

UNCLASSIFIED

Cooperative Research and Development Agreement (CRADA) Handbook



National Geospatial Intelligence Agency (NGA) Industry Outreach Division (IDO)

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Table of Contents

| | | |
|-------|--|----|
| 1 | Introduction..... | 2 |
| 1.1 | Background | 2 |
| 1.2 | Technology Transfer at NGA..... | 2 |
| 2 | NGA CRADA Information..... | 3 |
| 2.1 | CRADA Infrastructure | 3 |
| 2.1.1 | Definition | 3 |
| 2.1.2 | Authority | 4 |
| 2.2 | Potential CRADA Benefits | 6 |
| 2.2.1 | Benefits to Both Partners | 6 |
| 2.2.2 | Benefits to the Collaborator | 6 |
| 2.2.3 | Benefits for NGA..... | 7 |
| 2.3 | Creating a Partnership | 7 |
| 2.4 | NGA Needs and Priorities..... | 7 |
| 2.5 | CRADA Process..... | 8 |
| 2.5.1 | Phase 1 (Steps 1 and 2)..... | 9 |
| 2.5.2 | Phase 2 (Steps 3 and 4)..... | 10 |
| 2.5.3 | Phase 3 (Steps 5 thru 7) | 10 |
| 2.5.4 | Phase 4 (Steps 8 and 9)..... | 11 |
| 2.5.5 | Phase 5 (Steps 10 thru 12) | 11 |
| 3 | Summary..... | 11 |
| | Attachment 1: CRADA Inquiry Form | 12 |
| | Attachment 2: Basic Agreement | 13 |
| | Attachment 3: Research Plan | 28 |
| | Attachment 4: NGA CRADA Annual Report Template | 38 |

1 Introduction

Welcome to the National Geospatial-Intelligence Agency's (NGA) Cooperative Research and Development Agreement (CRADA) Program. The purpose of this CRADA handbook is to provide general information to potential commercial or academic partners pursuing a CRADA effort with NGA. For more information please see our NGA website (<https://www1.nga.mil/Partners/CooperativeAgreements/Pages/default.aspx>) or contact us directly at crada@nga.mil.

1.1 Background

The National Geospatial-Intelligence Agency (NGA) is a Department of Defense (DoD) combat support agency and a member of the national Intelligence Community (IC). NGA develops imagery and map-based intelligence solutions for U.S. national defense, homeland security and safety of navigation. Formed in 1996 as the National Imagery and Mapping Agency (NIMA) its goal was to centralize responsibility for imagery and mapping. In late 2003, NIMA was renamed the National Geospatial-Intelligence Agency (NGA) to better reflect its main mission of geospatial intelligence (GEOINT) analysis.

Today, NGA provides timely, relevant and accurate geospatial intelligence in support of national security objectives. The term GEOINT means the exploitation and analysis of imagery and geospatial information to describe, assess and visually depict physical features and geographically referenced activities on the Earth. Geospatial intelligence consists of imagery, imagery intelligence and geospatial (e.g., mapping, charting and geodesy) information.

Information collected and processed by NGA is tailored for customer-specific solutions. By giving customers ready access to GEOINT, NGA provides support to civilian and military leaders and contributes to the state of readiness of U.S. military forces. The Agency also contributes to humanitarian efforts, such as tracking floods and disaster support, and to peacekeeping operations. Leveraging commercial technology through industry and academic partnerships is a critical component of the NGA investment strategy and business plan, and a fundamental aspect of NGA's technology transfer program.

Within NGA, the InnoVision Directorate has the mission to perform scientific research as well as help transition innovative concepts and capabilities into solutions for the most complex and enduring hard problems for NGA and NSG analysts and their customers. InnoVision's research partnerships with industry and academia are key to making this happen.

1.2 Technology Transfer at NGA

NGA defines Technology Transfer (T2) as "The intentional communication or formal sharing of knowledge, expertise, facilities, equipment, intellectual property and/or other resources to

support public and private interests. T2 activities include transfer of technology from government to non-government entities (spin-off) and the transition of technology from non-governmental entities to governmental organizations (spin-on)”. (Source reference: NGA Instruction 3200.1R8, dated 12 July 2013, *Glossary*.)

NGA’s T2 efforts are centered on the following programs:

- Cooperative Research and Development Agreement (CRADA)
- In-Q-Tel (IQT)
- NGA Academic Research Program (NARP)
- Small Business Innovation Research (SBIR)
- Visiting Scientist Program (VSP)
- State and Local Government partnerships
- Other Transactions Agreements (OTA)

The objective of the CRADA program is to make the best possible use of national scientific and technical capabilities that could enhance the industrial competitiveness of the United States and increase the effectiveness of the DoD forces and systems. In implementing CRADA authority NGA seeks to advance the national security mission and invest in the capabilities of the industrial base. The office within NGA that manages CRADAs resides within the InnoVision Directorate, Office of Advanced Development, Industry Outreach Division (NGA/IDO).

2 NGA CRADA Information

2.1 CRADA Infrastructure

2.1.1 Definition

The CRADA is a principal mechanism used by NGA to engage in collaborative efforts with non-federal partners to achieve the goals of technology transfer. It is not an acquisition or procurement vehicle; therefore, it does not come under the control of the Federal Acquisition Regulation (FAR), nor is the Competition in Contracting Act (CICA) of 1984 applicable. It is a written agreement between a government agency and a non-federal entity in which research and development knowledge, facilities, resources, or capabilities are used in cooperation to the mutual benefit of both private and government sectors. ***By law, NGA is not permitted to contribute funds to the collaborating partner in support of the CRADA.***

Both CRADA parties, government and vendor, benefit by getting new capabilities incorporated into commercial products to serve NGA and the wider GEOINT, geospatial, and remote sensing communities. There are multiple ways to affect this transition of technologies including patents

and licensing, modifications of government-developed software for inclusion in commercial products, and negotiating with other vendors or primes for inclusion of the capability.

The NGA CRADA program office works with our partners to provide the individual attention that each technology requires. This includes engaging with the Partner principal investigator (PI), technical point of contact, and industry to identify and enable potential transfer opportunities. One goal of the CRADA is to ensure that the developed technology is ready to enhance NGA's mission and contribute to ensuring US national security. Any use of NGA funds to acquire technology must comply with the Competition and Contracting Act.

NGA can use the CRADAs platform to transfer (or 'Spin-Out') NGA technology, information, and expertise to the private sector, and/or to transfer (or 'Spin-In') commercial technology and expertise to advance NGA's vision and enhance NGA's operations. Particular emphasis is placed on R&D initiatives consistent with the National System for Geospatial Intelligence (NSG) technical reference model and associated standards in the NSG technical architecture.

A CRADA is a flexible agreement. Both parties enter into the agreement with the intention to complete the tasks defined. However, if either party finds the tasks impossible to complete because of technical difficulties or diminished resources, discovers the tasks cannot be completed per expectation, or that there is no longer the interest in the technology transfer, the agreement can be amended or cancelled. Both parties can also add additional tasks if there is mutual agreement.

As a reminder, NGA's CRADA program and any current or planned acquisition effort are separate and distinct activities. NGA does not provide funding to participants under the CRADA program; the fact of having a CRADA agreement with NGA is not a guarantee for any future NGA acquisition or funding of partner technology.

2.1.2 Authority

NGA operates its CRADA program under the auspices of The Federal Technology Transfer Act of 1986, specifically the U.S. Code 15 USC 3710A, which authorizes private industry, state and local governments, and academic institutions access to federal labs for collaborating on R&D projects. The Director of NGA's InnoVision Directorate holds signature authority for all CRADA agreements entered into by the Agency.

The NGA government CRADA team consists of a program manager (PM) from the CRADA Program Office, an attorney from the Office of General Counsel (OGC), the Principal Investigator (PI) who may serve as a technical point of contact (POC), and a security office POC. Other CRADA members from the Government may include a procurement office POC, commercial office POC, and additional technical consultants.

| Table 2.1 CRADA Team Responsibilities | |
|--|---|
| CRADA PM | <ul style="list-style-type: none"> • Provides the expertise and guidance regarding the use and application of the CRADA to specific partner relationships and collaborative technology developments • Serves as a focal point to bring together potential partners with NGA offices for the purpose of conducting collaborative R&D • Manages the programmatic, management, and administrative support to enable and sustain CRADA process, such as: <ul style="list-style-type: none"> ○ Completing documentation and coordinating the execution of the CRADA ○ Assisting with the technology transfer ○ Assisting the PI in documenting exchanges of information ○ Coordinating the use of NGA resources and personnel ○ Monitoring activities and progress ○ Maintaining regular contact with the PI and partners and reporting accomplishments to NGA |
| NGA PI | <ul style="list-style-type: none"> • Secures management approval to pursue a CRADA and provides PM with the name and date of management concurrence • Coordinates with partners and PM to develop Research Plan (RP) <ul style="list-style-type: none"> ○ Formulates the research and development efforts with the collaborator PI, executes the collaboration and documents the results in the Research Plan ○ Coordinates with partners and PM on exchanges of information and technology • Develops metrics that are specific to the individual CRADA, and conveys these and general CRADA metrics to collaborator PI. • Manages completion of research tasks as identified in the research plan • Secures resources (systems, access, data, space, software etc.) to complete tasks for all CRADA personnel • Provides technical oversight and guidance during the execution of the CRADA • Provides inputs for reports as required, including metrics for semi-annual status reviews • Sets up, attends, and chairs regular technical exchange meetings (TEMs) with between Partner and NGA • Must be a government employee with the capacity to make decisions and commit resources |
| OGC | <ul style="list-style-type: none"> • Works with the NGA team and the industry or academic partner to build the legal foundation for the CRADA • Provides the CRADA team with legal guidance in the development of the RP • Preserves NGA's interests, ensures the law is properly applied to each relationship, and provides guidance regarding any quid-pro-quo offered by an industry or academic partner |

| | |
|------------|---|
| | <ul style="list-style-type: none"> • Supports the NGA team during the intellectual property rights negotiation process |
| Security | <ul style="list-style-type: none"> • Responsible for the development of the security requirements and provisions required in support of the CRADA • Prepares the DD-254 and attachments as enclosures to the CRADA • Coordinates with the Agency's security apparatus to facilitate the CRADA Partner's personnel nominations for facility and network accesses |
| Partner PI | <ul style="list-style-type: none"> • Works with NGA counterparts to develop a RP that identifies research and development that will further their own interests as well as the mission and tradecraft of the Government • Fills out the NGA CRADA Inquiry Form to broadly define the desired CRADA research and development effort, and forwards it to the CRADA Team for review • Supports the NGA PM and PI in the day-to-day execution of the CRADA <ul style="list-style-type: none"> ○ Formulates the research and development efforts with the NGA PI, executes the collaboration and documents the results in the Research Plan ○ Coordinates with NGA and CRADA PM on exchanges of information and technology • Attends status update meetings or teleconferences • Submits an Annual CRADA report using a template provided by the PM. |

The partner CRADA team consists of a corporate POC, a PI, and generally a technical POC. As required, other team members may be added. See Table 2.1, for CRADA Team responsibilities.

2.2 Potential CRADA Benefits

Below is a list of general benefits of entering into a CRADA with NGA. This list is not all inclusive.

2.2.1 Benefits to Both Partners

- Opportunity to apply additional resources against a technical problem
- Expanded technology base
- Established operational transition paths
- Protected sensitive information

2.2.2 Benefits to the Collaborator

- Direct insight into NGA data, data standards, and processes
- Opportunity to work with technical experts using advanced tools and technologies in a production environment
- Opportunity to expand geospatial capabilities

- Protection of trade secrets
- Access to secure facilities, if required
- Access to secure networks, if required

2.2.3 Benefits for NGA

- Hands-on access to leading edge commercial off-the-shelf (COTS) tools and technologies
- Opportunity to incorporate requirements into COTS products and services
- Direct insight into industry and academia expertise and best practices
- Potential to create new collaboration opportunities outside of the CRADA

2.3 Creating a Partnership

CRADAs can be initiated in these ways:

- Industry, Academic, or Non-Profit Organization partner contacts NGA with a potential innovation, which maybe the result of:
 - A white paper submitted to NGA's Industry Interaction Program (IIP), which is passed to the CRADA Office
 - Connected association with NGA mission and the partner's area of expertise
 - Connection of interest from an industrial or academic forum or presentation
- NGA reaches out to commercial industry or academia with a need resulting from the Agency:
 - Seeking out a particular vendor or institution that specializes in a specific technology or field of study
 - Learning of a new development with an innovative promise that would further its mission or tradecraft
 - Issuing a Broad Area Announcement (BAA) in the Commerce Business Daily or other advertisement that solicits a collaborative CRADA relationship to resolve an issue or satisfy a need

2.4 NGA Needs and Priorities

As noted above, the CRADA program is able to both support commercialization of NGA developed technologies and ready external technology for potential insertion into NGA systems, operations, and customer environments (e.g., NSG).

NGA is specifically looking for partners to perform joint research in technologies that directly support our core mission areas which include:

- Strategic Intelligence
- Warfighter Support

- Counterterrorism
- Counter proliferation
- Cyber Warfare
- Homeland Security
- Safety of Navigation
- Humanitarian Relief
- Foundation Data
- Intelligence Synergy

2.5 CRADA Process

The CRADA process consists of five separate phases, entailing a total of 12-steps taken between NGA and the CRADA Partner to bring a CRADA to fruition (see Figure 1, CRADA Process). Key to the CRADA's success throughout the 12-steps is consistent communication between the government and the partner PIs. Due to the wide variety of the research undertaken by the NGA CRADA program, each agreement will have its own management plan; however, regular technical exchange meetings (TEMs), Program Reviews, and status meetings will be hosted by the PM at least once a month to ensure adequate communication between the CRADA research team members. In addition, the CRADA Annual Report (see Attachment #4, *NGA CRADA Annual Report Template*) captures accomplishments, key participants, outstanding issues, and quantifiable expenditures such as materials and labor costs. It is completed by the CRADA Partner every year on the anniversary of the CRADA start date.

In general, the collaborative nature of CRADA research should recognize and incorporate new ideas and/or potential changes in scope research progresses. It is the responsibility of both the NGA and the Partner PIs to document these changes on the CRADA SharePoint site, and to report them to the CRADA PM during the regularly scheduled TEMs.

CRADA Process

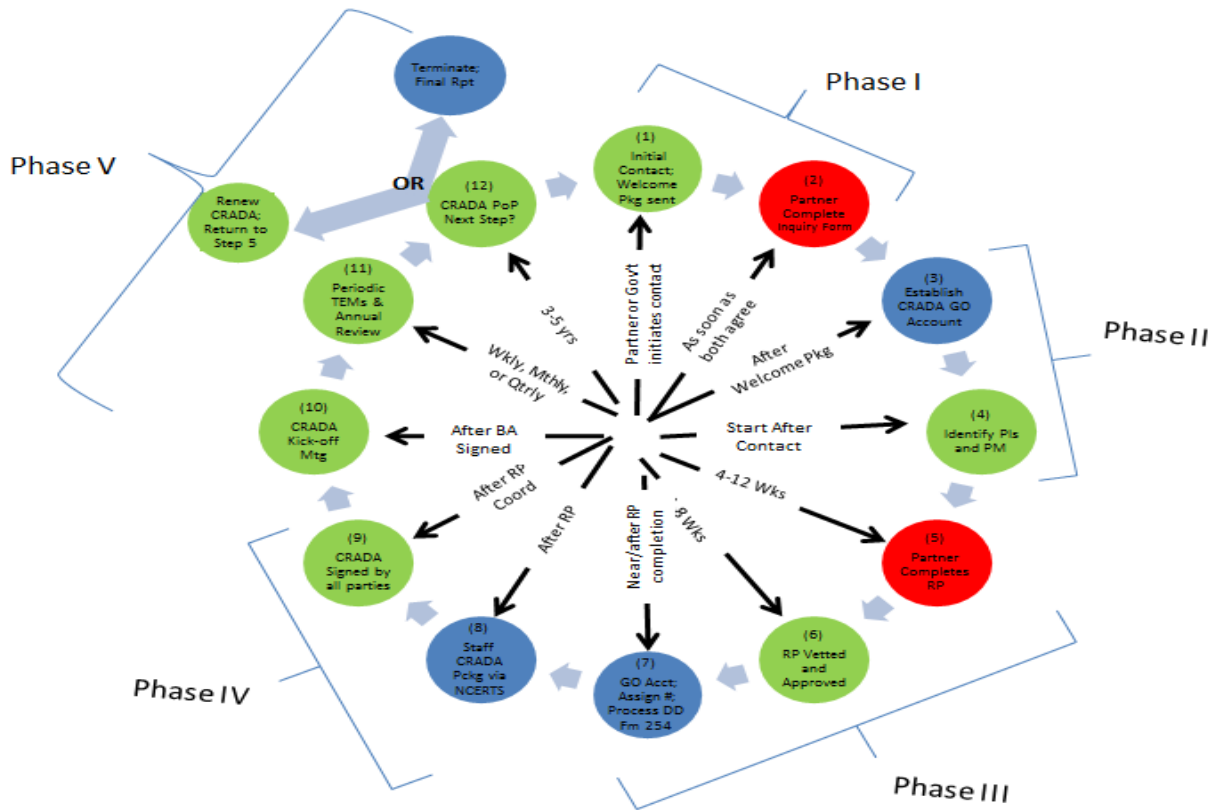


Figure 2.1

2.5.1 Phase 1 (Steps 1 and 2)

After initial contact between NGA and a CRADA Partner (see, para 2.3 [“Creating a Partnership”](#)), the “Welcome Package” is sent to the Partner, and consists of four documents:

- **CRADA Program Brochure:** This brochure provides a general synopsis of the NGA CRADA Program.
- **NGA CRADA 101 Presentation:** This presentation provides a general synopsis of the InnoVision Industry Outreach function and the NGA CRADA Program.
- **NGA CRADA Handbook:** This handbook provides a more detailed description of the NGA CRADA Program, and it contains examples of NGA’s basic CRADA legal agreement (BA) and research plan (RP) template. *NOTE: An editable version of these templates will be sent to the Inquiry Form (below) is returned to NGA.*
- **NGA CRADA Inquiry Form:** This form will provide NGA a basic background of your potential CRADA.

The Partner must complete and return the Inquiry Form before any further exchange on the CRADA can begin.

2.5.2 Phase 2 (Steps 3 and 4)

The CRADA Office receives the Partner's Inquiry Form. It is reviewed, vetted by the CRADA Team and posted on the CRADA GEOINT Online (GO) SharePoint site. PIs and a PM should be identified by this time.

All CRADAs require a principal investigator from within NGA who is a government employee. The CRADA office PM will work with the Partner to try to find a NGA PI. However this search may not be successful if there is not sufficient interest or resources.

Access to the GO site is granted only to the CRADA Partner's key members (e.g., PI, security officer, lead technicians, CEO) as well as to the CRADA Office.

2.5.3 Phase 3 (Steps 5 thru 7)

Once the NGA and Partner PIs have been identified, they work together to craft the details of the Research Plan (RP). The RP is instrumental to the success of the CRADA, requiring close cooperation of Government and CRADA Partner PIs. The PIs must ensure the RP:

- Identifies the unique attributes of the CRADA effort and defines goals
- Provides the statement of work with tasks to be performed
- Identifies work that is solely research or development, not procurement
- Defines tasks as independent or interrelated
- Identifies any task which requires unique resources
- Clearly identifies all tasks that can be completed within a reasonable time frame
- Identifies benefits to each party
- Identify potential insertion points for CRADA technology development
- Identifies the resources/facilities required by each party
- Lists the period of performance, points of contacts (Government and Partner
- Provides the schedules and milestones
- Discusses security requirements and provisions required
- Contains the NGA policy provisions regarding the release of NGA imagery and geospatial data required
- Contains a title that cites a clear and concise objective

The draft RP is and edited by the assigned CRADA Office PM, and vetted by the rest of the CRADA Team. The RP is then sent to NGA's Office of General Counsel (OGC) attorney for review and comment. (Note the NGA attorney is available for phone or email contact should the

CRADA partner have legal questions or seek to discuss legal issues regarding terms of the proposed research agreement.) Once the agreement reaches this point, a unique CRADA identifier is created and added to the Partner's GO Site page.

2.5.4 Phase 4 (Steps 8 and 9)

The NGA comments are incorporated into the RP and forwarded to the CRADA Partner for approval. If the Partner proposes any additional changes, it is sent back to the OGC legal representative for further review. However if there are no further comments to the RP, then a CRADA coordination package is compiled and formally sent through NGA's internal review and approval system. Pre-briefs outlining the proposed research effort are offered to both the NGA CRADA management structure as well as to those NGA Offices providing directly support to the proposed CRADA research effort.

2.5.5 Phase 5 (Steps 10 thru 12)

Once the CRADA package is fully coordinated, the CRADA PM will obtain the InnoVision Director's signature and forward (i.e., scan and email) the BA's signature page to the Partner institution for their signature. (*NOTE: The CRADA Partner may request the copy of all final documents be forwarded.*) All documents will be stored on the CRADA Partner's GO site's page. The Partner's GO page is moved from "potential" CRADA partner to a folder all other "active" accounts.

If the CRADA involves classified work, a DD Form 254 is completed by the CRADA Office and forwarded to NGA's Industrial Security Directorate (SI). The DD Form 254 provides the CRADA Partner with the security requirements needed to undertake a particular task, and the classification guidance necessary to perform a classified contract.

In the event the CRADA's period of performance is extended due to the NGA PI's desire to continue the current CRADA's R&D or pursue new technologies, a series of meetings may be required to articulate those changes for incorporation into a new or an amended RP. (*NOTE: OGC will make the determination to redo or amend the RP.*)

3 Summary

The NGA CRADA program enables federal government technology researchers to work directly with technology researchers from commercial industry, academia and non-profit organizations to perform joint research on areas of mutual interest. An outcome of the CRADA may be to transition the Partner's R&D efforts into the NSG; **however, there are no guarantees by the government** this will occur. Government acquisition must be consistent with Competition and Contracting Act. Throughout the term of the CRADA, all efforts are made to ensure that the Partner remains eligible for any future competition without jeopardizing the fairness of the completion.

Attachment 1: CRADA Inquiry Form

**Cooperative Research and Development Agreement (CRADA)
Inquiry**

(to be filled out and forwarded to the NGA CRADA Team)

Organizations interested in developing a CRADA with NGA are requested to submit the following information to crada@nga.mil.

- Organization's name and address.
 - **Company X**
 - **100 Innovation Blvd.**
 - **Springfield, Virginia 22153**
- Organization's Principal Investigator (name, phone(s), email).
 - **Name: John Smith**
 - **Phone: 703-234-5678 (office)**
 - **Email: John.Smith@CompanyX.com**
- NGA Principal Investigator (name, phone, email), if known, otherwise can be added later.
 - **Name: Nancy Jones**
 - **Phone: 703-735-1234**
 - **Email: Nancy.A.Jones@nga.mil**
- NGA individuals you have spoken to in reference to your technology or potential NGA CRADA.
 - **Nancy Jones**
 - **InnoVision director**
- 1-2 paragraphs (or bullets) describing the desired CRADA research and development effort. Include the desired CRADA tasks and the benefits each collaborator (Company X and NGA) would gain.

Attachment 2: Basic Agreement

Basic Agreement

Note: Any additions to this document will be negotiated between NGA/OGC and the industry partner's legal representative

Cooperative Research and Development Agreement
SIGNATURE PAGE

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as follows:

For the
National Geospatial-Intelligence Agency:

For the
Insert Collaborator Company Name:

I Director's Name
Director, InnoVision Directorate
National Geospatial-Intelligence Agency

Collaborator Executive Name
Executive Title
Collaborator Company Name

I Director's Signature Block
Director
InnoVision Directorate
National Geospatial-Intelligence Agency

Name of Collaborator Executive
Title
Collaborator Company Department
Collaborator Company Name

Date _____

Date _____

Mailing Address Notices:

NGA
CRADA Program Director
National Geospatial-Intelligence Agency
NGA/IDO Mail Stop S-74
7500 GEOINT Drive
Springfield, VA 22150

Collaborator
Legal POC Name and Address

COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT WITH THE NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

Article 1: INTRODUCTION

This Cooperative Research and Development Agreement (CRADA) between the National Geospatial-Intelligence Agency (NGA) and [Collaborator Name Here](#) (hereafter “the Collaborator”) will be effective when signed by all Parties. The research and development project(s) which will be undertaken by each of the Parties in the course of this CRADA are detailed in the attached Research Plan.

Article 2: DEFINITIONS

As used in this CRADA, the following terms shall have the indicated meanings:

2.1 “Cooperative Research and Development Agreement” or “CRADA” means this Agreement, entered into by NGA pursuant to 15 United States Code (U.S.C.) Section 3710a.

2.2 “Made” in relation to any invention, means the conception or first actual reduction to practice of such invention.

2.3 “Principal Investigator” or “PI” means the person designated respectively by each Party to this CRADA who will be responsible for the scientific and technical conduct of the Research Plan.

2.4 “Project Team” means all personnel assigned by the Collaborator and NGA to work on the Research Plan designated in this Agreement; “Project Team” includes but is not limited to the Collaborator’s employees and contractors and NGA’s employees and contractors.

2.5 “Proprietary Information” means confidential scientific, business, government or financial information, which may embody trade secrets, provided such information:

2.5.1 Is not generally known or available from other sources without obligations concerning its confidentiality;

2.5.2 Has not been made available by the owners to others without obligation concerning its confidentiality;

2.5.3 Is not already available to the receiving Party without obligation concerning its confidentiality;

2.5.4 Has not been developed independently by persons who had no access to the Proprietary Information; or

2.5.5 May lawfully be withheld from disclosure under the Freedom of Information Act, 5 U.S.C. 552.

2.6 “**Research Products**” means all tangible materials other than Subject Data first produced in the performance of this CRADA.

2.7 “**Subject Data**” means all recorded information first produced in the performance of this Agreement.

2.8 “**Subject Invention**” means any invention made in the performance of research under this CRADA. “Invention” means any discovery which is or may be patentable under Title 35 U.S.C.

2.9 “**Joint subject invention**” means any invention or discovery, whether or not patentable, conceived or first actually reduced to practice in the course of, or under this Agreement. This applies to joint inventions and discoveries by NGA employees and the Collaborator employees, or if applicable, joint inventions and discoveries by the parties to this Agreement and NGA contractor employees performing services in support of this Agreement.

2.10 “**Protected Information**” means information that is either developed by the Government or that may be held under another agreement or contract and that the Government has restricted access to in order to protect sources and methods or other Government interests.

2.11 “**Computer Software**” or “**Software**” means computer programs, source code, source code listings, object code listings, designs, details, algorithms, processes, flow charts, formulae, and related material that would enable the Software to be reproduced, recreated, or recompiled. Computer Software does not include computer databases or Computer Software documentation.

2.12 “**Government Purpose**” means any activity in which the Government is a Party, including cooperative agreements with international or multinational defense organizations, or sales or transfers by the Government to foreign governments or international organizations, and competitive procurements. Government purpose does not include use for commercial purposes.

Article 3: COOPERATIVE RESEARCH

3.1 Statement of Work and Changes: The Statement of Work (SOW) is the portion of the Research Plan which enumerates the research tasks. The research under this CRADA shall be performed on a reasonable efforts basis. The agreement can be amended at any time with mutual consent of the Parties. The agreement can be cancelled at any time by either of the Parties, in accordance with Article 9.1.

3.2 Reviews and Reports: Reviews organized by the InnoVision CRADA lead in coordination with both the NGA PI and Collaborator Corporate Point of Contact (POC) shall be held periodically by NGA and the Collaborator to review work progress and plan

future cooperation. After this CRADA becomes active and a formal kick-off meeting is held, Parties shall exchange formal written interim progress reports on a schedule agreed on between the PI and Collaborator. Reports should be addressed in the Research Plan and be an integral part of the schedule. Reports shall set forth the technical progress made, identify such problems as may have been encountered, identify any intellectual property developed as well as what property may be developed, and establish goals and objectives requiring further effort. The Parties shall produce a final progress report of their results within one month after completing the project(s) described in the Research Plan or after termination of this CRADA, whichever is earlier.

3.3 Principal Investigators and Project Team: NGA shall be the supervising federal agency, both administratively and scientifically, for this CRADA. The NGA Principal Investigator (PI) is responsible for the scientific and technical conduct of this project on behalf of NGA. The Collaborator PI is responsible for the scientific and technical conduct of this project on behalf of the Collaborator. The Collaborator shall designate the Project Team in the Research Plan. Each Collaborator team member who participates in this CRADA shall avoid personal conflicts of interest. While at NGA, the Project Team shall pursue their activities on the same work schedule and under the same government security and conduct regulations that apply to NGA employees. Members of one Party's team, selected to work at the other Party's facility, will be subject to acceptance by the host Party; such acceptance shall not be unreasonably withheld.

3.4 Eligibility for Participation in this Agreement: Collaborator certifies the correctness of the eligibility information contained in section 2 of the Research Plan. Collaborator agrees to notify NGA within 30 days should it become subject to the control of a foreign company or government at any time during this Agreement, or if any other similar change occurs relevant to the Research Plan.

Article 4: FINANCIAL OBLIGATIONS

The Research Plan lists the Collaborator's and NGA's respective contributions to the CRADA. Unless otherwise agreed, each Party shall each be responsible for funding its own research throughout this Agreement, including laboratory facilities, salaries, overhead and indirect costs. Each Party may determine the amount of resources, personnel, materials or funds it will devote to the work under this Agreement. If the Collaborator's contributions listed in the Research Plan include funds or if the Parties agree to modify the Agreement to include Collaborator's funds, the Collaborator shall establish a fund at NGA from which expenses may be drawn. Use of funds shall require the approval of both the Collaborator PI and the NGA PI. Funds may be used for purchase of goods and services needed to carry out the Research Plan or to reimburse NGA for the cost of NGA provided goods or services. Upon termination of the

Agreement, NGA shall return excess monies to the Collaborator when the final report pursuant to Article 3.2 is completed.

Article 5: TITLE TO EQUIPMENT

Unless otherwise agreed, the equipment purchased by NGA with funds provided under this CRADA by the Collaborator shall be the property of NGA. All equipment provided under this CRADA by a Party remains the property of that Party unless the Parties agree in writing on some other disposition. Each receiving Party agrees to assume full responsibility for maintenance of loaned equipment and instruments. Unless otherwise agreed, equipment will be returned to the lending Party at the receiving Party's expense and risk as soon as practicable after termination of this Agreement. The lending Party agrees to hold the receiving Party free from liability for any loss thereof or damage to such equipment.

Article 6: PROPRIETARY AND PROTECTED INFORMATION

6.1 Exchange of Data: The Parties agree to exchange all Subject Data produced in the course of the performance of this Agreement. Use or dissemination of Subject Data must be consistent with the terms and conditions in this Agreement or pursuant to a separate written agreement between the Parties.

6.2 Protection: Each Party agrees to limit its disclosure of Proprietary or Protected Information to the other Party to the amount necessary to carry out the Research Plan of this CRADA. Each Party shall place a Proprietary Information or a Protected Information notice on information it delivers to the other Party under this Agreement. A receiving Party may object to the designation of information and may decline to accept such information. To the extent permitted by law, including the Freedom of Information Act (5 U.S.C. 552), Proprietary Information and Protected Information, so designated, shall not be disclosed or otherwise made available in any form whatsoever to any other person, firm, corporation, partnership, association or other entity without the written consent of the disclosing Party, such consent can be expressed in CRADA. (See 6.5). Each Party agrees to use reasonable efforts to maintain the confidentiality of Proprietary Information and Protected Information. A receiving Party will promptly notify the disclosing Party of requests for Proprietary or Protected Information. The disclosing Party agrees that the receiving Party is not liable for the disclosure of information designated as proprietary which, after notice to and consultation with the disclosing Party, the receiving Party determines may not lawfully be withheld, or which a court of competent jurisdiction requires disclosure.

6.3 Collaborating Party Background Information: The Collaborating Party shall place a proprietary legend on all Proprietary Information that it furnishes to NGA employees or contractors under this Agreement which was produced or obtained prior to this Agreement. The legend shall prominently and explicitly identify which material is proprietary and which material is not proprietary. Information marked as proprietary and furnished by the Collaborating Party to NGA employees or contractors during this

Agreement, or in contemplation of this Agreement, shall be used for the purpose of carrying out this Agreement and for Government administrative and oversight purposes.

6.4 NGA Protected Information or Information Derived from Protected Information: New Protected Information can arise during the performance of the Agreement if the new information is derived from NGA information. Protected Information furnished by NGA to the Collaborating Party under this Agreement, developed under this Agreement or in contemplation of this Agreement, shall be used by the Collaborating Party only for the purpose of carrying out this Agreement. Such Protected Information, as long as it maintains its protected status, shall not be disclosed or otherwise made available to anyone other than the Collaborating Party without the consent of NGA.

6.5 NGA Contractors supporting the CRADA program: Collaborator acknowledges and agrees to allow disclosure of Collaborator's Proprietary Information to NGA Contractors for the purposes of carrying out this Agreement. NGA agrees that it has or will ensure that its Contractors are under written obligation not to disclose Collaborator's Proprietary Information, except as required by law or court order, before Contractor employees have access to Collaborator's Proprietary Information under this Agreement.

6.6 Release Restrictions: NGA shall have the right to use all Subject Data for any Government purpose, including: (i) publishing the results of research and Subject Data in technical articles and other documents to the extent NGA determines to be appropriate; and (ii) releasing Subject Data where release is required by law or court order. Collaborator may use Subject Data not marked as NGA Protected Information as is consistent with this Agreement for its own purposes. The parties agree to confer prior to the publication of Subject Data to assure that information is properly marked, no Proprietary or Protected Information is released, and to assure 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 be offered ample opportunity to review any proposed manuscript for any purpose and to file patent applications in a timely manner if applicable.

6.7 Limitation on Disclosure: NGA will not provide, nor is the Collaborator authorized to accept, any non-public information that relates to acquisition planning, budgeting, or procurement. Additionally, unauthorized access to non-public procurement related information may result in immediate termination of this Agreement. Any information that is source-selection sensitive, as defined under the Procurement Integrity Act 41 U.S.C. 423, that comes to the attention of the Collaborator through the CRADA process must immediately be reported in writing to the NGA signatory and the Office of General Counsel. Although organizational conflict of interest issues may otherwise exist, the above is intended to address issues associated with the Procurement Integrity Act and is not intended to impose any additional organizational conflict of interest restraints on Collaborator's eligibility for future contracts or subcontracts.

6.8 Duration: The NGA obligation to maintain the confidentiality of NGA CRADA produced information (which would be a trade secret that would be treated as privileged or confidential if the information had been obtained from a non-Federal party) may expire at the earlier date of when the information no longer meets the definition of Proprietary Information as defined in Article 2.5 or five years after the expiration or termination of this CRADA. NGA determines whether and when the NGA CRADA produced information is subject to protection pursuant to 15 USC 3710a(c) (7) (B). Proprietary Information solely originating from the Collaborator shall not be disclosed or otherwise made available in any form to any other person, firm, corporation, partnership, association or other entity without the written consent of the Collaborator excepted as indicated in Section 6.5. Nothing in this Article shall be construed to prevent the Government from exercising the license provided for in Article 7.6.

6.9 Software: NGA and the Collaborator agree that neither Collaborator's proprietary Software products, nor enhancements to Collaborator's proprietary Software products, developed pursuant to this CRADA solely by the Collaborator are "Subject Data" as defined in Article 2. NGA and the Collaborator agree that all Software and documentation originated and developed by Collaborator prior to commencement of this CRADA and furnished to NGA by Collaborator in the performance of its obligations under this CRADA shall retain the ownership existing prior to the Agreement. Collaborator grants to NGA a royalty-free, nonexclusive, irrevocable license to practice or have practiced worldwide by or on behalf of the Government for Government Purposes any Software code developed by Collaborator under this agreement. If NGA provides any Software to the collaborator, NGA will indicate to the Collaborator whether or not the NGA provided information is Protected Information, and whether the Software can be integrated in a public version of the Collaborator's Software or whether or not the NGA provided Software can be integrated into a Government only tool. Further, NGA and the Collaborator agree that any Software and documentation originated and developed by NGA and furnished to Collaborator for use under this agreement shall remain the property of NGA. Use of NGA or other Government business process information related to developing Software is addressed in Articles 2.7 and 6.4. All use of NGA provided Geospatial Intelligence (GEOINT) is addressed in Article 12.11.

Article 7: INTELLECTUAL PROPERTY

7.1 Reporting: Each Party shall report in writing to the other Party each Subject Invention disclosed to it by its employees or Project Team members within 30 days of said disclosure. Pursuant to 35 U.S.C. 205, such reports shall be maintained as confidential by the Receiving Party until such time as a patent or other intellectual property application claiming that Subject Invention has been filed.

7.2 Assignment Obligations: Each Party shall ensure that all personnel under their control: (a) report any Subject Inventions they make to that Party within 30 days, and (b) sign any documents necessary or desirable for the filing and prosecution of patent applications. If any Project Team member is working on behalf of the Collaborator but

is not the Collaborator's employee, the Collaborator shall require the member to agree in writing to assist the Collaborator in fulfilling all of its patent responsibilities under this CRADA.

7.3 Treatment of Subject Data: NGA and Collaborator shall each have the right to use all Subject Data as is consistent with their obligations under this Agreement. Subject Data produced by employees of either Party or jointly by employees of the Parties may be designated as Protected Information pursuant to 6.2 and 6.4. Subject Data may be designated as Protected Information pursuant to 15 USC 3710a(c) (7) (B).

7.4 Ownership of Research Products: Except as provided for in Articles 7.6 and 7.7, NGA and the Collaborator agree to exchange samples of all Research Products. Both Parties shall agree when Research Products are jointly created and jointly owned property. Research Products will be shared equally by the Parties unless the Parties agree in writing to other disposition. Subject to these sharing requirements, the Research Products created under this CRADA are the jointly owned property of the Parties. The Parties agree to make mutually acceptable arrangements for the disposition of unique or hard-to-replace Research Products.

7.5 Publication: Before either Party publicly discloses information about a Subject Invention, Subject Data, or research project, the other Party shall be provided 45 days to review the proposed publication or disclosure to assure that Proprietary Information, Protected Information, Subject Inventions, and/or security concerns are protected. Approval from NGA is required prior to using the NGA name or seal.

7.6 Patenting Subject Inventions.

7.6.1 Government's Minimum Rights: All assignments made by NGA under Article 7.6 and all licenses granted under Article 8 are subject to the reservation of statutorily required licenses in favor of the United States Government as described in this Article 7.6.1. Pursuant to the Federal Technology Transfer Act of 1986 (15 U.S.C. 3710a(b)(2)), NGA retains a non-exclusive, non-transferable, irrevocable, paid license to practice all NGA and Joint Subject Inventions, or have the NGA and Joint Subject Inventions practiced, throughout the world by or on behalf of the Government.

7.6.2 Collaborator Inventions: The Collaborating Party shall retain title to each Subject Invention made solely by its employees. The Collaborating Party may file patent applications on these Subject Inventions at its own expense. The Collaborating Party grants to the Government a royalty-free, nonexclusive, irrevocable license to practice or have practiced worldwide by or on behalf of the Government for Government Purposes Subject Inventions covered by any resultant patents. Such nonexclusive license(s) shall be evidenced by a confirmatory license agreement prepared by the Collaborating Party in a form satisfactory to NGA. If the Collaborating Party transfers or releases the rights to employee inventions provided

for by this paragraph, such transfer or release shall be subject to the Government Purpose license granted to the Government.

7.6.3 NGA Employee Inventions: NGA, on behalf of the U.S. Government, shall retain title to each Subject Invention made by its employees. If NGA decides not to retain its rights, NGA shall offer to assign its rights to the Subject Invention to the Collaborator, subject to the reservation of a license in favor of the United States Government as required in Article 7.6.1 above. If Collaborator declines such assignment, the Subject Invention may be put in the public domain.

7.6.4 Joint Inventions: Collaborator and NGA shall retain joint title to all Subject Inventions made by Collaborator's employees and NGA employees. If either Party decides not to retain title to its rights to a Joint Subject Invention, the Party will offer to assign its rights to the other Party. If the other Party declines such assignment, the Subject Invention may be put in the public domain. If the Collaborator, NGA and a NGA contractor, while performing services to fulfill NGA's obligations under this agreement, make a joint invention, title to the invention shall be held jointly by the Collaborator, NGA, and the contractor.

7.6.5 Filing of Patent Applications: The Party retaining title to a Subject Invention shall file United States patent applications in a timely manner. The Collaborator shall be responsible for filing United States patent applications for Joint Subject Inventions in a timely manner. The Parties agree to make mutually acceptable arrangements on the filing of joint inventions and foreign patent applications.

7.6.6 Patent Expenses: All of the expenses attendant to the filing of patent applications shall promptly be paid by the Party filing such application. Any post filing and post patent fees shall also be borne by the same Party. If Collaborator exercises its option for an exclusive license under Article 8.1 below, Collaborator shall reimburse NGA for all such patent filing, post filing, and post patent expenses. If Collaborator exercises its option for a non-exclusive license, Collaborator shall reimburse NGA for one-half of all such filing, post filing, and post patent expenses for NGA Subject Invention.

7.6.7 Prosecution of Patent Applications: Each Party shall promptly provide the other Party with copies of the application it files on any Subject Invention along with the power to inspect and make copies of all documents retained in the patent application files. The Parties agree to consult and cooperate with each other in obtaining and maintaining protection for Subject Inventions.

7.7 March-in Rights: The Parties acknowledge that NGA has march-in rights to any Subject Invention in accordance with 48 Code of Federal Regulations (CFR) 27.304-1(G). March-in rights are the Government's right to require (after a substantial administrative and judicial review and appeal process) the licensing of intellectual property that is not being developed or commercialized.

7.8 Works Created by Collaborating Party: Ownership to copyrights for original works of authorship created solely by employees of the Collaborating Party or for hire by the Collaborating Party in the course of performance of work under this Agreement is retained by the Collaborating Party. The Collaborating Party may mark any such works with a copyright notice showing the Collaborating Party as an owner and may have the option to register the copyright at the Collaborating Party's expense. The Collaborating Party grants to the Government a royalty-free, nonexclusive, irrevocable license to use, modify, prepare derivative works, reproduce, distribute, perform, and display worldwide such copyrighted works by or on behalf of the Government for Government Purposes. The Collaborator will mark prominently each such copyrighted work with the words: "This work was created in the performance of a Cooperative Research and Development Agreement with the National Geospatial-Intelligence Agency. The Government of the United States has a royalty-free Government Purpose license to use, duplicate or disclose the work, in whole or in part and in any manner, and to have or permit others to do so, for Government Purposes."

Article 8: LICENSING

8.1 Option for a Commercialization License: NGA, on behalf of the Government, hereby agrees to grant to the Collaborator an option to negotiate in good faith the terms of a commercialization license to NGA Subject Inventions and NGA's interest in Joint Subject Inventions. The license will specify the licensed fields of use, geographic territory, markets, term, and royalties. The license will contain a requirement that products manufactured under the license for sale or use in the United States, will be manufactured substantially in the United States. The royalty rates will reflect the relative contributions of the Parties to the invention. Licenses granted under this article are subject to the reservation of patent licenses in favor of the United States Government required in Article 7.6.1 above.

8.2 Exercise of License Option: The option of Article 8.1 must be exercised by written notice mailed within six months after the patent or other intellectual property application is filed. Exercise of this option by the Collaborator initiates a negotiation period that expires six months after the patent application filing date. If NGA has not responded in writing to Collaborator's last proposal within this six month period, the negotiation period shall be extended to expire one month after NGA responds. If no Agreement is concluded in this period or if Collaborator exercises its option for a non-exclusive license, NGA shall be free to license such Subject Inventions to others.

Article 9: TERMINATION

9.1 Unilateral Termination: The Collaborator and NGA each have the right to terminate this Agreement upon 30 days' notice in writing to the other Party. In such event, performance of work under the Agreement shall terminate and neither Party shall have any claim upon, or liability to, the other except as stated in Article 12.11.

9.2 Termination after Change of Control: NGA may terminate this Agreement immediately if direct or indirect control of the Collaborator is transferred to a foreign company or government or, if Collaborator is already controlled by a foreign company or government, if that control is transferred to another foreign company or government.

Article 10: DISPUTES

10.1 Settlement: Any dispute arising under this Agreement which is not disposed of by Agreement of the Parties shall be submitted jointly to the signatories of this Agreement. A joint decision of the signatories or their designees shall be the disposition of such dispute. If the Parties cannot reach a joint decision, the matter shall be submitted to the NGA Director for InnoVision for resolution. In the event either Party disagrees with the resolution, then the Parties shall jointly agree to do any one of the following: (1) terminate this Agreement or (2) submit the dispute to some mutually agreed form of binding Alternative Disputes Resolution (ADR). Although the Parties may agree to use ADR techniques to resolve disputes, nothing in this Agreement precludes either Party from pursuing resolution of a dispute using other legal review available by law.

10.2 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 direction of the NGA signatory.

Article 11: LIABILITY

11.1 Property: The U.S. Government shall not be responsible for damages to any property of the Collaborator provided to NGA, or acquired by NGA, pursuant to this Agreement.

11.2 Indemnification

11.2.1 Collaborator's Employees: Collaborator's Project Team members are not employees of NGA. The Collaborator shall be responsible for the payment of all claims for the loss of property, personal injury, or death, but only to the extent the claim arises out of any negligent act or omission, of its employees in connection with the performance of work under this Agreement.

11.2.2 Collaborator's Use of Research: The Collaborator shall indemnify and hold harmless the U.S. Government for any loss, claim, damage, or liability of any kind arising out of the use by the Collaborator, or any Party acting on its behalf or under its authorization, of NGA's research and technical developments or out of any use, sale, or other disposition by the collaborator or others acting on its behalf or with its authorization, of products made by the use of NGA's technical developments.

11.2.3 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, civic disturbance or disobedience, strikes, labor dispute, or failure, threat of failure, or sabotage of NGA facilities, acts of government in its sovereign capacity, or any order or injunction made by a court or public agency. In the event of the occurrence of such a 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.

11.2.4 No Warranty: The Parties make no expressed or implied warranty as to any matter whatsoever, including the conditions of the research or any invention or product, whether tangible or intangible, made or developed under this Agreement, or the ownership, merchantability, or fitness for a particular purpose of the research or any invention or product.

Article 12: MISCELLANEOUS

12.1 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 there from.

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

12.3 Entire Agreement: This Agreement and its enclosures constitute the entire Agreement between the Parties concerning the subject matter hereof and supersede any prior understanding or written or oral Agreement relative to said matter.

12.4 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.

12.5 Amendments: If either Party desires to modify this Agreement, the Parties shall confer in good faith to determine the desirability of such modification. Such modification shall become effective upon execution of a written amendment by the Parties hereto.

12.6 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 the Collaborator may assign this Agreement to the successors or assignees of a substantial portion of the Collaborator's business interest to which this Agreement directly pertains.

12.7 Notices: All notices required by this Agreement shall be in writing and shall be directed to the signatory(s).

12.8 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 ventures or partners. Each Party shall maintain sole and exclusive control over its personnel and operations.

12.9 The Use of Name or Endorsements: Neither Party shall use the name of the other Party on any advertisement, public announcement, product, or service which is directly or indirectly related to either this Agreement or any patent license or assignment agreement which implements this Agreement without the prior approval of the other Party. By entering into this Agreement, neither Party directly or indirectly endorses any product or service provided, or to be provided, by the other Party, its successors, assignees, or licensees. Neither Party shall in any way imply that this Agreement is an endorsement by the other Party of any such product or service. Notwithstanding the foregoing, either Party may publicly announce the existence of this CRADA, the names of the Parties, and the title of the project.

12.10 Duration of the Agreement: This Agreement will become effective as of the date of the last signature and will terminate at the end of the period of performance designated in the Research Plan or as extended by amendment as provided in Article 12.5 or otherwise terminated under Article 9.1 of this agreement.

12.11 Treatment of Government Furnished Mapping, Charting and Geodetic (MC&G) Property: Mapping and charting property includes, but is not limited to, gravimetric, aeronautical, topographic, hydrographic, cultural and toponymic data presented in the form of topographic, planimetric relief or thematic maps and graphics, and nautical and aeronautical charts and publications in simulated, photographic, digital, or computerized formats. Geodetic property includes, but is not limited to, geodetic and geomagnetic data, imagery derived products, and geospatial information. The Collaborator shall not duplicate, copy, or otherwise reproduce MC&G property for purposes other than that necessary for the performance of the CRADA. Government-furnished property is for internal Collaborator use only in relation to efforts on this CRADA. At the completion of the contract, the Collaborator must return all Government MC&G property used in the performance of the CRADA as well as MC&G derived from Government property. The Collaborator may request from the NGA the right to retain possession of non-limited distribution MC&G property, at which time NGA will make a release determination of the particular property at issue. Government-furnished property that has been marked or determined to be Limited Distribution (LIMDIS) in accordance with 10 USC 455 and 48 CFR 252.245-7000 may not be retained by the Collaborator. Removal of the Limited Distribution (LIMDIS) marking is prohibited.

12.12 Foreign Access to Technology: This article shall stay in effect during the term of the Agreement and for five years thereafter.

12.12.1 The Parties agree that research findings and technology developments arising under this Agreement may constitute a significant enhancement to the national defense and to the economic vitality of the United States. Accordingly, access to important technology developments under this Agreement by Foreign Firms or Institutions must be controlled. The controls contemplated in this article are in addition to, and are not intended to change or supersede, the provisions of the International Traffic in Arms Regulations (22 CFR 121 et seq.), the Department of Defense (DoD) Industrial Security Regulation (DoD 5220.22-R), and the Department of Commerce Export Regulation (15 CFR Chapter VII et seq.).

12.12.2 In order to promote the national security interests of the United States and to effectuate the policies that underlie the regulations cited above, the procedures stated in subparagraphs 12.12.3 and 12.12.4 shall apply to any transfer of technology. For purposes of this paragraph, a transfer includes a sale of the company and sales or licensing of technology developed under this Agreement.

12.12.3 The Collaborator shall provide timely notice to NGA of any proposed transfers from the Collaborator of technology developed under this Agreement to foreign firms or institutions. If NGA determines that the transfer may have adverse consequences to the national security interests of the United States, the Collaborator and NGA shall jointly endeavor to find alternatives to the proposed transfer which obviate or mitigate potential adverse consequences of the transfer but which provide substantially equivalent benefits to the Collaborator.

12.12.4 The Collaborator shall provide written notice to NGA of any proposed transfer to a foreign firm or institution at least sixty calendar days prior to the proposed date of transfer. Such notice shall cite this article and shall state specifically what is to be transferred and the general terms of the transfer. Within thirty days of receipt of Collaborators written notification, NGA shall advise the Collaborator whether it consents to the proposed transfer. In cases where NGA does not concur, or if sixty calendar days expire after receipt and NGA provides no decision, the Collaborator may utilize the procedure under Article 10 of this Agreement. No transfer shall take place until a decision is rendered.

12.13 Classified Information: The Collaborator agrees to:

12.13.1 Handle and safeguard all classified information in accordance with the Form DD254, the security and classification guidelines provided by NGA pursuant to this Agreement, and the Industrial Security Manual for Safeguarding Classified Information (DoD 5220.22M).

12.13.2 Obtain written NGA approval for the release of any publications, advertisements, resumes, or similar writings relating to this CRADA or NGA sensitive or classified information.

12.13.3 Provide a program security plan.

12.14 Access to Classified Information: NGA shall have sole authority to determine whether, and to what extent, classified information shall be provided to the Collaborator under this Agreement. Access shall be in accordance with the attached Form DD254 and any security addenda pertaining to this Agreement. Collaborator will return to NGA or destroy all classified information released to the collaborator in support of this CRADA at the conclusion of the CRADA. Unclassified information shall be treated as is consistent with this Agreement. NGA is not presently resourced to sponsor Sensitive Compartmented Information Facilities (SCIFs) or communication lines for sensitive networks for CRADA activities. NGA will consider entering a co-utilization agreement with the sponsoring agency/organization for an existing SCIF.

12.15 Controlled Information: The Parties understand that information and materials provided pursuant to or resulting from this Agreement may be export controlled, classified, unclassified, sensitive, and protected by law, executive order, or regulation. Nothing in this Agreement shall be construed to permit any disclosure in violation of those restrictions.

12.16 Survivability: The provisions of Articles 3.2, 4, 5, 6, 7, 8, 10.1, 11, and 12.11, 12.12, 12.13, 12.15 shall survive the termination of this CRADA.

Attachment 3: Research Plan

Note 1: Text in blue italics is informational and will be deleted prior to finalization of document.

Note 2: Standard blue text denotes information to be completed by Collaborator or NGA. Complete sentences are requested.

Ensure “Track Changes” is on before editing this document. Do not “Accept” any previous changes to this document.

**Research Plan
For
[Collaborator Name]
And
National Geospatial-Intelligence Agency (NGA)
Cooperative Research and Development Agreement (CRADA)**

1. Collaboration Project Title: [Name of project]
2. Collaborator Status: Collaborator, [Collaborator Name], provides the following information to NGA:
 - 2.1. [Collaborator Name] certifies that it is not subject to the control of any foreign company or government, and agrees to notify NGA within thirty days should it become subject to the control of a foreign company or government at any time during this Agreement.
 - 2.2. [Collaborator Name] is a wholly owned subsidiary of [Organization Name] and hereby certifies that it operates under the laws of the State of [State Name] with legal authority to operate in the State of [State Name].
 - 2.3. [Collaborator Name] certifies to NGA that it is incorporated under the laws of one of the states or territories of the United States and that it has a manufacturing presence in the United States.

If collaborator is subject to the control of a foreign entity or is a foreign entity additional review is required.

- 3. Collaborator Participation in NGA's Research and Development (R&D) Program:** [Collaborator Name] is/is not a recipient of NGA R&D funds.

If the collaborator is a recipient of NGA funds for R&D procurement, additional review and oversight of the research is required.

- 4. Period of Performance:** This CRADA shall be effective as of the date of the last signature and shall terminate on the last day of the ___th month unless extended by mutual Agreement between the Parties.

5. Collaborator Contributions

- 5.1. Personnel:** *Describe the type and number of personnel that support the effort and their contribution to the program. For example:*

[Collaborator Name] will provide personnel to fill the following roles: principal investigator, programmers, and scientists. The number of people provided will vary depending on the number of tasks and the duration of each task. Sometimes one person may fill multiple part-time roles, and other times multiple people may work on the same task.

Alternatively, list the individuals or job titles, e.g.:

- Mr. John Doe, Principal Investigator, part time
- Dr. John Doe, Technical Point of Contact, part time
- Three programmers working part-time to design the software program to...

- 5.2. Services:** *Describe the full range of services, e.g., training, systems engineering, technical assistance, test support, documentation. For example:*

In support of mutual objectives Collaborator will contribute:

- 5.2.1. Assessments of software development efforts under CRADA tasks
- 5.2.2. Operational workflow assessments
- 5.2.3. Vendor interaction in the commercial marketplace
- 5.2.4. Subject matter expertise
- 5.2.5. Workshops or training on emerging tool capabilities
- 5.2.6. Capability demonstrations
- 5.2.7. Government software technology integrated into [Collaborator Name] products

- 5.2.8. Support for participation in NGA advocated Geospatial Intelligence (GEOINT) standards efforts in working groups and international standards organizations

The above are examples. Delete services that will not be provided. Add appropriate services that are not included above.

5.3. Facilities: *Identify all facilities provided and/or utilized in the execution of the CRADA and their levels of security.*

5.4. Equipment and Software: *Identify any specialized hardware and software used in the performance of the CRADA. Collaborator personnel may advise and assist NGA analyst personnel in understanding the software. They may also provide guidance and instruction to the NGA analysts when requested.*

5.5. Funds: *Identify any funding provided in support of the CRADA. Collaborator may provide funding, for instance to support technology transfer, to compensate NGA for equipment, to support NGA travel to Collaborator location. If no funds are involved, simply state:*

[Collaborator Name] will not provide funds in support of this CRADA.

6. NGA Contributions

6.1. Personnel: *Describe the number and type of personnel that support the effort and their contribution to the program. For example:*

NGA will provide personnel to fill the following roles: principal investigator and Subject Matter Experts (SMEs). The number of people provided will vary depending on the number of tasks and the duration of each task. Sometimes one person may fill multiple part-time roles, and other times multiple people may work on the same task.

Alternatively, list the individuals or job titles of NGA support, e.g.:

- Dr. Jane Doe, Principal Investigator, part time to provide coordination and guidance
- One cartographer working part-time to provide DTED data
- Subject Matter Experts (SMEs), part time

6.2. Services: *Describe the full range of services, e.g., training, systems engineering, technical assistance, analysis, test and evaluation support. For example:*

NGA expertise will be provided for:

- 6.2.1. Functional/operational guidance including user feedback
- 6.2.2. Operational workflow assessments
- 6.2.3. Prototype definition
- 6.2.4. Collaborative assessment of geospatial and imagery technologies
- 6.2.5. Software installation in NGA environments
- 6.2.6. Testing and assessment of technologies developed under the CRADA
- 6.2.7. Guidance and security support of secure facilities, personnel, data and software in accordance with the collaborator [Collaborator Name] CRADA DD-254
- 6.2.8. Requirements definition for tasks in the Research Plan
- 6.2.9. Capability demonstrations

The above are examples. Delete services that will not be provided. Add appropriate services that are not included above.

6.3. Facilities: *Identify all NGA facilities used in support of the CRADA. For example:*

6.4. Equipment and Software: *Describe any Government Furnished Equipment (GFE) items available or required to conduct the cooperative effort. GFE may include licenses for specific government software tools or applications.*

NGA will maintain an Equipment Materials Release List for all NGA equipment and materials that are released to Collaborator site. This list will be available on the CRADA GEOINT Online (GO) website.

6.5. Data: *Identify any NGA data to be provided under the CRADA.*

6.6. Funds: **By law, NGA is not permitted to contribute funds under a CRADA effort.**

7. Statement of Work

This section is the main portion of the Research Plan and should contain sufficient detail to justify the proposed commitment of resources. Authors are permitted to format this section as appropriate for the particular effort.

7.1. Introduction: *Provide an introductory paragraph for the effort and summarize the problems or challenges that will be addressed.*

7.2. Tasks descriptions:

Provide a detailed description of each task that includes the location(s) where it will be performed and an execution schedule.

7.2.1. Task 1: [Task name here]

7.2.1.1. Objective: Explain task objective

- Point 1
- Point 2

7.2.1.2. Background: Explain task background

- Point 1
- Point 2

7.2.1.3. Description: Describe this task

- Point 1
- Point 2

7.2.1.4. Expected Outcome(s): Explain expected outcome(s) resulting from task

- Point 1
- Point 2

7.2.2. Task 2: [Task name here]

7.2.2.1. Objective: Explain task objective

- Point 1
- Point 2

7.2.2.2. Background: Explain task background

- Point 1
- Point 2

7.2.2.3. Description: Describe task

- Point 1
- Point 2

7.2.2.4. Expected Outcome(s): Explain expected outcome(s) resulting from task

- Point 1
- Point 2

Authors may add as many tasks as necessary using the above list template.

7.3. Schedule and Milestones: *Provide a brief breakdown of milestones for the project and schedule for completion. Include a frequent reporting mechanism. Authors are permitted to format this section as appropriate for the particular effort. Here are some examples:*

7.3.1. Year 1

- Month 1: Hold kickoff meeting. Set initial goals and timelines.
- Month 3: Conduct Technical Exchange Meeting (TEM). Assess progress. Review priorities.
- Month 6: Conduct Technical Exchange Meeting (TEM). Assess progress. Review priorities.
- Month 9: Conduct Technical Exchange Meeting (TEM). Assess progress. Review priorities.
- Month 12: Conduct Technical Exchange Meeting (TEM). Assess progress. Review priorities. Complete Annual Report

7.3.2. Year 2

- Month 15: Conduct Technical Exchange Meeting (TEM). Assess progress. Review priorities.
- ...

Or:

7.3.3. Initial project evaluation will be conducted within the first year.

7.3.4. Periodic software version upgrades will occur as mutually agreed during the CRADA.

All CRADAs are expected to include these:

7.3.5. Periodic technical exchange meetings (TEMs) with NGA will be held as mutually agreed during the CRADA. ***Most CRADAs hold TEMs quarterly.***

7.3.6. At the end of each twelve month cycle, Collaborator will draft an Annual Report based on an NGA furnished template that includes a description of accomplishments, outstanding issues, etc. It will also include a list of personnel supporting the CRADA and summarize the work performed over the previous year.

7.4. Benefits to the Collaborator: *Describe the benefits Collaborator expects to gain from the CRADA.*

7.5. Benefits to NGA: *Describe the benefits NGA expects to gain from the CRADA.*

7.6. Technology Transition: *Describe how the technology will be transitioned during and after the termination of the CRADA. The recommended result could be one or more of several examples:*

- 7.6.1. A commercially developed product by the collaborator.
- 7.6.2. Software modules developed by NGA that would be transitioned to the firm for incorporation into their commercial software.
- 7.6.3. Development of a capability that would then require additional development to go into a commercial product.
- 7.6.4. Additional technology transfer and transition venues identified by government and industry.

The above are examples. Delete transition methods that will not be provided. Add appropriate transition methods that are not included above.

8. Security

Collaborator will handle and safeguard all classified information in accordance with the Form DD254, which is the security and classification guidelines provided by NGA pursuant to this Agreement, and the Industrial Security Manual for Safeguarding Classified Information (Department of Defense (DoD) 5220.22M).

8.1. Personnel Clearances: It is anticipated that work under this CRADA may be up to the Top Secret/Sensitive Compartmented Information (TS/SCI) level requiring some personnel to have the necessary clearances to work inside NGA and NGA approved facilities. Collaborator personnel who already hold clearances prior to the start of the CRADA should continue to have their clearances maintained by the original organization under which the individual gained the clearance. NGA may sponsor a limited number of personnel requiring clearances to work under this CRADA.

NGA will maintain clearances for personnel who obtain new clearances subsequent to the signing of the CRADA under the following conditions:

- 8.1.1. Personnel who receive clearances under this CRADA must complete all annual NGA mandatory security trainings before the next training due date. Training delinquency will result in loss of clearances.
- 8.1.2. Personnel who receive clearances under this CRADA must attend all TEMs as well as any other collaborative meetings, workshops, and conferences called to facilitate the CRADA tasks they support.

8.1.3. As part of the Annual Report described in Section 7.3, Collaborator must establish that work performed by personnel cleared under this CRADA demonstrates appropriate need for and use of those clearances during the previous year. The report should also justify the anticipated need for clearances that Collaborator wants to maintain for the upcoming year.

8.1.4. Collaborator must inform NGA immediately when cleared personnel no longer support work under this CRADA.

Collaborator personnel requiring clearances up to and including TS/SCI in support of this CRADA may be subject to a polygraph.

8.2. Facility Clearances: Collaborator will accomplish NGA CRADA related tasks at NGA classified facilities, Collaborator facilities and other NGA sites as determined during this CRADA effort. During the performance of this CRADA, Collaborator **is/is not** authorized to receive, generate and store classified information/material. NGA's CRADA Program Management Office is not resourced to sponsor Sensitive Compartmented Information Facilities (SCIFs) or communication lines for sensitive networks for CRADA activities. NGA will consider entering a co-utilization agreement with the sponsoring agency/organization for an existing SCIF.

8.3. Foreign Nationals: Foreign nationals are NOT authorized to work on classified portions of this CRADA. Foreign nationals may work on unclassified portions of this CRADA. However, if the unclassified work involves non-public NGA information provided to Collaborator, NGA must approve the specific foreign national access and the information released to the foreign national MUST be vetted through NGA Public Affairs.

8.4. Courier Information: Cleared Collaborator personnel may be authorized to hand-carry or courier [Collaborator Name] CRADA related classified information up to and including TS/SCI. Collaborator personnel will obtain NGA courier authorization prior to hand-carry or courier of CRADA related classified data. Collaborator personnel will be limited to hand-carry or courier classified information between the Collaborator facilities and NGA facilities ONLY.

8.5. Public Release: Collaborator will obtain written NGA approval for the release of any public announcement, publications, advertisements, resumes, or similar writings relating to this CRADA or NGA sensitive or classified information.

8.6. Technology and Data Protection: All [Collaborator Name] technology that extends beyond current [Collaborator Name] commercial offerings will be protected. NGA contractors, under NGA non-disclosure agreements, will only be read on to the scope of their contract and are prohibited from sharing [Collaborator Name] technology with their company. Collaborator will protect NGA information as agreed to in the Basic Agreement.

8.7. Communications Security (COMSEC): Collaborator [is/is not](#) authorized access to COMSEC Information. Collaborator is authorized to obtain a COMSEC account and to use the Defense Courier Service, as needed during the life of the CRADA.

9. Points of Contact

Identify the project Points of Contact (POCs) (to include the Corporate POC, Principal Investigator/Technical POC, Legal and/or Contracting POC) using the following format.

Collaborator:

[Functional Title \(e.g. Corporate POC\)](#)
[Name of person](#)
[Organization Name](#)
[Organization Mailing Address](#)
[xxx-xxx-xxxx \(Voice\)](#)
[xxx-xxx-xxxx \(FAX\)](#)
[Email address](#)

NGA:

Principal Contact
CRADA Program Director
[Name of CRADA Program Director](#)
NGA/IDO Mail Stop S74
7500 GEOINT Drive
Springfield, VA 22150
[crada@nga.mil](#)

CRADA Project Lead
[IDO Project Lead Name](#)
NGA/IDO Mail Stop S74
7500 GEOINT Drive
Springfield, VA 22150
[xxx-xxx-xxxx \(Voice\)](#)
[Email address](#)

Principal Investigator/Technical POC

Name of NGA PI/Tech POC
Organization Name
Organization Mailing Address
xxx-xxx-xxxx (Voice)
xxx-xxx-xxxx (FAX)
Email address

Legal POC

Name of Legal POC
NGA/OGC-M
7500 GEOINT Drive
Springfield, VA 22150
571-557-2712 (Voice)

Security POC

NGA/SISI, MS N81-SISI
7500 GEOINT Drive
Springfield, VA 22150
xxx-xxx-xxxx (Voice)
xxx-xxx-xxxx (Fax)
IndustrialSecurity@nga.mil

Attachment 4: NGA CRADA Annual Report Template

NGA CRADA ANNUAL REPORT

(Completed on each annual CRADA anniversary)

1. CRADA Number:
2. CRADA Title:
3. CRADA Partner Organization:
4. Period covered by the Report:
5. Principal Investigators:
 - a. NGA:
 - b. Partner:
6. Other key CRADA Participants:
7. Accomplishments/Highlights for the current CRADA year:
8. Outstanding Issues:
9. Estimated partner expenditures for the current CRADA year (optional):
E.g., ~225 staff hours @ avg of \$100/hr = \$22500 in labor; \$5k travel; Total = \$27500.
Note: Either a total number or a breakdown of spending is fine. This is optional reporting to help NGA quantify the value of our CRADA program.
10. Is this a final report? Yes/No
 - If "Yes" (it is a final report) then:
 - a. Has any loaned data or equipment must be returned to its owner? Yes/No

- b. Has there been a termination meeting, telecon, or email between NGA and the CRADA Partner? Yes/No
 - If yes, please provide the date and any final action(s):
- c. Would you (the CRADA partner) consider another CRADA with NGA?

11. Please provide a list consisting of each individual whose clearances are sponsored under this CRADA and a detailed description of the work they have performed on the CRADA during the CRADA year for which you are reporting. The work description should be detailed enough to justify the clearance sponsorship (e.g., stating that someone simply performed “CRADA Technical Support” is NOT sufficient. We need to know the specific development that is performed, such as, “Designed and developed the user interface in C++ for the new semi-automated feature extraction tool that will be available in software release 4.2”).

| <u>Name of Cleared Individual</u> | <u>CRADA Support Provided During Current CRADA Year</u> | <u>Estimated Support Hours During Current CRADA Year</u> |
|-----------------------------------|---|--|
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