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KnowRISK

Know your city, Reduce seismic risk through non-structural elements

Prevention and preparedness projects in civil protection and marine pollution. Prevention Priorities

Deliverable Report

Deliverable C3 – Shake table tests: wall shelves and equipments

Task C – Non-structural seismic risk reduction

Deliverable/Task Leader: LNEC/EERC

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Dissemination Level		
PU	Public	x
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

Preface

Deliverable Authors:

LNEC: Paulo Candeias, Marta Vicente

IST: Mónica Amaral Ferreira

Deliverable Contributors

IST: Hugo O'Neill

TABLE OF CONTENTS

1.1 INTRODUCTION	6
1.2 PREPARATION OF THE SHAKING TABLE TESTS	6
1.3 STORYBOARD	7

1. DESCRIPTION OF THE DELIVERABLE

1.1 INTRODUCTION

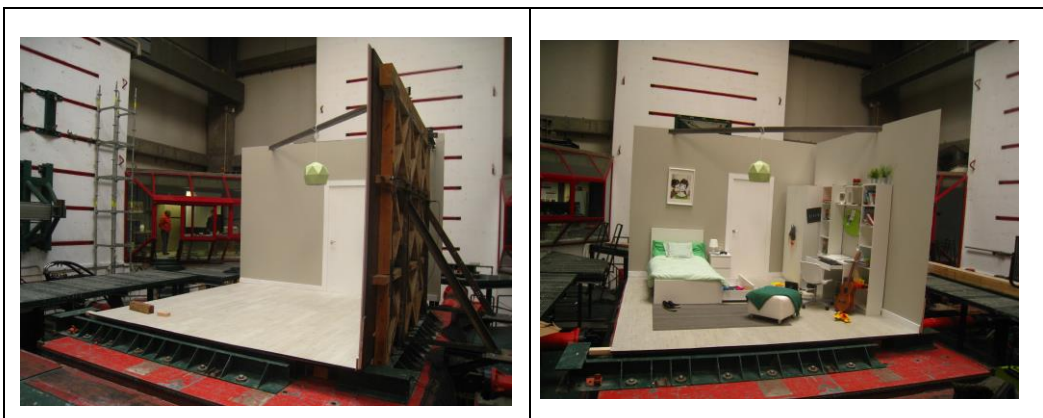
The objective of the KnowRISK Action C.3 is to carry out earthquake simulations - in a real scale bedroom - in the large LNEC 3D shake table with different types of non-structural components in order to assess their seismic performance, with and without complementary restraining devices. The assembled model would represent a teenagers' room since that met the age range of the target-group of the KnowRISK intervention. Testing a teenagers' room would make it possible to produce support material to be used during the risk communication actions.

In order to assure the accomplishment of this aim the following tasks were pursued:

- a) Conception of a “storyboard” for the realization of a public awareness short-movie;
- b) Conception of guidelines for the conception of the shake table test “making off” movie;
- c) Filming and recording activities during shake table tests.

1.2 PREPARATION OF THE SHAKING TABLE TESTS

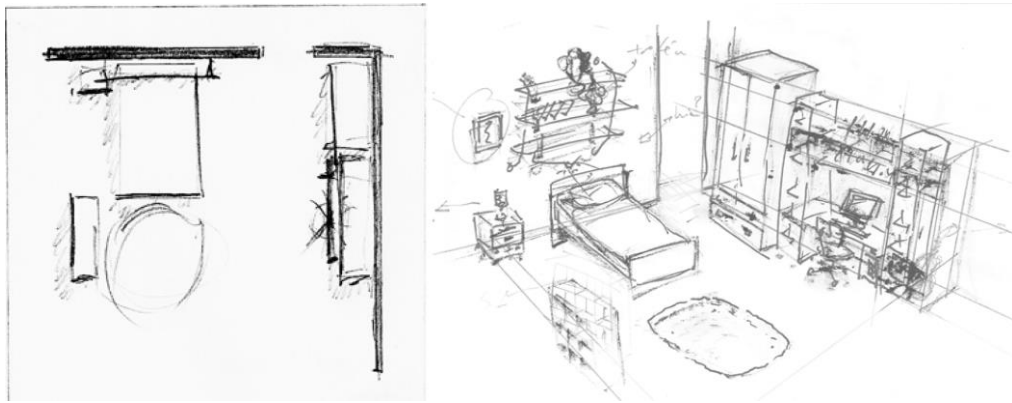
The works carried out in the scope of this task towards the shake table tests with walls and shelves, coincides with the paper “Seismic performance of non-structural elements assessed through shake table tests. The KnowRISK room set-up” submitted to ICESD - International Conference on Earthquake Engineering and Structural Dynamics. The paper can be found in the following link: https://www.dropbox.com/s/xslodl2kki50h8i/ICESD_Shake%20table%20tests_deliverables.docx?dl=0



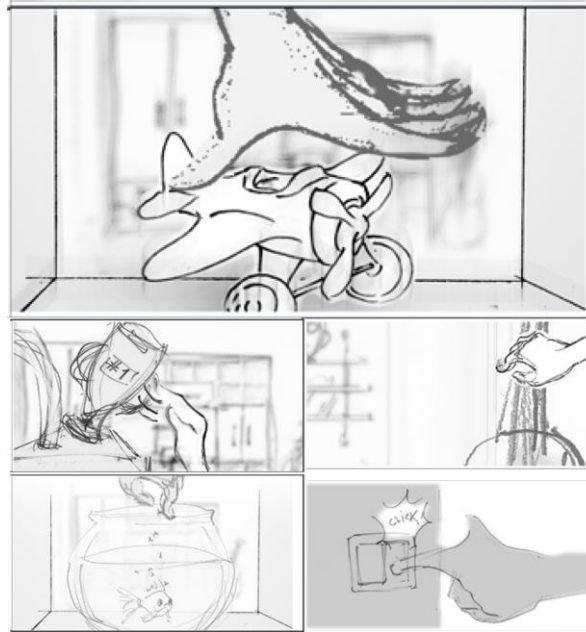
1.3 STORYBOARD

This campaign is within the KnowRISK project, aiming to raise awareness amongst common citizens to the importance of non-structural mitigation and protection measures against seismic risk. A video spot was found to be the ideal media for various media channels (youtube broadcast, showrooms, etc.).

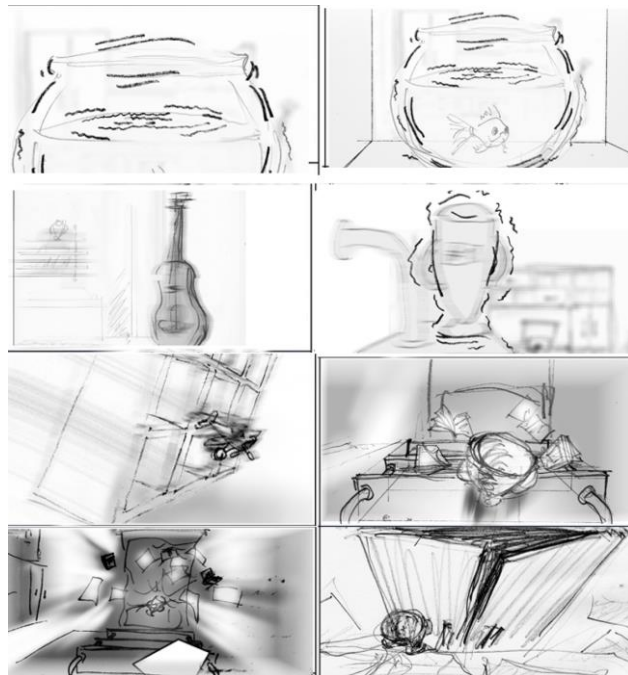
The spot portrays the typical non-structural damage consequences of an earthquake in domestic environment, common ground for most citizens. The campaign targets in particular young audiences (inline with communication actions taking place in schools) with the narrative taking action in a teenager's room. Focusing on the idea that you cannot predict when earthquakes happen, but you can take protective measures, the concept that drives the narrative is that one's future cannot be predicted, but it can be influenced.



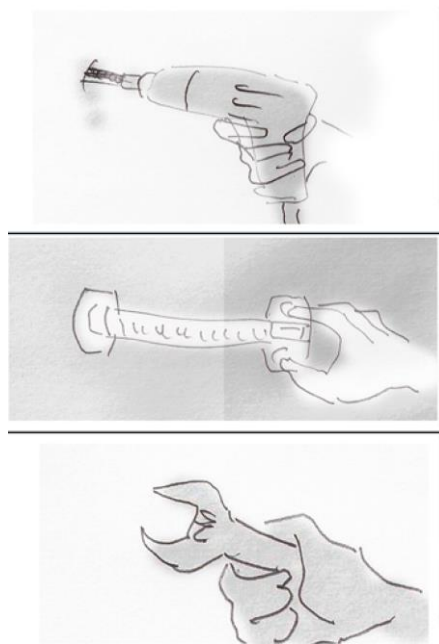
The spot begins with an introductory sequence, with camera shots capturing a display of objects that exhibit the different future aspirations of the room's occupant throughout several age stages, echoing various audiences (the child, the teenager, the adult / parent). A toy airplane, a sports trophy, a musical instrument, and a pet (representing the final stage of responsibility), function simultaneously as symbols and objects that might present peril. They are carefully placed around the room in several furniture items, by a caring hand. The final action is the hand feeding a fish in a bowl, before closing the lights. A tracking camera shot reveals the quiet room.



The next sequence focuses the fishbowl. This time the quietness is disturbed by wobbling and trembling water, revealing the initiation of an earthquake. It goes back in a reverse display of the objects, now shaking. When it gets to the toy plane, furniture starts to fall down, and objects precipitate dangerously over the bed, table and floor. The following tracking shots reveal the consequences of fallen heavy furniture and broken objects (broken toy, fallen trophy, broken instrument, and the victimized fish).



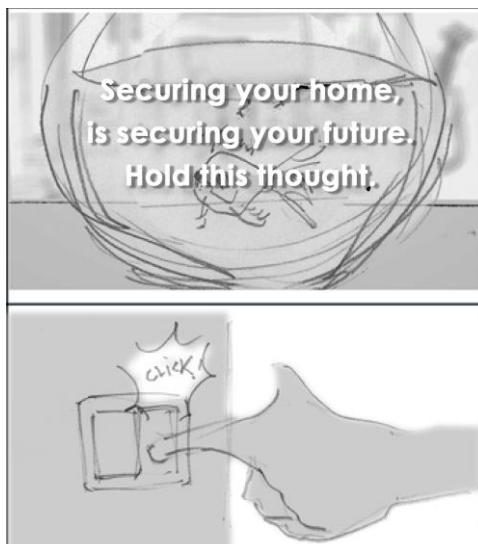
A message is revealed in text – **We cannot predict the future.** But small actions make the difference. This message is materialized in a following sequence of close shots, showing actions of reinforcing, securing and fastening the furniture and objects in the room. The tracking sequence showing the quiet room is repeated. Lights go out.



The shaking restarts. Objects are shown again, this time with the protection measures taking effect. Furniture is shown to be standing. After the shake, the shots reveal that objects have fallen, but this time remain intact as the furniture does not fall over them. The fish is safe in the bowl still in place. A final sequence shows the hand again, putting fallen objects back in place, bringing back order and normality. The fish is fed at last.



In the end, the text message shows – **Securing your home, is securing your future.**
Hold this thought.



The video serves as spot for the campaigns message, as well as to show an actual science experiment, using a real shake table test. This takes further the mission to bring science knowledge closer to common citizens.

A brief display of practical measures portrayed in the KnowRISK practical guide is shown, during the protection actions sequence, making a link between the project tasks.