

**DEPARTMENT OF HOMELAND SECURITY (DHS)  
STATEMENT OF WORK**

for

Public Safety and Violence Prevention Research on the Use of Privacy-Enhancing Technologies and  
Drivers to Online Radicalization

**I. PURPOSE**

**I. BACKGROUND AND PROJECT OBJECTIVES**

In June 2023, the United States released the *National Strategy for Countering Domestic Terrorism*. This strategy highlights the need to prioritize funding for research into the factors that influence domestic terrorism and extremism, while underscoring the need to increase information sharing with foreign partners. The Strategy cites a requirement to address the role of the internet in influencing individuals to commit acts of domestic terrorism through continued participation of the United States Government (USG) in nongovernmental and multilateral efforts to understand and respond to terrorist content and activities online. To achieve these goals, the Strategy notes the need to “work bilaterally and multilaterally with many countries experiencing similar trends; for example, DHS also continues to coordinate with countries including Canada, the United Kingdom, Australia and New Zealand through the Five Country Ministerial and its working groups.”

An example of this continued partnership can be found in the Christchurch Call to Action to Eliminate Terrorist and Violent Extremism Content Online, an initiative led by New Zealand and France. The Christchurch Call is a community of over 130 governments, online service providers, and civil society organizations acting together to eliminate terrorism and violent extremist content (TVEC) online. Under the auspices of the Christchurch Call, in September 2022, the New Zealand and U.S. Governments, Twitter and Microsoft announced the Christchurch Call Initiative on Algorithmic Outcomes (CCIAO) in collaboration with open-source developer OpenMined. This project relies upon combining advanced privacy enhancing technologies while leveraging an external auditing software developed by OpenMined using these technologies which are integrated into the Contractor’s “PySyft” open-source software library. The CCIAO aims to answer important questions about Artificial Intelligence (AI)/human interactions online in a scaled, affordable, and user-friendly way, without compromising the security of systems nor the privacy of user information. It will achieve this by building a platform based on privacy enhancing technologies that allow participating entities to get useful answers to questions using data and systems without accessing those underlying data and systems. While there are privacy enhancing technologies currently in the marketplace, none are working with the Christchurch Call or the CCIAO.

The Contractor developed external auditing software in a phased approach while working with three platforms (Twitter/X, DailyMotion, and Microsoft) alongside third-party researchers to demonstrate a full proof of function. This software is currently made available for access with the general public through GitHub and PyPi, with version 0.9.0 currently available. This infrastructure enables researchers to access the sensitive data required to study algorithmic outcomes, and key platform risks such as radicalization pathways, in a privacy-protected, secure and ethical manner. It does this through the creation of a network of ‘nodes’ located within participating organizations protected through several privacy-enhancing technologies. These nodes enable an approved third party to ask questions and receive verified answers using data held securely by multiple organizations without accessing those data. Phase 1 was completed in November 2023, when the Contractor was able to build and test the infrastructure towards a proof of function supporting the integration of each participating platform that was in compliance with applicable United States and European Union legal frameworks. In addition, the Contractor was able to demonstrate its capabilities by conducting studies at multiple social media platforms with a small number of third-

party researchers. Phase 2 aims to build, evaluate, and refine the infrastructure while commissioning additional research on the amplification of TVEC through the CCIAO platform.

DHS Science and Technology Directorate (S&T), through its co-leadership of the Five Research and Development (5RD) Countering Violent Extremism Network, identified the common need across Five Eyes countries (Australia, Canada, New Zealand, the United Kingdom, and the United States) to conduct research to better understand the role of online media in radicalization and connecting online and offline activity. As such, S&T aims to conduct research in support of implementing commitments agreed as part of the Christchurch Call, to support the shift into Phase 2 of the CCIAO. This effort will integrate lessons from Phase 1 into the software infrastructure while scaling up and delivering new system components. These components, once built, tested, scaled, and deployed together, will help the U.S. and international partners develop a comprehensive cybersecurity framework that ensures integrity, confidentiality, and availability of the system with appropriate regulations and legal compliance, access controls, protection and recovery measures, testing and oversight to ensure the CCIAO project's success.

The Contractor shall provide deliverables under the following four tasks:

1. Task and Task Administration Support
2. Robust and Scalable Infrastructure
3. Advanced Research Requests
4. Comprehensive Data Owner Controls

## **II. PROJECT OBJECTIVES**

The contractor shall conduct research on how privacy-enhancing technologies could aid in the study of online radicalization, in support of the CCIAO.

## **III. TASKS**

### **Task 1: Task and Task Administration Support**

#### **Key Deliverables:**

#### ***1. Project Plan***

The Contractor shall deliver a project plan for all tasks. The Project Plan shall include, at a minimum:

- Project schedule
- Identification of key personnel
- Key milestones and deliverables
- Risk assessment
- Compliance documentation as needed
- Data collection plan

#### ***2. Deliverable Reviews***

The Contractor shall conduct deliverable reviews with the Government for all tasks. Deliverable reviews shall take place no later than 10 days after completion of each deliverable. Deliverable reviews will vary in formality depending on the nature of the engagement. The Contractor shall recommend a level of content and formality of each review within the Project Plan which may range from a teleconference to an in-person discussion supplemented with a written presentation and documentation.

**3. *Monthly Status Reports***

The Contractor shall provide monthly status reports for all tasks to the Government in a template provided by the Program Manager for the duration of the period of performance. The report shall include:

- Technical progress
- Schedule performance (actual vs. planned)
- Cost performance (actual vs. planned)
- Technical level risks and issues

Each monthly status report shall update the projected delivery dates of future deliverables. For each projected delivery date that has changed from the previous month, an explanation shall be provided of the cause of the change. The monthly status report shall also track action items assigned to all parties, including the Government, and identify events in the next 30 working days (i.e., key meetings).

**4. *Contract Kick-Off Meeting***

An initial kick-off meeting will be held within 15 calendar days of award or as agreed to by the Contracting Officer's Representative (COR) and will be attended by the DHS S&T Program Manager, COR, and the Contract Specialist/Contracting Officer. Key Contractor personnel as well as a representative from the Contractor's contracts organization are required to participate. Kick-off meetings may be conducted in person or by conference/video call. The intent of the kick-off is for all key personnel to meet to discuss the project's overall technical and contractual requirements. At this meeting, the Contractor shall be prepared to discuss the following:

- Technical Objectives
- Preliminary Project Plan
- Refine and assess the Project Plan
- Roles and responsibilities of key contractor and Government personnel
- Deliverables and Deliverable Acceptance Criteria
- Performance Review
- Reporting and Invoice Requirements

**5. *Contract/Task Close-Out Meeting***

The Government and the Contractor shall hold a contract/Task Close-Out meeting for all subsequent tasks. The contractor shall assemble final project deliverables and present a detailed overview of findings to the DHS S&T Program Manager, no later than 30 days before the end of the period of performance.

**Task 2: Robust and Scalable Infrastructure**

In this task, the contractor shall build upon previous versions of PySyft by adding functionality capable of hardening scalability and external data adapters. These new features shall be included within the PySyft software framework with improvements or additional functionality covering remote execution, request management automation, or project management tools which will enable 20+ data scientists to study data at an institution at a time. The contractor shall establish new infrastructure 'nodes' to access data stored externally and develop connectors and application programming interfaces (APIs) to seamlessly integrate data from disparate sources into existing infrastructure, ensuring compatibility, data consistency, and efficient data retrieval and processing.

**Key Deliverables:**

**6. *PySyft Version 0.9.5***

Updated functionality included in release of PySyft Version 0.9.5 in GitHub and PyPi.



**Task 3: Advanced Research Requests**

In this task, the contractor shall build upon PySyft by adding functionality for advanced data research requests, such as those that depend on later datasets or more computational intensive analysis, and release those improvements in PySyft 0.9.6. These new features shall be included within the PySyft software framework with improvements or additional functionality to include establishment of distributed workloads to support parallel processing of large datasets across multiple ‘nodes’, ability to implement specialized protocols to facilitate secure remote execution, and an enhanced job management system capable of providing better visibility and control to optimize resource utilization.

**Key Deliverables:****7. *PySyft Version 0.9.6***

Updated functionality included in release of PySyft Version 0.9.6 in GitHub and PyPi.

**8. *Report on Researcher Findings***

The Contractor shall produce a report for publication detailing precedents set and achievements made, aiming to normalize the practice of releasing third-party audit reports. The report shall be made publicly available, along with other reports generated from the CCIAO as a means to showcase transparency and progress to the public.

**Task 4: Advanced Data Owner Controls**

In this task the contractor shall build upon PySyft by adding functionality that provides comprehensive controls for effective research request management, as well as manual or automated enforcement of privacy policies, which is released with PySyft 0.9.7. Features to include extending the ability to automatically triage data queries from data scientists using an automatic differential privacy technique while extending the ability to perform verified computation in a secure enclave at a proof-of-concept level. Based on these extensions, the contractor shall create tutorials showing how to set up the privacy enhancing technique and a demonstration of how to use the proof-of-concept.

**Key Deliverables:****9. *PySyft Version 0.9.7***

Updated functionality included in release of PySyft Version 0.9.7 in GitHub and PyPi

**IV. Technical Deliverables**

<b>Task 1: Task and Task Administration Support (for all subsequent tasks)</b>			
<b>Deliverable</b>	<b>Completion Date</b>	<b>Deliverable Description</b>	<b>POC / Recipient</b>
1	45 Days after Award	Project Management Plan	DHS COR & PM OM Product Lead
2	10 Days following deliverable completion	Deliverable Reviews in accordance with Project Management Plan	DHS COR & PM OM Product Lead
3	Monthly Reporting	Monthly Status Report(s) for all subsequent tasks	DHS COR & PM OM Product Lead
4	15 Days after Award	Task Kick-Off Meeting	DHS COR, CO, & PM OM Product Lead
5	11 Months after award	Task Close-Out Meeting	DHS COR, CO & PM OM Product Lead
<b>Task 2: Robust and Scalable Infrastructure</b>			

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Deliverable	Completion Date	Deliverable Description	POC / Recipient
6	6 Months- after award	PySyft Version 0.9.5 on GitHub and PyPi	DHS PM OM Product Lead
<b>Task 3: Advanced Research Requests</b>			
Deliverable	Completion Date	Deliverable Description	POC / Recipient
7	9 Months after award	PySyft Version 0.9.6 on GitHub and PyPi	DHS PM OM Product Lead
8	9 Months after award	Report on Researcher Findings	DHS PM OM Product Lead
<b>Task 4: Comprehensive Data Owner Controls</b>			
Deliverable	Completion Date	Deliverable Description	POC / Recipient
9	11 Months after award	PySyft Version 0.9.7 on GitHub and PyPi to include tutorial on privacy enhancing technique and video demonstrating proof-of-concept	DHS PM OM Product Lead

## V. OTHER CONTRACT DETAILS

### **A. Period of Performance**

12 months from date of award

### **B. Travel**

Travel may be required in the performance of tasks listed herein. The DHS S&T COR must approve all travel. All travel and other direct costs associated with the execution of the tasks indicated in this SOW will be reimbursed in accordance with the limits set forth in the Federal Travel Regulations, provided the performer provides appropriate supporting documentation.

### **C. DHS-Furnished Information**

DHS will provide certain DHS information, materials, and forms unique to DHS to the Contractor to support certain tasks under this SOW.

The DHS S&T COR identified in this SOW will be the point of contact (POC) for identification of any required information to be supplied by DHS.

The Contractor will prepare any documentation according to the guidelines provided by DHS.

### **D. DHS-Furnished Facilities, Supplies, and Services.**

If work at DHS-provided facilities is necessary for the services being performed under this SOW, such facilities will be provided at S&T's office in Washington, DC. Parking facilities are not provided; however, several commercial parking facilities are located near S&T's office. Basic facilities such as workspace and associated operating requirements (e.g., phones, desks, utilities, desktop computers, and consumable, general purpose office supplies) will be provided to Contractor personnel working in S&T's office.

### **E. Place of Performance**

Contractor performance shall take place at 154 W 14th Street, New York, NY 10011, as well as remote locations.

### **F. Government Furnished and Contractor Acquired Property**

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a. The Contractor shall be accountable to DHS for personal property (1) provided by DHS as Government Furnished Equipment (GFE); or (2) that is Contractor Acquired Property (CAP) acquired with DHS funds where (a) the CAP has an acquisition cost of \$5000 or more or (b) where the CAP is sensitive assets of any value, defined as laptops, cameras, Ironkeys, and any other property that may have retainable storage memory. All CAP shall be approved by the DHS S&T COR for approval prior to purchase.

b. The Contractor shall provide a listing of all GFE or CAP to the DHS Contracting Officer and COR annually on the anniversary date of this Contract.

c. Ninety (90) days prior to the completion of work and acceptance of all deliverables under this Contract, the Contractor shall provide the DHS Contracting Officer and COR the final and complete listing of all GFE and CAP charged to this Contract with an acquisition cost of \$5,000 or more or sensitive assets.

d. The DHS Contracting Officer will provide the Contractor with instructions for disposition of all GFE and CAP and provide any additional funds to enable that disposition, as necessary.

### **G. Deliverables.**

The Contractor will provide all deliverables (interim and final technical reports) identified in this SOW directly to the DHS S&T PM, DHS S&T COR, and DHS Contracting Officer.

### **H. Program Status Reports.**

The Contractor will deliver monthly status reports to the DHS S&T COR, CO, and DHS S&T Financial Analyst on the 15th day of each month following the conclusion of each month containing metrics pertaining to financial, schedule, scope information, risk information, and performance assessment information of all work performed hereunder. This document will describe the previous 30 calendar days' activity, technical progress achieved against goals, difficulties encountered, recovery plans (if needed), plans for the next 30 calendar day period, and financial status.

### **I. Invoices.**

Invoices shall be submitted to [REDACTED] the COR, and the Contracting Officer.

### **J. Information Release.**

Prior to releasing any information developed using funds awarded under this Contract, the Contractor must route all materials to the DHS S&T COR and Contracting Officer who will ensure DHS S&T has approved the content release.

Please allow a minimum of three weeks for the review and screening of such information (including but not limited to articles, presentations, videos, speeches at conferences, pamphlets, and other forms of printed media) to ensure that such information's release does not violate security policies and procedures.

### **K. Security Requirements.**

All work performed under this SOW is unclassified unless otherwise specified by DHS. The Contractor will not have access to any sensitive information under this Contract.

DHS may exercise full control over granting, denying, withholding, or terminating unescorted access to DHS facilities, DHS systems, and/or sensitive DHS information for government/contract employees. Access will be based upon the results of a DHS fitness/suitability investigation. DHS may, as appropriate, make a favorable entry of duty (EOD) decision based on preliminary security checks. The favorable EOD decision would allow the government/contract employee to commence work temporarily prior to the completion of the full investigation. The granting of a favorable EOD decision shall not be considered as

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assurance that a full DHS fitness/suitability authorization will follow. The granting of a favorable EOD decision or a full DHS fitness/suitability authorization determination shall in no way prevent, preclude, or bar the withdrawal or termination of any such access by DHS, at any time during the term of the Contract. No employee of the government/contractor shall be allowed unescorted access to a DHS facility, access to any sensitive DHS information, or access to DHS Systems without a favorable EOD decision or DHS fitness/suitability determination by the DHS HQ Office of Security. Government/contract employees assigned to the Contract not needing access to sensitive DHS information, DHS systems, or access to DHS facilities will not be subject to DHS fitness/suitability screening. Government/contract employees waiting on an EOD decision may not begin work on the Contract. Limited access to DHS facilities is allowable prior to the EOD decision if the government/contract employee is escorted by an approved DHS employee. This limited access is to allow government/contract employees to attend briefings, non-recurring meetings, and begin transition work. During one's limited access, the government/contract employee will not have access to sensitive or classified DHS information.

### L. Points of Contact

OpenMined POCs are as follows:

**Executive Director**

[REDACTED]

**Head of Product**

[REDACTED]

**Head of Operations & Finance**

[REDACTED]

OpenMined may change the individual designated as a POC upon notice to DHS S&T of such change.

**DHS S&T Points of Contact are:**

**Contracting Officer**

[REDACTED]

Department of Homeland Security Office of Procurement Operations  
Science and Technology Acquisition Division  
245 Murray Lane, SW  
Washington, DC 20528

[REDACTED]

**DHS S&T COR**

[REDACTED]

Contracting Officer Representative  
Contract Acquisition Program Support (CAPS)  
Department of Homeland Security S&T Directorate

[REDACTED]

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**DHS S&T PM**

Ajmal Aziz  
Program Manager  
Department of Homeland Security S&T Directorate  
Email: [Ajmal.aziz@hq.dhs.gov](mailto:Ajmal.aziz@hq.dhs.gov)  
Phone: 202-254-6944

**DHS S&T Invoicing –**

U.S. DHS, ICE  
Attn: S&T EXD Invoice  
Burlington Finance Center  
P.O. Box 1000  
Williston, VT 05495-1000  
[InvoiceSAT.Consolidation@hq.dhs.gov](mailto:InvoiceSAT.Consolidation@hq.dhs.gov)

DHS S&T may change the individual designated as a POC upon notice to the Contractor of such change.