Tender

Laser Dicing and Drilling System

COMPOUND SEMICONDUCTOR APPLICATIONS CATAPULT LIMITED

F02: Contract notice
Notice identifier: 2021/S 000-009414
Procurement identifier (OCID): ocds-h6vhtk-02ac37
Published 30 April 2021, 1:24pm

Section I: Contracting authority

I.1) Name and addresses

COMPOUND SEMICONDUCTOR APPLICATIONS CATAPULT LIMITED

Celtic Way Imperial Park

Newport

NP10 8BE

Email

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://csa.catapult.org.uk

Additional information can be obtained from the above-mentioned address

Tenders or requests to participate must be submitted electronically via

https://csa.catapult.org.uk

I.4) Type of the contracting authority

Other type

Company partially funded by another Contracting Authority

I.5) Main activity

Other activity

Research and development

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Laser Dicing and Drilling System

Reference number

ICT-2021-047

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 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, 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 20:1 (preferably 50:1 if applicable) 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.

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.

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

The system will must be invoiced before the end of September delivered in October 2021.

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

See tender specification

II.2.5) Award criteria

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

II.2.6) Estimated value

Value excluding VAT: £350,000

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

II.2.14) Additional information

To express interest in this opportunity and receive the procurement documents, please email procurement@csa.catapult.org.uk with the reference ICT-2020-047 in the subject field.

Section III. Legal, economic, financial and technical information

III.1) Conditions for participation

III.1.2) Economic and financial standing

Selection criteria as stated in the procurement documents

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

1 June 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

1 June 2021

Local time

11:00am

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