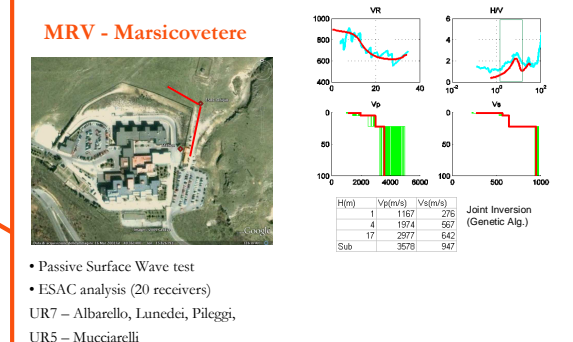
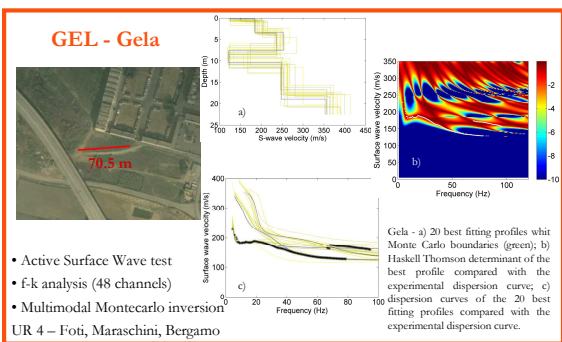
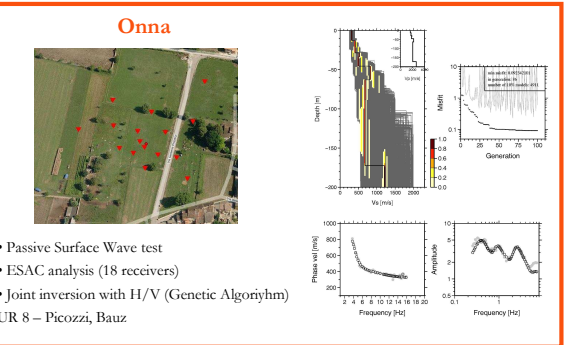
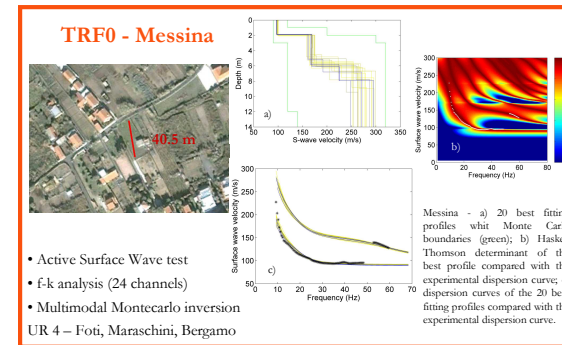
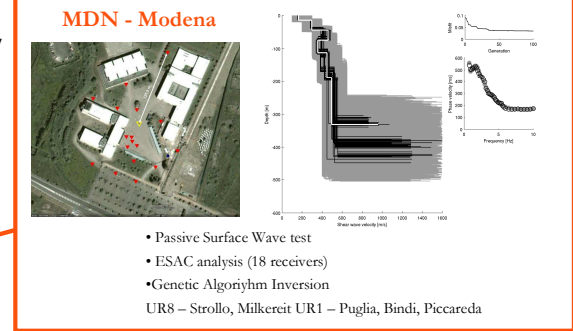
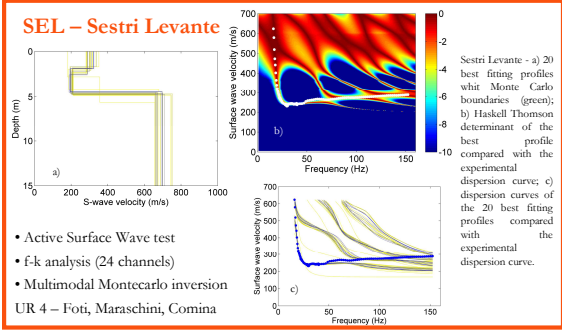


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Task 3 of project S4 is devoted to improve the knowledge of the sites of the Italian Accelerometric Network (RAN), mainly by providing a reference shear wave velocity profile for each station. Surface wave tests have been selected as the primary tool for the characterization, due to their flexibility and cost effectiveness. We report on the ongoing activities and we show some of the already available S-wave velocity profiles.

The selection of sites to be investigated was driven by several criteria. The attention was pointed in particular to stations that recorded interesting events in the past and to the recently installed digital stations, also trying to obtain a good coverage for the whole Italian territory. A preliminary feasibility study, based on the available information and on Google Earth imagine analysis, has been conducted to exclude sites with complicated topography and with no sufficient space for performing surface wave measurements.

Finally, considering the geological characteristics of the selected sites (thin, i.e. meters/tens of meters of soft sediments, or thick, i.e. hundreds of meters of soft sediments) it was decided to assign them amongst the different teams by considering their expertise.

In particular, sites with thin sedimentary covers have been assigned mainly to UR with large experience in active methods and with appropriate instruments (multi-channel acquisition systems with high frequency geophones) while the deep basins were assigned to teams with large experience in passive source methods and equipped with short period seismometers.

In intermediate situations, a combination of active and passive methods will be used to guarantee adequate depth of exploration and good resolution at shallow depth. A benchmark test of different techniques was carried out in Bevagna.

The seismic characterization of stiff-soil and rock-mass sites (behaving as seismic bedrock), represents a critical aspect for effective and proper location of seismic and accelerometric stations and for the analysis of seismic response by using the reference station approach. Selected rock sites have been thoroughly investigated to assess the effects of faulting, jointing and weathering with a combination of surface wave surveys, NHV measurements and classical geomechanical approaches.

The experience gained by the RUs within the project was important for the preparation and release of a deliverable summarizing advantages and disadvantages of the used methods.