



## EXPRESSION OF INTEREST – PROJECT: CNOS

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Prot. N.262 del 01/08/2019

**Expression of interest for the provision of a supply for activities to be carried out under the Project: CNOS (Nanophotonics and Optoelectronics Center for Human Health - Centro di Nanofotonica e Optoelettronica per la Salute dell'uomo) - POR CAMPANIA FESR 2014 / 2020 CUP B81C17000050007 - SURF 17063BP000000001**

Expression of interest to take a part in the procedure relating to the purchase of:

### **MEASURING STATION FOR MORPHOLOGICAL AND METROLOGICAL CHARACTERIZATION OF SENSORS AND NANO-STRUCTURES**

The station must be composed of two instruments:

1. Atomic Force Microscope (AFM): for morphological and metrological characterization of nano-structures, hard and soft materials, in air and liquid environment;
2. Stylus profilometer: for morphological and metrological characterization of thin film layers

The main minimal features are listed below for both instruments:

#### **Atomic Force Microscope (AFM)**

- Easy and safe scanning in air and in liquid environment
- Compatibility with hard and soft materials
- Scan range wide than 90 x 90 x 13  $\mu\text{m}^3$
- Noise for X, Y and Z scanning <0.5 nm (RMS)
- Different set of imaging modes, such as contact mode, AC mode.
- Force scanning modes
- Closed-loop operation mode
- Molecular recognition imaging for binding site mapping
- Sample size compatibility with optical fiber tip scanning, that require a z-size maximum sample clearance of 25 mm.
- Image microscopy from the top of the scanner in order to identify the scanning tip position respect to the sample surface
- Automatic approach system, and automatic laser alignment procedure.
- Temperature control module for setting the temperature of liquid or solid sample in range of 0-70 °C
- System for easy handling of liquid volumes at the femtoliter by hollow cantilevers
- Active vibration isolation and acoustic insulation

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CENTRO REGIONALE INFORMATION COMMUNICATION TECHNOLOGY SCRL

Sedi: Via Traiano Palazzo "ex Poste" – 82100 Benevento | tel. 0824 305520/44 (sede legale)

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- Software and PC for the control of the instrument
- Software for elaboration of acquired image without license limits

### **Stylus Profilometer**

- Stylus scanner with scanning range >50 mm
- Vertical scanning range at least 1 mm
- Rapid change system for the stylus
- Force transducer in the range 0.05-15 mg
- Manual XY stage with a positioning range of 10 x 10 cm and rotation of 360°
- Sample size height clearance > 25 mm
- CCD camera for sample feature identification under the stylus
- Software and PC for the control of the instrument

Installation of the system and training on both instruments are required.

### **References**

CeRICT srl, Via Traiano Palazzo "ex Poste" – 82100 Benevento (BN) – Italy

Tel: +39 0824 305520

Pec: [cerict@pec.it](mailto:cerict@pec.it)

Email: [amministrazione@cerict.it](mailto:amministrazione@cerict.it)

### **Procurement procedure**

The selection of competitors who responded to "Expression of interest" will occur by a budget procedure through the principle of better score.

### **Participation requirements**

Economic operators wishing to participate have meet the requirements set forth in points 1 and 2 below, and have provide the information referred to in points 3 and 4 below:

1. General requirements: non-existence of the causes of exclusion from participation in tenders pursuant to art. 80 of Legislative Decree 50/2016;
2. Professional suitability requirements: registration with the C.C.I.A.A., or, for foreign economic operators, equivalent certification;
3. Information on economic / financial capacity: global turnover and amount relating to supply similar to that covered by this expression of interest for the last two years;



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4. Information on technical and professional capacity: presentation of the list of the main furniture presented in the last two years with the indication of the articles, dates and recipients, public or private, of the services and / or furniture themselves.

Due to the complexity and specificity of the service to be entrusted the aforementioned requirements have been requested in order to select an operator that guarantees the performance of the service, with maximum reliability, in the time required.

The lack of possession, even of one of the only requisites, determines the failed invitation to the subsequent procedure.

The maximum number of economic operators invited to the procedure is eight.

A minimum number of participants is not required for the validity of this market survey. The investigation does not give operators any reliance on the subsequent invitation to the procedure.

The Contracting Authority reserves the right to suspend, modify or cancel the procedure relating to this notice and not to follow up any negotiated procedures for the assignment of works.

### **Duration**

The supply have be effected within and no later than 20/12/2019.

### **Estimated amount**

The total maximum amount is Euro 240.000,00 € (two hundred forty thousand / 00) plus VAT

### **Technical and economic evaluation criteria**

The supply will be awarded according to the criterion of the most economically advantageous offer, with the assessment methods that will be explained in the technical-administrative specification that will be attached to the invitation letter. As a preliminary point, it should be noted that the CeRICT will assign a maximum of 100 points to each offer, of which a technical score of a maximum of 70 (seventy) points as established by a technical commission, and an economic score of a maximum of 30 (thirty) points.

### **How to present the expression of interest**

The eligible subjects have send the following documents in response to the "Expression of Interest":

- o Attachment 1 – The declaration of adhesion to the expression of interest;
- o Attachment 2 – Economic and financial capabilities document;
- o Attachment 3 – Technical and professional capabilities document;

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- o Certificate of incorporation/Company's chamber of commerce registration.
- o Photocopy of subscriber's valid identity document, according to the articles 38 and 47 of DPR 445/2000
- o Any other relevant document.

All documents must be received by CeRICT scrI:

- By certified mail to the address [cerict@pec.it](mailto:cerict@pec.it) within the 30/08/2019 the object must contain the reference to this expression of interest Prot. N. 262.

### Advertising

The communication platforms identified for this procedure consist of certified electronic mail and publications on computer sites.

Any additional information and / or clarifications on this notice must be requested exclusively by e-mail to the [cerict@pec.it](mailto:cerict@pec.it) box.

### Head of procedure

The head of procedure is Prof. Antonello Cutolo.

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Managing Director  
Dr. Sergio Betti



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### ANNEX 1

#### CNOS Abstract

#### **(Nanophotonics and Optoelectronics Center for Human Health) (Centro di Nanofotonica e Optoelettronica per la Salute dell'uomo)**

This project aims **to develop a National Research Infrastructure capable of developing Scientific Research of Excellence for fighting Oncologic Pathologies, using as enabling technology Optoelectronics and Nanophotonics.**

Supported by the growing and continuous development of nanotechnologies, nano-biophotonics in the latest decades has led to a real technological revolution in the healthcare sector.

The unique ability of light to interact with matter on a Nano metric scale can be exploited to perform molecular-level analysis, favouring on one hand a greater understanding of the origin of the disease (for the prevention and diagnosis) and on the other hand providing new techniques and approaches for treating the diseases themselves. Nano-scale integration of biophotonic components and devices allows performing detections and measurements quickly, sensibly and accurately and results to be particularly useful for *point-of-care* applications.

The aforesaid proposal was born to underline the impression that **advanced technology and innovation can provide a real driving force for the fight against oncological pathologies.**

The CNOS wants to become an IR characterized by a high technological and scientific potential, able to promote and rule the **scientific quality** and the **technological quality**.

Taking advantage of a team of excellence researchers, a good mix of young people and exciting researchers in various fields of IR interest and expert researchers at international level, the CNOS is thought as an IR with a high scientific and technological potential, able **to dialogue with the most qualified national and international structures** in the field of oncologic research, with the specific purpose of producing innovation and able to:

- Stimulate the excellence research in the fight against oncological pathologies in important strategic areas;





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- Promote cultural activities, scientific research and technological development both in terms of advancing knowledge and service to the local community;
- Explore innovative frontiers of knowledge with particular regard to the interdisciplinary approaches and the applicative dimension;
- Allow the international opening for the Campania region, thanks to cooperation and exchange activities with realities of national and international research;
- Spread innovation, involving the community and the local economy;
- strengthen the collaboration between the local authorities and the international institutes of research, to provide high standard of training to its own research staff, to the students, to the visitors and to the staff involved
- Generate intellectual properties to promote the data sharing to the scientific community or the technological transfer.

The IR Nano bio-photonics thanks to the technological quality that intends to develop and, by taking advantage of the equipment and latest generation instruments, other than ensuring the research excellence, will be an essential instrument for:

- Giving impulse to the innovation and technology transfer as **patent licensing** and **partnership agreement with companies operating in the bio-medical field**, that in turn will promote:
  - The **development of intellectual properties** in co-ownership with **Campania Region** and to their **protection and transfer** to productive realities able to transform them in long lasting goods;
  - The co-development of products, technologies and methodologies and the creation of new productive processes, such as **start-up** and **spin-off**;
  - The birth and the direct involvement of **companies knowledge-based type** in the process of realization and planning of innovation for the resolution or management of issues in the field of **human health** and in general in the field of intervention where Nanophotonics has its interest.

The provision of a series of **services to international users** and able to guarantee the **self-financing** of the whole structure.

