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**THE ACHIEVEMENTS OF THE NEOShield PROJECT AND THE PROMISE OF
NEOShield-2**

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ABSTRACT

In 2011 the European Commission issued a call for proposals, as part of its seventh research Framework Program (FP7), for projects to address the near-Earth object (NEO) impact hazard and feasible mitigation measures. The NEOShield project, proposed by a consortium of 13 partner organizations from academia and industry, received funding for 3.5 years from January 2012. A similar call for proposals was issued by the European Commission in the framework of its Horizon 2020 program in December 2013, resulting in the granting of funding for the 11-partner NEOShield-2 project for 2.5 years from March 2015. We report on the significant results and experience of NEOShield, drawing to an end at the time of this conference, and the plans and expectations for NEOShield-2, which is just kicking off.

The main areas addressed by NEOShield include NEO physical characterization, laboratory experiments to investigate the material properties of asteroid analog materials, NEO modeling and computer simulations, a trade-off study of different deflection techniques, and detailed designs of deflection test missions. Following on from this work, NEOShield-2 will investigate in more detail key technologies crucial to space missions to deflect NEOs, including autonomous guidance, navigation, and control systems, and carry out observations of selected NEOs for the purposes of broadening our knowledge of their mitigation-relevant physical properties, and increasing the list of suitable candidate targets for deflection test missions. We will also briefly address themes common to both NEOShield projects, such as the design of an international strategy or “roadmap” for responding to the discovery of a

significant impact threat, and the role of the NEOShield projects in relation to current impact-hazard response activities on the international stage.

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