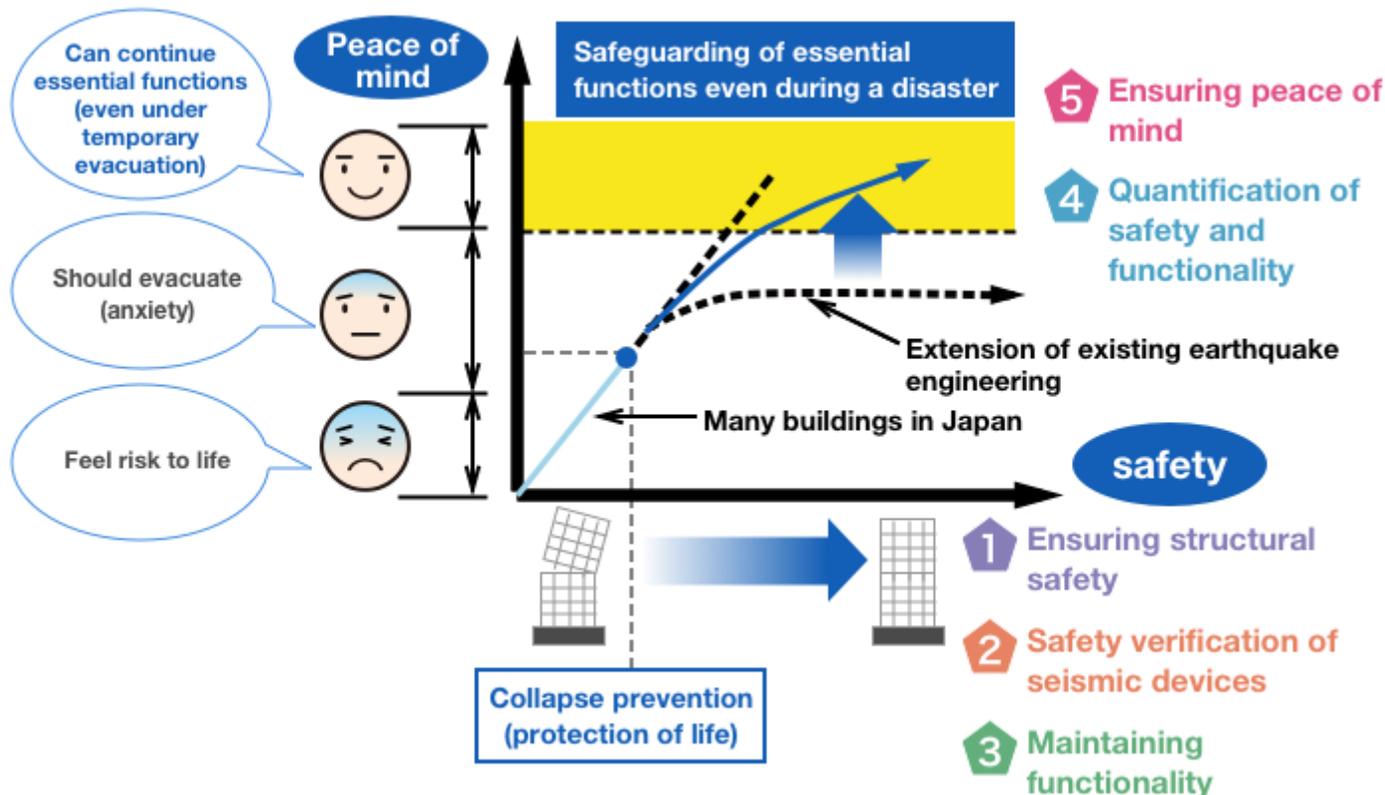


Improving safety and peace of mind in high-rise buildings



In large cities where economic and administrative institutions are centered, the high-rise buildings that house these essential functions have become taller and taller. While the physical structures of these buildings may withstand an earthquake or other natural disaster, the work that takes place within may be disrupted for an extended period of time, paralyzing the social functions they provide. Such disruptions can have significant ramifications that extend throughout the nation and the world. The Consortium for Socio-Functional Continuity Technology (SOFTech) was launched in the fall of 2017 to develop technology to ensure continuity of essential functions performed in high-rise buildings and other urban structures following a major natural disaster.

SOFTech Tokyo Tech, Tohoku Univ., the Univ. of Tokyo, Kobe Univ.

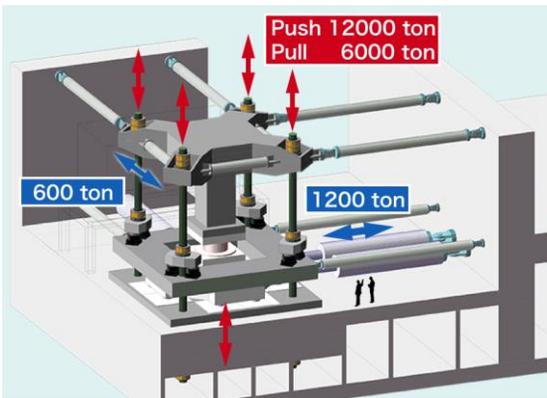
Daiichkogyo Co. Ltd., KYB Corp., Ken Ken Co.,Ltd., Shimizu Corp., Showa Cable Systems Co. Ltd., Nippon Steel Engineering Co., Ltd., Takenaka Corp., Teijin Frontier Co., Ltd., the Japan Iron and Steel Federation, Human Environment Design Laboratory Ltd., Fukuvi Chemical Industry Co. Ltd., Bridgestone Corp., Oiles Corp., Sumitomo Mitsui Construction Co., Ltd., ITEC Corp., Obayashi Corp., Kumagai Gumi Co.,Ltd., TAISEI Corp., HASEKO Corp., TOBISHIMA Corp., Newtech research group, JFE Civil Engineering & Construcion Corp.,SECOM Co., Ltd., Tohoku Electric Power Co., Inc., TODA Corp., Central Nippon Expressway Company Ltd., Nishimatsu Construction Co., Ltd., Nikken Sekkei.Ltd, Fujita Corp., MAX Co., Ltd., Kirii Construction Materials Co., Ltd., Japan Power Fastening Co., Ltd., MAEDA Corp. (2019.8)

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Five areas of research and development to safeguard essential functions following major earthquakes or other catastrophic disasters affecting large cities.



(2) Standardize performance verification methods for seismic devices and propose as international standards.



Draft of tri-directional loading device

SOFTech aims to develop a tri-directional loading device with the world's most advanced testing

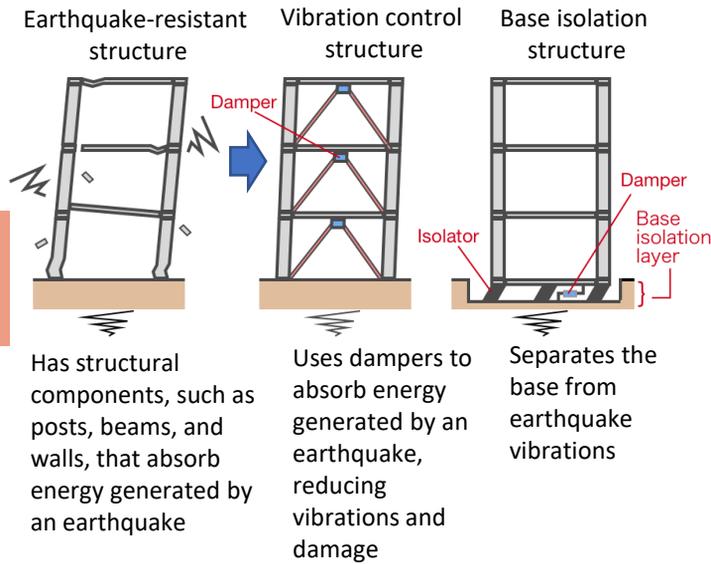
(5) Identify ways to disseminate safety information to the public and ensure peace of mind.

(1) Quantification of structural performance level and function maintenance level

(2) Quantification of psychophysiological responses

(3) Provision of information for evacuation and rescue support

(1) Develop and improve technology related to earthquake resistance, vibration control, and base isolation to secure the safety of structural systems.



(3) Advance development in earthquake resistance of nonstructural building components such as walls and ceilings.



Shaking table test of suspended ceiling

(4) Develop monitoring systems to quantify of building safety and functionality

Utilization of sensor technology



➤ Destructive test of components embedded with optical fiber



➤ Non-contact inspection of ceiling conditions

➤ Study on monitoring system of high-rise building using drone

