

SERA Transnational Access – 2nd call for proposal

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Premises

The SERA project is the “Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe”, responding to the priorities identified in the call INFRAIA-01-2016-2017 Research Infrastructure for Earthquake Hazard, funded by the European Commission in the Horizon 2020 framework Program for Research and Innovation. The overall objective of SERA is to give a significant contribution to improve the access to data, services and research infrastructures, and deliver solutions based on innovative R&D in seismology and earthquake engineering, aiming at reducing the exposure of our society to the risk posed by natural and anthropogenic earthquakes.

The Transnational Access (TA) activities offer a combined and integrated access to the largest collection of high-class experimental facilities for earthquake engineering in Europe – and worldwide – including reaction walls, shake tables, bearing tester facilities and centrifuges, two facilities for integrated studies on geotechnical site effects and engineering seismology, and to a unique infrastructure in Europe for array seismology.

TA provides, to selected talented researchers, access to the Research Infrastructures (RIs) for the design and the implementation of the testing campaign under several points of view. The services that will be given to the users, starting from the collaboration with national and international experts in the field, include technical assistance in the definition of the specimen, the testing setup and protocol, assistance for the proper instrumentation choice and positioning, access to historical data, data-processing, results interpretations and advanced numerical modeling. In addition, support will be also provided for logistic, meeting and workshop organization.

A User Group is defined as a team of one or more researchers coming from the same or different institutions/companies, jointly applying for the TA and led by a User Group Leader. A User Group is eligible for TA support under the grant when the User Group Leader and the majority of the Users work in EU member countries or EU associated countries, different from where the selected installation is located. This condition is not mandatory when the access provider is an international organization, such as an ERIC (European Research Infrastructure Consortium) or other similar legal entities representing different countries. Access for User Groups with the majority of users not working in a EU or associated country is limited to 20% of the available TA budget.

Users are integrated into the scheduling of the RI during the execution of the program of each project, from the design and construction of the test specimen, to the instrumentation, experimental testing and interpretation of the results, receiving from the staff of the RI all the support needed to carry out their project.

The RI facilities are used and well prepared to host external researchers. During their stay, external researchers are integrated with the permanent staff, from whom they receive technical and scientific assistance. Following the necessary training, users can fully participate in the database access, test preparation and execution, data acquisition, data processing and results interpretation.

User Group and proposal submission

The Research Infrastructures providing Transnational Access within the SERA project framework are listed below:

1. Joint Research Centre: Reaction Wall ^(*)
2. EUCENTRE: Shake Table and Bearing Tester System;
3. CEA: Shake Table
4. LNEC: Shake Table
5. University of Patras: Reaction Wall
6. University of Bristol: Shake Table
7. IZIIS: Shake Table
8. University of Cambridge: Centrifuge
9. EUROSEISTEST and EUROPROTEAS
10. NORSAR: Seismology Array

^(*) NOTE: All available access units of Joint Research Centre have been allocated during the 1st call, therefore no further projects will be assigned to that Research Infrastructure.

The services that will be generally given to the users, which slightly differ according to the peculiarities of each infrastructure, are:

- first-class technical and scientific support and collaboration from the staff of the infrastructure;
- support for access to historical data;
- support for analytical and numerical modeling;

- technical assistance in the definition and design of the test model and of the experimental setup, to adapt the testing program to the characteristics of the infrastructure;
- preliminary destructive or non destructive tests for material properties identification of the test model or of the soil used in the centrifuges;
- support for the fabrication of the test specimen(s), either in reduced or full scale;
- assistance in the design and implementation of the instrumentation, providing, within the availability constraints of the sensors stock of the infrastructure, state-of-the-art sensors, materials and components and the workmanship for their installation;
- support in the definition of the instrumentation layout focused on the key objectives of the research;
- data acquisition systems;
- assistance in the choice of the input signals;
- specimen transportation and demolition after test;
- photographic and video records of the test model before, during and after the testing campaign (including in some cases video tracking technique for the wireless displacement monitoring and structural damage analyses);
- support to data-processing, analysis and results interpretation;
- support to logistic, user hosting and meeting organization;
- travel accommodation subsistence.

TA applicants can find more details on the characteristics of the facilities and the provided services on the web page <http://sera-ta.eucentre.it/>.

To apply for Transnational Access, the candidate User Group Leader must create a User Account on the web portal <http://sera-ta.eucentre.it/>, and submit the proposal by filling the *TA_proposal_form* available at the TA Call for Proposal section on the web portal.

The proposal must include:

- brief description of the proposed research;
- user organizations (main user, partner users) including CVs of principal investigator and of other researchers as appropriate;
- scientific basis and state-of-art;
- key points and foreseen advances;
- preferred Transnational Access facility for the execution of the proposed project. Applicants requiring access to shake table can also provide an alternative facility of the same typology (2nd choice). No

alternative is foreseen for user team requiring access to NORSAR, Euroseistest, Europroteas, bearing tester, reaction wall and centrifuge;

- total number of researchers in Transnational Access;
- target schedule;
- a PowerPoint presentation with a concise description of the proposal and sketches with rough dimensions and proposed scale of envisaged specimens (max 5 slides).

Before the submission of the proposal the User Group Leader is strongly encouraged to directly contact the RI Referent of the supposedly most suitable facility to preliminary discuss the main technical and scientific aspects of the proposed research project.

Documents to be submitted through the web portal:

- **TA_proposal_form** (official pdf form available at <https://sera-ta.eucentre.it/index.php/ta-call-for-proposal/>)
- **Short presentation of the proposal** (free template, max 5 slides, only .ppt, .pptx formats are accepted)

The above two documents, properly filled, are mandatory.

Evaluation and selection of the proposals

The proposal will be evaluated by the TA Selection and Evaluation Panel according to the criteria listed in the table below. The results of the evaluation and selection process will be published on the SERA-TA web portal and communicated by email to each User Group Leader.

Criterion for Selection	Weight
Fundamental Scientific and Technical value and interest	11
Originality and innovation	10
Quality of proposing team	10
Importance for public safety	7
Importance for European standardisation	7
Importance for European integration and cohesion	6
Importance for sustainable growth	5
Importance for European competitiveness	7
Importance and relevance to TA facility's own scientific interest	8
Synergies and complementarities with other TA tests (not applicable for NORSAR)	5
Cost and feasibility according to TA facility	10
Previous use of TA facility by any in the user team	7
Availability of similar infrastructures in any of the users' countries	7

Table 1 – evaluation criteria for the TA proposal selection



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