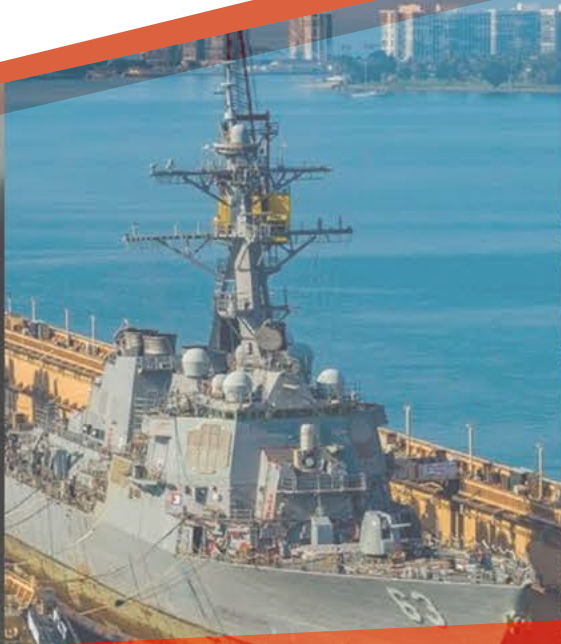




NATIONAL CENTER FOR
MANUFACTURING SCIENCES



Exhibitor Directory

NCMS Industry Day

Huntsville, AL

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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 and 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 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. Among its benefits are:

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.

About the US Army Materiel Command

The US Army Materiel Command (AMC) develops and delivers materiel readiness solutions to ensure globally dominant land force capabilities. Since 1962, AMC has worked tirelessly in support of the US military and its allies around the globe. AMC synchronizes and integrates the Army's total capabilities in support of the Chief of Staff of the Army's priorities and Combatant Command requirements.

As the Army's lead materiel integrator, AMC manages the global supply chain, synchronizing logistics and sustainment activities across the Army. AMC logisticians and sustainers are fully embedded within every Army modernization effort and initiative, ensuring sustainment is considered early in the development phase, and driving supply chain and sustainment efficiencies in lockstep with planned improvements and upgrades to equipment. AMC is the lead for divesting legacy systems, freeing up space for new equipment, and for modernization of Army installations and strategic power projection capabilities worldwide.

Currently headquartered at Redstone Arsenal, Alabama, AMC spent its early years in and around the Washington, DC metro. The move to Redstone Arsenal began in 2005. AMC is now co-located on the installation with the US Army Security Assistance Command, the Army Contracting Command, the Army Expeditionary Contracting Command, the Army Aviation and Missile Command, AMC's Logistics Support Agency, and others.

AMC's roughly 165,000-strong military, civilian and contractor workforce is the command's greatest resource and the core of the command's support to the warfighter. It continues to synchronize, integrate, and operationalize its capabilities, providing installation and materiel readiness to meet current and future requirements. From managing the Army's Organic Industrial Base to increasing supply availability, AMC ensures soldiers have the equipment and materiel they need from the installation to the forward tactical edge, strengthening Army readiness.

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

CTMA Technology Focus Areas

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,

CTMA Technology Focus Areas

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.

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.

**Exhibitor Directory for
AMC Modernization Symposium—
NCMS Industry Day at
Redstone Arsenal, AL**

ADVANCED/ADDITIVE MANUFACTURING
AURA Technologies LLC
TrustedDM

AURA Technologies, LLC is an advanced technology development company with decades of personnel experience in developing advanced technology systems and seeing the development carry over into real-world applications that provide actual benefit to government and commercial customers. We pride ourselves on the ability to bring the best and brightest talent to work on any given project. This includes leveraging our own in-house expertise as well as that of valued team members.

Our core competencies include:


- **Advanced Manufacturing.** SmartThread™ AURA is developing a platform of technologies to meet the digital engineering demand. Named SmartThread™, it allows for the safe and trusted transfer of digital files and artifacts, integration

of existing and new networked repositories, verification of builds and quality, and much more.

- **Artificial Intelligence.** Machine learning AURA has applied our AI/ML expertise in such areas as condition based maintenance, diminishing manufacturing sources and material shortages, sensor data fusion, time series, signal processing, AR/VR, computer vision, quantum applications, natural language processing, and much more.

Contact

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<p>Problem Statement: DOD digital manufacturing machines either additive or subtractive are prohibited from being directly connected to the IT system for fear of cyber intrusion, tampering with IP and/or TDP secret sauce.</p>	<p>Benefits Statement: TrustedDM™ will enable all unqualifiable digital manufacturing machines within the DOD to be digitally networked thus significantly increasing productivity, securing IP, controlling the number of parts printed/manufactured, sending TDPs around the world to any digital machine electronically in a cyber secure mode, and preventing timely and costly ATO process for every digital machine within the DODs inventory.</p>
<p>Technology Solution Statement: Laser surface treatment can be used to remove rust and Install an AURA Technology TrustedDM™ to all FRC, SIOP, FIOP, IBAS, OIB, DIB, digital manufacturing machines within the DOD.</p>	

ADVANCED/ADDITIVE MANUFACTURING

Deloitte


OIB Modernization and Contested Logistics Solutions



Connecting with clients on a more personal level has been a cornerstone of how Deloitte operates for more than 175 years. Today, our Government & Public Services practice — our people, ideas and technologies — connect for impact to help government, higher education and nonprofit leaders achieve their missions, implement programs, and improve outcomes for the people they serve. Deloitte’s understanding of new technologies, human insights and emerging trends can help you engineer advantage, build trust and drive bold innovation.

Contact

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<p>Problem Statement: Army Materiel Command must provide precision sustainment to the joint force by creating and maintaining a digitally connected logistics enterprise that illuminates and informs the supply chain, identifies risks in real time, and aligns people, processes, technology, and governance to enable robust foxhole to factory lines of communication.</p>	<p>Benefits Statement: Deloitte’s services include but are not limited to: Digital Engineering, Supply Chain, OT/IT Cyber Resilience, Data Science and Analytics, Human Capital / Workforce Transformation, Operational Risk Management, Strategic Communications, Energy and Climate Resilience, and Material Solution Development.</p>
<p>Technology Solution Statement: Deloitte has the specialized technology, knowledge, and expertise to serve as Army Materiel Command’s trusted advisor as it holistically modernizes its logistics and sustainment ecosystem.</p>	

ADVANCED/ADDITIVE MANUFACTURING

DMG MORI Federal Services

DMG MORI Advanced Manufacturing and Additive Manufacturing Solutions




The DMG MORI Group is a leading innovator in the machine tool industry with an expansive portfolio of manufacturing equipment. We are focused on customer support, quality, service, and advanced technology. Our product line includes 5-Axis Milling machines, 4 and 5-Axis Horizontal Machining Centers, Additive machines, Hybrid machines, Vertical Machining Centers, CNC Turning machines, CNC Boring mills, and a variety of Palletized systems and Grinding machines. With over 12,000 team members world-wide, our group companies specialize in providing unmatched applications support, service and training to large OEMs, Tier-one contractors, and the US government itself. DMG MORI Federal Services (DMFS) works exclusively with US federal and State government

agencies to support government initiatives while focusing on federal acquisition regulations and cybersecurity compliance. DMFS is also (ITAR) Registered, (CMMC) 2.0 complaint ready, and (NIST) compliant. We currently have active projects with the Army, Navy, Air Force, Department of Energy, and NASA.

Contact

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<p>Problem Statement:</p> <ul style="list-style-type: none"> • How to reduce machining time. • How to reduce scrapped parts. • How to increase accuracy of machined parts. • How to reduce the number of machines needed. • How to reduce the number of complex and expensive fixtures needed to machine components. • How to reduce lead time to repair critical components. • How to train machine operators. 	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • Reduces scrap parts. • Reduces the number of machines needed to complete a part or repair- smaller footprint. • Reduce cycle/production time. • Reduction of repair time. • Higher quality and increased precision. • Less tooling and fixtures required. • Less Machine Operators needed. • Reduced energy consumption and CO2. • Increased profits.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • Additive manufacturing enables the creation of parts and products with complex features previously not possible. • Use of both additive and subtractive technologies in one machine (DMG MORI Hybrid DED Machines) combine operations and reduces the need for complex fixtures. • 5-Axis Milling and turning in same machine reduces the number of machines, fixtures, set ups, scrapped parts, leading to reduced time needed to make the part complete. • DMG MORI Academy offers expert training in operation and repair of our machine tools. 	

ADVANCED/ADDITIVE MANUFACTURING

Intuitive Research and Technology Corporation
Modernized Advanced Manufacturing Enabled by
Digital Engineering



Intuitive Research and Technology Corporation (INTUITIVE) is an award-winning aerospace engineering and analysis firm headquartered in Huntsville, Alabama. INTUITIVE has built a reputation for technical excellence over their 25-year history. INTUITIVE has deep capabilities and experience with software and systems engineering, rapid prototyping, product development and acquisition, and technology management. Our customer portfolio spans the Department of Defense, other State and Federal Government agencies, and commercial companies. Our approach couples the latest digital engineering technology with engineering expertise, analytical proficiency, and keen managerial oversight. Our advanced technology solutions benefit from

artificial intelligence, machine learning, and big data analytics. From design through production to sustainment, we proudly provide management and technical solutions throughout all phases of the system’s life cycle. INTUITIVE is committed to being the leading systems, technology, and management solutions provider in our industry.

Contact

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Problem Statement:

- **Complexity Management:** Modern engineering projects involve complex systems and components. The design and development of these complex systems are easily accommodated within a Digital Engineering environment.
- **Interdisciplinary Collaboration:** Engineering projects frequently require collaboration across multiple disciplines multi-disciplinary collaboration is enabled and encouraged within a Digital Engineering ecosystem.
- **Lifecycle Management:** Managing the lifecycle of a system, from initial design to decommissioning, can be challenging. The digital thread provides the linkage throughout the system life cycle.

Benefits Statement:

- Digital engineering provides tools and methodologies to manage complex system design effectively, allowing customers to model, simulate, and analyze intricate systems in a more organized and efficient manner.
- Digital engineering facilitates interdisciplinary collaboration by providing a common platform environment for sharing and integrating design data, which helps ensure seamless communication and coordination.
- Digital engineering enables virtual prototyping and simulation, which can significantly reduce the time and cost associated with iterative design cycles and testing.

Technology Solution Statement:

INTUITIVE’s Digital Engineering solutions play a crucial role in overcoming challenges in traditional engineering practices. We leverage advanced technologies such as Model-Based Systems Engineering (MBSE), AI/ML, Digital Twins, and Big Data to enable design and development within a collaborative digital engineering environment. Our holistic approach to Digital Engineering integrates all system artifacts within a system’s lifecycle — supporting a program or project’s digital progression from concept to sustainment. This allows stakeholders to make data-driven decisions and to adapt to future system requirements.




ADVANCED/ADDITIVE MANUFACTURING
kSARIA Service Corporation
Fiber Optic Repair

kSARIA Service Corporation (kSARIA) is a certified alteration installation team that offers a turnkey solution for fiber optic and copper cable command, control, communications, computers Cyber and Intelligence (C5I) system installation and management. Our solution includes on-site project management, cable plant installation, field terminations, in-situ testing, and cable repair. We have extensive experience with procuring and storing material required for fabricating, assembling, installing, and conducting testing as defined by customer-provided design guidance packages, including NAVSEA approved drawings for multiple ship classes. Our project management approach includes in-process documentation from pre-installation operational testing through the completion of System Operational Verification

Testing (SOVT). All testing documents are verified by our quality assurance department and then provided to our client for official record keeping. Our direct experience in relation to the statement of work includes performance of temporary alteration installation and removals for Naval Research Laboratory and SCD installation and removals as well as emergent fiber optic repairs. Examples of this are V-TWIN, AN/SLQ-32, AN/SPS-48 Antenna, and much more.

Contact

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<p>Problem Statement: Critical systems are essential to the warfighter. When there is a critical system casualty the military personnel must have the correct tools and equipment to complete the repair.</p>	<p>Benefits Statement: kSARIA's packaged tool kits provide the end user with all required items to complete the repair.</p>
<p>Technology Solution Statement: kSARIA provides personnel with the proper tooling and test equipment to ensure critical systems are fully functional.</p>	



**ADVANCED/ADDITIVE MANUFACTURING
LIFT**

**Additive Manufacturing: Data Driven Qualification
and Optimization**

LIFT, established in Detroit, Michigan in 2014, is a Department of Defense-supported, nonprofit national advanced material manufacturing innovation institute whose mission is to Drive American Advanced Manufacturing Into the Future Through Technology and Talent Development.

As a public-private partnership, LIFT brings together government, industry, and academia to accelerate advanced manufacturing by connecting materials, processes, systems engineering, and talent across the US manufacturing base. That national ecosystem includes large OEMs, the top national academic and research institutions, small and medium-sized manufacturers, along with start-up organizations, each working in concert to

position the United States as the global leader in advanced manufacturing.

The LIFT Technology program works actively with its partners, members, and ecosystem stakeholders to coalesce needs, develop national technology roadmaps, and rapidly transition new technologies into commercialization and into the hands of the warfighter.

Contact

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<p>Problem Statement: The objective is to pinpoint materials and manufacturing processes that can lead to hypersonic capabilities.</p>	<p>Benefits Statement: While the initial design was intended for supersonic engines, we recognized the potential for adaptation into a scramjet engine, capable of achieving hypersonic speeds. This collaboration set the stage for evaluating the maturity of metal AM for mission-critical applications and scrutinizing material fidelity.</p>
<p>Technology Solution Statement: Identify materials and manufacturing processes that can efficiently lead to hypersonic capabilities.</p>	



ADVANCED/ADDITIVE MANUFACTURING
Phillips Corporation, Federal Division
Phillips Hybrid Manufacturing

Phillips experts supply additive and advanced manufacturing solutions, bringing new technologies to the fight – Phillips supports a broad spectrum of missions across the DOD, from securing manufacturing supply chain data, to supplying advanced CNC machinery and software systems, to deploying AM and hybrid solutions at the point-of-need.


Phillips is the exclusive supplier of Haas machines to the DOD and all Federal Agencies. We represent over 21 OEM partners, and maintain professional relationships with many others, which allows us to deliver comprehensive manufacturing solutions for our customers. We supply mills & lathes, waterjets, bending and forming equipment, laser scanners, CAD/CAM software & training, deliver expert service and maintenance, and perform engineering services.

Phillips is ITAR, CMMC 2.0 (CUI), U-NNPI (NOFORN), and ISO-9001 Certified – has Interim Authority to Test (IATT) for STIG solution for Industrial Equipment – and we maintain a local GCC High Enclave.

Phillips continues to innovate new manufacturing processes including developing our own OEM line of Hybrid machine tools; Haas CNC mills combined with Additive manufacturing, by integrating Meltio Direct Energy Deposition (DED) laser welding heads.

Contact

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<p>Problem Statement: US Navy suffers from long supply-chains and a need to perform ship resupply or schedule maintenance, repair, and overhaul activities for manufacturing support. Materials for machined parts must be purchased in bar, plate, or ingot form, creating waste, delay, and excess material handling requirements.</p>	<p>Benefits Statement: Hybrid offers:</p> <ul style="list-style-type: none"> • Repair or modify parts – Battle Damage Assessment & Repair (BDAR). • Quickly make prototypes or short run parts – support force projection with manufacturing at the point-of-need! • Combine multiple materials on the same part for best design, weight and strength. <p>M450 offers:</p> <ul style="list-style-type: none"> • Compact - The 2' x 2' footprint, M450 fits great in smaller spaces! • Easy-to-Use - Preloaded parameters for common metals.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • Phillips Hybrid has developed new manufacturing capabilities to support force projection. • Innovative laser metal deposition welding technology from Meltio, integrated with world-renowned Haas CNC vertical machining centers, bringing the best value additive hybrid machines to the market! • We can install additive capabilities directly to your Haas machining center (new machine purchase or retrofit), or we also offer Meltio's standalone 3D printer to add near net-shape metal printing with small footprint. • Benefit from Phillips' trusted service and expertise for additive machines. 	

ADVANCED/ADDITIVE MANUFACTURING
Siemens Government Technologies
Digital Thread for OIB Modernization

Digitalization for Defense Government agencies are at the forefront of two historic trends: unprecedented innovation and increased complexity. To take advantage of these trends and improve threat preparedness, federal leaders are embracing the digital enterprise. Siemens Government Technologies delivers the power of the Digital Twin and Digital Thread, two innovations at the core of Industry 4.0 that connect the real and virtual worlds to optimize operations, predict outcomes more accurately, and reduce maintenance costs.

Contact

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<p>Problem Statement: As the United States Army undergoes OIB modernization efforts, Siemens is uniquely positioned, as one of the largest industrial software and hardware providers, as well as being one of the worlds’ largest global manufacturing companies, to help the US Army with their OIB modernization and Digital Transformation efforts.</p>	<p>Benefits Statement: We will demonstrate and integrated and proven Digital thread and process modernization to assist the Army with their modernization efforts.</p>
<p>Technology Solution Statement: Siemens brings the leading digital manufacturing technologies for both software and hardware to help the Army with their modernization efforts for depots, GOCOs and armaments production.</p>	

ADVANCED/ADDITIVE MANUFACTURING
Siemens Government Technologies
Industry 4.0

As integrators of Siemens’ globally trusted products and services, Siemens Government Technologies delivers innovative solutions compliant with rigorous government standards and classification levels, while providing flexible financial solutions that enable agencies to meet project requirements, surpass performance benchmarks, improve acquisition strategies, and save time and money. SGT connects federal agencies to the comprehensive, end-to-end portfolio of solutions from Siemens—one of the most technologically advanced and proficient engineering, industrial and software leaders in the world—to secure and modernize the largest infrastructure in the world, the U.S. Federal Government, so it can keep its citizens safe and economy thriving.

Contact

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<p>Problem Statement: Military Depots, Arsenal, Ammunition Plants have not kept pace with manufacturing technology improvements, and there are concerns about capability to keep pace with requirements and have wartime capacity.</p>	<p>Benefits Statement: Improve readiness by increasing throughput and quality and reducing re-work. Improve excess capability and capacity for contingencies.</p>
<p>Technology Solution Statement: Integrate digital industrial software and modern machines and hardware with electronic work instructions and bills of process.</p>	

ADVANCED/ADDITIVE MANUFACTURING
VRC Metal Systems
Cold Spray



VRC Metal Systems is the additive manufacturing industry leader in high-pressure Cold Spray technology supporting defense and commercial applications with a broad range of solutions that meet our customers' needs with both fixed and rugged portable systems. Our high-pressure cold spray systems will drive significant cost and time savings providing repairs to return systems to full mission-ready status at a fraction of the cost of replacement parts in a fraction of the time it takes for the logistics system to procure parts. VRC Metal Systems is an established veteran-owned small business with success across aerospace, maritime, automotive and energy sectors. VRC Metal Systems utilizes cold spray technology to provide customers with the most cost-effective and timely solution for repairs. It can be used to perform

repairs on a wide variety of metals, including steel, aluminum, titanium, and a host of blended alloys common across defense and industrial systems. Most importantly, our systems have mature technology with a proven track record of success. Our repair systems can be applied across the full range of operational systems, their infrastructure and mission support systems, as well as energy infrastructure and automotive assets.

Contact

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 vrcmetalsystems.com

<p>Problem Statement: Warfighters need the organic industrial capability to repair/maintain/refurbish parts at a fraction of the cost in a fraction of the time of replacement parts to maximize readiness</p> <ul style="list-style-type: none"> • Must be able to be applied across the breadth of mission and mission support systems. • Aircraft/Rotorcraft, Primary Armor/Mobility Systems, Support Equipment, Logistics Support Vehicles, Missiles, Energy infrastructure, POL infrastructure. • Systems must be flexible to be employed in fixed maintenance facilities or at point-of-need with rugged portable systems designed for expeditionary field employment. 	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • Improve mission readiness and combat capability by establishing an organic repair capability that can respond to the needs of the warfighter with fixed facilities in garrison or at point of need with rugged portable systems for expeditionary/field use. • Minimize time lost in cannibalizing parts and lost mission capability due to lags/gaps in peacetime or contested supply chain in time of conflict. • Significant cost savings in your maintenance and sustainment budget. • Soldiers get time back to work on other priority mission issues.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • VRC Metal Systems' cold spray technology is a patented mature repair and coating process that can achieve at or near wrought strength within precision requirements for advanced systems. • Systems can be used in fixed facilities or at point of need in expeditionary/field conditions. • The process is a procedure that accelerates powdered metal to a very high velocity and imbeds it into the substrate to create a mechanical and metallurgical bond. • The result allows for repair of a vast array of metals and alloys including, but not limited to, steel, aluminum, titanium and advanced metals. 	

BUSINESS IT AND ANALYTICS

Corsha

Identity Provider for Machines



Corsha’s identity provider for machines platform offers a cutting-edge solution for advancing machine-to-machine security. It allows organizations to securely automate, move data, and connect with confidence from anywhere to anywhere, ensuring that organizations can protect their systems within complex and dynamic environments like the cloud and edge computing.

Contact

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<p>Problem Statement: Corsha’s identity-first platform is solving a very real problem: the inherent API security vulnerabilities associated with using certificates, tokens or keys to secure the communication between machines, applications or services. Adversaries leverage leaked, sprayed or sprawled API secrets in a code repository, CI system, team collaboration tool, system logs, and other spots to gain access to or expose thousands or even millions of highly sensitive data records.</p>	<p>Benefits Statement: Manage identities and access, not secrets, through Corsha’s identity and access management platform for your core infrastructure.</p>
<p>Technology Solution Statement: Corsha’s solution is a dynamic multi-factor authenticator (MFA) for machine-to-machine connections, such as SCADA protocols, APIs and IoT protocols. It is a strong MFA for machine-to-machine connections that can be deployed to secure machine connections in diverse architectures at the scale and speed of automated cloud computing as well as in support of legacy networks. It provides the same MFA security guarantees that have proven successful with human users – a dynamic, out-of-band authentication factor.</p>	<p>Corsha Identity Platform for Machines</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #ccc; border-radius: 15px; padding: 10px; width: 30%;"> <p style="text-align: center;">OT Security</p> <p style="font-size: small;">Enable Industry 4.0 through Secure Connectivity, Data Streaming, and Remote Access</p> </div> <div style="border: 1px solid #ccc; border-radius: 15px; padding: 10px; width: 30%;"> <p style="text-align: center;">Zero Trust</p> <p style="font-size: small;">Compliance for the DoD ZT Activities Focused on Non-Person Entities, aka Machines</p> </div> <div style="border: 1px solid #ccc; border-radius: 15px; padding: 10px; width: 30%;"> <p style="text-align: center;">API Identity</p> <p style="font-size: small;">Push past secrets management and weak proxies for identity like static tokens for third party SaaS apps</p> </div> </div>



BUSINESS IT AND ANALYTICS
Mitek Analytics
Supply Chain AI Twin (SCAIT)


Mitek Analytics is a small business led by Stanford and GA Tech professors that developed and proved an advanced analytics product in several USAF SBIR Phase I,II,II+, and III projects. Supply Chain AI Twin (SCAIT) is software app for Reliability & Maintenance and Supply Chain operations. Fully automated data analysis provides detailed engineering reports and actionable executive recommendations. The capability uses existing line maintenance data and/or logistics data.

SCAIT improves effectiveness and efficiency of maintenance and supply chain by finding issues and their root causes. It enables cost avoidances and optimizations of line maintenance, part overhaul, reliability, spares supply and availability, fleet readiness, and more. SCAIT has been

deployed for two dozen part fleets in USAF combat and transport aircraft, civilian aircraft, helicopters, and AFNWC missile fleet. The needs addressed are common with Army aircraft.

Contact

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<p>Problem Statement: DOD supply chains involve tens billions of dollars in labor and parts and directly impact weapon systems availability. Supply chain engineers recognize that in most cases DOD does not know effectiveness of its maintenance, overhaul, and logistics processes. Better awareness of process performance enables cost avoidances and allocation of limited budgets to address the root causes of the issues. Existing analyst cadre do not have sufficient bandwidth to work on all the data and issues across the many weapon system fleets.</p>	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • Analysts empowered to contribute more using automated analyses of maintenance, logistics, and supply chain data. • Executive summaries help decision makers to focus on bottleneck process issues. • Proven for multiple aircraft, rotorcraft, and missile fleets; 5% cost avoidance demonstrated. • Covers Demand as well as supply processes in both retail and wholesale supply chains. • Operational effectiveness analyses complement predictive maintenance tactics or spares allocation planning. • Analyses support CBM+ and PBL requirements.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • The Supply Chain AI Twin (SCAIT) app provides prescriptive analytics and optimization for reliability & maintenance and supply chain operations using existing maintenance and logistics data. • Automated AI/ML and operations research analyses are explainable to SME engineers, fully verified and validated. • Anomalies are detected by monitoring two dozen KPIs. The root causes are found by over 50 detailed analyses. • Cloud app interfaces to existing DOD and commercial systems of record. The app supports both web-based GUI and off-line engineering reports. 	 <p>SCAIT used for A-10, F-16, C-130, KC-135, B-52, E-3 fleets</p> <p>Generated Reports: Executive and Engineering</p> <p>Cloud App under DoD Certification</p>

BUSINESS IT AND ANALYTICS

One Network Enterprises

Defense ERP Digital Supply Chain Network



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.

The platform is powered by NEO, ONE’s patented artificial intelligence and machine learning (AI/ML) technology, which enables simultaneous planning and execution. Leveraging the power of a true multi-party network, ONE’s Logistics Control Tower solution uses real-time data shared across all functional areas. Supporting Dual-Platforms, it

combines and coordinates all parties and systems around one SVOT, providing a solid foundation for optimization, decision-making, collaboration, and automation.

ONE’s NEO for Global Defense is unlike any other commercial software solution. It includes a commercial set of defense-related modules that provide critical Defense capabilities organically integrated with transformational capabilities.

Contact

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<p>Problem Statement:</p> <ul style="list-style-type: none"> • To manage a class of supply agnostic maintenance processes, end-to-end vice individual stovepipe systems cobbled together, increasing sustainment costs. • Providing real-time visibility and actionability for an asset from the shipping organization, including transportation, to the maintenance organization. • For planning, forecasting, and execution, using real-time data for overall management of phased projects. • With native AI/ML to support and optimize maintenance operations. • To provide all required products to support Accountability, FISCAM, FIAR, IUID Tracking, and DLMS. 	<p>Benefits Statement:</p> <p>ONE’s Solution provides:</p> <ul style="list-style-type: none"> • Control tower with predictive analytics, actionable prescriptions, and configurable personalized dashboards with alerts, KPIs, and reports. • COTS maintainability, with iterative software deliveries before, during, and after deployment. • Bill of material functionality to maintain versioning of items. • Full end-to-end lifecycle management of assets from delivery to demilitarization. • Management of all supply classes involved in the supply chain for maintenance operations.
<p>Technology Solution Statement:</p> <p>Defense Organizations Require Technology:</p> <ul style="list-style-type: none"> • That is maintained as COTS and never goes legacy. • That is modular, using modern iterative software development methodologies, tools and techniques, and human-centered design processes to deliver software to meet the users’ priority needs iteratively. • That has an Integration Orchestration Hub to allow connection to disparate legacy systems, DLA, and more. • That contains Financial Accounting Compliance and Auditability (FIAR), DLMS EDI, FISCAM, and Roles & Permissions built into the platform and through all modules. 	

CBM+/PREDICTIVE MAINTENANCE
Andromeda Systems Incorporated



As a recognized leader in engineering, information technology, and logistics, ASI provides professional and technical services in engineering design and analysis, reliability engineering and analysis, information technology, logistics, process improvement and program management. Our highly qualified and multi-disciplined staff supports the US government and commercial customers. ASI is a privately held corporation based in Virginia Beach, VA with locations across the United States.

making better business decisions, and achieving life-cycle cost savings. As a leading provider of professional and high technology services and solutions, ASI partners with customers to achieve optimal levels of economy, availability, and safety by developing and applying cutting-edge systems engineering and supportability analysis tools, processes, and expertise to the operation and support of physical assets.

ASI provides products, tools, and services to assist physical asset owners, fleet managers, and military program managers in gaining critical insights into their equipment’s performance, identifying system improvements, optimizing operations & support,

Contact

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<p>Problem Statement: Performing maintenance, repairs, and overhauls as well as manufacturing unique or obsolete components for the Naval Aviation Enterprise (NAE) involves navigating and managing an extremely complex network of Depots, Intermediate level land-based and ship-based locations. Depot Field Repair Teams also perform critical repairs to aircraft aboard Air Stations across the globe. COMFRC is responsible for the planning, funding, and scheduling of maintenance activities at these sites to ensure that weapons systems are available capable to support the Warfighter.</p>	<p>Benefits Statement: Scenarios run to date:</p> <ul style="list-style-type: none"> • Reallocating of resources (personnel, equipment) to fill gaps in some locations and relieve excesses in others. • Intelligent routing of workload across sites to gain efficiencies. • Prioritization of components/assets to meet emergent needs. • Evaluating ability to meet increase in demand (surge) across the sites. • Prioritization of continuous process improvement efforts to reduce TaT and increase throughput. 																														
<p>Technology Solution Statement: The model is a decision support and analysis tool that provides a holistic view of how all the sites can manage their current maintenance and production workloads. It models each location by shop, available personnel, equipment, and even qualifications to collect key metrics such as throughput, turnaround time (TaT), resource utilization/availability, and backlog. Planned future workload is then evaluated and various scenarios and COAs are analyzed to determine their impact.</p>	<p>Throughput Baseline ~ 282 After "What If" ~ 435 Total Increase of 54%</p> <p>Equipment Utilization</p> <table border="1"> <thead> <tr> <th>Equipment</th> <th>Baseline</th> <th>New</th> </tr> </thead> <tbody> <tr> <td>Test Bench</td> <td>100%</td> <td>50%</td> </tr> <tr> <td>Machine Braiding</td> <td>57%</td> <td>99%</td> </tr> <tr> <td>Multimeter</td> <td>14%</td> <td>45%</td> </tr> </tbody> </table> <p>Personnel Utilization</p> <table border="1"> <thead> <tr> <th>Personnel</th> <th>Baseline</th> <th>New</th> </tr> </thead> <tbody> <tr> <td>69B Workers</td> <td>50%</td> <td>95%</td> </tr> </tbody> </table> <p>69B throughput decreased by 23%</p> <p>Backlog for Equipment</p> <table border="1"> <thead> <tr> <th>Equipment</th> <th>Baseline</th> <th>New</th> </tr> </thead> <tbody> <tr> <td>Test Bench</td> <td>85</td> <td>1</td> </tr> <tr> <td>Machine Braiding</td> <td>0</td> <td>23</td> </tr> <tr> <td>Multimeter</td> <td>0</td> <td>16</td> </tr> </tbody> </table> <p>Added 1 Test Bench to Repair Shop (69C)</p>	Equipment	Baseline	New	Test Bench	100%	50%	Machine Braiding	57%	99%	Multimeter	14%	45%	Personnel	Baseline	New	69B Workers	50%	95%	Equipment	Baseline	New	Test Bench	85	1	Machine Braiding	0	23	Multimeter	0	16
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CBM+/PREDICTIVE MAINTENANCE
GasTOPS, Inc.
ChipCHECK



GasTOPS is dedicated to providing technical solutions for machinery condition assessment through the application of advanced fluid measurement and analysis technologies. GasTOPS designs, manufactures and supports advanced machinery fluid sensing and analysis products including full-flow oil debris sensors and at-line oil analysis systems. The company also provides a range of specialized technical and engineering services to assist in the design, development and in-service support of machinery control, monitoring and maintenance systems. GasTOPS innovative fluid sensing and analysis systems and specialized technical services helps customers in Defense, Aviation, Marine, Energy and Transportation industries achieve improved productivity and safety for critical equipment.

Contact

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Problem Statement:

- Correct and rapid alloy identification of oil-borne debris in engines and gearboxes is critical for the maintainer to assess the condition of the component and drive maintenance decisions.
- Traditional methods of assessing debris include subjective visual inspections which often lead to misdiagnosis and incorrect maintenance decisions resulting in unnecessary Removals/Overhauls of components at high cost.
- Alternatively off-site laboratory verification of debris introduces significant delays in the determination of equipment condition, resulting in extended unavailability of critical equipment while awaiting results.

Benefits Statement:

The ability to have rapid, accurate, and non-subjective quantitative analysis of debris supports the mission:

- Improving safety by eliminating the risk of launching a damaged asset based on subjective debris analysis while confirming actual damage driving appropriate maintenance decisions.
- Dramatically reducing operations and maintenance (O&M) costs by eliminating unnecessary removals driven by non-critical, “normal” debris while reliably identifying actual damage events and reducing secondary damage.
- Maximizing availability of critical assets enabling consistent, data-based decisions by at-line maintainers.

Technology Solution Statement:

- ChipCHECK uses digital image capture and an innovative spectroscopy system to automatically locate and analyze chip debris.
- The analysis determines the particle quantity, as well as size, shape, composition, and alloy type of all the particles and applies embedded diagnostic rules to trigger GO/NO-GO maintenance decisions.
- Designed for operation by front line maintainers it provides automated analysis at the touch of a button and requires no special training to operate or assess results and is rapidly deployable for expeditionary operations.



COATINGS AND CORROSION PREVENTION

Adapt Laser
Laser Cleaning



While we serve a myriad of industries, we do the bulk of our work providing defense and military solutions. With our extensive experience in this field, we fully understand the sensitivity of defense projects as well as the common challenges faced by military bases when providing proper maintenance for equipment and vehicles. At Adapt Laser, we are able to provide the laser cleaning units to allow our soldiers, airmen, marines, and sailors to maintain and operate ground equipment, electronics, armored vehicles, aircraft, ships and other items safely, effectively and into the future.

Contact

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Problem Statement:

Unlike other forms of media cleaning — such as sandblasting or dry ice blasting — laser cleaning is safer for operators and employees. It doesn't produce additional waste and is environmentally friendly. Plus, it's non-damaging and non-conductive, meaning it's safe for the material you're cleaning as well.

Operating a low-, mid-, or high-powered laser is relatively safe and only requires laser protective glasses and designated laser-safe areas within an optical hazard zone. No gloves are required, but training and education should be acquired in to learn how to use the cleaning technology safely and properly.

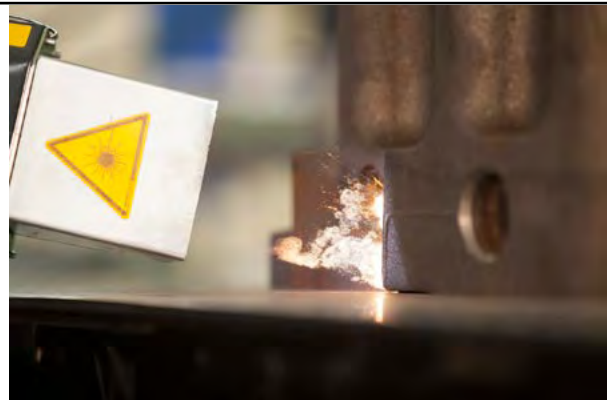
Benefits Statement:

Lasers with flat top beam profiles spread energy equally over a larger surface area so they clean in a safe and non-destructive manner. This makes them ideal for molds like composite molds that are used thousands of times and require minimal impact to prevent wear and tear. Lasers with gaussian beam profiles, in comparison, have a higher peak intensity that roughens and damages the surface profile. If used on molds, it could damage the surface and shorten the life of the mold.

Technology Solution Statement:

Laser cleaning technology works by sending nanosecond-length pulses of laser light towards a surface. When it interacts with contaminants that absorb laser light, the contaminants or coating particles will either turn into a gas or the pressure of the interaction will cause particles to free from the surface.

With the right laser settings and equipment, laser cleaning is unmatched in its ability to clean all the way to the bare metal of your product. Adapt Laser specializes in the know-how and application of laser cleaning solutions to put together the formula for your specific situation.



COATINGS AND CORROSION PREVENTION
G.C. Laser Systems Inc.
Laser Cleaning Equipment



G.C. Laser Systems Inc. is an American laser cleaning system manufacturer and a CWOSB with headquarters in Illinois. Our unique and globally patented laser cleaning technology is proudly designed and made in the USA. This proprietary technology was initially developed to clean cultural heritage buildings and artifacts with unmatched precision and has evolved into many heavy duty industrial and DoD applications. From making our own scan heads and optics to fabricating our systems with durable stainless steel and powder coated aluminum to endure humid and corrosive environments, we specialize in delivering off the shelf and custom bespoke laser ablation tools that can work during all four seasons worldwide. Notable cultural heritage projects that have utilized our laser ablation technology include

the US Supreme Court, the US Senate Building, Notre Dame, Sydney Harbor Bridge, Capitol of Maryland, the Egyptian Obelisk in Central Park, the Smithsonian, and buildings and monuments worldwide. On the industrial side our technology is used for rust removal, paint removal, chloride removal, surface prep, hydrocarbon removal, radiation decontamination, lead abatement, and various other industrial applications that demand precision and efficiency.

Contact

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<p>Problem Statement: Removing corrosion and coatings from a variety of surfaces can be challenging and the process of abrasive corrosion removal can wear down the thickness of the assets being cleaned, reducing its useful service life, as well as pose environmental concerns with traditional blasting media and chemical stripping containment. Traditional cleaning techniques rely on consumables and have a lot of clean up and disposal costs.</p>	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • Environmentally friendly speed laser cleaning effectively removes corrosion and coatings from surfaces without causing any loss of thickness or damage to the substrate. • Laser cleaning does not have any consumables and vaporized materials are easily captured with fume extractors.
<p>Technology Solution Statement: G.C. Laser Systems offers environmentally friendly and logistically easy to deploy portable laser systems for removing rust, paint, coatings, and contamination from surfaces.</p>	

COATINGS AND CORROSION PREVENTION
Industrial Coating Services
Industrial Coatings & Automation Solutions



Industrial Coatings Services, Inc. - Automation Solutions, specializes in providing cutting-edge technologies tailored to meet the diverse needs of manufacturing processes and the modernization of these areas. We focus on innovation and leverage advanced technologies such as RPA Robotic Process Automation, advanced rotary paint atomizers and generative AI to deliver superior coatings and automation applications to manufacturing platforms. The core of our operation is a commitment to delivering unmatched performance and reliability in paint application and other automation opportunities.


Through the integration of automation, we streamline and enhance production processes while minimizing humans in hazardous

manufacturing areas. Our state-of-the-art robotics are equipped with advanced sensors and algorithms enabling them to adapt to changing conditions and achieve optimal results.

In addition to robotic innovations, we leverage generative AI to enhance our industrial solutions across various applications.

Contact

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<p>Problem Statement:</p> <ul style="list-style-type: none"> • Streamlining painting and other production processes and minimizing human exposure to hazardous environments. • Enhancing adaptability to changing conditions through robotics and automation. • Leveraging generative AI to analyze data and optimize formulation processes. • Continuously refining solutions to meet evolving project requirements and environmental considerations. • Maximizing operational efficiency and minimizing costs across diverse industrial settings. 	<p>Benefits Statement:</p> <p>Our data-informed solutions have shown a 30% increase in production efficiency, 50% reduction in manufacturing defects, and 25% decrease in downtime due to predictive maintenance. By minimizing human involvement in hazardous areas, we've achieved a 50% decrease in workplace accidents. Real-time data monitoring ensures 99% precision in operations, even in fluctuating conditions. Through predictive analytics, we've optimized formulations, resulting in 25% longer product lifespan. Ultimately, our integrated approach maximizes operational efficiency, saving clients up to 20% in overall costs.</p>
<p>Technology Solution Statement:</p> <p>To address these challenges, we automate repetitive tasks, optimize workflows, while enhancing efficiency and safety. Real-time monitoring and adaptive controls ensure precision and adaptability, while data-driven insights enable proactive decision-making and continuous improvement. Through predictive analytics and refined processes, we optimize formulations and applications, enhancing durability and quality. Overall, our comprehensive approach aims to maximize operational efficiency and minimize costs across diverse industrial environments.</p>	



COATINGS AND CORROSION PREVENTION

Laser Photonics

DefenseTech Handheld Laser Cleaning System

Laser Photonics is the leading industrial brand in high-tech laser systems for laser cleaning, marking, cutting, engraving, welding as well as 3D printing applications. Our products have been used in defense, aerospace, nuclear power, and manufacturing industries. We have also been utilized in the automotive, electronic, semiconductor, flat panel, and medical industries worldwide for over 40 years. Our laser solutions are critical for enabling environmental sustainability, cost savings, efficiency and precision, and operator safety. Our brand is proud to pioneer a new generation of disruptive laser cleaning technologies that include corrosion control, rust removal, de-coating, pre- and post-weld

applications, welding, laser cleaning, surface conditioning, and more. All while reducing environmental hazards and increasing workplace safety.

Contact

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<p>Problem Statement: Corrosion costs the Department of Defense over \$20B in military assets every year. Amid growing environmental concerns, the DoD is under pressure to adopt sustainable supply chain practices, including eco-friendly cleaning products and waste reduction. Traditional methods like sandblasting and chemical cleaning expose personnel to hazardous chemicals and pollutants and involve costly consumables that are facing increased environmental and workplace health and safety regulations.</p>	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • DefenseTech Laser Cleaning Systems provide a non-contact, environmentally friendly process that removes rust, corrosion, and coatings from various surfaces without damaging the underlying substrate, ensuring prolonged equipment life and operational readiness. • No chemicals. • No hazardous fumes. • No complex cleaning procedures.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • Laser surface treatment can be used to remove rust and corrosion on missiles, munitions, and other equipment with accuracy, enhancing the lifespan and performance of critical equipment. • Non-abrasive and non-contact cleaning method which minimizes harm to the environment while prioritizing the safety of personnel involved in maintenance operations. • Its portable, handheld design ensures mobile performance, allowing military and defense personnel to maintain readiness anywhere, anytime. 	

ENHANCED INSPECTION

FiberQA

Automated Fiber Endface Inspection and Cleaning



FiberQA designs, manufactures, and supports robotic fiber optic inspection, integrated cleaning, and automated reporting systems. The family of products is called Automated Visual Inspection Tool (AVIT), with several sub-families designed for various requirements such as circular connectors, backplane inspection and cable and product OEM assembly. FiberQA’s innovative approach produces reliable and repeatable results that cuts labor costs, eliminates subjectivity and human error, and substantially reduces inspection time. The systems are designed to support the entire fiber optic ecosystem from manufacturing to production and field sustainment. The AVIT software can be tailored to assess, analyze, and report results based on specific customer provided inspection parameters or using pre-defined industry criteria.

FiberQA has sold multiple types of AVIT systems to customers building critical military hardware and commercial infrastructure including NAVAIR (PMA-290), Sandia National Labs, Honeywell, LM-Aero, LM-RMS, L3Harris Technologies, Raytheon, Mercury Systems, Amphenol (AFSI), kSARIA, Molex Fiber Optics, Google, Cisco Systems, Juniper Networks, Flex, and Celestica.

Contact

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<p>Problem Statement:</p> <ul style="list-style-type: none"> • Contamination causes 85% of optic network failures. • Inspection and cleaning of fiber optic components is required anytime the connection is opened – regardless of reason. • Manual tools are time consuming, prone to human error, lack archival documentation, and expose components to recontamination or damage, ultimately adversely impact warfighting readiness. • Space constraints for dense connectors in avionics and shipboard applications. 	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • Eliminates operator subjective judgment for more accurate results. • High throughput for fast turnaround time • Reduces labor costs by: <ul style="list-style-type: none"> • Quicker inspection and cleaning (6x to 40x faster). • Eliminating need for highly skilled optical inspectors. • Drastically reducing training requirements. • Prevents damage to installed equipment. • Provides documented and reproducible results.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • Automated Visual Inspection Tool (AVIT™) – robotic fiber optic inspection tools with integrated cleaning and automated reporting. • High quality optics with automated processing for objective and repeatable Pass/Fail results based on IEC or user specific criteria using common software. • Contaminated termini automatically cleaned by integrated dry contact media in replaceable cartridge. 	



ENHANCED INSPECTION

ZOLLER Inc.

ZOLLER Tool Presetting, Tool Inspection and Tool Management Solutions

ZOLLER Inc. is a technology focused company that has been developing innovative tool presetting and inspection machines as well as Tool Management Solutions software for optimal management of cutting tools for over 76 years. The portfolio of solutions ranges from tool presetting, inspection, balancing & shrinking machines to integrated automation and tool storage options, as well as TMS Tool Management Solutions software with interfaces to most major CAD/CAM programs. ZOLLER’s equipment and technology is used worldwide, particularly in the automotive, aerospace & defense industries, in hydraulics and pneumatics manufacturing, as well as many other emerging fields and markets. The ZOLLER brand stands for technological innovation, a consistent

commitment to quality and a sense of efficiency. Our integrated hardware and software solutions are developed in-house in order to provide verifiable productivity increases and grow with the challenges of the future of modern manufacturing. Our promise to our customers is a clear, consistent and traceable increase in productivity in their production processes.

Contact

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<p>Problem Statement: Manufacturing inefficiency can lead to longer production times, less accuracy and repeatability, and lower quality parts. These challenges include bottlenecks, missing tools, higher scrap and tooling costs, and under-utilized machine tool spindles.</p>	<p>Benefits Statement: The tool presetting, measurement, inspection, and tool management solutions from ZOLLER increase your machine spindle uptime actually cutting parts, and ensure repeatable accurate measurements results and a faster, more efficient production process.</p>
<p>Technology Solution Statement: The ZOLLER Solutions portfolio of tool presetting, measurement, inspection and tool management software and hardware ensure that you are in control of every aspect of your cutting tools, and ensure that you produce a “first part, good part” each and every time!</p>	


RELIABILITY IMPROVEMENT (HARDWARE)
FARO Technologies
3D Metrology Equipment and Software



As the global leader in 3D measurement, imaging and realization solutions, bridging the digital and physical worlds is what we do best. We help manufacturers eliminate costly errors, builders construct astonishing projects and law enforcement establish better cases. We give engineers, designers and investigators the tools to get to “that’s it!” faster. We understand the ways our customers do their jobs. And more than anything, they know they can always depend on us.

Contact

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<p>Problem Statement:</p> <ul style="list-style-type: none">• Capturing every measurement of a complex part, tool or mold can be extremely difficult.• Sometimes a part or tool is so complex, you can’t use contact probes to capture all its measurements.• Measuring large parts, molds, assemblies, and machines can be a challenging, time-consuming process and often must be performed in a special inspection area.	<p>Benefits Statement:</p> <p>Leaders in aerospace, machining, assembly and the auto industry rely on the FaroArm portable CMM to easily capture precise measurements on the shop floor and in the field, even in extreme temperatures.</p> <p>Portable FARO Vantage Laser Trackers make on-site measurement easy and fast, reducing inspection cycle times by up to 75%.</p>
<p>Technology Solution Statement:</p> <p>Leading manufacturers rely on FARO Quantum Max ScanArms, which combine the measurement capabilities of a Quantum Max FaroArm® portable coordinate measuring machine (CMM) with the non-contact functionality of a laser line probe.</p> <p>Portable FARO Vantage Laser Trackers make on-site measurement easy and fast. They measure 3D coordinates by tracking a target that the user moves from one point to another on the object being measured. In seconds, these measurements can be compared against nominal CAD data so teams can either make informed adjustments or move forward with confidence.</p>	



RELIABILITY IMPROVEMENT (HARDWARE)

Maglogix
Switchable Permanent Magnets

Maglogix has patented the world’s most powerful switchable permanent magnet technology. Our Small business builds a wide variety of products that change the way welding, fabrication, fit-up and shipbuilding are done.

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<p>Problem Statement:</p> <ul style="list-style-type: none"> • Tack welds waste time and materials. • Slow, difficult process aligning and levelling plate. • Existing magnets are too heavy and will not work on most steel (too thin). • Existing magnets cannot be welded close to and will interfere with electronics. • Magnetic drill presses are too heavy and unsafe. • Parts removal and steel handling cause employee injuries. 	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • Lightest and smallest magnets available. • Most effective on steel down to 1/8” by up to 10x. • Safe to handle, operate and store. • Can be welded very close without affecting the weld. • No EMI past about 1”. • Lightest & safest mag drills. • Wide range of hand lifting and parts handling tools.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • First multi-pole technology switchable permanent magnet. • Rapid deployment for all aspects of fabrication. • Can be used for tethering tools to eliminate drop/falls. • Almost no handle kickback for constant use with no RSI’s or employee injuries. • Easily attached to or integrated for unlimited custom solutions. • Hardened steel base with titanium nitride (TiN) coating for long life and less corrosion. • Able to read the actual holding force for ensured safety. 	

WORKFORCE DEVELOPMENT/VISUALIZATION

Boston Engineering

BEEP and Family of Sustainment Assisting Robotics



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. Whether leading ideation, developing proofs of concept, building consensus, providing training, or handling post implementation support, simply imagine the possibilities and Boston Engineering will expand your capabilities to innovate.

Contact

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<p>Problem Statement:</p> <ul style="list-style-type: none"> • The need to erect support structures, like scaffolding, necessary to get workers to desired locations requires added time to maintenance schedules already under pressure. • Rapid deployment of maintenance and sustainment capabilities, such as inspection or cleaning systems, or remote SME oversight, is needed to increase efficiency and allow flexibility in the skill level required to perform tasks. • Capabilities are needed that reduce requirements for workers wearing safety gear or working in unsafe locations. • Multiple design solutions for largely similar tasks lead to increases in overall training time and required spare parts stocking. 	<p>Benefits Statement:</p> <ul style="list-style-type: none"> • Quick System setup. Allows rapid work initiation and eliminates the need to erect scaffolding. • A modular TRL 7 design provides easier modifications to special configurations and new sensing and work attachments. • Ruggedized system worthy of operating in DoD operational environments, such as Shipyards and Depots. • Scalable platform providing versions sized for specific applications and end effector tools, e.g., smaller for aircraft, larger for ships.
<p>Technology Solution Statement:</p> <ul style="list-style-type: none"> • The Vacuum Crawler Robotic System (VCRS) provides workers a safer work location and eliminates the need for temporary erected infrastructure and the use of safety gear/harnesses. • VCRS can be outfitted with work and inspection capabilities appropriate for the job, i.e., spray nozzles like those carried by workers needed to remove hull biofouling. • VCRS, part of the Family of Sustainment Assisting Robotics (FOSAR), leverages open architecture, interchangeable work packages, and existing inspection devices. 	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><u>Leverage Existing Technology</u></p> <p>Commercial → Defense</p> </div> <div style="text-align: center;"> <p><u>Reconfigurable Technology</u></p> <p>Above Water → Below Water</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p><u>System to Remove Biofouling</u></p> </div> <div style="text-align: center;"> <p><u>Dual Configuration</u></p> <p>Robot 1 SHT Cutting Tool Robot 2</p> </div> </div>

WORKFORCE DEVELOPMENT/VISUALIZATION



Edlore

Transforming Maintenance Technical Orders with AI-Driven 3D Animation

Edlore is a pioneer in AI/ML and 3D technological solutions, reshaping industry standards with its interactive manuals and wearable device integrations. Our patented AI-driven platform transforms complex technical orders into digestible, contextually relevant insights, streamlining operations. With state-of-the-art mobile and wearable technology, professionals achieve access to crucial data, ensuring efficiency and precision. Our platform also encompasses a robust Work Order Management system, enhanced by asset tracking and multimedia attachments, facilitating seamless operations and maintenance processes. At Edlore, we blend innovation and practicality, consistently delivering excellence in an ever-evolving technological landscape.

Contact

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<p>Problem Statement:</p> <p>Despite the rapid advancement in industrial and technical operations, complex equipment service and maintainers often grapple with cumbersome manuals, scattered asset data, and lack of real-time expert assistance. This disjointed information flow increases operational downtime and raises the margin for error. Edlore addresses this pressing challenge by seamlessly integrating AI-driven insights, 3D interactive manuals, and hands-free wearable technology, ensuring precise, efficient, and on-demand data accessibility for professionals in the field.</p>	<p>Benefits Statement:</p> <p>Empowering maintainers with immediate access to AI-enhanced, 3D interactive guidance, reduces operational errors and downtime. By unifying knowledge, expertise, and real-time tracking within a mobile and wearable interface, we ensure every task is executed with precision, speed, and confidence. The benefits of using Edlore are:</p> <ul style="list-style-type: none"> • More efficient on-board service and repair. • Never miss regular PM Maintenance. • Access to device parts metadata and ability to possibly print the component on board. • Gathering field data from service and repair.
<p>Technology Solution Statement:</p> <p>Edlore introduces a unified technology suite designed for the modern maintainer. Leveraging AI's power, we've transformed dense manuals into interactive, 3D-guided insights that intuitively provide the right information at the right time. Our platform, optimized for desktop, mobile and wearable devices, ensures hands-free, on-the-go access to these insights, minimizing downtime. Furthermore, with our real-time Remote Expert Video Chat, professionals are never alone in the field, always having a lifeline to expert assistance. Paired with a comprehensive Work Order Management system and dynamic asset tracking, Edlore's solution streamlines operations, ensuring that data accessibility is efficient, precise, and always at one's fingertips.</p>	

Notes

