

Project Ecompensa 2.0

Sovereign Liquidity Optimization & Mathematical Autonomy

Fluidcluster.pt & Zama Ecosystem

Presented to the European Central Bank and the European Commission

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- **The Bottleneck:** Eurozone B2B markets are constrained by liquidity lockups due to rigid invoice processing cycles.
- **The Threat:** Emerging private structures (e.g., Circle Arc) introduce foreign, corporate, and subpoena-vulnerable governance layers into European credit rails.
- **The Solution:** A state-of-the-art sovereign infrastructure utilizing Fully Homomorphic Encryption (FHE) to facilitate blind macro-liquidity netting directly on native Eurosystem rails.

Technical Partnership Matrix

Fluidcluster.pt: Dynamic Fluid Modeling

Applies non-linear multi-phase network analysis to simulate financial velocity and stress-test systemic credit-clearing topologies.

Zama Ecosystem: Modular FHE Infrastructure

Provides the raw, mathematically unbreakable cryptographic primitives necessary to compute multi-party datasets blindly.

System Architecture Flow

- ➊ **Ingestion:** Enterprise ERP systems upload fully encrypted invoice commitments to the Ecompensa network layer.
- ➋ **Blinded Computation:** Zama's FHE framework runs execution algorithms over the combined dark pool of trade obligations.
- ➌ **Netting Matrix:** Overlapping corporate debts are compressed down to minimal net liabilities without exposing raw business data.
- ➍ **Settlement:** Net obligations are triggered and settled via native central bank rails using **SEPA / wCBDC**.

Strategic Comparison

Metric	Circle Arc / US Chains	Ecompensa Project
Settlement Asset	Private Stablecoin (USDC)	Central Bank Money (wCBDC)
Privacy Layer	Opt-in View Keys (Subpoenatable)	Pure FHE (Mathematical Sovereignty)
Network Control	Wall Street / US Consortium	ECB / Eurosystem Managed
Optimized Value	Fee Extraction	Macro-Liquidity Velocity

Table: Why Europe needs mathematical sovereignty.

Phased Implementation Roadmap

- **Phase 1 (Sandbox):** Deploy Fluidcluster's macroeconomic network simulator on historical invoice models.
- **Phase 2 (Pilot Hub):** Onboard a regional European node (e.g., Finland or Benelux) to validate live, encrypted pipeline netting.
- **Phase 3 (Integration):** Connect the optimized privacy netting matrix to active ECB digital euro exploratory programs.