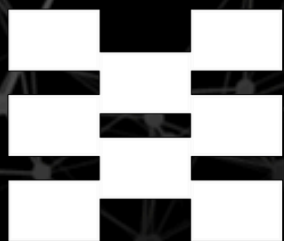

Whitepaper light
Status as: 2025-12-01



HydraMeshnet

- The off-grid DePIN & DeFi Revolution -

„Building a Blackout-Resilient Free World Meshnet Economy“

Website: <https://hydramesh.net>

App-Suite: <https://hydramesh.net/download>

Proof of Concept Video: <https://hydramesh.net/poc>

HMESH Token Presale in HWallet: <https://hydramesh.net/presale>

Smartcontract Audit: <https://app.solidproof.io/projects/hydrameshnet>

Twitter (X): <https://x.com/hydrameshnet>

Telegram: <https://t.me/hydrameshnet>

PROJECT SUMMARY

HydraMeshnet, an international digital cooperative of libertarian entrepreneurs, IT professionals, and software engineers, is developing the world's first energy-autonomous all in-one solution for a radio meshnet ecosystem designed to build free market societies with blackout-proof digital cash payments in crisis regions and beyond.

By combining solar- or wind-powered, license-free, radio-based DePIN hardware with a sovereign DeFi infrastructure, **HydraMeshnet** empowers individuals and communities to stay connected and conduct digital transactions under all conditions - from power outages in cities to off-grid environments in rural areas.



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1. Introduction – Why HydraMeshnet Exists

Modern societies are built on fragile foundations. Our communication, our money and our supply chains depend on:

- centralized power grids,
- centralized internet infrastructure,
- centralized banking and fiat money.

When these systems fail – because of blackouts, cyber attacks, political decisions, wars or natural disasters – people quickly lose access to reliable communication, money and basic trade. Some regions of the world already experience this regularly.

At the same time, the global fiat money system based on debt and inflation slowly erodes the purchasing power and savings of productive people. Real wages stagnate, asset prices are inflated by central banks and many people feel that “something is wrong”, but they cannot clearly see the root causes.

HydraMeshnet is an answer to both problems:

1. the technical fragility of critical infrastructure, and
2. the economic fragility of fiat money.

Our goal is to build a **blackout-resilient, censorship-resistant and state-independent infrastructure for communication and trade** – starting in Europe and then expanding globally.

HydraMeshnet combines:

- radio-based mesh networking (DePIN – Decentralized Physical Infrastructure Network),
- a privacy-focused App-Suite for communication, trade and payments,
- and a dual base-blockchain economy with two different roles: **HMESH** and **FWD (Free World Dollar)**.

This document gives a **simple, high-level overview** of what HydraMeshnet is, how it works, and how we plan to roll it out step by step.

2. The Problem – Fragile Infrastructure and Broken Money

2.1. Technical Fragility

Most people depend on:

- electricity from centralized power grids,
- mobile networks and internet access from a handful of large companies,
- cloud services and social media platforms that can disappear or be censored at any time.

During a major blackout, internet shutdown or network overload, all of this can go offline at once. In such a situation, payment cards, banking apps, communication tools and navigation simply stop working.

This is not a theoretical risk. Blackouts and internet shutdowns have already occurred in many countries – sometimes due to technical failures, sometimes as deliberate political decisions.

2.2. Economic Fragility

Modern fiat currencies (EUR, USD, etc.) are:

- created as debt by commercial banks,
- inflated over time,
- and used to finance growing government spending and central bank interventions.

The result:

- persistent inflation,
- rising asset prices,
- declining purchasing power for workers and savers,
- periodic financial crises.

Bitcoin and other cryptocurrencies have shown that **digital, borderless money** is possible. However, they often remain heavily dependent on online exchanges, centralized infrastructure and internet access. In a full blackout scenario, most of today's crypto infrastructure is also vulnerable.

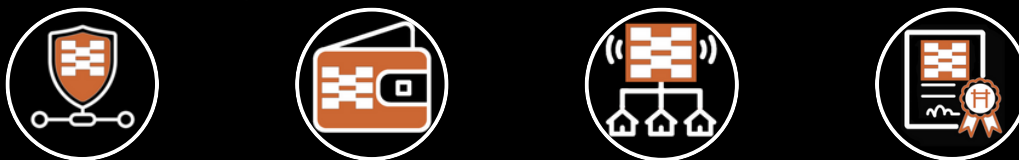
3. The **HydraMeshnet** Solution – off-grid DePIN + DeFi

HydraMeshnet's answer is to combine four elements into one integrated system:

1. DePIN – a **distributed physical radio mesh network**,



2. A modular **App-Suite** for private communication, economic trade and digital cash payments,



3. DeFi – A **dual base-blockchain economic system** bridging the old fiatmoney world with a new solid money world.



4. A **self-sufficient energy system** (solar/wind + batteries) for supplying power to all devices.



You can think of **HydraMeshnet** as a **parallel infrastructure** that keeps working when the old systems break or are switched off.

3.1. DePIN: The Radio Meshnet Hardware Stack

HydraMeshnet uses radio modules, smartphones and small homeservers to create a **self-organizing mesh network** that does not depend on existing internet or mobile networks.

Core components include:

- **LoRaPay** – a compact long-range radio payment device

- based on LoRa technology (sub-GHz radio) with up to 3,1 KBit/s transmission rate
- solar-powered for off-grid use,
- designed as an entry-level device for blackout-resilient crypto payments and emergency messaging.
- In our PoC video, we show how **LoRaPay** can send real crypto transactions in a blackout-like scenario.



- **HConnector Maxi & Light**

- **Maxi**: a powerful dualband radio module with high throughput (up to 4,8 MBit/s) well suited for a stationary usage.
- **Light**: a more compact version (up to 2,4 MBit/s) optimized for everyday mobile usage.
- Both help to extend the meshnet over long distances and across cities or regions.



- **HPhone – The Self-Liberation Machine**

- privacy-focused smartphones (based on Volla hardware),
- delivered with the entire HydraMeshnet App-Suite pre-installed,
- designed to work together with **HVPN**, **HWallet**, **HCommunicator** and **HProof**.



- **HNode – The Home Meshnet Server**

- small but powerful mini-PCs that act as homeservers,
- can run blockchain nodes, local storage and meshnet services,
- powered by off-grid solar systems.



- **HCard** (planned)

- a hardware wallet / secure element for cryptographic keys and authentication.



Together, these devices form the physical foundation of the **HydraMeshnet**: a decentralised, radio based digital network that can operate independently of traditional public infrastructure (internet, mobile, power grid) if needed.

3.2. The App-Suite: **#VPN**, **#Wallet**, **#Communicator**, **#Proof**

On top of the hardware we provide a **unified App-Suite**. All **HydraMeshnet** services are accessed via these apps – not directly through generic wallets or browsers. This makes onboarding easier for non-technical users and gives us a robust UX layer.

1. **#VPN – HydraMeshnet Virtual Private Network**

- End-to-end encrypted virtual network layer (IPv6).
- All connections to **HydraMeshnet** services (wallet, messenger, notary, etc.) are tunneled through **#VPN**.
- Required for using **#Wallet** and **#Communicator**.
- Adds an extra layer of privacy and protection against network-level surveillance.



2. **#Wallet – The HMesh Ecosystem Hub**

- A blackout-resilient crypto wallet that connects users to the **HMesh ecosystem**.
 - Supports:
 - **HMesh** ERC-20 presale on Arbitrum,
 - later: **HMesh** on the native **HydraMeshnet-L1** chain,
 - **HMesh** trading on a central limit order book (CLOB) DEX,
 - payment of fees for BaaS (Blackout-Resilience -as-a-Service for Bitcoin, Ethereum, Stablecoins and other cryptocurrencies),
 - access to the **#Shop**, the **HydraMeshnet** hardware shop (**#Phones**, **LoRaPay**, **#Connectors**, **#Nodes**),
 - future Oneway Swap (OWS) functionality to exit the fiat world into FWD.



3. **#Communicator – The Free World Meshnet Society & Economy**

(already testable in testnet)

- All-in-one radio/internet meshnet messenger and community app.
- Combines:
 - private chats & channels,
 - voice calls,
 - local and global marketplaces,
 - shops and websites hosted in the meshnet,
 - FWD wallet and payment functionality,
 - P2P economic interaction between participants.
- **#Communicator** is the interface to the **FWD ecosystem**, which will be completely separated from fiat and speculative cryptocurrencies.



4. **HProof – Truth & Notary App** (in preparation)

- Mobile blockchain witness and deepfake-prevention tool.
- Allows users to anchor:
 - cryptographic hashes of photos, videos, audio and documents,
 - timestamps, locations (when desired),
 - device identifiers, authorship and witnesses signatures,
 - onto the **HydraMeshnet** blockchain infrastructure.
- The goal is to preserve evidence, authenticity and authorship in a world of increasing media manipulation and AI-generated deepfakes.



All of these apps are part of one coherent experience. The website and all marketing materials always lead to a single central call to action:

“Download our App-Suite!”

From there, people enter either the **HMESH** world (via **HWallet**) or the **FWD** world (in preparation via **HCommunicator**), depending on their needs and goals.

3.3. Dual-Chain Economics: **HMESH-L1** & **FWD-L1**

HydraMeshnet uses **two separate blockchain base-layers**, each dedicated to a clear role.

HMESH – Bridging the Old Fiat World with the new Meshnet World

The **HMESH token** and its infrastructure are the bridge between today's fiat/crypto system and the HydraMeshnet world.

- The **HMESH** ERC-20 token is deployed on Arbitrum and used for the presale.
- Soon after presale, **HMESH** will also exist as a native asset on the **HydraMeshnet-L1** chain, a high performance Avalanche-based EVM-compatible app-chain with 2 sek blocktime and instant finality, that:
 - settles trades on the **HMESH** DEX,
 - processes BaaS fees,
 - stores **HProof** hashes,
 - and serves as backend for other **HMESH**-related services.

In short: **HMESH** is the **utility and access token** for everything that still touches the old financial world in some way (stablecoins, exchanges, onramps).



FWD – Free World Dollar - The Internal Market Money

The **Free World Dollar (FWD)** is something completely different.

- **FWD** is not tradable against fiat or other cryptocurrencies on external markets.
- It is designed as an inflation-free, debt-free and fraud-resistant internal market currency for the **HydraMeshnet** economy.
- It is the only currency allowed for payments in the internal meshnet marketplace inside **#Communicator**.

FWD lives on its own dedicated **FWD-L1** chain. This chain is tightly controlled and curated, so that:

- speculative external tokens cannot enter the **FWD** economy,
- the money supply and rules cannot be captured by external financial interests,
- the focus stays on productive trade and real value creation inside the meshnet economy.

In short: **HMESH** is the token that interacts with the old world; **FWD** is the money of the new Free World Meshnet Society & Economy.



4. User Journey – How People Join **HydraMeshnet**

From a user perspective, we want the process to be simple and intuitive.

Step 1 – Install the App-Suite

Users visit **hydramesh.net** and are invited, on almost every page, to:

[> Download our App-Suite <](#)

They install:

- **HVPN**
- **HWallet**
- **HCommunicator**



Step 2 – Activate **HVPN**

Before using any other module, users:

- activate **HVPN**
- establish a secure connection into the **HydraMeshnet** overlay network.

This ensures that all further steps are private and protected.

Step 3 – Choose Your Path

From here, there are two main paths:

1. **HMESH** Path via **HWallet**
 - Join the **HMESH** Presale on Arbitrum, using USDT, USDC, DAI or ETH.
 - Purchase our products in **HShop** with USDC
 - Hold **HMESH** as a utility token for future use in:
 - the **HMESH** DEX,
 - Blackout-Resilience as a Service (BaaS) fees for Bitcoin and Altcoin payments,
 - **HProof** fees
 - Staking (validator and delegator rewards) once the **HMESH-L1** chain is live.

2. **FWD Path** via **HCommunicator** (as the system matures, currently on testnet)
 - Join communities and channels,
 - Access and test the internal marketplace and shop system,
 - Test offering and buying goods and services in **FWD**,
 - Participate in P2P economic activity without relying on fiat currencies or external cryptocurrencies.

Step 4 – Hardware & Meshnet Expansion

More committed participants can:

- acquire **LoRaPay kits** and test blackout-resilient crypto payments,
- install **HConnector Maxi/Light** and extend the meshnet in their local area,
- set up **HNodes** as homeservers and future validators,
- help build local clusters of the Free World Meshnet Society & Economy.

5. Token Overview

This whitepaper-light intentionally avoids deep tokenomics and complex formulas. The detailed technical and economic specification of **HMESH** and **FWD** will be provided in separate, more advanced documents. Here we only summarize the main ideas.

5.1. **HMESH** Token (Bridge Token & Utility)

- **Role:**
 - Utility and access token for the future **HydraMeshnet-L1** app-chain and all services on the **HMESH** side.
- **Current status:**
 - **HMESH** exists as native token on a **HydraMeshnet** Delegated Proof of Stake (DPoS) Chain and as an ERC-20 token on Arbitrum, with an audited presale & token smart contract.
- **Intended uses:**
 - Participation in the **HMESH** presale.
 - Trading on the **HMESH** CLOB DEX (central limit order book) once deployed.
 - Payment of BaaS (Blackout-Resilience-as-a-Service) fees for off-grid payment and communication services.
 - Payment of **HProof** fees for securing original digital media representations of true reality against deepfakes.
 - Discounts for **HydraMeshnet** hardware products (**HPhones**, **HConnectors**), via **HShop**.

- Staking in the **HMESH-L1** validator ecosystem (over time).
- Partial involvement in Oneway Swap (OWS) mechanics, which connect **HMESH** demand with **FWD** issuance.

The total **HMESH** supply is 500 Mio, and future inflation, staking rewards and burning mechanisms will be tuned to support long-term sustainability of the network and fair incentives for validators and delegators.

5.2. **FWD** – Free World Dollar (Internal Market Money)

- **Role:**
 - Main medium of exchange, store of value and unit of account for the internal Free World Meshnet market inside **HCommunicator**.
- **Key properties:**
 - Fixed total supply at 21 Trillion (21,000,000,000,000 **FWD**).
 - Designed to be **inflation-free, unmanipulable and debt-free**.
 - Not traded on external exchanges, not pegged to fiat or speculative crypto markets.
 - Intended to be obtained through:
 - specific conversion mechanism (such as Oneway Swap from fiat-derived stablecoins),
 - compensation for building meshnet infrastructure,
 - rewards for productive contributions and onboarding of new participants,
 - selling goods and services on the internal marketplace.
 - p2p loans for entrepreneurs on the internal DeFi platform

FWD aims to be the “**honest real economy money**” for people who want to trade productively in a free market that is protected from the instability and manipulation of the global fiat and crypto markets.

6. Roadmap – From Silent Build to Global Free World Meshnet Society

HydraMeshnet is not a one-time product launch. It is a long-term infrastructure project that combines hardware, software, and a multi-blockchain economy. For this reason, we follow a step by-step roadmap with clear priorities, but without rigid deadlines. The guiding principles are:

- real-world usefulness,
- blackout-resilience,

- censorship-resistance,
- privacy,
- decentralization,
- and financial independence.

Below is the high-level roadmap that we intend to follow. Individual milestones, dates and implementation details may change as the project grows and as we learn from practical experience.

Phase 0 – Silent Build & Audited Presale Contract (since mid-2025)

In this phase, the main focus was on building and testing the core components before going public in a big way.

Key achievements:

- Design and prototyping of the **HydraMeshnet hardware stack: LoRaPay** starter module, **HConnector Maxi & Light**, **HPhone** privacy smartphones, and **HNode** homeservers.
- Development of the **App-Suite**:
 - **HVPN (HydraMeshnet Virtual Private Network)**: encrypted access layer for all services
 - **HWallet**: blackout-resilient crypto wallet and user interface for **HMESH**-based services
 - **HCommunicator**: meshnet messenger, marketplace and **FWD** wallet
- Implementation and **deployment of the HMESH ERC-20 presale smart contract on Arbitrum**, audited by Solidproof.
- Successful **Proof-of-Concept (PoC)** for blackout-resilient crypto payments: solar-powered LoRaPay modules sending real crypto transactions via radio in a simulated blackout environment.

In this phase, the presale contract is already live and technically ready, but public marketing is intentionally limited while we polish the website, refine user onboarding, and stabilize the App Suite.

Phase 1 – Official Public Launch & Early Adopters

Phase 1 is the starting point for broader public visibility. The focus is on making it easy for people to join and on proving that the system works in the real world.

Main objectives:

- **Official public start of the HMESH ERC-20 presale on Arbitrum**, accessible through the **HWallet** app (with **HVPN** enabled).

- Launch of the updated **website and light whitepaper**, explaining the vision, architecture, and roadmap in simple language.
- Start of **influencer collaborations** and live demonstrations using the **LoRaPay PoC kit**, so that independent reviewers can verify that **HydraMeshnet** actually works in blackout-like conditions.
- First real-world sales of **HydraMeshnet hardware products (LoRaPay kits, HPhones, HConnectors, HNodes)** through the **HWallet/HShop** integration.
- Internal preparation of the **HydraMeshnet Layer-1 (HMESH-L1)** on Avalanche technology, initially run by team-operated validator nodes (Proof of Authority) for maximum stability.

In this phase, the system is still technically controlled by a group of trusted validators, to make upgrades and bug fixes fast and safe while more users and partners join.

Phase 2 – European Expansion & Shared Validator Responsibility

Once the presale and first product sales are running and the basic infrastructure is stable, the next priority is to **spread the meshnet and the validator set across Europe**.

Main objectives:

- Roll-out of **HydraMeshnet hardware and nodes** in as many European countries as possible – especially mobile enduser devices like **LoRaPay** and **HConnector Light**, and stationary Repeater Hops consisting of **LoRaPay, HConnector Maxi and Light**, and **HNodes** as local homeservers.
- Launch of the **HydraMeshnet Layer-1 (HMESH-L1)** as the backend chain for the **HWallet** ecosystem:
 - **HMESH** trading and DEX functionality,
 - BaaS (Blackout-Resilience-as-a-Service) fees,
 - **HProof** hash anchoring and other **HMESH**-based services.
- Gradual transition from a **purely team-operated validator set (PoA)** to a **curated community validator set (PoS)**:
 - Candidates must operate real meshnet infrastructure in their country (proof of stationary **HConnector/LoRaPay/HNode** deployment, always with local solar power),
 - must align with the project's libertarian core principles (self-ownership, non aggression, private property, voluntary exchange),
 - and must commit their own **HMESH** stake
- Introduction of a **validator “license” or NFT system**, which certifies that a validator has passed the technical and community requirements, including a balanced distribution across countries.

In this phase, Europe is the primary focus region. The goal is to reach a broad and resilient validator distribution across many European countries, while still keeping the overall system predictable and secure.

Phase 3 – Global Free World Meshnet & Mature Multi-Chain Economy

In the long run, **HydraMeshnet** is designed to become a truly global, decentralized infrastructure for free market societies and blackout-resilient trade.

Main objectives:

- Expansion of **validator nodes** to more than 2000 independent operators in 200+ countries, each with their own radio meshnet and energy-autonomous infrastructure.
- Ongoing development of the **global dual base-chain backend architecture**:
 - **HydraMeshnet-L1 (HMesh-L1)** as the dApp-Chain for all services inside **FWallet (HMesh trading, DEX, Bridge, BaaS, on/off-ramps, and Oneway Swap integration)**,
 - **FreeWorldDollar-L1 (FWD-L1)** as a separate, highly curated dApp-Chain for the internal **FWD**-based market inside **FWCommunicator (FWD payments, local FWD pegged currencies, P2P loans, reputation and marketplace functionality)**.
- Continuous rollout of energy-autonomous, i.e. blackout-resilient **local radio meshnet sidechains** and **FWD**-based trade communities, starting in Europe and spreading to other regions where people seek financial sovereignty and reliable infrastructure outside of state controlled systems.
- Building a **worldwide self-governing DAO ecosystem** where technical standards and strong Austrian school economic rules are upheld by a broad community of productive participants, rather than by a single company or central authority.

Flexibility Notice

All phases, milestones and technical implementation details described here are intentionally high level and may evolve over time. **HydraMeshnet** will always prioritize:

1. Real-world usefulness and resilience,
2. Safety and reliability for users,
3. Increasing decentralization and community participation.

The exact sequencing and timing of steps will be adapted to real adoption, hardware availability, security audits, legal considerations and market feedback.

7. How Different Stakeholders Can Participate

HydraMeshnet is designed for several groups of people who all have different motivations but share a common interest in more resilience and individual freedom.

7.1. Everyday Users

- Install the App-Suite (**HVPN**, **HWallet**, **HCommunicator**).
- Use **HWallet** to:
 - join the **HMESH** presale,
 - buy hardware products in **HShop**,
 - later trade **HMESH** on DEX.
- Use **HCommunicator** to:
 - communicate privately,
 - join channels and communities chats,
 - explore the emerging **FWD**-based marketplace.

7.2. Influencers and Content Creators

- Request one of two free **LoRaPay PoC kits** to independently test blackout-resilient crypto payments or purchase them directly in **HWallet**
- Create content (videos, live streams, articles) showing:
 - how the App-Suite works,
 - how the **LoRaPay** PoC kit performs,
 - how **HMESH** and **HydraMeshnet** differ from standard crypto projects.
 - Use personal referral codes to give followers a **1% HMESH** bonus in the presale and receive **5% rewards up to \$150.000 USDT** for successful presale promotion.

7.3. Hardware Partners and Meshnet Builders

- Produce, distribute and operate **HydraMeshnet** hardware (**LoRaPay** modules, **HConnectors**, **HNodes**, Photovoltaic and battery setups).
- Help create local and regional meshnet coverage.
- Over time, qualify for running **validator nodes** on **HMESH-L1**, by:
 - proving real meshnet infrastructure,
 - committing stake in **HMESH**,
 - aligning with the project's libertarian principles.

7.4. Investors and Supporters

- Participate in the **HMESH** presale in **HWallet**.
- Support early infrastructure build-out by:
 - buying hardware,
 - co-financing installations,
 - funding local meshnet projects.
- Take a long-term view: **HydraMeshnet** is not a “quick pump” project, but a solid decentralized physical infrastructure network and economy play.

8. Risks and Disclaimer

No serious infrastructure project is free from risk. **HydraMeshnet** is ambitious and still in an early phase.

Technical risks:

- Bugs, vulnerabilities or unforeseen behaviors in smart contracts, App-Suite, or blockchain infrastructure.
- Hardware failures or unexpected performance limits in real-world conditions.
- Dependence on evolving open-source components and hardware platforms.

Economic and adoption risks:

- Uncertain adoption of HMESH and FWD as economic instruments.
- Regulatory changes that may affect token sales, onramps or certain services.
- Market risks, including volatility of crypto assets used in the presale and DEX trading.

Political and legal risks:

- Potential pressure or restrictions from governments or large institutions who may not welcome parallel, censorship-resistant communication and economic systems.
- Legal classification of tokens and services may vary across jurisdictions.

This whitepaper-light is **not**:

- investment advice,
- a legal or financial prospectus,
- or a guarantee of future performance.

It is an orientation document that explains the vision, the architecture and the planned direction of HydraMeshnet as of today. All technical specifications, token mechanics, timelines and features may change based on security audits, legal advice, technical progress and community feedback.

9. Conclusion – A Parallel Infrastructure for a Freer Future

HydraMeshnet is more than just another crypto token or another messenger app. It is an attempt to build:

- a **parallel communication infrastructure** that can survive blackouts and censorship,
- a **parallel economic system** that does not rely on debt, inflation and centralized control,
- and a **parallel social fabric** in which individuals can cooperate freely under natural law and voluntary agreements.

By combining plug&play-ready radio meshnet hardware, a privacy-focused App-Suite, and a dual base-chain economic architecture, **HydraMeshnet** aims to give people **practical tools for cooperative self-liberation and productive self-empowerment on the individual, communal and societal level** – starting with small steps like running a **LoRaPay** node or joining the **HMESH** presale, and growing into entire communities and regions that operate on their own infrastructure and money.

If YOU want to be part of this exciting meshnet revolution, the first step is simple:



Download the App-Suite, activate **HVPN**, and explore **HWallet** and **HCommunicator**.

From there, YOU can decide how deep YOU want to go – as a user, as a builder, as an influencer, as an investor, or as a future validator in the Free World Meshnet Society & Economy.