Titolo Tema/Progetto	Assembling and dicing Silicon wafers for the production of the DarkSide-20k Photo Detection Units in NOA
Esperimento CSN2/Sigla del Proponente	DarkSide
Struttura INFN del proponente	LNGS
Laboratorio ospitante (Italia: LNGS, LNF, LNS,LNL, EGO, SOS-ENATTOS, TIFPA-FBK; Estero: CERN, La Palma, Malargue (AUGER), Salta (QUBIC))	LNGS Nuova Officina Assergi
Persona di riferimento presso il laboratorio	Lucia Consiglio
Data di inizio (01/11/2024-01/04/2025, durata >= 3 mesi)	1-Jan-25
Data di fine (>= 3 mesi)	1-Apr-25
Descrizione attività (max 1000 caratteri)	DarkSide-20k is the next generation multi-ton dark matter experiment in construction at Gran Sasso underground Laboratory (LNGS), based on Silicon PhotoMultiplier array technology for light detection. The basic optical module is the Photo detection Unit (PDU) a 20 cm x 20 cm Motherboard integrated with 16 SiPM tiles (5 cm x 5 cm) hosting the related electronics. More than 500 PDUs and more than 10000 tiles will be produced in the ISO-6 clean room Nuova Officina Assergi (NOA), starting from the 1400 Silicon wafers produced by LFoundry, whose full cryogenic characterizaion has been progressing since 2023. The tested wafers will be diced and prepared for the subsequent process of die attach of the SiPMs that will be soldered onto the tile printed circuit boards before the wire bonding. The candidate will take part to the entire procedure of the wafer preparation and handling by means of a dedicated line of semiconductor assembly tools. He/she will be also involved in the dicing operations and quality controls of the devices during all the steps of the procedure.
Altre indicazion (lassimo 500 caratteri)	The activity will be performed inside a clean room. The entrance is allowed only to the personnel properly dressed with a protective uniform, overshoes, cap, gloves, mask and safety glasses. The dressing operations as th behaviuor in clean room follow a specific protocol well documented
Servizi offerti dal laboratorio ospitante	0
Note	0