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## Newsheet #1

SERA stands for "Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe" and aims to reduce the risk posed by natural and anthropogenic earthquakes. To that aim, this EU project will significantly improve the access to data, services and research infrastructures for scientists and other professionals. Since its start in May 2017, SERA has already made some achievements including a workshop on seismology for teachers, first access to test facilities, or the successful launch of its project website. Learn more about these activities in our first SERA newsheet. Further updates, highlights and upcoming events will be reported bi-annually.

We hope, you enjoy reading this newsheet!



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## Highlights

### SERA kick-off meeting

The SERA kick-off meeting took place from 31 May to 1 June 2017 at ETH Zurich. The aim of the meeting was that project participants get an insight to all work packages and understand the big picture of SERA. During the social dinner on lake Zurich the participants had the chance to get to know each other on a personal level - an important aspect to make future cooperation successful.



## Website and twitter account

Would you like to learn more about SERA? Then have a look at our [website](#). Besides general information on the project such as work packages, tasks and involved partners, the website provides insights on current progresses and events. In addition, we introduced a twitter profile [@sera\\_research](#) to distribute latest news. Become part of the SERA community by following us.

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## Site visit to Grimsel rock laboratory

During the meeting of SERA work package WP23/JRA1 on 18 and 19 January, ten people from Germany, Switzerland, France, Italy and Poland gathered in the snowy Swiss mountains. On the first day, they visited the [Grimsel rock laboratory](#), which is located 1730 metres above sea-level in the granitic formations of the Aar Massif 450 metres deep in the rock. The JRA1 group eyed especially on the "in-situ stimulation and circulation (ISC)" experiment since its dataset could be used as one of the validation cases for the JRA1 work package.



[Read more](#)

## Interview

### Transnational access projects on track



An important mission of SERA is to facilitate access to [ten high-class experimental facilities](#) in Europe. Out of 37 proposals, the TA-SEP (Transnational selection and evaluation panel) selected last October [17 promising research projects](#) within the first call and granted them access to the facilities. Igor Lanese talked with us about the selection procedure.

#### **Which were the three main criteria for the selection?**

Scientific value and innovation of the proposals were the most important

selection criteria, together with the importance for European competitiveness. Besides, technical and economical compatibility with the selected research infrastructure's available resources were critical aspects for the decision.

#### **Where are the selected research teams from?**

Overall, the involved researchers come from 18 different nations. The most represented are Italy, Switzerland and Portugal ([see detailed graphics](#)).

#### **When will the experiments start?**

The first access to NORSAR data centre has already been provided. For all other research infrastructures, the preliminary phase which includes the specimen and test setup design, material supply, specimen construction, instrumentation layout design, etc. is currently implemented. This phase generally requires few months, therefore, the first tests should start between March and June 2018.

#### **What is the overarching goal of the experiments?**

The accepted projects cover a wide range of key aspects related to structural safety. The research will encompass geotechnical aspects with soil-structure interaction and liquefaction, existing structures with limited seismic design provisions as well as innovative structural systems, with focus both at component (e.g. steel connections, coupling beams) and whole structure level, to enhanced seismic isolation and retrofit solutions. Further, the experiments aim at implementing innovative testing techniques such as geographically-distributed hybrid simulation for seismic and fire testing.

#### **What contributions do you expect for the seismology and earthquake engineering community?**

Given the heterogeneity of the selected projects and the research infrastructures peculiarities, we expect a wide range of contributions to the earthquake engineering and engineering seismology scientific community: The research will improve the knowledge and the safety of new, existing and retrofitted structures, through the investigation of specific structural aspects (e.g. components of shear resistance of coupling beams, soil-structure interaction) as well as the global response to different kind of actions (seismic, fire). The role of non-structural elements gained more and more importance in the last years, and it will be duly considered in the research. Furthermore, EE and ES communities will profit from the revision and improvements of Eurocodes, design guidelines and novel design methods based on the experimental campaigns results. Novel testing techniques will be implemented and validated, giving access to the scientific community to new powerful and cost-effective tools for structural assessment. Finally, all TA users will significantly benefit from the collaboration with highly-specialized first-class research infrastructures, bringing new skills and knowledge to their own institutions and to the whole scientific community through conferences, workshops, and so on.

The second call for proposals runs from 5 January to 4 March 2018. More information on the [SERA website](#) and [sera-ta.eucentre.it](http://sera-ta.eucentre.it).

**A glimpse into...**

...the teachers' workshop in Bucharest

For three days in the beginning of November, more than 200 teachers mainly from Romania but also from Moldavia and Ukraine gathered for the first SERA teachers' workshop in Bucharest. The teachers learned how they can bring pupils in touch with complex scientific concepts. The core of the workshop comprised of four interactive, hands-on sessions: "Basics in seismology", "Introducing and demonstrating earthquake engineering to schools", "Mars@School and Insight mission" and "Citizen seismology in education".



The teachers workshop was a collaboration between SCIENTIX and members of work package 3. The aim of this work package is to connect SERA partners that are already leading seismo@school initiatives and supporting them in sharing best practices. Seismo@school programmes using observational seismology as an educational tool in schools and non-formal educational settings like museums are effective methods to increase people's understanding of earthquake hazards and risk.

[Click here for more impressions](#)

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### ...a wish list of hazard products

SERA deliverable D25.1 summarises the main anthropogenic and natural hazard outputs that are required by European structural engineers and risk modellers. The engineering community requirements are mainly defined by the needs of the ongoing revisions to Eurocode 8, whereas the risk modelling needs have been identified by participants of the SERA work-package JRA4 (Risk Modelling Framework for Europe).

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### ...standard classification schemes for Europe



SERA deliverable D26.1 describes the common classification scheme (i.e. taxonomy) that will be used within the European risk framework being developed within SERA for buildings and other elements at risk - with a focus

on the main components of industrial facilities, i.e. pipelines and storage tanks. By using a single classification scheme, it is possible to ensure that fragility/vulnerability models for specific elements at risk are compatible with the exposure models that may be developed by different parts of the engineering community. The building taxonomy is based on an international standard, i.e. the GEM Building Taxonomy, whereas a new taxonomy for pipelines and storage tanks has been developed based on the experience gained in previous European projects [SYNER-G](#), [STREST](#) and [INDUSE-2-SAFETY](#).

## Outlook and events

**April 25-26, 2018 Bucharest, Romania**  
**SERA annual meeting**

In collaboration with INFP, Bucharest.

**Jan 5 - March 4, 2018**  
**Transnational access call for proposals**

Information are on [www.sera-eu.org](http://www.sera-eu.org) and [sera-ta.eucentre.it](http://sera-ta.eucentre.it).

**May 21-22, 2018 Tokyo, Japan**  
**[5th International Conference on Steel and Concrete Structures](#)**

**April 08-12, 2018, Vienna (Austria)**  
**[EPOS @ the EGU 2018 General Assembly](#)**

**June 21-22, 2018, Paris (France)**  
**[International Conference on Civil & Structural Engineering](#)**

The next external newsheet will be released in June 2018.

We always welcome feedback and suggestions - send them to the SERA communication team ([stephanie.schnydrig@sed.ethz.ch](mailto:stephanie.schnydrig@sed.ethz.ch) or [michele.marti@sed.ethz.ch](mailto:michele.marti@sed.ethz.ch)).

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730900.



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