OVERVIEW OF CHALLENGES IN RESILIENCE ENGINEERING: A CONSULTATION ON THE FINDINGS OF THE LLOYD'S REGISTER FOUNDATION INTERNATIONAL WORKSHOP ON RESILIENCE ENGINEERING

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INTRODUCTION

Recent natural and man-made disruptions around the globe have over the last decade spurred widespread interest in the improvement of community resilience. We here define "community" in general terms ranging from local neighborhoods to a nation (and beyond). Resilience as articulated in this manner is not easily quantified, standardized, measured, and modeled. Success will require the integration of seemingly disparate disciplines (e.g., behavioral psychology and software engineering), the involvement of widely diverse stakeholders (e.g., power authorities and the insurance industry), and perhaps even the invention of new fields of study (e.g., measurement science). The Lloyd's Register Foundation is a charity helping to protect life and property by supporting engineering-related education, public engagement and the application of research. LRF has identified Resilience Engineering as a priority research theme in which it plans to make investments. Given the vast scope of this domain, and the numerous activities in the area already planned or underway around the world, it is essential that a careful assessment be conducted with the aim of identifying:

- The applications of Resilience Engineering to sectors of relevance to the LRF;
- The gaps in our ability to understand, communicate, and improve resilience in these sectors.

In partnership with LRF, Stevens Institute of Technology will host an international workshop on April 15-17, 2015 with the aim of providing answers to the questions outlined above.

The workshop will include the participation of experts from around the world representing a diverse array of disciplines relevant to resiliency. The participants will produce a draft report summarizing the findings from the workshop presentations and discussions, and identifying the research areas in which LRF might consider making investments to most effectively further community resilience.

SUMMARY OF THE PROPOSAL

We here propose to present the findings of the workshops and discuss and consult with REA Symposium participants on the draft findings and recommendations. We are planning to incorporate the feedback and suggestions from the REA participants into the final LRF Workshop report. We are requesting that the discussion be scheduled for 90 minutes. We will begin with a brief (30 to 45 minute) summary of the findings and recommendations. These will also be available in summary form as a handout before the session. Open discussion will follow. With permission from the participants, we will take detailed notes of all of the discussions, for use in the revision of the draft LRF Workshop report.

RELEVANCE FOR SYMPOSIUM

The proposed session will provide REA Symposium participants with the current thinking of a diverse group of experts on the issues confronting community resilience in various sectors, along with their recommendations on the most promising areas of research and technology development to most effectively promote resiliency. Importantly, the session will also provide the opportunity for participants to contribute to the LRF Workshop final report and thereby contribute to the development of a multi-year international initiative in resiliency research. Participants will be invited to register their interest in engaging with the programme into its implementation stages.