

# INFORMATION AND COMMUNICATION TECHNOLOGY FOR SAFE-RESILIENT CIVIL INFRASTRUCTURE

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## Abstract

Information and communication technology (ICT) convergence is essential to the development and innovation of technologies in every area. In this presentation, recent R&D activities for ICT convergence to civil infrastructural engineering are discussed regarding the safety and resilience. It covers: 1) Smart sensors, structure health monitoring, and assessment, 2) Structural control and smart retrofit, and 3) ICT for resilient civil infrastructure. At first smart sensors and advanced pattern recognition technologies are reviewed for applications to safety monitoring and diagnosis. Then, passive, active, and semi-active control technologies are discussed on real applications to the enhancement of safety and functionality against natural and man-made hazards. Finally resilience of civil infrastructural systems is introduced with emphasis on the structural resilience regarding ductility and the community resilience in term of economic impact.

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