

QUANTILLON PROTOCOL

Whitepaper



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1. Executive Summary

Over the past decade, decentralized finance (DeFi) has emerged as one of the most transformative movements in financial history. Yet, despite its global ambitions, DeFi remains overwhelmingly dominated in U.S. dollars, structurally excluding over 300 million European savers and institutions who operate natively in euros. This asymmetry not only exposes European participants to unnecessary currency risk but also fails to capitalize on a vast pool of capital currently parked in underperforming legacy products such as Livret A, life insurance contracts, and regulated savings plans.

Quantillon Protocol seeks to rectify this imbalance through a revolutionary three-token ecosystem: QEURO (euro-pegged stablecoin), stQEURO (yield-bearing auto-compounding wrapper), and QTI (governance token with vote-escrow mechanics). This synergistic architecture creates interconnected value flows where each token reinforces the utility and adoption of the others. QEURO operates through an innovative dual-pool architecture—composed of “Users” who mint and stake QEURO, and “Hedgers” who assume delta-neutral FX positions on the EUR/USD pair—achieving fully decentralized, scalable, and compliant stablecoin issuance. stQEURO automatically compounds yields from QEURO collateral deployment without token inflation, offering Europeans their first native yield-bearing euro instrument with instant liquidity and full DeFi composability. QTI enables sophisticated governance through vote-escrow mechanics, progressive decentralization, and sustainable incentive alignment. At its core lies a set of innovative mechanisms: permissionless hedging, yield redistribution through a variable “Yield Shift,” and modular collateral management through vault variants (e.g., aQEURO, mQEURO, bQEURO, eQEURO).

The fundamental economic insight underpinning Quantillon is an application of the Cantillon Effect: in a financial ecosystem where monetary expansion benefits capital allocators first, the lack of euro-native DeFi instruments deprives European savers of fair access to yield. The current euro financial infrastructure systematically misallocates savings via opaque, fee-laden intermediaries and suboptimal risk-reward profiles. Quantillon reimagines this ecosystem by offering a highly liquid, capital-efficient, and decentralized alternative that can serve both as a euro-denominated savings product and a trust-minimized stablecoin.

From a macroeconomic standpoint, the project responds to a structural divergence between the monetary policies of the Federal Reserve and the European Central Bank. While the Fed's aggressive tightening cycle post-COVID has created a strong dollar carry trade, the ECB has been slower to react, leaving the euro structurally weaker and more volatile. This has made USD-denominated DeFi attractive globally, but introduces a hedging need for eurozone participants—a need Quantillon meets through embedded FX mechanisms.

Regulatorily, Quantillon stands apart through its alignment with MiCA (Markets in Crypto Assets) regulation. By operating as a decentralized protocol under Recital 22, it remains outside the scope of direct regulatory enforcement while retaining pathways for institutional compliance via the Quantillon Foundation. Early engagement with the French ACPR (Autorité de Contrôle Prudentiel et de Résolution) reinforces this legitimacy.

Economically, the protocol generates revenue through mint/redeem fees (0.1%) and by capturing a share of the yield generated from collateral deployed on trusted DeFi platforms such as Aave. A conservative projection at 20M TVL (Total Value Locked) with an average Aave APY of 7% and swap volume 20x TVL yields over 500K EUR/year in protocol revenue. This supports a scalable model with low fixed infrastructure costs and exponential revenue potential.

Compared to existing euro-stablecoins such as EUROCC (Circle), EURS (Stasis), or EURT (Tether), Quantillon represents the only comprehensive three-token euro-DeFi ecosystem, offering:

- Superior capital efficiency via delta-neutral hedging
- Composability across multiple DeFi protocols
- Liquidity by design through Forex and USDC markets
- Yield-bearing QEuro instruments for both retail and institutional users

Finally, the protocol is backed by a seasoned team with decades of experience in software architecture, financial systems, and DeFi engineering. It is structured through three distinct but complementary entities: Quantillon Protocol (on-chain governance), Quantillon Labs (development and liquidity bootstrapping), and Quantillon Foundation (regulatory interface).

In a European savings landscape marked by inertia, fragmentation, and regulatory complexity, Quantillon Protocol presents a credible, innovative, and technically rigorous solution. It is not merely a stablecoin—but a new paradigm for euro-based digital savings and decentralized capital formation.

2. Macro & Regulatory Context

2.1 The Eurozone's Monetary Landscape: A Fragile Equilibrium

The European monetary union represents a unique economic construct: a single currency deployed across divergent fiscal sovereignties. This foundational asymmetry introduces persistent challenges in monetary policy transmission, fiscal coordination, and currency stability. Since its inception, the euro has oscillated between being a symbol of unity and a structural constraint for its member states. Crucially, its monetary architecture lacks a unified treasury, rendering the European Central Bank (ECB) simultaneously omnipotent in setting interest rates and impotent in addressing fiscal imbalances.

Following the COVID-19 pandemic, these weaknesses became more visible. The ECB's asset purchase programs (APP, PEPP) ballooned its balance sheet while interest rates remained negative or near zero for an extended period. In parallel, the U.S. Federal Reserve embarked on a rapid tightening cycle beginning in 2022, leading to a widening rate differential between USD and EUR assets. The resulting capital outflows from euro-denominated instruments depressed the euro's value, culminating in a near-parity scenario with the U.S. dollar in mid-2022.

From a DeFi standpoint, this divergence has structural consequences. With higher U.S. rates and deeper liquidity, DeFi protocols overwhelmingly adopted USD as the reference currency. The euro became underrepresented in decentralized markets, despite being the currency of one of the world's largest economic blocs. This creates a double penalty for European DeFi users: they face foreign exchange risk and lack native euro-yielding instruments.

2.2 The Case for Euro-Native Instruments: Yield, Safety, and Monetary Sovereignty

European savers face a paradox. While they exhibit high precautionary saving rates—estimated at over 12% of household income across the eurozone—most of this capital is deployed in vehicles offering negligible returns: Livret A (France, 1.7%), regulated life insurance contracts, and pension products. These products are structurally constrained by regulation, subject to opaque fee structures, and offer limited capital appreciation.

At the macro level, the lack of euro-native yield instruments exacerbates the Cantillon Effect. Monetary stimulus disproportionately benefits financial intermediaries and capital holders close to the central bank's monetary base. Retail savers, by contrast, receive only the diluted remnants of yield transmission. This creates a structural transfer from savers to asset managers—a pattern Quantillon explicitly seeks to reverse.

By introducing QEURO as a euro-denominated, over-collateralized, and yield-bearing stablecoin, the protocol offers a bridge between monetary sovereignty and decentralized market participation. Users retain euro exposure while accessing yields comparable to U.S. dollar strategies, effectively equalizing global access to DeFi opportunities.

2.3 Regulatory Context: MiCA and the Exemption Framework

The Markets in Crypto Assets (MiCA) regulation, set to be enforced across the EU in 2025, aims to provide legal clarity and consumer protection within crypto markets. However, it introduces stringent requirements for stablecoins deemed “significant” or “asset-referenced.” These include capital reserves, whitepaper publication, supervisory approval, and operational audits.

Recital 22 of MiCA introduces a critical exemption: protocols that are “fully decentralized and not controlled by any legal entity” fall outside the regulation’s purview. Quantillon leverages this exemption by maintaining a trustless architecture: governance via the \$QTI token, open-source smart contracts, and a non-custodial infrastructure. Regulatory discussions with the French ACPR confirm the protocol’s compliance with this decentralized exemption.

Nevertheless, to enable institutional interaction, Quantillon establishes the Quantillon Foundation. This entity holds governance multisigs, interfaces with auditors, and can provide voluntary disclosures or risk assessments. It bridges the gap between decentralized governance and institutional requirements without compromising protocol integrity.

This hybrid approach ensures both compliance and resilience. Quantillon is designed to operate outside MiCA’s scope while remaining interoperable with it. It anticipates future legal harmonization and sets a precedent for legally conscious DeFi architecture within the European Union.

3. Market Landscape & Competitive Analysis

3.1 The Euro Stablecoin Market: Fragmentation and Failure to Launch

Despite numerous attempts to develop euro-denominated stablecoins, none have achieved substantial market penetration or liquidity. EUROCC (Circle), EURS (Stasis), EURT (Tether), and Angle's EURA represent the most recognizable names in this segment, yet they collectively represent less than 1% of the total stablecoin market capitalization as of Q2 2025. Each of these projects suffers from critical structural limitations:

- **EUROCC (Circle):** Despite the credibility of its issuer, EUROCC has limited utility and suffers from low liquidity on decentralized exchanges. It also lacks yield generation mechanisms and is primarily used as a compliance showcase.
- **EURS (Stasis):** EURS is a custodial stablecoin with limited adoption and high on/off-ramp costs. It is centralized and opaque, offering no native integration with DeFi protocols.
- **EURT (Tether):** Lacking regulatory clarity and plagued by transparency concerns, EURT is largely avoided by institutional players.
- **EURA (Angle Protocol):** While technically innovative with a dynamic reserve model, EURA has struggled with capital efficiency and scale, facing depegging events and low yield generation as it is based on euro bonds.

The consistent problem across all these assets is their failure to create meaningful liquidity, yield opportunities, and DeFi integration comparable to USD stablecoins. These failings result not from lack of intent but from poor incentive alignment, limited network effects, and insufficient hedging infrastructure for EUR/USD volatility.

3.2 USD Dominance in DeFi: A Structural Bias

As of mid-2025, over 99% of DeFi stablecoin liquidity is denominated in USD. The dominance of USDC and USDT on platforms like Aave, Compound, Curve, and MakerDAO creates a feedback loop: most lending, borrowing, and LP positions rely on dollar-based units of account. This has network and liquidity advantages but perpetuates the exclusion of non-USD participants.

From a European perspective, engaging in DeFi through USD-based assets introduces three layers of friction:

1. **FX risk** – EUR/USD fluctuations can nullify yield gains or exacerbate losses.

2. **Operational slippage** – On-ramping EUR into USD-based DeFi typically requires high-friction conversions via centralized exchanges.
3. **Regulatory and tax complexity** – Cross-currency gains may introduce additional accounting burdens and reduce fiscal clarity.

Consequently, euro-based users and institutions either remain absent from DeFi altogether or engage through inefficient intermediaries. This creates an untapped market segment, particularly among family offices, corporate treasuries, and fintech platforms seeking native euro liquidity.

3.3 Quantillon's Competitive Edge

Quantillon Protocol is positioned to resolve the failures of previous euro stablecoins by aligning incentives and market architecture through three innovations:

- **Liquidity by Design:** QEURE inherits USDC liquidity on the user side and Forex liquidity via the hedger side. This dual-channel design mitigates the need for external liquidity mining or bribing mechanisms.
- **Delta-Neutral Hedging:** Unlike existing euro stablecoins, Quantillon introduces a permissionless hedging layer that allows collateral providers to neutralize EUR/USD exposure through protocol-native instruments. This supports peg stability and institutional hedging needs.
- **Yield Shift Mechanism:** QEURE is not only a stablecoin but a savings instrument. By redistributing most of the yield from collateral deployment (e.g., Aave) to users and hedgers via a dynamic 'Yield Shift', the protocol incentivizes long-term participation and peg maintenance.

These components create a uniquely sustainable design that addresses both supply (hedgers) and demand (euro users) sides of the market. By leveraging DeFi primitives and real-world financial theory—including FX swap economics and interest rate parity—Quantillon delivers a euro stablecoin that is liquid, scalable, and yield-generating.

In short, Quantillon does not merely replicate a euro version of USDC or DAI—it reengineers stablecoin economics from the ground up to serve European needs in a structurally USD-centric DeFi landscape.

4. Quantillon Protocol: Design & Architecture

4.1 QEURO Stablecoin Design: A Euro-Pegged, Overcollateralized Instrument

At the core of the Quantillon Protocol lies the QEURO—a euro-pegged stablecoin minted against overcollateralized reserves in USD stablecoins, initially USDC. The choice of overcollateralization offers a high-integrity approach to maintaining the peg and minimizing counterparty risk.

QEURO is minted permissionlessly at the oracle price, allowing any user to deposit accepted ERC20 assets which are then routed through the protocol’s smart contracts to be swapped into USDC and locked as collateral. The protocol ensures a minimum 101% collateralization ratio, with liquidation mechanisms triggered automatically via Chainlink or equivalent high-reliability oracles if the threshold is breached. Redeeming QEURO follows the same logic in reverse, enabling frictionless exit at minimal cost.

The result is a stablecoin that provides euro exposure with USD-based liquidity depth, solving a crucial mismatch in DeFi’s monetary architecture.

4.2 The Dual-Pool Model: Users and Hedgers

Quantillon introduces a dual-pool mechanism involving two symbiotic actor groups: **Users** and **Hedgers**.

- **Users** are DeFi participants who mint QEURO to access euro-denominated liquidity or stake QEURO in order to earn yield. They deposit volatile or stable crypto assets, which are swapped into USDC and locked as protocol collateral. These users maintain exposure to the euro while benefiting from DeFi-native financial products.
- **Hedgers** are actors who take the opposite position—providing USDC upfront to hedge against euro exposure. They effectively short the EUR/USD pair by engaging in a leveraged, unidirectional perpetual future. In return, they earn compensation consisting of (i) the EUR/USD interest rate differential (typically ~1% annually) and (ii) a variable “Yield Shift” bonus extracted from the collateral’s DeFi yield.

The protocol enforces a liquidation mechanism for hedgers as well: if their margin ratio drops below 1%, they are liquidated and penalized. This mechanism ensures disciplined FX exposure management and peg resilience.

4.3 Liquidity Architecture: Inheriting Depth from USDC and Forex

Unlike euro-stablecoin predecessors that relied heavily on centralized market makers or illiquid LP incentives, Quantillon’s model ensures “liquidity by design.”

- **On the user side**, all incoming deposits are swapped into USDC—the most liquid dollar-based stablecoin—thus ensuring instant deployability and deep routing.
- **On the hedger side**, liquidity stems from traditional Forex markets, where EU-R/USD is one of the most traded currency pairs globally. This design enables the protocol to scale capital efficiency without relying on shallow DEX pools or bribe-driven gauges.

As a result, QEUREO enjoys both upstream (USDC) and downstream (Forex) liquidity, reinforcing slippage-free mint/redeem operations and improved user experience.

4.4 Native Composability and Embedded DEX

Quantillon is designed as a holistically integrated protocol stack. Rather than relying on external DEXs like Curve or Balancer, the protocol features its own embedded exchange mechanism. This ensures control over routing fees, eliminates bribing systems, and increases revenue retention.

Smart contract logic for mint/redeem, hedging, staking, liquidation, and governance is unified under a modular Solidity-based architecture audited and battle-tested through external bug bounty programs. Governance functions, including Yield Shift calibration and vault whitelisting, are performed by holders of the \$QTI token.

4.5 Vault Variants: Modular Architecture for Risk Segmentation

Quantillon's modular design enables multiple vault variants, each corresponding to specific collateral backends and risk profiles. This architecture serves diverse user needs while maintaining unified euro peg mechanics across all variants.

Vault Portfolio Overview

Vault Type	Collateral Backend	Risk Profile	Target	
			APY	Target Users
aQEUREO	Aave USDC lending	● Low	4-8%	Retail investors
mQEUREO	MakerDAO PSM/DSR	● Very Low	3-6%	Conservative users
bQEUREO	Tokenized T-Bills & RWAs	● Low	5-7%	Institutions
eQEUREO	Ethena & advanced strategies	● Medium	6-12%	Sophisticated DeFi

Detailed Vault Specifications

aQEUREO (Aave Integration - Default Configuration)

- Collateral Deployment: Aave USDC lending

- Yield Mechanism: Direct participation in Aave lending markets with dynamic APY
- Risk Factors: Aave protocol risk, USDC depeg risk, smart contract risk
- Target Users: Retail DeFi users seeking stable euro yield with proven infrastructure

mQEURO (MakerDAO Integration)

- Collateral Deployment: MakerDAO Peg Stability Module (PSM) and Dai Savings Rate (DSR)
- Yield Mechanism: Conservative yield through DAI ecosystem stability mechanisms
- Risk Factors: MakerDAO governance risk, DAI stability risk
- Target Users: Ultra-conservative users prioritizing capital preservation

bQEURO (Real World Assets Focus)

- Collateral Deployment: Tokenized U.S. Treasury Bills, European Bunds, Corporate Bonds
- Yield Mechanism: Traditional fixed-income yields through compliant tokenization platforms
- Risk Factors: Custody risk, regulatory risk, lower liquidity
- Target Users: Institutional investors requiring regulatory clarity and traditional yield sources
- Minimum Threshold: €100,000 institutional access requirement

eQEURO (Advanced DeFi Strategies)

- Collateral Deployment: Ethena USDe, Lido stETH, Rocketpool rETH, recursive strategies
- Yield Mechanism: Leveraged yield farming up to 3x through sophisticated DeFi composability
- Risk Factors: Higher smart contract risk, leverage risk, strategy complexity
- Target Users: Sophisticated DeFi participants seeking maximum yield optimization

- **Advanced Features:** Automated rebalancing, yield optimization bots, governance-adjustable parameters

Cross-Vault Mechanics

Unified Peg Maintenance: All vault variants maintain the same EUR target price through shared oracle infrastructure and arbitrage mechanisms.

Risk Isolation: Individual vault failures are contained and do not affect other variants through modular smart contract architecture.

Arbitrage Opportunities: Price differences between variants create natural trading incentives that support overall ecosystem liquidity.

Governance Coordination: QTI holders vote on vault-specific parameters while maintaining ecosystem-wide coherence.

4.6 stQEUREO : Yield-Bearing Euro Infrastructure

Beyond serving as a euro-pegged stablecoin, Quantillon introduces stQEUREO—a yield-bearing wrapper that automatically compounds returns from QEUREO collateral deployment while maintaining full liquidity and composability. This innovation bridges the gap between passive euro exposure and active DeFi yield generation.

Auto-Compounding Mechanism

Unlike traditional staking systems requiring manual reward claims, stQEUREO automatically increases in intrinsic value over time. The quantity of stQEUREO tokens in user wallets remains constant, but each token becomes worth more QEUREO as yields accumulate:

Value Appreciation Formula:

$\text{stQEUREO Exchange Rate} = 1 + (\text{Cumulative Yield} \div \text{Total Days} \times \text{Days Held})$

Example Timeline:

Day 0: Stake 1,000 QEUREO → Receive 1,000 stQEUREO (Rate: 1.000)

Day 365: Still hold 1,000 stQEUREO (Rate: 1.053 with 5.3% APY)

Unstaking: 1,000 stQEUREO → 1,053 QEUREO

Yield Source & Distribution

stQEUREO's yield originates from the underlying QEUREO collateral deployed across battle-tested DeFi protocols:

Yield Distribution: Protocol Fees: 10% (Treasury + Development)

Hedger Compensation: Variable 1-3% (EUR/USD spread + Yield Shift)

stQEUREO Holders: Remaining 87-89% (Auto-compounded)

Technical Advantages

Instant Liquidity: stQEUREO maintains full liquidity without lock periods, enabling immediate unstaking at current exchange rates.

DeFi Composability: Users can deploy stQEURO in other protocols (lending, LP positions, collateral) while continuing to earn compounding yield.

Tax Efficiency: No rebase events or reward distributions that could trigger taxable income in many jurisdictions.

MEV Protection: Built-in front-running resistance for staking operations through oracle-based pricing and transaction batching.

5. Tokenomics & Governance

5.1 The \$QTI Token: Governance, Distribution, and Incentives

Quantillon operates through a sophisticated three-token system designed to create sustainable value flows and optimal capital efficiency across the euro-DeFi ecosystem.

The \$QTI Token: Governance & Value Accrual

The \$QTI token serves as the governance backbone of the Quantillon Protocol, featuring advanced vote-escrow (veQTI) mechanics and progressive decentralization. With a fixed total supply of 100,000,000 QTI tokens, the distribution is strategically structured as follows:

Strategic Token Allocation:

Category	Allocation	Amount	Lock Period	Vesting Schedule
Community & Ecosystem	50%	50,000,000 QTI	Variable	48-month algorithmic curve
Team & Founders	15%	15,000,000 QTI	12 months	36 months linear
Investors (SAFT/BSA)	13%	13,000,000 QTI	6-18 months	24-36 months tiered
DAO Treasury	10%	10,000,000 QTI	Immediate	Governance-controlled
Strategic Partners	5%	5,000,000 QTI	6 months	18 months performance-based
Advisors	2%	2,000,000 QTI	6 months	18 months milestone-driven
Liquidity Provision	5%	5,000,000 QTI	Immediate	Market-responsive release

Vote-Escrow (veQTI) System

QTI holders can lock their tokens for periods ranging from 1 week to 4 years, receiving voting power multipliers up to 4x base weight. This system ensures long-term alignment and prevents governance attacks while enabling meaningful decentralized decision-making.

Governance operates through three layers:

- **Constitutional Changes:** 85% threshold, 14-day timelock (protocol parameters, emergency procedures)

- **Operational Decisions:** 60% threshold, 3-day timelock (fee structures, incentive programs)
- **Community Proposals:** Simple majority, 24-hour timelock (grants, marketing initiatives)

stQEUREO: Yield-Bearing Euro Infrastructure

stQEUREO represents the protocol's yield-bearing token, automatically compounding returns from QEUREO collateral deployment. Unlike traditional staking mechanisms, stQEUREO maintains constant token quantity in user wallets while increasing intrinsic value over time through the formula:

$$\text{stQEUREO Value} = 1 \text{ stQEUREO} = (1 + \text{Cumulative Yield Rate}) \text{ QEUREO}$$

Key benefits include:

- **Automatic Compounding:** No manual reinvestment required
- **Instant Liquidity:** No lock periods or withdrawal delays
- **DeFi Composability:** Full integration across protocols while earning yield
- **Tax Efficiency:** No rebase events creating potential taxable income

5.2 Yield Mechanics and the "Yield Shift"

Quantillon introduces an innovative mechanism called the **Yield Shift**, which serves as the protocol's internal rebalancing engine. It functions by redistributing yield between Users and Hedgers based on market conditions, supply/demand imbalances, and peg deviation pressures.

Collateral deployed in DeFi protocols (e.g., Aave) generates a baseline APY. From this yield:

- A protocol fee of 10% is applied.
- Hedgers receive a fixed compensation based on the EUR/USD interest rate spread (typically ~1%).
- The residual is then distributed variably:
 - **Positive Yield Shift:** More yield incentivizes Hedgers when their supply is insufficient.

- **Negative Yield Shift:** More yield flows to Users when hedgers participation is high.

This creates a dynamic equilibrium. The Yield Shift is not discretionary; it is governed by predefined formulas based on real-time FX rate and User/Hedger supply and demand. Governance can only modify its parameters within capped ranges, preserving systemic integrity.

5.3 Incentive Alignment and Protocol Sustainability

\$QTI also serves as an incentive layer through **liquidity mining programs**, staking multipliers, and governance rewards. These incentives are time-bound and designed to bootstrap early adoption without creating long-term inflationary pressures.

In the longer term, the protocol aims to activate the **Fee Switch**, diverting a portion of transaction and yield fees to a treasury governed by \$QTI holders. This treasury may be used to:

- Fund audits and research
- Provide insurance buffers
- Invest in ecosystem integrations or cross-chain bridges

Sustainability is further ensured by the protocol's lean cost structure. With an estimated burn rate of €400,000 per year and projected revenues of €500,000 at 20M TVL, Quantillon achieves operating surplus early on. This surplus can be reinvested in growth or redistributed through token buybacks or veQTI-style locking mechanisms.

Governance mechanisms are engineered to be progressive. In early phases, protocol changes may require multi-signature validation from the Quantillon Foundation to ensure operational security. Over time, power will transition toward full DAO control, contingent on metrics like TVL, QTI token dispersion, and governance participation rates.

Quantillon's tokenomics combine strong economic incentives with a governance architecture inspired by proven DeFi protocols such as Curve, Aave, and MakerDAO, while adapting them to the specific needs of eurozone compliance and FX stability.

6. Business Model & Economic Sustainability

Quantillon Protocol is structured around a dual-source revenue model that prioritizes scalability, capital efficiency, and long-term sustainability. In contrast to speculative or transaction-based DeFi projects, Quantillon generates recurring income from two distinct but complementary streams:

- **Protocol fees:** A fixed 0.1% fee is levied on all mint and redeem operations involving QEURO.
- **Collateral yield:** The protocol captures 10% of the yield generated by deploying collateral (primarily USDC) in battle-tested DeFi platforms such as Aave.

This model is transparent, predictable, and resilient across market cycles. It aligns closely with the utility-driven design of the protocol, ensuring that revenues scale proportionally with user activity and TVL (Total Value Locked).

6.1 Revenue Forecasts and Operating Leverage

Quantillon's three-token architecture generates multiple sustainable revenue streams that scale proportionally with ecosystem growth and user adoption.

Primary Revenue Sources

1. QEURO Operations (Core Stablecoin Activity)

- Mint/redeem fees: 0.1% on all QEURO operations
- Yield management: 10% of returns from collateral deployment (primarily Aave USDC)
- Liquidation penalties: 2-5% of liquidated hedger and user positions

2. stQEURO Yield Infrastructure

- Staking operation fees: 0.05% on stake/unstake transactions
- Enhanced trading volume through improved user retention
- Premium yield optimization services for institutional users

3. Cross-Protocol Integration

- Cross-chain bridge fees: 0.1-0.3% of transfers (Ethereum, Base, Arbitrum, Optimism)
- Premium institutional services: advanced analytics, custom integrations

- Partnership revenue sharing: integrations with CeDeFi platforms

Conservative Growth Scenario (€50M TVL by Year 1)

Revenue Breakdown:

Annual Revenue Calculation:

- Swap Volume: €500M (10x TVL turnover)
- Swap Fees: $€500M \times 0.1\% = €500K$
- Yield Management: $€50M \times 7\% \times 10\% = €350K$
- stQEuro Operations: $€20M \text{ staked} \times 2\% \text{ annual turnover} \times 0.05\% = €20K$
- Cross-Chain Fees: $€100M \text{ volume} \times 0.2\% \text{ average} = €200K$
- Liquidation Penalties: $€2M \text{ volume} \times 3\% \text{ average} = €60K$
- Total Annual Revenue: €1,130K
- Operating Costs: €600K (development, infrastructure, legal, audits)
- Net Operating Profit: €530K (47% margin)

Optimistic Growth Scenario (€500M TVL by Year 2)

Revenue Breakdown:

Annual Revenue Calculation:

- Swap Volume: €5B (10x TVL turnover)
- Swap Fees: $€5B \times 0.1\% = €5M$
- Yield Management: $€500M \times 7\% \times 10\% = €3.5M$
- stQEuro Operations: $€300M \text{ staked} \times 3\% \text{ annual turnover} \times 0.05\% = €450K$
- Cross-Chain Fees: $€1.5B \text{ volume} \times 0.2\% \text{ average} = €3M$
- Liquidation Penalties: $€50M \text{ volume} \times 3\% \text{ average} = €1.5M$
- Total Annual Revenue: €13.45M
- Operating Costs: €2.5M (scaled operations)
- Net Operating Profit: €10.95M (81% margin)

Key Performance Indicators

Growth Metrics:

- TVL Growth: Target €100M by Month 12, €1B by Month 36
- Staking Adoption: 50%+ of QEURO supply in stQEURO by Year 2
- Daily Volume: 2-5% of TVL in trading activity
- Cross-Chain Distribution: 30% mainnet, 70% L2 by Year 2

Sustainability Metrics:

- Operating Margin: Maintain >40% across market conditions
- Revenue Diversification: No single source >60% of total revenue
- User Retention: >80% of stQEURO holders active after 6 months
- Protocol Utilization: Average >80% of collateral deployed in yield strategies

6.2 Capital Efficiency Through Design

Quantillon's model avoids several common inefficiencies in DeFi protocols:

- No dependence on liquidity mining for peg stability
- No bribing mechanisms for gauge voting or yield direction
- Slippage-free mint/redeem operations eliminate arbitrage cost

The dual-pool architecture with dynamic Yield Shift ensures internal market balance, reducing the need for external incentives or unsustainable emissions. This design is particularly adapted to the eurozone context, where investors tend to prioritize capital preservation and yield visibility.

6.3 Institutional Fit and Monetization Pathways

Quantillon's infrastructure allows for multiple monetization pathways:

- **Institutional access:** Hedge funds, wealth managers, and corporate treasuries can use QEURO for euro-native exposure in DeFi with reduced compliance overhead.
- **CeDeFi integration:** Through partnerships with platforms like Quantfury or Cadmos, QEURO can serve as the euro liquidity backbone in compliant fintech stacks.
- **On/off-ramp monetization:** Future integrations with fiat gateways and custody providers may allow for spread-based revenue models.

The protocol also supports cross-chain deployment, allowing it to tap into ecosystems like Arbitrum, Base, or LayerZero for added liquidity depth and composability. Treasury diversification and fixed-income DeFi strategies can further enhance yield capture without increasing risk.

In sum, Quantillon is engineered as a low-cost, high-leverage protocol. It combines the efficiency of smart contract automation with the robustness of euro-denominated asset management, resulting in a rare alignment of financial viability and technical rigor in the DeFi space.

7. Risks & Mitigation Strategies

7.1 Currency Risk: EUR/USD Volatility

Quantillon's core innovation—serving euro users via USD-collateralized instruments—requires active hedging of EUR/USD exposure. Volatility in this currency pair, especially under divergent monetary policies between the ECB and the Fed, presents a persistent risk to peg maintenance.

Mitigation: The protocol's architecture is explicitly delta-neutral. Hedgers assume long EUR/USD positions in exchange for predictable compensation, aligning their incentives with peg stability. Liquidation thresholds and real-time FX oracles (e.g., Chainlink) enforce discipline. Additionally, the Yield Shift mechanism acts as a buffer: as FX volatility rises, incentives for hedgers increase dynamically.

7.2 Liquidity Risk: Capital Flight and Redemption Pressure

Periods of market stress may trigger mass redemptions, potentially challenging the protocol's ability to unwind positions or liquidate collateral efficiently.

Mitigation: Quantillon inherits the deep liquidity of USDC on the user side and leverages the Forex market on the hedger side. Redemption operations are slippage-free, and collateral is deployed on liquid DeFi markets (e.g., Aave) with short withdrawal queues. Furthermore, vault variants allow diversification of exposure (e.g., T-Bills, Maker vaults), improving redemption resiliency.

7.3 Smart Contract and Oracle Risk

The protocol relies on smart contracts for collateral management, minting, and liquidation. Any vulnerability—whether in protocol contracts or oracle feeds—can undermine systemic integrity.

Mitigation: All core smart contracts undergo rigorous auditing and continuous bug bounty programs. The protocol adopts a modular architecture, limiting systemic blast radius in case of an exploit. Oracles are sourced from multiple providers and include circuit breakers for anomalous readings.

7.4 Governance Risk and Protocol Capture

As with all DAO-based systems, Quantillon faces the risk of governance capture or low voter participation, especially in early phases.

Mitigation: Governance powers are progressively decentralized. Initially, the Quantillon Foundation holds veto rights over critical upgrades to ensure stability. Over time, governance evolves toward \$QTI token holders. A quorum-based system and time-locked proposals provide transparency and delay in decision-making.

7.5 Regulatory Risk: Legal Classification and MiCA

Although Quantillon benefits from the Recital 22 exemption under MiCA, regulatory interpretation can evolve, especially as EU authorities refine crypto oversight.

Mitigation: The protocol operates under a hybrid compliance architecture. Its decentralized nature is verifiable and publicly auditable. Meanwhile, the Quantillon Foundation interfaces with regulators and external auditors, maintaining legal dialogue (notably with the French ACPR). The Foundation can issue voluntary disclosures or risk assessments without compromising decentralization.

7.6 DeFi Contagion Risk

Quantillon interacts with other DeFi platforms, notably Aave. In the event of failure or depegging on these platforms, collateral could be impaired.

Mitigation: Collateral is diversified across whitelisted protocols. Vault variants can be adjusted via governance to reduce exposure. The protocol monitors real-time risk parameters, including liquidity ratios and asset volatility. In extreme scenarios, emergency pause mechanisms are available.

Quantillon is built on the principle of resilient decentralization. Rather than avoiding risk, it manages it explicitly through incentive design, robust engineering, and layered governance. This makes it uniquely equipped to operate in a volatile, fragmented, and evolving DeFi environment.

7.7 stQEUREO-Specific Risk Factors

The introduction of yield-bearing euro infrastructure creates additional risk vectors requiring specialized mitigation strategies.

Auto-Compounding Mechanism Risk

Risk: Smart contract vulnerabilities in yield calculation or distribution logic could result in incorrect stQEUREO valuations or user fund loss.

Mitigation:

- Specialized audits focused exclusively on auto-compounding token mechanics
- Formal mathematical verification of yield calculation algorithms
- Real-time monitoring with automated circuit breakers for anomalous calculations
- Emergency pause functionality with governance-controlled restart procedures
- Segregated insurance fund (3% of yield) specifically for compounding mechanism failures

Yield Volatility and User Expectation Risk

Risk: Rapid changes in underlying Aave yields could create user dissatisfaction or mass unstaking events if stQEUREO returns fall below expectations.

Mitigation:

- 7-day moving average smoothing for APY display to reduce short-term volatility perception
- 5% protocol yield reserve buffer to maintain consistent distributions during temporary yield drops
- Maximum 15% APY ceiling to prevent unsustainable user expectations during yield spikes
- Transparent communication about yield sources and market dependency

Cross-Protocol Composability Risk

Risk: stQEUREO's use as collateral in other DeFi protocols could create cascading liquidation events if stQEUREO value appreciation calculations fail or if oracle feeds become unreliable.

Mitigation:

- Conservative oracle update mechanisms with multiple data sources and heartbeat monitoring
- Partnership agreements with major DeFi protocols for standardized stQEUREO valuation methods
- Graduated rollout of stQEUREO integrations with smaller protocols before major platform adoption
- Emergency communication channels for rapid coordination during cross-protocol incidents

8. Roadmap & Adoption Strategy

8.1 Technical and Product Development Timeline

Quantillon's roadmap is structured in three phases, balancing rapid deployment with robust institutional integration. Each phase incorporates clear milestones for TVL, user adoption, regulatory preparation, and technological expansion.

Phase 1 — Three-Token Launch & Bootstrap (Q4 2025)

- Mainnet deployment of complete three-token ecosystem: QEURO, stQEURO, and QTI
- aQEURO vault launch with Aave USDC integration as primary collateral backend
- veQTI system activation with vote-escrow mechanics and governance layer implementation
- Initial hedger onboarding and liquidity provisioning via Quantillon Labs
- stQEURO auto-compounding mechanism launch with real-time yield calculation
- First comprehensive audit reports published covering all three tokens
- Bug bounty programs initiated with specialized focus on yield-bearing mechanics

Target Metrics:

- TVL: €10M total (€6M QEURO, €4M stQEURO)
- Users: 10,000 total (7,000 QEURO holders, 3,000 stQEURO stakers)
- Staking Ratio: 40% of QEURO supply staked as stQEURO
- QTI Market Cap: \$5M with 15% governance participation
- Swap Volume: €100M with 0.5% average daily trading velocity

Phase 2 — Multi-Vault Expansion & Institutional Integration (Q1-Q2 2026)

- Launch of mQEURO (MakerDAO) and bQEURO (Real World Assets) vault variants
- Cross-chain deployment of complete three-token system on Base and Arbitrum
- Strategic partnerships with CeDeFi brokers and institutional fintech platforms
- Fiat on/off-ramp integrations with regulated custody partners for institutional access

- Advanced stQEUREO yield optimization strategies and institutional reporting features
- Mobile application launch with neobank-style interface for retail adoption

Target Metrics:

- TVL: €100M total (€60M QEUREO, €40M stQEUREO across 3 vaults)
- Users: 50,000 total with 60% cross-chain adoption
- Staking Ratio: 60% of QEUREO supply in stQEUREO variants
- QTI Market Cap: \$25M with 25% governance participation
- Institutional AUM: €20M in bQEUREO institutional vault
- Cross-Chain Volume: €1B with 30% L2 distribution

Phase 3 — Advanced DeFi Integration & Full Decentralization (H2 2026-2027)

- eQEUREO vault launch with Ethena and advanced yield strategies (up to 3x leverage)
- Complete cross-chain ecosystem deployment (zkSync, Polygon, additional L2s)
- DAO-controlled treasury activation with full Fee Switch implementation
- Advanced institutional products: custom yield strategies, treasury management APIs
- Full protocol decentralization with governance parameter control transferred to QTI holders
- Integration with 50+ DeFi protocols supporting stQEUREO as native collateral
- Traditional finance bridges: CBDC compatibility layer and institutional custody integration

Target Metrics:

- TVL: €1B total across all vaults and chains
- Users: 200,000+ with institutional treasury adoption
- Staking Ratio: 70% of QEUREO supply optimized across vault variants
- QTI Market Cap: \$100M+ with 45% governance participation
- Protocol Revenue: €10M+ annually with 80% margin sustainability
- Cross-Protocol Integration: stQEUREO accepted in 50+ major DeFi platforms

8.2 Strategic KPIs and Milestones

Quantillon tracks performance via a set of quantitative and qualitative indicators aligned with its mission:

- **TVL Growth:** From €10M (post-launch) to €1B+ in 24 months.
- **Swap Volume:** 20× TVL target maintained via market integrations and partner flows.
- **User Base:** Growth from early DeFi adopters to mainstream EU retail and B2B.
- **Protocol Revenue:** >€500K/year sustainable at €20M TVL.
- **Vault Diversity:** Four vaults live with differentiated collateral and risk models.

Progress is governed by data transparency, with quarterly performance reports published on-chain and by the Quantillon Foundation.

8.3 Ecosystem Development and Network Effects

Adoption is not only technical but also social and economic. Quantillon's adoption strategy includes:

- **Community growth:** Incentivized programs for ambassadors, contributors, and early adopters.
- **B2B pipelines:** Outreach to wealth managers, DAOs, family offices, and treasuries.
- **Ecosystem grants:** For developers building QEURO-integrated products (e.g., wallets, cross-chain bridges, tax tools).
- **Educational content:** Financial literacy campaigns focused on DeFi yields, euro-denominated finance, and MiCA.

Quantillon is not merely launching a product—it is fostering a movement. The roadmap emphasizes responsible growth, composability, and transparency to establish QEURO as the euro-native financial layer of Web3.

9. Team & Operational Structure

Quantillon is driven by a multidisciplinary team combining decades of experience in software engineering, decentralized finance, macroeconomics, and digital asset management. The organizational design reflects the layered responsibilities of protocol development, governance stewardship, and institutional interfacing.

9.1 Founding Team

Toni Cantarutti – CEO Toni brings over 15 years of experience as a software architect specializing in core C++ and system-level development. His career spans R&D roles at Intuisphere, Orange Labs, and Thermo Fisher Scientific. He is the founder of Benarius, a CeFi euro-yield platform, which laid the groundwork for Quantillon. Toni leads protocol design, team coordination, and strategic vision.

Nicolas Bellengé – CTO With 20 years of experience in software engineering and project leadership, Nicolas is an expert in Web2/Web3 stack integration. He is the CEO of NBTC SAS, a company focused on the acquisition, resale, and management of crypto assets. At Quantillon, Nicolas oversees the smart contract infrastructure, full-stack development, and cybersecurity framework.

9.2 Core Development & Product Team

Quantillon's core team includes two full-stack blockchain developers specializing in Solidity, DeFi integrations, and protocol-level testing. The product division includes a UX/UI designer and a communications strategist responsible for user onboarding, documentation, and market engagement.

This lean structure ensures rapid iteration while maintaining rigorous technical standards. Team roles are documented on-chain for transparency and incentivized through long-term vesting in \$QTI tokens.

9.3 Organizational Entities

To manage legal exposure, regulatory dialogue, and decentralized operations, Quantillon is structured into three synergistic entities:

- **Quantillon Protocol** (on-chain): Fully decentralized smart contracts governed by \$QTI holders. Responsible for minting, vault logic, hedging infrastructure, and governance proposals.
- **Quantillon Labs** (development): A legal entity responsible for developing and launching the protocol. Initially acts as a liquidity provider and hedger, remunerated by the protocol. Labs ensures code security, DevOps, and integrations.

- **Quantillon Foundation** (compliance): A non-profit Swiss-style foundation that interfaces with regulators, auditors, and legal stakeholders. It safeguards multisig access, publishes disclosures, and facilitates DAO transitions.

This tripartite model preserves decentralization while ensuring institutional credibility and legal defensibility—especially relevant under MiCA’s evolving guidance.

Quantillon’s human capital strategy focuses on high-leverage contributors, external auditors, and community-aligned governance. The team is well-positioned to evolve into a DAO-governed protocol with scalable institutional interfaces.

10. Appendices Techniques

10.1 Smart Contract Architecture

Quantillon's codebase is structured around a modular Solidity framework, designed for upgradability, auditability, and composability. Core contracts include:

- **MintManager:** Handles the conversion of ERC20 assets to QEuro at oracle rates, manages collateral routing.
- **VaultEngine:** Oversees collateral deposits, DeFi deployment, liquidation triggers, and hedger margins.
- **YieldController:** Applies yield share logic, calculates Yield Shift, and manages protocol fees.
- **GovernanceModule:** Administers voting logic, fee toggles, and whitelisting of new vaults or oracle feeds.

All contracts are non-custodial, with critical functions gated through governance time-locks. Emergency pause mechanisms are included.

10.2 Oracle and Pricing Infrastructure

The protocol relies on Chainlink as its primary data oracle, with fallback nodes under Quantillon Labs. Oracle feeds are used for:

- EUR/USD spot rates
- USDC price stability checks
- On-chain collateral valuation (Aave, Maker)

A three-tier logic is applied:

1. **Medianized price feeds** across multiple sources
2. **Heartbeat and deviation checks** to detect anomalies
3. **Fallback escalation** using governance-mandated oracles

This ensures robust resistance to manipulation or downtime.

10.3 Yield Shift Formula

The dynamic yield redistribution follows a parametric curve governed by the ratio of hedger supply to QEURO demand.

Let:

- **R** = net available yield from collateral
- **H** = % of target hedger pool filled
- **Y_h** = yield allocated to hedgers
- **Y_u** = yield allocated to users

Then:

- **Y_h = min(1%, R × H × α)**
- **Y_u = R – Y_h – protocol fee (10%)**

Where α is a governance-defined coefficient that tunes market incentives. This creates an implicit rebalancing of protocol incentives and peg resilience.

10.4 Value at Risk and Stress Testing

Quantillon incorporates continuous monitoring of its financial health using:

- **VaR (95%/99%)** models on EUR/USD and TVL drawdowns
- **Stress tests** assuming FX shock (+/- 10%), collateral yield drop to 0%, or Aave liquidity collapse
- **Daily simulations** to validate liquidation thresholds and hedger margin adequacy

Results are logged on-chain and reviewed by both internal risk modules and external auditors. Public dashboards will visualize these metrics post-launch.

10.5 Compliance Interfaces

Though out-of-scope under MiCA, the protocol maintains a compliance-oriented posture:

- **Public transparency** of all vault mechanics, treasury flows, and governance changes
- **Voluntary disclosures** issued by Quantillon Foundation
- **Audit trails** for smart contracts and FX margin mechanisms

This hybrid approach supports future institutional integrations and legal adaptability across EU jurisdictions.

Quantillon's technical backbone is crafted not only for security and functionality, but also for auditability, regulatory interface, and long-term evolvability.