

NIST: Survey of Drone Usage by First Responders

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 survey 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. Many of the people and organizations to be targeted with this survey are existing collaborators who've worked with PSCR on research projects in the past ten years. The survey would ask first responders across the country, in varying disciplines of public safety (firefighting, law enforcement and emergency medical services) who may or may not currently be using drones (also referred to as UAS or Unmanned Aircraft Systems), to inform NIST of their current and future plans of using a drone to accomplish their daily or specialized tasks. NIST will contact all current stakeholders (people who have opted-in to NIST PSCR newsletters) and other partners who have shown an interest in NIST deployables (i.e. drones) research. NIST PSCR typically gathers user information by holding on-site workshops with stakeholders but, due to the timing requirements of needing this information, it was decided that an electronic survey will allow NIST to reach our goal of capturing the data from the same group in the needed timeframe.

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 of drones as a vehicle to deliver wireless communications for first responders. NIST PSCR operates an indoor and outdoor lab in Boulder, CO and also receives advice from deployable experts in other divisions at NIST Boulder and the NIST Robotics lab in Gaithersburg, MD. Through drones testing in these labs, and consultation from other experts both internal and external to NIST, we have narrowed the drones characteristics and specifications to a particular size, weight and flight time range that is not currently available. NIST PSCR has consulted with many first responders to determine whether the initial size and technical capabilities would satisfy their need of a drone carrying a wireless communications network, but every public safety operation, city and state are different. The survey will assist us in capturing a larger audience of varied use, needs and skills by asking first responders nationwide about their drones plans. Additionally, PSCR ran a UAS prize challenge, a competition, in 2018 and have included questions extrapolated from the challenge results in this survey. Prior to and during the 2018 UAS challenge, we consulted with first responders about their drones use cases at that point in time.

3. Explain how the survey will be conducted, how customers will be sampled if fewer than

all customers will be surveyed, 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 1000 public safety stakeholders who've previously been identified as having interest in deployables. The survey should take an average of 20 minutes per respondent (total burden is 333 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 and have expressed interest in assisting us with our research. We will send the survey out with a 2-week response request, then send one reminder after 1 week. No personally identifiable information will be collected, therefore this is not saved in a Privacy Act System of Records in which a Privacy Act Statement and SORN are applicable.

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

PSCR is preparing for a 2nd UAS challenge in 2019. The results of the survey will be directly incorporated into the design or use case of the prize challenge. As with all NIST PSCR challenges, we will announce the challenge publicly and notify the PSCR and UAS community with emails, website and social media posts. The survey recipients and other stakeholders are encouraged each quarter to monitor our research and challenges through quarterly newsletters. Additionally, we will announce the pre-launch of our 2019 UAS Challenge and the results of the survey at our PSCR stakeholder conference in July 2019, with an opportunity for attendees to provide feedback and attend Q&A sessions.