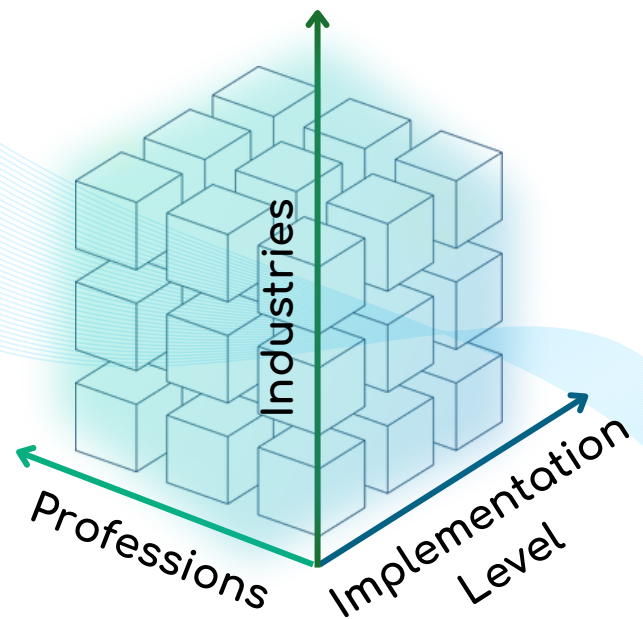


# Ensuring you and your business are quantum ready



## Quantum Training for Business

QURECA offers quantum training customized for businesses in three dimensions, with modules tailored to your organization's needs.



Training  
needs  
analysis

Customized  
Course  
Design

Content  
Development

Training  
Delivery

Post  
Training  
Support



Duration  
from 1 hour to  
18 weeks



Online and in person courses  
Bootcamps  
Hands-on Tools



Customised  
Learning  
Programmes

# WHAT ARE QUANTUM TECHNOLOGIES?

We saw a shift in Physics at the turn of the last century, as the theory at the smallest scale (quantum mechanics) and across the largest distances in the universe (general relativity) were formulated.

Over the years, experiments soon followed the theory and quantum technology was developed. However, it has only been in the last decades that researchers have been able to control quantum matter in a useful and unprecedented way. Such control now enables us to engineer new technologies.

Computing

Communication

Sensing & Imaging

Simulation

## Drugs & Materials Discovery

Process acceleration of finding the right drug by reducing the search in space and time.  
Design of new materials.

## Manufacturing

Ignition schedule optimization of the burners in their furnaces to reduce material wastage & toxic emissions.

## Oil & Gas

Optimization of the allocation of resources to improve utilization & increase profitability.

## Financial Services

Unlock value for banks saving time, reducing costs & increasing upsides in reverse stress testing & portfolio optimization.

## Energy

Optimize processes & combination of energy sources for grid operator to meet its power demand such that it minimizes carbon emissions & costs.

## Healthcare

Increase the efficiency in surgical scheduling, thus reducing waiting times, increasing throughput and improving patient outcomes.

## Supply Chain

Enhance route optimization, support in reallocation of assets, maximise efficiency in packaging and delivery.

## Defense & Space

Protecting classified and sensitive data in government and defense industries; secure communication, precise timing synchronization.

## Automotive

Address various optimization challenges in the automotive industry, such as transportation systems, battery power and vehicle design.

## Examples of Quantum Technologies use cases

Welcome to the second quantum revolution!

Quantum technologies involve different kinds of applications: computing, communication, simulation, imaging, and sensing.

Many governments and industries are turning their attention to quantum technologies as they offer significant advantages over existing technologies.

Quantum technologies have the potential to disrupt classical know-how.

As technologies that exploit the laws of quantum physics, they are capable of addressing some of the biggest challenges humanity faces in the digital era, such as enhancing secure communications, expanding computational power, and significantly improving the accuracy of sensors.

QURECA

# SERVICES IN A NUTSHELL

## T raining



We provide e-learning courses and customized professional training programs for all levels to support the development of the quantum workforce.

## B usiness consulting



We provide professional services to support in the development of strategy, creation of the long-term value, and transformation of your business with our integrated approach to Quantum Technology.

## WE SPEAK QUANTUM

We identify future business needs and help businesses in finding the right talent and building talent pools within the quantum technologies community.



## R ecruitment

We organize networking events with professional expertise and integrating technical resources in order to bridge the gap between the different stakeholders in the quantum technologies ecosystem.



## C ommunity building





## Implementation Level

Bespoke training for the different stages from basic to defining quantum strategy and implementation within your business

# We take you to the next level in your quantum journey!

The only way you can become a quantum master is by following a step by step approach:

- Understand quantum.
- Understand quantum for your business.
- Start with a PoC and specific use cases.
- Define your strategy.
- Build your quantum team.
- Full implementation.



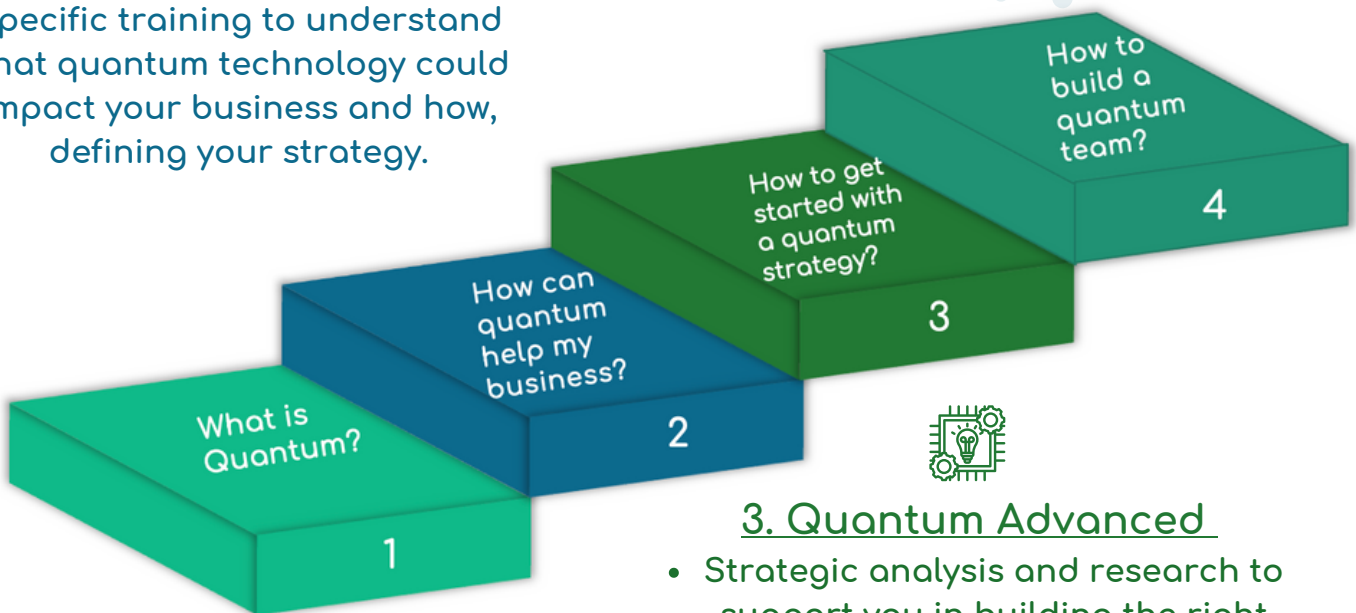
## 4. Quantum Master

Recruitment and training: we help you find, train and build your internal quantum team.  
Full implementation.



## 2. Quantum Proficient

Specific training to understand what quantum technology could impact your business and how, defining your strategy.



## 3. Quantum Advanced

- Strategic analysis and research to support you in building the right quantum roadmap.
- Sourcing the right partners from quantum technology companies.



## 1. Quantum Foundation: Awareness

Introductory courses: Foundational understanding of fundamentals of quantum technologies and quantum computing.



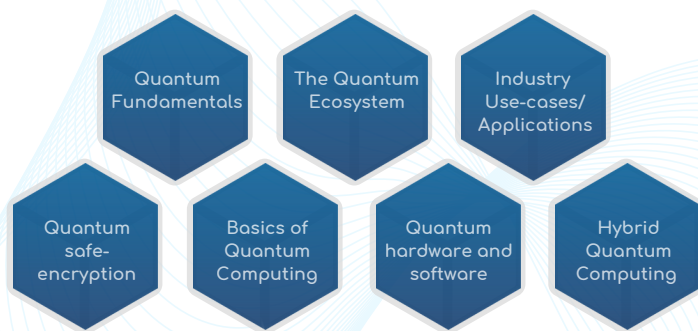
## Profession

Personalized  
courses based on  
the specific  
audience

# Get different professionals quantum ready!

CxOs, business leaders, software developers, engineers, and general staff (e.g. Marketing, HR teams, etc.) need to understand quantum at different levels and from various perspectives. This is how we combine different training modules for different professions.

## For Executives and Strategists

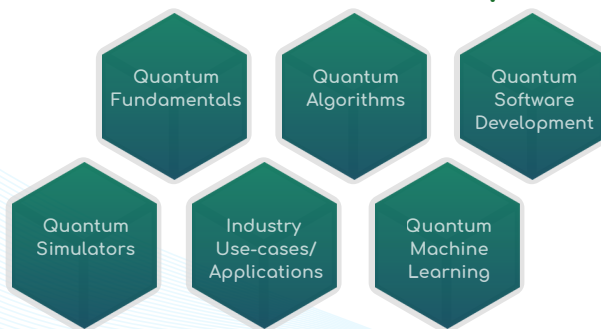


- Basic concepts of quantum technology
- In-depth understanding of the quantum ecosystem
- Industry specific use-cases and applications
- Quantum-safe security
- Basics of quantum computing
- Overview of quantum hardware, software, communications, sensors, or enabling technologies

- Elements of quantum computing
- In-depth understanding of quantum machine learning algorithms
- Hands-on experience on quantum/classical simulators
- Quantum Programming tools and techniques
- Develop industry specific use-cases and applications
- Professional business training and guidance

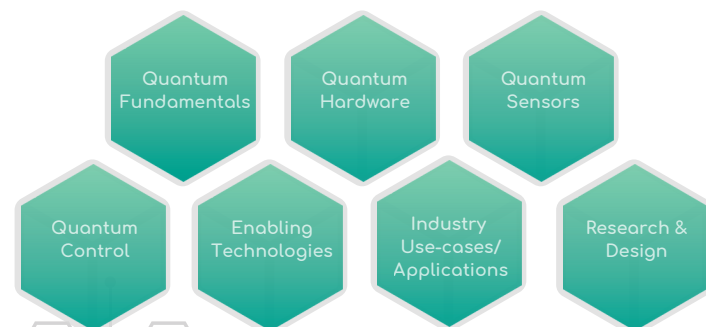


## For Software Developers



- Elements of Quantum Physics
- In-depth understanding of quantum hardwares and enabling technologies
- Expertise in laboratory techniques; Virtual lab tours
- VR-based training in qubits and gates implementation; quantum control
- Develop industry specific use-cases and applications
- Professional business training
- Research strategy

## For Engineers and Technicians





## Industry

Training specifically tailored to the requirements of companies and SMEs from different business sectors

# Build quantum capability for your business!

QURECA collaborates with extensive Quantum technology companies, academia, and pilot users to provide training courses needed by different business sectors: financial services, defense and space, energy, manufacturing, chemical and pharmaceuticals, logistics, etc.

## Examples

### Financial Services

For Managers and non-technical professionals

#### Quantum Training for Business

#### Introduction to Quantum Computing

- What is Quantum?
- The Quantum Ecosystem
- Quantum technologies use-cases in industry
- Quantum safe-encryption
- Get your business quantum ready

- Basics of Quantum Computing
- Quantum Hardware
- Quantum Software
- Hybrid Quantum Computing

For technical professionals

#### Advanced Quantum Computing

#### Advanced Quantum Computing

#### Quantum Computing In Finance

#### Quantum Communication

#### Quantum Machine Learning

#### Quantum Sensing

- Introduction to Quantum Algorithms
- Programming on Quantum Computers
- From Software to Hardware
- Stochastic Modeling
- Quantum Amplitude Amplification Algorithms
- Overview of Quantum Algorithms for Optimization & Simulation
- Use-cases in Finance
- Parameterized circuits
- Quantum "CNN"
- Quantum Circuit Born Machine (QCBM)
- Quantum Boltzmann Machines

- Introduction to Quantum Cryptanalysis
- Programming quantum circuits and implementing quantum network protocols
- Quantum-enhanced ML algorithms
- Quantum Communication basics
- Quantum Key Distribution
- Quantum Random Number Generator
- Quantum Communication Infrastructure
- Use-cases in Defense and Space
- Understanding quantum sensing
- The quantum sensors market
- Potential of quantum sensors for military applications



# Why QURECA



## DEDICATED

QURECA has been dedicated to build the quantum workforce since its establishment in 2019, having one of the only online platforms devoted to offering quantum training courses.



## RESOURCEFUL

QURECA has built a network and established collaborations with global stakeholders in quantum technology, including academia, industries, and governments.



## INNOVATIVE

We are constantly innovating to use different methods to deliver quantum education: from online courses to hands-on tools, a unique methodology with a creative customization.

Building a Global Quantum Workforce



Contact us!

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[www.qureca.com](http://www.qureca.com)