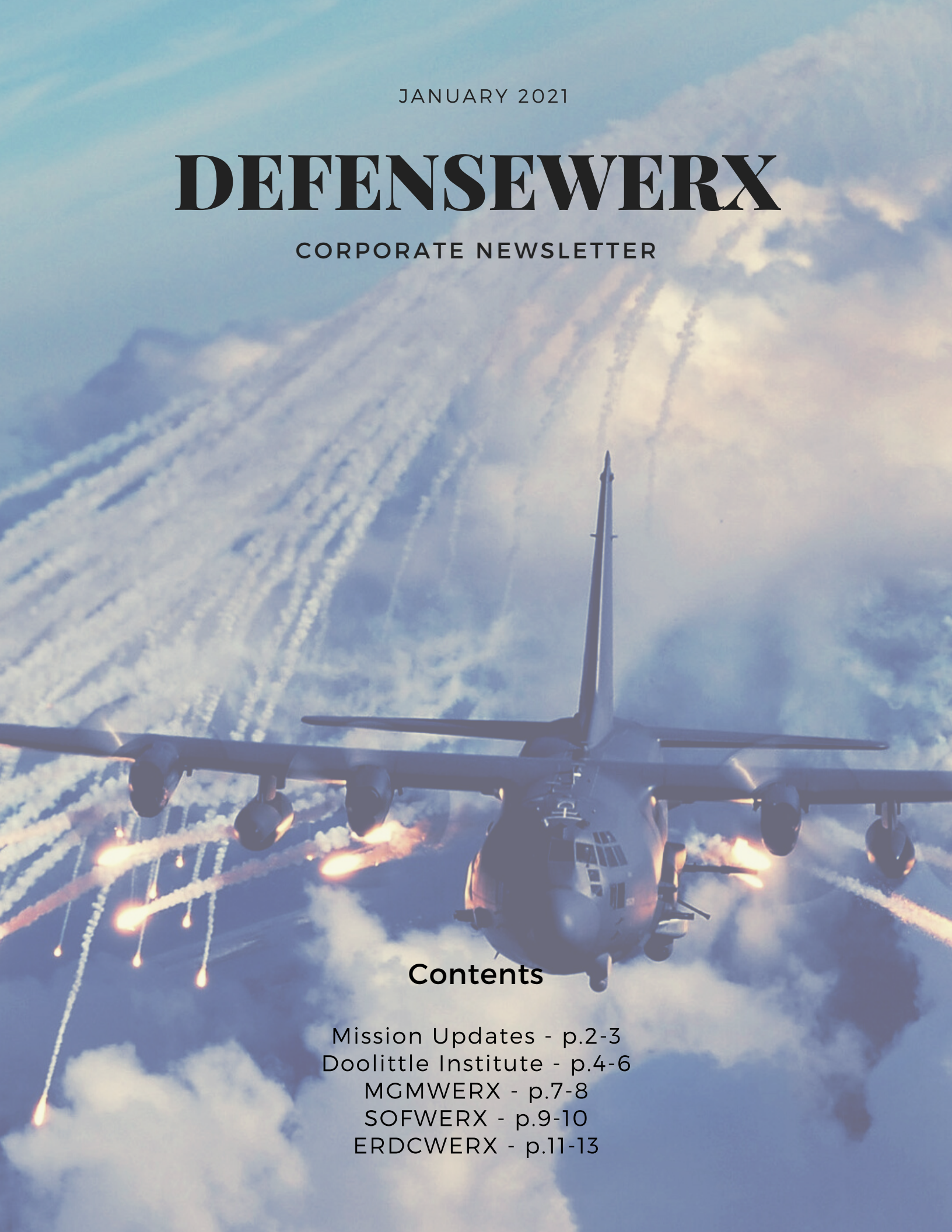
JANUARY 2021

DEFENSEWERX

CORPORATE NEWSLETTER



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Mission Updates

DEFENSEWERX (DWX) and the DEFENSEWERX Family of Innovation Hubs look forward to continuing to work alongside our government partners and growing ecosystem through 2021 and beyond. This newsletter serves to update stakeholders on the valuable work that we are doing to further our mission and the missions of our government partners.

DWX pursues strategic diversification for the benefit of strengthening our Hubs and our government customers. DWX corporate staff worked tirelessly to submit a thorough response to a request from the Joint Artificial Intelligence Center (JAIC). The JAIC approached DWX and asked that we participate in the proposal process for the JAIC Tradewinds Model. The JAIC felt that DWX could be a viable candidate for the Tradewinds Business Manager role. Although unsure about the structure and how DWX may fit into the business manager role, we felt there was a massive upside in submitting the proposal. While DWX did not ultimately earn the role, we did succeed in sharing pertinent information on the DWX Family of Innovation Hubs and connecting them to future AI possibilities.

The DWX corporate staff also initiated a grant strategy that will provide a tactical and focused approach to leveraging grants that complement our Hubs and government customers' work. DWX chose Azimuth Grants to lead this strategy. Azimuth is currently gathering data from our Hubs to craft a one-year strategy on grant possibilities. DWX corporate plans to seed fund the initial grant funding and place it in a Grant Reinvestment Fund (GRF). A portion of all future grant wins will be utilized to replenish the GRF. We feel that this could be beneficial for our stakeholders with a high possibility of a regional or national approach to execute larger collaborative initiatives.

DWX continues to foster partnerships to promote our Hubs and the great work they are doing. This quarter, DWX connected with a new energy incubator that Florida Power and Light (FPL) has started called 35 Mules. Several companies participating in 35 Mules have since connected to DWX and our Hubs.

Over the past few months, DWX has connected with the Small Business Development Center (SBDC) in multiple states, multiple Department of Energy (DOE) entities including DOE HQ, the Economic Development Association (EDA), The Florida Chamber, Space Florida, The Office of Economic Adjustment (OEA), senators, commissioners, congressional leaders, and public figures.

DWX continues to collaborate with our partners in the Department of Defense (DOD) to promote transparency across the ecosystem. DWX corporate staff communicates with Innovation Hub Directors and their DOD government representatives to collate Technology Needs Statements, Tech Focus Areas, and Capability Gaps in their respective organizations. DWX continuously participates in Joint Technology Scouting activities, technology pitch sessions, collaborative teaming events, etc. and communicates the after-action reports and Technology and Innovation area discoveries to our partners in the DOD. DWX utilizes the Technology Needs Statements from our DOD partners to inform industry, academia, and other government innovators areas of interest for our customers on a regular basis. These conversations and documented needs also allow the DWX ecosystem and Hubs to share similar efforts and focus areas more seamlessly between partners.

Mission Updates

The DWX Chief Technology and Innovation Officer (CT&IO) was invited to present as a keynote speaker to the Military Construction (MILCON) national summit, an event coordinated by the US DOD MILCON leadership and OSD. DWX presented an overview of the DWX Hubs and ecosystem, and novel pathways and methodologies that we employ to assist in DOD innovation and technology discovery and engagement. Short overviews of our Hubs were also presented to government, academia, and industry attendees and DOD leadership, and avenues of collaboration were offered to the group. Follow on actions will include more pointed discussions with Hub Directors and government counterparts, with the purpose of transparent collaboration across the DOD and government for current and future efforts enabled by DWX.

The DWX CT&IO was also invited as a keynote speaker and panelist to the 2020 ALAMO Armed Forces Communications and Electronics Association (AFCEA) conference. DWX presented a keynote address around the topic of "Pathways of Innovation in the DOD", which was well received by the physical and virtual attendees of the AFCEA multi-day event. The DWX CT&IO also led and participated on a joint panel with leadership from multiple organizations, including USAF AF Ventures, the OSD Defense Industrial Unit (DIU), and USAF's Kessel Run development operations unit. DWX led the panel titled "Navigating the DOD Innovation Ecosystem" and provided input as a leader in the DOD/government partnership space.

DWX continues to discover and engage with novel tools, platforms, and processes that can enable our workforce in facilitating innovative solutions for our partners. The Ratio Exchange technology scouting and collaboration portal tool is being presented and incorporated into our multiple Innovation Hubs. Training is ongoing, with system updates and enabling key development factors being addressed. DWX corporate engages with industry service providers to enable our Hubs and government partners with best of breed hardware and software support methods in a timely fashion.

DWX also continues to coordinate with the Department of Energy leadership to strategize a plan for "Lab Tech Days" hosted by DWX. The purpose of "Lab Tech Days" will be to provide a venue and process for DOE subject matter experts and technology developers to coordinate with DOD customer set and interact with the always growing DWX ecosystem of non-traditional innovators and developers. The goal will be to facilitate purposeful collisions between DOE, DOD, and participants in the DWX ecosystem to discover and energize novel IP and technology development possibilities. The first Lab Tech Day will be held in early March, hosted at the SOFWERX Hub in partnership with SOCOM HQ - and will be announced across the DWX ecosystem for transparency.

We hope you enjoy reading more about the impactful work that the DWX Family of Hubs is doing.

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Inaugural RWU Symposium was "Phenominal"

The Doolittle Institute hosted the first-ever RWU Symposium from October 28 through October 30, 2020. Dr. Darnell Diggs, Chancellor of RWU and AFRL/RW's Enterprise Learning Officer, described the event as "phenomenal."

The theme of the RWU Symposium was "Designing, Constructing, and Unleashing the Power of Workforce Development." The event officially rolled out RW University, the Air Force Research Lab Munitions Directorate's (AFRL/RW) new internal learning management organization, and provided the workforce with new avenues of professional and personal development.

The agenda included keynote speakers and panel discussions, with over 100 people tuning in for the Designing a Powerful Workforce Panel Discussion. Based on the feedback received, many members of AFRL/RW stated they felt a renewed sense of excitement for work and look forward to seeing what RWU will offer in the future.

Among the speakers were Cal Newport, author of the book Deep Work and professor at Georgetown University; Simon Sinek, motivational speaker and author of Leaders Eat Last; and Garry Ridge, author of Helping People Win at Work and longtime WD-40 CEO. Newport's speech alone garnered 146 participants.

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Inaugural RWU Symposium was "Phenominal" Ctd.

"The Doolittle Institute handled all event planning, coordination, and execution. Amanda Southern, the Doolittle Institute's Training Coordinator, spearheaded the event. She met weekly with Dr. Diggs well in advance of the event, set an action plan into place, contracted all speakers, and ran the RWU Symposium according to its agenda.

"I am ecstatic with how the first RWU Symposium went," Ms. Southern said. "There was a lot of hard work put into this event by a lot of people, and to hear the feedback we have been receiving—about how people feel 'reignited' and excited to take on new challenges at work—that makes it all worth it. That's the reaction we had hoped to receive all along."

The symposium exceeded Dr.Diggs' expectations, especially after the COVID-19 outbreak forced the originally in-person event to a virtual one. He exclaimed he was impressed by all the support DI's team provided to make this event a successful one.

The Doolittle Institute, an AFRL Innovation Institute, supports the Air Force Research Laboratory Munitions Directorate by working to license and commercialize AFRL/RW technologies in the private sector, enable rapid technology delivery to the warfighter, identify and foster new R&D partnerships and develop AFRL's current and future workforce. The Doolittle Institute is a DEFENSEWERX Family Innovation Hub.

For more information about hosting your next RW training session at the Doolittle Institute, please call us at (850) 842-4393 or email us at info@doolittleinstitute.org.

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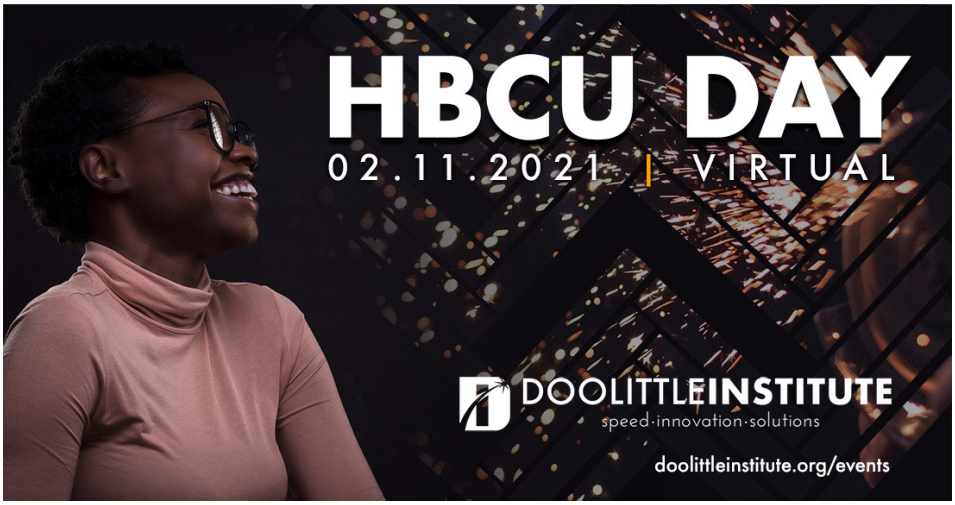
HBCU Day / Abstract Submissions



The U.S. Air Force Research Lab (AFRL) wants to build relationships with scientists and engineers teaching or studying at Historically Black Colleges and Universities. The Doolittle Institute, as part of our relationship with AFRL, is looking for potential collaborators who are researching or have already completed research in machine learning, additive manufacturing, and advanced manufacturing to present their research in HBCU University Day on February 11, 2021.

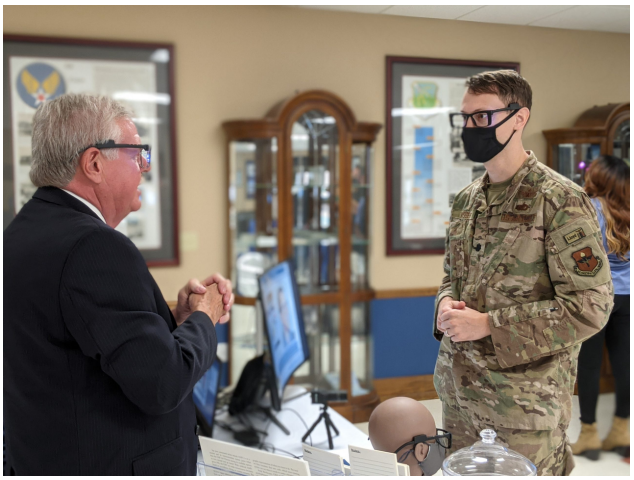
Some of the potential opportunities for selected presenters include:
-Seedling funding and Sponsored research
-Fellowships/Summer scientist programs at the AFRL Munitions Directorate
-Cooperative Research and Development Agreements (CRADA)
-Educational Partnership Agreements (EPA)

Submit Abstract:
Submissions will be reviewed by the Air Force Research Lab Munitions Directorate's Core Technical Competency leads as they are received. Submissions should be in Word doc or PDF format, include no more than 250 words, and one figure or image. References do not count towards the word limit. Those selected to present will be notified more than two weeks in advance of the event. Each topic discussed will consist of an abstract presentation and a question and answer period.

For more information, visit https://doolittleinstitute.org/events/hbcu-university-day/

DEFENSEWERX
Challenges are opportunities

MGMWERX and AFCEA Joined Forces at Education Day



In late October, MGMWERX hosted a live technology showcase presenting state-of-the-art instruments utilized for the delivery of content for instruction. With both military and civilian attendees, leaders in professional education technology, including Design Interactive, Overmatch, Bevilacqua Research Corporation, Dynepic, and The DVI Group, presented expertise and processes on the subject matter.

"This event was a huge benefit to those interested in utilizing technologies to enhance their teachers, students, or their institution's lesson plan development and delivery," declared Eric Gerritson, MGMWERX Innovation and Collaboration Principal. "The showcase was also a huge hit for those involved in instructional systems design or writing curriculum for institutions of learning."

Featured at the Squadron Officer School (Polifka Auditorium) at Maxwell Air Force Base, attendance was limited due to COVID precautions. However, delivery and reception of information was enthusiastic and needed as pioneering and superior remote instruction has become a necessity during the COVID-19 pandemic.

"With the current pandemic, the technology showcase was the perfect time for military and civilian professionals to collect an immense amount of cutting-edge information that can help them navigate these unprecedented times with efficiency, effectiveness, and high-quality production," explained Joyce Vaughn, Marketing & Events Manager at MGMWERX.

Attendees were able to access the newest technological tools for military and civilian professions, especially education enterprises and airmen development. The newest tools and techniques were presented for in-person and remote students. Leaders had access to products that could directly help with the professional development of its scholars as well as proficient processes for the selection and training of instructors.

All are invited to view the recording of each presentations at https://mgmwerx.org/technology-showcase.

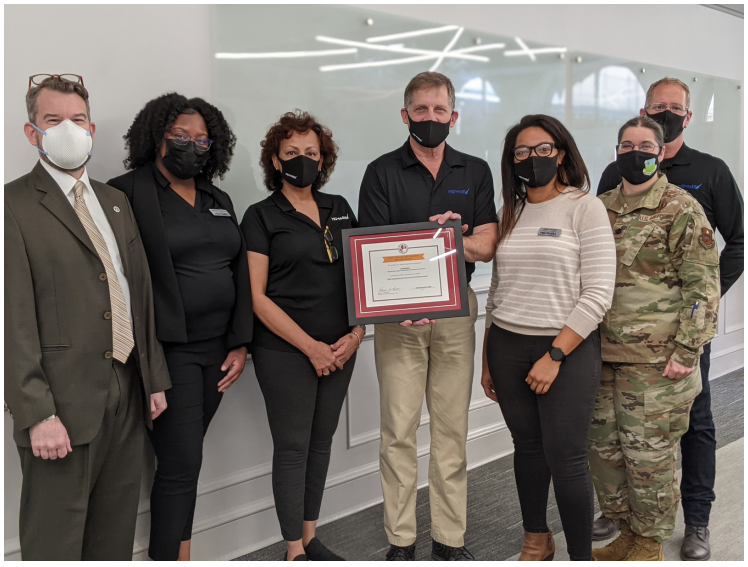
MGMWERX Recognized for River Region Education Partnerships & Efforts

Maxwell AFB and the Air University recently recognized MGMWERX for their contributions to the success of their Maxwell-River Region Partnership for Educational Excellence. Maxwell AFB and Air University's Partnership was recently awarded the Pete Taylor Partnership of Excellence Award for Outstanding Community Partnership, the highest honor by the Military Child Education Coalition. In response to the award, the Air University and Maxwell AFB made it a point to honor MGMWERX and other key River Region partners in a private ceremony with a certificate of contribution for the Pete Taylor honor.

"This award is indicative of the continued partnership between Air University, the City of Montgomery, and MGMWERX, as we work together to leverage our combined resources to enhance the educational programs in the River Region," explained Steve Werner, Executive Director of MGMWERX.

MGMWERX was recognized at the ceremony for helping expand and improve the accessibility of excellent educational options for military personnel and their families. For the past two years, MGMWERX participated in many of the accomplishments of the group, such as changes to out-of-district enrollment policies and athletic eligibility for children who reside on base. In addition, the partnerships were able to increase flexibility in the magnet school application process and provide professional development and resources for educators dealing with the challenges that can take place in the lives of Airmen children.

"MGMWERX will continue to engage with our mission partners and use our unique connections and skills to help build a brighter future for the students in the area educational systems, in keeping with the desire of the Air University to support the enhancement of local education," Werner stated.



MGMWERX, as well as local public school system leader, and Montgomery-area military leaders, facilitated numerous changes that boosted the educational options to military families. Nevertheless, progress continues as the team maintains momentum in its improvements to educational advocacy.

SOFWERX

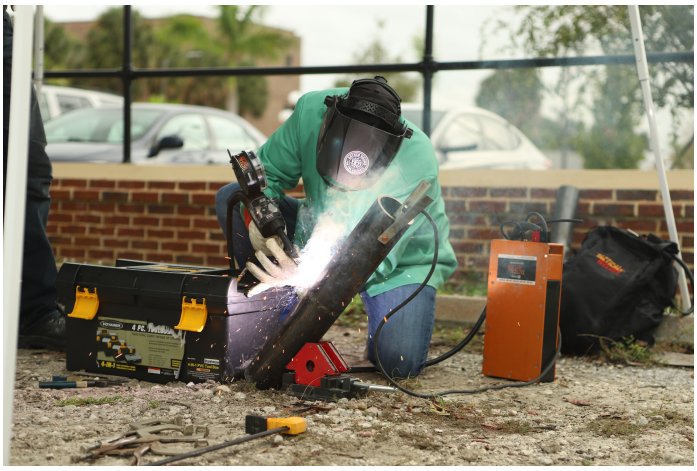
Ready, set, weld!

SOFWERX and USSOCOM Program Manager Expeditionary Support (PM-ES) teamed up to conduct a Combat Evaluation (CV) Challenge for the USSOCOM Mobile Technology and Repair Complex (MTRC). The MTRC program provides critical support for SOF equipment, vehicles, facilities, and other operational assets within austere environments and meets SOF Commanders' urgent requirements for forward deployed maintenance activities and rapid repair turn times.

To assist the MTRC team, SOFWERX and USSOCOM sought to identify relatively mature welding systems and capabilities to reduce the overall number and types of welding systems per MTRC team location, as well as reducing the logistics footprint and supporting the existing operational requirements.

Before the submission opening, SOF Operators provided information to potential offerors on known operational conditions and technical issues. Once submissions were collected, USSOCOM selected five organizations to participate in the 20 – 22 October Portable Welder CV $200,000 Challenge. These organizations sent representatives to SOFWERX to compete in four unique challenges, approximately one hour each, with one hour of reset. The tasks were specifically targeted at known operational deficiencies in currently fielded welding systems in support of Overseas Contingency Operations. The organizations were actively evaluated by USSOCOM and MTRC representatives. Winners received the following awards:

- First Place: ESAB – $77,000
- Second Place: Rugged 3D – $57,000
- Third Place: UltraTech International – $37,000
- Fourth Place: CIC Powerbox LLC – $17,000
- Fifth Place: Petascale – $7,000



The results of the challenge are being utilized to inform the acquisition process and understanding of which welding systems and equipment are available to be purchased, modified, and/or fielded in support of SOF.

DEFENSEWERX

Challenges are opportunities

SOFWERX

Dry Combat Submersible (DCS) Transporter

For several decades, the United States Navy Sea, Air, and Land Forces (SEALs) have long utilized SEAL Delivery Vehicles (SDVs) for underwater transit. The SDV fills passenger compartments with seawater, potentially putting the SEAL operators at risk, especially in inclement climates. Additionally, operators are required to wear their diving gear throughout the entire mission profile.

At vSOFIC, held in May 2020, Mr. James Smith, USSOCOM SOF AT&L Acquisition Executive, announced plans to use the new and advanced Dry Combat Submersible (DCS). As the DCS was incorporated into Special Operations missions, a transportation challenge surfaced. The original SDV was moved via a 40-foot High Cube Military Van (MILVAN), on a Low Boy (low bed), or a standard flatbed-type trailer. The DCS presented the need for a design-for-purpose transporter to meet the requirements to support realistic operational scenarios over sea, air, and land.

USSOCOM PEO-Maritime (PEO-M) teamed with SOFWERX to host a series of events to identify potential solutions to this challenge. On 10 June, SOFWERX hosted a Virtual Collaboration Event with Industry, Academia, and National Laboratory partners to discuss the DCS Transporter desirements. Warfighters interacted with potential solution offerors to further communicate operational needs.

Following the event, organizations submitted their capabilities for the opportunity to participate in the Assessment Event, held on 04 September. USSOCOM PEO-M downselected three companies to pitch, demonstrate, and discuss their solution with Government Stakeholders. Upon final evaluations, USSOCOM PEO-M chose one of the three companies to begin prototyping efforts in December 2020. This capability may be the solution the Navy SEALs require to support future DCS operations.

ERDCWERX Continues to Support ERDC Military Engineering with New Opportunities

ERDCWERX continues to encourage collaboration with the U.S. Army Engineer Research and Development Center (ERDC) by seeking submissions from non-traditional defense contractors in response to prototyping opportunities in Military Engineering, a business area that provides innovative technologies and capabilities to the warfighter.

This collaboration with the ERDC has established a constant solicitation for white papers regarding ten focus areas as defined in the ERDC's Broad Other Transaction Authority Announcement (BOTAA) at www.erdcwerx.org/prototype-opportunities. Selected white papers may receive an invitation for a solution pitch, demonstration, or a Request for Prototype Proposal within 60-90 days of submission against any one of the following focus areas:

-Protection and Survivability
-Geophysical Sensors and Data Fusion
-Vulnerability Assessment, Detection, and Analytics
-Geoscience, Environmental, Geospatial, and Material Modeling and Simulation
-Enhance and Assess Mobility of Manned and Unmanned Systems
-Engineering and Engineering Enabling Technologies
-Global Access Engineering
-Infrastructure Maintenance, Repair and Reconstruction Technologies
-Engineering Analysis Tools and Decision Aid Prototype Software
-Protective Structures and Systems

Protective Structures and Systems has been highlighted with the announcement of an Expedient Protection Barrier Capability Assessment in January. The tech challenge sought to identify business Entities with the capacity to play a role in the commercialization of Ready Armor Protection Instant Deployment (RAPID), a new patented innovation with dual-use potential. Interested parties were invited to provide input regarding barrier design, market potential, and commercialization options.

ERDC is a significant source of military and civil works innovation for the Department of Defense. With seven laboratories in Mississippi, Illinois, New Hampshire, and Virginia, the ERDC has expertise in coastal and hydraulics, construction engineering research, cold regions research and engineering, environmental, geospatial research, geotechnical and structures, and information technology.

To learn more about prototype opportunities, visit www.erdcwerx.org/prototype-opportunities.

DEFENSEWERX
Challenges are opportunities

Employee Spotlight: Janice Karcher, Chief Technology Officer

As ERDCWERX's Chief Technology Officer, Janice Karcher plays a key role in supporting innovation and commercialization with the U.S. Army Engineer Research and Development Center (ERDC). She oversees the investigation, design, implementation, and support of tech challenges and other technology transfer projects and initiatives. Karcher served as project manager in the formation of ERDCWERX's prototype opportunities platform which includes the Military Engineering Broad Other Transaction Authority Announcement (BOTAA) open request for white papers.

"Janice has been instrumental in the growth and success of ERDCWERX," said ERDCWERX Director Paul Sumrall. "Her passion and dedication to our innovation projects continue to contribute to the quality of our organization. We are fortunate to have Janice on our team."

Karcher is an economic development professional with over 30 years of experience, specializing in economic diversification, sustainability, and inclusive growth. She has deep experience in project management, strategic planning, financial management, marketing and outreach, team building, and investor relations, and has worked on projects of all sizes in many industry sectors.

Karcher holds a bachelor's degree from Central Michigan University with a certificate from the Goethe-Institut in Germany. Additionally, she has completed significant applied coursework in manufacturing competitiveness, lean/process improvement, strategic planning, grant writing, media relations, and other economic development disciplines.

"She served as 2019 President of the Mid-America Economic Development Council, a 13-state organization of economic development professionals and site consultants. Other ongoing involvement includes the Michigan Economic Developers Association, German Marshall Fund of the United States, the Association of University Technology Managers (AUTM), and Mississippi Economic Development Council.

Karcher is married to David Karcher, an Army veteran and banking professional. Together they have two grown sons who are employed in the military and medical fields.

ERDCWERX Holds Tech Challenge for Materials that Result in Rapid Roadway Strength Improvements

ERDCWERX, in collaboration with the U.S. Army Engineer Research and Development Center (ERDC), recently held a Rapid Road Surface Stabilization (RRSS) Capability Assessment to encourage white papers for material solutions that result in rapid roadway strength improvements.

The project, announced in December, encouraged industry, academia, national labs, individual innovators, and other parties to submit two-page white papers that met certain requirements as outlined in the project announcement. ERDCWERX received 32 submissions which were forwarded to ERDC's Geotechnical and Structures Laboratory for review. Selected white papers may be included in full-scale testing.

The Army seeks to identify commercial-off-the-shelf material solutions for rapid roadway strength improvements that expedite vehicle maneuver across degraded and/or under designed roadway surfaces. This requires materials for rapidly hardening (in place) soils or unbound pavement material to provide increased structural capacity.

Heavy vehicles are known to cause damage accumulation when traversing weak or damaged pavements. Expedient construction techniques are needed to rapidly improvement structural capacity of roads to support these loads. (Photo courtesy of the ERDC)

ERDCWERX encourages those who would like to learn more about opportunities launched in conjunction with the ERDC to sign up to receive project announcements at www.erdcwerx.org.