



Disaster Risk Management Solutions

## CAPABILITY STATEMENT

QuakeLogic delivers advanced AI-driven cloud-based risk management solutions tailored for government and state agencies, as well as businesses, aiming to safeguard against the liabilities and financial losses experienced during and after natural and man-made disasters. Additionally, QuakeLogic engages in academia to develop comprehensive analytical methodologies, alongside experimental and theoretical research within the realms of seismic, structural, and geotechnical engineering. QuakeLogic also provides the state-of-the-art monitoring and testing equipment for lab and field environment.



4010 Foothills Blvd.

Suite 103 / 194

Roseville, CA 95747, USA



info@quakelogic.net



+1-916-899-0391



www.quakelogic.net

FEDERAL GOVERNMENT	CALIFORNIA
DUNS: 117204621 CAGE code: 8EQM1	California State Small Business Certification: 2016403
NAICS codes: 541715, 541330, 541690, 541990, 541519, 541360	UNSPSC codes: 20122600, 20122601, 20122602, 20122622, 20122623, 26142117, 41114106, 43232605, 46171631, 71151105, 81101505, 81101514, 81111810, 81150000, 81151900
SAM registered with SBA profile	

### CORE COMPETENCIES

- Expertise in Disaster Risk Management and Structural Health Monitoring to enhance resilience and safety.
- Proficiency in Earthquake Early Warning Systems for prompt and effective response.
- Advanced Seismic Monitoring capabilities to detect and analyze seismic activities.
- Specialization in Borehole Instrumentation for detailed subsurface investigations.
- Seismic monitoring and instrumentation for geothermal and LNG facilities.
- Comprehensive Hydrological and Environmental Monitoring to assess and manage water resources and environmental impacts.



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- Skilled in Machine Vibration Monitoring and Analysis for industrial and engineering applications.
- Cutting-edge Artificial Intelligence and Machine Learning technologies for predictive analytics and intelligent solutions.
- Facility Post-Earthquake Inspections to assess and address potential damage.
- Facility Seismic Compliance Inspections to ensure adherence to safety standards and regulations.
- Conducting Small-to-Large Scale Research Studies and Program Evaluations to inform policy and practice.
- Extensive experience in Instrumentation and its Maintenance to ensure optimal monitoring performance.
- Development and deployment of Warning Systems, including installation, repair, and servicing to mitigate risks.
- Innovative Software Development and Implementation for customized solutions.
- Provision of Shake Tables for experimental and educational purposes.
- Shake Table Installation and Maintenance Service to support experimental and research activities.
- Actuators and Loading Frame Installation and Maintenance Service to support experimental and research activities.



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### PRODUCTS

- High resolution accelerometers & multi-channel data loggers
- Cloud-based monitoring software
- Earthquake early warning software, seismic switches and sensors
- Mass notification hardware and software
- Seismic, environmental, and hydrological sensors, and digitizers
- Small-to-large scale shake tables
- Hydraulic actuators
- Loading frames design and manufacturing
- Data processing software
- USGS shakemap, shakecast software
- Custom deployment of Earthworm and Seiscomp software



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## CREDENTIALS AND LICENSES

- California professional engineer license (CEO, Erol Kalkan)
- California small business certification
- New Jersey small business certification

## DIFFERENTIATORS

With twenty-six years of expertise in:

- Equipping buildings, bridges, dams, and tunnels with advanced instrumentation and warning systems
- Managing seismic network operations
- Monitoring structural health, implementing earthquake early warning systems, and applying AI and machine learning techniques
- Processing signals and managing large datasets
- Calculating seismic risk and hazards
- Providing structural, geotechnical and earthquake engineering consultant services
- Providing post-earthquake infrastructure inspection services
- Conducting research in structural dynamics and earthquake engineering
- Design and implementation of shake tables, loading frames and actuators

## PAST PERFORMANCE AND CURRENT PROJECTS

- Executed over 40 projects across the US focused on instrumentation and structural health monitoring of key infrastructures such as buildings, bridges, dams, and tunnels.
- Deployed seismic instrumentation, including borehole sensors, and initiated real-time monitoring for the 1915 Canakkale Bridge in Turkey, the world's longest mid-span suspension bridge.
- Collaborated with ETH Zurich on structural health monitoring for a Swiss Railway Bridge in Switzerland.
- Undertook the most extensive instrumentation and structural health monitoring initiative in the US, covering 28 hospitals located in seismically active areas across the continental US, Alaska, and Puerto Rico.



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- Conducted instrumentation and structural health monitoring for the Science and Engineering Building at the University of Nevada, Las Vegas.
- Implemented instrumentation and structural health monitoring systems for the Walnut Creek Dam in Anaheim, California, and the Prado Dam in Corona, California.
- Installed instrumentation in One Rincon Tower, San Francisco, the tallest all-residential tower in the western US.
- Managed cloud-based structural health monitoring for the Rosendo-Salazar Dam in Mexico, and Ribeiradio Dam in Portugal.
- Instrumented and monitored the world's largest concrete arch bridge in Nevada, US.
- Implemented a structural health monitoring system for the world's tallest RC concrete building in Kuwait City, Kuwait
- Engaged in cloud-based structural health monitoring for two railway bridges in India, along with microseismic monitoring and alarm systems for a coal mine in India.
- Developed a custom cloud-based structural health monitoring system for a tailings dam in Chile, showcasing a global footprint in infrastructure resilience and safety.



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### FEATURED CLIENTS IN THE US

- Ardagh Group,
- ASIR Seismic,
- Ball Manufacturing,
- BDI,
- Benchmark Space Systems,
- Caltech,
- California Department of Water Resources,
- Central Washington University,
- City of Anaheim,
- Coach Glass,
- Cooper Union University,
- Cummins Inc.,
- Desert Research Institute,
- Engineered Equipment,

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- EV Charge Solutions,
- Georgia Tech,
- Helix Electric,
- Kiewit Infrastructure West, Co.,
- Lehigh University,
- Marathon Petroleum Corporation,
- Marvel Electronics,
- Metropolitan Acoustic,
- National Park Service,
- Nevada Department of Transportation,
- NOKIA
- Rowan University,
- Seattle University,
- Southern Illinois University,
- Stevens Institute of Technology,
- SONOCO,
- Texas AM University,
- University of California Berkeley,
- University of California San Diego,
- University of Houston,
- University of Missouri,
- University of Nevada Las Vegas,
- University of Nevada Reno,
- University of New Hampshire,
- University of Texas Rio Grande,
- University of Texas Arlington
- United States Geological Survey,
- Utility.com,
- Virginia Tech.

## **FEATURED CLIENTS AROUND THE GLOBE**

- Australia: University of Queensland, University of Sydney
- Belgium: University of Catholique de Louvain
- Canada: University of Alberta, Universite De Moncton
- Chile: Universidad de Los Andes
- China: Zhejiang University, Ningbo Institute of Digital Twin (EIAS), Geolight

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- Cyprus: Middle East Technical University Northern Cyprus
- Finland: University of Helsinki
- France: École Centrale de Nantes, EDF, Sixense, CEA
- Iceland: Reykavik University
- Italy: Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - OGS, University degli Studi di Padova
- India: National Geophysical Research Institute, IIT Kharagpur, GeoConsol
- Israel: Maabadot Ltd.
- Germany: GFZ-Postdam, Roorke Institute of Technology
- Greece: University of Athens, National Observatory of Athens
- Kuwait: Kuwait Scientific Research Institute
- Mexico: Universidad Autónoma de Baja California, National Autonomous University of Mexico, Government of Mexico Department of Water,
- Philippines: Deco Trading
- Poland: Politechnika Krakowska
- Portugal: NOVA University Lisbon, Grupo Alava,
- Singapore: Cambrian Engineering
- Spain: Universidad Complutense, Universidad de Alicante
- Switzerland: ETH-Zurich, Infra-Sens,
- Thailand: Mahidol University
- Turkey: DLSY JV (Daelim, Limak, SK and Yapi Merkezi), ENERJISA, Schindler
- UAE: American University of Sharjah
- UK: Imperial College in London, Brunel University