OMB CONTROL NUMBER 0693-0043
NIST GENERIC CLEARANCE FOR USABILITY DATA COLLECTIONS

NIST: Survey with First Responders about IoT Usage

FOUR STANDARD SURVEY QUESTIONS

1. Explain who will be surveyed and why the group is appropriate to survey.

The program at the National Institute of Standards and Technology (NIST) supporting the Internet of Things (IoT) research project is the Public Safety Communications Research (PSCR) division. The PSCR Division currently works with first responders and public safety officials to help target and clarify research goals. PSCR's aim for this study is to determine the most crucial information used by public safety during a mission critical event. NIST's goal is to expand and deepen our understanding of communications between first responders and show how IoT technologies may meet their needs. Additionally, it will become a foundation for future research on technology for first responders.

For this survey, we are looking to examine the technologies that first responders are currently using, as well as what data is provided by these technologies. PSCR already has a broad stakeholder group of technology savvy first responders, who would be able to provide feedback regarding these questions. Many of the people or organizations to be targeted with this survey are existing collaborators who've worked with PSCR on research projects in the past four years. Additionally, we will request those collaborators to forward the link to any fellow first responders they believe may be interested. We will accept the first 100 additional responses, bringing us to a maximum of 600 responses total. This survey will provide high level inputs relating to our next phase of research.

2. Explain how the survey was developed including consultation with interested parties, pre-testing, and responses to suggestions for improvement.

PSCR is researching the use IoT devices among first responders, and has consulted with numerous first responders to develop the interview questions. NIST PSCR operates an indoor and outdoor lab in Boulder, CO.
The basis of this proposed research project was formed at a recent IoT event. NIST PSCR convened over 25 stakeholders in public safety, industry, and academia at the Department of Commerce Boulder, CO campus to collect input on how public safety can best prepare for and leverage next generation Internet of Things (IoT) sensor and data collection capabilities. This two-day event took place April 3-4, 2019 and provided stakeholders an opportunity to identify and prioritize technology, interoperability, and standards gaps inhibiting IoT commercialization and sensor integration in public safety environments. In addition, stakeholders identified a list of high-priority gaps that research and development (R&D) organizations must address before public safety agencies can fully take advantage of commercial IoT capabilities. Attendees also brainstormed ways that R&D organizations can facilitate more consistent, efficient IoT data

exchange between industry and first responders. The interview questions seek to address these areas. Our proposed survey questions, we aim to address the priorities identified at this event. After formulating the research questions and interview questions, NIST PSCR consulted with two firefighters who hold significant experience and expertise in IoT technologies. They reviewed the questions and provided feedback. After securing PRA clearance, PSCR conducted a series of phone interviews with first responders. While the phone interviews yielded useful insights and information, the number of interviews we were able to conduct was limited by the first responders' busy and often unpredictable schedules.
This survey is intended to reach a broader group of first responders by avoiding the time and logistical burdens required in phone interviews. We intend to collect basic information about first responders' IoT usage and to provide an avenue for them to participate in a subsequent interview if they so choose.

3. Explain how the interviews will be conducted, how customers will be sampled if fewer than all customers will be interviewed, expected response rate, and actions your agency plans to take to improve the response rate.

The survey will be posted in a Google form for easy distribution and use by the recipients. PSCR will send the survey link via email to a maximum of 600 public safety stakeholders who've previously been identified as having interest in public safety communications technologies. The survey should 10 minutes per respondent (maximum total burden is 100 hours). Our team will collect all responses and use response data to confirm or change our use case for an upcoming prize challenge and contribute to our research goals. We expect a 20-30% response rate since many of the recipients are familiar with our public safety mission. We will send the survey out with a 2-week response request, then send one reminder after 1 week.

We will collect the names and contact information from recipients *only* if they elect to participate in our research beyond the survey. The participants' names will be utilized for scheduling purposes only; for the purposes of the survey and subsequent interviews, their answers will not be correlated to their names. Information is not kept in a Privacy Act System of Records, therefore a Privacy Act Statement and SORN are not applicable. Although names and contact information are asked for in the survey, it is referential in nature only and PSCR is are not actively pulling by that personal identifier.

4. Describe how the results of the survey will be analyzed and used to generalize the results to the entire customer population.

NIST's goal is to use the survey findings to produce a list of data objects that are created by first responder sensors and other tools. NIST PSCR will compile information into a document and to be used as a reference repository for exchange standards that exist today. We will define a standard format for sensor data so it can be used in systems more interchangeably and easily. NIST also aims to characterize data use by first responders in general, so that if there's an area where sensor data would benefit them, NIST can identify it. The information will be made freely available on the NIST PSCR website.