

Vacancy: Electronics & Systems Integration Engineer

About QSA Technology

QSA Technology is a University of Twente spin-out, born out of over a decade of photonics research at the MESA+ Institute, building photonic fingerprint chips that give quantum and optical communication networks a physics-based, unclonable identity. Quantum key distribution can make a key exchange itself unbreakable — but authenticating who is actually on the other end of the line has remained an open problem, one that current approaches still solve with the same cryptographic assumptions that quantum computers threaten. Our chips close that gap.

Having recently secured new funding, we are moving from lab-validated prototypes toward fielded systems, with our sights set on telecom, satellite, and critical-infrastructure security applications. We are growing our core technical team and running multiple funded international R&D projects alongside academic partners including the University of Twente and TU Eindhoven, with our first field pilot on real operator infrastructure on the horizon.

Our culture: open, entrepreneurial, and independent. As a spin-out, you will have plenty of freedom to develop your own ideas and make a direct impact.

Your Role

As our Electronics & Systems Integration Engineer, you will own the full electrical signal chain around our photonic PUF chips — from the drive electronics that generate challenges, through the timing circuits that keep everything synchronized, to the readout electronics that digitize responses. You will be the bridge between our photonic chips and the rest of the system, and, over time, help us bring more of our system integration in-house.

Responsibilities

- Designing and building challenge-preparation electronics (drive circuitry) for the PUF module
- Designing timing circuits to synchronize challenge generation, response digitization, and — eventually — partner QKD timing domains
- Designing readout electronics: photodetector front-ends, amplifiers, and digitizers
- Developing FPGA-based driver and controller electronics as our technology roadmap progresses
- Supporting integration of validated subsystems into a robust, field-deployable system
- Documenting designs and test results to support product development and subsidy/project reporting

Who We Are Looking For

- MSc in Electrical Engineering, Applied Physics, or a related field
- Experience with FPGA/embedded electronics design (VHDL/Verilog or high-level synthesis)
- Experience taking lab-bench electronics to a more robust, field-deployable form
- Comfortable working directly with optical hardware and timing-sensitive signal chains
- Independent, entrepreneurial, and hands-on mindset
- Enthusiastic about working in a spin-out environment with freedom and responsibility

Nice to have:

- RF or high-speed signal experience

- EMC or product-hardening/compliance experience
- Background in quantum or photonics instrumentation

What We Offer

- The opportunity to own the electrical heart of our authentication hardware from the ground up
- Work in an innovative spin-out with direct impact
- High degree of independence and room for initiative
- Collaboration with institutes and industrial partners
- An inspiring work environment where pioneering is at the core

Interested?

Send your CV and a short motivation to [add contact email/link] — we would love to hear from you.