

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.

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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**USER INTERFACE
USER EXPERIENCE**



**LOCATION-BASED
SERVICES**



**MISSION CRITICAL
VOICE**



SECURITY



**UNCREWED
AIRCRAFT SYSTEMS**



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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



Public Safety Analytics Open Framework



Indoor Localization Accuracy

Research Tools



18 Open Source Software



96 Publications

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

REACH

Hosted Events

More than
85

Stakeholder Engagements Since 2016

Lab visitors

More than
2200

On-site and Virtual Visitors Since 2016

STAFF

43

Staff Members Working on PSCR's Mission

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**EXTRAMURAL
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EXTRAMURAL RESEARCH

Grants and Cooperative agreements



\$90.3M+

In Grants
Awarded to Date



247

Total Award Recipients,
Subcontractors, and Public
Safety Practitioners



20+

Publicly Available Open
Source Code including VR
Environments & Analytics
Frameworks



2

Patents Developed for
Spectronn (A Resilient
Systems Award
Recipient)



8

Patent Applications
Submitted for Location-
Based Services Award
Recipients

Open innovation



Winners
from
**31 STATES
&
7 COUNTRIES**



20
Challenges
Launched



246
Winning
Teams



\$5.3M+
In Prizes
Awarded
To Date



603
Prizes
Awarded



848
Total
Submissions

Which words best describe PSCR's Annual Stakeholder Meeting?



Research Publications

152

PSIAP Award Recipient
Publications

132

Professional Journal/
Conference Proceedings

20

Other
Publications