Seismic Isolation: Recent worldwide developments, and future trends

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ABSTRACT: The modern era of seismic isolation started about 35 years ago, with applications of the technology to buildings in New Zealand, Japan, and the U.S. in the early to mid-1980s. The technology has slowly spread to numerous other countries, and in the last few years there has been a significant increase in interest in, and use of, seismic isolation in countries such as Italy, Turkey, Chile and elsewhere.

The presentation will give an overview of the current status of seismic isolation around the world, with mention of selected notable projects in various countries. The occurrence of severe earthquakes has been a major influence on the rate of acceptance and adoption, and this aspect, along with trends in terms of building type and function, system selection, device type and the procurement and construction process will be explored. The influence of code provisions has proven to be both a help, and in some cases somewhat of a hindrance, to adoption in different countries and the pros and cons of recent code developments will be discussed.

Some comments will be made on the future directions of seismic isolation, considering such developments as enhancements in device modeling and analysis capabilities, three-dimensional isolation of buildings and equipment, manufacturing and testing capabilities and issues of device reliability, as well as extensive renewed interest in the application of isolation to nuclear facilities.