Section 1 — Company & Overview

1. What is iQore?
iQore is a quantum software company specializing in physics-augmented, hardware-agnostic solutions that push quantum computers beyond their theoretical limits.

2. What is iQD?
iQD is our flagship quantum circuit optimizer — the "CUDA for QPUs" — that boosts fidelity, extends coherence, enables deeper circuits, and reduces execution time without changing your hardware.

3. What does "physics-augmented" mean?
It means our optimizer incorporates principles from quantum physics — not just algorithms — to improve execution stability, noise resilience, and performance.

4. Why are you at IEEE Quantum Week?
We're here to demonstrate iQD's real-world performance gains and connect with researchers, enterprises, and partners who need more from today's quantum hardware.

5. Who are your target customers?
Quantum software developers, enterprise R&D labs, government and defense agencies, and any organization running quantum workloads that need better fidelity, speed, or depth.

Section 2 — Product Functionality

6. How does iQD work?
We preprocess your quantum circuits, applying proprietary physics-based optimizations that restructure execution pathways for reduced noise, extended coherence, and faster runtimes.

7. What results can I expect?
You can expect noticeable improvements in execution quality, with circuits running more accurately, maintaining stability for longer, handling greater complexity without performance loss, and completing in less time.

8. What hardware does iQD support?
IBM Quantum, Quantinuum, IonQ, Rigetti, AWS Braket-supported QPUs, and more.

9. Does iQD require hardware changes?
No. It's 100% software — you keep your existing QPU access and run optimized circuits through our stack.

10. How does iQD compare to compiler optimizations?
Compilers optimize code structure mathematically. iQD integrates physics models to counteract noise and decoherence, achieving gains compilers can't.

Section 3 — Competitive Position

11. How is iQD different from other quantum optimizers?
Most rely on gate reordering alone. We incorporate physics-augmented execution logic that actively suppresses errors and stabilizes coherence.

12. Are there competitors doing this?
No one is combining physics-augmented modeling with hardware-agnostic circuit optimization in this way.

13. Can iQD work alongside other quantum toolchains?
Yes — it's designed to integrate seamlessly with Qiskit, Cirq, and other major frameworks.

14. How do you prove your claims?
Through live QPU tests, published performance benchmarks, and verifiable output comparisons before and after optimization.

15. Does iQD replace my existing workflow?
No — it enhances it. You run the same quantum code, just routed through iQD before hitting the QPU.

Section 4 — Technical Details

16. How does iQD improve fidelity?
By restructuring gate sequences to minimize cumulative noise and by stabilizing quantum states via coherence-preserving logic.

17. What is "coherence extension" in iQD?
It's the process of maintaining qubit stability for longer durations, allowing execution of deeper, more complex circuits before decoherence sets in.

18. Does iQD help with NISQ-era limitations?
Yes — it directly addresses noise and shallow depth restrictions, maximizing performance from current-generation QPUs.

19. Does it work with error correction?

iQD is complementary — it focuses on error suppression before execution, while error correction fixes issues after they occur.

20. What's the overhead of running iQD?

Negligible — optimization happens quickly, and the time saved during QPU execution outweighs preprocessing time.

Section 5 — Business & Adoption

21. How do I get iQD?

It's available as part of the iQore SDK, installable via pip install iQore with a subscription-based licensing model.

22. Is there a free trial?

Yes — we offer a trial tier so you can run your own benchmarks before committing.

23. How is iQD priced?

Pricing is based on usage and feature tier, with options for enterprise licensing.

24. Who uses iQD today?

We work with enterprise R&D labs, quantum software teams, and research groups seeking to maximize QPU output.

25. Can startups use iQD?

Yes — our licensing tiers scale to fit both enterprise and early-stage users.

Section 6 — Future & Vision

26. Will iQD work with future fault-tolerant QPUs?

Yes — iQD is forward-compatible and will enhance performance even as hardware improves.

27. Can iQD optimize quantum AI workloads?

Absolutely — physics-augmented optimization benefits quantum machine learning, chemistry simulations, and optimization problems.

28. What's next for iQore after iQD?

We're expanding our physics-augmented technology into hybrid quantum-classical acceleration and other specialized quantum toolchains.

29. Do you plan to support photonic or topological qubits?

Yes — our architecture is hardware-agnostic, so new qubit modalities can be added quickly.

30. How will iQore impact the quantum industry?

By unlocking higher performance from existing QPUs, we accelerate real-world adoption, shorten the path to quantum advantage, and enable breakthroughs sooner.