

## 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

1.	Statement of Requirements
1.1	Summary and Background Information
	<p>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.</p>
1.2	Requirement
	<p>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.</p> <p>Redacted Under FOI Exemption</p> <p>Redacted Under FOI Exemption</p> <ul style="list-style-type: none"> <li>Redacted Under FOI Exemption</li> </ul> <p>Redacted Under FOI Exemption</p> <p>Redacted Under FOI Exemption</p>

- Redacted Under FOI Exemption

Quarterly progress update reports should be provided to Redacted Under FOI Exemption and the PhD student and academic supervisor will remain in regular communication with Redacted Under FOI Exemption either via telephone, email or face-to-face to ensure Redacted Under FOI Exemption is aware of the progress and direction of research. This will allow Redacted Under FOI Exemption to align its own related Redacted Under FOI Exemption activities during the course of the programme, and vice-versa.

The PhD student will spend approximately 3 months on secondment to Redacted Under FOI Exemption and participate in seminars and workshops to gain an understanding of the Redacted Under FOI Exemption how Redacted Under FOI Exemption commissions Redacted Under FOI Exemption procures equipment and capability; and the role of Redacted Under FOI Exemption and the Redacted Under FOI Exemption 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.

# Redacted Under FOI Exemption



Start date : 01 October 2022

End date : 20 September 2026

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1.3	<b>Options or follow on work</b> <i>(if none, write 'Not applicable')</i>
	Not Applicable
1.4	<b>Contract Management Activities</b>
	<ul style="list-style-type: none"> <li>• Quarterly Progress Meetings</li> <li>• Annual Continuation Reports (Interim PhD Thesis) and Presentations</li> <li>• Final PhD thesis and Presentation</li> </ul>
1.5	<b>Health &amp; Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement</b>
	<p>Redacted Under FOI Exemption</p> <p>Redacted Under FOI Exemption</p> <p>Redacted Under FOI Exemption</p> <p>Redacted Under FOI Exemption</p> <p>Redacted Under FOI Exemption</p>

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

		deemed appropriate and mutually agreed)			- Redacted Under FOI Exemption [Redacted] [Redacted] [Redacted] [Redacted] [Redacted] [Redacted] [Redacted]
<i>D - 3</i>	Annual Continuation Reports (Interim PhD Thesis) and Presentations	T0+12 months, T0+24 months, T0+36 months	<i>Presentation (.pptx)</i>	[Redacted]	Redacted Under FOI Exemption [Redacted] [Redacted]
<i>D - 4</i>	Final PhD Thesis and Presentation	T0+48 months	<i>Presentation (.pptx)</i>	[Redacted]	Redacted Under FOI Exemption [Redacted] [Redacted]

<b>1.7</b>	<b>Deliverable Acceptance Criteria</b>
	<p>Redacted Under FOI Exemption</p> <p>Redacted Under FOI Exemption</p>

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