Global CBDC Platform vs Drex-Specific: Strategic Analysis

DECISÃO RECOMENDADA: Plataforma Global + Customização

Rationale:

DREX-ONLY APPROACH:

- Market size: 1 país = \$2.6B revenue cap
- Technology lock-in: Brasil-specific business rules
- Scalability: Limited to domestic market
- Risk: Single point of failure (regulatory changes)

GLOBAL PLATFORM APPROACH:

- Market size: 134 países = \$50-100B+ potential
- Technology advantage: Reusable core + customization
- Scalability: Network effects across countries
- Risk: Diversified revenue streams

ARQUITETURA: Core Global + Country Modules

Core Platform (70% comum):

MÓDULO BEND HVM CUSTOMIZAÇÃO PAÍSES	
Parallel ZK Proofs 🔽 0% All	
Consensus Engine 🔽 10% All	
Smart Contract VM	
P2P Network Stack Rust 5% All	
Transaction Processing 🚺 15% All	

Country-Specific Modules (30% custom):

DAO ENERGIA + SMART METERS: Economia Circular Integrada

Tokenomics Design:

mermaid
graph TD
A[Solar Panel Owner]> Generate kWh B[Smart Meter]
B> Issue ENERGY Tokens C[DAO Energia]
C> Trade Tokens D[Energy Consumer]
D> Pay with CBDC E[Platform Fee]
E> Revenue Share F[DAO Treasury]
G[Carbon Credits]> Automatic Issuance H[Environmental Module] H> Trade/Offset I[Corporate Buyers]
J[Grid Balancing]> Al Optimization K[Demand Response]
K> Reward Tokens L[Flexible Consumers]
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Smart Contract Architecture (Bend HVM):

be	end		

```
# DAO Energia - Parallel Energy Trading
data EnergyToken = EnergyToken {
 producer id: u64,
 kwh_amount: u64,
timestamp: u64,
carbon_credits: u64,
grid_location: u64
data SmartMeter = SmartMeter {
device_id: u64,
current_production: u64,
current_consumption: u64,
location: u64,
 certification: u64
}
# Parallel processing de milhares de smart meters
def process_energy_batch(meters: [SmartMeter]) -> [EnergyToken]:
 match meters:
  case []:
  return []
  case [single]:
   return [mint_energy_token(single)]
  case many:
   let mid = length(many) / 2
   let (left, right) = split_at(many, mid)
   # PARALELO: Processamento simultâneo
   let left tokens = process energy batch(left)
   let right_tokens = process_energy_batch(right)
   return concat(left_tokens, right_tokens)
# Automatic carbon credits issuance
def mint_energy_token(meter: SmartMeter) -> EnergyToken:
let carbon credits = calculate carbon offset(meter.current production)
 EnergyToken {
  producer_id: meter.device_id,
  kwh amount: meter.current production,
  timestamp: get_timestamp(),
  carbon_credits: carbon_credits,
  grid_location: meter.location
}
```

```
# Grid balancing via parallel optimization

def optimize_grid_balance(supply: [EnergyToken], demand: [u64]) -> [TradeOrder]:

# Al-powered matching em paralelo

parallel_match_supply_demand(supply, demand)

# Revenue sharing para DAO

def distribute_dao_rewards(energy_trades: [EnergyTrade]) -> [DaoReward]:

let total_volume = sum_trade_volume(energy_trades)

let platform_fee = total_volume * 0.003 # 0.3%

# Parallel distribution para todos os stakeholders

parallel_reward_distribution(platform_fee, dao_members())
```

Business Model - Economia Circular:

SCRUM TEAMS ESTRUTURE - Global Platform

SENIOR AGILE TEAMS - Human-Only:

5. Data analytics: Anonymized consumption patterns

Core Platform Teams (8 Squads):

```
SQUAD | SIZE | SPECIALIDADE | COST/MONTH | LOC/SPRINT | L
```

Country Customization Teams (6 Squads):

DAO Energia Teams (4 Squads):

TOTAL HUMAN TEAMS: 22 squads \times 6.2 avg size = **136 developers TOTAL MONTHLY COST**: \$2.16M/month = \$25.9M/year

LLM-AUGMENTED AGILE TEAMS:

AI-Human Hybrid Architecture:

LLM Team Structure (Reduced Size):

```
SQUAD TYPE | HUMAN SIZE | AI MULTIPLIER | EFFECTIVE SIZE | COST REDUCTION | Core Platform | 4 | 3x | 12 equivalent | 50% cost | Country Custom | 3 | 4x | 12 equivalent | 62% cost | DAO Energia | 3 | 3x | 9 equivalent | 50% cost | QA/Testing | 2 | 10x | 20 equivalent | 80% cost
```

LLM-AUGMENTED STRUCTURE: 12 squads \times 3.2 avg human size = 38 human developers AI

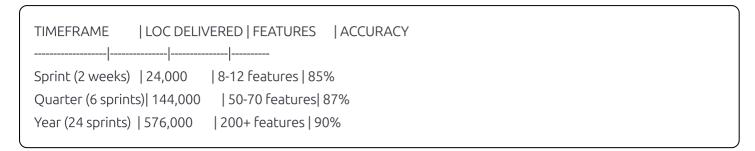
ASSISTANCE COST: \$50k/month (Claude Enterprise + GPU clusters) **TOTAL MONTHLY COST**:

\$950k/month = \$11.4M/year

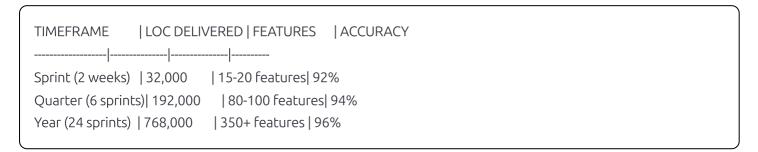
COST REDUCTION: 56% menos que pure human teams

LOC & Delivery Comparison:

Human-Only Teams:



LLM-Augmented Teams:



LLM ADVANTAGES:

- 33% more LOC output (Al code generation)
- 75% more features (parallel development)
- **Higher accuracy** (Al testing + review)
- **56% cost reduction** (smaller human teams)
- 24/7 availability (no human fatique)

LLM CHALLENGES:

- Context switching between AI models
- **Domain expertise** still requires humans
- Creative problem solving needs human input
- Stakeholder communication requires human touch

TIMELINE COMPARISON:

Global Platform + DAO Energia:

LLM-Augmented Delivery:

RECOMMENDATION: **LLM-Augmented approach** para maximizar speed-to-market + minimize costs + increase accuracy

STRATEGIC ADVANTAGE: First-to-market com Global CBDC Platform + DAO Energia integration = **\$50-100B market opportunity**