Input from UK academia

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UK academia capabilities (1/3)

- NEO detection
  - Mission study for space-based asteroid detection
  - Asteroid orbit determination
- Asteroid impact characterisation
  - Computational modelling of impact processes
  - Long-term propagation of asteroid orbits
  - Uncertainty evaluation
  - Understanding large scale impacts
  - Characterising impact consequences and risk

UK academia capabilities (2/3)

- NEO deflection
    - Space mission study for asteroid deflection
    - Modelling and optimisation of deflection dynamics
    - Modelling and design of NEO deflection technologies (i.e., kinetic impactor, nuclear blast, gravity tractor, laser ablation, low-thrust engine, ion beaming)
    - Comparative assessment of NEO deflection technologies
    - Fragmentation risk during deflection
    - Uncertainty evaluation
    - Guidance, navigation and control of close proximity operation
- Experimental for NEO deflection
    - Hypervelocity impact processes
    - Test for laser ablation

UK academia capabilities (3/3)

- Asteroid exploitation and exploration
  - ➢ Space mission studies
  - ➢ Asteroid capture
  - ➢ Guidance, navigation and control of close proximity operation
  - ➢ Composition characterisation
- Policy
  - ➢ NEO mitigation decision-support tools

Inputs from UK academia (1/4)

- Imperial College London

    - Asteroid impact characterisation
    - Project examples: Impact Earth!, iSALE

- University of Cranfield

    - Asteroid impact characterisation
    - NEO deflection
    - Asteroid exploitation and exploration
    - Project examples: ASTEROIDRETRETRIEVAL FP7 - MC

- University of Kent – Canterbury

    - Experimental for NEO deflection
    - Asteroid characterisation and observation
    - Project examples: OSIRIS ROSETTA, European Southern Observatory

Inputs from UK academia (2/4)

- University of Glasgow
  - NEO deflection
  - Asteroid exploitation and exploration
  - Project examples: EPSRC

- The Open University
  - Asteroid impact characterisation
  - Asteroid characterisation
  - NEO deflection
  - Experimental for NEO deflection
  - Project examples: NEOShield, NEOShield 2, Rosetta MUPUS

Input from UK academia

Inputs from UK academia (3/4)

- University of Southampton

  - NEO detection
  - Asteroid impact characterisation
  - NEO deflection
  - Asteroid exploitation and exploration
  - Policy
  - Project examples: Stardust EU FP7, NEOImpactor, NEOMiSS

- University of Strathclyde

  - NEO detection
  - Asteroid impact characterisation
  - NEO deflection
  - Experimental for NEO deflection
  - Asteroid exploitation and exploration
  - Project examples: Stardust EU FP7 (Coordinator), Lighttouch SYSNova

Inputs from UK academia (4/4)

- University of Surrey
  - NEO deflection
  - Asteroid missions
  - Experimental for NEO deflection
  - Project examples: NEOShield, NEOShield 2
- The Queen's University of Belfast
  - Asteroid characterisation
  - Asteroid exploitation and exploration
  - Project examples: NEOShield, NEOShield 2

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