QbitSoft
Quantum as a Service

Exploring the Challenges of Developing a Quantum Algorithm SaaS Platform

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Our mission:

We solve complex optimization's problems using smart Quantum solutions, available immediately.

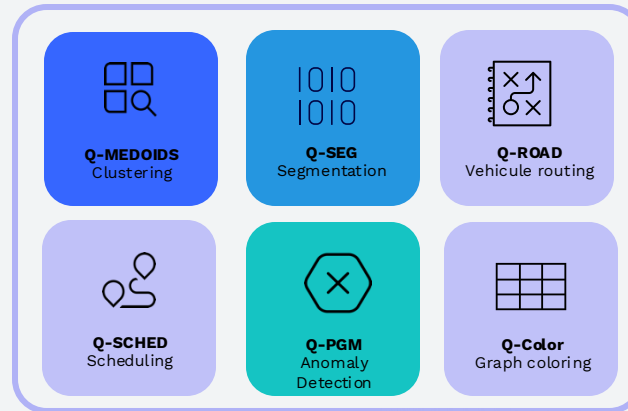*Olivier Pegeon, CEO & Sébastien Le Corre, CTO*

Pain point

Current technologies still have their limits, including Artificial Intelligence.

Complex problem partially solved

AI computational cost explosion

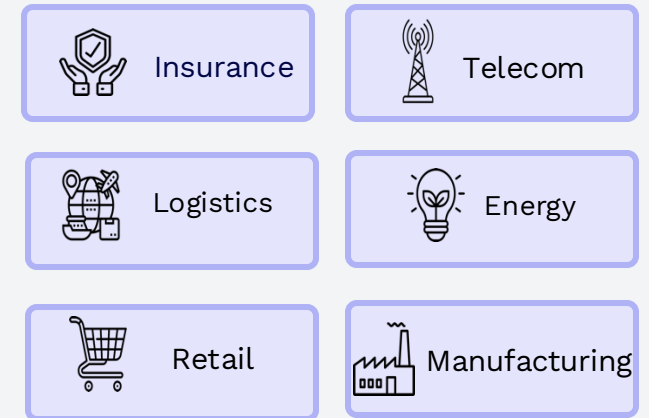AI energy consumption not sustainable

QbitSoft solution

A Quantum software platform dedicated to solve complex optimization problems.

Quantum Modules

Q-MEDOIDS Clustering	**Q-SEG** Segmentation	**Q-ROAD** Vehicle routing
Q-SCHED Scheduling	**Q-PGM** Anomaly Detection	**Q-Color** Graph coloring

D:WAVE
The Quantum Computing Company™

PASQAL

IBM **Quantum**

Uses cases

Insurance	Telecom
Logistics	Energy
Retail	Manufacturing

Features

● Ability to analyze extremely large datasets and generate results precisely interpretable

● **Packaged solution** running on available technology, Analog Quantum annealer

Benefits

● **Faster**, **cheaper**, **more accurate** optimization, **optimized energy** consumption

● **Fast Business ROI**, no Quantum expertise or investment required

Exploring the Challenges of Developing a Quantum Algorithm SaaS Platform

Plan

- **The challenge of market relevance**

- **The challenge of skill**

- **The challenge of industrialization**

The challenge of market relevance

How to sell a technology that will bring value in X years?

- **Various hardware offers**
- **No clear definition of maturity**
- **Nobody speaks the same language**
- **Quantum is scaring for business**
- **Quantum is paying for AI fails (80% fail in 2023)**

Answer:
Don't!!!

Key Elements

- **Stop to try to fit the problem with the solution**
- **Sell business value not technologies**
- **Sell *current* value**
- **Value is not just about money!!**

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Our team   Jan 2024

Olivier Pegeon
CEO-Founder
France

Former VP at IBM, former CEO of a logistics' company, N7 Engineer

Dr. Sébastien Le Corre
CTO
Canada

PhD in Materials Science, former AI Manager BNC, Expert in Data Science & Deep learning

Dr. Vivien Perrin
Chief Science Officer
France

PhD in Theoretical Physics, ENS ULM Major in Quantum Physics

Aka Brou
Quantum optimization expert
France

ENS Paris Saclay Modeling Simulation HPC

Martin Vialle
Quantum & ML Engineer
Part-time
France

EFREI Paris
Data Science & Quantum Technology

Our team

Fall 2024

Hiring in progress:
- **1 or 2 full time**
- **4 interns**

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Dr. Vivien Perrin
Chief Science Officer
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PhD in Theoretical Physics, ENS ULM Major in Quantum Physics

Dr. Fillippo Stellin
Quantum Algorithm expert
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PhD in Theoretical Physics Post Doc ENS Paris Saclay Modeling

Dre. Johanna Klein
Quantum Algorithm expert
France

PhD in Theoretical Chemitry, at La Sorbonne Post Doc at ICGM Quantum computing & algorithms

Aka Brou
Quantum optimization expert
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ENS Paris Saclay Modeling Simulation HPC

Inaki Artaud
Quantum software Engineer
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Epita Paris Software engineering, Major In Quantum computing

Rayen Ben Ismail
Quantum & ML Engineer
Part-time
France

Telecom Paris Quantum Physics, Mathematical & Computational engineering

Martin Vialle
Quantum & ML Engineer
Part-time
France

EFREI Paris Data Science & Quantum Technology

Ghada Ben Slama
Intern
France

Student Engineer - 3rd yrs Polytechnique Paris – Major in Quantum Technology

Martin Pujol
Intern
France

Data & AI Student Engineer - 2nd yrs ESILV- Student Researcher 1st yrs Master Physics, Sorbonne

The challenge of skill

The hunt for a mythical animal : Unicorn Dilemma

- Maths
- Data Science
- Quantum
- Business

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The challenge of skill

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Key Elements

- **Skills hiding where we don't imagine**
- **The revenge of the physicians**
- **Don't look for skills, but for a fit! It's just like casting**
- **"Difficult to see. Always in motion is the future"**
  Yoda, The Empire Strikes Back, Star Wars
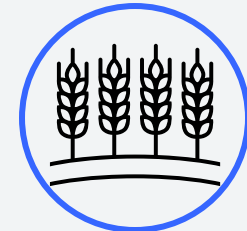
3 big challenges

The challenge of industrialization

	Scalability	Hardware agnostic	Maturity
Strategic Challenges	- Usage prediction - One of kind - Providers - …	- Technologies really different - Problem transposition - Connection to different providers - Provider confidence - Cloud capabilities versus hardware - Geopolitics - …	- Prototype - Maintenance - Warranty - Stability - Emergency processus - …

In conclusion

Exploring the Challenges of Developing a Quantum Algorithm SaaS Platform

Thanks.

https://www.qbit-soft.com/

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