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## Newsheet #6

After three years of intensive research to reduce the risk posed by natural and anthropogenic earthquakes, SERA officially came to an end. The SERA project significantly improved access to data, services and research infrastructures for scientists and other professionals. Since the last newsheet in December 2019, SERA can show a series of achievements: a summary of the key data, data products, software and services (DDSS) is available on the SERA website, the third factsheet series is published, and a successful final meeting took place online. Furthermore, the project partners submitted a total of 41 deliverables to the European Commission at the end of April. These are only some of many other goals reached within the last six months. Of course, we will inform you about all the important updates of this year's activities within this newsheet and on the SERA Twitter account!

We hope you enjoy reading this newsheet and thank you for your interest within the last three years!



Twitter



Website



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## Highlights



Final SERA meeting - time to say goodbye!

The SERA final meeting took place on 23 to 24 April 2020, not as planned in Zurich (Switzerland) but virtual. Over 70 members of the SERA community participated. Many interesting presentations were held; each work package presented its main achievements and provided a summary of all activities conducted within the framework of SERA. The final meeting started with the management board meeting, continued with the final science meeting on Thursday and ended the next day with the General Assembly (GA) meeting on which all project partners attended and shared their thoughts and learnings gained through SERA.

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## Final summary report addressing professional stakeholders released

To sum up all networking and research activities, access to research infrastructure, data and products, and to give an overview of all partners involved, a [final summary report](#) was accomplished (D2.16). The final summary report\* is addressed to professional stakeholders and presents the background, mission and main achievements of the SERA project.

SERA offered access to the largest collection of high-class experimental facilities for earthquake engineering in Europe to talented researchers from both academia and industry. The research facilities comprise reaction walls, shaking tables, facilities for integrated studies on geotechnical site effects and engineering seismology as well as an infrastructure for array seismology. To understand the nature of earthquakes, seismologists need data from historical earthquakes as well as from earthquakes caused by human activities, such as drilling or fracking. Collecting these data is resource intensive. SERA facilitates access to data and products of seismology, engineering seismology and anthropogenic seismicity.

How earthquakes start and evolve is one of the big unsolved problems in earth sciences. SERA contributes to answering this question with multi-disciplinary science and joint research activities targeted on pooling data and expertise. This approach shall lead to an improved understanding of why earthquakes occur. SERA also delivers hazard and risk-related products, which are based on the integration of competences from different domains. A key result of the project is the first earthquake hazard model to be annexed

Would you like to know more about SERA? [Here](#) you can find all deliverables and information about the project!

*\*D2.16 has still to be accepted by the European Commission.*



## Data, data products, software and services available

The SERA project has contributed to the development of a wide range of [data, data products, software and services \(DDSS\)](#) in the fields of seismology, earthquake engineering and seismic risk, many of which are already offered as EPOS services. A summary of some of the key products and services that are already available, and can be of use to a wide range of stakeholders, is provided in a table on the [SERA website](#).

▼	Real time earthquake information portal and web services (EMSC)
▼	European Archive of Historical Earthquake Data portal (EMSC/AHEAD)
▼	Seismic waveforms portal and web services (ORFEUS/EIDA)
▼	Engineering Strong Motion Database portal and web services (ORFEUS/ESM)
▼	European Database of Seismogenic Faults (EFEHR/EDSF)
▼	European Seismic Hazard Models (EFEHR/ESHM)
▼	European Seismic Risk Models (EFEHR/ESRM)
▼	Clustering of seismic events toolbox
▼	Magnitude distribution testing toolbox
▼	Short-term time-dependent hazard toolbox
▼	Facilities for accessing Deep Seismic Sounding data
▼	Earthquake engineering test data



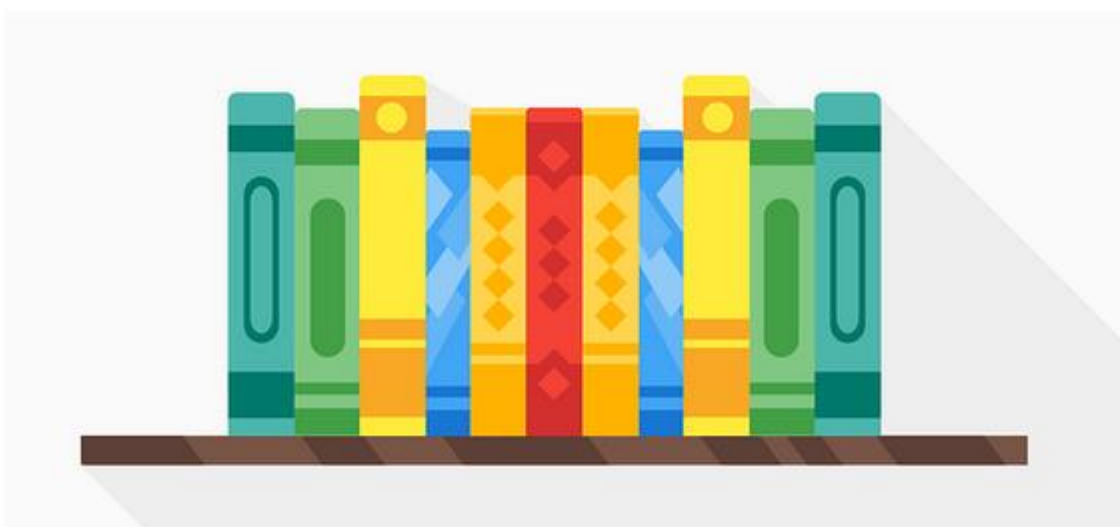
## Third fact sheet series\* online

To account substantially to a better understanding of seismic hazard and risk in Europe, several questions have to be answered. With our [fact sheet series](#), we address key issues SERA is challenged with and present preliminary results. You will find the third fact sheet series on our [website](#). It provides you with a closer look into the following projects:

- TA Project SERA-Silos
- SlabSTRESS TA Project
- Field testing of Soil-Structure Interaction (SSI) and wave propagation in Euroseistest and EuroProteas
- Roadmap for the Integration of data Banks and Access services from the earthquake engineering (SERIES) and seismology (EPOS) Research infrastructure
- Access to Array Seismology at NORSAR
- TA Project HITFRAMES

*\*This deliverable has still to be accepted by the European Commission.*

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Technical Reports\* to compile knowledge

Technical Reports are peer-reviewed publications. In total, 28 reports were written and compiled to one report, which can be found [here](#) on the SERA website. For a better visibility, you will soon find on the SERA website a new section called "technical reports" with all reports implemented in an interactive table and each of it available as PDF to download. For sure, we will inform you via [Twitter](#) as soon as the new page is published on the SERA website!

*\*This deliverable has still to be accepted by the European Commission.*

## A glimpse into...



More than one hundred and seventy million people in Europe are exposed to significant earthquake hazard. While long-term actions such as appropriate and well-enforced building codes remain the backbone of earthquake risk reduction, advances in scientific understanding and emerging technologies offer enticing opportunities to consider earthquake risk as a time-dependent process. Developing such innovative approaches and measures in order to reduce future earthquake losses is the mission of [RISE](#). **RISE** stands for **Real-time earthquake rIsk reduction for a reSilient Europe** and is a three-year project financed by the Horizon 2020 programme of the European Commission.

RISE adopts an integrative, holistic view of risk reduction; **a dynamic risk framework** that will combine all of the relevant information available to assess time and location dependent earthquake hazard and risk. Dynamic risk assessment includes, for example, operational earthquake forecasting, earthquake early warning, as well as rapid loss assessment. Emerging technologies will be combined with improved modelling capacities to design future products aimed at strengthening preparedness and resilience. Thereby, RISE considers the broad societal, economic and scientific impact of dynamic risk contributions. RISE takes an equally all-encompassing view on dissemination and communication of earthquake information to different stakeholders. The project brings together 19 organisations from across Europe as well as five international partners. RISE has started in September 2019 and will end in August 2022.

Would you like to stay updated on RISE progress?  
Subscribe [here](#) to the project's newsletter!

The newsletter will offer project updates and developments, preliminary and final results, and of course it's feature section A closer look where each work package provides insight into a related topic of their choosing. The newsletter will be distributed up to than three times a year, so no spamming; all the important information will be summarized in one compact e-mail.

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

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