### Welcome to the Public Safety Survey on Communication Technology

Help us get requirements for public safety technology right! This is your chance to tell us what works, what doesn't, and what technology you think would be useful for incident response communications.

NIST, the National Institute of Standards and Technology, is conducting this survey. Our goals are to identify:

- 1. technology currently used for communication in public safety today;
- 2. problems experienced with this technology;

3. other kinds of technology that may be helpful for communication in public safety in the future. The survey will take about 20 minutes to complete.

Please share the survey link with others you know in public safety, the more folks we hear from the better. www.XXXX.nist.gov

We appreciate your time and input!

Your Participation is Confidential and Voluntary

All data are de-identified. No personally identifiable information (PII) is collected or associated in any way with your survey responses. Your participation is voluntary and you may choose to quit the survey at any time.

This collection of information contains Paperwork Reduction Act (PRA) requirements approved by the Office of Management and Budget (OMB). Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subject to a penalty for failure to comply with, a collection of information subject to the requirements of the PRA unless that collection of information displays a currently valid OMB control number. Public reporting burden for this collection is estimated to be 20 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed and completing and reviewing the collection of information. Send comments regarding this burden estimate or any aspect of this collection of information, including suggestions for reducing this burden, to the National Institute of Standards and Technology, Attn: Mary Theofanos, maryt@nist.gov, (301) 975-5889. OMB Control No. 0693-0043, Expiration Date: 12-31-2018.

### **Demographics**

1. How many years have you been working in public safety? (Total years of service, regardless of changing positions or departments.)

2. Do you consider the area you currently work in as **MAINLY**:

🔵 Rural

🔵 Suburban

- 🔵 Tribal
- 🔵 Urban

3. Zip Code where you currently work. (We know that some agencies cover different zip code areas; please list the zip code where your agency/station is actually located.)

4. State where you currently work

5. Sex

🔵 Male

Female

### 6. Age

### 7. Do you **MAINLY** work in:

911/Dispatch

- O EMS
- Fire Fighting
- Law Enforcement

### 8. Is your agency:

- O Private
- O Public

### 9. What is your title?

### 10. What is your jurisdictional level?

- 🔿 Local
- County
- ) State
- **Federal**
- 🔵 Tribal

### Use of technology in your DAY-TO-DAY work

We know there is no such thing as a "typical" day in public safety. However, for this set of questions, focus on the kinds of things you use in your day-to-day work.

11. Think about your **DAY-TO-DAY** work and your use of the following **devices**. (We know medical equipment is vital to EMS work, however this list focuses specifically on communication technology and not on things like blood pressure cuffs, CPR masks, tourniquets, etc.)

	Use a lot	Use occasionally	Have but do not use	Do not have
Computer: desktop	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Computer: laptop	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Flip phone: work issued	$\bigcirc$	ightarrow	•	$\bigcirc$
MDT/MDC (mobile data terminal/computer)	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Mic: wireless	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Mic: with cord	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Pager	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Radio: in-vehicle	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Radio: portable	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Smartphone: personal	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Smartphone: work issued	$\bigcirc$	0	•	$\bigcirc$
Tablet	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Other (please specify)				

### 12. Of the following devices, RANK the 5 that are most useful in your DAY-TO-DAY work, with 1 being the most useful. ii **Computer:** desktop **\$** Computer: laptop .... **\$** Flip phone: work issued .... MDT/MDC (mobile data terminal/computer) :: .... **\$** Pager Radio (with or without mic) :: .... **\$** Smartphone **‡** Tablet ....

# 13. Think about your DAY-TO-DAY work and your use of the following **applications/software**.

	Always use	Use a lot	Use occasionally	use	Do not have
AED (automatic external defibrillator) locator	•	•	•	•	•
CAD (computer- aided dispatch)	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Email	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
EPCR (electronic patient care reporting)	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
ERG (emergency response guide)	0	$\bigcirc$	0	$\bigcirc$	0
First responder vehicle tracking	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Mapping/driving directions	0	$\bigcirc$	0	$\bigcirc$	0
Medication/drug identification or interaction	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
RMS (records management system)	0	0	$\bigcirc$	ightarrow	0
Report writing software (other than patient care reports)	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Traffic	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Weather	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Other (please specify	/)				

	he following applications/software, rank the 5 that <b>are most useful</b> in <b>AY-TO-DAY</b> work, with 1 being the most useful.
**	AED (automatic external defibrillator) location
	CAD (computer-aided dispatch)
	<b>♦</b> Email
	EPCR (electronic patient care reporting)
	ERG (emergency response guide)
	First responder vehicle tracking
	Language translation
	Mapping/driving directions
	Medication/drug identification or interaction
	RMS (records management system)
	Report writing software (other than patient care reports)
	♣ Traffic
	<b>♦</b> Weather

# 15. Which of the items below **would also be useful** for your **DAY-TO-DAY** work. Check all that apply

AR (augmented reality)
Automatic transmission of patient vitals and information to hospital
AVL (automatic vehicle location)
Drones
Earpiece: wired
Earpiece: wireless
Health/vitals monitoring of first responders
Health/vitals monitoring of patients
HUDs (heads-up displays)
Indoor mapping
One login (instead of many different usernames and passwords)
Real-time on-scene video
Robots
Self driving vehicles
Smart buildings
Smart glasses
Smart watch
Voice controls for hands-free input
Voice recognition for identification
VR (virtual reality)
None of the above
Other (please specify)

## Problems with your Day-TO-DAY devices

For the next set of questions, think about problems you have experienced with 3 of the devices you previously selected.

### 16. With your **RADIO**, have you experienced problems with:

		Most of the				Does not
	Always	time	Sometimes	Rarely	Never	apply
Audio quality	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Battery life	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Channel switching	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Cord	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Coverage/dead zones	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Durability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Interoperability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Outdated/old	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Price: too expensive	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Radio discipline/etiquette	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Size/bulkiness	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### 17. Have you experienced other problems with your RADIO?

🔵 No

Yes

### 19. With your **MIC**, have you experienced problems with:

		Most of the				Does not
	Always	time	Sometimes	Rarely	Never	apply
Audio quality	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Cord	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Durability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Falling off	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Outdated/old	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Placement on body	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Price: too expensive	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Talk button location	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Talk button size	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### 20. Have you experienced other problems with your MIC?

_	<hr/>	
		No
(	)	INO

O Yes

### 22. With your **PAGER**, have you ever experienced problems with:

	Always	Most of the time	Sometimes	Rarely	Never	Does not apply
Battery life	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Durability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Falls off easily	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Outdated/old	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Price: too expensive	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	•
Size/bulkiness	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### 23. Have you experienced other problems with your PAGER?

- 🔿 No
- O Yes



# 25. With your **MDT/MDC (mobile data terminal/computer)**, have you experienced problems with:

	Always	Most of the time	Sometimes	Rarely	Never	Does not apply
CAD (computer- aided dispatch)	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Durability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Glare	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Interoperability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Lack of portability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Mapping/navigation	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Logins/passwords	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Outdated/old	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Price: too expensive	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Size/bulkiness	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Using while driving	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### 26. Have you experienced other problems with your **MDT/MDC**?

🔿 No

O Yes

# 28. With your **SMARTPHONE** (work-issued or personal), have you experienced problems with:

	Always	Most of the time	Sometimes	Rarely	Never	Does not apply
Battery life	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Coverage/dead zones	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Data plans/data limits	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	0
Dropped calls	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Durability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Glare	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Interoperability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Logging in (PINS, passwords, usernames, etc.)	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Outdated/old	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Permission/access to apps	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Policies about usage	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	0
Price: too expensive	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Subpoena possibility for personal smartphone	ightarrow	0	$\bigcirc$	•	ightarrow	•
Subsidy for personal smartphone (insufficient or no subsidy)	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

29. Have you experienced other problems with your SMARTPHONE (work-issued	
or personal)?	
◯ No	
○ Yes	

### 31. With your **LAPTOP**, have you ever experienced problems with:

	Always	Most of the time	Sometimes	Rarely	Never	Does not apply
Battery life	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Durability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Glare	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Internet connection	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Interoperability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Logins/passwords	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Outdated/old	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Power source/recharging issues	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Price: too expensive	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	•
Size/bulkiness	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Software crashes	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	
Software updates/upgrades	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Weight	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

## 32. Have you experienced other problems with your LAPTOP?

🔿 No

Yes

### 34. With your TABLET, have you experienced problems with:

		Most of the				Does not
	Always	time	Sometimes	Rarely	Never	apply
Battery life	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Durability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Glare	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Internet connection	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Interoperability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Logins/passwords	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Report writing	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Size/bulkiness	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Touchscreen	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	0
Weight	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$

### 35. Have you experienced other problems with your TABLET?

(		Ma	
	)	INC	)

O Yes

### 37. With your **DESKTOP COMPUTER**, have you ever experienced problems with:

	Always	Most of the time	Sometimes	Rarely	Never	Does not apply
Internet connection	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Interoperability	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Logins/passwords	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Outdated/old	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Price: too expensive	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Software crashes	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
Software updates/upgrades	0	0	0	$\bigcirc$	$\bigcirc$	$\bigcirc$

### 38. Have you experienced other problems with your **DESKTOP COMPUTER**?

🔵 No

O Yes

## Use of technology in a MAJOR DISASTER.

The next set of questions focus on your use of technology during major disasters, natural or man-made.

40. Have you ever worked in public safety during a **MAJOR DISASTER**, something that disrupts your day-to-day operations? For example, an MCI (mass casualty incident).

🔿 No

O Yes

41. Have you ever worked in public safety during a LARGE, PLANNED EVENT? For example, a concert, football game, or parade.

🔵 No

🔵 Yes

42. Think about the technology you use during a **MAJOR DISASTER**. How similar or different is it than the technology you use during your day-to-day work?

- I use mostly the same technology.
- 🔿 I use some of the same technology, with some specialized technology.
- I use very different technology.

#### 43. Please list the **specialized** technology you use during a **MAJOR DISASTER**.

# 44. Please list the **most important** technology you use during a **MAJOR DISASTER**.

45. In addition to the technology you use day-to-day, which of the following do you think would be helpful during a **MAJOR DISASTER**? Check all that apply.

Deployable communication technology (such as cell towers on	wheels)
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- Drones
- Helicopters
- Mobile command centers
- Remote sensing (by aircraft or satellite)
- Robots

Other (please specify)

### Use of technology in a LARGE, PLANNED EVENT.

The next set of questions focus on your use of technology during a LARGE, PLANNED EVENT.

46. Think about the technology you use during a LARGE, PLANNED EVENT. How similar or different is it to the technology you use during your day-to-day work?

I use mostly the same technology.

I use some of the same technology, with some specialized technology.

I use different technology.

47. Please list the **specialized** technology you use during a **LARGE, PLANNED EVENT**.

48. Please list the **most important** technology you use during a **LARGE, PLANNED EVENT**.

49. In addition to the technology you use day-to-day, which of the following do you					
think would be helpful during a LARGE, PLANNED EVENT?					
Deployable communication technology (such as cell towers on wheels)					
Drones					
Helicopters					
Mobile command centers					
Remote sensing (by aircraft or satellite)					
Robots					
Other (please specify)					
Robots					

## VR (Virtual Reality)

These questions ask you to think about the use of VR (virtual reality) in your work.

### 50. Do you think VR (virtual reality) would be useful for training in your work?

- 🔿 No
- Yes
- Not sure

### 51. Do you see VR as useful in other ways for your work?

- 🔵 No
- Yes
- Not sure

### 52. Please explain.

53. While this survey is focused on communication technology, we are also interested in your views on medical technology. Please list the medical devices or applications/software that you think are most important for your work.

54. Is there anything else you would like to tell us about your experience with technology in your work?

Thank you for taking the survey!