



New probabilistic seismic risk model for Austria and Germany

Francisco Lorenzo (1), Vladimir Stejskal (2), and Guillaume Pousse (3)

(1) Impact Forecasting, Aon Benfield Reinsurance Brokers, Hamburg, Germany (francisco.lorenzo@aonbenfield.com), (2) Impact Forecasting, Aon Benfield Reinsurance Brokers, Prag, Czech Republic (vladimir.stejskal@aonbenfield.com), (3) Impact Forecasting, Aon Benfield Reinsurance Brokers, London, United Kingdom (guillaume.pousse@aonbenfield.com)

Although less active than other regions in Europe, Austria and Germany could be hit by strong earthquakes. In order to assess the seismic risk of these two countries, Impact Forecasting developed a new model for the calculation of probabilistic seismic risk. The data used was of higher quality than any other data previously available. In addition, one very important factor was the use of Aon Benfield's knowledge of the Austrian and German market, which allowed the developers to make realistic assumptions about the exposure when information was partially missing.

The event catalogue was made available by the German Research Centre for Geosciences (GFZ) and the Central Institute for Meteorology and Geodynamics in Austria (ZAMG). This catalogue is the most complete available and includes results of a careful integration of several sources. A catalogue this complete and homogeneous has never been available before. Similarly, the attenuation law was derived based on the largest compilation of intensity data points available to date. Finally, damage functions were developed specifically for Austria and Germany, based on several field investigations, the analysis of the Austrian and German building inventory, and the methods and experience of the Earthquake Damage Assessment Center – a recognized authority in the field of earthquake engineering.