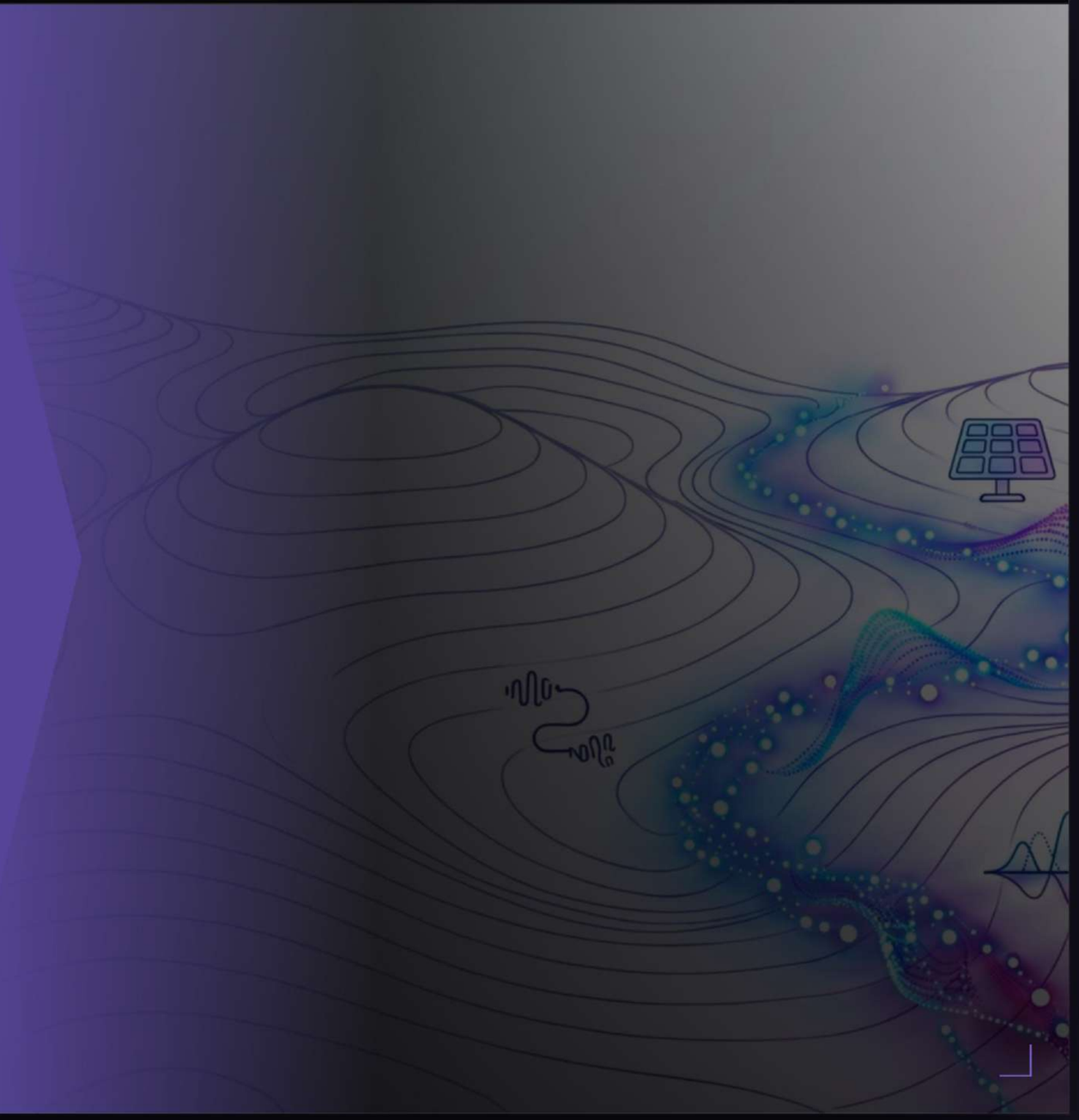
EUROPEAN QUANTUM SOFTWARE

QUSMOS

EUROPEAN DEEP TECH · €750K PRE-SEED ASK

Building Quantum Optimization for Real-World Decision Applications



Problem: Quantum Value Is Real, But Locked Behind Manual Engineering

Quantum computing can unlock substantial business value in selected subproblems of broader optimization challenges, while other parts remain better suited to classical computing.

Identifying, formulating and integrating those quantum-relevant parts is still largely a **manual, use-case-specific process**.

This process requires scarce **domain, optimization and quantum expertise**, making application development **slow, expensive and difficult to replicate even within a sector, let alone across sectors**.

Solution: AI/ML-Powered Application Layer for Scalable Quantum Decision Optimization

STEP 1

Requirement Analysis

AI structures **objectives, decision variables, rules and constraints** from business requirements.

STEP 2

System Modeling & Prediction

ML builds **decision-ready system models** and predicts future states from operational data.

STEP 3

Subproblem Discovery & Decomposition

AI/ML identifies **hard combinatorial structures**, separates **quantum-relevant and classical subproblems**, and **learns reusable patterns across use cases**.

STEP 4

Formulation, Routing & Deployment

AI/ML generates **solver-ready models and code**, learns backend performance, routes and tunes execution, and integrates into customer software.

Product Licenses: Business Value Today, Quantum-Ready by Design

CURRENT LICENSE

QUSMOS Decision Modeling (QDM) License

AI/ML turns **business requirements and operational data into predictive, decision-ready models** for recurring Finance and Energy workflows.

Business value: forecast relevant system states and create **reusable decision models** that feed the optimization layer.

01

CURRENT LICENSE

QUSMOS Decision Optimization (QDO) License

Includes **QDM** plus AI/ML-powered **subproblem discovery, decomposition, formulation, routing and deployment** across classical, quantum-inspired and quantum backends.

Business value: optimize recurring **portfolio-allocation and energy-dispatch decisions** today, while progressively exploiting **quantum backends where they create advantage**.

02

Initial Market: Constrained Resource Allocation

FINANCE & ENERGY



Finance

PORTFOLIO ALLOCATION & REBALANCING

Capital allocation under return, risk, liquidity and mandate constraints.



Energy

VPP & ENERGY RESOURCE ALLOCATION

Generation, storage, flexible demand and market allocation under operational constraints.

TAM

€61B

Finance & Energy Optimization

Total addressable opportunity.

SAM

€24B

Target Market

Serviceable addressable opportunity.

SOM

€370M

Initial Market

Serviceable obtainable opportunity.

Competitive Landscape

CATEGORY	EXAMPLES	CORE STRENGTH	QUSMOS WEDGE
Classical Optimization	Gurobi · CPLEX · FICO Xpress	Mature general-purpose optimization	**Decision modeling + hybrid / quantum-ready execution**
Quantum / Hybrid Platforms	Aqarios · Kipu · Multiverse · Terra Quantum	Broad multi-industry quantum / hybrid tooling	**Verticalized allocation modules**
Finance Platforms	BlackRock Aladdin · MSCI/Axioma · Bloomberg PORT	Deep portfolio and risk workflows	**Hybrid augmentation of hard allocation subproblems**
Energy Platforms	Kraken · AutoGrid · Siemens · GE Vernova	VPP, DER and dispatch workflows	**Hybrid augmentation of hard allocation subproblems**

USP & Compounding Moat

USP: **Verticalized Hybrid Decision Optimization**

Reusable **decision models, constraint structures and optimization logic** for recurring allocation problems in Finance and Energy — executed across the best available classical, quantum-inspired or quantum backend.

Moat: **Reusable Vertical Optimization Intelligence**

Each deployment adds validated **vertical constraints, decomposition patterns and solver-performance evidence**, reducing the engineering required for the next use case.

Validation: Commercial, Technical & Scientific Signals

Commercial & Scientific

PAID WORK, GRANT AND PUBLICATION

- **attriga · First Paid PoC**
  Decision optimization for the debt collection process.
- **EXIST · Grant**
  Winning the EXIST Start-up grant in 2025.
- **Physical Review D & Quantum Benchmark**
  Peer-reviewed publication: Phys. Rev. D 114, 043531. Greenhouse-inspired Control QUBO benchmark: ~10% lower energy consumption than the reinforcement-learning baseline. arXiv:2605.27670.

Technical Demonstrators & Programs

PARTNER SUPPORT AND ECOSYSTEM SELECTION

- **HIC Expert Voucher · WUR**
  Wageningen greenhouse specialist validation support.
- **D-Wave Leap Quantum LaunchPad**
  Won three months of technical and business support.
- **IEEE QCE Toronto & Quantum Effects Stuttgart**
  Selected for both programs.
  QUANTUMBW
- **AiDAQ 2026**
  Selected by Bitkom as one of 8 startups for AiDAQ 2026 in Germany.
  BITKOM

24-Month Commercial Delivery Plan

Q4 2026

First Paid Finance PoC

Validate the first finance allocation use case with a paying customer.

COMMERCIAL VALIDATION

Q4 2027

First Finance License

Convert validated Finance workflows into the first recurring software license.

RECURRING REVENUE

Q2 2028

2–3 Paid Energy PoCs

Validate recurring VPP and energy-resource allocation workflows.

ENERGY VALIDATION

Q4 2028

First Energy MVP

Productize the validated Energy workflows into the first reusable module.

PRODUCTIZATION

Team



Dr. Hamzeh Alavirad
FOUNDER & CEO

Business Development, Physicist, Quantum technical lead · entrepreneur



Prof. Dr. Thomas Bolz
CO-FOUNDER / CFO

Finance and Marketing, Business Development



Maryam Bahrami Zanjani
FOUNDING TEAM

Quantum optimization · mathematical formulation



Mahdi Khorrami
FOUNDING TEAM

AI/ML · system modeling · digital twins

ADVISORY
Board



Prof. Stefan Nickel
KIT
Discrete Optimization · Logistics



Prof. Anne Schwerk
IU / ACCENTURE
AI/ML · Trustworthy AI

$ Funding

PRE-SEED ROUND

€750k

24-MONTH RUNWAY

Founder-led execution focused on commercializing Finance and validating Energy.

Use of Funds

€750K TOTAL



Founding Team	€480k
Sales & Marketing	€100k
Operations & PoC Delivery	€100k
Reserve	€70k

ROUND OBJECTIVE

Convert validation into repeatable product revenue

Commercialize Finance, validate Energy through paid PoCs, and build the reusable vertical optimization assets behind both.

Join Us

A future where every complex decision can be modeled, optimized and continuously improved — powered by the best of classical and quantum computing.

BUILDING QUANTUM OPTIMIZATION FOR REAL-WORLD DECISION APPLICATIONS

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Let's talk! →