

TECHNICAL SPECIFICATIONS FOR THE CONTRACTING OF A "SUPPLY, INSTALLATION, COMMISSIONING, AND TRAINING OF A BRILLOUIN MICROSCOPY SYSTEM FOR THE «FUNDACIÓ INSTITUT DE BIOENGINYERIA DE CATALUNYA »"

Exp. 03/2024

PRELIMINARY CONSIDERATIONS

This contract is funded by the European Union's Recovery and Resilience Mechanism, established by Council Regulation (EU) 2020/2094 of December 14, 2020, establishing a European Union Recovery Instrument to support recovery from the COVID-19 crisis, and regulated according to Regulation (EU) 2021/241 of the European Parliament and of the Council of February 12, 2021, establishing the Recovery and Resilience Mechanism.

The funding for this equipment is part of the following reform and investment:

COMPONENT 17: Institutional reform and strengthening of the national science and technology system.

This measure is not associated with a green or digital tag as provided for in Annexes VI and VII of Regulation 2021/241 of the European Parliament and of the Council of February 12, 2021, establishing the Recovery and Resilience Mechanism.

Likewise, it is hereby stated that in compliance with what is stipulated in the Recovery Plan, in Regulation (EU) 2021/241 of February 12, 2021, establishing the Recovery and Resilience Mechanism, and its implementing regulations, in particular Commission Communication (2021/C58/01) Technical Guide on the application of the principle of "Do No Significant Harm", as well as what is required in the Council Implementing Decision, regarding the approval of the evaluation of Spain's recovery and resilience plan (CID), all funded actions carried out under this contract must respect the principle of not causing significant harm to the environment (**DNSH** principle, "Do No Significant Harm"). This includes compliance with the specific conditions provided for in Component 17, investment I1 within which it is framed.

1. OBJECT OF THE CONTRACT

This document establishes the technical condition to purchase a Brillouin Microscopy system to be installed in the *Institut de Bioenginyeria de Catalunya (IBEC)*

Purchasing will cover delivery, installation, commissioning, and training.

2. PLACE OF DELIVERY AND INSTALLATION

Fundación Institut de Bioenginyeria de Catalunya
Av. Gregorio Marañón, 6 - Rampa 2
Edificio Clúster I – LAB. EMS1C54
08028 Barcelona

3. PARTS AND COMPONENTS OF THE SUPPLY

- 3.1. Brillouin microscope system with spectrometer incorporated.
- 3.2. Computer and software
- 3.3. User Manuals

4. TECHNICAL SPECIFICATIONS OF THE SUPPLY

Below, the minimal technical requirements for the supply, installation, commissioning, and training of a Brillouin Microscopy System to be purchased to IBEC.

4.1. Brillouin microscopy system with spectrometer incorporated.

The Brillouin Microscopy System must meet all and one of the following technical requirements:

1. Excitation with a CW laser at 660nm
2. Brillouin spectrometric unit with a spectral resolution of at least 2pm in a 1nm window around the laser peak, laser suppression of at least 50dB at 660nm and overall contrast of at least 100dB
3. Research-grade fully motorized inverted microscope with brightfield illumination, objectives turret with 20X and 40X objectives, motorized 6 place fluorescence filter cube turrets with 4 channel multi-LED light source, Orca Flash 4 camera, 100mW laser at 660 nm, sCMOS camera.
4. XYZ motorized precision stage to move the sample.
5. Integration of the spectrometric unit and the excitation laser in the microscope stage, ensuring a confocal geometry for the Brillouin signal.

4.2. Computer and software

Computer

The equipment will include a desktop computer that must meet each and every one of the following technical requirements:

- PC Workstation with the necessary capacity for the correct operation of the equipment.
- Monitor of approximately 37.5 inches and 3840x1600 pixels.
- Optical mouse and keyboard.

Software

The software must have, at a minimum, each and every one of the following features:

- That provides all the appropriate functions for the complete operation of the Brillouin microscopy system with spectrometer incorporated.
- The software must allow to drive the XYZ stage and the Brillouin spectrometer from the same interface to obtain Brillouin maps.
- A Windows 10 user interface tested with all required SpectraLoK software, and drivers should be included in the supply.
- LabVIEW drivers should be included in the supply.
- A minimum of 1 license of all the drivers necessary for the correct functioning of the system must be included.

4.3. User Manuals

A version in English and Spanish should be included, either in electronic or paper format, for all equipment manuals and their various operating modes.

5. PACKING AND TRANSPORTATION

The award company must properly package the equipment so that it arrives in perfect condition. Any damage to the materials caused during transportation and installation (if installation is requested in this technical specification) will be the responsibility of the awarded company.

The freight charges and installation costs (if installation is requested in this technical specification) will be borne by the awarded company.

The different elements subject to this contract will be distributed and assembled (if assembly is requested in this technical specification) following instructions defined by IBEC.

The award company must remove and manage all waste generated during unpacking and installation (if installation is requested in this technical specification). The supply will not be considered complete until all waste generated by the supply and installation (if installation is requested in this Technical Specification) has been properly disposed of.

6. INSTALLATION, COMMISSIONING, AND TRAINING

The award company will be obligated to supply, install, and put into operation the equipment described above, including the provision of all necessary elements for its proper functioning, as well as the human and material resources required to carry out its execution.

The delivery, installation, commissioning, and validation will take place within a maximum period of **22 weeks**. The deadline will be calculated from the day following the formalization of the contract, unless otherwise notified by IBEC.

Three days training at IBEC will be delivered by the technical personnel of the provider and after the equipment has been fully installed. Costings will be covered by the provider. The training date will be agreed upon in advance.

A trial period of **2 months** is established to verify the operation of the equipment. This period will begin once the delivery, installation, commissioning, and training of the equipment have been completed.

Once the equipment subject to the contract has been delivered and installed, quality control has been successfully completed, operation tests have been concluded, and its compliance with the provisions of this Technical Specifications Document has been verified, the corresponding acceptance certificate will be issued. From that moment on, the warranty period will start.

7. MÍNIMUM WARRANTY AND AFTER-SALES TECHNICAL SERVICE

The warranty for the tendered equipment will be specified in the table below and will cover any manufacturing and operational defects, starting from the issuance of the final acceptance certificate for the equipment. This warranty will include the following obligations:

- Phone/online cover to discuss any problems, instabilities, expected or unexpected difficulties with the system.
- Replacement of defective parts within 15 days
- Technical 'in situ' support for major problems that can't be addressed through online/phone discussion.
- In case of a major breakdown that made the equipment non-operational for more than 2 weeks, the provider will send a replacement while the original system is repaired.
- Free Access to online seminars organized by the provided.

| Description | Minimum warranty |
|-----------------------------|------------------|
| Brillouin Microscopy system | 2 |

In the third year, the provider will support IBEC with:

- Phone/online support for technical problems.
- Free access to online seminars.
- 12 h/year of technical advice on new applications.
- Software updates to improve the system.

IMPORTANT: The award company must submit an explanatory memorandum regarding the support service, updates, maintenance, and technical assistance, along with all response times in the event of incidents. This memorandum should also specify the cost of this service (including labor and travel expenses) and the maintenance cost, once the minimum 2-year warranty period required, or the warranty period offered by the awardee (if longer) has concluded.

The minimum warranty periods indicated may be subject to extension as outlined in Annex 4 of the Specific Clauses Document.

8. ENVIRONMENTAL CLAUSE

It is noted that in compliance with the provisions of the Recovery Plan, Regulation (EU) 2021/241 of February 12, 2021, establishing the Recovery and Resilience Mechanism, and its implementing regulations, in particular Commission Communication (2021/C58/01) Technical Guide on the application of the principle of "Do No Significant Harm", as well as what is required in the Council Implementing Decision regarding the approval of the evaluation of Spain's recovery and resilience plan (CID), all funded actions carried out under this contract must respect the principle of not causing significant harm to the environment (DNSH principle, "Do No Significant Harm"). This includes compliance with the specific conditions provided for in Component 17, measure I1 within which it is framed.

During the execution of the actions subject to the contract, no significant harm to the environment will occur, in accordance with Article 17 of Regulation (EU) 2020/852.

The activities carried out will not cause direct effects on the environment, nor primary indirect effects throughout their lifecycle, understood as those that may materialize once the activity has been carried out.

The activities carried out by the awarded company under this contract will not generate waste that, in long-term disposal, could cause environmental damage, as this is one of the situations excluded from financing by the Recovery, Transformation, and Resilience Plan in accordance with the Technical Guide on the application of the principle "Do No Significant Harm" under the Regulation on the Recovery and Resilience Mechanism (2021/C 58/01), the Council Implementing Decision Proposal regarding the approval of the evaluation of Spain's recovery and resilience plan and its annex.

The activities carried out by the awarded company will be adapted, if applicable, to the characteristics set for the measure and sub-measure of the assigned component, as reflected in the Recovery, Transformation, and Resilience Plan.

The activities carried out will comply with the current environmental regulations that are applicable, especially with:

- Directive (EU) 2018/1 on integrated pollution prevention and control, and state, autonomous, and/or municipal regulations derived from it.
- Royal Decree 1066/2001, and Recommendation of the Council of Ministers of the European Union (RCMSUE) 1999/519/EC, concerning the exposure of the general public to electromagnetic fields from 0 Hz to 300 GHz.
- Directive 2008/98/EC on waste, amended by Directive (EU) 2018/851, and state, regional, and/or municipal regulations derived therefrom.
- Directive 2002/49/EC on environmental noise assessment and management, and state, regional, and/or municipal regulations derived therefrom.
- Directive 2008/50/EC on ambient air quality, and state, regional, and/or municipal regulations derived therefrom.

Considering that this measure refers to equipment, the company will take all necessary measures to avoid significant emissions of greenhouse gases (GHG) into the atmosphere.

Specifically, the company will ensure that:

- The equipment complies with the requirements related to energy consumption and material efficiency established in Directive 2009/125/EC of the European Parliament and of the Council of October 21, 2009, establishing a framework for the setting of eco-design requirements for energy-related products, for servers and data storage, or computers and computer servers or electronic displays.
- The equipment shall not contain the restricted substances listed in Annex II of Directive 2011/65/EU of the European Parliament and of the Council of June 8, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment, except when the concentration values by weight in homogeneous materials do not exceed those listed to the said Annex.
- At end-of-life, the equipment may be subjected to preparation for reuse, recovery, or recycling operations, or appropriate treatment, including the removal of all fluids and selective treatment in accordance with Annex VII of Directive (EU) 2012/19 of the European Parliament and of the Council of July 4, 2012, on waste electrical and electronic equipment.

For the transport, installation, and commissioning operations of the equipment covered by the contract, the awarded company will implement waste minimization measures. If waste is generated, it will be responsible for its collection, preparation for reuse, recovery, or recycling operations, or appropriate treatment. The waste generated in these operations may not be left at the IBEC or PCB facilities, nor may it be deposited in bins or containers belonging to IBEC, PCB, or municipal facilities.

The awarded company must demonstrate compliance with international environmental management standards such as those specified in ISO 14001 or, alternatively, have systems for planning, action, and verification equivalent to ISO 14001 to manage and identify the environmental risks associated with its activity,

including but not limited to the manufacturing of the requested equipment and their accessories.

MONITORING AND CONTROL METHODS FOR COMPLIANCE WITH CONDITIONS

Regarding compliance with environmental and social requirements, the following instruments may be used:

- The awarded company must sign, before contract formalization, a commitment declaration regarding the implementation of actions under the Recovery, Transformation, and Resilience Plan (PTRP) a compliance with the principle of not causing significant harm to the environment, including Annex 10 of the special administrative clauses.
- Provide a manual detailing the instructions for disassembly of the equipment, including operations for reuse, recovery, or recycling, or appropriate treatment, including fluid removal and selective treatment, applicable to each of the materials or parts composing it. The manual must include a table summarizing, expressed as a percentage by weight, the expected destination of the materials that make up the equipment at the end of its useful life, according to the following options: reuse (including recovery and recycling), energy recovery and rejection/disposal.
- For the transport, installation, and commissioning operations of the equipment covered by the contract, the awarded company shall implement waste minimization measures. The waste generated in these operations cannot be left at the IBEC or PCB facilities, nor can it be deposited in bins or containers belonging to IBEC, PCB or municipal facilities.

Dr. Isabel Oliveira

Head of Core Facilities Unit