Virtual Financial Ecosystem Simulation

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The fourth proving ground of CEMI's Financial Innovation Lab — https://cemi.ai/en/finlab/

A digital twin of the financial ecosystem. Ready for 2027, today.

A set of **simulated counterparts** of the institutions a payment or financial application must talk to in the Dominican Republic, organized exactly as the Central Bank organizes the real thing: the systems that make up the SIPARD, the participants that hold accounts in it, the payment-service providers the Reglamento recognizes, the instruments it classifies, the support entities around them, and the rules that govern the whole.

WHY NOW

SGPI is the moment

The Sistema de Gestión de Pagos Instantáneos credits the beneficiary within **10 seconds**, runs **24/7/365**, addresses by alias and notifies both parties immediately. Every financial-intermediation entity, electronic-payment entity, acquirer and sub-acquirer is a mandatory participant. Nobody in the country can integrate against it yet.

Reglamento Art. 60–62 · Art. 61 §I · BCRD SGPI page

Startups need it more than banks do

A would-be electronic-payment entity, wallet provider or payment-initiation provider cannot get a bank's test environment before it has a bank, and cannot get a bank without a working flow. The ecosystem breaks that loop.

The report is a document with a use

A provider preparing a request for the Central Bank's no objection needs exactly what an instrumented run produces: a description, an operating scheme, the list of providers, support entities and participants, and evidence for a risk-materiality analysis.

Reglamento Art. 83

WHAT A TEAM GETS TODAY

Endpoints

A console at **ecosystem.financial** with a world switcher, a REST API that publishes its own OpenAPI contract, **150+ endpoints**, webhooks that tell an application what happened, a machine lane for real ATM and ITM integrations. Transfers as ISO 20022-shaped JSON; card responses carry the ISO 8583 projection.

A world of one's own

One team key, sent as `x-lab-api-key`. Each key is its own world — seed, clock, ledgers and reports — persisted in Firestore, deterministic from its seed and resettable. It is born with **5+ institutions**, **200+ synthetic people** and **40+ businesses** holding accounts, balances, cards and SGPI aliases, plus flagged adversaries.

The ecosystem, entire

Cards end to end — acquirer and sub-acquirer, two card schemes, clearing settled net in the LBTR, disputes — wallet, initiation and gateway providers, a QR profile, consent, the simulated supervisors, the financial-intelligence unit and the compliance plug, cheque clearing, chaos mode, sponsored nodes with a private vendor lane, certification runs and the Art. 83 dossier.

Try it live

A public simulation runs in the browser at **financialecosystem.io/simulate/** — no key, nothing to install: a transfer, a cash withdrawal or a card purchase, run live with every rule cited. The technical manual, the request-key form and the feedback form are on the same site.

30+ simulated counterparts

250+ REST endpoints

150+ executable rules, each citing its article

40+ published scenarios

1000+ automated tests

2026.09.06 rule catalogue version

WHO IT IS FOR

Startups — no bank, therefore no test environment. Free for open programmes, interns and the Championship.

Banks and electronic-payment entities — certification runs against the simulated SGPI, and a private lane where their vendors arrive certified.

Acquirers and card networks — authorization, clearing, settlement and chargeback cycles against processors and banks at once.

Insurers and brokers — quote, bind, premium and claim on real payment rails; embedded insurance where it actually sits.

Regulators — a seat now, built and enforced — their instructivos, their reading of the rules, their scenarios.

Universities — reproducible runs, published contracts and rule catalogues, synthetic data with nothing personal to protect.

HOW INSTITUTIONS TAKE PART

Sponsored nodes — an institution sponsors *its kind* of node and gets a private lane for its vendors and startups.

Certification runs — per run or per scenario pack. A bank can ask its vendors to arrive certified.

Art. 83 dossiers — a run whose report is shaped as the evidence a no-objection request needs. The Banco Central decides.

Usage tiers — free for open programmes and the Championship; cost-recovery for extended private use; enterprise lanes.

Programmes and Factory work — cohorts and training on the scenarios, and custom actors and rule packs by CEMI Factory.

WHERE IT STANDS

What is standing

- 30+ simulated counterparts on 110+ rails, 150+ executable rules each citing its article, 40+ published scenarios, 1000+ automated tests — floors, every one of them.
- A public simulation anybody runs in the browser, with no key and nothing to install.
- A world of its own per team: seed, clock, ledgers and reports, deterministic and resettable.
- A console that follows a run live and draws the ecosystem map from the platform's own catalogue.
- Sponsored nodes with their private vendor lanes, and certification packs.
- Service identities: a key carries a workload and a scope, not merely a team.
- Regulator and academic seats, built and enforced — read-only across every world, or a world of one's own.
- A proposed tokenised-money extension, available for testing today in a world that opts in, standing outside the regulated providers, awaiting the Bank's view — while every regulated provider in the simulation refuses virtual-asset products, citing its article.

What is next

- The Central Bank's QR standard and the SGPI operating rules, taken into the rule catalogue as each instructivo lands.
- The NCR machines on the floor: the machine lane is built and only software has ever driven it, so the node stays *planned* until a machine is connected.
- The first sponsored node with a partner institution.
- Certification as a priced product — per run and per scenario pack.

What waits on the Bank

- 10+ open assumptions the simulator runs on, and every run report names the ones it ran under.
- Where the Pagos al Instante eight-minute clock and the Art. 57 four-minute clock start: at the sender's acceptance, at the LBTR, or at the receiving participant's acknowledgement.
- Which roles are mandatory participants in the SGPI, and from when.
- Who publishes the reason codes a returned direct debit or direct credit must carry.
- Whether the electronic-payment-account regime reaches a token, whether virtual-asset service providers are obligated subjects, and how the Reglamento's prohibition meets the securities regulator's.

The questions are written up as a consultation to the Banco Central, open to read: financialecosystem.io/documents/gaps/

GOVERNANCE

Never the real thing. Every simulator carries a Lab name and a visible notice. No real credentials, keys, BINs, routing identifiers, aliases or certificates, and no endorsement by any institution being modelled.

Not an «ambiente de prueba» under Art. 83. No real providers, no real external users. A run is never a substitute for the Central Bank's no objection — it is evidence for a request and nothing more.

No real personal data. The synthetic population is generated from the run seed and its generator is auditable.

Rules cite their source and carry their date; reports say what was tested — scenario, seed, fidelity tiers, mode, rule-catalogue version. A pass is a pass on that run.

VERIFIED FOUNDATIONS

Everything the simulation asserts rests on a checked source: **136 sources verified** against their primary texts. In the official taxonomy of innovation facilitators this is a **regulatory accelerator or regtech lab — not a sandbox**, and Art. 83 is a no-objection filing duty, not a sandbox regime.

ON "DIGITAL TWIN"

Today this is a simulation, not a digital twin in the strict sense: there is not yet a finished system to be a twin of, since the instant-payments system is being built now. Our aim is to become the true digital twin of the Dominican financial ecosystem as it takes shape, following the work and guidelines of the Central Bank, the Superintendencia and the industry.

Contact

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Ready for 2027, today.

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