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MARKET SURVEY NOTICE - REQUEST FOR OFFERS

The Contracting Authority Department of Biomedical Sciences of the National Research Council (hereinafter "Contracting Authority") with this notice intends to acquire offers aimed at any direct assignment - pursuant to art. 1, paragraph 2 letter a) of the D.L. July 16, 2020 No. 76 and subsequent amendments converted by Law 11 September 2020 n° 120 - to identify the economic operator to whom entrusting the supply of scientific equipment to enhance the MULTISPEC system, to be delivered and installed at the INO Operating Unit - National Institute of Optics of the National Research Council as part of the Project "IMPARA - IMAGING FROM MOLECULES TO PRECLINICS", Code PIR01_00023, ACTION II.1 OF THE PON Research and Innovation 2014-2020 - Notice pursuant to DD MIUR No. 424, for the enhancement of the research infrastructure called "EuBI - The European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences" - CUP B27E19000050006

Unique reference asset code for the procedure - PIR01_00023_232291-MULTISPEC

CPV class code: 38510000-3

CUI: 80054330586201900672

The exploratory investigation is in no way binding for the Contracting Authority; consequently, it does not constitute and cannot be interpreted in any way as a pre-contractual commitment with the Contracting Authority, nor can it give rise to any form of pre-contractual liability for the same. Since this is an exploratory market survey, no bankruptcy or para-bankruptcy award procedure has been launched and there are no merit rankings or assignment of scores. The Contracting Authority will be free to suspend, modify or cancel the investigation started at any time, without the participating subjects having any claim.

Contracting Authority

Dipartimento di Scienze Biomediche del Consiglio Nazionale delle Ricerche, Piazzale Aldo Moro, 7 - 00185 Roma - PEC: dsb@pec.cnr.it

Sole Responsible for the Procedure (RUP)

For any procedural/administrative clarifications and for technical information, the sole person in charge of the procedure is Dr. Maria Aiello (maria.aiello@ibfm.cnr.it).

Premises

As part of the National Operational Program for Research and Innovation 2014-2020 (PON RI), Axis II, Action II.1, the National Research Council holds funding for the strengthening of research infrastructures, aimed at the implementation of projects in the fields of the "European Strategy Forum on Research Infrastructures" (ESFRI), including the Research Infrastructure Strengthening Project called "EuBI - The European Research Infrastructure for Imaging Technologies in Biological and Biomedical Sciences", entitled "IMPARA - IMAGING FROM MOLECULES TO PRECLINICS" marked with the identification code PIR01_00023, which is managed under the direct responsibility of the Department of Biomedical Sciences of the National Research Council (CNR-DSB).



The PIR01-00023 "IMPARA" project, in particular with the OR 9, the Research Unit at INO will enhance the multimodal spectroscopy system with the implementation of a time domain resolved fluorescence spectroscopy system, to be applied for the non-invasive analysis of biological tissues. The realization of this system will allow to obtain structural, metabolic and functional information from the tissues under examination during in-situ measurements, with the prospect of using this methodology both for early diagnosis of the pathologies and for therapy follow-up. This system will broaden the range of spectroscopic techniques available for the diagnostics and characterization of biological tissues.

The system will be implemented through the application of the TCSPC (time-correlated single photon counting) technique, which represents the most efficient and effective approach for measuring fluorescence lifetime. This approach requires a pulsed laser source and a single photon detector capable of providing short pulses, as well as proper acquisition electronics capable of measuring the relative delays between the excitation pulse and the detection pulse. The use of two detectors capable of simultaneously detecting the fluorescence emitted in two specific spectral channels will allow to obtain metabolic information from the tissues under examination.

In order to meet the project needs, it is necessary to acquire:

- a pulsed laser system capable of emitting pulses with a duration of less than a ns at a wavelength capable of exciting the autofluorescence of biological tissues;
- a pair of detectors for single photon counting, capable of emitting pulses with duration of less than 50 ps, designed to detect the autofluorescence of biological tissues;
- an acquisition card for single photon counting, suitable for analyzing the arrival times of the individual fluorescence photons emitted from the sample under examination by means of TCSPC.

Description of the supply

The system components to be acquired for the upgrade of the MULTISPEC system are :

A pulsed laser system for the excitation

The minimum technical specs of the laser system are as follows:

- Emission wavelength between 440 nm and 450 nm;
- Pulse duration less than 300 ps at maximum power;
- Pulse repetition rate of at least 20 MHz;
- Laser driver included;
- Free-space coupling;
- Collimated output;
- Single-mode transversal;
- Horizontal polarization;

A pair of fast detectors, with relative controller

The minimum technical specs of the detector system are therefore the following:

- Detectable wavelength range between 250 nm and 720 nm;
- Transit Time Spread less than 130 ps;
- Dark counts less than 500 / s;



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- Quantum efficiency greater than 30% in the 400-700 nm range;
- Quantum efficiency (@500 nm) greater than 44%;
- Sensitive area dimensions of at least 3 mm;
- Maximum count rate of at least 10 MHz;
- Controller for the management of the detectors with PCIe interface;

An electronic acquisition board capable of implementing the TCSPC technique.

The minimum technical specs of the acquisition board are as follows:

- Temporal resolution (FWHM) lower than 7 ps;
- Bandwidth equal to or greater than 4 GHz;
- Minimum amplitude of a temporal channel less than 1 ps;
- Saturation counts rate equal to or greater than 10 MHz;
- PCI interface;
- Compatibility and interfaceability with Becker & Hickl SPCM and Becker & Hickl SPCImage software, already present within the infrastructure.

All system components must be mutually compatible from the optical, mechanical, electronic and informatic point of view, interfaceable with the instrumentation present in the MULTISPEC system and compatible with Becker & Hickl SPCM and Becker & Hickl SPCImage software, already present within the infrastructure.

Place of delivery and installation of the supply

Istituto Nazionale di Ottica, Consiglio Nazionale delle Ricerche, Largo E. Fermi 6, 50125 Florence, Italy.

Estimated amount of the assignment

The total estimated amount of the assignment, given by the sum of the 3 lots, is quantified in € 51000,00 (VAT included).

Requirements for participating in the survey

The subjects referred to in art. 45 of Legislative Decree 50/2016 and subsequent amendments, in compliance with the provisions of articles 47 and 48 of the same decree, and in possession of the following requirements:

- Non-existence of any grounds for exclusion provided for by art. 80 of Legislative Decree no. 50/2016 and subsequent amendments;
- Registration in the register held by the Chamber of Commerce for Industry, Crafts and Agriculture or in the register of the provincial commissions for crafts, or with the competent professional associations for activities consistent with those covered by this tender procedure (or equivalent registration in its country competent authorities).

Deadline and methods for submitting the offer

The deadline for receiving offers and related documentation, as better described below, is set at 18:00 of 01/22/2022.

Offers and documentation must be sent exclusively by PEC to the address dsb@pec.cnr.it and in copy to the RUP at the address maria.aiello@ibfm.cnr.it

The burden of proof of receipt on schedule lies with the economic operator.



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Each interested party must submit, in addition to the offer, the following documentation:

- ESPD;
- Additional declarations to the ESPD;
- Technical report (free format).

The offer and the documentation must be:

- digitally signed by a holder/legal representative/attorney able to bind the subject to Italian or foreign economic operators residing in Italy;
- with handwritten signature, accompanied by a photocopy of a valid ID document of the subscriber, for foreign economic operators.

For economic operators not resident in Italy only, the documentation must be sent to the ordinary e-mail address: maria.aiello@ibfm.cnr.it. (RUP) in any case without fail within the deadlines indicated.

Criterion for the evaluation of the offer

The Contracting Authority will identify the economic operator to whom possibly entrust the supply (with the procedure provided for in art. 1, paragraph 2 letter a) of the D.L. July 16, 2020 No. 76 and subsequent amendments converted from Law 11 September 2020 No. 120) by carrying out a comparative evaluation of the technical reports and offers, using the following evaluation criteria, in decreasing order of importance:

- The compliance of the offer, in terms of technical characteristics/specifications, for satisfying the needs of the Contracting Authority;
- Economical: the price will be taken into consideration where different offers are considered substantially equivalent from a technical point of view.

Treatment of personal data

Pursuant to and for the purposes of the EU Regulation 2016/679 concerning the protection of individuals with regard to the processing of personal data (GDPR), the National Research Council will collect, register, reorder, store and use personal data, both by electronic and non-electronic means, for the purposes functional to the performance of its institutional activities, including the management of the exploratory market survey, and for those connected to legal obligations, in relation to which the provision is mandatory. For the aforementioned purposes, such personal data may be disclosed to third parties. The owner of the processing of personal data is the National Research Council.

The data of the successful tenderer will be processed at EU level through the ARACHNE system and used by the Italian Ministry of University and Research (MIUR), in order to identify the fraud risk indicators, and made them publicly available (<http://ec.europa.eu/social/main.jsp?catId=325&intPageId=3587&langId=it>).

By sending the offer, the economic operator gives his consent to the processing of personal data.

The Sole Responsible of the Procedure (RUP)
(Dr. Maria Aiello)