



MINISTRY OF DEFENCE

CENTRE FOR
DEFENCE ENTERPRISE

[dstl]

Novel Technologies for Complex Weapons

Thursday 27 January 2011, Bristol

The Weapons Technology Centre (WTC), an MOD / industry partnership, is responsible for planning and delivery of research and technology to support the future UK needs for Complex Weapons; further details are available on the call / event webpage. Key goals include the fast and effective delivery of technical capability to the front line and encouraging innovation to exploit emerging and potentially disruptive technologies.

This CDE Call by the Weapons Technology Centre is for research proposals for novel and low cost technologies for future Complex Weapons (CW). Whilst proposals in any area of CW will be considered, there are 2 priority areas of need:

Electric Power Systems: Many missile systems rely on Thermal Batteries for electric power and whilst they combine adequate power levels with long shelf life they are often expensive and specific to individual applications. This is a particular challenge for any future lightweight, low cost weapon family and will require innovative systems solutions to meet electric power requirements consistent with the CW strategy for modularity and re-use across different systems.

Proposals should not be limited to alternative battery technology (increased energy storage, energy density) but should also consider more efficient power management and distribution (e.g. low loss connectors), alternative energy sources and other power generation and management technologies.

Through Life Risks / Opportunities for Increased Use of Composite Materials in Complex Weapons: Advances in composite material technology could provide a major boost to the performance of future weapon systems. However, their application has been limited by lack of understanding and confidence associated with their use over the whole life of the system. The challenge is to understand innovative applications of emerging materials technology and the opportunities and risks they offer; these might include, but not be limited to:

Opportunities:

- Integration of conformal non intrusive antennas;
- Fabrication of complicated shapes;
- Enhanced Mission Performance (e.g. range/duration)
- Increased mechanical properties
- Reduced Whole Life Costs

Risks:

- Damage and structural health monitoring of Composite Materials;
- Life and ageing properties of Composite Materials;
- Environmental Effects: temperature, moisture ingress and surface water/ice;

Bidders should note that this is an innovation call for the Weapons Technology Centre and proposals will be assessed by nominated MOD and Industrial assessors; confidentiality is covered by non-disclosure agreements. Projects taken forward from this themed call will be subject to standard CDE commercial conditions and will form part of the WTC work programme in order to maximise exploitation opportunities. Full details will be given at the call event.

The call for proposals will close 1200 (noon) on Thursday 10 March 2011

Places are strictly limited and registration is only via the 'Events and Calls' section of www.science.mod.uk. MOD does not charge for attendance at CDE seminars.

Centre for Defence Enterprise Queries: science-enterprise@mod.uk or tel: 01235 438 445

Technical queries related to this call please contact: WTCinnovation@dstl.gov.uk

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