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Tender

## **Laser Dicing and Drilling System**

COMPOUND SEMICONDUCTOR APPLICATIONS CATAPULT LIMITED

F02: Contract notice

Notice identifier: 2021/S 000-020185

Procurement identifier (OCID): ocds-h6vhtk-02d648

Published 18 August 2021, 12:13pm

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

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

COMPOUND SEMICONDUCTOR APPLICATIONS CATAPULT LIMITED

Innovation Centre, Celtic Way

Newport

NP10 8BE

#### **Email**

[procurement@csa.catapult.org.uk](mailto:procurement@csa.catapult.org.uk)

#### **Country**

United Kingdom

#### **NUTS code**

UKL - Wales

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

Main address

<https://csa.catapult.org.uk/>

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

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

<https://www.contractsfinder.service.gov.uk/Notice/f954559c-e6fd-4a8b-8af4-55eb23c84ddc>

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted to the following address:

procurement@csa.catapult.org.uk

Newport

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

Other type

Company limited by guarantee

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

Other activity

Research and development

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## **Section II: Object**

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

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

Laser Dicing and Drilling System

Reference number

ITC-2021-053

#### **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**

Scope

The Compound Semiconductor Applications (CSA) Catapult is creating a modular, flexible, accelerated prototype package assembly and test facility for RF, Photonics, and Power compound semiconductor devices, modules, and systems. The facility enables research, proof of concept and provides the capability to demonstrate the feasibility and undertake small volume prototype builds. The system is not for mass production and high edge quality is a target from dicing and drilling processes.

As a part of the package assembly research and development methodology, we require a laser dicing and drilling machine to handle A wide range of semiconductor (silicon, silicon carbide, gallium arsenide, gallium nitride, alumina) and ceramic materials (such as alumina) for packaging purposes. This equipment shall be capable of dicing and drilling a wide range of semiconductors materials and ceramics with thicknesses in the range of 100 micrometres up to 1.5 mm (thicker ranges are preferable if applicable) and drilling holes as small as 20 micrometre in diameter (surface roughness should be less than 1 micron). High quality diced edges and drilled holes is required with a minimum

laser taper angle of less than 8 degrees and preferably 90-degree cut. This system will be used mostly in the Packaging Team to support power electronics, RF and photonics packaging applications.

The machine shall be able to achieve full-cut dicing. It will be needed to integrate in the machine tape removal after dicing process completion. The machine shall have a visual monitoring system for inspection during dicing and drilling. The machine should handle wide ranges of material thickness 100 micron to 1.5 mm (preferably higher if applicable) and work with high drilling aspect ratios (material thickness /drill diameter) as high as 40:1 with high-quality edge finish and minimum taper angle (preferably 90-degree cut).

The system shall provide options for software development kits (SDK), for example compatible with LabVIEW, MATLAB and so forth. This should help in extending machine capabilities to include applications such as resistance laser trimming.

### System Outline

The system is expected to be composed of a Class 1 laser drilling and dicing chassis with an integrated air-cooling unit, including several options to handle diverse material types and thicknesses and a wide range of drilling aspect ratios using a laser source. The system shall include auxiliaries such as vision inspection, fume extractor systems, and a viewing window to be able to check when laser is on or off, during operation. The machine software should be user friendly and enable a wide range of users with different skill levels to utilize the machine. The machine should have a precise power meter to control the laser source power. Safety features such as a handheld barcode reader/scanner should be incorporated.

A system solution is required that is flexible and upgradable in the future.

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

Value excluding VAT: £350,000

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

This contract is divided into lots: No

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

#### **II.2.3) Place of performance**

NUTS codes

- UKL - Wales

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

The estimated value of the contract is £250,000 to £350,000 including goods to meet the requirements, user software, installation, training, options and extensions.

The system will must be invoiced before the end of December 2021 delivered in January 2022.

To express interest in this opportunity and receive the procurement documents, please email [procurement@csa.catapult.org.uk](mailto:procurement@csa.catapult.org.uk) with the reference ICT-2021-053 in the subject field.

#### **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**

Duration in months

48

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: No

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## **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: Yes

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

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

Date

31 August 2021

Local time

10:00am

#### **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: 6 (from the date stated for receipt of tender)

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

Date

31 August 2021

Local time

10:10am

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## **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**

CSA Catapult

Newport

Country

United Kingdom