every technical problem can be solved.

**Demcon high-tech systems is a full-service design house for the development, realization and testing of customized complex solutions.**

We believe that every technical challenge has a solution, and we are committed to enabling our customers to be successful. We serve OEMs, start-ups and scale-ups in a diverse range of industries and continue to build our track record within the fields of Semicon, Aerospace, Quantum and Photonics.

We work in close partnership with our customers to gain a deep understanding of their business challenges. Our process begins with a thorough analysis to define the criteria for success. Next, our multidisciplinary teams develop a model-based architecture, which is subsequently engineered into a functional prototype. The final step involves rigorous testing to ensure the solution meets all functional specifications and customer requirements.

Combining a structured and results-oriented project approach with a pragmatic way of working enables us to strike the optimal balance between performance optimization, product costs and time-to-market - all without posing any IP claims.


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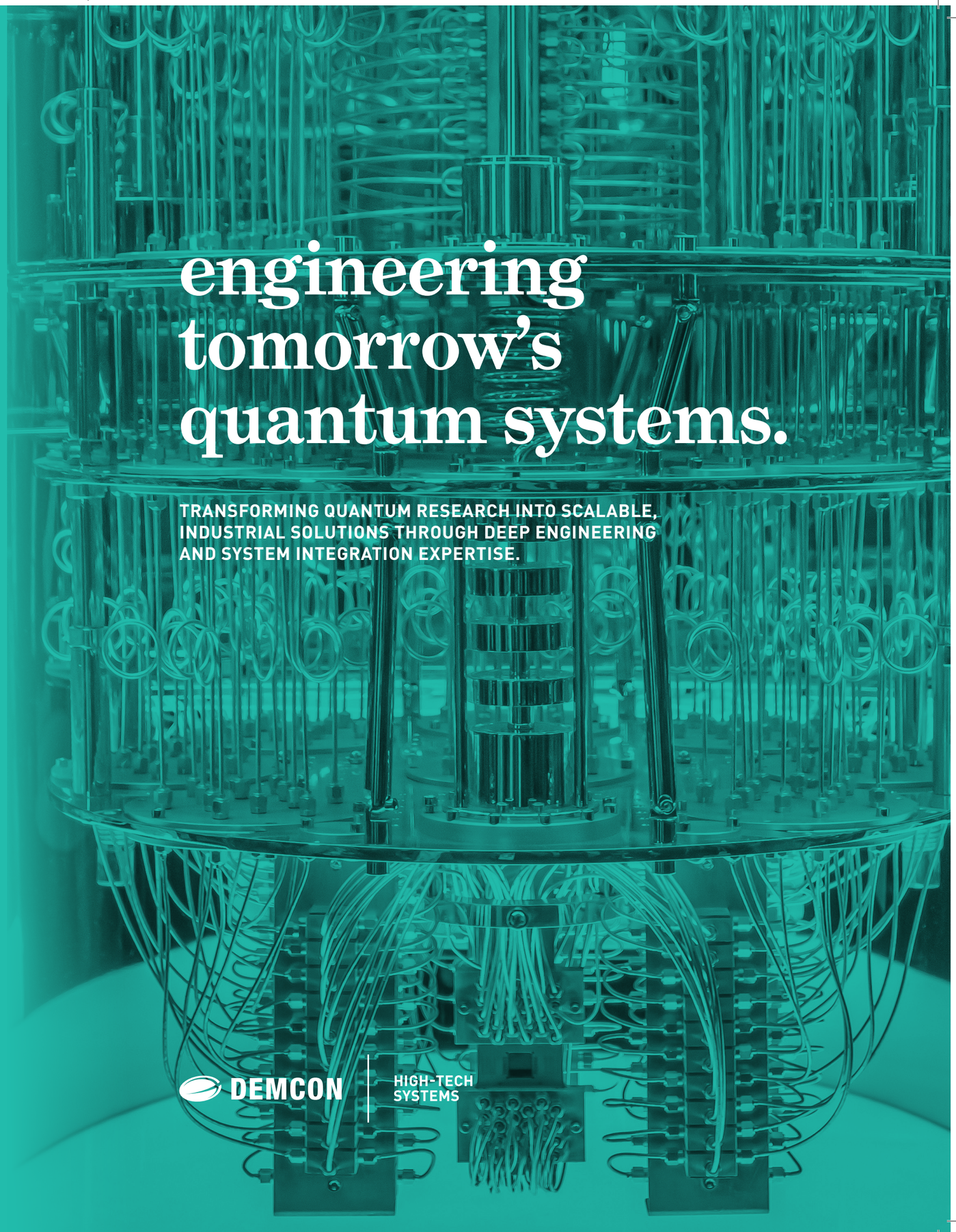
DEMCON | HIGH-TECH SYSTEMS



# engineering tomorrow's quantum systems.

### Quantum computing

Demcon supplies the systems and tools to enable scaling these systems and pushing performance, for example by design and realization of magnetic shielding, vacuum, cryogenics and vibration isolation systems.

Demcon has executed various projects in these areas, delivering hardware modules for different qubit modalities.

### Quantum communication

Security is guaranteed with quantum communication. But scaling and deploying quantum communication systems, poses new challenges for system engineering, industrialization and manufacturing.

We have 30+ years of experience in mechatronic system design, specialized in translating complex requirements into robust and scalable solutions.

### Qubit manufacturing & Test equipment

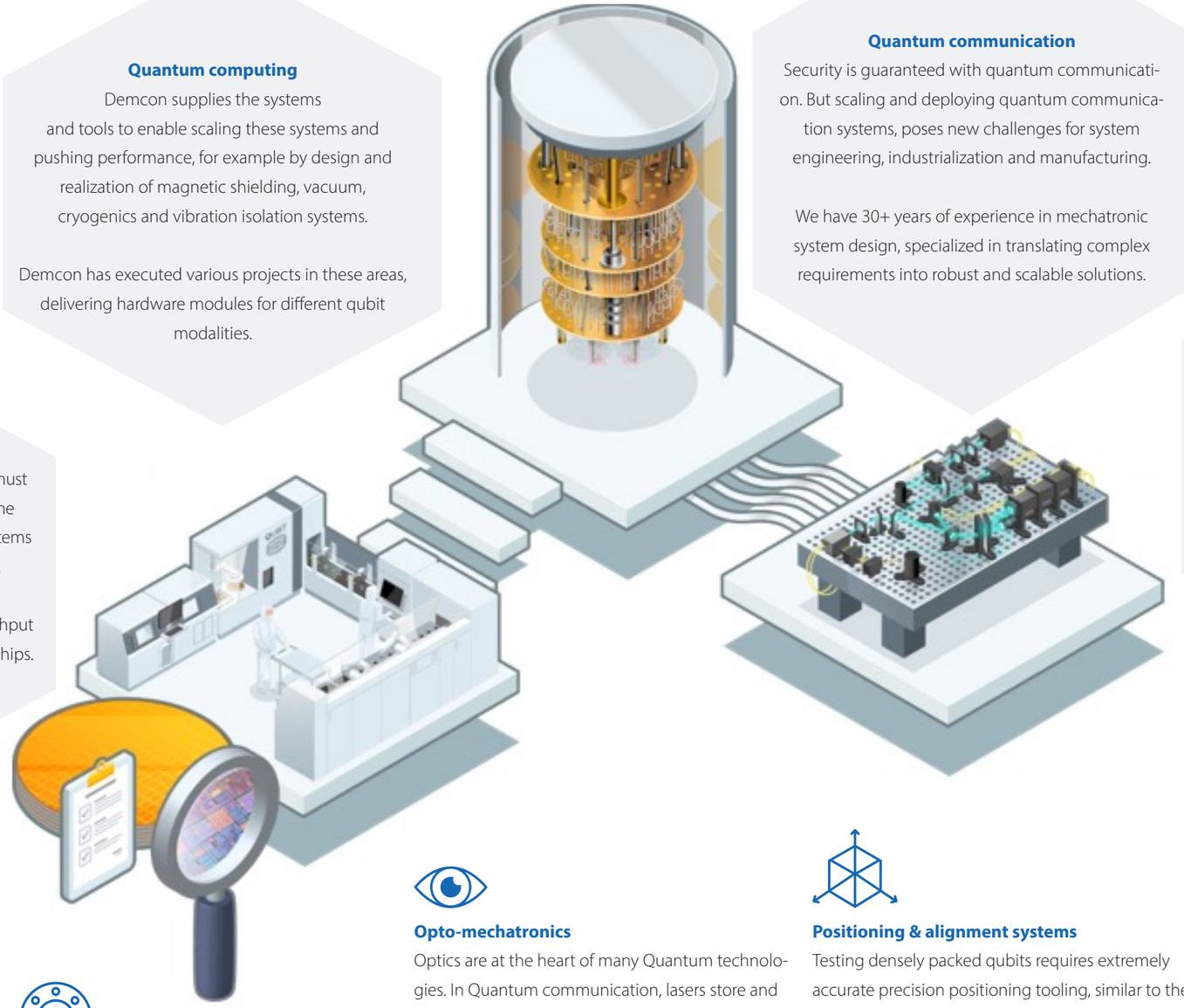
As qubit density increases, chip verification tools must evolve with them. Our extensive experience in the design of metrology, inspection & qualification systems is rooted in semiconductor industry standards.

We apply this knowledge to develop high-throughput and high-precision test equipment for quantum chips.

### Quantum sensing

Quantum systems are highly sensitive to environmental influences, such as electromagnetic, dynamics and thermodynamics. This makes them ideal for sensing applications, limited only by fundamental quantum physics.

We engineer these sensors from proof-of-concept to a reliable product, ready for scaling. This often involves miniaturization, including modules such as optics, RF & magnetic bias, cryogenics, vacuum or gas reservoirs.



### Magnetic shielding

Silicon spin, superconducting qubits, trapped ions, and nitrogen vacancy (NV) centers require accurate control of electromagnetic fields to maximize coherence times and fidelity.

We specialize in modeling, optimization, and control of electromagnetic environments. From DC to AC to RF. Our expertise in active and passive shielding ensures ultra stable conditions for quantum applications.

### Vacuum

There's vacuum, Ultra-High Vacuum, and then there is Extreme High-Vacuum. To avoid interactions with random particles, trapped ion and neutral atom systems go down to the 10-11 - 10-13 mbar range.

Our expertise in the design of vacuum systems , including design with outgassing sensitive components, often involves cryogenic technology to meet these stringent requirements.

### Opto-mechatronics

Optics are at the heart of many Quantum technologies. In Quantum communication, lasers store and retrieve information in cryogenically cooled crystals. In quantum sensing, Nitrogen Vacancy (NV)-center-based magnetometers detect minuscule changes in magnetic fields by analyzing photons emitted from NV-center diamonds.

Our opto-mechatronic system engineering expertise extends to active & passive alignment, Laser beam shaping, metrology, (optical) system modeling, design, assembly & testing and industrialization.

### Positioning & alignment systems

Testing densely packed qubits requires extremely accurate precision positioning tooling, similar to the semiconductor industry. These positioning systems, sometimes operating at cryogenic temperatures and executing specialized tests, need to scale and evolve alongside the quantum chips.

We rely on our extensive experience, developing and realizing positioning systems with extreme accuracy and specifications for many of the world's biggest OEM's in semicon equipment.

### Cryogenics & thermal control

Heat is noise in quantum systems, makin accurate temperature control very important. Quantum systems often operate at extremely low temperatures - ranging from sub-Kelvin to tens of Kelvin. Respectively used for superconducting quantum computers, to single photon generation and detection, and trapped ion and neutral atom systems.

We design thermal control solutions across temperature ranges, whether it's thermal control at cryogenic temperatures, with extremely low vibrations, design of thermal interfaces, for optimal heat transfer or material selection, in combination with other challenging requirements.