

HOW THE PROCESS WORKS: OFRN has anonymized the information due to the competitive nature of the solicitation and proposal environment. If you find an entry of interest, please respond to becky.mescher@parallaxresearch.org with the OFRN Assigned Number or list of numbers to which you want to be introduced. The table columns designate whether the organization seeking a partner is a company or a university and the kind of organization sought for a partnership. The table also includes a technology description of what the advertising organization brings to the table (Technology Brought) and what the advertising organization seeks in a partner (Technology Sought) as well as the technical competencies of the desired partner. Once you respond with the OFRN Assigned Number(s) you would be interested in meeting, we will review the request with the researcher seeking a partner and get their approval to release additional information to both parties and connect the two of you to explore a collaboration. Once we connect parties, we leave it up to you to discuss if interests, objectives and capabilities are aligned.

OFRN Assigned Number	Organization Type	Seeking Partnership With	Area of Interest plan to submit	Technology Brought	Technology Sought
1	University	Both (Research partner from another Ohio university and Industry partner)	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #3: Patient Care in Austere and Contested Environments, AOI #4: Personal Exposure Devices, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies	Development of wearable/implantable biosensors for advanced healthcare	data analysis, signal processing, in vivo animal models
2	University	Both (Research partner from another Ohio university and Industry partner)	AOI #5: Acceleration Effects	1. Numerical modeling and simulations using finite element software; 2. Prototype testing lab capability with accelerometers, laser Doppler vibrometer and high-speed camera; 3. Design of metamaterials/metastructures to absorb, attenuate and/or reflect wave/vibration caused by acceleration	1. Experiences with flight systems' designs and testing and 2. Prototype manufacturing;
3	Company	Research partner from another Ohio university	AOI #8: Quantum Communications	Expertise and deep background in quantum computing and machine learning, including several completed and on-going federal and state-funded projects.	We are looking for a second partner Research Institution with background in quantum computing or quantum communications.
4	University	Both (Research partner from another Ohio university and Industry partner)	AOI #1: Vertical Take-Off & Landing (VTOL)	Provide customized power supply or battery charging station design capability for residential or office building, that includes the topology selection, simulation, control, device selection, and hardware prototyping and testing capability from 100sW to 100s kW.	looking for partners in battery manufactures for utilizing their existing battery technology to address the new recharging design. Or whole system solution partners as the battery energy storage solution partner utilizing existing battery technologies.
5	University	Both (Research partner from another Ohio university and Industry partner)	AOI #8: Quantum Communications	Developing a standalone integrated photonic platform for quantum technology. It will generate quantum states of light entirely on-chip. The quantum light will then be used on-chip for specific quantum applications. Finally, the light will be detected with reasonable efficiency on-chip without needing to couple the light out off-chip. We also do h-BN and nanowire based single photon emitters which can emit a stream of single photons, are critical hardware components for emerging technologies such as quantum computing.	Expertise in material growth and characterization (confocal integrated with micro-PL, HBT, etc.) and photonic integrated circuit testing.
6	University	Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #10: Large Data Set Triage, AOI #12: Other Topics	Data Visualization, Computer Graphics, Modelling & Simulation, Virtual & Augmented Reality	N/A

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7	University	Both (Research partner from another Ohio university and Industry partner)	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #3: Patient Care in Austere and Contested Environments, AOI #4: Personal Exposure Devices, AOI #5: Acceleration Effects, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #8: Quantum Communications, AOI #10: Large Data Set Triage, AOI #11: Journal Article Warning and Correlation, AOI #12: Other Topics	<p>Our Center, at Ohio's largest University, is focused on technology translation and student experiential learning. The center's novel approach to applied engineering and technology translation is executed in its 32,000 square-foot, ITAR compliant, advanced manufacturing facility housing \$12M in equipment.</p> <p>Capabilities include: Design for product lifecycle, Robotics and vision, Biomedical Devices, Machining and testing, Molding and forming, Embedded hardware and sensors, Simulation, Additive manufacturing, Machine learning and automation, SCADA and cybersecurity, Materials and welding/joining, Prototyping and test beds, Mechanical systems, Data&amp;Analytics</p>	<p>We would like to be a resource for companies needing applied engineering research plus student experiential learning.</p>
8	University	Both (Research partner from another Ohio university and Industry partner)	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #3: Patient Care in Austere and Contested Environments, AOI #4: Personal Exposure Devices, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies	<p>Machine learning algorithms for sensing and computer vision, model/parameter learning, mold prediction, adaptive control, path planning, flight control, motion control, energy management, real-time FPGA implementation of AI/ML algorithms.</p>	<p>UAS prototypes, robotics, autonomous vehicles, sensor systems, AI/ML platforms, data services, etc.</p>
9	University	Both (Research partner from another Ohio university and Industry partner)	AOI #3: Patient Care in Austere and Contested Environments	<p>We propose a novel closed-loop control framework for optimizing fluid dosage in hemorrhage resuscitation systems. The framework deploys advanced control system techniques within a cyber-physical platform to promote the effectiveness of fluid resuscitation therapy and reduce the morbidity and mortality associated with over and under resuscitation in hemorrhagic injuries to save lives.</p>	<p>We need 1) an industry partner to help with the development of technology for automated fluid resuscitation systems and 2) a university partner with experience in either closed-loop control or cyber physical platform for medical systems.</p> <p>We need 1) an industry partner to help with the development of technology for automated fluid resuscitation systems and 2) a university partner with experience in either closed-loop control or cyber physical platform for medical systems.</p> <p>We need 1) an industry partner to help with the development of technology for automated fluid resuscitation systems and 2) a university partner with experience in either closed-loop control or cyber physical platform for medical systems.</p>
10	University	Industry partner (for-profit or non-profit)	AOI #1: Vertical Take-Off & Landing (VTOL)	<p>We are developing technology for autonomous mobile vehicles to charge themselves from standard power outlets in normal work or home environments. The solution consists of a simple attachable device and vision-based sensing and control software. The charging system can be installed on any vehicle to enable it to identify a standard power outlet and then control the vehicle to move to and plug in the outlet for charging. It could also be installed on a mobile vehicle for providing charging services to other vehicles. The AI-based software can be trained to work with non-standard power outlets.</p>	<p>The technology, if successfully developed, provides self charging capability for charge wherever and whenever without the need of looking for a special charging station. So, we would like to work with a company which is interested in automated and conveniently charging of flight or ground vehicles without relying on specially designed and fixed charging stations. The interested companies may include (but not limited to) flight or robotic vehicle manufacturers, vehicle service integrators, vehicle service providers, vertiports developers or providers, battery companies, etc. We have the capabilities of both hardware and software research and development at university but we need support from industrial partners in the areas of product requirements and design, user interface design and optimization, and technology transition and commercialization.</p>

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11	Company	Research partner from another Ohio university	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #3: Patient Care in Austere and Contested Environments, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #8: Quantum Communications, AOI #12: Other Topics	Ohio-based unmanned systems developer and manufacturer with experience developing and demonstrating experimental technologies for OFRN and DoD projects. Commercialization experience with government and industry customers, over 500 aircraft deployed around the world. Multiple existing UAS platforms available for integration, testing and demonstration. Model 1: 300kg total weight, 100kg payload eVTOL with up to 20km range. Models 2/3: 1-3kg payload fixed wing VTOL aircraft with up to 6 hour endurance.	Seeking university partners with UAS-related technologies for integration, testing and demonstration on board one of our aircraft, or teams who need UAS systems integration support.
12	University	Both (Research partner from another Ohio university and Industry partner)	AOI #3: Patient Care in Austere and Contested Environments	Autonomous CASEVAC operations are complex with many challenges including sensing, decision making and manipulation. We are developing AI-based multi-robot (UAVs, UGVs, and manipulators) collaboration technologies, which can be applied to autonomous search and rescue operations in unstructured environment. The technology enables several robots to work as a distributed system to perform tasks that a single robot is unable or inefficient to do. Since the team is controlled in decentralized manner, the technology is scalable, robust to uncertainties, and resilient to individual robot's fault.	Our team has strong skills and experience in robotics (UAVs, UGVs and manipulators), sensing, machine learning, and fuzzy logic areas. We have developed learning-based robot control and collaboration technologies such as visual guided manipulation, aerial manipulation, human posture recognition, human intention recognition, and multiple-robot team jointly carrying a payload. Since our research efforts have been technology focused not directly targeting CASEVAC or MEDEVAC applications, we are looking for university and industrial partners having working experience in the CASEVAC or rescue operation areas, so that we can have synergy on the research to better address the customers need. The ideal partners would have already been doing research for patient care in contested environment or providing emergency rescue equipment or services. We also wish the industrial partners can help in the areas of product requirements and design, user interface design and optimization, and technology demonstration and commercialization.
13	Company	Research partner from another Ohio university	AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations	We provide enabling technology to accelerate electrification of air, land and sea vehicles and systems. Our technology advancements provide higher power in smaller and more efficient products. We have over 60 years of experience in flight and space grade power conversion, management, monitoring, advanced packaging solutions, thermal management and energy storage.	We are seeking both Federal and University partners to advance out existing technologies in thermal management and electrical systems control.
14	Company	Research partner from another Ohio university	AOI #8: Quantum Communications	Materials developments for single photon emitters, including a Seki PE-CVD system for diamond growth, low-D nanomaterials growths, post-growth processing, structural and electrical characterizations	Optical measurements and integrations

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15	Company	Both (Research partner from another Ohio university and Industry partner), Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #3: Patient Care in Austere and Contested Environments, AOI #4: Personal Exposure Devices, AOI #5: Acceleration Effects, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #8: Quantum Communications, AOI #9: Applications of Commercial Satellites to Humanitarian, Disaster, and Defense Topics, AOI #12: Other	Prototyping capabilities in metal and ceramic, team building and Federal partner identification, proposal writing and program management. Commercialization experience with record of bringing start-up into business.	looking for research partners or small business that are looking to work with a program manager with low overhead rates
16 revised	Company	Research partner from another Ohio university	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #9: Applications of Commercial Satellites to Humanitarian, Disaster, and Defense Topics, AOI #12:	Optical true time delay with a TRL 6. Best SWP of any True Time Delay in the world. A single unit can support 100's of antenna elements and multiple beams, no beam squint, low loss, supports ultra wide band antennas. Ultra-Wideband antenna arrays and beam steering	Looking for University Partner who has technological expertise in antennas, phase shifters, satellite communications. We are seeking expertise in liquid crystal materials.
17	University	Industry partner (for-profit or non-profit)	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #12: Other	Secure and robust cooperative navigation (GPS-denied navigation)	v2v communication, multi-uav test-bed and experimentation capability.
18	Company	Research partner from another Ohio university	AOI #8: Quantum Communications	We are looking for academic partners for our AOI 8 proposal. We have already achieved TR 1-2 and ready to plan and build a proof of concept	Experience building and designing wireless technology, experience with quantum entanglement in communications.
19	Company	Both (Research partner from another Ohio university and Industry partner)	AOI #4: Personal Exposure Devices	Our company has developed a VOC sensor that provides both selectivity and sensitivity. The sensor is capable of measuring multiple target VOCs.	The current sensor is a Gen 2 device. Assistance is needed to move the technology from a lab-based device to a production ready sensor. Engineering capabilities should include MEM-based design, optics, COMSOL modeling, etc.
20	University	Both (Research partner from another Ohio university and Industry partner), Offering capabilities to established teams	AOI #10: Large Data Set Triage, AOI #11: Journal Article Warning and Correlation	My research is in large-scale search techniques, query optimization, structured and semi-structured/graph databases, network data and knowledge bases/knowledge graphs. Development and deployment of scalable data (query engines, data mining, information retrieving and deep learning) systems for network and graph/network analytics.	Applied science and applications with use cases including but not limited to large-scale network analytics, learning and management.

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21	Company	Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #12: Other Topics	Precision 5-axis Milling machining with turning capabilities, support a broad range of weapon systems from legacy aircraft to naval ships to state of the art 5th generation fighters and new production engines, complex 3D 5-axis modeling, welding, soldering, passivation. Major manufacturer of fiberglass reinforced plastic (FRP) composite aerospace components for over forty years. (Compression molding, resin transfer molding, injection molding, hand lay-up, vacuum bagged pre-preg while utilizing materials like Kevlar, Nomex, Astroquartz and Carbon Fiber. Engineering and design modification on multiple engineering platforms (Catia, Solid Works, AutoCad, and Unigraphics NX. Re-Engineering and Reverse Engineering, inspection/quality management and assembly fixtures, Electro-Mechanical Assembly and cabling, kitting, finishing and coatings, ground-support products along with specialized Test Rigs and Instrumentation, flight-support products, interior aircraft elements, radomes and various composite products, cable assemblies and wire harnesses, control panels, control actuation systems.	Any and All
22	University	Both (Research partner from another Ohio university and Industry partner)	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #3: Patient Care in Austere and Contested Environments, AOI #4: Personal Exposure Devices, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #8: Quantum Communications, AOI #9: Applications of Commercial Satellites to Humanitarian, Disaster, and Defense Topics	My team can bring the academic expertise in machine learning, cybersecurity, distributed systems and computing (IoT, cloud, Quantum, Blockchain and 5G)	Expertise in problem domain and how the technology can be integrated to make an impact in the partner is sought.

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23	Company	Research partner from another Ohio university	AOI #4: Personal Exposure Devices	We have been working to develop a Total Exposure Health monitoring device in collaboration with a federal research lab. The is a wearable system (less than 1 lb) that has a modular architecture, which allows for plug-and-play functionality with a variety of sensors including gases, VOCs, and particulates. We would like to either add functionality to this system (such as additional types of sensors, location tracking, communication, etc.), or develop a new technology (leveraging our expertise from this program) to address AOI #4. We have a wide variety of capabilities, including mechanical design, software design, and PCB design. We have a strong core of electrical, mechanical, software, and biomedical engineers that enable rapid prototype development (design, analyze, build, test). We have decent in-house testing capabilities when it comes to gas testing.	We are looking for a university partner who can add expertise in personal exposure monitoring. We may be interested in partners who can provide insight into the types of sensors or sensing techniques that would be most valuable for a given application. We would also be interested in support for testing, calibration, validation, and general feedback for the system that will be developed. Expertise in noise, radiation, toxic chemicals, geospatial mapping, and wireless communication would also be valued. We would appreciate the opportunity to talk to any interested university to determine what roles would be appropriate.
24	University	Both (Research partner from another Ohio university and Industry partner), Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations	Expertise in design for additive manufacturing (AM). AM machine capabilities include laser powder bed fusion, direct energy deposition, material extrusion, vat photopolymerization, and binder jetting. Material characterization and inspection capabilities including CT scanning.	Seeking a partner who is submitting, that we could serve as a sub and assist them in the research.
25	University	We have a team and need a federal partner	AOI #3: Patient Care in Austere and Contested Environments	This proposed solution is an AI-driven autonomous system consisting of smart medical equipment and a hybrid autonomous/remote en-route medical "center" (agent). This autonomous medical care system can be integrated into an eVTOL or a UAV, and will be locally managed by an AI-powered closed-loop monitoring and control system or tele-operated by remote medical experts. Medical sensor fusion and diagnostics, artificial intelligence, and model predictive control technologies will be included.	AOI #3: Patient care in austere and contested environments. AFRL/711th Human Performance Wing or NAMRU-D
26	Company	Research partner from another Ohio university, We have a team and need a federal partner	AOI #2: Situational Awareness and Proliferated Surveillance Systems	A machine learning model that interfaces with EO/IR payloads and standard autopilots to allow UAS to find, fix and track targets without direct operator control.	Seeking university partners with RF or AI/ML expertise to complement and develop the technology further. Seeking a federal partner to help define customer requirements.
27	University	Both (Research partner from another Ohio university and Industry partner), Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations	I am building a research program focused on eVTOL propulsion aeroacoustics and high-speed propulsion in the transonic to supersonic regime. My expertise is in the experimental and advanced measurement diagnostics area. I have access to testing facilities and advanced measurement capability.	I am looking for collaborators interested in eVTOL aeroacoustics or in high-temperature fluid dynamic phenomena

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28	University	Both (Research partner from another Ohio university and Industry partner), We have a team and need a federal partner. Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL)	We are developing battery technology with ultra-fast charging capabilities	We seek both Federal and industry partners with fast charging battery needs
29	University	Both (Research partner from another Ohio university and Industry partner)	AOI #12: Other Topics	My research area/publishing area is open channel flow hydraulics and sustainable storm water management. I have 12 years industry experience in this area as well as structural engineering in wood and light gauge steel trusses.	I am very flexible in this regard. As long as the partner has needs for my skills set, I will be happy to be a part of a proposal.
30	Company	Research partner from another Ohio university	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #12: Other Topics	We have been awarded an Agility Prime contract to provide a synthetic weather RADAR technology to the USAF. There is an industry variation that can be developed for civilian use that we would like to develop in Ohio.	We are searching for 2 Ohio University partners that have expertise in programming, IT, computer science or meteorology that can join our Agility Prime Team and help us develop the industry variant of this technology.
31	Company	Research partner from another Ohio university, Industry partner (for-profit or non-profit), Both (Research partner from another Ohio university and Industry partner), We have a team and need a federal partner. Offering capabilities to established teams	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #4: Personal Exposure Devices, AOI #5: Acceleration Effects, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies, AOI #9: Applications of Commercial Satellites to Humanitarian, Disaster, and Defense Topics, AOI #10: Large Data Set Triage, AOI #11: Journal Article Warning and Correlation	We are new start-up reimagining explainable artificial intelligence capabilities that are able to provide fully automated, multi-modal capabilities. We create cognitive frameworks that register analytical products to abcreate composite operating picture.	We are looking for federal and academic partners that aid in data management, topological analysis, or machine learning approaches for the deployment of product lines related to the areas of interest.

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32	Company	Both (Research partner from another Ohio university and Industry partner), We have a team and need a federal partner	AOI #4: Personal Exposure Devices	<p>Polymer waveguide-heat stripping absorption spectrometry (PW-HSAS) is the next evolution of gas chromatography for the quantification of volatile organic compounds (VOCs). Our innovative approach provides selectivity and sensitivity comparable to portable gas chromatography-based devices. Additionally, the single-chip sensor technology offers significant advantages (cost, speed, size, and usability) compared to gas chromatography devices.</p> <p>PW-HSAS is a platform technology, in that, the device can be programmed to quantify target VOCs depending on the application. The physical sensor is the same for any application. The supporting software code can be changed to look for specific VOCs. For instance, the device can be programmed to quantify exhaled breath biomarkers such as acetone and isoprene or configured to identify carcinogens such benzene, toluene, ethylbenzene, and xylene in an industrial environment or set to detect formaldehyde in a residential/office environment.</p>	<p>To date, we have built a gen 2 "laboratory" device capable of detecting 5 ppm of various compounds with a 3-5 minute cycle time. We are looking for university, industry, and federal partners to transition our technology to a MEMs format to achieve ppb sensitivity and &lt;60 second cycle time. We have COMSOL models developed that identify the necessary enhancements to achieve these goals. Assistance is needed in transitioning a sensor from a laboratory device to a device that can be field tested by end users ahead of building a production-ready sensor. Our goal is to build a sensor module that can be incorporated into various form factors by existing sensor companies.</p>
33	Company	Industry partner (for-profit or non-profit)	AOI #1: Vertical Take-Off & Landing (VTOL)	<p>We have several Federal funded programs on different types high power density motors for electric aircraft from 8 to over 25 kW/kg. One of the motors has been demonstrated in the laboratory in the range of 8 kW/kg power density range (world record performance). We want to propose a OFRN proposal to take this motor out of the laboratory and make it "air worthy" and fly it on an aircraft. We can configure the motor at a desired rpm and power level between 100kW - 2MW to meet the desired aircraft/VTOL requirement. For the demonstration team, we have two Federal partners, and two university partners. We need a partner/subcontractor that has a VTOL/aircraft that can accept the high power density motor for a demonstration. We can provide addition information to interested aircraft partners.</p>	<p>We are looking for a partner/subcontractor who has or is building a VTOL or Electric Aircraft that can use and demonstrate the high power density electric motor and drive that has been developed.</p>
34	University	Research partner from another Ohio university, Industry partner (for-profit or non-profit), Both (Research partner from another Ohio university and Industry partner), We have a team and need a federal partner, Offering capabilities to established teams	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies, AOI #8: Quantum Communications, AOI #12: Other Topics	<p>Design of Adaptable, Neural Network based Processor for mini UAV missions: navigation, surveillance, recognizance. AFRL sponsored project research.</p>	<p>Design of Algorithms, Architectures, and Software Tools for Quantum Computation</p>



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35	University	Both (Research partner from another Ohio university and Industry partner)	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations	<p>The Center for Automotive Research (CAR) is the pre-eminent research center in sustainable and safe mobility in the United States and an interdisciplinary research center in The Ohio State University's College of Engineering established in 1991. CAR research focuses on: 1) Powertrain Control; 2) Electrification and Energy Storage; 3) Safety and Security; 4) Autonomous and Connected Vehicles.</p> <p>CAR has comprehensive capabilities and facilities for the characterization of performance and aging in Lithium ion batteries, and for the design and prototyping of high performance battery packs. Four professors and five full-time researchers oversee a research portfolio of approximately \$5M/year that broadly covers electrochemical energy storage systems for automotive and aerospace applications. The skills of the center encompass in-situ and ex-situ multiscale characterization, material synthesis and cell prototyping, first-principle modeling and simulation, cell-level and pack-level testing, optimization and control, system integration, design/prototyping/testing of modules and packs in vehicle, prognosis and diagnosis.</p> <p>In these areas, OSU CAR leads or collaborates on a number of projects funded by, among others, Ford Motor Company, General Motors, Fiat Chrysler Automobiles, Cummins, the National Science Foundation, ARPA-E, the US Department of Energy and NASA. OSU is the lead university of the 5-year NASA University Leadership Initiative (ULI) program "Electric Propulsion: Challenges and Opportunities", which focuses on designing and demonstrating systems and</p>	system integrator for eVtol as well as energy applications (microgrids)
36	University	Research partner from another Ohio university, Industry partner (for-profit or non-profit), Both (Research partner from another Ohio university and Industry partner), Offering capabilities to established teams	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #8: Quantum Communications	Expertise in communications, networking and information theory	Complementary expertise to ours
37	Company	Industry partner (for-profit or non-profit), Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #5: Acceleration Effects, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #12: Other Topics	Expert in design & training of hydraulic and pneumatic systems, controls, and components.	Partner that can utilize our fluid power expertise to develop actuators and power systems.
38	University	Both (Research partner from another Ohio university and Industry partner), Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL)	<ol style="list-style-type: none"> <li>1. Expertise and models &amp; methods for human-autonomy team design and cognitive systems engineering in aerospace applications.</li> <li>2. Computational modeling and simulation of multi-agent sociotechnical systems.</li> <li>3. Research experience in ATM/UTM operations.</li> <li>4. Resilience engineering</li> </ol>	We can support partners looking to develop and/or field new technologies that involve human and machine/autonomous capabilities at various scales (from single human-machine system to large-scale multi-agent systems).

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40	Company	Research partner from another Ohio university	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #8: Quantum Communications, AOI #12: Other Topics	Trusted microelectronics systems for airborne applications	Capabilities in trusted microelectronics systems for airborne applications
41	University	Both (Research partner from another Ohio university and Industry partner)	AOI #4: Personal Exposure Devices	sensor platform for the detection of various toxic gases, no power, visual output	know-how in reactive nanomaterial chemistry, gas-permeable polymers, device manufacturing and upscale
42	Company	Research partner from another Ohio university	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #8: Quantum Communications	Quantum sensor materials.	Quantum sensor design and fabrication capability.
43	University	Offering capabilities to established teams	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #10: Large Data Set Triage, AOI #11: Journal Article Warning and Correlation, AOI #12: Other Topics	Expert on machine learning/applied statistics and related optimization/operations research and simulations.	Content area knowledge good at data sharing with a US citizen. Awareness of the discipline and value of operations research and/or industrial engineering is a major plus.
44	University	Industry partner (for-profit or non-profit)	AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations	We have technologies for control of hybrid gas-electric aeropropulsion. Our methods optimally coordinate electric and chemical energy utilization, balancing propulsion performance with energy economy and operational constraints. The team has a track record of collaboration with federal partners in advanced control for aeronautical propulsion. We have expertise with advanced energy storage systems such as supercapacitors and have laboratory facilities for real-time control of integrated thermal-electromechanical demonstration systems.	We look for a partner with expertise and forefront technologies for efficient electromechanical power conversion and storage, specifically capable of designing and building state-of-the-art research platforms to evaluate propulsion control systems. Our focus is on systems with real power converters, motors/generators and storage units at the kW scale, interacting with a real-time, realistic gas turbine engine simulation.
45	Company	Research partner from another Ohio university, Offering capabilities to established teams	AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #3: Patient Care in Austere and Contested Environments	We have a secure BLOS data link (both front end and back end) that is used for sending data to and from UAS. We have an Android Interface for the local users and cloud based for medical personnel. We send flight/location/physiological data from the vehicle and sensors. We have an optionally manned vehicle for testing the monitoring of patients in CASEVAC environments.	Looking for university partners with medical personnel to help select and integrate the appropriate sensors and create user interfaces both on the front end and back end.

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46	University	Research partner from another Ohio university, Industry partner (for-profit or non-profit), Both (Research partner from another Ohio university and Industry partner), Offering capabilities to established teams	AOI #4: Personal Exposure Devices, AOI #5: Acceleration Effects, AOI #8: Quantum Communications, AOI #12: Other Topics	Our research group at AFIT has the capability of designing, fabricating, integrating, optics, mechanics, and electronics for a wide range of applications on chip-scale platforms.	Partners and sponsors that require our expertise mentioned above.
47	none				
48	University	Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #3: Patient Care in Austere and Contested Environments, AOI #4: Personal Exposure Devices, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #8: Quantum Communications	Our focus is computational material science in nano and macro scale (atomistic simulation and finite element analysis) encompass modeling various physics including corrosion, diffusion in material, defect engineering, stress analysis in MEMS, and Nano energy harvesters (piezoelectric and battery modeling). We used COMSOL, MOOSE, LAMMPS, Siesta, and Quantum Espersspo to develop these multiphysics frameworks.	Partners that require physics based modeling and system optimization in nano and macroscale.
49	University	Offering capabilities to established teams	AOI #9: Applications of Commercial Satellites to Humanitarian, Disaster, and Defense Topics	I work on humanitarian and disaster response logistics. I use optimization and network design tools to model supply chain networks, logistics, transportation network resilience, and other challenging problems such as human trafficking networks. I have done fieldwork research after several disasters including 2015 Nepal Earthquake, 2016 Ecuador Earthquake, and 2012 Super Storm Sandy. I am currently a Co-PI of NCHRP 20-125: Strategies for Incorporating Resilience into Transportation Networks.	Technologies that can aid decision making, gather critical data, and allow fast and reliable calculations in disaster situations. Working at the Rensselaer Polytechnic Institute, I worked in access restoration with the Lidar team at Rochester Institute of Technology. I developed the mathematical modeling that used as input the state of the transportation network infrastructure to determine the best way to allocate resources and open access to critical points in a disaster area.
50	Company	Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #3: Patient Care in Austere and Contested Environments, AOI #5: Acceleration Effects, AOI #6: Improving Human-Machine Teaming Performance Using Brain-Machine Interface (BMI) Technologies, AOI #7: Advanced Power Systems Applicable to Aviation Propulsion, Micro-Grids, and Lunar Surface Operations, AOI #8: Quantum Communications, AOI #12: Other Topics	We are able to offer flight test consulting & support. Through partnerships, we can provide test platforms if needed.	N/A

OFRN Assigned Number	Organization Type	Seeking Partnership With	Area of Interest plan to submit	Technology Brought	Technology Sought
51	Company	Both (Research partner from another Ohio university and Industry partner), We have a team and need a federal partner, Offering capabilities to established teams	AOI #1: Vertical Take-Off & Landing (VTOL), AOI #2: Situational Awareness and Proliferated Surveillance Systems, AOI #5: Acceleration Effects, AOI #12: Other Topics	<p>Airworthiness and Flight Test Planning/Approval experts that can Design/Prototype and execute Flight Test for developed/developing technologies. Also have Denied-GPS navigation capabilities for both Air and Land-based operations (for advancing a technology or a truth source for testing).</p> <p>Capabilities: Own/operate a Ohio-based Flight Test Aircraft, Test Pilot School Graduates, prior AFIT Professors and AFRL Researchers, FAA and USAF extensive Airworthiness Expertise from reports to project management to approvals. Small volume additive and subtractive manufacturing capability. Research and Development into precise navigation real-time or post-processed with or without GNSS.</p>	Open to partnerships with agencies that require or intend to advance traditional/non-traditional navigation, flight test, sensors or similar interests.