

.quantum Mission and Purpose

“Quantum” is the standard term for the smallest quantity of a physical property a system can possess and also extends to quantum computing, which harnesses quantum-mechanical phenomena like superposition and entanglement to perform computation. Steelhead LLC ("Steelhead" or the "Registry"), applicant for the “.quantum” gTLD, will serve the global quantum science and technology sector of organizations and individuals engaged in quantum physics research, quantum computing, quantum sensing and metrology, quantum communications and networking, and the education, standards, supply-chain, and commercial activity that supports them by providing a dedicated namespace for these groups.

The quantum community is among the fastest growing technical and commercial communities in the world. Quantum initiatives have been established globally, collectively committing tens of billions of dollars in public and private funding. Quantum science is open, internationally collaborative, and the institutions and businesses built around it are numerous, cross-disciplinary, and geographically dispersed across academia, government, and industry. However, there is no intuitive and unified TLD for these communities to use. The .quantum Registry is built to close that gap. It gives these constituencies a durable, portable digital identity in a namespace to enable research institutions and national programs to establish coherent, verifiable identities; allow hardware and software companies to be discoverable; allow standards bodies, consortia, and educators to build durable and trusted brands; and allow commercial service providers to reach the quantum audience directly.

INTENDED REGISTRANTS AND USERS

Though .quantum will be an open, generic top-level domain, intended registrants include, among others: (i) researchers, engineers, and educators working in quantum science and technology; (ii) universities, national laboratories, research institutes, and quantum research groups; (iii) companies developing quantum hardware, software, sensing, communications, and post-quantum security products; (iv) standards bodies, industry consortia, professional associations, and national quantum initiatives; and (v) service providers whose work materially serves the quantum community, including cryogenics, control electronics, fabrication, and other supply-chain participants, as well as conference organizers, specialist publishers, investors, and workforce-training providers. Users will include these registrants and the customers, partners, and end users who interact with them.

ACTIVITIES TO ACHIEVE THE PURPOSE

The Registry will operate as an open top-level domain with: a Sunrise phase for trademark holders; a Landrush phase; tiered pricing that keeps individual quantum registrations affordable while discouraging misappropriation of strings associated with established institutions; anti-abuse monitoring aligned with the ICANN DNS Abuse Framework; and coordinated outreach to advancement offices and international higher-education networks. Names will be distributed through the ICANN-accredited registrar channel.

SUSTAINABILITY OVER TIME

Sustainability rests on three durable pillars. First, the population of quantum science and technology individuals, institutions, and companies is growing rapidly each year, adding to the addressable base. Second, quantum science and technology individuals, institutions, and companies operate on multi-year planning horizons, supporting strong renewal rates. Third, the Registry is capitalized to operate .quantum for the required contractual term even under conservative demand scenarios. Surplus revenue will be reinvested in abuse mitigation, Universal Acceptance, and community outreach — reinforcing the long-term value of the namespace to the quantum science and technology community it serves.
