

# PULLING THE *FUTURE FORWARD*

ABOUT  
PSCR

5 KEY  
RESEARCH AREAS

STRATEGIC  
TOPIC AREAS

RESEARCH  
PARTNERS

INTRAMURAL  
IMPACTS

EXTRAMURAL  
IMPACTS

**The Public Safety Communications Research (PSCR) Division is the primary federal laboratory conducting research, development, testing, and evaluation for public safety communications technologies.** It is housed within the Communications Technology Laboratory (CTL) at the National Institute of Standards and Technology (NIST). It addresses the R&D necessary for critical features identified by public safety entities beyond the current generation of broadband technology.

## MISSION

PSCR is driven towards advancing public safety communications technologies by accelerating the adoption and implementation of the most critical communications capabilities to ensure the public safety community can more effectively carry out their mission to protect lives and property during day-to-day operations, large scale events, and emergencies.

## PROMISE

PSCR accelerates innovation by investing in research to transform the future of public safety communications, technology, and operations.



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LMR TO LTE

LOCATION-BASED  
SERVICES

MISSION  
CRITICAL  
VOICE (MCV)

USER INTERFACE  
USER EXPERIENCE

PUBLIC SAFETY  
ANALYTICS

TWO CROSS-CUTTING  
RESEARCH AREAS

SECURITY

RESILIENT  
SYSTEMS



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As the leading research facility, PSCR supports the development of a nationwide network and impacts the following strategic priority areas:

**AI TO INCREASE  
OPERATIONAL  
RESPONSE**

**PUBLIC SAFETY  
RESILIENT  
COMMUNICATIONS**

**LIVE 3D  
INDOOR  
TRACKING**

**5G IOT SENSOR  
NETWORKS FOR  
PUBLIC SAFETY**

**PUBLIC SAFETY  
NEXT GENERATION  
HEADS UP  
DISPLAYS**





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## PRODUCTS

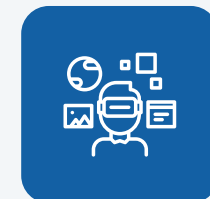
### MEASUREMENT METHOD METRICS



MCV QUALITY OF  
EXPERIENCE



PUBLIC SAFETY  
PUSH-TO-TALK MODELING



VIRTUAL REALITY  
ENVIRONMENT



PUBLIC SAFETY ANALYTICS  
OPEN FRAMEWORK



INDOOR LOCALIZATION  
ACCURACY

### TOOLS

12

OPEN SOURCE  
SOFTWARE

### PUBLICATIONS

77

## STANDARDS

### LTE

483 CONTRIBUTIONS FOR PUBLIC SAFETY  
SERVICE & FEATURE REQUIREMENTS,  
ARCHITECTURE, & PROTOCOL  
SPECIFICATIONS

### LMR TO LTE

3GPP-STANDARDS BASED LMR TO LTE  
INTERFACES FOR PUBLIC SAFETY

## UNIQUE RESOURCES

### PUBLIC SAFETY INNOVATION LAB



40-GIGABIT  
CORE LTE NETWORK



P25 PHASE 1 AND 2  
LMR SYSTEM



2 RF CHAMBERS  
FOR TESTING DEVICES



INTEROPERABILITY LAB  
INTERCONNECTING LMR AND LTE SYSTEMS



VIRTUAL & AUGMENTED  
REALITY LAB



MOBILE RESEARCH VEHICLE  
FOR FIELD MEASUREMENTS

## REACH

### HOSTED EVENTS

MORE THAN  
60

STAKEHOLDER  
ENGAGEMENTS  
SINCE 2016

### LABORATORY VISITORS

MORE THAN  
1,300

VISITORS SINCE 2016

### STAFF

99

# OF NIST STAFF  
WORKING ON PSCR'S MISSION

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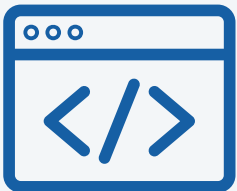
## EXTRAMURAL RESEARCH

GRANTS AND COOPERATIVE AGREEMENTS

OVER **\$58M**  
**IN GRANTS  
AWARDED  
TO DATE**

**167 TOTAL**  
AWARD RECIPIENTS  
SUBCONTRACTORS &  
PUBLIC SAFETY PRACTITIONERS

**1 PATENT GRANTED**  
FOR RESILIENT SYSTEMS  
AWARD RECIPIENT

OVER **20**   
PUBLICALLY AVAILABLE  
**OPEN SOURCE CODE**  
INCLUDING VR ENVIRONMENTS  
& ANALYTICS FRAMEWORKS

**3 PATENT APPLICATIONS**  
**SUBMITTED FOR**  
LOCATION-BASED SERVICES AWARD RECIPIENTS

## WHICH WORDS BEST DESCRIBE PSCR'S ANNUAL STAKEHOLDER MEETING?

CUTTING EDGE  
**INNOVATION** FUTURISTIC  
RELEVANT **COMMUNITY** ORGANIZED EDUCATIONAL  
INTERESTING **INFORMATIVE**  
DEDICATION **NETWORKING** WELL-RUN  
**TECHNOLOGY** USEFUL **COLLABORATION**

## OPEN INNOVATION

PARTICIPANTS  
FROM **20**  
STATES  
& **7**  
COUNTRIES

**12 CHALLENGES**   
**LAUNCHED**  
**WINNERS:**   
**130 TEAMS**

OVER **\$2.1M**  
**IN PRIZES  
AWARDED  
TO DATE** 

OVER **350**  
**TOTAL  
SUBMISSIONS**

## RESEARCH PUBLICATIONS

EXTRAMURAL

**77**  
**PSIAP AWARD RECIPIENT  
PUBLICATIONS**

**73** PROFESSIONAL JOURNAL/  
CONFERENCE PROCEEDINGS  
**4** OTHER PUBLICATIONS