Horizon 2020
Marie Sklodowska Curie Actions
PROFILE FORM – Expression of Interest

Organization Name / Department	Gerencia de Desarrollo Tecnológico y Proyectos Especiales, Gerencia de Área Investigación y Aplicaciones No Nucleares	**Organization Short Name**	CNEA
Organization Type	☐ University X☐ Public Research Centre ☐ Large Scale Enterprise ☐ Small and Medium Scale Enterprise	X☐ Public Body ☐ International NGO ☐ National NGO	
Research Fields	☐ Chemistry **CHE** ☐ Social and Human Sciences **SOC** ☐ Economic Sciences **ECO** X☐ Information Science and Engineering **ENG** ☐ Environment and Geosciences **ENV** X☐ Life Sciences **LIF** ☐ Mathematics **MAT** X☐ Physics **PHY**	***Sub-Fields / Keywords:***	
Short Description of the Organization / Department	We have two main areas of interest : 1-Micro and Nano technology and 2-Optical Communications 1-The Micro and Nano technology department has ten years of experience in micro-manufacturing techniques for devices development and fabrication. There is a 120 m2 clean room class 1.000 and 10.000. It has senior staff with great experience, as well as junior technical staff able to assist in the day to day work proposed. 2- The Optical Communication Group (OCG) has five full-time researchers working in the field of high-capacity fiber-optic communication systems and applied nonlinear optics.		
Previous Related Projects / Research Experience	1-The Micro and Nano technology department has been working for several years on thick and thin film sensors for gas detection. It also has been improved the microfluidic area for this purpose. The incorporation of a Division of Biological Applications to the Department of Micro and Nano Technology in 2009, has promoted the generation of microfabricated devices for biological applications. In terms of simulations, the group has collaborated on a large number of projects. The department has three electronic engineers with extensive experience in control electronics. 2- The OCG has been involved in several projects, spanning from full models of modulation instability, as an enabler to supercontinuum and rogue wave generation in the infrared, to the set up of a testbed facility for high-capacity long-haul and access optical communication systems.		
Short Description of the Project idea (if foreseeable)	1-The Micro and Nano technology department has an interdisciplinary team highly trained to apply micro/nanotechnologies, and flexible enough to integrate *ad hoc* teams for each new project. The R&D Lines are: - BioSensors - Pressure Sensor - Microfluidics - RF MEMS - Gas Sensor 2- The OCG propose the completion of the aforementioned test bed and applications to quantum communication (generation of entangled photon pairs and quantum key distribution at high rates). In the area of applied nonlinear optics, specifically, generation of coherent tunable radiation in the infrared via media with 2nd and 3rd order optical susceptibility.		

Related Call	
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Position in the Organization	1- Dept. Head 2- Group leader. Researcher.
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