

EXPRESSION OF INTEREST PROCEDURE

In the coming months, Politecnico di Milano will launch a negotiated tender procedure without prior publication of a tender notice under art. 1, paragraph 2, letter a) of Decree Law no. 76 of 16 July 2020, converted into Law no. 120 of 11 September 2020, to which at least five economic operators will be invited, based on their regional location, to supply a "**Rapid thermal annealing machine.**"

1. CONTRACTING AUTHORITY

Politecnico di Milano - PoliFab, via Giuseppe Colombo, 81

2. CONTRACT SUBJECT

Politecnico di Milano will purchase a rapid thermal annealing (RTA) system.

This system enables the wafer temperature to be rapidly changed by means of heating ramps of hundreds of degrees per minute.

The tender requires the process chamber to be evacuated with a suitable pumping system to carry out the annealing process under high vacuum.

Furthermore, it must be possible to carry out the process by flowing gas in a controlled manner.

This equipment will be installed in Building 30 at Polifab, University Laboratory of Politecnico. The rapid thermal annealing system will be added to the cleanroom portfolio and used by the staff and laboratory users for the thermal treatment of materials.

The machine will be part of the typical process flow and integrate with other technologies used at Polifab, such as lithography, lift-off, etching and bonding.

The product will be used for scientific research purposes and for third-party services, as in the mission of PoliFab.

The following are the minimum mandatory requirements that the supplier must meet.

3. MANDATORY MINIMUM REQUIREMENTS

Any proposals with requirements or values lower than the minimum set out in this document shall lead to exclusion from the evaluation.

"Minimum requirements" are those mandatory and necessary. If these requirements are unavailable or if solutions proposed fall below the requirements, the application will not be considered.

The economic operator may suggest any improvements to these requirements in its bid.

The equipment requirements that the economic operator will supply must be contained in the technical sheet that accompanies the operator's expression of interest in supplying the products.

MANDATORY MINIMUM REQUIREMENTS

The supplied product consists of the following parts:

- rapid thermal annealing hardware
- user interface

The supplied product must be complete to enable rapid thermal treatments in vacuum and controlled atmosphere (e.g. process chamber, vacuum pump, heating elements, sample holder, software and user interface, etc.).

The supplied product must have the following minimum features:

- Maximum substrate size: one 6 inch wafer (150 mm diameter) or larger
- Quartz 6" wafer holder
- Heating ramp up rate more than 50°C/sec
- Chamber cooling: water cooling
- Ramp down rate more than 150 °C/min in the range 1000°C - 400 °C
- Ramp down rate more than 25 °C/min in the range 400°C - 100 °C
- Maximum operating temperature: 1000°C or higher
- Temperature uniformity better than 2 % on the 6 inch wafer area
- Minimum process time at 600°C: 2 hours
- Temperature reading and temperature control by thermocouple
- Process in vacuum down to a pressure lower than 1×10^{-5} mbar
- Process chamber pumping by turbomolecular pump
- Gate valve for turbopump isolation
- Pressure measurement from atmosphere to 10^{-6} mbar range
- 2 Mass flow controllers (MFC) for process under controlled gas atmosphere (expandable up to 4 MFC)
- Gas line for substrate cooling
- PLC-based human interface with PC or touchscreen
- Possibility of programming process recipes (more than 30) with multiple steps (more than 30 for each recipe)
- Monitoring and logging of temperature during process
- Maximum footprint: 800 mm x 800 mm
- Maximum weight: 100 Kg
- Minimum warranty period: 12 month
- Delivery time: less than 16 weeks from order receipt

4. AMOUNT

The supply value may not exceed **€ 60,000** excluding VAT, inclusive of all supply-related charges.

5. ELIGIBLE PARTIES

Economic Operators under art. 45 of Legislative Decree 50/2016 can participate in this expression of interest procedure.

If economic operators participate in the tender as temporary groups or consortia, art. 48 of Legislative Decree no. 50/2016 shall apply.

6. GENERAL REQUIREMENTS AND PROFESSIONAL SUITABILITY

- a. Absence of the exclusion reasons under Art. 80 of Legislative Decree no. 50/2016;
- b. Professional suitability requirements under art. 83, paragraph 1 letter a) of Legislative Decree no. 50/2016: Registration in the Chamber of Commerce Companies Register or in an appropriate register if a cooperative, showing that the company carries out activities in the field of this

expression of interest.

The European Single Procurement Document (ESPD) should be completed for these requirements.

7. TECHNICAL AND PROFESSIONAL SELECTION CRITERIA

- c. The economic operator shall demonstrate that it has provided at least 10 (ten) machines similar to the one covered by this notice in terms of performance in the last three years (2018-2020). Details of the customer who acquired the system and the specific equipment installed must be supplied.

This declaration must be made in Part IV, Section C of the ESPD indicating the year, the purchase recipient, and description of the equipment installed.

8. TECHNICAL AND PROFESSIONAL SELECTION CRITERIA

At least five economic operators based on the different companies' regional location will be invited to participate in the procedure. The tender will be awarded based on the lowest price.

9. APPLICATION PROCEDURE

Applicants who meet the minimum mandatory requirements and have the technical and professional capacity outlined in the contract may submit their applications through the:

1. European Single Procurement Document (ESPD)
2. A declaration on headed paper that they can supply a machine with the minimum requirements identified in subparagraph 3 above and comply with the technical and professional selection criteria set out in subparagraph 7 above.

The documentation must be provided exclusively in electronic format and may be sent by Certified Electronic Mail to pecateneo@cert.polimi.it.

The subject of the message must be: **"Supply of Rapid Thermal Annealing Machine."**

Please note that the Certified email (PEC) service has legal validity only if both e-mail addresses, the one from which the message is sent and the one at which it is received, are certified. Any messages sent from non-certified email addresses or with a subject different from the above will NOT be considered.

Foreign economic operators may submit their application in electronic format by sending an e-mail to ufficioacquisti@polimi.it.

Interested economic operators must submit their application by attaching the documentation and ESPD.

The documentation must be received no later than 12 noon on 25th February 2021.

Any documentation received after this deadline will not be considered.

Economic operators wishing to take part in this expression of interest procedure are invited to register on the SINTEL portal of the Lombardy Region since the tender will be managed by this platform.

Information on how to register can be found on the website: www.ariaspa.it/wps/portal/site/aria and through the Call Centre operating from Monday to Friday from 9 am to 6 pm ph. 800 116 738.

The tender documentation will be written in Italian.

9. FURTHER INFORMATION

The purpose of this market survey is to find out about the market structure, potential competitors, interested operators, their subjective features, technical solutions available, financial conditions,

accepted contractual clauses, and to verify that they meet the contracting authority requirements. Applicants may be contacted to obtain further information on the technical solutions available for the equipment.

This tender notice does not constitute a contractual proposal and does not bind the Authority in any way.

The Authority reserves the right to discontinue the procedure, at its exclusive discretion, without the applicants making any claims.

Following the applications received and related documentation analysed, the Authority reserves the right to invite to the subsequent negotiated procedure, economic operators who meet the deadlines and possess the requirements and criteria requested in subparagraphs 3, 6 and 7 as declared in the application.

Interested economic operators are invited to register on the Sintel platform and provide their credentials for Politecnico di Milano. Information on how to register and provide credentials can be found on the website:

- <http://www.polimi.it/impreseproponiti-come-fornitore>
- <https://www.ariaspa.it/wps/portal/site/aria>

and through the ARIA call centre at the toll-free number 800 116 738.

Any requests for administrative clarifications may be sent to the certified email pecateneo@cert.polimi.it or ufficioacquisti@polimi.it.

10. PERSONAL DATA PROCESSING

The data collected will be processed under EU Regulation 2016/679 (GDPR), exclusively for this procedure purposes.

11. TENDER PUBLICATION

This tender is published on the Politecnico di Milano website and can be downloaded using this link:

<https://www.polimi.it/impresepartecipaaunagara/>

Prior information notice sent for publication in the OJEU on 10/02/2021.

Project Manager
Claudio Somaschini

Digitally signed document under current legislation