



Quantum Computing Business and Technical Workshop

1. Introduction

1.1. Workshop purpose

Educate [CUSTOMER NAME]'s ("**Customer**") business executives and technical experts on quantum computing ecosystem developments (hardware state, applications, algorithms), discuss how Customer business processes can benefit from quantum computing and create a business plan for Customer to take advantage of quantum computing.

1.2. About QC Ware

QC Ware is a quantum computing software company building enterprise solutions that run on quantum hardware.

The company's stated objective is to make quantum computing easily accessible to classically-trained data scientists and to offer performance speed-ups on near-term hardware. QC Ware is working towards that goal with one of the world's strongest teams of quantum algorithms scientists. The company is based in Palo Alto, it recently opened an office in Paris, and it plans to launch a Tokyo office in 2020.

2. Workshop

QC Ware will provide a 2-day on-site training workshop at a location of Customer's choosing on Quantum Computing for any Customer employee that wishes to attend. The timing of the workshop will be jointly agreed to by both QC Ware and the Customer.

2.1. Sessions

The specific topics that can be covered in the training workshop are:

- **Business Overview:** Why invest in quantum now? What are the most promising applications and algorithms? What is the current quantum computing hardware landscape look like? Who is QC Ware? Best practices for moving forward.
 - Duration: 1 hour
 - Suggested Audience: Business and Technical
- **Overview of quantum algorithms and applications** (optimization, machine learning, sampling etc.): overview of notable quantum algorithms with emphasis on those with applications relevant to the Customer's industry.
 - Duration: 1 hour
 - Suggested Audience: Business and Technical
- **Current quantum hardware state:** survey of the hardware vendors and their design for quantum processors along with the current state of their hardware (i.e., number of qubits and known qubit quality).
 - Duration: 1 hour
 - Suggested Audience: Technical
- **Detailed presentation of Quantum Optimization Algorithms (QA and QAOA):** theoretical overview and applications of the quantum adiabatic algorithm and the quantum approximate optimization algorithm.
 - Duration: 2 hours
 - Suggested Audience: Technical
- **Detailed presentation of Quantum Chemistry Simulation Algorithms (VQE):** theoretical overview and applications of the variational quantum eigensolver and its use in chemistry simulation.
 - Duration: 2 hours
 - Suggested Audience: Technical
- **Detailed presentation of Quantum Machine Learning:** survey of quantum algorithms with applications in machine learning, emphasis on those accessible with near term hardware.
 - Duration: 2 hours
 - Suggested Audience: Technical
- **Demo and platform overview:** Demo of the QC Ware algorithm application demos running through the QC Ware platform.
 - Duration: 0.5 hour
 - Suggested Audience: Technical
- **Business Discovery:** Exploration of potential use cases that might benefit from quantum computing and can impact Customer's business in the short-term and medium-term. Discussion on a proof-of-concept project to explore quantum computing in depth.
 - Duration: 2 hours
 - Suggested Audience: Business and Technical

Audience description:

- Business: Business unit managers, directors, and VPs associated with business processes that rely heavily on data science, optimization solutions, chemistry simulations and security/cryptography.
- Technical: Quantum experts, data scientists, operations research professionals, classic chemistry experts, and security/cryptography experts.

2.2. Presentation Materials

QC Ware will provide all presentation materials in PDF format after the completion of the workshop.

All materials are considered QC Ware proprietary and QC Ware provides Customer royalty-free, perpetual, irrevocable, worldwide, access to use the presentation materials for internal Customer use only.

2.3. Suggested Schedule

Day	Time	Track	Audience
Day 1	9:00 AM – 9:30 AM	Welcome, introductions, round table	All
	9:30 AM – 10:30 AM	Business Overview	All
	10:30 AM – 11:30 AM	Overview of algorithms and applications	All
	11:30 AM – 12:30 PM	Lunch	
	12:30 PM – 13:30 PM	Hardware State Overview	Tech
	01:30 PM – 03:30 PM	Quantum Optimization (QA, QAOA, QUBO Formulations)	Tech
Day 2	09:00 AM – 11:00 AM	Quantum Machine Learning	Tech
	11:00 AM – 12:00 PM	Quantum Chemistry Simulation	Tech
	12:00 PM – 13:00 PM	Lunch	
	01:00 PM – 02:00 PM	Quantum Chemistry Simulation (cont.)	Tech
	02:00 PM – 02:30 PM	Demonstration	Tech
	02:30 PM – 03:00 PM	Break	
	03:00 PM – 05:00 PM	Business Discovery	All

2.4. Workshop Report

QC Ware will also provide a report on the business discovery portion of the workshop with our findings and recommended proposals.

QC Ware will rate - with the help of Customer subject matter experts and executives - each use case across two dimensions: 1) Business Impact, and 2) Quantum computing feasibility in the near term.

