# Switzerland Omics

## Business Plan v1.0

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# 1 Business Plan

## 1.1 Project Overview

**Quant** is the missing computational layer that makes genomic data interpretable, actionable, and accountable. Built on rigorous Bayesian inference, Quant transforms raw sequencing data into calibrated, probabilistic conclusions about genetic causality. It replaces subjective, binary interpretation with genome-wide statistical confidence, bringing clarity to clinical diagnostics, AI-driven genomics, and pharmaceutical research.

Developed over six years at UZH, EPFL, and with partners in ETH Zurich, Quant has already been validated in national-scale cohorts and peer-reviewed research. It is now offered as a modular suite: a precomputed database (*Quant DB*), an automated interpretation engine (*Quant scan*), and a full inference pipeline (*Quant calc*).

**Motto:** *Technically sound. Incredibly simple.*

## 1.2 Technology and Innovation

Quant introduces a unified statistical framework for variant interpretation:

- Genome-wide prior probabilities tailored for autosomal dominant, recessive, and X-linked models
- Mode-aware integration of allele frequencies, Hardy-Weinberg equilibrium, variant classification systems (ClinVar, AlphaMissense), and penetrance assumptions
- Outputs include credible intervals and gene-/variant-level posterior probabilities

This replaces heuristic curation workflows with formal, transparent statistical evidence. Quant is the first system to structure both observed and unobserved variation in a rigorous and scalable way.

## 1.3 Unique Selling Proposition

- **Technically rigorous:** built from first principles, informed by statistical genetics
- **Clinically validated:** applied in national studies on rare disease and paediatric sepsis

- **Scalable and interpretable:** designed for both human and machine reading, suitable for AI pipelines
- **Ready to deploy:** delivered as datasets and callable tools with full documentation

### 1.4 Market and Business Model

Quant addresses three intersecting markets:

1. Clinical genomics: improving diagnostic clarity in variant interpretation
2. Pharmaceutical R&D: supporting gene target validation, cohort design, and risk stratification
3. Machine learning in genomics: providing structured priors for predictive models

Revenue model:

- Licensing of the Quant database (precomputed priors)
- Subscription access to Quant scan and Quant calc for diagnostics and biobanks
- Academic and institutional access for research use

### 1.5 Team and Development Stage

- 12 years of PhD-level experience in applied genomics and statistical modelling
- Federal research funding and national-scale clinical collaborations
- 6 years of focused development across UZH, EPFL, and ETH Zurich
- Tools ready for use: *Quant database, Quant scan, Quant calc, PanelAppRex, QV database*
- Validated in 2000 clinical genomes across IEI and sepsis cohorts

## 2 Use of Funds (CHF 100,000)

To move from an R&D project to an operational company, we have prepared a comprehensive and realistic funding plan. The CHF 100,000 grant will support legal setup, infrastructure, marketing, and early product delivery.

| Purpose | Estimate |
|---|---|
| **Legal and Incorporation** | |
| GmbH formation, notary fees, commercial register | CHF 3,000 |
| Articles of association, shareholders' agreement | CHF 2,000 |
| **Banking and Accounting** | |
| PostFinance onboarding, capital deposit, KYC | CHF 2,000 |
| Fiduciary setup, bookkeeping, VAT/insurance registration | CHF 3,000 |
| **Infrastructure** | |
| Secure Swiss-based hosting (Quant data, backups) | CHF 7,000 |
| DevOps infrastructure (CI/CD, repositories, monitoring) | CHF 3,000 |
| Internal hardware (workstations, local storage) | CHF 5,000 |
| **Product and Data** | |
| Final prep and public launch of Quant dataset | CHF 5,000 |
| Documentation, metadata, licensing layer | CHF 2,000 |
| **Marketing and Design** | |
| Brand identity, web design, communications | CHF 5,000 |
| Domain registration, email, legal pages | CHF 2,000 |
| Print collateral (product sheet, intro decks) | CHF 1,000 |
| **Business Development** | |
| Investor materials, pitch prep, CRM setup | CHF 2,500 |
| Early partnership meetings and travel | CHF 2,500 |
| **Core team salary** | |
| 1.0 FTE at CHF 50,000 annualised | CHF 50,000 |
| **Contingency** and Reserve for adjustments, overages | CHF 5,000 |
| Total | **CHF 100,000** |

# 3 Execution Timeline and Readiness Plan

SwitzerlandOmics will progress through three defined phases: technical deployment, operational setup, and early-stage outreach. This structured plan supports our transition from a research initiative to a legally established, customer-ready biotech company.

1. **Phase 1: Initial deployment (Completed)**

    - Quant DB, Quant scan, and Quant calc released for research use
    - Active integration in IEI and paediatric sepsis projects

- Ongoing dataset validation with national and institutional partners

2. **Phase 2: Company foundation and infrastructure (Weeks 1 to 12)**
    - Weeks 1–2: GmbH registration, notary appointment, legal filing
    - Weeks 2–3: PostFinance business account setup, capital deposit, identity verification
    - Weeks 3–4: Deployment of Swiss-based hosting and CI/CD infrastructure
    - Weeks 4–8: Appointment of fiduciary, insurance and social contributions, VAT registration
    - Weeks 8–12: Launch of public Quant dataset with full metadata and licensing
3. **Phase 3: User engagement and early access (Months 3 to 6)**
    - Direct onboarding of commercial genomics partners, diagnostic labs, and clinical partners
    - Product demonstrations, walkthroughs, and technical feedback sessions
    - Iterative refinement of UI, documentation, and onboarding flows
    - Definition of licensing agreements and partnership terms

## 3.1 Vision

Quant will serve as the statistical backbone of trustworthy, interpretable genomics, supporting clinical, pharmaceutical, and research applications. Our goal is to establish a global standard for how genetic evidence is quantified and applied.

# 4 References