

Bilag 2

Kortfattet dansksproget projektbeskrivelse egnet til publikation på dansk EMPIR hjemmeside

2019 Normative 19NRM06	Metrology for Testing the Implementation Security of Quantum Key Distribution Hardware MeTISQ	
Projektets formål At udvikle sporbare målemetoder på enkelt-foton niveau til karakterisering af Quantum Key Distribution systemer samt teknologier påkrævet ifølge eksisterende ETSI standardiseringsarbejde inden for QKD. Erfaringerne fra projektet vil blive anvendt til at frembringe måle specifikationer inden for QKD standardisering.		
Projektet er delt op i 5 arbejdsopgaver: WP 1 Metrology for implementation security of detectors in QKD receiver modules WP 2 Characterization of assembled QKD transmitters and receiver modules WP 3 Traceable characterizations for new single-photon detectors WP 4 Creating Impact WP 6 Management and Coordination		
Antal deltagere 11	Projektets budget ¹ 993 383 EUR	Person-måneder 128
Dansk deltager DFM	DFM Budget ¹ 40 000 EUR	Person-måneder 3.9
Kontaktperson (navn, e-mail, telefon, adresse) Anders Bruschi, ab@dfm.dk, telefon 25459025 DFM, Kogle Alle 5, 2970 Hørsholm		
DFM's bidrag: DFM deltager i WP3, WP4 og WP5 DFM's primære opgave er at udvikle en kompakt laserbaseret kilde til sporbar karakterisering af enkelt-foton detektorer. Denne kilde anvendes inden for konsortiet herefter til sporbare sammenligninger af detektor effektivitet. Konkret er DFM's milepæle: <ul style="list-style-type: none">• Develop a fibre-based continuous wave (CW) portable attenuated laser source traceable to the cryogenic radiometer and suitable for calibration of SNSPD and InGaAs-SPAD detectors at the wavelength of 1550 nm.• Calibrate the detection efficiency of superconducting nanowire single photon detectors provided by PTB• Provide traceable calibration of the detection efficiency of a novel free-running		

¹ Angives som EU finansiering (direct costs + 5 %)

InGaAs/InP SPAD provided by MPD

- Participate in the preparation of a validation report for review and approval by the consortium on the methods developed.
- Submit the report prepared in A3.3.3 to EURAMET as D5: “Report on developing traceable methods for active QKD components in line with ETSI group report QKD 003, including methods relevant for new, free-running or quasi-free-running single-photon detectors for telecom wavelengths (1550 nm) based on semiconductor technologies with a target uncertainty of 2 %”.