

This is a published notice on the Find a Tender service: <https://www.find-tender.service.gov.uk/Notice/002427-2021>

Tender

## **ITT - Supply of Frequency Comb Systems**

National Physical Laboratory

F02: Contract notice

Notice identifier: 2021/S 000-002427

Procurement identifier (OCID): ocds-h6vhtk-0290e2

Published 5 February 2021, 10:56pm

### **Section I: Contracting authority**

#### **I.1) Name and addresses**

National Physical Laboratory

Hampton Road

Teddington

TW11 0LW

#### **Email**

[charley.choules@npl.co.uk](mailto:charley.choules@npl.co.uk)

#### **Country**

United Kingdom

#### **NUTS code**

UKI - LONDON

#### **Internet address(es)**

Main address

<http://www.npl.co.uk/>

### **I.3) Communication**

The procurement documents are available for unrestricted and full direct access, free of charge, at

<https://lupc.bravosolution.co.uk/web/login.shtml>

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

<https://lupc.bravosolution.co.uk/web/login.shtml>

Tenders or requests to participate must be submitted to the above-mentioned address

### **I.4) Type of the contracting authority**

Body governed by public law

### **I.5) Main activity**

Other activity

Scientific Research

---

## **Section II: Object**

### **II.1) Scope of the procurement**

#### **II.1.1) Title**

ITT - Supply of Frequency Comb Systems

#### **II.1.2) Main CPV code**

- 38000000 - Laboratory, optical and precision equipments (excl. glasses)

#### **II.1.3) Type of contract**

Supplies

#### **II.1.4) Short description**

The combs will be part of future national time scale infrastructure, as well as test and evaluation facilities and services being set up as part of the UK quantum technologies programme. For this reason, they must be able to operate independently and continuously (24/7) with minimal downtime for maintenance.

The purpose is to enable greater flexibility and agility in NPL's frequency measurement and characterisation services, while simultaneously developing the new infrastructure required to support a future redefinition of the second.

The setups need to work in tandem with ultrastable laser systems, optical lattice clocks and fibre networking capability in the AQML to support international collaborations and so must be compatible with these technologies. A full and detailed specification of our requirements for each individual comb is provided in separate lots as outlined in the ITT documents.

#### **II.1.5) Estimated total value**

Value excluding VAT: £1,300,000

#### **II.1.6) Information about lots**

This contract is divided into lots: Yes

Tenders may be submitted for all lots

### **II.2) Description**

**II.2.1) Title**

Lot No

4

**II.2.2) Additional CPV code(s)**

- 38000000 - Laboratory, optical and precision equipments (excl. glasses)

**II.2.3) Place of performance**

NUTS codes

- UK - UNITED KINGDOM

**II.2.4) Description of the procurement**

The National Physical Laboratory (NPL) is seeking to procure 4 separate frequency comb systems for our recently constructed Advanced Quantum Metrology Laboratory (AQML), where they will sit at the heart of a new optical frequency metrology capability.

The individual combs will be used to perform different tasks. The requirements for each therefore differ, and they should be quoted separately as a result. A general overview of the purpose and requirements for each of these systems are:

1) Synthesizer comb: The first frequency comb shall be appropriate for transferring the stability of a state-of-the-art ultrastable laser at 1542 nm to lasers operating at other wavelengths. These lasers include probe lasers for Yb and Sr optical lattice clocks as well as lasers used for frequency transfer over optical fibre links. It shall also be appropriate for measuring the absolute frequencies of these lasers and the optical frequency ratios between them.

2) Flexible measurement comb: The second frequency comb shall be more flexible, and appropriate for measuring optical frequencies (and the ratios between them) anywhere in the range from 500 nm to 2000 nm. It shall be possible to stabilise this comb to the same ultrastable laser at 1542 nm.

3) Backup comb: The third frequency comb will be used to provide continuous monitoring of the performance of the first two combs. As such it shall combine the capabilities of both these combs.

4) Microwave comb: The fourth frequency comb will be used in the near infrared for the generation of ultra-stable microwave signals. Comb light should be generated in the C-band.

### **II.2.5) Award criteria**

Price is not the only award criterion and all criteria are stated only in the procurement documents

### **II.2.7) Duration of the contract, framework agreement or dynamic purchasing system**

Start date

31 March 2021

End date

31 March 2022

This contract is subject to renewal

No

### **II.2.10) Information about variants**

Variants will be accepted: No

### **II.2.11) Information about options**

Options: Yes

Description of options

Described within tender documents

### **II.2.13) Information about European Union Funds**

The procurement is related to a project and/or programme financed by European Union funds: No

## **Section IV. Procedure**

### **IV.1) Description**

#### **IV.1.1) Type of procedure**

Open procedure

#### **IV.1.8) Information about the Government Procurement Agreement (GPA)**

The procurement is covered by the Government Procurement Agreement: No

### **IV.2) Administrative information**

#### **IV.2.2) Time limit for receipt of tenders or requests to participate**

Date

5 March 2021

Local time

1:00pm

#### **IV.2.4) Languages in which tenders or requests to participate may be submitted**

English

#### **IV.2.6) Minimum time frame during which the tenderer must maintain the tender**

Duration in months: 3 (from the date stated for receipt of tender)

#### **IV.2.7) Conditions for opening of tenders**

Date

5 March 2021

Local time

1:00pm

---

## **Section VI. Complementary information**

### **VI.1) Information about recurrence**

This is a recurrent procurement: No

### **VI.4) Procedures for review**

#### **VI.4.1) Review body**

NPL Management Ltd

Teddington

Country

United Kingdom