



OBJECTIVES

The LESSLOSS project has brought together several researchers and practitioners from over forty-six European organizations with a view of transferring technology to the stakeholders for effective seismic risk reduction in the European Union.

The Seminar intends to present the work which has been done within the Lessloss Project and other research studies in the field of seismic isolators and energy dissipation devices. The Seminar will provide an opportunity to exchange knowledge and expertise in these topics.

PARTICIPANTS

All stakeholders concerned with earthquake risk mitigation are welcomed to participate in the Seminar. Members from the European Commission and from National Authorities of Member States, Civil Protection Agencies, representatives from Universities and Research Institutions, as well as professionals from the construction, urban planning and insurance sectors.

DATE AND VENUE

The Seminar will be held on the 30th of October 2007 at LNEC - Portuguese National Laboratory for Civil Engineering, Av. do Brasil, 101, 1700-066 Lisboa, PORTUGAL.

LNEC is located near the Lisbon airport, metro stations and several hotels. Information may be provided upon request.

REGISTRATION PROCEDURE

The participation in the seminar is free. However, registration to the Seminar should be made through filling in the registration form that is available at the web site www.stap.pt, which must be sent by fax or by email to the contacts below.

CONTACTS

For further information, please contact:

Stap, S.A.
Rua Marquês de Fronteira, 8, 3.º dto
1070-296 Lisboa, PORTUGAL
Tel.: +351 21 371 2580; Fax: +351 21 385 4980
Email: lessloss.seminar@stap.pt
www.stap.pt

ORGANIZERS AND SPONSORS



Since 1876



MAURER SÖHNE
Innovations in steel



Reparação,
Consolidação
e Modificação
de Estruturas, S.A.



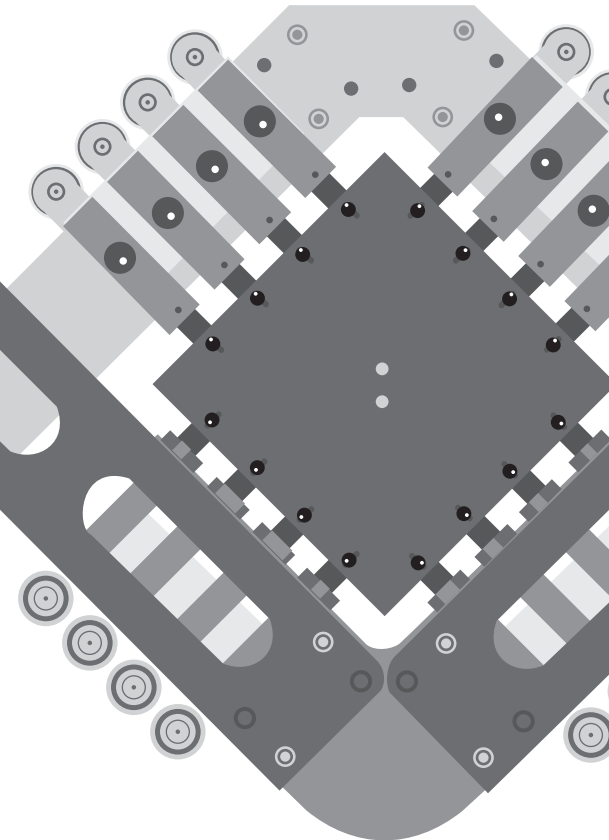
FEUP FACULDADE DE ENGENHARIA
UNIVERSIDADE DO PORTO

International Seminar

DEVELOPMENT OF INNOVATIVE ANTI-SEISMIC SYSTEMS IN THE FRAMEWORK OF THE LESSLOSS AND OTHER RESEARCH PROJECTS

LNEC - Laboratório Nacional de Engenharia Civil
Avenida do Brasil, 101, Lisbon, Portugal

October 30th, 2007, 9-18H



SCOPE

The current earthquake codes for conventionally protected structures, though they prevent collapse, allow even severe damage under strong earthquakes. In fact, the seismic resistance of the conventionally protected structures relies on their capacity to undergo significant inelastic deformations in strong earthquakes, namely on their ductility. Moreover, the conventional techniques provide no protection to the contents of a building or to secondary structural features. The prevention of earthquake damage to contents such as sensitive equipment is vital for hospitals and other critical facilities like museums.

Passive control systems of seismic vibrations (e.g. seismic isolation and energy dissipation) are innovative techniques which are worldwide considered to be already fully mature for providing mitigation of seismic damage for civil structures and components or equipment and have proven to be reliable and cost-effective for bridges and viaducts, civil buildings, cultural heritage and critical facilities.

Seismic isolation provides a method for protecting not only the structures but also the non-structural members and the structure contents, by means of a considerable reduction of the seismic loads transmitted through the foundations into the superstructure. Energy dissipation consists in the use of special devices, which attract on themselves and dissipate there a large amount of the seismic energy.

PROGRAMME

09.00 Registration.

10.00 SESSION I, Chairman Alfredo Campos Costa (LNEC) and Rui Pinho (University of Pavia).

Welcome address.

10.15 State of the Art of the Application of the Innovative Antiseismic Techniques in the World. (Alessandro Martelli, ENEA, Bologna, Italy).

11.00 State of the Art of the Application of the Innovative Antiseismic Techniques in Portugal. (Eduardo Cansado Carvalho, GAPRES, S.A., Lisbon, Portugal).

11.30 The LESSLOSS Integrated Project: Risk Mitigation for Earthquakes and Landslides. (Rui Pinho, University of Pavia, Italy).

12.00 Development and Manufacturing of Energy Dissipation Devices and Seismic Isolators (LessLoss Sub-Project 6). (Massimo Forni, ENEA, Bologna, Italy).

12.30 Discussion.

13.00 Lunch

14.30 SESSION II, Chairman (Massimo Forni, ENEA, Bologna, Italy) and Vítor Cóias (STAP).

14.30 Development of Low Stiffness Isolators and Electro-inductive Dampers. (Marco Battaini, ALGA, Milano, Italy).

15.00 Lesson learned from the shake table tests on Steel Hysteretic Elements and Curved Surface Sliding Isolators. (Renzo Medeot, MAURER, Munich, Germany).

15.30 Shaking table tests on anti-seismic devices. (Gerardo De Canio, ENEA, Rome, Italy).

16.00 Comparison between conventional and seismic isolated buildings. Case study in the framework of LessLoss Sub-Project 6. (Raquel Fernandes de Paula, STAP, S.A., Lisbon, Portugal).

16.15 Coffee break

16.45 Displacement Based Design models for base isolated historic buildings. (Luís Guerreiro, IST, Lisbon, Portugal).

17.15 Innovative anti-seismic systems: LNEC experimental research and future developments. (Maria João Falcão, LNEC, Lisbon, Portugal).

17.30 Seismic safety assessment of structures and the effects of anti-seismic systems on risk mitigation. (Raimundo Delgado, FEUP, Oporto, Portugal).

17.45 Discussion and closing remarks.

18.30 Closure.