Public Safety SuperCluster

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A Chinese space station is falling to Earth next year — but it’s the last thing to worry about.


A Las Vegas mass casualty shooting 1 Oct 2017


2017 Hurricane Season

Hurricane Harvey 24-28 August

Hurricane Nate 4-8 October

Hurricane Irma (+ Jose and Katia) 5-10 September

Hurricane Maria 18-24 September
Public Safety SuperCluster (PSSC)
Research & Development in “Smart Public Safety”

Alameda / San Francisco, CA
Conover, NC
Denton, TX / UNT / PSU
Fairfax County, VA / GMU
Lafayette, LA / UL Lafayette
Las Vegas, NV
Montgomery County, MD
Nashville, TN
Newport News / VA Beach, VA
North Central Texas COG
Orlando, FL
Ronart / Santa Rosa, CA
San Francisco, CA
Washington, DC
Genoa / Milan / Torino, Italy
Taichung City, Taiwan
Wakayama / Nagano / Miyagi Prefectures, Japan

Al-based Emergency Preparedness
GEO Fencing Predictive Policing Solutions
Deployable Communications & Incident Command
Multi-Team Coordination & Analysis
Louisiana Business Emergency Operations Center
IoT for Preparing Underserved Communities
Safe Community Awareness and Alerting Network
Integrated Analytics & Scheduling of First Responders
Storm Sense Inundation and Flood Prediction Modeling
Smart Emergency Response System
Video Analytics for Public Safety during Special Events
Advanced Flood Warning & Environmental Awareness
Mobile Micro-Grids for Disaster Resilience
Cyber City Education & Awareness Platform
Open Platform for Smart City Disaster Prevention
Community Traffic Control for Disaster Response
NerveNet Regional Resilience IoT Platform

https://pages.nist.gov/GCTC/super-clusters/
“All Hazards” Approach to Disaster Preparedness

Blueprint for Smart Public Safety in Connected Communities
An initiative of the Global City Teams Challenge
August 28, 2017

https://pages.nist.gov/GCTC/super-clusters/
“Whole Community Approach” to Disaster Planning

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https://pages.nist.gov/GCTC/super-clusters/
Public Safety & Response – Coordination of emergency operations among responder agencies);

Emergency Management and Preparedness – Coordination of local, regional, and federal agencies and resources across the emergency management cycle;

Disaster Recovery – Integration of policy and social, economic, and behavioral dimensions to the challenge of post-disaster community recovery;

City Resilience – Application of advanced and emerging technologies to the broader challenges of community resilience and social cohesiveness and identity.

How to Use the Blueprint – Designing and implementing a resilient, Smart Public Safety program.
Comprehensive Preparedness Guide Planning Steps
https://www.fema.gov/media-library/assets/documents/128572

The “Whole Community Approach” to Disaster Planning
Comprehensive Preparedness Guide Planning Steps

DHS Interoperability Continuum Elements (https://www.dhs.gov/publication/interoperability/)
City Agency Leadership
PS, EM, DR, CR

City Use Cases based on AARs

PSAP, PSA & Public Alerts/Warnings

Smart Public Safety Solution Design

City-Wide Workshop: Requirements Definition

Public Safety Community Guidelines (Continuum, NIMS, ICS)

Public Safety Technology needs

City Agencies “Action Clusters”

Playbook Development By Focus Areas

Smart Public Safety Playbook implementation within Communities and PS Agencies
Principles for Collaboration in Smart Public Safety

• Gain leadership commitment from all agencies & communities;
• Devise the appropriate governance structure and strategy;
• Foster collaboration across disciplines through leadership support;
• Use interoperability solutions and technologies to drive collaboration;
• Obtain commitment of government to ensure policy and resource support;
• Plan and budget for ongoing updates to systems, procedures, and documentation;
• Build a program to sustain the collaboration and coordination for the long run.
Principles for Technology Insertion for Smart Public Safety

1. Identify opportunities for technology to provide just-in-time access to relevant information and decision support to improve collaborative planning and mobilize resources to speed community recovery.

2. Ensure that technology development and adoption supports current and future needs for both organization and system compatibility (adopt open technology standard to enhance an open community).

3. Provide relevant information to all citizens to ensure the preservation of community cohesion, social structures, and motivation, and to engage the talent and energy of the entire community.

4. Ensure the ability of all technology applications for data capture and analysis to improve future disaster recovery methodologies and develop a “Learning Organization” approach to community resilience.

5. Build a “Culture of Resilience” across community functions, focused on disaster recovery as a critical community capability (i.e., plan for Recovery, rather than simply for Response).

6. Develop a strong Business Case for technology investment and adoption (e.g., technologies with utility during both “Blue Sky” and “Dark Sky” conditions).

7. Develop a Safety Case that addresses opportunity costs and potential losses from a failure to invest in public safety technologies and to ensure political and financial investment in resilience strategies.
GCTC 2018 Focus: Cybersecurity and Privacy in Smart & Secure Cities

Foundation for Public Safety: Trustworthiness

- Security
- Privacy
- Safety
- Resilience
- Reliability

https://pages.nist.gov/GCTC/super-clusters/
Challenges in Cybersecurity and Privacy affecting Public Safety

- Identity management and credentialing of personnel + “credentialing of things”
- Public interacting with government “online” rather than “in line”
- Data security and assurance for technologies affecting children, families, schools, etc.
  Particularly virtual/augmented reality systems
- Data security and assurance for collaboration between jurisdictions
  Policy problem solved by a technology application
- Public education and awareness and definitions of “truth” in public safety context
  Decision not to evacuate New Orleans during Hurricane Nate
  Decision to alert the public about a possible nuclear attack on Hawaii
- Activating victims’ mobile devices remotely during disasters
Lastly, An Invitation:

- Identify/Form GCTC / PSSC Action Cluster
- Join us at the Smart Public Safety Workshop
  
  Motorola Headquarters, Chicago
  31 July – 01 August

Objectives

- Develop the template for a City Play Book for SPS
- Define the application of Cybersecurity in SPS
- Determine future objectives & structure for PSSC
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Questions for Consideration

- What sensors and devices do you expect to be used in the future that are not currently deployed?
- If those devices collect data, what information would you want collected and in what format?
- How will universal wireless connectivity change the nature of Public Safety communications?
- Should Public Safety related data be hosted in the “Cloud” or maintained on local servers?
- What should be the balance between real-time data analytics and professional judgment and experience?
- How should the User Interface / User Experience be balanced between deployed personnel, Incident Command, PSAP Dispatch, and Agency HQ/EOC?
Mission Statement

The NIMSAT Institute seeks to enhance the resiliency of the United States by conducting research, building public-private partnerships, and developing technologies to support the first responder and homeland security communities, and contribute to the mission of saving lives and mitigating the consequences of natural and human-caused disasters.
Supply Chain Interdependency Analysis

Human Geography Mapping of Crisis Leadership Networks

Points of Distribution (POD) location optimization

Consequence Analysis of Natural Gas Pipeline Disruptions

LABEOC Open for Business App piloted during DR-4277-LA

Louisiana Hazard Information Portal

Fuel Demand & Supply Prediction for Regional Evacuation

Consequence Analysis of Natural Gas Pipeline Disruptions

Louisiana Hazard Information Portal

"Research for a Reason"
A Public / Private Sector Partnership and Information-Sharing Portal to:

- Establish Situational Awareness across public and private sectors
- Support State disaster recovery when public resources are exhausted

And a resource to enable businesses to

- PROVIDE information
- OBTAIN information
- Identify REQUIREMENTS
- Provide RESOURCES

www.labeoc.org
State EOC / LA BEOC Activation and Coordination

Louisiana State Emergency Operations Center

Abdalla Hall
UL Research Park

Information and Data Flow

SEOC to BEOC

Contracts and Donations

Situational Awareness

State Private Sector Entities and Resources
LABEOC Activation for Real-World Disasters

**State of Louisiana**

**EXECUTIVE DEPARTMENT**

**PROCLAMATION NUMBER 111 JBE 2016**

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**STATE OF EMERGENCY — HEAVY RAIN AND FLOODING**

WHEREAS, the Louisiana Homeland Security and Emergency Assistance and Disaster Act, La. R.S. 29:721, et seq., confers upon the Governor of the State of Louisiana emergency powers to deal with emergencies and disasters, including those caused by fire, flood, earthquake or other natural or manmade causes, in order to ensure that preparations of this State will be adequate to deal with such emergencies or disasters and to preserve the lives and property of the people of the State of Louisiana;

WHEREAS, when the Governor determines that a disaster or emergency has occurred, or the threat thereof is imminent, La. R.S. 29:724(B)(1) empowers the Governor to declare a state of emergency by executive order or proclamation, or both;

WHEREAS, a flash flood watch is in effect for all of southeastern Louisiana until at least Saturday morning, with rainfall accumulations of seven to ten inches likely, with some areas expected to receive more.

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**LABEOC Activations under State and Federal Disaster Declarations**

- **2010 -** Deepwater Horizon Oil Spill
- **2011 -** Mississippi River Flooding (DR-4041-LA)
- **2012 -** Tropical Storm Lee (DR-4041-LA)
- **2013 -** Hurricane Isaac (DR-4080-LA)
- **2014 -** Severe Storms and Flooding (DR-4102-LA)
- **2015 -** Severe Storms and Flooding (DR-4228-LA)
- **2016 -** Great Floods of Louisiana (DR-4262 / 4277-LA)
- **2017 -** St. James and St. John Parish tornados
- **2018 -** Livingston and Orleans Parish tornados (DR-4300-LA)

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**GOHSEP Daily Operations Brief**

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*August 16 2016 as of 8: 30 a.m.*
OGC Smart City Interoperability Reference Architecture

ABSTRACT

This presentation will offer an overview of the “Blueprint for Smart Public Safety” developed by the members of the Public Safety SuperCluster of the Global City Teams Challenge, an international Smart City initiative of the National Institute for Standards and Technology (NIST). This initial release of the Blueprint for SPS considers issues related to smart city technology development and deployment of importance for first responders, city administrators and agencies, community leaders, and technology firms and private sector entities engaged in public-private partnerships to enhance overall community resilience and disaster recovery. At its initial stage of development, the Blueprint addresses standardization of technologies from the perspective of ensuring compatibility among purpose-designed applications—whether locally or nationally developed—and the obvious need for common operating systems to accommodate a variety of communications technologies and decision-support applications. As a consequence, the Public Safety SuperCluster, and the Smart City movement generally, will benefit from a focused discussion about the need for and benefits of an Interoperability Reference Architecture to help guide the design of future technology applications within the Smart Cities and Communities initiative.