



Setting the Stage for Harmonized Risk Assessment by Seismic Hazard Harmonization in Europe (SHARE)

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Probabilistic seismic hazard assessment (PSHA) is arguably one of the most useful products that seismology can offer to society. PSHA characterizes the best available knowledge on the seismic hazard of a study area, ideally taking into account all sources of uncertainty. Results form the baseline for informed decision making, such as building codes or insurance rates and provide essential input to each risk assessment application.

Several large scale national and international projects have recently been launched aimed at improving and harmonizing PSHA standards around the globe. SHARE (www.share-eu.org) is the European Commission funded project in the Framework Programme 7 (FP-7) that will create an updated, living seismic hazard model for the Euro-Mediterranean region. SHARE is a regional component of the Global Earthquake Model (GEM, www.globalquakemodel.org), a public/private partnership initiated and approved by the Global Science Forum of the OECD-GSF. GEM aims to be the uniform, independent and open access standard to calculate and communicate earthquake hazard and risk worldwide.

SHARE itself will deliver measurable progress in all steps leading to a harmonized assessment of seismic hazard - in the definition of engineering requirements, in the collection of input data, in procedures for hazard assessment, and in engineering applications. SHARE scientists will create a unified framework and computational infrastructure for seismic hazard assessment and produce an integrated European probabilistic seismic hazard assessment (PSHA) model and specific scenario based modeling tools. The results will deliver long-lasting structural impact in areas of societal and economic relevance, they will serve as reference for the Eurocode 8 (EC8) application, and will provide homogeneous input for the correct seismic safety assessment for critical industry, such as the energy infrastructures and the re-insurance sector. SHARE will cover the whole European territory, the Maghreb countries in the Southern Mediterranean and Turkey in the Eastern Mediterranean.

By strongly including the seismic engineering community, the project maintains a direct connection to the Eurocode 8 applications and the definition of the Nationally Determined Parameters, through the participation of the CEN/TC250/SC8 committee in the definition of the output specification requirements and in the hazard validation. SHARE will thus produce direct outputs for risk assessment.

With this contribution, we focus on providing an overview of the goals and current achievement of the project.