

Title of Requirement	Redacted Under FOI Exemption
Requisition No.	RQ0000009664
SoR Version	0.1

Recent advances in machine learning techniques provide an opportunity to address this challenge. In this project, we aim to do that by developing and demonstrating a new machine learning

platform, to predict the conditions needed to optimise, stabilise and control particle and radiation generation in laser-solid interactions. The project will directly support complementary developments for the new **Redacted Under FOI Exemption** **Redacted Under FOI Exemption** to the realisation of stable laser-plasma based sources for wide-ranging applications.

The studentship project aims to take major steps towards addressing the challenge to optimise, stabilise and control particle and radiation generation in laser-solid interactions via the development and application of a new machine-learning platform. The specific objectives are to:

- **Redacted Under FOI Exemption**

The student will begin by acquiring knowledge of laser-plasma interaction physics, numerical simulations, machine learning techniques and experimental implementation skills. The project will continue with the student investigating the optimisation of laser-driven radiation sources using a combination of machine learning techniques and particle in cell simulations. Identifying and testing the best approach to use will be part of the project. This will help inform the feasibility of enhanced control and optimisation for experimental demonstration. The machine learning approach will then be applied to a live experiment using the **Redacted Under FOI Exemption**, and if available, **Redacted Under FOI Exemption** **Redacted Under FOI Exemption**

During the project, the student to contribute to be several experimental campaigns planned to be conducted at the **Redacted Under FOI Exemption**, on the optimisation of a high repetition rate laser-driven ion source. The student will take a key role in the planning and delivery of the experiment. Additionally, the student will participate in collaborative experiments with **Redacted Under FOI Exemption** researchers at external research facilities, such as the **Redacted Under FOI Exemption**

Proposed Payment Plan

Progress payment 1: end of PhD Year 1 (date to be confirmed) = **Redacted Under FOI Exemption**
 Progress payment 2: end of PhD Year 2 (date to be confirmed) = **Redacted Under FOI Exemption**
 Progress payment 3: end of PhD Year 3 (date to be confirmed) = **Redacted Under FOI Exemption**
 Progress payment 4: end of PhD Year 4 (date to be confirmed) = **Redacted Under FOI Exemption**
 Submission of Final Thesis (date to be confirmed) = **Redacted Under FOI Exemption**

NOTE: Payment will be annually in arrears, and upon satisfactory completion of all deliverables at the end of each PhD Year.

Additional Definitions

"PHD Year" A consecutive twelve (12) Month period during the Term, commencing on the date that the Authority formally confirms approval of the student in writing

1.3 Options or follow on work (if none, write 'Not applicable')

















N/A

1.4	Contract Management Activities
	<ul style="list-style-type: none">• Quarterly Progress review• Submission of Final Thesis
1.5	Health & Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement
	N/A

1.6	Deliverables & Intellectual Property Rights (IPR)				
Ref.	Title	Due by	Format	Expected classification (subject to change)	What information is r deliverab
100865 – 9664- Q1	Quarterly Progress and Technical Review	T0+3 Months	Presentation (.pptx)	Redacted	Redacted Under FOI Exemption [Redacted]
100865 – 9664- Q2	Quarterly Progress and Technical Review	T0+6 Months	Presentation (.pptx)	Redacted	Redacted Under FOI Exemption [Redacted]

100865 – 9664- Q3	Quarterly Progress and Technical Review	T0+9 Months	Presentation (.pptx)	Redacted Under FOI Exemption	Redacted Under FOI Exemption
100865 – 9664- Q4	Quarterly Progress and Technical Review	T0+12 Months	Report	Redacted Under FOI Exemption	Redacted Under FOI Exemption
100865 – 9664- Q5	Quarterly Progress and Technical Review	T0+15 Months	Presentation (.pptx)	Redacted Under FOI Exemption	Redacted Under FOI Exemption
100865 – 9664- Q6	Quarterly Progress and Technical Review	T0+18 Months	Presentation (.pptx)	Redacted Under FOI Exemption	Redacted Under FOI Exemption

					Redacted Under FOI Exemption
100865 – 9664- Q7	Quarterly Progress and Technical Review	T0+21 Months	Presentation (.pptx)	Redacted Under FOI Exemption	Redacted Under FOI Exemption
100865 – 9664- Q8	Quarterly Progress and Technical Review	T0+24 Months	Report	Redacted Under FOI Exemption	Redacted Under FOI Exemption
100865 – 9664- Q9	Quarterly Progress and Technical Review	T0+27 Months	Presentation (.pptx)	Redacted Under FOI Exemption	Redacted Under FOI Exemption

100865 – 9664- Q10	Quarterly Progress and Technical Review	T0+30Months	Presentation (.pptx)		Redacted Under FOI Exemption      
100865 – 9664- Q11	Quarterly Progress and Technical Review	T0+33 Months	Presentation (.pptx)		Redacted Under FOI Exemption      
100865 – 9664- Q12	Quarterly Progress and Technical Review	T0+36 Months	Report		Redacted Under FOI Exemption 

100865 – 9664- Q13	Quarterly Progress and Technical Review	T0+39 Months	Presentation (.pptx)	Redacted	Redacted Under FOI Exemption Redacted Redacted Redacted Redacted Redacted
100865 – 9664- Q14	Quarterly Progress and Technical Review	T0+42 Months	Presentation (.pptx)	Redacted	Redacted Under FOI Exemption Redacted Redacted Redacted Redacted Redacted
100865 – 9664- Q15	Quarterly Progress and Technical Review	T0+45 Months	Presentation (.pptx)	Redacted	Redacted Under FOI Exemption Redacted Redacted Redacted Redacted

					Redacted Under FOI Exemption
100865 – 9664- Q16	Quarterly Progress and Technical Review	T0+48 Months	Report	Redacted	Redacted Under FOI Exemption
100865 – 9664- Q16	Access to any publications as a result of the studentship research and thesis once completed	T0+48 Months	Online links or electronic copies	Redacted	Redacted Under FOI Exemption

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

2	Evaluation Criteria
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>Confirm acceptance of R Cloud Version 4 Terms and Conditions Pass/Fail</p>