



RCloud Tasking Form - Part B: Statement of Requirement (SoR)

Title of Requirement	Redacted Under FOI Exemption		
Requisition No.	RQ0000012149 - PO 0000008420		
SoR Version	0.1		

Summary and Background Information This PhD proposal will use Redacted Under FOI Exemption bespoke facility for the EPItaxial growth and in			
This PhD proposal will use Redacted Under FOI Exemption bespoke facility for the EPItaxial growth and in			
situ analysis of two dimensional (2D) SEMiconductors (EPI2SEM) to investigate an emerging class of 2D semiconductors based on metal chalcogenides. The aim is to develop fabrication methods to study and optimise prototype tunnel junction devices based on 2D metal chalcogenides heterolayers. For these new systems to meet technological needs, several challenges must be addressed, from the atomic-scale precision manufacturing and scalability, to integration into devices for exploitation in real applications. The ultimate goal is to develop arrays of nanoscale optical sensors with high sensitivity and operating between the ultraviolet (UV) and the terahertz (THz) bands of the electromagnetic spectrum.			
Requirement			
The ultimate goal of this PhD is to develop arrays of nanoscale optical sensors with high sensitivity and fast response rate, operating between the ultraviolet (UV) and the terahertz (THz) wavebands of the electromagnetic spectrum. To achieve this goal, an emerging class of 2D semiconductors based on metal chalcogenides (MC) will be developed and used to fabricate devices to investigate their spectral response and performance characteristics. Redacted Under FOI Exemption			
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Quarterly progress update reports should be provided to and the PhD student and academic
supervisor will remain in regular communication with either via telephone, email or face-to-
face to ensure risk aware of the progress and direction of research. This will allow to align
its own related activities during the course of the programme, and vice-versa.
The PhD student will spend approximately 3 months on secondment to and participate in
seminars and workshops to gain an understanding of the Redacted Under FOI Exemption how
commissions recommend and capability; and the role of and the
it conducts. The student will also join Redacted Under FOI Exemption to gain an
appreciation of microelectronic circuit design and fabrication techniques. Depending on the team's
work schedule at the time of placement, the student could either contribute to the design and
manufacture of bespoke Printed Circuit Boards (PCBs) and/or contribute to the analyses of
microelectronic components and systems. The student may also join Redacted Under FOI Exemption
to conduct optical testing and analyses of devices fabricated during the PhD and to compare their
performance against commercial devices.
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Start date : 01 October 2022
End date : 20 September 2026
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1.3	Options or follow on work (if none, write 'Not applicable')
	Not Applicable
1.4	Contract Management Activities
	 Quarterly Progress Meetings Annual Continuation Reports (Interim PhD Thesis) and Presentations Final PhD thesis and Presentation
1.5	Health & Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement
	Redacted Under FOI Exemption

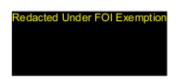


1.6	Deliverables & Intellectual Property Rights (IPR)				
Ref.	Title	Due by	Format	Expected classification (subject to change)	What information is r deliverab
D – 1 Start-up meeting	Start-up meeting	TO+2weeks	Presentation (.pptx)		Redacted Under FOI Exemption Redacted Under FOI Exemption
D - 2 Quarterly Progress meeting	Quarterly Progress meetings	TO+3months and every 3 months thereafter (could be less frequent if	Presentation (.pptx)		Redacted Under FOI Exemption - Redacted Under FOI Exempt

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		deemed appropriate and mutually agreed)			_ Redaded Under FOI Exemption
D- 3	Annual Continuation Reports (Interim PhD Thesis) and Presentations	T0+12 months, T0+24 months, T0+36 months	Presentation (.pptx)		Redacted Under FOI Exemption
D – 4	Final PhD Thesis and Presentation	T0+48 months	Presentation (.pptx)	*	Redacted Under FOI Exemption

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1.7	Deliverable Acceptance Criteria
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2	Evaluation Criteria				
2.1	Method Explanation				
	Evaluating this based on technical compliance and affordability.				
2.2	2 Technical Evaluation Criteria				
	Confirmation that the proposal fully meets the Authority's Statement of Requirement. Pass/Fail				
2.3	Commercial Evaluation Criteria				
	Tenderer has submitted a commercially compliant bid.				
	Firm priced version submitted within budget of Labour rates and price as per single source rates uploaded to R Cloud Completion of Research Workers Form's Completion of Statement Relating to Good Standing Completion of SAQ Confirm acceptance of R Cloud Version 4 Terms and Conditions Completion of DEFFORM 711	Pass/Fail Pass/Fail Pass/Fail Pass/Fail Pass/Fail Pass/Fail Pass/Fail			