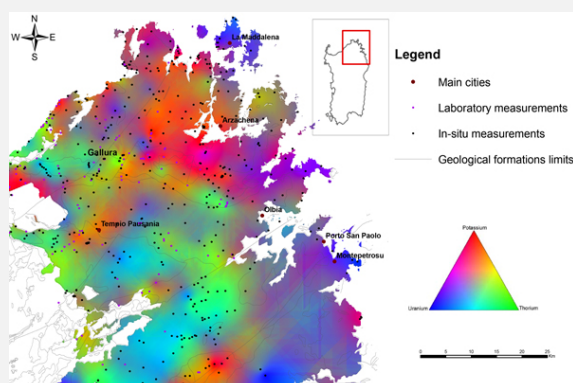


» TECHNOLOGY TRANSFER



ITALRAD, A MAP OF THE NATURAL RADIOACTIVITY IN ITALY

The map of natural radioactivity in the Italian regions of Veneto and Tuscany has been completed, under the ITALRAD (ITALian RADioactivity) project. With the monitoring of Sardinia, recently started, this is the first step of the project, which aims to produce a complete map of natural radioactivity in Italy. The map shows the terrestrial radioactivity levels, which were measured as part of an advanced international study in the field of nuclear geophysics. The information will be useful for defining residential construction standards in order to mitigate radon levels in underground rooms and basements: a legacy for the benefit of future generations, who will be able to compare the effects of contamination of anthropic and natural origin.

The development of “technologies for monitoring and protecting the environment” ranks among the key strategic objectives of the National Research Plan for 2011-2013 and it is in accord with the European Horizon 2020 research programmes, especially with reference to the “secure societies” challenge and adoption of a multidisciplinary approach to scientific collaboration.

Measurements have been underway since 2010, under the supervision of a team of researchers from the Legnaro National Laboratory of the Italian Institute for Nuclear Physics (INFN), with the collaboration of the Universities of Ferrara and Siena. Scientists have been studying the presence of naturally occurring radionuclides in the rocks and soil, performing laboratory tests and obtaining more than 20,000 aerial images.

The project is an example of how it is possible to combine innovation with high quality standards and the transfer of knowledge to industries and business enterprises, with a view to fostering the scientific growth and involvement of talented young researchers. About half of the project’s budget has been spent on post-doctoral research grants and used to train young researchers in the field of nuclear geophysics and its environmental applications. The project includes the development of innovative prototypes for measuring gamma radiation installed on aircraft. This has attracted a university start-up grant and will result in the transfer of technology to the business of large-scale production of new environmental monitoring equipments.