
PLIEGO DE PRESCRIPCIONES TÉCNICAS

**SERVICIO PARA EL DISEÑO DE UN PROTOTIPO “MONOMIR LENS”
PARA EL LABORATORIO DE ICFO, MEDIANTE PROCEDIMIENTO
ABIERTO NO SUJETO A REGULACIÓN ARMONIZADA**

NÚMERO D'EXPEDIENT: 2024.SU.021
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CLÁUSULA 1. Objeto del contrato

El presente contrato tiene como objetivo el Servicio para el disseno y construccion de un prototipo `Monomir lens`.

La tipología de servicio descrito se halla vinculado con el CPV (Vocabulario Común de Contratación Pública), 72244000-7; Servicios de creación de prototipos.

CLÁUSULA 2. Needs to be satisfied with the contracting

ICFO requires the development of a compact microscope objective with accessible stop to insert a micro lens array (MLA) and thus reduce the complexity of Fourier Light Field microscopy for subcellular bioluminescence (FLFMCic) set-up. The objective must be immersed assuming a cover glass (range 0.13 - 0.19mm) and at least 0.16mm in salt-water fluid. The characteristics of the immersion fluid and cover glass will be confirmed during the design phase. The desired technical specifications are outlined in the table below.

All intellectual property rights in discoveries, inventions, creations or improvements generated in the course of the Project related to the field of single exposure 3D imaging at high spatial resolution (including but not limited to instrument components, designs, technologies, software, devices, procedures and business activities) shall belong to ICFO. For the avoidance of doubt, the output generated in the intellectual property of "D1 – Objective optical design" shall belong to ICFO.

CLÁUSULA 3. Technical specifications. Requirements

Parameters	acceptable range
Magnification obj	-
Nominal Magnification	20 - 40
NA	>0.8 WI
WD	0.16-open end
Pupil Diameter	-
pitch	800 um - 1.2 mm
Array type	Hexagonal
Focal length	30 - 100 mm
Width	2 mm
Size	Depends on the pupil Diameter
DOF	80 - 150 um
Resolution (xy)	1 - 2 um
Resolution (z)	1 - 2 um
FOV	120 - 200 um
Pixel size camera	4.6um
chip size	4096 x 2304
coupling	c-mount

The physical size of the lens should not exceed 12 cm in length, and should be preferably shorter than the stated limit. The lens should be compatible with a microlens array as specified above and be directly attached to the user camera (e.g. c-mount).

CLÁUSULA 4. Shipping, transport

Shipping and transport to the laboratories of Prof. Dr. Michael Krieg at ICFO must be included.

CLÁUSULA 5. Warranty

Minimum two-year (2) full warranty on all components, starting at system acceptance. The warranty will include the replacement of any faulty or damaged part(s) during the normal use of the system. It will cover any cost related with the disassembly, transportation, reparation and re-assembly of the damaged component(s).

CLÁUSULA 6. CE Marking

CLÁUSULA 7. Target price

- 1 unit: les than 41.000,00 € (Vat Excluded).
- 2 units: les than 50.000,00 € (Vat Excluded). (optional upon evaluation of the first unit prototype)

CLÁUSULA 8. Technical proposal structure

The current proposal refers to the design and fabrication of a prototype. The scope of work is:

- Design of the microscope objective using COTS lenses and custom housing
- Fabrication of 1 unit.

Deliverables: D1 – Objective optical design

Deliverables: D2 – Manufactured microscope objective (1 or 2 units)

CLÁUSULA 9. Delivery time

- Design: **maximum of four (4) weeks.**
- Manufacturing: **maximum of six (6) weeks.**
 - Delivery time is defined as the time elapsed since the signature of the contract until the system delivery at ICFO facilities. It includes the manufacture of the system, the acceptance test at company's premises and the transportation.

CLÁUSULA 10. Funding

ERC Proof of Concept, LowLightScope.

Castelldefels, a fecha de su firma digital

Dr. Michael Krieg
NMSB Professor - ICFO