INDUSTRIES AND SOLUTIONS

Energy

See change early, act with confidence and protect what matters.

End-to-end monitoring solutions delivering critical insights to protect energy assets.

Industries →

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Energy facilities are demanding places to manage. The ground beneath a site, the structures built on it and the processes running through it can all shift in ways that matter long before anything is visible. In a nuclear plant, an LNG terminal or a refinery, even a minor change can influence safety, production or the environment. Operators know this well, which is why clear and reliable information is central to how these facilities are run.

Orica Digital Solutions' portfolio is designed to give operators that clarity. It brings together proven instrumentation, secure data platforms and support from people who understand high-hazard environments. The aim isn't to overwhelm teams with information, but to help you see changes early, interpret what those changes mean and make sound decisions to protect your assets and the communities around them.

Ground behaviour can shift quietly over time. Seismic activity may increase gradually, or vibration may start to influence a pipe rack or storage tank long before anyone feels it. Our monitoring systems help surface these early signals so teams can assess them clearly.
Some of the key focus areas include:

- Geohazard-prone zones, including fault lines or unstable ground.
- Local and regional seismic activity, especially around sensitive structure.
- Vibration and structural response, where pipelines, tanks or process equipment may be affected
- Across nuclear, LNG, oil and gas and petrochemical operations, these insights help operators stay ahead of developments rather than reacting to them.

Why monitoring matters

Monitoring is ultimately about buying time, time to plan, time to respond and time to keep operations running safely. When operators understand what the ground or a structure is doing, they can act before issues grow. This becomes especially important in areas such as underground carbon storage, where understanding how pressure or micro-seismic activity evolves is essential.

Monitoring also plays a role in meeting regulatory expectations, which continue to become more detailed, and in preventing environmental incidents that could have long-lasting impacts. Clear information helps teams focus their attention on what matters most, rather than spreading resources across areas that don’t need immediate action.



Energy Featured Solution

Dam and levee monitoring

Risk mitigation through real-time deformation monitoring.

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Energy Featured Solution

Seismic monitoring

Seismic monitoring solutions mitigating potential hazards.

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Energy Feature Solution

Environmental monitoring

Monitoring solutions for noise vibration and dust compliance.

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Solution Subcategory

Technology Roadmap

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Environmenta monitoring

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Seismic Monitoring

Seismic monitoring solutions…



Dam and Levee Monitoring

Risk mitigation through real-time deformation…



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Emergency response integration

When something shifts unexpectedly, a vibration spike, an unusual structural response or a sharp pressure change, operators don't have time to piece things together. They need to know what's happening, and they need that information early enough to act calmly rather than react under pressure. Our systems are set up to support exactly those moments. They help operators by providing:

- real-time detection when seismic or structural behaviour moves outside what's expected
- alerts that find the right people quickly, whether they're on-site or coordinating from elsewhere
- mobile-accessible dashboards that make it easy to understand what changed
- data that supports drills, preparedness and regulatory communication during significant events

With clearer information on hand, early decisions become easier, whether that's stepping in for an inspection, pausing a process or coordinating a wider response across the facility.

Regulatory and compliance support

Regulation shapes almost every aspect of energy operations. It sets expectations for how risks are managed and how information is recorded and shared. To meet those expectations, operators need monitoring they can stand behind, data that's consistent, traceable and ready to support formal reviews. Our systems help by providing:

- validated datasets that hold up during audits and reporting
- long-term data storage so multi-year evidence is always accessible
- clear documentation showing how and where information was captured
- support for seismic, environmental and structural compliance requirements

With this level of transparency, operators can engage confidently with regulators and demonstrate how risks are being monitored and managed over time. It also strengthens trust with surrounding communities, who depend on these assets being operated responsibly.

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