

PULLING THE *FUTURE FORWARD*

ABOUT
PSCR

5 KEY
RESEARCH AREAS

RESEARCH
FACILITIES

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.

VISION

Through the use of advanced communications technologies, the public safety community can more effectively carry out their vital mission to protect lives and property— from day-to-day operations to large events and emergencies.

MISSION

To fulfill this vision, PSCR collaborates with public safety, industry, academia, other Federal Government agencies, and the solver community to advance next-generation communications technologies that meet the operational requirements of first responders through research, development, and innovation.

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USER INTERFACE
USER EXPERIENCE



LOCATION-BASED
SERVICES



MISSION CRITICAL
VOICE



NEXT GENERATION
SYSTEMS INTEGRATION



UNCREWED
AIRCRAFT SYSTEMS



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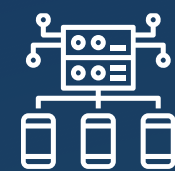
EXTRAMURAL
IMPACTS

RESEARCH FACILITIES

Public Safety Innovation Lab



40-Gigabit
Core LTE
Network



P25 Phase 1 & 2
LMR System



2 RF Chambers
for Testing
Devices



Interoperability Lab
Interconnecting LMR
and LTE Systems

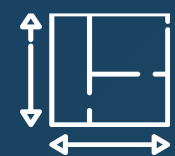


Virtual and
Augmented
Reality Lab



Mobile Research
Vehicle for Field
Measurements

Public Safety Immersive Test Center



A Modular
Layout



A Motion Capture System with 62 High
Speed Optical Tracking Cameras
Capable of Centimeter Accuracy



A Variety of Augmented
& Virtual Reality
Headsets



A Mobile Staircase &
Other Equipment for
Z-Axis Motion



Physical Furniture and
Gear to Add a Tactile
Component to Simulations

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PRODUCTS

Measurement Method Metrics



MCV Quality Of
Experience



Public Safety
Push-To-Talk
Modeling



XR Test Bed
for Usability



Uncrewed Aircraft
System Technology
Acceleration



Indoor
Localization
Accuracy

Research Tools



30

Open-Source
Software



115

Internal
Publications

Standards

LTE

483 Contributions for Public
Safety Service & Feature
Requirements, Architecture,
& Protocol Specifications

LMR
to LTE

Initiated Many 3GPP Standards-
based LMR to LTE Interfaces for
Public Safety

REACH

Hosted Events

More than
116

Stakeholder Engagements
Since 2016

Lab Visitors

More than
3319

On-site and Virtual
Visitors Since 2016

STAFF

37

Staff Members Working
on PSCR's Mission

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EXTRAMURAL RESEARCH

Grants and Cooperative agreements



\$108M

In Grants
Awarded to Date



262

Total Award Recipients,
Subcontractors, and Public
Safety Practitioners



209

External Software Resources



11

Patents
Granted



16

Patent
Applications
Submitted

Open Innovation



Winners from
31 STATES
&
7 COUNTRIES



22
Challenges
Launched



286
Winning
Teams



\$8.1M
In Prizes
Awarded
To Date



794
Prizes
Awarded



1,127
Total
Submissions

Commercialization Highlights

26 public safety organizations involved in commercialization efforts

20 funding opportunities with public safety demonstrations and pilot projects

10 agencies that provided SBIR follow-on funding to commercialization program participants

Research Publications

355

External Journal and Conference
Publications