

Finland-Espoo: Miscellaneous general and special-purpose machinery

OJ S 103/2023 31/05/2023

Contract notice

Supplies

Legal Basis:

Directive 2014/24/EU

Section I: Contracting authority

I.1. Name and addresses

Official name: VTT Technical Research Centre of Finland Ltd

National registration number: 2647375-4

Postal address: P.O. Box 1000, VTT

Town: Espoo

NUTS code: FI1 Manner-Suomi

Postal code: 02044

Country: Finland

E-mail: kilpailutus@vtt.fi

Telephone: +358 20722111

Internet address(es):Main address: <https://www.vttresearch.com/en>**I.3. Communication**

The procurement documents are available for unrestricted and full direct access, free of charge, at: <https://tarjouspalvelu.fi/vtt?id=461150&tpk=29cbe09a-0efa-400c-bfe1-5ee6044fee84>

Additional information can be obtained from the abovementioned address

Tenders or requests to participate must be submitted electronically via: <https://tarjouspalvelu.fi/vtt?id=461150&tpk=29cbe09a-0efa-400c-bfe1-5ee6044fee84>**I.4. Type of the contracting authority**

Body governed by public law

I.5. Main activity

Other activity: Research and development

Section II: Object

II.1. Scope of the procurement**II.1.1. Title**

Plating (Cu, TSV, UBM)

Reference number: Reg. no 34/206/2023

II.1.2. Main CPV code

42900000 Miscellaneous general and special-purpose machinery

II.1.3. Type of contract

Supplies

II.1.4. Short description

The object of the tender is an an electroplating tool (later also "Equipment"), which can electroplate metallic copper films for use as electrically conducting lines and vias onto 150- and 200 mm silicon wafers typical of the semiconductor industry.

The reference price ("the total price") will consist of the price for the equipment in required minimum configuration described in Annex 1. The optional features are not included in the total price of the equipment.

The object of the tender process is described in more detail in the invitation to tender documents.

II.1.5. Estimated total value

Value excluding VAT: 1 440 000,00 EUR

II.1.6. Information about lots

This contract is divided into lots: no

II.2. Description

II.2.3. Place of performance

NUTS code: FI1B Helsinki-Uusimaa

Main site or place of performance: Espoo

II.2.4. Description of the procurement

VTT is looking for a single electroplating tool (or "equipment") which can electroplate metallic copper and UBM layers for use as electrically conducting lines and vias onto 150- and 200 mm silicon wafers typical of the semiconductor industry. The tool will be installed to the Micronova backend cleanroom. The tool must feature automated execution of recipes and computer controlled automation and datalogging. Wafer handling must be automatic from a 25 wafer cassette (*).

The tool should also have provisions for manually loading wafers to the plating chambers thus allowing nonstandard wafers to be processed. Multiple baths are required: two plating baths must be provided for three Cu-based plating processes (expecting there to be some overlap) and four baths for UBM metal baths for Ni, Sn, SnAg alloy, and indium.

The three Cu-based applications are:

- 1) Cu-fill TSV (through-silicon-via) with aspect ratio up to 10:1 (10 um diameter and 100 um deep) plated from a conformal Ru or PVD Cu seed,
- 2) Cu-bump or pillar plating through resist using Cu seed layers, and
- 3) Damascene RDL plating of ~1 um Cu in etched damascene trenches and vias, also using Ru seed layers.

For the Cu-TSV bath, a membrane within the electroplating cell is required to separate additives from the Cu-anode and thus improve the control and lifetime of the electroplating additives. In addition, the vendor must supply a Vacuum Prewetting chamber to enable wetting of etched TSV with electrolyte before filling, and must be able to demonstrate void-free bottom-up filling of the vias.

Knowledge regarding TSV-fill applications is essential for the tooling to be accepted. Recipe editing and execution using computer control of wafer handling, wafer flow, power supplies, additive management, datalog collection and so on as is typical of the semiconductor industry.

(*) Note that the term "automatic handling" is reserved for tools which take wafers directly from a standard semiconductor wafer cassette and then return them to the same or similar cassette ("dry-in, dry-out").

II.2.5.

Award criteria

Criteria below

Quality criterion - Name: Price / Weighting: 100

Price - Weighting: 100

II.2.6. Estimated value

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

Duration in months: 12

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:

The contracting entity may procure the optional features 1) UBM -metals / 4 plating stations and 2) Spray etch chamber, as further described in the Annex 1, from the contract supplier (see Annex 1).

Offering the optional features is mandatory (!). However, The contracting authority does not undertake to acquire optional features.

Note: Any optional features are not taken into account in the price comparison of tenders.

II.2.13. Information about European Union funds

The procurement is related to a project and/or programme financed by European Union funds:
yes

Identification of the project: The procurement is related to EU_PREVAIL-project (Partnership for Realization and Validation of AI hardware Leadership) financed by EU funds.

II.2.14. Additional information

Additional information regarding the section II.2.7) above: Agreement shall enter into force on the latest date of signature by the Parties and shall be in force until the Equipment has been delivered and accepted, the user training has been held and agreed payment paid, excluding clauses which legal effects are meant to survive the termination or expiration of the Agreement.

Section III: Legal, economic, financial and technical information

III.1. Conditions for participation

III.1.1. Suitability to pursue the professional activity, including requirements relating to enrolment on professional or trade registers

List and brief description of conditions:

As stated in the invitation to tender documents.

III.1.2. Economic and financial standing

List and brief description of selection criteria:

Selection criteria as stated in the invitation to tender documents

III.1.3. Technical and professional ability

List and brief description of selection criteria:

Selection criteria as stated in the invitation to tender documents

III.2. Conditions related to the contract

III.2.2. Contract performance conditions

As stated in the invitation to tender documents.

Section IV: Procedure

IV.1. Description

IV.1.1. Type of procedure

Open procedure

IV.1.3. Information about a framework agreement or a dynamic purchasing system

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: 28/06/2023 Local time: 12:00

IV.2.3. Estimated date of dispatch of invitations to tender or to participate to selected candidates

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

Finnish, 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: 28/06/2023 Local time: 12:05

Place:

Helsinki/ Espoo

Information about authorised persons and opening procedure: The given date is preliminary. VTT reserves the right to change the scheduled date and time. The opening of tenders shall not be a public event.

Section VI: Complementary information

VI.1. Information about recurrence

This is a recurrent procurement: no

VI.3. Additional information

This notice has links and/or attachments listed in <https://www.hankintailmoitukset.fi/en/public/procurement/88770/notice/129532>

VI.4. Procedures for review

VI.4.1. Review body

Official name: Markkinaoikeus

Postal address: Sörnäistenkatu 1

Town: Helsinki

Postal code: 00580

Country: Finland

E-mail: markkinaoikeus@oikeus.fi

Telephone: +358 295643300

Internet address: <http://www.oikeus.fi/markkinaoikeus>

VI.5. Date of dispatch of this notice

26/05/2023