

**COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
FOR**

“UAS Application Assessment”

BETWEEN

**U.S. ARMY RESEARCH, DEVELOPMENT, AND ENGINEERING
COMMAND, COMMUNICATIONS-ELECTRONICS RESEARCH,
DEVELOPMENT AND ENGINEERING CENTER**

AND

“Navmar Applied Sciences Corporation”

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The purpose of this agreement is to create a cooperative effort to conduct Unmanned Aerial System (UAS) Application Assessment between The U.S. Army Research, Development, and Engineering Command, Communications-Electronics Research, Development and Engineering Center (CERDEC) and Navmar Applied Sciences Corporation in order to establish a working environment for the conduct of tests, demonstrations, experiments and exploratory interchange efforts. This Agreement contains one (1) Statement of Work (SOW), appendix. This work falls within the mission of the U.S. Army Research, Development, and Engineering Command, Communications-Electronics Research, Development and Engineering Center.

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COMMUNICATIONS-ELECTRONICS RESEARCH,
DEVELOPMENT AND ENGINEERING CENTER**

AND

“Navmar Applied Sciences Corporation”

This Cooperative Research and Development Agreement ("AGREEMENT"), dated as of the date of the last signature on this Agreement, was authorized and encouraged by the Federal Technology Transfer Act of 1986 (P.L. 99-502) and implemented by Executive Order 12591 (10 April 1987). The parties to this AGREEMENT are “Navmar Applied Sciences Corporation” (hereinafter “COLLABORATOR”) of “65 West Street Rd, Bldg C, Warminster, PA 18974” and the U.S. Army Communications-Electronics Research, Development and Engineering Center (hereinafter “The Army”).

A. Whereas, the Congress in enacting the Federal Technology Transfer Act of 1986, Public Law No. 99-502, October 20, 1986, has found that Federal laboratories' developments should be made accessible to private industry, state and local Governments, and has declared that one of the purposes of that Act is to improve the economic, environmental, and social well-being of the United States by stimulating the utilization of Federally-funded technology developments by such parties; and

B. Whereas, the Federal Technology Transfer Act of 1986 among other technology transfer improvements has given each Federal agency the authority to permit the Director of Government-operated Federal laboratories to enter into Cooperative Research and Development Agreements (CRADAs) with Federal or non-Federal entities, including private firms and organizations, for the purpose of providing to collaborating parties, personnel, services, property, facilities, equipment or other resources (EXCEPT FUNDS), or obtaining from collaborating parties personnel, services, property, facilities, equipment or other resources (INCLUDING FUNDS) which may include the disposition of patent rights in the inventions that may result from such collaboration; and

C. Whereas, the parties have performed substantial research and development with respect to UAS application assessment, devices and systems for commercial and defense applications (hereinafter “the Technology”); and

D. Whereas, the parties possess certain advanced scientific skills, facilities, special equipment, information, computer software, and know-how pertaining to the Technology; and

E. Whereas, the parties desire to pursue the development of the Technology;

NOW, THEREFORE, THE PARTIES HERETO AGREE AS FOLLOWS:

Article 1. **Definitions**

As used in this AGREEMENT, the following terms shall have the following meanings and such meanings should be equally applicable to both the singular and plural forms of the terms defined:

1.1 "Agreement" means this Cooperative Research and Development Agreement.

1.2 "Invention" means any invention or discovery which is or may be patentable under Title 35 of the United States Code.

1.3 "Made" in relation to any invention means the conception or first actual reduction to practice of such invention.

1.4 "Data" means recorded information, regardless of the form or method of the recording, of a scientific or technical nature and includes computer software and computer software documentation. The term does not include data incidental to contract administration, such as financial and/or management information.

1.41 Unprotected Data: All data delivered under this Agreement will be presumed to be Unprotected Data and afforded the treatment as set out in Article 8 hereof unless such data is marked as Protected Data.

1.42 Protected Data: Any data delivered under this Agreement may be categorized as Protected Data by either of the Parties and so marked, provided, however, that any data which:

(a) is known to the recipient Party (without an obligation to keep same proprietary) at the time of disclosure;

(b) is acquired by the recipient Party after the date of disclosure from an independent third party who is not subject to any obligation of confidentiality in respect of such data;

(c) is at the time of its disclosure in the public domain or became public knowledge during the term of this Agreement otherwise than by reason of the recipient Party's neglect or breach of the restrictions set out in this or any other Agreement;

(d) is independently developed by the recipient Party without use of any or all of the delivered data;

(e) was inherently disclosed by public sale or other release of products or services authorized by the disclosing Party; or

(f) is treated otherwise by written agreement between the Parties;

may not be so categorized and will be treated as Unprotected Data. Protected Data will be afforded the treatment as set out in Article 8 hereof.

1.5 "Subject Invention" means any invention made in the performance of work under this Agreement.

1.6 "Government" means the United States of America and agencies thereof.

1.7 "Capital Equipment" means stand alone equipment having an acquisition value of \$5,000.00 or greater and a useful life beyond the termination date of this AGREEMENT, but no less than two (2) years.

1.8 "Parties" or "Party" means The Army and "COLLABORATOR", as the case may be.

Article 2. Cooperative Research

2.1 Statement of Work. Cooperative research performed under this Agreement shall be performed in accordance with the Statements of Work ("SOW") attached hereto as Appendix A. Each party agrees to participate in the cooperative research and to utilize such personnel, resources, facilities, equipment, skills, know-how, and information, as it considers necessary, consistent with its own policies, missions and requirements.

2.2 Review of Work. Periodic conferences shall be held between The Army and "COLLABORATOR" to review the progress of work. It is understood that the nature of this cooperative research is such that completion within the period of performance specified, or within the limits of financial support allocated, cannot be guaranteed. Accordingly, it is agreed that all cooperative research is to be performed on a best efforts basis.

2.3 Principal Investigation. The Army agrees to assign The Army's portion of the work to be performed pursuant to the SOW to the "CERDEC Directorate responsible for research task". The work will be performed under the supervision of "Army Technical POC" as principal investigator, who has the responsibility for the scientific and technical conduct of this project at The Army. The "Collaborator Technical POC" will be the principal investigator for "COLLABORATOR" and will have the responsibility for the scientific and technical conduct of this project for "COLLABORATOR" corporate office.

2.4 Scope Change. If at any time either principal investigator determines that the research data dictate a substantial change in the direction of the work, the party shall promptly notify the other party and the parties shall make a good faith effort to agree on any necessary change to the SOW.

2.5 R&D Team. To the extent that the conduct of sponsored research requires a joint technical effort of "COLLABORATOR" and The Army, the parties agree to establish a joint research and development team (The "Team"), which shall conduct cooperative research in accordance with the SOW. Each party shall make available to the Team such resources, facilities, equipment, skills, know-how and information as it considers necessary and appropriate. Both parties pledge to support the Team in a mutually cooperative manner, on a best effort basis, consistent with their respective policies, missions and requirements. Either party may propose changes to the SOW or to the scope and direction of the effort that, if agreed to by the other party, shall first be made to the Statement of Work, and then implemented by the Team. While assigned to the Team, members shall continue to remain employed by their respective employers with full benefits and salary.

Article 3. Reports

3.1 Annual Reports. Commencing six months after this Agreement enters into force, The Army and "COLLABORATOR" shall submit annual written reports to each other during the term of this Agreement on the progress of their work and the results being obtained and shall make available, to the extent, reasonably requested, other project information in sufficient detail to explain the progress of the work.

3.2 Final Report. The Army and "COLLABORATOR" shall prepare a written report within three (3) months after expiration of this Agreement. This report shall set forth the technical progress made, identifying such problems as may have been encountered, and establishing goals and objectives requiring further effort. The ultimate responsibility for timely completion of said reports shall be The Army's principal investigator. In addition, a portion of the results not including Protected Data may be prepared for publication in a journal or at a conference, as appropriate, by "COLLABORATOR" or The Army with co-authorship, as appropriate.

Article 4. Financial Obligation

4.1 The Army Salary and Travel. The Army shall provide support to The Army personnel in performance of this Agreement.

4.2 "COLLABORATOR" Salary and Travel. "COLLABORATOR" shall provide support to "COLLABORATOR" personnel in performance of this Agreement.

Article 5. Title to Property

All equipment developed or purchased by The Army under this Agreement, and all Government Furnished Equipment (GFE), if any, shall be the property of The Army. All equipment, developed or purchased by "COLLABORATOR", provided to The Army by "COLLABORATOR", or developed or acquired by The Army with funds supplied by "COLLABORATOR", shall remain or vest in "COLLABORATOR". Co-developed equipment shall be owned by "COLLABORATOR". Any GFE shall be used solely for the performance of the effort contemplated by this Agreement. Upon completion of research under this agreement, "COLLABORATOR" shall be responsible for all costs attendant to the maintenance, removal, storage, and shipping of their equipment to "COLLABORATOR".

Article 6. Disposal of Toxic or Other Waste

The responsibility for proper disposal at completion or termination of this Agreement of any equipment or materials that an originating party transfers to the facilities of a receiving party and which constitute hazardous, toxic or other waste shall remain with the originating party.

Article 7. Inventions and Patents

7.1 Reporting. The Army shall promptly report to "COLLABORATOR" each Subject Invention reported to The Army by its employees. "COLLABORATOR" shall promptly disclose to The Army each Subject Invention reported to "COLLABORATOR" by any of its employees.

These disclosures should be in such detail as to be capable of enabling one skilled in the art to make and use the Subject Invention under 35 U.S.C. §112. The disclosure shall also identify any statutory bars, i.e., printed publications describing the Subject Invention or the public use or sale of the Subject Invention in this country. The Parties further agree to disclose to each other any subsequent statutory bar that occurs for a Subject Invention disclosed but for which a patent application has not been filed. All Subject Invention disclosures shall be marked as confidential under 35 U.S.C. §205.

7.2 "COLLABORATOR" Employee Inventions. "COLLABORATOR" shall retain title to each subject invention made by its employees. "COLLABORATOR" may file patent applications on these Subject Inventions at its own expense. "COLLABORATOR" further agrees to grant to the U.S. Government a royalty-free, non-transferable, non-exclusive, irrevocable, paid-up license to practice or have practiced, throughout the world by, or on behalf of the U.S. Government, the Subject Inventions which are covered by said patents. Such non-transferable, non-exclusive license shall be evidenced by a confirmatory license agreement prepared by "COLLABORATOR" in a form satisfactory to The Army. "COLLABORATOR" may release the rights provided for by this paragraph to employee inventors subject to a license in the U.S. Government.

7.3 The Army Employee Inventions. The Army, on behalf of the U.S. Government, shall retain title to each Subject Invention made by its employees. The Army may file patent applications on these Subject Inventions at its own expense. The Army agrees to grant to "COLLABORATOR" a royalty-free, non-transferable, non-exclusive, irrevocable paid-up license to practice or have practiced worldwide by or on behalf of "COLLABORATOR" Subject Inventions covered by any resultant patents. Such non-transferable, nonexclusive license shall be evidenced by a confirmatory document prepared by The Army in a form satisfactory to "COLLABORATOR".

7.4 Joint Employee Inventions. Title to Subject Inventions made jointly by employees of The Army and "COLLABORATOR" shall be held jointly by the US Government and "COLLABORATOR". "COLLABORATOR" shall have the initial option to file patent applications on joint Subject Inventions at its own expense.

7.5 Filing of Patent Applications. The party having the right to retain title and/or file patent applications on a specific Subject Invention may elect to file patent applications thereon, provided it so advises the other party within 90 days from the date it reports the Subject Invention to the other party. In the event that the party having the right to retain title and file patent applications fails to advise the other party within ninety (90) days from the date it reports the Subject Invention of its intent to file a patent application, the other party may elect (but is not required) to file patent applications on such Subject Invention. If the other party elects to file patent applications, the party initially reporting such Subject Invention agrees to assign its rights, title and interest in such Subject Invention to the other party and to cooperate with such other party in the preparation and filing of patent applications thereon. The assignment of the entire right, title and interest to the other party pursuant to this paragraph shall be subject to the retention by the party assigning title of a royalty-free, non-transferable, non-exclusive, irrevocable, paid-up license to practice, or have practiced, the Subject Invention throughout the world. In the event neither of the parties to this Agreement elect to file a patent application on Subject Invention, either or both (if a joint invention) may, at their sole discretion and subject to reasonable condition, release the right to file to the inventor(s) with a license in each party of the same scope as set forth in the immediate preceding sentence.

7.6 Patent Expenses. The expenses attendant to the filing of patent applications as specified above shall be borne by the party filing the patent application. Each party shall provide the other party with copies of the patent applications it files on any Subject Invention, along with the power to inspect and make copies of all documents retained in the official patent application files by the applicable patent office.

7.7 Maintenance Fees. The fees payable to the U.S. Patent and Trademark Office in order to maintain the patent's enforcement will be paid by the party owning the patent, at that party's option. If that party decides not to pay the maintenance fees, it shall notify the other party, who may pay the maintenance fees if it desires to maintain the enforcement of the patent.

7.8 Exclusive License Option. The Army, on behalf of the US Government, hereby agrees to grant to "COLLABORATOR" the option to obtain an exclusive license in each U.S. patent application, and patents issued thereon, covering a Subject Invention, which is filed by The Army on behalf of the US Government subject to a reservation of an irrevocable, royalty-free

license to practice, and to have practiced on behalf of the US Government, the Subject Invention and subject to such other terms and conditions as are specified by The Army in such exclusive license. The period within which "COLLABORATOR" has to exercise this option will not exceed six (6) months from the date The Army files a patent application on any of its Subject Inventions.

7.9 Nothing in this Agreement shall be construed as conferring by implication, estoppel or otherwise any license or right under any patent, copyright, trade secret, trademark or other proprietary right of either party, except as specifically set forth herein.

Article 8. Data and Publication

8.1 Categorization of Data. All data delivered under this Agreement will be categorized as either Protected Data or Unprotected Data. Either Party may categorize any data delivered hereunder as Protected Data unless such data is unprotected as defined in Article 1.41.

Since either Party may categorize any delivered data as Protected Data, it shall be the responsibility of the Party providing data which the Party does not intend to so categorize (that is, Unprotected Data) to secure the verbal concurrence of the recipient Party prior to said delivery so that such data is properly categorized, thereby avoiding erroneous marking of the data in question. In the unlikely event a dispute should arise with respect to proper data categorization, same will be settled pursuant to the Dispute Provision of this Agreement.

8.2 Treatment of Data. Data will be treated in the following manner:

(a) The Parties shall protect, safeguard and hold Protected Data in confidence, shall not use Protected Data other than for the purpose of this Agreement, and shall disclose Protected Data only to those within their employ who have a specific need to know in satisfying the purpose of this Agreement.

(b) Protected Data shall not be copied or duplicated except as is reasonably necessary for satisfying the purpose of this Agreement.

(c) Protected Data will not be released or disclosed to any third party without the written agreement of both Parties.

(d) Notwithstanding (c) above, The Army may release such Protected Data where such release is required pursuant to a request under the Freedom of Information Act (5 U.S.C. Section 552).

(e) Protected Data which is orally disclosed shall be identified as such at the time of disclosure and confirmed in writing within ten (10) days of the disclosure as being Protected Data.

(f) Unprotected Data may be used, copied and disclosed by the Parties for any purpose and in any manner whatsoever.

8.3 Treatment of Copyright in Computer Software and Associated Technical Data. Notwithstanding the foregoing, copyright and other rights in computer software and associated technical data will be treated in the following manner:

8.3.1 Unprotected computer software and associated technical data will be treated in the following manner:

8.3.1.1 "COLLABORATOR" Employee Software. Title to any copyright in software written by "COLLABORATOR" employees in the course of performance of this agreement shall be held by "COLLABORATOR". "COLLABORATOR" agrees to grant to the U.S. Government a royalty-free, non-transferable, non-exclusive, irrevocable, paid-up license to use, modify, reproduce, release, perform, display or disclose, and have or permit others to do so, throughout the world by, or on behalf of the U.S. Government, said software and associated technical data.

8.3.1.2 Joint Employee Software. Title to any copyright in software written jointly by "COLLABORATOR" and The Army employees in the course of performance of this Agreement shall be held by "COLLABORATOR". "COLLABORATOR" agrees to grant to the U.S. Government a royalty-free, non-transferable, non-exclusive, irrevocable, paid-up license to use, modify, reproduce, release, perform, display or disclose, and have or permit others to do so, throughout the world by, or on behalf of the U.S. Government, said software and associated technical data.

8.3.1.3 The Army Employee Software. Software written by The Army employees in the course of performance of this Agreement is not copyrighted but is considered to be the property of The Army. The Army agrees to grant to "COLLABORATOR" a royalty-free, non-transferable, non-exclusive, irrevocable, paid-up license to use, modify, reproduce, release, perform, display or disclose, and have or permit others to do so, throughout the world by, or on behalf of "COLLABORATOR", said software and associated technical data.

8.3.2 Protected computer software and associated technical data will be treated in the following manner:

8.3.2.1 "COLLABORATOR" Employee Software. Title to any copyright in software written by "COLLABORATOR" employees in the course of performance of this agreement shall be held by "COLLABORATOR". "COLLABORATOR" agrees to grant to the U.S. Government a royalty-free, non-transferable, non-exclusive, irrevocable, paid-up license to use, modify, reproduce, release, perform, display or disclose, and have or permit others to do so, throughout the world by, or on behalf of the U.S. Government, said software and associated technical data only for the purposes of this Agreement. Any other use is prohibited unless authorized in writing by a responsible representative of "COLLABORATOR".

8.3.2.2 Joint Employee Software. Title to any copyright in software written jointly by "COLLABORATOR" and The Army employees in the course of performance of this Agreement shall be held by "COLLABORATOR". "COLLABORATOR" agrees to grant to the U.S. Government a royalty-free, non-transferable, non-exclusive, irrevocable, paid-up license to use, modify, reproduce, release, perform, display or disclose, and have or permit others to do so, throughout the world by, or on behalf of the U.S. Government, said software and associated technical data.

8.3.2.3 The Army Employee Software. Software written by The Army employees in the course of performance of this Agreement is not copyrighted but is considered to be the property of The Army. The Army employee software is provided to "COLLABORATOR" with the following rights and restrictions:

- (a) "COLLABORATOR" may use this software only for the purposes of this Agreement;
- (b) "COLLABORATOR" shall not copy this software without the prior written consent of the USACERDEC Director or his or her designee; and
- (c) "COLLABORATOR" shall not distribute, license or sublicense this software to third parties.

8.4 Limited Scope. "COLLABORATOR" shall retain ownership in any software or algorithms to which "COLLABORATOR" has title prior to this agreement.

8.5 Marking of Data. Data categorized as Protected Data will be so marked at the time of its delivery to the recipient Party. Such data will be marked with the following legend:

"Protected Data under Agreement -----

Copying, modification, use and disclosure are not permitted except as may be authorized by that Agreement."

Unprotected Data will be marked with the following legend:

"This data is unprotected and may be copied, modified, used and disclosed without restriction."

8.6 Publication of Data. The Army and "COLLABORATOR" agree to confer and consult prior to the publication of data so as to insure that Protected Data is not released and that patent rights are not jeopardized. Prior to submitting a manuscript for review which contains the results of the research under this Agreement, or prior to publication if no such review is made, each party shall have sixty (60) days to review such proposed publication and to file patent applications in a timely manner, if it is so entitled under this Agreement.

8.7 Use of Name or Endorsements.

(a) "COLLABORATOR" shall not use the name of, or refer to, The Army, the U.S. Army, the CERDEC or the U.S. Government on any product, data, writing, advertisement, promotion, solicitation or service which is directly or indirectly related to either this Agreement or any patent license or assignment associated with, or implements this Agreement without the prior written approval of The Army.

(b) By entering into this Agreement, The Army does not directly or indirectly endorse any product, data or service provided, or to be provided, by "COLLABORATOR", its successors, assignees, or licensees.

(c) "COLLABORATOR" shall not in any way use, refer to, or imply that this Agreement or the results thereof, or that the involvement and participation by The Army, the U.S. Army, the CERDEC or the U.S. Government, is an endorsement of any such product, data or service.

8.8 Export Control. The Parties acknowledge that research findings and technology developments arising under this Agreement may constitute a significant enhancement to the national defense and, therefore, may be subject to various U.S. export laws and regulations. These statutes and regulations impose restrictions on the import, export and transfer to foreign persons, foreign businesses and/or third countries of certain categories of data, and may require that licenses from the U.S. Department of State and/or the U.S. Department of Commerce be obtained before such data can be disclosed.

Article 9. Representations and Warranties

9.1 Representations and Warranties of The Army. The Army hereby represents and warrants to "COLLABORATOR" as follows:

9.1.1 Organization. The Army is an Agency of the Government of the United States whose substantial purpose is the performance of research, development, and engineering by employees of the Government.

9.1.2 Mission. The performance of the activities specified by this Agreement is consistent with the mission of The Army.

9.1.3 Authority. Reviews and approvals required by regulations or law have been obtained by The Army prior to the execution of this Agreement. The Army official executing this Agreement has the requisite authority to do so. Notwithstanding the delegation of authority to execute this Agreement to the individual designated, the Secretary of the Army has reserved to the Assistant Secretary of Army (Research, Development and Acquisition) the opportunity provided by 15 USC 3710(a)(c)(5)(A), to disprove or require the modification of this Agreement within 30 days of the date it is presented to him or her by The Army.

9.1.4 Statutory Compliance. The Army's Director, prior to entering into this Agreement, has given special consideration to the entering into CRADAs with small business firms and consortia involving small business firms.

9.2 Representations and Warranties of "COLLABORATOR". "COLLABORATOR" hereby represents and warrants to The Army as follows:

9.2.1 Organization. "COLLABORATOR", as of the date hereof, is a corporate entity, validly existing and in good standing under the laws of a State or Commonwealth of the United States.

9.2.2 Power and Authority. "COLLABORATOR" has the requisite power and authority to enter into this Agreement and to perform according to the terms thereof.

9.2.3 Due Authorization. "COLLABORATOR" has taken all actions required to be taken by law, its Certificate or Articles of Incorporation, and its bylaws or otherwise, to authorize the execution and delivery of this Agreement.

9.2.4 No Violation. The execution and delivery of this Agreement does not contravene any material provision of, or constitute a material default under, any material agreement binding on "COLLABORATOR" or any valid order of any court, or any regulatory agency or other body having authority to which "COLLABORATOR" is subject.

Article 10. **Termination**

10.1 Termination by Mutual Consent. "COLLABORATOR" and The Army may elect to terminate this Agreement, or portions thereof, at any time by mutual consent. In such an event, the parties shall specify the disposition of all property, patents, any other results of work accomplished or in progress, arising from or performed under this Agreement when such disposition is not otherwise specified in this Agreement. Upon a termination by mutual consent, the parties shall not make any new commitments and shall, to the extent feasible, cancel all outstanding commitments that relate to this Agreement or portions thereof mutually terminated, by the termination date, or as soon thereafter as feasible.

10.2. Termination by Unilateral Action. Either party may unilaterally terminate this entire Agreement at any time by giving the other party written notice, not less than 30 days prior to the desired termination date. If "COLLABORATOR" unilaterally terminates this Agreement, any exclusive license entered into by the parties shall be simultaneously terminated unless the parties agree to retain such exclusive license.

10.3 Obligations. All obligations to protect Protected Data from unauthorized use or disclosure shall survive any termination or expiration of this Agreement.

Article 11. **Disputes**

11.1 Settlement. "COLLABORATOR" and The Army recognize that disputes arising under this Agreement are best resolved at the local working level by the parties directly involved. Both parties are encouraged to be imaginative in designing mechanisms and procedures to resolve disputes at this level. Any dispute arising under this Agreement which is not disposed of by agreement of the parties at the working level shall be submitted jointly to the then head of The Army or his or her designee and the head of "COLLABORATOR" or his or her designee for resolution.

11.2 Continuation of Work. Pending the resolution of any dispute or claim pursuant to this Article, the parties agree that performance of all obligations shall be pursued diligently in accordance with the relevant SOW.

Article 12. **Liability**

12.1 Property. Bailment Agreements shall be written as required for transfer of property from one party to the other. The U. S. Government nor the Collaborator shall not be responsible for damages to any property of "COLLABORATOR" provided to The Army or acquired by "COLLABORATOR" pursuant to this Agreement.

12.2 "Collaborator's Employees." "COLLABORATOR" agrees to indemnify and hold harmless the U.S. Government for any loss, claim, damage, or liability of any kind involving any employee of "COLLABORATOR" arising in connection with this Agreement, except to the extent that such loss, claim, damage or liability arises from the negligence of The Army or its employees. The U. S. Government shall be solely responsible for the payment of all claims for the loss of property, personal injury or death, or otherwise arising out of any negligent act or omission of its employees in connection with the performance of work under this Agreement, as specified in the provisions of the Federal Tort Claims Act.

12.3 No Warranty. Except as specifically stated in Article 9, The Army makes no express or implied warranty as to any matter whatsoever, including the conditions of the research or any invention or product or data exchanged, whether tangible or intangible, without limitation, made, or developed under this Agreement, or the ownership, merchantability, or fitness for a particular purpose of the research or any invention or product. A clause to this effect shall be included in any reports generated under this Agreement.

12.4 Force Majeure. Neither party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such party, which causes such party to be unable to perform its obligations under this Agreement and which it has been unable to overcome by the exercise of due diligence, including, but not limited to: flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot, civil disturbance or disobedience, strikes, labor dispute, or failure, threat of failure, or sabotage of facilities, or any order or injunction made by a court or public agency. In the event of the occurrence of such force majeure event, the party unable to perform shall promptly notify the other party. It shall further use its best efforts to resume performance as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

12.5 Indemnification. "COLLABORATOR" holds the U.S. Government harmless and indemnifies the U. S. Government for all liabilities, demands, damages, expenses and losses arising out of the use by "COLLABORATOR", or any party acting on its behalf or under its authorization, of the Army's research and technical developments or out of any use, sale or other disposition by "COLLABORATOR", or others acting on its behalf or with its authorization, of products made by the use of the Army's technical developments, except that such liabilities, demands, damages, expenses and losses arises from the negligence or wrongful misconduct of the Army or its employees. This provision shall survive termination of this Agreement.

12.6 Assignment of Personnel. It is contemplated that each Party may assign personnel to the other Party's facility as part of this AGREEMENT. Such personnel assigned by the assigning Party, to participate in or observe the research to be performed under this AGREEMENT, shall not, during the period of such assignments, be considered employees of the receiving Party for any purposes.

- (a) The receiving Party shall have the right to exercise routine administrative and technical supervisory control of the occupational activities of such personnel during the assignment period and shall have the right to approve the assignment of such personnel and/or to later request their removal by the assigning Party.
- (b) The assigning Party shall bear all costs and expenses with regard to its personnel assigned to the receiving Party's facilities under this AGREEMENT. The receiving Party shall bear the costs of providing reasonable use of related facilities and workspaces as necessary in the execution of this AGREEMENT. Each Party agrees to use due care while on the other's premises, to comply with all security, environmental safety and health rules and regulations during its visit, and to enter only those areas previously designated by those in charge of its visit.

Article 13. **Miscellaneous**

13.1 No Benefits. No member of, or delegate to, the United States Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, nor to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

13.2 Governing Law. The construction validity, performance and effect of this Agreement for all purposes shall be governed by the laws applicable to the Government of the United States.

13.3 Entire Agreement. This Agreement constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes any prior understanding or written or oral agreement relative to said matter. Conflicting terms appearing in the attached SOWs shall have no effect.

13.4 Headings. Titles and headings of the Sections and Subsections of this Agreement are for the convenience of references only and do not form a part of this Agreement and shall in no way affect the interpretation thereof.

13.5 Waivers. None of the provisions of this Agreement shall be considered waived by any party hereto unless such waiver is given in writing to all other parties. The failure of any party to insist upon strict performance of any of the terms and conditions hereof, or failure or delay to exercise any rights provided herein or by law, shall not be deemed a waiver of any rights of any party hereto.

13.6 Severability. The illegality or invalidity of any provisions of this Agreement shall not impair, affect or invalidate the other provisions of this Agreement.

13.7 Amendments. If either party desires a modification in this Agreement, the parties shall, upon reasonable notice of the proposed modification by the party desiring the change, confer in good faith to determine the desirability of such modification. Such modification shall not be effective until a written amendment is signed by all the parties hereto by their representatives duly authorized to execute such amendment.

13.8 Assignment. Neither this Agreement nor any rights or obligations of any party hereunder shall be assigned or otherwise transferred by either party without the prior written consent of the other party except that "COLLABORATOR" may assign this Agreement to the successors or assignees of a substantial portion of "COLLABORATOR" business interests to which this Agreement directly pertains.

13.9 Notices. All notices pertaining to or required by this Agreement shall be in writing and shall be signed by an authorized representative and shall be delivered by hand or sent by certified mail, return receipt requested, with postage prepaid, or by private overnight delivery service, addressed as follows:

If to "Navmar Applied Sciences Corporation"

Ms. Karen Gallelli
65. W Street. Rd.
Warminster, PA 18974

If to Army:

Mr. Michael Zelenka
ATTN: AMSEL-LG-L
U.S. Army Communications-Electronics Command
Fort Monmouth, NJ 07703-5000

Any party may change such address by notice given to the other party in the manner set forth above.

13.10 Independent Contractors. The relationship of the parties to this Agreement is that of independent contractors and not as agents of each other or as joint venturers or Collaborators. Each party shall maintain sole and exclusive control over its personnel and operations.

Article 14. Duration of Agreement and Effective Date

14.1 Duration of Agreement. It is mutually recognized that the development program cannot be rigidly defined in advance, and that the contemplated time periods for completion of each phase are good faith guidelines, subject to adjustment by mutual agreement, to fit circumstances as the development program proceeds. In no case will this Agreement extend beyond five (5) year(s) from the date of this Agreement, unless it is revised in accordance with Article 13 of this Agreement.

The provisions of Article 3 - "Reports; Article 5 - "Title to Property"; Article 6 - "Disposal of Toxic or Other Waste"; Article 7 - "Inventions and Patents"; Article 8 - "Data and Publications"; and Article 12.5 - "Indemnification" shall survive the termination of this Agreement.

14.2 Effective Date. In the event that this CRADA is with a foreign entity, as defined in Executive Order 12591, or involves the receipt of more than \$1 million in funds in any one year from the non-Federal Collaborator, then this document must be submitted to the Army Domestic Technology Transfer Program (ADTTP) Manager, Army Research Laboratory, ATTN: AMSRL-TT, 2800 Powder Mill Road, Adelphi, MD 20783-1197 and to the Intellectual Property Counsel of The Army (IPCA), Office of the Judge Advocate General, ATTN: JALS-IP, 901 North Stewart Street, Arlington, VA 22203-1837, for review. Receipt of this document by the Domestic Technology Transfer Program Manager and by the Intellectual Property Counsel of The Army will begin a THIRTY (30) day period during which the AGREEMENT may be disapproved or modification required.

The effective date of this Agreement shall be the latest date of execution below.

IN WITNESS WHEREOF, the parties have caused this AGREEMENT to be executed by their duly authorized representative as follows:

Approved by:

U.S. Army Research, Development, and
Engineering Command, Communications-Electronics
Research, Development and Engineering Center

Navmar Applied Sciences Corp.

By: [Signature]
Jill H. Smith
CERDEC Director

By: [Signature]
Karen Gallelli
Contract Manager

Date: 7 March 2011

Date: 12/17/2010

Intelligence and Information Warfare Directorate

By: [Signature]
Anthony Lisuzzo
I2WD Director

Date: 14 JANUARY 2011

Statement of Work

Perform test flights of an I2WD System* on a Navmar UAS to assess system capabilities and warfighter benefits

Abstract

Phase 1

Payload Integration and Test

I2WD and Navmar will perform integration of I2WD provided payload into a Navmar UAS (Mako and/or TigerShark) and perform test flights on an I2WD approved and provided test range.

I2WD and Navmar will provide the required personnel support (engineering and analysts) to facilitate the analysis and dissemination of data products.

UAS Requirements Analysis

Mission Requirements:

I2WD and Navmar will: compile and review the Mission Requirement for a UAS and provided payload; identify the required outputs and users; develop notional CONOPS for the UAS and provided payload; develop a high level systems specification; and synthesize a system architecture detailing interfaces and data flows.

Sensor Analysis:

I2WD and Navmar will: define the sensor requirements (EO/IR, RADAR, Electronic Surveillance, Electronic Attack, Multi-Function Threat Detector etc.) as applicable; define integrating software requirements, and develop best fit requirement for each of the available sensors (range, resolution, SWAP, interface, processing etc.).

Communications Analysis:

I2WD and Navmar will: define the communications equipment necessary to meet both the Mission and payload requirements (SATCOM, TCDL, ARC-210, Link 16 etc.); perform a trade study analysis of the best currently available communications systems from all potential manufactures; develop best fit requirement for each of the available communications systems (range, data rate, SWAP, interface etc.); develop a model of the communications suite to support Co-Site Mitigation; and plan the integration with ground base installations.

Aircraft Analysis:

Navmar will define requirements for UAS airframe to support overall mission with particular attention to the payload and communications suites.

Cosite Mitigation:

I2WD and Navmar will perform a first stage cosite mitigation analysis of the payload and communications as mounted on the UAS and list spectral issues and suggest potential resolutions (passive and active mitigation, time and spectral domain etc.)

Publish:

I2WD and Navmar will publish and release the study and present to stake holders.

Phase 2

Signal Intelligence Integration and Test

I2WD and Navmar will perform integration of I2WD provided SIGINT payload into a Navmar UAS. The task will include test flights utilizing an integrated payload (SIGINT(ES & EA), EO/IR, RADAR, MFTD and Communications Suite) on an I2WD approved and provided test range. In theater testing may be added if required.

I2WD and Navmar will provide the required personnel support (engineering and analysts) to facilitate the analysis and dissemination of data products.

Verification and Validation of UAS Requirements Analysis

I2WD and Navmar will perform full verification and validation of UAS Requirements utilizing test results of UAS test flights, includes any modifications and recommendations for future upgrades. I2WD will publish and release full report.

* I2WD will arrange for the use of a Payload for this effort.

Workshare Agreement

Task	CERDEC	Navmar
Phase 1		
SCI Billets	Provide SCI Billets for integration and requirements analysis personnel as required.	Provide integration and requirements analysis personnel to fill as needed billets
Integration and Test	Arrange for a payload, lead integration and provide required documentation for Navmar Integration support personnel.	Provide technical support for payload requirements analysis and interfaces
Mission Requirements	Lead -Interface with Army requirements and other military organizations to develop CONOPS and requirements for UAS under test.	Provide technical support for CONOPS
Sensor Analysis	Lead – Perform system requirements. Support – EO/IR and RADAR analysis	Provide technical support for system requirements, EO/IR and radar analysis
Communications Analysis	Support- Analysis of communication alternative. Provide interface support to UAS.	Provide technical support for communication analysis
Aircraft Analysis	Support- Provide technical support and interface with primary requirements stakeholders (UAS Center of Excellence, TCM, G2, G3 etc.)	Lead - Perform UAS requirements and performance analysis
Cosite Mitigation	Support- Provide history of previous Cosite Mitigation issues and resolutions	Provide technical support for Cosite Mitigation and issues resolution
Publish	Lead – Present to requirements organizations throughout the military. Support – Review, recommend and approve all publications	Provide support to presentation and publication generation.
Phase 2	TBD	TBD