

THE DEVELOPMENT AND IMPLEMENTATION FRAMEWORK FOR A NEW TEACHING METHODOLOGY IN EARTH SCIENCES: ROMANIAN EDUCATIONAL SEISMIC-NETWORK PROJECT



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Premises

Projects all over the world...

Educational Objectives

- training students and teachers in analysis and interpretation of seismological data
- preparing of several comprehensive educational materials
- designing and testing didactic activities using informatics and web-oriented tools
- installing a seismograph network in schools whose data can be used in educational purposes
- contribution to professional development and also providing the technical support for teachers involved
- creating new learning modules in terms of school curricula and proposal of implementation in the annual educational plan
- better training of undergraduates and master degree students regarding the importance of earthquakes in the environmental studies

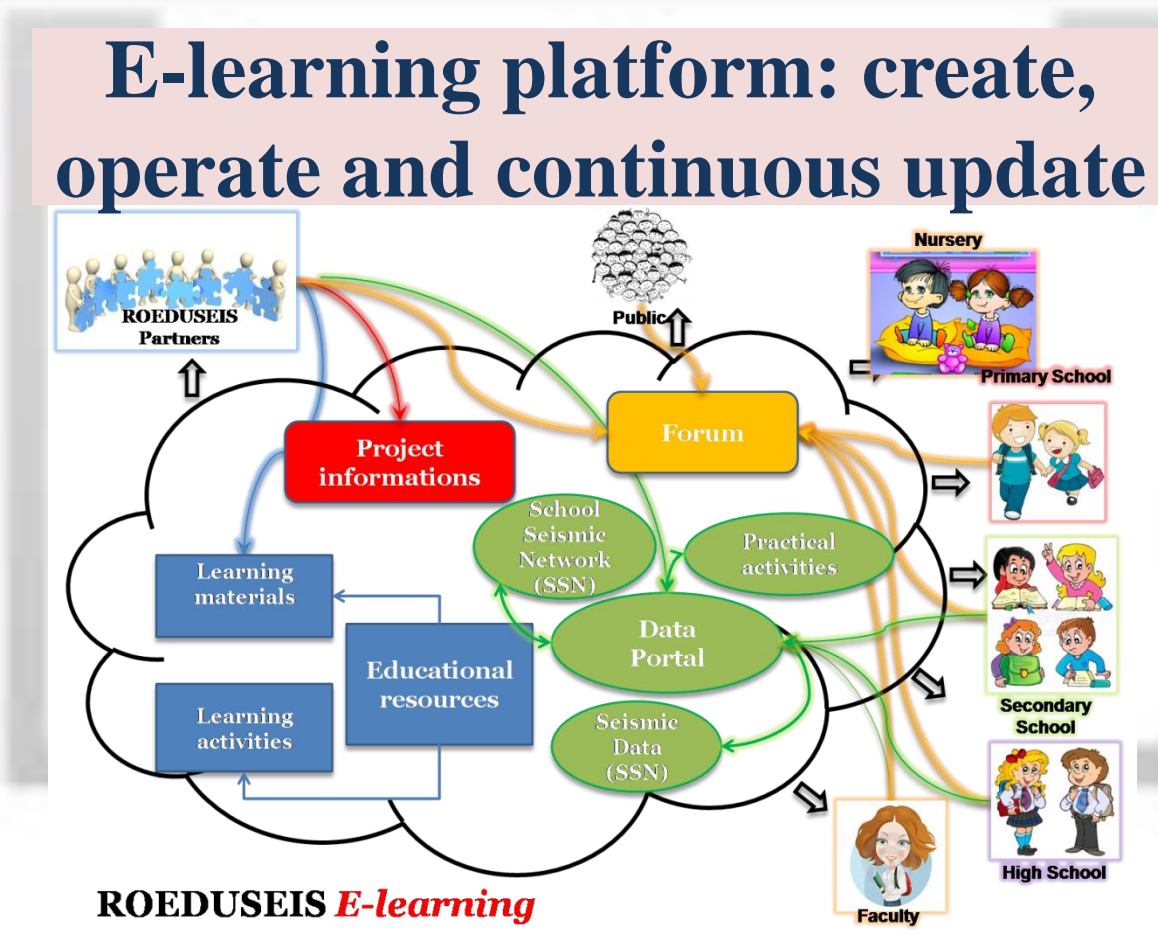
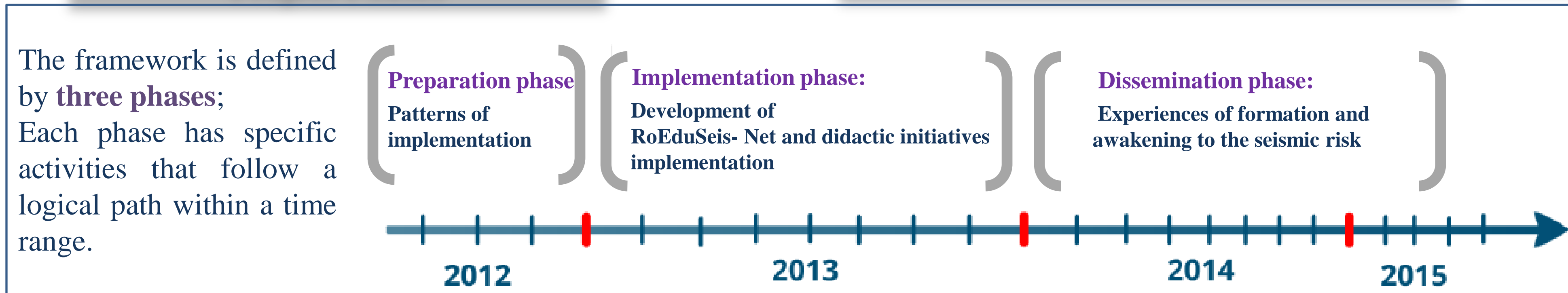
Scientific Objectives

- main product of the project – an earthquake waveform archive with the data obtained by the devices installed in school - a large amount of such data will be used by the students and teachers for educational purposes
- developing a seismograph network that can be integrated in the National Seismic Network
- using the obtained data to develop the integrated risk management methodologies
- introducing the use of advanced instruments and experimental methods into schools

Social Objectives

- facilitating the interaction between students, teachers and scientists; the project implies students being part of the scientific work and scientists being part of the teaching activity
- promoting interaction at community level - improving communication between scientific institutes and community - the proposed activities can be extended to museum level through educational complementary programs; involving amatory scientific communities, local authorities and units for emergency situations in these activities
- raising awareness of fact that earth sciences should be fields of study in elementary schools
- improving risk prevention by informing and promoting these aspects through students and teachers

Project Phases



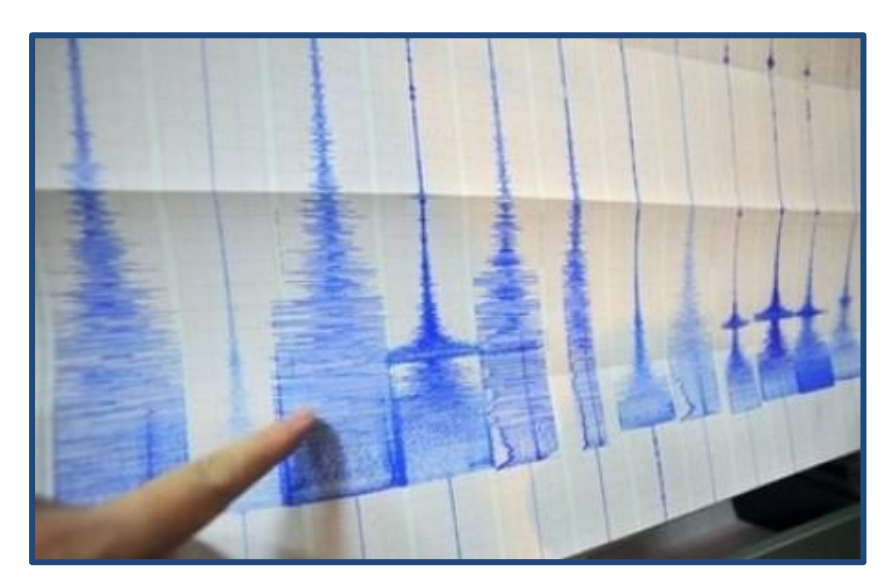
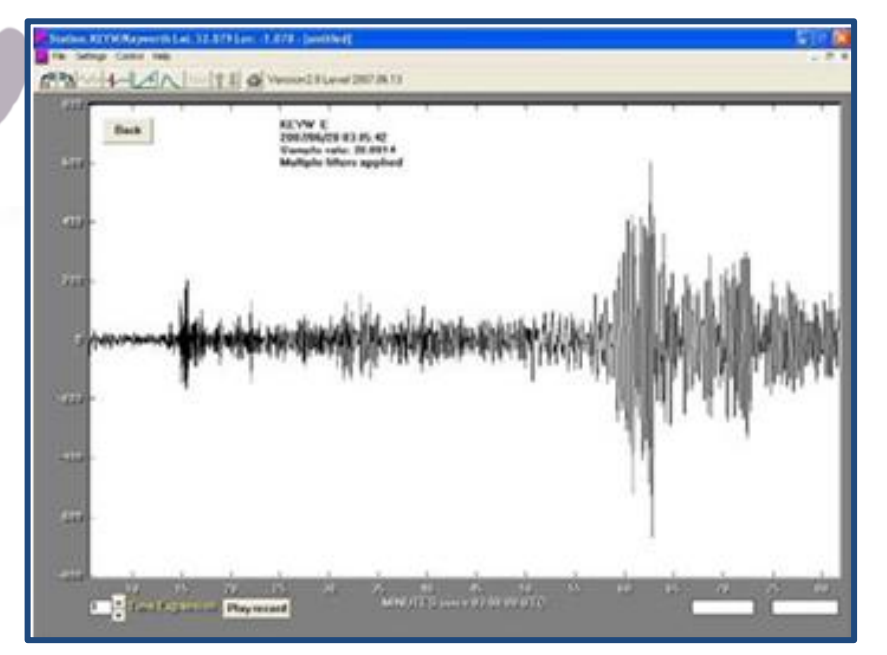
Didactic Module

- Trainings on seismology topics and risk reduction
- Class activities and learning methodologies based on seismic data recorded

Planning the testing ground

Project presentation and training teachers developed in a workshop for teachers and schools managers in each targeted school area.

Installing seismic network in schools



Developing educational resources

- Nursery kit
- Booklet for Secondary School
- Guidebook for Primary School
- Guidebook for High School

Assessment/evaluation process

Determine if the learning resources and the developed materials have generated greater knowledge, improved actions and better awareness amongst the participants.

Proposed Educative Plan for School Councils

For any learning activity a detailed project will be performed; this will be submitted for approval to the school authorities



Perspectives

- Integration of Romanian seismic educational network in the context of European educational networks and, as a consequence, increasing Romanian visibility at international level
- International alliances between Romanian schools and foreign schools that developed similar projects, students mobility programs (ex. France, Italy, Germany, Portugal, etc.)
- Experience exchange programs between schools involved in this type of projects
- Developing didactic and informing activities at all study levels within the Pilot Centers (Seismo Labs) organized at NIEP Bucharest and Faculty of Environmental Sciences and Engineering (UBB), Cluj-Napoca City
- Providing a framework for creating public awareness on earthquake risk and emergency situations and informing framework within the Pilot Centers considering others risk categories as well