The main function of the Romanian Digital Seismic Network (RDSN) is to monitor seismic activity on the Romanian territory and to provide high quality data for source, Earth structure, microzonation and seismic hazard studies and for data exchange with international seismic data centres. The development of the RDSN to the present-day configuration was a process that started in fall of 2001 and took place over several years. At present, the RDSN consists of 66 stations (34 broadband, 32 short period) and 2 seismic arrays, one in the Northern part of Romania (Bucovina array – BURAR) and one in the Vrancea epicentre area (Plostina array – PLOR). The data are continuously recorded and transmitted in real time to the Romanian National Data Centre. We present the monitoring performances of the network as well as new achievements in investigating the crust and upper mantle structure in Romania. For engineering purposes, the network provides the ground motion parameters, such as peak ground acceleration (PGA), peak ground velocity (PGV) and response spectra (SA) characterizing the ground shaking during an earthquake (Shake Maps). As examples, we analyse the distribution of the ground motion in terms of PGA and PGV for two recent Vrancea intermediate-depth events, April 25th, 2009 Mw = 5.0 and February 25th, 2010 Mw = 4.0.