
# ShakeAlert® System Technical Engagement Updates

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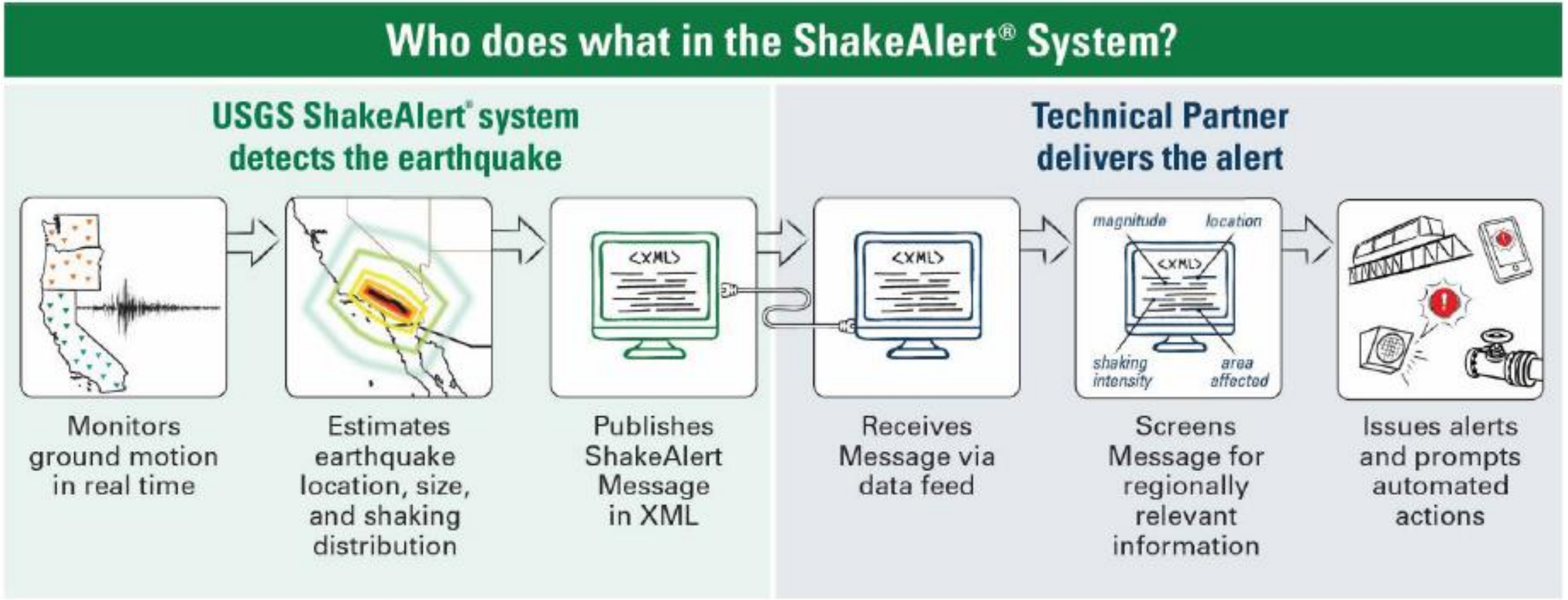
# ShakeAlert System Roles and Responsibilities



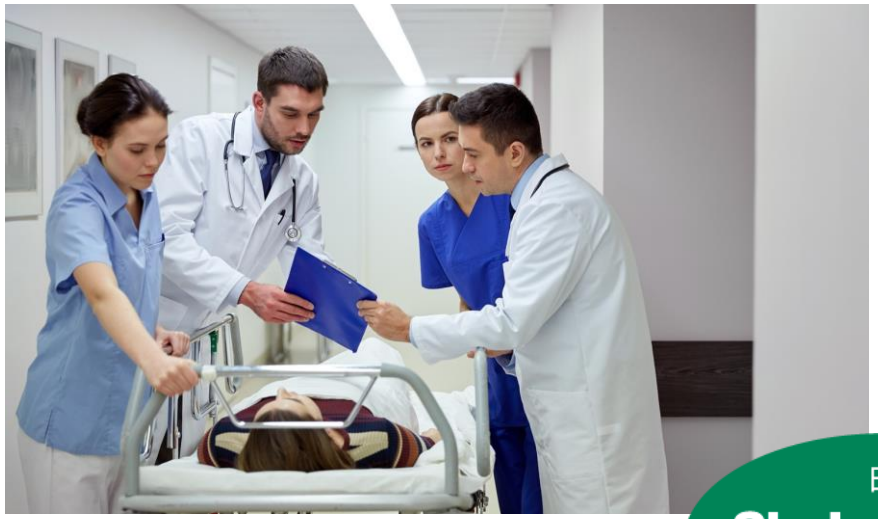
# Technical Engagement Team

| ShakeAlert Technical Engagement Regional Coordinators | | |
|---|---|---|
| **U.S. Geological Survey (USGS)** | **Robert de Groot**<br>rdegroot@usgs.gov | |
| **Washington** | **William Steele** (lead)<br>wsteele@uw.edu | **Gabriel Lotto**<br>glotto@uw.edu |
| **Oregon** | **Kelly Missett** (lead)<br>kmissett@uoregon.edu | **Gabriel Lotto**<br>glotto@uw.edu |
| **California** | **Margaret Vinci** (Southern CA)<br>vinci@caltech.edu | **Tal Edgecomb** (Northern CA)<br>tale@berkeley.edu |

www.ShakeAlert.org

@USGS_ShakeAlert

# Goal: Build an EEW Industry

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# Technical Engagement Highlights - May 2023

- 12 Licensed Operators (LtOs) and three current pilots to likely to convert to LtO in 2023.

  Highlight 1: LtO partner Metrolink just completed expansion of the implementation of enforced stopping of trains across all seven of their passenger lines in Southern California.

  Highlight 2: Newest LtO is Allen Science Institute Seattle, WA

- 14 Active Pilot Projects and 4 in review

  Highlight 1: the Jet Propulsion Laboratory (CA), has 2 pilots and are developing ways to protect the main lab facility in Pasadena and the Deep Space Network facility near Barstow, California. See: https://www.usgs.gov/news/science-snippet/shakealert-goes-galactic

  Highlight 2: Eugene Water and Electric Board (OR) developing ways to protect hydroelectric plants through turbine shutdown and power canals by closing intake gates.

- Areas of growth for customers of LtOs include school districts..
- Close working relationship with Cal OES on Technical Engagement.

Con tecnología de ShakeAlert™

https://tinyurl.com/CurrentShakeAlertPartners

PNSN Pacific Northwest Seismic Network

PNSN Data & Products Overview | QuickShake | Spectrograms | Near Real Time | Alarms & Notification | Earthquake Early Warning | Waveform Data | Seattle Seahawks | NetQuakes Data
Earthquake Impacts | Seattle SoundersFC

Quick Links

> Data & Products > Earthquake Early Warning > ShakeAlert Licensed Operators

# ShakeAlert Licensed Operators

**Background**

The ShakeAlert® Earthquake Early Warning system, operated by the U.S. Geological Survey (USGS), quickly detects significant earthquakes, estimates shaking, and issues ShakeAlert Messages to Licensed Operators. Licensed Operators, who entered into a license agreement with the USGS, use this information to develop and deliver alerts and notifications to people and trigger automated actions to protect vital systems and infrastructure, potentially seconds before shaking arrives at their location.

In most instances, Licensed Operators are integral to the success of the ShakeAlert project. By building systems that deliver ShakeAlert-powered alerts and automate actions, Licensed Operators help save lives, minimize injuries, and reduce earthquake damage to property and infrastructure. They can play a critical role in mitigating immediate earthquake losses, subsequent indirect earthquake economic impacts, and possible ripple effects, or "secondary disasters." These mitigation efforts can increase a community's recovery and speedy return to normal status.

Licensed Operators span multiple industries and sectors, and include private for-profit companies, public entities, and nonprofit organizations.

**Disclaimers**

This page is not the ultimate resource. Visit the Licensed Operator's website for more information about their product and services.
The USGS does not directly or indirectly endorse any product or service provided by these Licensees.
The Pacific Northwest Seismic Network (PNSN), operated by the University of Washington and the University of Oregon, does not directly or indirectly endorse or warrant any product or service provided by these Licensees.

**Definitions**

- *EEW*: Earthquake Early Warning
- *Licensed Operator (LtO)*: USGS-approved ShakeAlert Partners demonstrated their ShakeAlert-powered product(s), service(s), and/or applications to end-users and met USGS performance standards (e.g., speed, reliability, technical performance, and education and training).
- *End-user*: End-users receive ShakeAlert-powered products or services from LtO Partners. End-users include people who receive these products or services directly (e.g., to their cell phones), as well as organizations that work with an LtO Partner to implement automated "machine-to-machine" actions.
- *Business-to-Business*: A B2B, or "business-to-business" company provides ShakeAlert-powered products and services to other businesses.
- *Business-to-Consumer*: A B2C, or "business-to-consumer," company sells directly to individual consumers.

## The following ShakeAlert Licensed Operators (LtO) provide ShakeAlert-powered implementations.

| Licensed Operator | Product Name | Type of Product | Can automate infrastructure actions allowed under agreement with USGS | Can deliver alerts in public spaces where end-users are in controlled environments (e.g., hospitals, offices) | Can deliver public alerts to end-users in any environment (e.g., cell phone app) | Current implementation examples | Business-to-business (B2B) or Business-to-consumer (B2C) | Location availability of product, service, or application | Website | Preferred contact information |
|---|---|---|---|---|---|---|---|---|---|---|
| Early | | | | | | PA systems, speakers, VOIP, voice activated fire alarm boxes, handheld two-way radio; open gates and fire | | Washington, | | |

# **Social Science/Technical Engagement Project:** A Counterfactual Analysis of ShakeAlert® and Water Utilities

- **Lead Institutions:** University of New Mexico and USGS
- **Research Team:** Professor Yolanda Lin (UNM) and Dr. Sara McBride (USGS)
- **Goals:** Support the expansion of technical implementation of the ShakeAlert System by determining the benefits of implementation on water utility systems.
- **Description:** Counterfactual analysis is the process of determining the benefits of having systems in place when a disaster occurs, rather than determining "lessons learned." This focuses on less constrained positive benefits of the system.
- Research includes a literature review, interviews, and content analysis on technical documents.
- **Status:** Interviews complete; data analysis/article writing is currently underway.

# Technical/Industry Engagement Strategy (TIES) Project 2023-26

Được cung cấp bởi ShakeAlert™

## USGS hired *Constant Associates* for TIES. Project kickoff was on 4/20/23

### - Contract Duration: Up to 3 years

**Goals**:

- Develop a strategy for engagement of key technical sectors (aligned with Presidential Policy Directive 21 [PPD-21]: Critical Infrastructure Security and Resilience). Full table in 2021-26 ShakeAlert CEO&TE Strategic Plan.
- Define a 4-year action plan (to the end of 2026) to be implemented by the ShakeAlert CEO&TE team
- Develop tools to aid in the recruitment of potential technical partners in communications, manufacturing, infrastructure, technology, and other key industries that either can directly benefit from EEW or are positioned to develop ShakeAlert-powered products and services for end-users in CA, OR, and WA.
- TIES Focus Team will provide oversight for contractor. **Megan Sullivan** represents Cal OES on the Focus Team.

# Thank you!


Questions and Discussion