

Memorandum of Information 1

Clarification questions on Tender "Single-photon detector", Ref. 2023 FPL/INK 029, date 03-07-2023

No.	Section nr. / subject	Question	Answer
1	8.1 - Aspect 'requirements single-photon detector': - 26	<p>You specify "The optical fibers connected to the 600-859nm detectors shall have a core diameter of 4.5um" in the requirements.</p> <p>Can you specify the full details about the required optical fiber, including manufacturer and model name, so that we can provide an offer that matches exactly your need?</p>	<p>The optical fiber connected to the detectors should be able to guide the relevant wavelengths within the bandwidth of the detector. In order to do so, a compromise between the single-modality and the guiding conditions needs to be reached (shorter wavelengths can excite higher order spatial modes in a fiber designed to be single-mode for a longer wavelength). The 4.5um core diameter was specified to struck this balance: a 850nm beam propagates with reasonably low losses while a 600nm beam excites as few modes as possible. In the design, the length of the fiber also impacts how the multi-modality and propagation losses influence the beam, so shorter fibers are more appropriate.</p>
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