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Planning

Automated Library Synthesis System

University of Portsmouth

UK2: Preliminary market engagement notice - Procurement Act 2023 - [view information about notice types](#)

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Scope

Reference

25RP525

Description

The University of Portsmouth is looking for an automated library synthesis system to support current and future research projects in the School of Medicine, Pharmacy and Biomedical Science. The equipment will be used in research and teaching across the school in areas such as vaccine development, gene therapy, lipid nanoparticle research, drug formulation screening and process optimisation for manufacturing. We are looking to purchase an automated microfluidic platform designed for high-throughput screening and optimisation of nanoparticle formulations. It should enable users to run large numbers of experiments within a single workflow while tightly controlling formulation and process parameters, using minimal reagent volumes and incorporating automated cleaning to avoid cross-contamination. The system should combine programmable pumping, robotic

liquid handling, interchangeable microfluidic mixing devices and integrated software for experimental design and data capture. It should offer an efficient and scalable approach to rapid formulation screening and the transfer of optimised conditions to downstream process development.

The seller is expected to supply, deliver, install the equipment and provide training to key users. We are seeking a five-year service plan to be included in the purchase. The seller must meet the mandatory essential criteria outline in the specification.

Total value (estimated)

- £260,000 including VAT

Above the relevant threshold

Contract dates (estimated)

- 1 June 2026 to 31 May 2031
- 5 years

Main procurement category

Goods

CPV classifications

- 37315100 - Synthesisers

Contract locations

- UKJ3 - Hampshire and Isle of Wight

Engagement

Engagement deadline

18 December 2025

Engagement process description

The University is conducting early market engagement to understand the range of automated microfluidic nanoparticle generation systems currently available that may meet our emerging specification for use in pharmaceutical research. The device should allow for high throughput manufacturing of large libraries of lipid nanoparticles. This is required for formulation screening and optimization for encapsulation and cellular delivery of nucleic acids (gene therapies).

The equipment should enable automated and high-speed manufacturing of lipid nanoparticles (maximum 10 m in per formulation) at a small scale (1- 2 mL per run), preferably in a 96 well plate format. It should also allow us to choose the suitable design of the microfluidic mixer which is fit for our purpose.

The equipment will be instrumental in our ongoing and future research projects that involve optimization of LNPs for enhanced and targeted delivery of various therapeutic nucleic acids to different types of cells and/or specific subcellular organelles for development of new gene therapies and vaccines.

We invite interested suppliers to provide information on their available systems, supporting documentation, technical specifications and provide any relevant product literature. This engagement is being undertaken through a document based information gathering exercise only; no meetings or presentations are planned at this stage.

Suppliers wishing to participate should outline the capabilities of the proposed system, key technical parameters, optional modules or configurations, and any additional information that would help us understand how the system could meet our requirements.

The deadline for providing this information is 18th December 2025. Following the review of the submissions, the University may undertake further engagement activities if required, or may use the documentation received to inform the future procurement

approach. Participation in the process is voluntary, and suppliers will bear their own costs.

This engagement does not form part of any procurement process and does not commit the University to undertake a competitive process at a later date.

Participation

Particular suitability

Small and medium-sized enterprises (SME)

Submission

Publication date of tender notice (estimated)

1 April 2026

Contracting authority

University of Portsmouth

- Public Procurement Organisation Number: PWYV-2655-NPMQ

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Organisation type: Public authority - sub-central government