





# Emergency Management of Tomorrow Research: Emergency Operations Center of the Future Tabletop Exercise

*Seattle, WA Tabletop Exercise*

*June 2024*

Science and Technology

This report was prepared for the U.S. Department of Homeland Security under a Work-for-Others Agreement with the U.S. Department of Energy, contract DE-AC05-76RL01830, IA 70RSAT23KPM000025.

Pacific Northwest
NATIONAL LABORATORY

PNNL-36060

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## Seattle, WA Tabletop Exercise

June 2024

Nick Betzsold
Jon Barr
Ann Lesperance
Chelsea Sleiman
Maren Disney
Grant Tietje

U.S. DEPARTMENT OF ENERGY

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Pacific Northwest National Laboratory
Richland, Washington 99354

# Acknowledgments

The Pacific Northwest National Laboratory team would like to acknowledge appreciation for this work funded through the Department of Homeland Security Science and Technology Directorate. Additionally, the many participants of the tabletop exercises provided exceptional insights in evaluating the potential impacts of emerging technologies on Emergency Operations Center of the Future concepts. In particular, the PNNL team would like to acknowledge Curry Mayer, Director of the Seattle Office of Emergency Management, and the Seattle Emergency Operations Center for hosting this Emergency Management of Tomorrow Research tabletop exercise. We also appreciate the engagement from the many emergency management and public safety organizations that participated and provided critical insights and perspectives to this project.

# Acronyms and Abbreviations

| | |
|---|---|
| AI | Artificial Intelligence |
| DHS S&T | Department of Homeland Security Science and Technology Directorate |
| EM | Emergency Management |
| EMOTR | Emergency Management of Tomorrow Research |
| EOC | Emergency Operations Center |
| PNNL | Pacific Northwest National Laboratory |
| R&D | Research and Development |
| TTX | Tabletop Exercise |

# Contents



# Figures



# Tables

# 1.0 Introduction and Objectives

As part of the Emergency Management (EM) of Tomorrow Research (EMOTR) program, sponsored by the Department of Homeland Security (DHS) Science and Technology (S&T) Directorate, Pacific Northwest National Laboratory (PNNL) developed concepts for the Emergency Operations Center (EOC) of the Future to provide recommendations to assist DHS S&T in future decision-making with regards to research and development (R&D) and investments toward establishing a framework for a national, coordinated approach to EM. PNNL is conducting tabletop exercises (TTXs) designed to assess the impacts and benefits of emerging technologies on EM organizations.

Table 1 summarizes the expected outcomes of each TTX.

Table 1. Exercise Objectives

| Exercise Objectives |
|---|
| Identify technologies that could improve EOC response operations. |
| List efficiencies gained and performance enhancements in EOC operations through use of identified technologies. |
| Discuss limitations, concerns, and mitigation strategies for identified technologies. |
| Review how to implement identified technologies. |

This report summarizes the third and final TTX held at the EOC in Seattle, Washington, on May 9, 2024 (Figure 1).


Figure 1. Curry Mayer, Director of Emergency Management, City of Seattle, at the EMOTR TTX in Seattle, Washington.

# 2.0 Methodology

This section describes in general terms who participated, what was discussed, and how the TTX was executed.

## 2.1 Participation

Each TTX brought together emergency managers and first responders with diverse backgrounds; federal, state, and local EOC stakeholders; and academic researchers. Participants were not expected to solve the problems presented in the TTX scenario. Instead, the exercises jump-started discussions about the technologies, data inputs, tasks, coordination, outputs, and gaps between the current and desired states. Participants were coached to keep discussions broad and focused on the impacts of technology on a given scenario.

## 2.2 Approach

The TTXs are designed to be sequential, spanning a variety of EM organization sizes and population densities. This final TTX in Seattle, WA focused on human-machine teaming and enhanced community partnerships during disaster response, identifying ways to maximize efficiency in EM awareness and response when circumstances are overwhelming. Against this backdrop, a complex and coordinated terrorist attack scenario was used to facilitate the TTX. For more details regarding the TTX scenario and facilitation, please see Appendix A – Situation Manual.

## 2.3 Format

Approximately 20 total participants were invited to attend the TTX, which was executed as a half-day, café-style workshop. A high-level agenda is provided in Table 2. This TTX also utilized the interactive whiteboard tool Mural for collaboration and brainstorming, similar to Nashua.[1]

Table 2. Seattle, WA TTX Agenda

| Time | Activity |
|---|---|
| 1300 | Arrival and Check-In |
| 1305 | Welcome/Opening Remarks, PNNL/EMOTR Overview, and Player Introductions |
| 1320 | Tabletop Objectives and Technology Briefing |
| 1340 | Exercise Parameters and Module 1 Scenario |
| 1355 | Independent Task and Challenge Brainstorming |
| 1405 | Task Analysis |
| 1435 | Challenge Analysis |
| 1505 | Technology Solution Mapping, Demonstrations, and Requirements Generation |
| 1535 | End Module 1 |
| 1545 | Module 2: Human-Machine Teaming Requirements Impact |

[1] https://app.mural.co/t/innovationfoundry9281/m/innovationfoundry9281/1715026396116/1047e6e9cbf5ca1bb4511a5fd0b067d2bce3a0f9?sender=c62eb3f9-19a4-44e4-8085-263c56c6cf7f

| | |
|---|---|
| 1615 | Module 2: Whole of Community Solution Mapping, Demonstrations, and Requirements Impact |
| 1655 | Closeout |

The accompanying slide deck used for facilitation can be found in Appendix B – Slides.

# 3.0 Key Insights

Key insights resulting from this TTX are organized into outcomes from the discussions and participant feedback.

## 3.1 Discussion Outcomes

Key discussion points included the following:

- Information needs to be collected and consolidated as much as possible; however, concerns persist regarding trusting access controls, the inputs to AI algorithms, and the outputs (decisions) from AI. This is a dynamic (not static) issue, with the “right” approach to handling these concerns likely shifting and evolving over time.
- Technology should communicate like a human to help increase trust. Can a machine teammate be trusted and interacted with like a close friend? Can a machine be trained to understand need to know?
- Expanding virtual or hybrid EOC resources raises concerns with span of control. It is great to have increased redundancy and availability of resources, but management challenges also increase.
- Learn from the private sector for capabilities such as supply chain management to become more self-reliant.
- Public-private partnerships need better give and take—possibly in the form of data sharing or decision-making—from both parties.
- Community engagement begins with building relationships.
- Whole community approaches should encourage diversity of all kinds, but particularly from youth (i.e., students, young professionals). Young adults are flying drones, growing up with AI, and they understand how technology can be applied in a variety of settings. Youth engagement can start with universities but should not be afraid of younger generations either.
- Training can be improved for EM personnel as well as volunteers. Systems should be put in place that can streamline background checks, leverage volunteers’ skillsets they choose to share, and provide just-in-time training for a given incident.


Figure 2. PNNL EMOTR Program Manager Ann Lesperance briefs tabletop participants in Seattle.

Additionally, the TTX discussions evaluated the potential impacts of emerging technologies on emergency operations, summarized in Figure 3. For each technology idea, the table summarizes the advantages, disadvantages, implementation considerations, and which EOC of the Future concept it addresses. For more information on EOC of the Future concepts, see the EOC of the Future Concepts and Recommendations report available by request to emotr@pnnl.gov.[1]

Figure 3. Paul McDonagh, DHS S&T's First Responder and Disaster Resilience, speaks at the tabletop exercise in Seattle.

## 3.2 Feedback

Consistent with previous TTX events, the feedback received was overwhelmingly positive, with the TTX being deemed a worthwhile use of time. Based on previous feedback, the initial portion was shortened to about 30-45 minutes, and the result was over three hours of discussion time—and the participants used all of it.

This group responded well to the handful of demonstrations and examples. It was noted that the discussion hardly addressed the TTX scenario. Other participants expressed that they would like to try some of the demonstrations in a "hands-on" fashion (as much as possible, e.g., ChatGPT). This would help the event feel more like a traditional tabletop.

A compiled feedback form can be found in Appendix C.

# 4.0 Next Steps

Although this was the final TTX for this year of the EMOTR project, potential future TTXs would benefit from re-emphasizing the scenarios and identifying specific places throughout the full TTX to inject technology and demonstrations intermittently to help keep participants grounded and engaged. The three TTXs explored EMOTR's emerging EOC of the Future concepts at a high level. Future TTXs should conduct deep dives to elicit more information about individual concepts, to potentially include building a roadmap toward incremental progress and successful tech integration in the field.

[1] Betzsold, N., Barr, J., Lesperance, A., Bartholomew, R., Ortega, S., Sleiman, C., Disney, M., Tietje, G. (2024). "Emergency Management of Tomorrow Research – Emergency Operations Center of the Future Recommendations Report." Pacific Northwest National Laboratory.

Table 3. Seattle, WA TTX Outcomes

| Technology Ideas | Advantages | Disadvantages | Implementation | EOC of the Future Concept(s) Addressed |
|---|---|---|---|---|
| AI – resource prioritization | Takes asset to mission-essential functions<br><br>Complex data analytics for weighting<br><br>Map interdependencies for critical facilities and resources<br><br>Real-time asset identification and criticality prioritization | Trust<br><br>Verification<br><br>How to justify AI decisions<br><br>2nd and 3rd order effects? | Pre-prescribe decisions<br><br>Utilize historical data (other jurisdictions too); record live data for future use<br><br>Messaging differences across state, local, etc. | Next-generation data management<br><br>Continuous, real-time situational awareness<br><br>AI automation and human-machine teaming<br><br>Human-centered design of workspaces |
| Digital twin, augmented and virtual reality – situational awareness | Mapping in real-time<br><br>Ingest and integrate drone video<br><br>Agent-based modeling | IT capability to match?<br><br>Trust<br><br>Do not rely on cellular communications | Tactical, real-time population statistics<br><br>Filter and sort displayed information (role-based) | Continuous, real-time situational awareness<br><br>AI automation and human-machine teaming<br><br>Hybrid EOC operations |
| AI – rapid decision-making | Dynamic access to data, information, and intelligence<br><br>Synthesize information from multiple sources<br><br>Deconfliction, sorting, best practices | Trust | Ask AI for a set of possible solutions, not to make the decision<br><br>Prompt engineering<br><br>AI explainability | Next-generation data management<br><br>AI automation and human-machine teaming<br><br>Forward-leaning workforce development |

## Appendix A – Situation Manual

# Complex Coordinated Terrorist Attack 2030

Situation Manual

May 9, 2024

This Situation Manual (SitMan) provides participants with all the necessary tools for their roles in the exercise. Some material is intended for the exclusive use of exercise planners, facilitators, and evaluators, but players may view other materials that are necessary to their performance.

## Table of Contents

# OVERVIEW

| | |
|---|---|
| **Name** | Complex Coordinated Terrorist Attack 2034 |
| **Dates** | May 9, 2024 |
| **Scope** | 4 Hours at Seattle Office of Emergency Management 105 5th Ave. S. Suite 300, Seattle, WA 98104 |
| **Mission Area(s)** | Response |
| **Objectives** | See page 2 |
| **Threat or Hazard** | Terrorist attack |
| **Scenario** | Several groups armed with handguns, rifles, and hand grenades are conducting simultaneous attacks over multiple locations and have overwhelmed local law enforcement. |
| **Sponsor** | Department of Homeland Security, Pacific Northwest National Laboratory, and Seattle Office of Emergency Management |
| **Participating Organizations** | Players (mix of local, state, federal) representing emergency management, law enforcement, fire department, emergency medical services, utilities, transportation, communications, public health, healthcare, Federal Bureau of Investigation, cyber response, and National Guard |
| **Point of Contact** | Nick Betzsold<br>Data Scientist<br>Pacific Northwest National Laboratory<br>nicholas.betzsold@pnnl.gov \| (509) 375-4583 |

# GENERAL INFORMATION

## Objectives

The following objectives in Table 1 describe the expected outcomes for the exercise.

| Exercise Objectives |
|---|
| Identify technologies that could improve EOC operations |
| List efficiencies gained and performance enhancements in EOC operations through use of identified technologies |
| Discuss limitations, concerns, and mitigation strategies for identified technologies |
| Review how to implement identified technologies |

**Table 1. Exercise Objectives**

The exercise schedule is in Appendix A.

## Participant Roles and Responsibilities

The term *participant* encompasses many groups of people, not just those playing in the exercise. Groups of participants involved in the exercise (Appendix B), and their respective roles and responsibilities, are as follows:

**Players-** Players are personnel who have an active role in discussing or performing their regular roles and responsibilities during the exercise. Players discuss or initiate actions in response to the simulated emergency. Players will also identify and/or discuss the ways new technology could be brought to bear in their roles and what challenges they would anticipate with technology adoption.

**Observers-** Observers do not directly participate in the exercise. However, they may support the development of player responses to the situation during the discussion by asking relevant questions or providing subject matter expertise.

**Facilitators-** Facilitators provide situation updates and moderate discussions. They also provide additional information or resolve questions as required. Key Exercise Planning Team members also may assist with facilitation as subject matter experts (SMEs) during the exercise.

## Structure

This exercise will be a multimedia, facilitated activity. Players will participate in the following scenario module:

Module 1: Armed attack

The module begins with an audio update that summarizes key events occurring within that time period.

The facilitator will guide participants through a brief discussion period, developed using the scenario modules, to describe their actions, decisions, and concerns from the perspective of personnel assigned to an emergency operations center. Players are encouraged to ask questions

of other players. Throughout the discussion period, the facilitator will highlight current and possible future technologies for participants to evaluate for use in an emergency operations center during response. Players are encouraged to present other technological solutions as well as suggest ideas for future research.

## Guidelines

- This exercise will be held in an open, low-stress, no-fault environment. Varying viewpoints, even disagreements, are expected.
- Respond to the scenario using your experience, knowledge of current plans and capabilities (i.e., you may use only existing assets), and insights derived from your training and experience.
- Decisions are not precedent setting and may not reflect your organization's final position on a given issue. This is an opportunity to discuss technologies that may improve EOC operations.
- Issue identification is not as valuable as player evaluations of proposed technology provided by the facilitator that could improve response efforts. Creative, and even disruptive, ideas about technology and tools should be the focus.
- Assume there will be cooperation and support from other responders and agencies.
- The basis for discussion consists of the scenario narrative and modules, your experience, your understanding of relevant plans, your intuition, and information about technology provided by the facilitators and what you bring with you to the exercise.
- Treat the scenario as if it will affect your area.

## Assumptions and Artificialities

In any exercise, assumptions and artificialities may be necessary to complete play in the time allotted and/or account for logistical limitations. Participants should accept that assumptions and artificialities are inherent and should not allow these considerations to negatively impact their participation. During this exercise, the following apply:

- The activity is conducted in a no-fault learning environment wherein technological solutions to improve response will be discussed.
- The scenario is plausible, and events occur as they are presented.
- The scenario is intended to form the basis for discussions about technology, less emphasis will be placed on solving tactical problems presented in the scenario.
- All players receive the same information at the same time.

# MODULE 1: ATTACK

## Scenario

**1200 hours, Thursday, May 9, 2030**

Here is what we know so far. At approximately 9AM today an unidentified group launched a series of coordinated attacks throughout the Seattle downtown region using handguns, rifles, and explosives. A school, Seattle City Hall, one large electrical substation (causing a power outage to a portion of the city), and Harborview Hospital, the regional level 1 trauma center in the city, have been attacked in addition to what appear to be random attacks on vehicles and pedestrians. Firefighters are battling a multiple-alarm blaze on the 22nd and 23rd floors of the Columbia Center building which sources tell us could be related to the attack. Multiple attackers have been killed, wounded, or apprehended. However, as night falls, at least two groups, or several individuals, are thought to be in the area. A 9PM curfew has been established and all businesses and schools have been ordered closed until further notice.

A citywide search is underway, and the Seattle Police Department is requesting everyone to continue to shelter in place. We have unconfirmed reports that several officers and firefighters have been wounded or killed and possibly two Seattle Councilmembers have been killed. We don't know the total number wounded or killed but area hospitals have confirmed they are treating numerous wounded with one source describing the situation as a war zone. Mutual aid continues to pour into the city and the National Guard has been activated.

## Key Issues

- The situation is chaotic.
- A massive law enforcement mobilization is underway.
- Hospitals are overwhelmed with casualties.

## Questions

The following questions are provided to guide the discussion of proposed technological solutions.

1. What are the most time-consuming, routine, or repetitive activities in the EOC?
2. What are the challenges/most difficult problems?
3. Which of the proposed technologies provide a solution?
4. How would these proposed technologies be implemented?
5. What benefits does a given proposed technology provide (faster, easier, smarter, time saver, etc.)?
6. Can the solution be applied to other problems?
7. Are there any concerns about the proposed technology, such as safety, cost, or impacts to other systems?

# MODULE 2: HUMAN-MACHINE TEAMING AND WHOLE COMMUNITY APPROACH

## Key Issues

- Incident has attracted attention across the globe.
- The community wants to know what is happening and who is responsible.
- The situation remains chaotic with law enforcement responding to numerous sightings of the possible suspects.
- Law enforcement is struggling to organize a coherent search for the terrorists.

## Questions

1. How must the technology solutions identified in Module 1 be adapted to maximize human and technology performance as team members in the EOC?
2. What opportunities are there to leverage the entire community to assist in this scenario through technological means?
3. How can technology improve or change the relationship between government and the community during a major incident?
4. What technologies might enable new roles for members of the community during a major incident? What will those roles be?
5. Which of the proposed technologies provide a solution?
6. How would these proposed technologies be implemented?
7. What benefits does a given proposed technology provide (faster, easier, smarter, time saver, etc.)?
8. Can the solution be applied to other problems?
9. Are there any concerns about the proposed technology, such as safety, cost, or impacts to other systems?

# EXERCISE SCHEDULE

**Note:** Because this information is updated throughout the exercise planning process, appendices may be developed as stand-alone documents rather than as part of the SitMan.

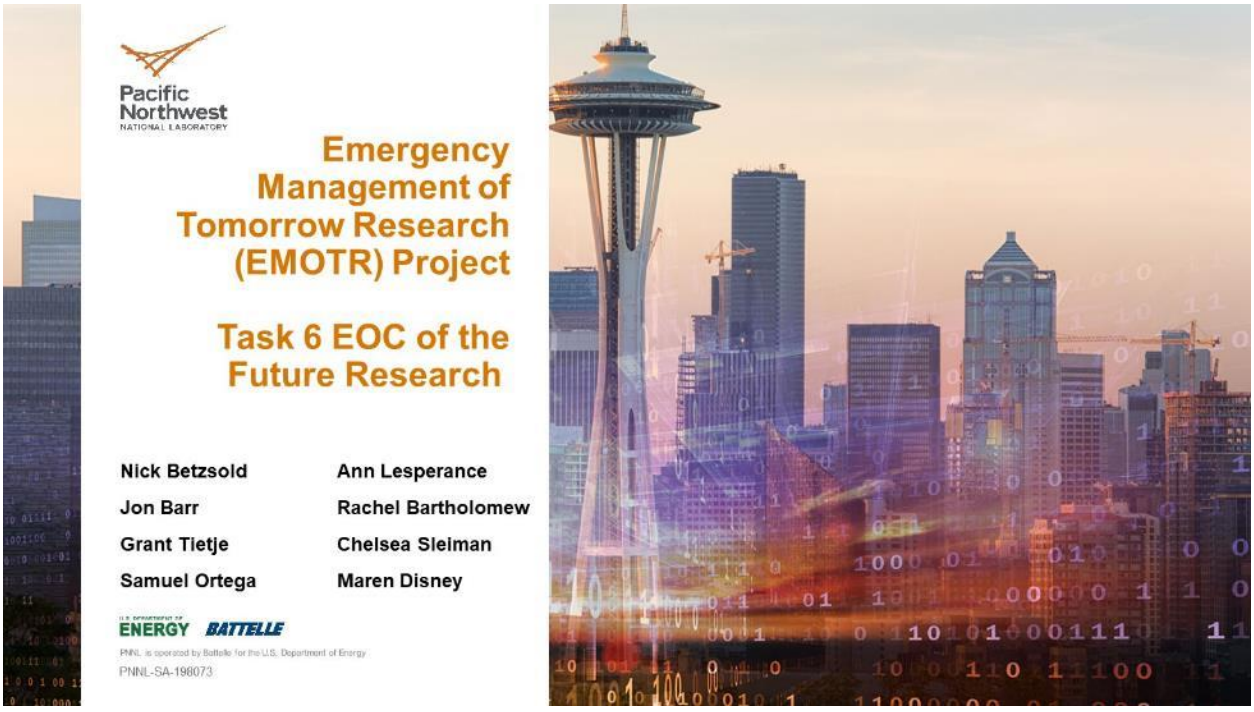
| Time | Activity |
|---|---|
| 8. | **May 9, 2024** |
| 1300 | Arrival & Check-In |
| 1305 | Welcome/Opening Remarks, PNNL/EMOTR Overview, & Player Introductions |
| 1320 | Tabletop Objectives & Technology Briefing |
| 1340 | Exercise Parameters & Module 1 Scenario |
| 1355 | Independent Task & Challenge Brainstorming |
| 1405 | Task Analysis |
| 1435 | Challenge Analysis |
| 1505 | Technology Solution Mapping, Demonstrations, & Requirements Generation |
| 1535 | End Module 1 |
| 1545 | Module 2: Human-Machine Teaming Requirements Impact |
| 1615 | Module 2: Whole Community Solution Mapping, Demonstrations, & Requirements Impact |
| 1655 | Closeout |
| 1700 | Adjourn |

# ACRONYMS

| Acronym | Term |
|---|---|
| DHS | U.S. Department of Homeland Security |
| HSEEP | Homeland Security Exercise and Evaluation Program |
| SitMan | Situation Manual |
| SME | Subject Matter Expert |
| TTX | Tabletop Exercise |
| PNNL | Pacific Northwest National Laboratory |

# Appendix B – Slides

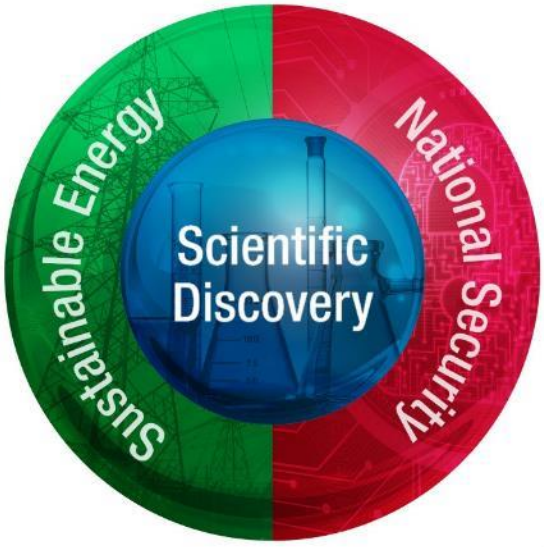

Video: https://www.youtube.com/watch?v=T6ubRoZCeVw



## Welcome and Introductions

**Pacific Northwest National Laboratory** is a U.S. Department of Energy national laboratory **advancing scientific frontiers** and providing solutions to critical national needs

- Established in 1965
- Managed by Battelle Memorial Institute
- 6,100+ staff across the nation
- PNNL also supports the Department of Homeland Security

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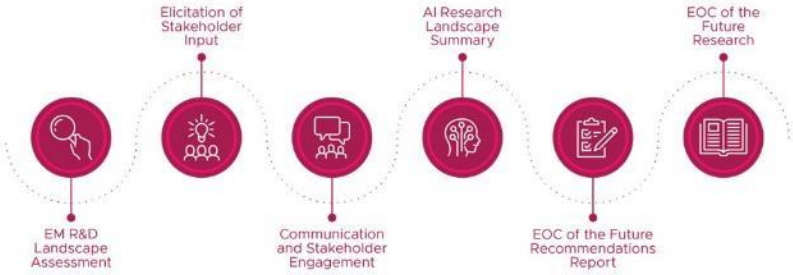
Science and Technology

**PNNL is partnering with DHS on the EMOTR program: Connecting existing research and technology with EM capability needs.**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## Participant Introductions

***What is your favorite tool to use in emergency response?***

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## Exercise Objectives

**Scope:**

- Evaluate potential impacts of new technologies on emergency operations, exploring the human-machine teaming concept and how emerging technologies can be optimized for maximum EM function effectiveness.

**Objectives:**

- Identify technologies that could improve EOC response operations.
- List efficiencies gained and performance enhancements in EOC operations through use of identified technologies.
- Discuss limitations, concerns, and mitigation strategies for identified technologies.
- Review how to implement identified technologies.

**Ground Rules:**

Solving scenario issues is not an objective.

Focus discussion on technology rather than working through procedural actions.

We are not evaluating emergency plans.

Assume cooperation from responders and agencies.

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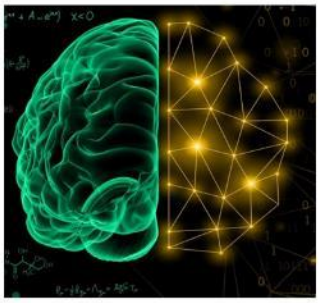
## EOC of the Future Technologies

- Artificial Intelligence (AI)
- Internet of Things Devices
- Cloud, Fog, and Edge Computing
- Data Fabric and Data Mesh

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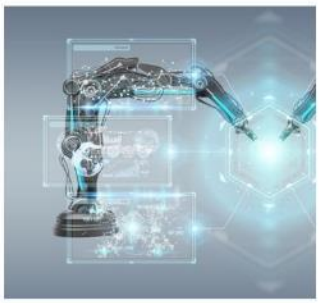
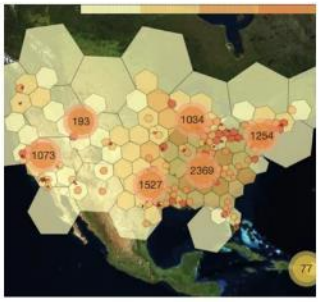
## EOC of the Future Technologies

- Robotics and Autonomy
- Digital Twins
- Situational Awareness Tools / Geospatial Analytics
- Social Media Analytics



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## Exercise Parameters

- Formatted to address research questions.
- Injects and questions focused on technology.
- Emphasis on creative, unconventional thinking in the present and 5-10 years in the future.
- Be concise in your comments so that as many as possible can participate.
- Expect a rapid pace and a fun exercise.

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## Module 1: Complex Coordinated Terrorist Attack

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## Task – Challenge Analysis

1. From this scenario, what are the tasks that must be performed, but ideally you would spend your time doing something else?
   - Time-consuming
   - Mundane
   - Repetitive

2. What are the most difficult challenges to overcome in this or any other complex incident?

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## Research Questions on Technology Solutions

1. Does the proposed technology provide a solution?

2. How would the proposed technology be implemented?

3. What benefits does the proposed technology provide (faster, easier, smarter, time saver etc.)?

4. Can the solution be applied to other problems?

5. Are there any concerns about the proposed technology, such as safety, cost, or impacts to other systems?

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## Module 2: Human-Machine Teaming

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## Research Questions on Technology Solutions

1. How must the technology solutions identified in Module 1 be adapted to maximize human and technology performance as team members in the EOC?

2. How will human-machine teaming help or hinder EOC operations?

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## Module 2: Whole Community

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## Research Questions on Technology Solutions

1. What opportunities are there to leverage the entire community to assist in this scenario through technological means?

2. How can technology improve or change the relationship between government and the community during a major incident?

3. What technologies might enable new roles for members of the community during a major incident? What will those roles be?

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# Thank you

*Image from Film & Television Voices: https://voicesfilm.com/pear-jam-hanging-from-the-rafters/*

# Appendix C – Participant Feedback

The following is a summary of participant feedback from the TTX. Names and identifying information have been removed.

1. Was the engagement an effective use of your time?
   - Very much so – 10 (83%)
   - Somewhat – 2 (17%)
   - Not so much –
   - Not at all

2. Did the activity deliver the outcomes that you were expecting?
   - Yes – 7 (58%)
   - No
   - I had no expectations – 4 (33%) (knew it would be of value)

3. Would you attend another PNNL-facilitated tabletop exercise?
   - Yes – 11 (92%)
   - No –
   - Not Sure – 1 (8%) (possibly)

4. How did you find the format of the exercise presentation? Was it effective?
   - Excellent, perfect, great engagement
   - Challenging (in a good way) to think big
   - Worked well, good mix of media
   - Liked question/problem presented followed by discussion; generated a lot of discussion
   - Right number of people
   - Lively conversation despite wandering away from presented format/scenario
   - Didn't like Mural (too difficult to read)
   - Participants needed microphones
   - Discussion driven, not "death by PowerPoint"

5. What were your top key takeaways from the exercise?
   - Plenty of missed opportunities for EM/EOCs to collaborate with researchers and communities
   - Glad someone in research is thinking of this
   - More policy and trust needed to use AI
   - Still a lot of work to do
   - Human fear will delay implementation of tech
   - Future technologies are coming forward; lots of potential
   - Think big. Change paradigms
   - Legal/info sharing issues
   - Issues w/ validating info
   - Security and surveillance are challenges

- Tech is happening—be proactive, learn/embrace, and adjust
- Personally need to pay more attention to emerging technologies

6. Please provide any other feedback you have about the exercise (e.g., what worked well, suggestions to make it better, additional information needed prior to the TTX.).

- The initial scenario was mostly left by the wayside
- Interactive bits were lovely (e.g., videos)
- Do more "hands-on," letting participants try tech examples during the exercise
- Divide focus into close/secure platforms vs open source
- Wasn't critical to be in the EOC (other venues could be better, increase participation)
- More time—easily a full day seminar
- More clearly define AI
- Not a clear delineation of mundane and complex tasks; did not explore fully how complex tasks could be broken down
- SitMan could have been used more
- Liked it being broad (we usually get too in the weeds)
- One of the most diverse audiences in terms of participants

7. Please provide input on any other scenarios, technologies, and other subject areas that should be topics for consideration/require deeper exploration in future tabletop exercises.

- "Whole community" as the main focus for an entire workshop
- Coordination of critical infrastructure failures
- Phones
- Water/power/steam
- Policymakers (need to be educated and get on board if tech will be used)
- Navigating the implementation of new technology within government agencies and current policies
- Deep dive into any topic touched on in this TTX
- Multi-county and jurisdiction complex scenario
- Field operations from an EOC (e.g., drones)

8. If you would like to be engaged in any additional workshops or discussions regarding EM or first responders, please provide your name and email.
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