Robotics &
Autonomous Systems

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Statement of Requirement for the R-Cloud Robotics and Autonomous Systems (RAS) Strategic Capability

Introduction:

The Defence Science and Technology Laboratory (Dstl), which is part of the UK Ministry of Defence (MOD), is refreshing its commercial agreement for Science and Technology (S&T) research contracts, known as R-Cloud (Research Cloud).

MOD places extensive fundamental, experimental and applied research with industry and academic suppliers and wants to broaden access for this supply base, reducing the cost of trading with MOD and enabling agile contracting. R-Cloud complements MOD's other contracting mechanisms and academic and industry suppliers of S&T research are now invited to apply to join MOD's research supplier community within the Robotics and Autonomous Systems Strategic Capability.

This statement of requirement relates to suppliers joining R-Cloud within the Robotics and Autonomous Systems capability area. R-Cloud provides a low barrier to entry for potential suppliers and offers direct access to MOD's current and future research requirements. Academic and industrial suppliers of Robotics and Autonomous Systems research are invited to apply to R-Cloud if you are a supplier of Science and Technology Research in this area.

RAS encompasses a broad range of technical areas, not limited to but including:
- RAS Underpinning Science and Technology
- RAS advantage
- RAS Design, Integration & Interfaces
- RAS Consent and Confidence

NB The RAS Strategic Capability includes consideration of systems in any environment (land, above and below water, air and space).

Statement of Requirement:

Robotics and Autonomous Systems		The ability to understand, evaluate, integrate and demonstrate the tools, techniques and approaches of robotics and AI technologies to create effective and trustworthy Defence and Security unmanned platforms and autonomous systems. This includes the understanding and evaluation of threat RAS capabilities and systems.

	RAS Science and Technology	The ability to undertake basic, novel and innovative research into the underpinning science and technology of RAS. This may include, but not be limited to, aspects such as sensing, actuation, power, processing, algorithms, machine perception, human-machine interfaces and navigation.
	RAS advantage	Development of robotic and autonomous system concepts and be able to comprehensively evaluate and assess unmanned platforms and autonomous systems and their underpinning technologies for application in potentially complex environments, (such environments could include those that are remote, inhospitable, urban, or electromagnetically or physically congested)
	RAS Design, Integration & Interfaces	The capability to deliver system engineering, integration and demonstrations incorporating autonomy-enabling technologies (including power systems, command and control, mission planning and task management, sensing, assured navigation and machine perception, advanced material and trustworthy human-machine relationships).
	RAS Consent and Confidence	Support, demonstrate and advise Defence and Security users on the effective and assured use of autonomous system. Evaluate autonomous systems utility, safety, performance and vulnerabilities in the complex and contested environments including own and adversary use. Development of trustworthy human-machine relationships and teams.
	RAS Countermeasures	Research, design, develop and advise on countermeasures against adversary use of RAS. This could include not only detection of RAS, but also confirmation of intent, and methods in disruption.

NB The RAS Strategic Capability includes consideration of systems in any environment.