will allow employees to be safer and healthier.

About the Company

GVS creates respiratory protection solutions that make you and your team safer, so everyone can get home at the end of each day, safe, healthy, and able to do that things that matter the most.

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ENHANCED INSPECTION

ZOLLER Inc.**ZOLLER Tool Presetting, Tool Inspection and Tool Management Solutions**

The ZOLLER »zidCode« is a device that makes fast, reliable, error-free transfer of tool life and tool offset data from the presetter to the machine controller not only possible, but extremely simple. »zidCode« ensures 100% correct tool offset and tool life information at the machine controller, improved productivity and reliability, all in a paperless process, plus flexible, low-cost integration to any machine tool controller without the use of a network connection.

The ZOLLER »smile« is the premium presetting and measuring machine for all kinds of cutting tools. »smile« has an intuitive user interface and comfortable control elements, plus powerful optics and »pilot« image processing software. Its robust design means it is equally capable in a climate controlled room as it is on the shop floor.

When combined, the »zidCode« and »smile« will ensure accurate measurement results and provide a secure, reliable, efficient way to transfer that data or tool life information directly to the machine controller. Accurate tool measurements combined with seamless data transfer to the machine controller means a better, faster, more efficient manufacturing process.

Problem Statement

Manufacturing inefficiency leads to longer part production times, less accuracy and repeatability, and lower quality parts. The challenges include bottlenecks, missing tools, higher scrap, and under-utilized machine tool spindles.

Solution Statement

ZOLLER's solutions in its four core areas of its business portfolio (tool presetting and measuring, tool inspection and measuring, tool management hardware & software, and automation) are modular, and fit easily into your existing manufacturing processes whilst meeting your exact specifications.

Benefits Statement

Tool presetting, measurement, inspection, tool management and automation from ZOLLER eliminate machine tool downtime for presetting and missing tools thanks to tool management with traceability, and ensure repeatable accurate measurement results and faster, more efficient manufacturing processes.

About the Company

ZOLLER Inc. is a technology focused global company that develops innovative tool presetting, measuring and inspection machines as well as tool management solutions software for optimal management of cutting tools. The portfolio of solutions ranges from tool presetting, tool inspection, tool balancing and shrinking machines to integrated automation and tool storage options, as well as TMS Tool Management Solutions software.

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OTHER

Andromeda Systems Incorporated**Optimizing Throughput for MRO Facilities using Modeling and Simulation**

Performing maintenance, repairs and overhauls for entities such as the Naval Aviation Enterprise (NAE) involves navigating and managing a complex network of depots and intermediate level land- and ship-based locations. ASI is developing an enterprise model that takes advantage of modern computing capabilities, operations research techniques, modeling and simulation tools, and in-depth understanding of the problems being faced to optimize resourcing strategies and business practices to maximize throughput. This effort will greatly impact both production and maintenance practices for aircraft, engines, components, and other critical assets. While currently focused on the Navy and Marine Corps, it has implications across the DOD.

The model is a decision analysis tool that provides a holistic view of how sites are managing current maintenance and production workloads. Key metrics are collected including throughput, turnaround time (TaT), resource utilization/availability, and backlog. Planned future workload is evaluated and scenarios are analyzed. Scenarios include:

- Reallocating of resources (personnel, machinery, tools) to fill gaps in some locations and relieve excesses in others
- Intelligent routing of components/assets across the sites to gain efficiencies
- Prioritization of components/assets to meet the warfighter's needs
- Evaluating the ability to meet an increase in demand (surge) across various sites
- Prioritization of CPI efforts to reduce TAT and increase throughput

Problem Statement

The Commander, Fleet Readiness Centers (COMFRC) is responsible for the arduous task of managing a complex network of depots, I-level locations, and field sites to provide maintenance, repairs, overhauls,

and parts manufacturing for the NAE. An integrated approach is necessary to optimize business practices and resource allocations in order to maximize weapons systems availability to the warfighter.

Solution Statement

An enterprise-wide modeling and simulation application that takes advantage of:

- Advanced computing capabilities
- Operations research (OR) techniques
- Near real-time data collection and processing of current NAE data systems

The application serves as a decision support system to be used both at the enterprise level, and local sites to improve and optimize operations.

Benefits Statement

One integrated solution that considers the impact of decisions made at a particular site to the other sites, and the enterprise as a whole. It has the ability to run scenarios and evaluate potential impacts allows for intelligent resource allocations, routing of workload, and personnel scheduling

About the Company

Andromeda Systems Incorporated (ASI) provides tools and services to assist physical asset owners, fleet managers, managers, and military program managers in gaining critical insights into their equipment's performance, identifying system improvements, optimizing operations and support, making better business decisions, and achieving measurable life-cycle cost savings.

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OTHER

Boston Engineering**BEEP and Family of Sustainment Assisting Robotics**

Two unique platforms with the ability to combine and enhance the use cases addressed by either. BEEP is a highly configurable multi-module platform that allows an organization to combine solutions and technologies to optimize the return on investment in workforce and operational optimization and efficiency. The Family of Sustainment Robotics is a modular robotic platform which allows the addition or reduction of add-ons to support a number of unique use cases in the shipyard and other environments all while utilizing the same robotic body. Both powerful and highly valuable on their own provide an avenue into untouched use cases to solving many emerging challenges today.

Problem Statement

- A continually revolving workforce is reducing the overall shipyard efficiency, increasing scrap and rework, delaying schedule at an increased cost
- High cost and increased time for maintenance and repair
- Secure environments reducing the ability to have secure transmissions within emerging products
- Dangerous environments pose a serious risk to individual health and wellbeing

Solution Statement

Using a modular approach in solution spaces such as remote assistance, AR navigation, advanced remote monitoring and immersive telerobotics provides the customer the ability to compile an overall solution to address their most dire business challenges. The BEEP platform provides the ability to configure solutions that have an ability to wrap and extend the existing ecosystem reducing the time to scaled production use.

Benefits Statement

- Reduce time off task
- Reduce scrap and rework cycles
- Reduce cost of maintenance and repair
- Multiple deployment options: cloud, local cloud, hybrid
- Increased unmanned environments through robotics with immersed control systems.

About the Company

Boston Engineering is a leader in sustainable digital transformations, implementing innovative technologies, and developing road maps to solve tomorrow's business challenges. Leveraging the latest in emerging technologies, such as Sustainment Robotics (SR), Augmented Reality (AR), Virtual Reality (VR), Internet of Things (IoT), and more, Boston Engineering helps you bring innovation to bear on your mission.

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OTHER

Delve**Product Design and Development**

- Design strategy
- Industrial Design
- Interaction Design
- Visual Communication
- Mechanical Engineering
- Electrical Engineering
- Human Factors
- Quality Engineering
- Prototype Development

Problem Statement

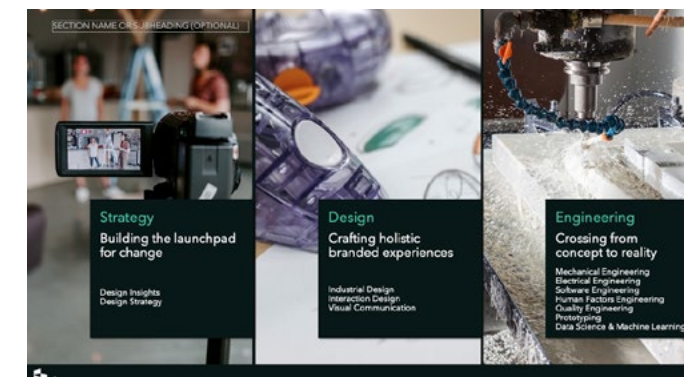
Product development is complex. It involves expertly balancing competing tensions—the highest performance and most features, the lowest cost and shortest time to market, and the ease with which the product can be produced in both quantity and quality. If performance is paramount, the product may become too expensive. If costs are cut, quality may suffer. Navigating these trade-offs demands expertise from a variety of disciplines.

Solution Statement

Delve has a long track record of providing services that develop reliable rugged products, withstanding harsh environments and abusive handling. Many times, these products also qualify as “mission-critical” and have MIL-SPEC requirements. Our portfolio includes rugged devices that can stand up to all kinds of hostile environments, including explosive, extreme cold, wet and salt-spray, and pathogens.

Benefit Statement

- Valuable expertise from designers with diverse professional backgrounds better inform your project
- Fresh perspectives from a team outside of your organization
- Efficient resource allocation by allowing your team to focus on core competencies.



- Risk mitigation. We are adept at identifying potential pitfalls and mitigating risk early to minimize costly mistakes, discover liabilities and increase project success.

About the Company

We are a multidisciplinary product innovation and development firm that brings bold ideas to market. For 55 years, Delve has mobilized the best experts and technologies for our clients. And along the way, we've earned 1,500 patents and 200 design awards.

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OTHER

One Network Enterprises, Inc.**The ONE NEO Platform: The Digital Supply Chain Network for Global Defense**

One Network provides the revolutionary multi-party network that exploits the latest trends remaking consumer and business technology: cloud-based computing, many-to-many networks, social networking, big and fast data and mobile apps. The result is the world's first and only real-time decision-making supply chain suite. It enables an unlimited number of connected trading partners to plan, execute, monitor, synchronize, and optimize, in real-time, all of the business processes and events that take place throughout their extended supply chains, from end-user to raw material suppliers. This fully integrated supply chain solution is supply- and transportation-agnostic, with over 300 fully integrated supply chain apps, all extensible and configurable through a backward compatible SDK and public APIs.

Problem Statement

- Service, joint and combined DOD operations struggle with real time visibility and actionability.
- Integration architectures deployed today do not enable effective mission execution and lack true enterprise-level edge computing capabilities.
- DOD logistics systems continue to struggle with auditability.

Solution Statement

- Is supply- and transportation-agnostic, managing all supply classes on a single platform
- Offers realtime visibility of managed assets, including assets managed by other services
- Offers multi-tier/multi-party that allows services to collaborate and build on each other's investment.
- Provides disconnected operations for austere and contested environments
- Features publish and subscribe master data management solution
- Offers auditability with FIAR, FISCAM, DLMS and "cradle to grave" ledgering.

Benefits Statement

- Solution never goes legacy, providing modernizations as customers choose.
- Rapid Configuration with backward compatible SDKs and extensible APIs.
- Increased Flexibility, works with military processes as needed.
- Multi-Level Operations, with smart Control Towers and visibility/execution layers.
- Real-Time Digital Twin of your supply chain.

About the Company

One Network Enterprises (ONE) is the world leader in Digital Supply Chain Networks. ONE's multi-party, multi-tier, secure, cloud-based Digital Supply Chain Network is a transformative solution, leveraging smart control towers, providing a single version of the truth (SVOT), matching demand-to-supply-to-transportation instantly, resulting in immediate increased agility and responsiveness to deliver world-class support to the warfighter.

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OTHER

Solvus Global**Powders on Demand/Mammoth Metalworks/Augmented Process Ecosystem for X (APEX)**

The Solvus Global enterprises have developed their own feature technologies to solve difficult problems within aerospace, defense, and energy industries.

- Powders on Demand—Enhanced powder solutions specially designed to consistently meet the rigorous specifications emerging tech demands
- Mammoth Metalworks—Provides large format additive manufacturing with focus on material properties. It can quickly evaluate, design, and build a variety of multi-process parts combining low-cost bulk material with high-performance surface modifications
- Augmented Process Ecosystem for X (APEX)—Manufacturing intelligence for Industry 4.0

Problem Statement

- Supply chain readiness for novel manufacturing methods is highly dependent on powder characteristics of metallic materials
- Production of large metal parts made with high-performance, specialty materials are limited in the domestic supply chain due to a lack of investment into casting and forging shops
- Manufacturing data remains uncaptured and disconnected from other systems on the factory floor

Solution Statement

Solvus Global leverages Powders on Demand/Mammoth Metalworks/APEX to work tangentially alongside one another with the industrial needs at the forefront by providing services and products that solve today's supply chain and engineering design challenges.

Benefits Statement

- Powders on Demand evaluates, optimizes, and qualifies highly vetted and controlled powder feedstock to expedite large AM adoption.



- Mammoth Metalworks provides cost-effective fabrication of large parts using AM techniques such as WAAM, FSAM, CS Additive, Liquid Particle Acceleration (LPA) and is reshoring manufacturing capabilities to the United States.
- APEX is an all-in-one workflow and data management system for cold spray to help automate the planning and execution of coating and repair projects. Utilizing machine learning and robust data collection, APEX ensures consistent results of the highest quality.

About the Company

Solvus Global creates enterprises that reshape our world as a technology solution provider for materials and manufacturing, specializing in the areas of additive manufacturing, machine learning, and sustainable materials processing. Our mission focuses on creating a positive impact on the world through the innovation, incubation, and transition of advanced manufacturing technology enterprises and the people that will lead them.

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RELIABILITY IMPROVEMENT (HARDWARE)

FASTORQ, A Snap-on Company

ZipNut Unique Bolting Solutions



FASTORQ tools and technology includes robotic tools for subsea applications, SpinTORQ 360° continuous rotating low-profile torque wrenches, ZipTENSIONER stud tensioners and remotely operated bolt tensioning systems, AutoSPLITTER hydraulic nut splitters, ZipLIFT rigger-less crane grapples, AutoSPREADER flange spreaders, AutoPULLER hydraulic flange pullers, ZipNut robotic fasteners/latching mechanisms, AutoGRIPPER stud removal tools, ThinLINE hydraulic torque wrenches, impact sockets and striking wrenches, hydraulic power units (air, electric & manual), Direct Tension Indicators, calibration systems and services, FastLUBE AG and other engineered thread lubricants, consulting and custom engineered solutions.

Problem Statement

Better speed and better safety require better tools.

Solution Statement

If your job requires speed and safety at every turn, you have no time to mess with standard hardware.

- ZipNut is a revolutionary approach to threaded connections—offering all the benefits but none of the shortfalls and the added enhancement of speed.
- ZipBOLT was developed to replace threaded fasteners in applications where quick installation and removal times are required. They also offer several other advantages such as no alignment or threading issues.
- ZipTENSIONER is the ultimate in reliability and speed for bolt loading applications. The one-piece design provides 100-percent coverage on the same side of the flange and simultaneous tension of multiple fasteners.
- ZipLIFT load connector and crane grapple uses Double Zip technology to provide safe and reliable industrial strength lifting in hazardous work areas.

Benefits Statement

All FASTORQ products increase safety, reliability, and efficiency in industrial work environments.

About the Company

FASTORQ, based in New Caney, Texas, is the preferred global provider of precision bolt loading and removal solutions. A wholly owned subsidiary of Snap-on Corporation since 2018, FASTORQ is a pioneer of the hydraulic tools industry and today designs, manufactures, and sells a revolutionary line of bolting solutions. FASTORQ is the only company that has a complete line of hydraulic and pneumatic tools, as well as design resources to customize existing tools or create one-of-a-kind bolting solutions. The company also produces a proprietary line of specialty bolting lubricants. FASTORQ's highly skilled team of engineers and bolting technicians deliver timely resolution to bolting challenges of all sizes on land or sea. FASTORQ customers include a wide range of industrial applications: subsea construction and intervention, oil & gas services, petrochemical, refinery, power generation, oil & gas drilling & exploration, pipeline construction & maintenance, pulp & paper, mining, heavy equipment, military, and aerospace.

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WORKFORCE DEVELOPMENT/VISUALIZATION

Modest Tree

Tech Companion



The Tech Companion platform brings together digital work cards created from technical manuals or a company's procedural instructions, 3D procedural training of the procedures and augmented-reality-enabled remote support. These tools facilitate the sharing of information across global operators and maintainers of complex equipment.

Problem Statement

Due to the aging workforce there is currently a shortage of technicians for complex equipment which must be maintained for mission and equipment readiness. The shortage is causing significant backlogs in Depots and facilities due to legacy methods of technical information consumption (i.e., binders, IETMs, PDFs).

Solution Statement

Tech Companion provides interactive digital support and a highly visual electronic maintenance operations system that improves how complex equipment is maintained and repaired with emerging technologies. Tech Companion's platform modules enable technicians to access: work cards and instructions in digital formats, enter and track data for procedural compliance, remote expert video support with AR markup tools, and training in 3D formats to review operational steps. Digital work cards are automated through data ingestion for rapid delivery in a familiar layout.

Benefits Statement

Tech Companion enables organizations to leverage their enterprise data to transform their maintenance regimes for complex equipment maintenance resulting in:

- Reduction in asset downtime and increase efficiencies

- Improvement in delivery of essential knowledge onsite to improve technician efficiency
- Creation of a robust and operable data structure for maintenance modernization
- Digitalization of instruction manuals and step by step procedures
- Centralized and improved service reporting on assets

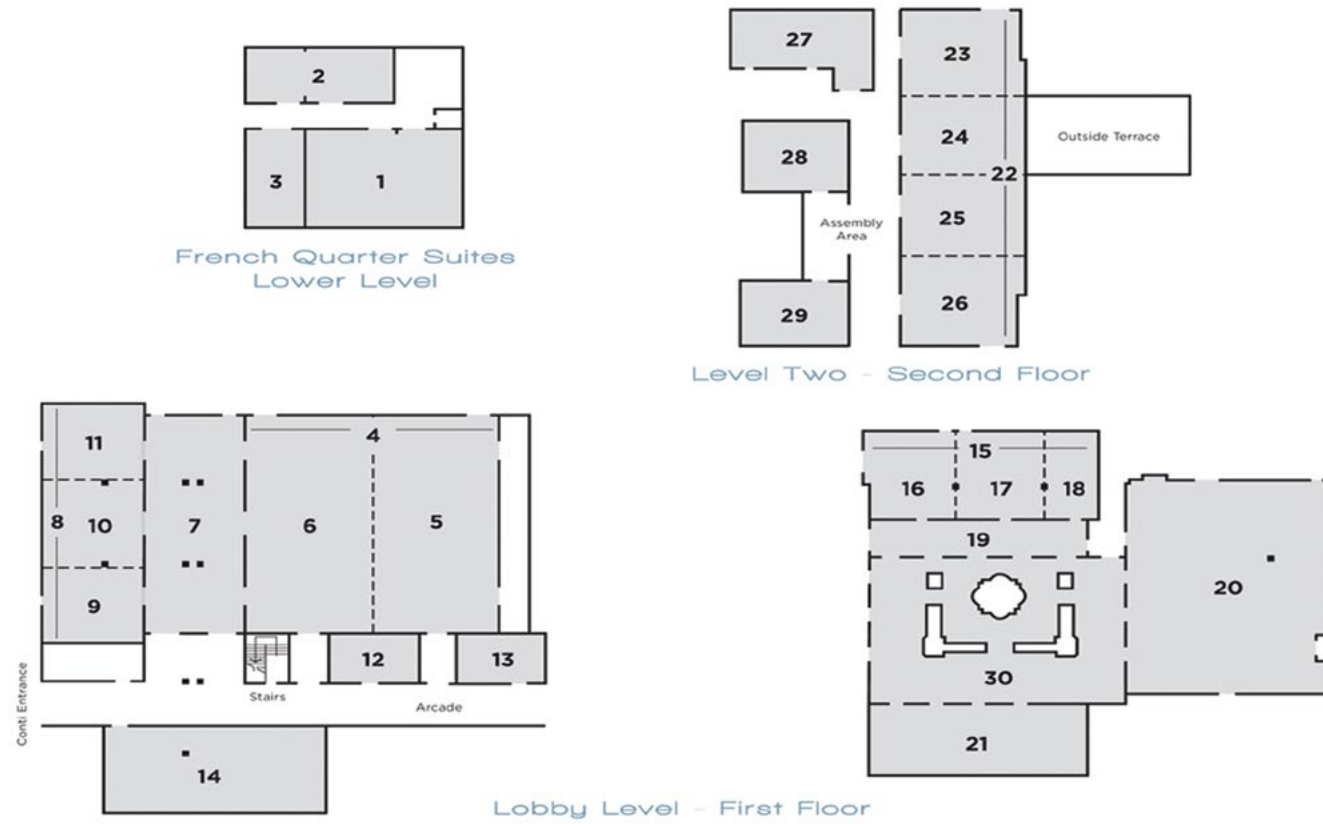
About the Company

Modest Tree develops immersive training and digital solutions to contextualize data, train staff, and inform decision-making. We assist defense manufacturers and the defense clients they serve to implement data-driven solutions that visualize their digital assets, operations, and processes. Leveraging 11 years of experience working with leading industrial firms in defense, industrial manufacturing, and aerospace, we have provided immersive solutions and digitalized maintenance processes to help organizations visualize their physical products and processes, deliver virtual training, and continually optimize their operations.

Contact

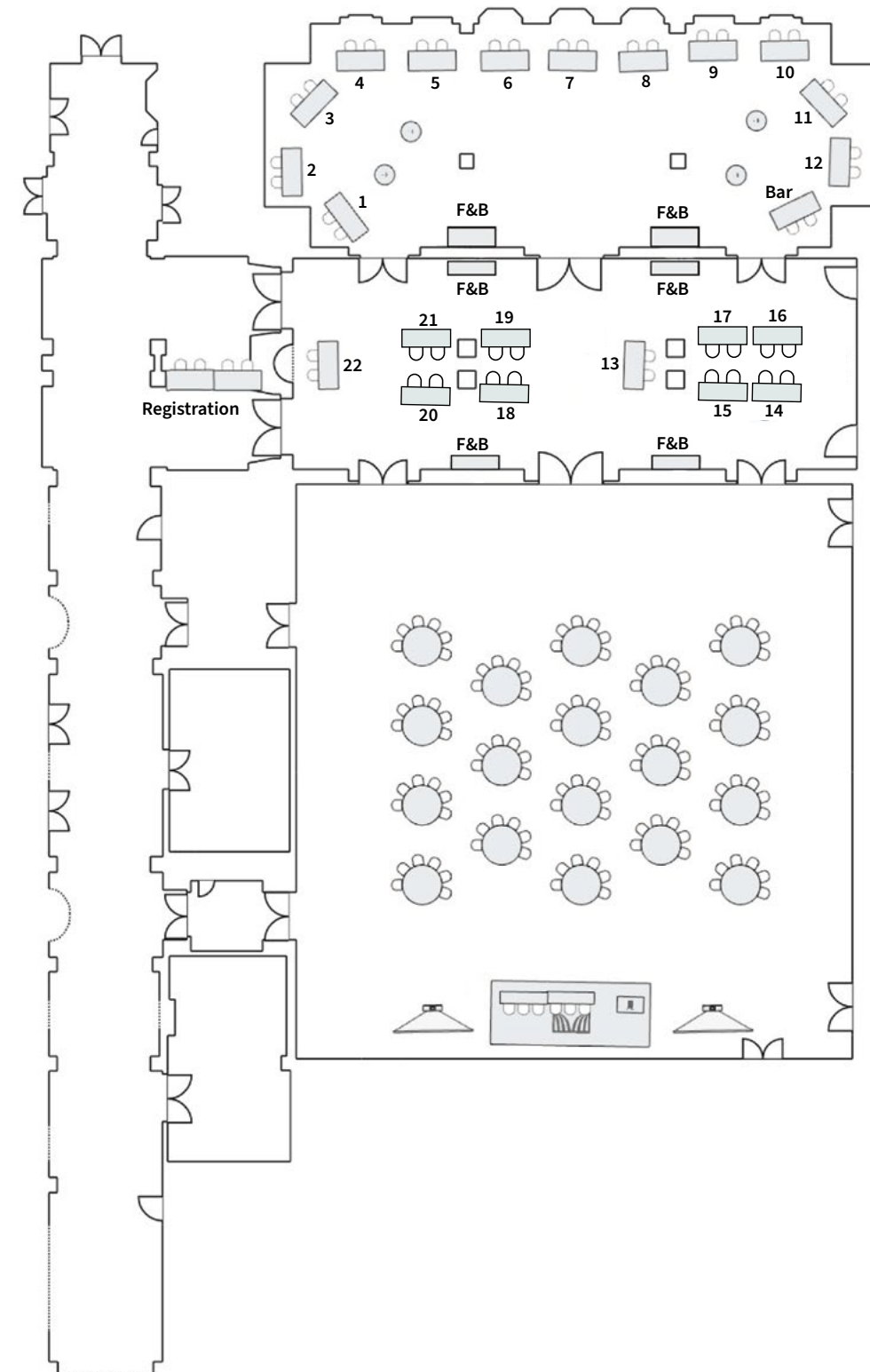
Sam Wood
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Royal Sonesta - Floor Plan



Lower Level	
1	Royal Conti
2	Bourbon
3	Bacchus Room
Lobby Level	
4	Grand Ballroom
5	North Ballroom
6	South Ballroom
7	Foyer
8	Evangeline Suite
9	Evangeline A
10	Evangeline B
11	Evangeline C
12	Esplanade
13	Iberville
14	Regal Suite
15	Fleur de Lis Suite
16	Fleur de Lis A
17	Fleur de Lis B
18	Fluer de Lis C
19	Fluer de Lis Salon
20	Restaurant R'evolution
21	Irvin Mayfield's Jazz Playhouse
30	Courtyard
Level Two	
22	Acadia Suite & Terrace
23	Teche
24	Belle Grove & Terrace
25	Oak Alley
26	Madewood
27	Board Room
28	Gris Gris
29	Choctaw
Level Three	
	Bourbon Balcony Hospitality Suites
	Corner Suite
	Center Suite

Showcase Event Map



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