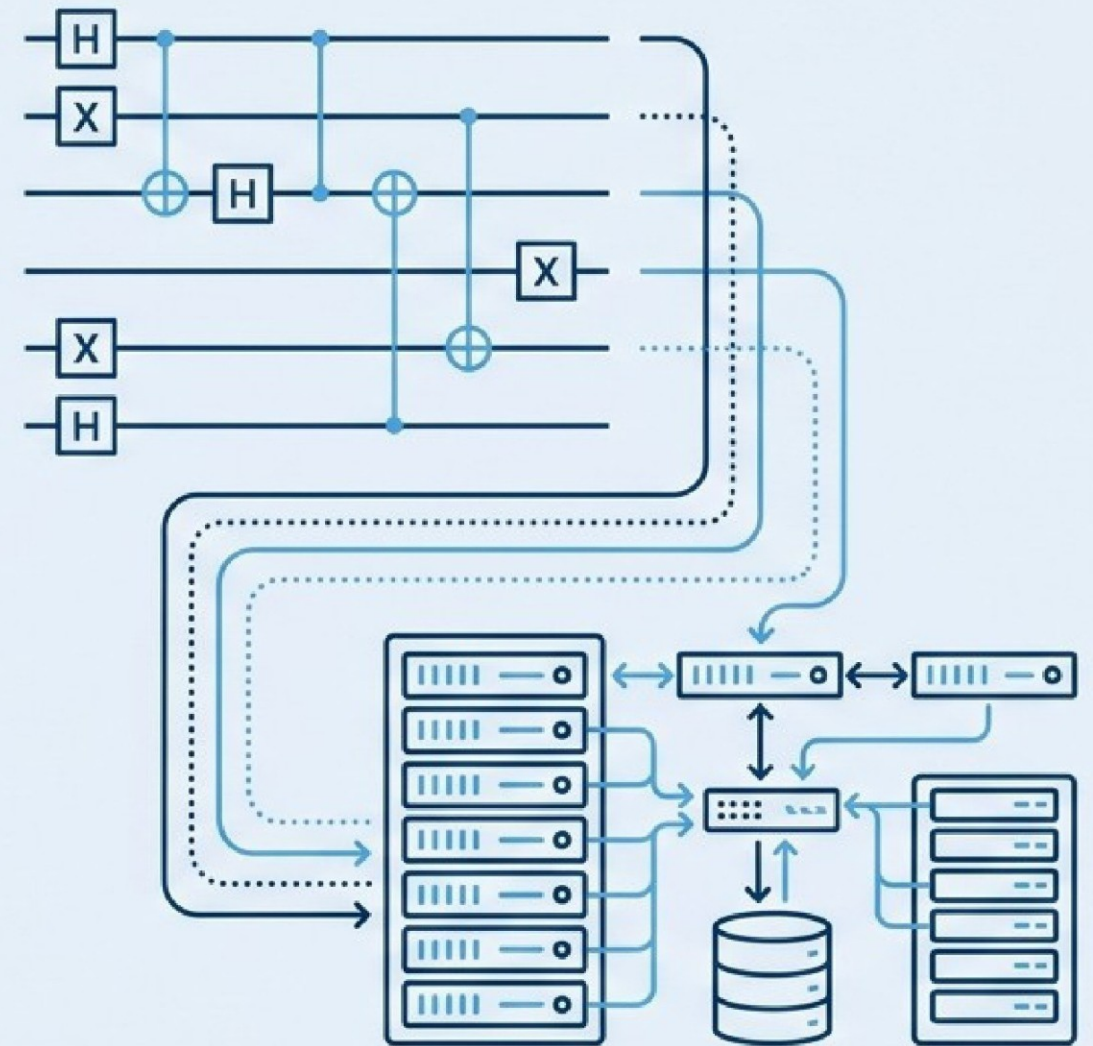


Quantum Computing with Cirq: The Capability That Changes Everything

Empower your teams to design, simulate, and analyze quantum algorithms and drive business excellence using Google's open-source Python library.



The Capability Activation Curve

Old State

Computational Bottlenecks

(Hitting the limits of classical architectures)

Lagging Innovation

(Inability to solve complex optimization problems)

The Turning Point

Edstellar Quantum
with Cirq Corporate
Corporate Training

New Outcome



Optimized Algorithms

(Outperforming classical computing)



Custom Quantum Solutions

(Tailored to organizational needs)



Future-Ready Workforce

(Confidence in NISQ and cloud-quantum integration)



32 - 40 Hours

Duration



Instructor-Led

Format



**Virtual / On-site /
Off-site**

Delivery Modes



10+ Languages

Global Reach



**Certificate of
Completion**

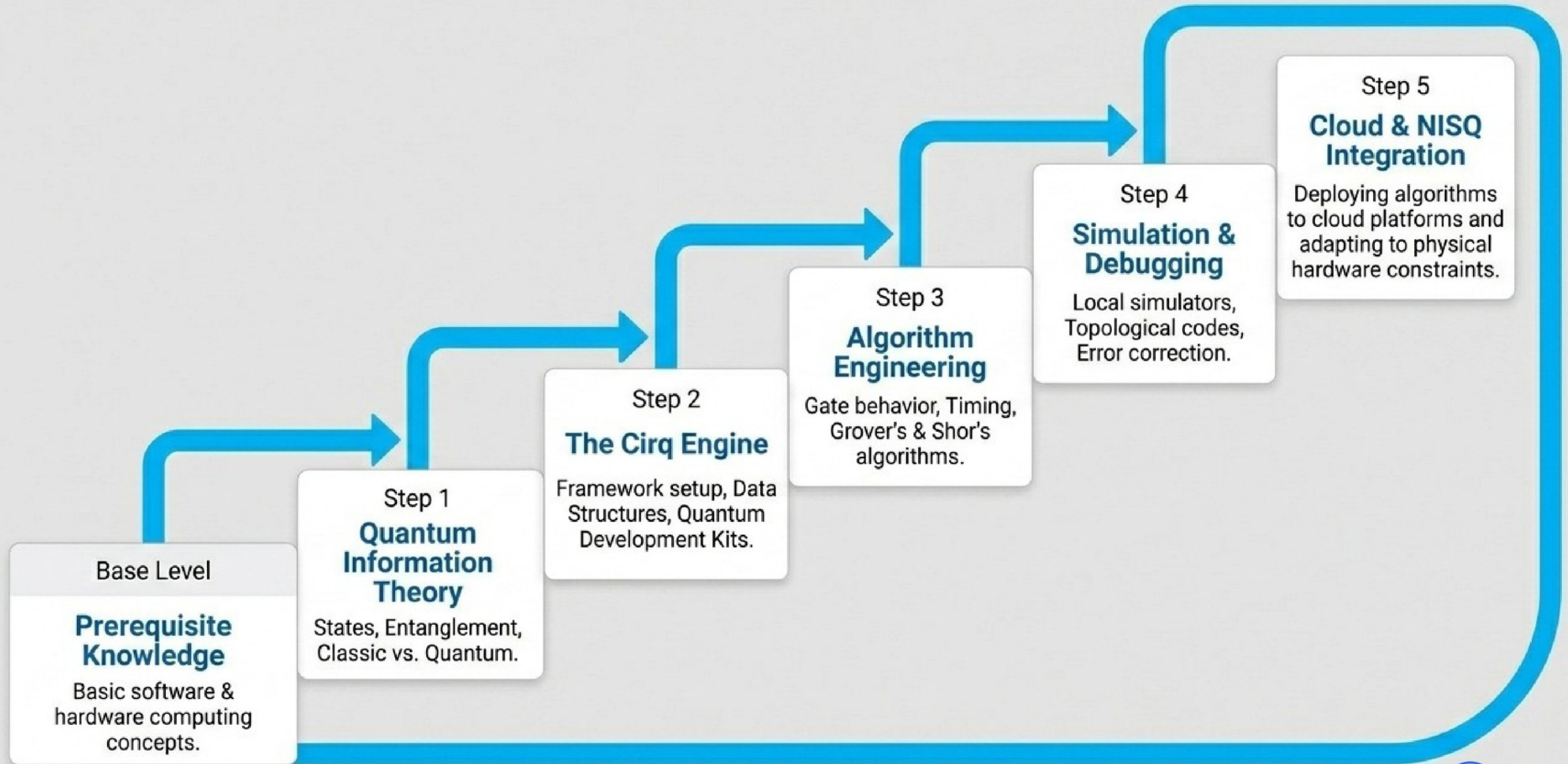
Outcome



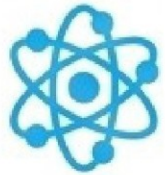
**2,000+ Industry
Programs**

Provider Scale

The Learning Ascent



Skill Matrix



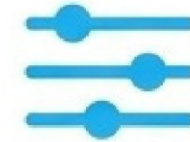
Quantum Computing Principles

Understand mechanics to develop systems that outperform classical computing.



Data Analysis

Extract actionable insights using advanced quantum algorithms.



Customized Solutions

Tailor quantum outputs to specific industry challenges and client needs.



Quantum Circuit Design

Create and optimize efficient circuits with advanced error correction.



Optimization

Make enterprise systems and data pipelines highly effective, reducing costs.



Cross-functional Collaboration

Integrate quantum capabilities into existing multidisciplinary IT workflows.

Curriculum Swimlanes

Theoretical Foundations

Overview of Gate-based & Annealing computers, NISQ processors, Information Theory, Quantum States, and Topological Error Correction.

The Cirq Engine & Environment

Installing Quantum SDKs/IDEs, Cirq Data Structures, Syntax, Setting up Local Simulators, and Quantum Development Kits (QDKs).

Applied Engineering & Hardware

Designing Grover's & Shor's algorithms, Gate Behavior/Synthesis, Scheduling Timing, Circuit Compilation, Cloud Simulator Integration, and mapping to physical qubits.

Day-in-the-Life: Quantum Workflow



Configure Environment

Set up local simulator and simulator and Cirq framework.

Write Algorithm

Formulate problem, implement Grover's/Shor's code.

Control & Schedule

Specify gate behavior, optimize control flow, and schedule timing.

Map to Hardware

Adapt to NISQ constraints and physical qubit mapping.

Run & Debug

Execute on cloud/local simulators, apply error mitigation.

Classical IT Systems

Data pipelines,
existing algorithms

NISQ Processors & Future Hardware

Gate-based physical
infrastructure

Google Cirq Framework

The Core Interface

Cloud Quantum Platforms

Cloud-based
simulation and APIs

Quantum Machine Simulators

Local environment
testing

Target Audience

- Data Scientists
- Quantum Engineers
- AI/ML Researchers
- Software Developers
- Computational Physicists
- IT Managers

Role	Primary Focus	Direct Course Benefit
Data Scientist	Algorithm Development	Advanced data modeling & optimization
Software Developer	Circuit Architecture	Programming in Cirq & gate scheduling
IT Manager	Systems Integration	Hardware constraint mapping & cloud deployment

	Virtual Live	On-site Face-to-Face	Off-site Face-to-Face
Global Scale	✓ Yes (100+ countries)	Dedicated Location	Dedicated Location
Distraction-Free Environment	No	No	✓ Yes (High focus)
Team Bonding & Collaboration	Moderate	High (In-house)	✓ Very High
Hardware/Environment Tailoring	Standard	✓ Highly Tailored	Dedicated Setup
Travel Logistics	✓ Zero Travel	Instructor Travels	Team Travels

Enterprise Business Value

Innovation



Outperform classical computing limits by exploring advanced quantum algorithms and exploring new computational possibilities.

Efficiency



Optimize complex enterprise problems through tailored circuit design and algorithm compilation.

Reliability

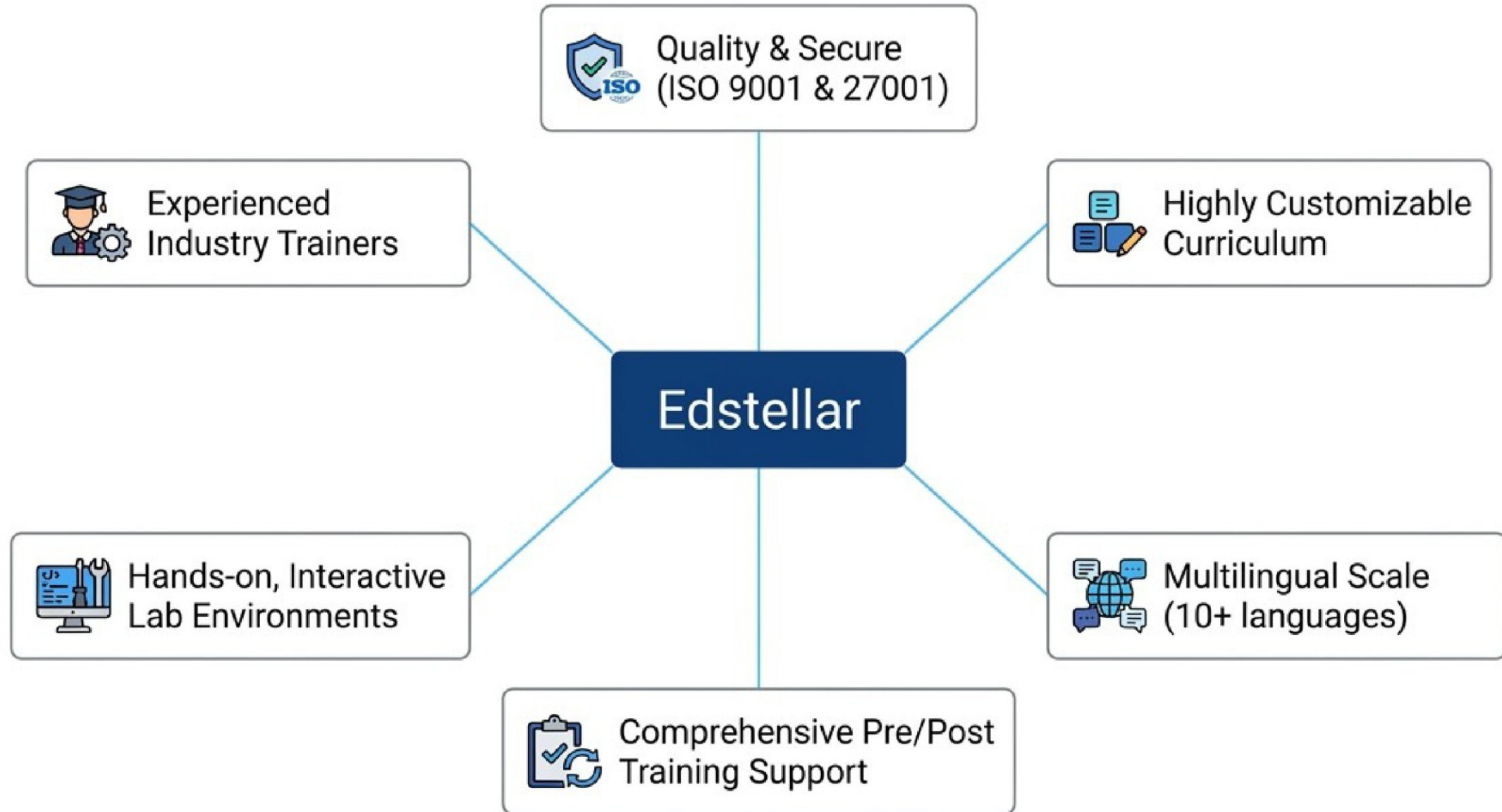


Ensure optimal performance and precision using advanced error mitigation and topological codes.

Synergy



Integrate quantum capabilities into existing workflows through cross-functional team collaboration.



“

Instrumental in strengthening our engineering teams... improved technical depth, problem-solving skills, and execution across multiple projects.

Aditi Rao, L&D Head

“

Exactly what I needed... The real-world examples and deep dive into interactive labs were particularly valuable for my professional growth.

Sarah Stevens, Senior Software Engineer

“

Elevated our capabilities... We completed our comprehensive digital transformation initiative significantly ahead of schedule.

Jamil Wael, Senior Software Engineer

	Most Popular	
Starter 120 Licenses 64 Hrs of group training Tailored for SMBs. Includes VILT/In-person On-site. Get Started	Growth 320 Licenses 160 Hrs of group training Ideal for growing SMBs. Includes VILT/In-person On-site. Get Started	Enterprise 800+ Licenses 400 Hrs of group training Designed for large corporations. Contact Sales

*Custom/Unlimited duration options available upon request.

Ready to activate your quantum workforce?

Join organizations across 100+ countries
building future-ready capabilities with Edstellar.