

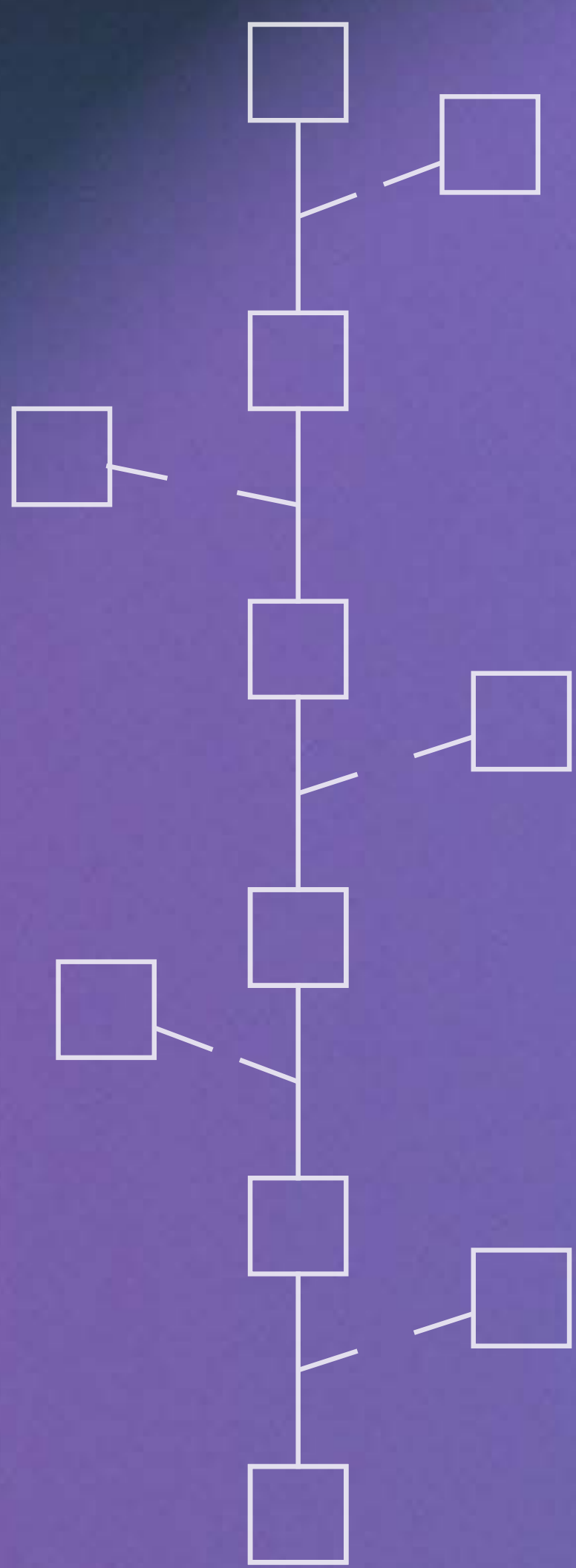


HederaTM

Quick Start

**Start your journey with
the open source,
public Hedera network.**

Blockchain vs. Hashgraph



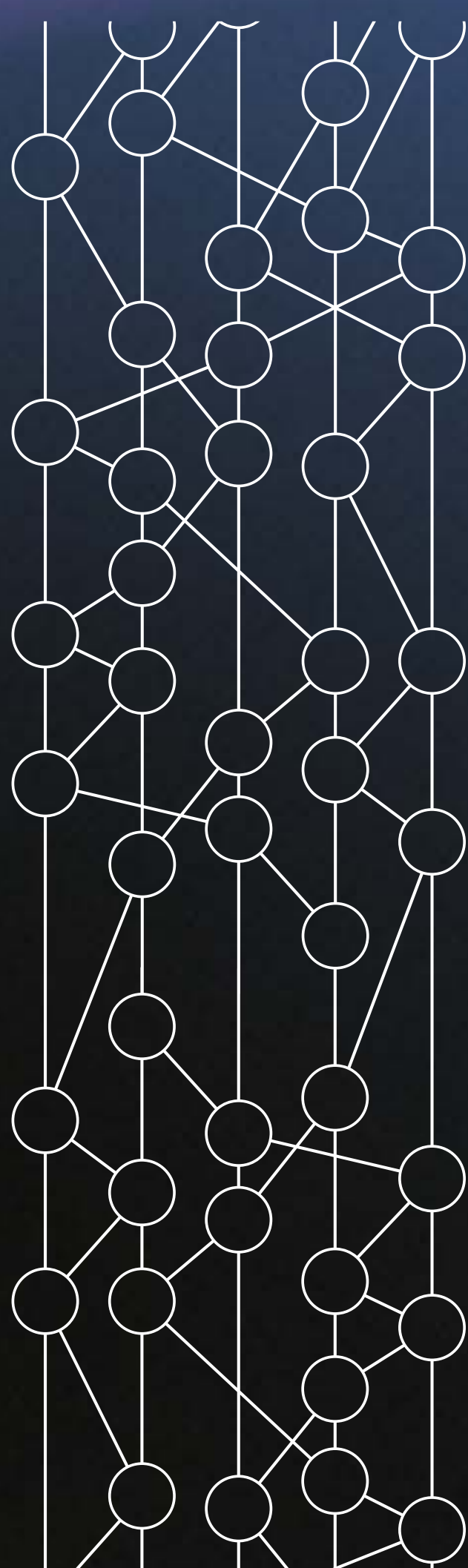
Blockchain

Designed to be slow, as a security measure

Proof-of-work puzzle adjusts to keep the system at a specific speed, as time is needed to determine which block of transactions to add to the chain

Efforts to speed up blockchain all make security sacrifices

Requires heavy electricity usage



Hashgraph

A distributed ledger, but not a blockchain

Combines a gossip protocol with virtual voting algorithm to efficiently and quickly achieve network consensus on transactions

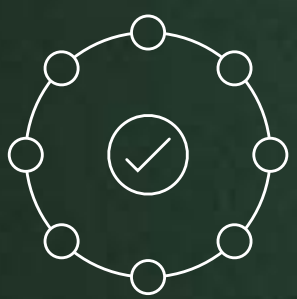
Asynchronous Byzantine fault tolerant (highest level of security for distributed networks)

Does not require heavy electricity usage

The Hedera Network

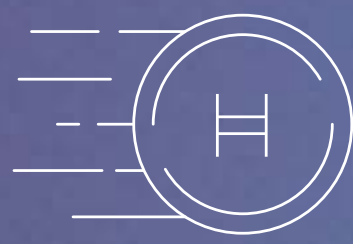
The Hedera network is ready to scale and made for developers, offering three primary network services:

3rd PARTY APPLICATIONS



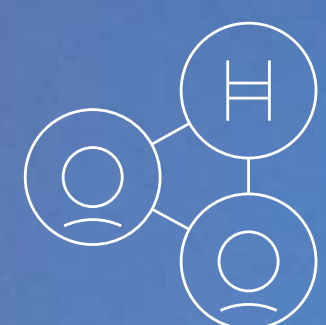
CONSENSUS SERVICE

Stream immutable, verifiable, and fairly ordered events to Hedera at 10,000 TPS and \$0.0001 USD per message.



TOKEN SERVICE

Mint and manage native fungible tokens and NFTs mapping to ERC-20, 721, and 1155 standards. Integrate with Smart Contracts for full programmability.



SMART CONTRACTS

Build EVM-based smart contracts, written in Solidity and Vyper, for enterprise and permissionless applications and protocols.



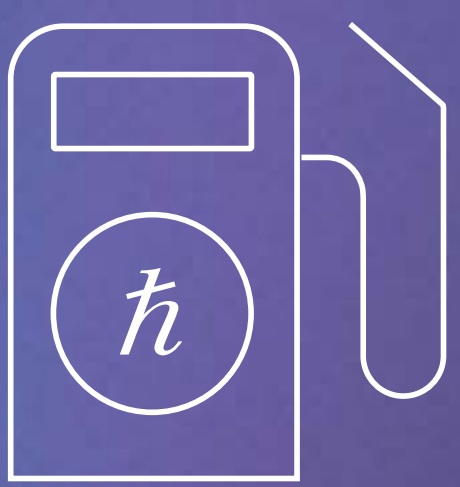
HASHGRAPH CONSENSUS



HBAR (\hbar)

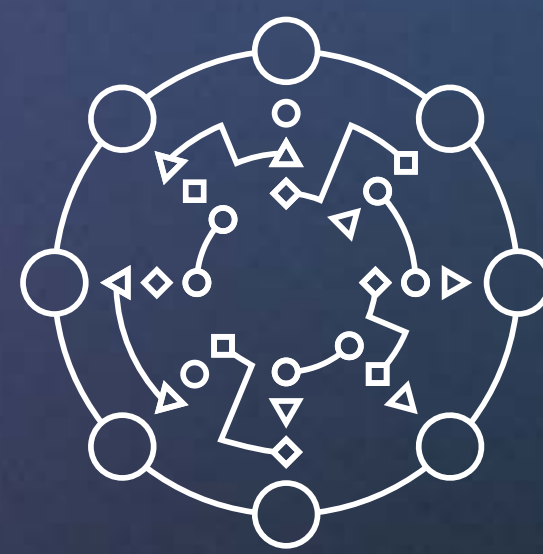
The Native Cryptocurrency of Hedera

HBAR is the native, energy-efficient cryptocurrency of the Hedera public network. HBARs are used to power decentralized applications and to protect the proof-of-stake network.



Network Fuel

Developers use HBARs to pay for network services, such as transferring HBARs, managing fungible and non-fungible tokens, and logging data. For each transaction submitted to the network, HBARs are used to compensate network nodes for bandwidth, compute, and storage.

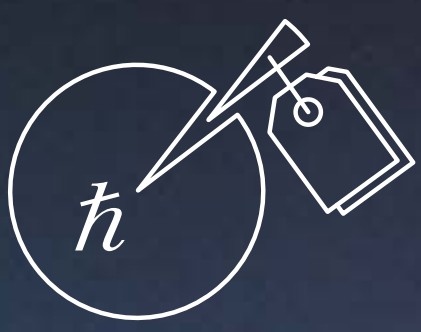


Network Protection

Hedera's proof-of-stake public network uses HBARs staked to network nodes to weight votes on transactions when reaching consensus. Weighted voting with HBARs makes it difficult and expensive for a bad actor to maliciously affect consensus—it would require them to own and stake over one-third of the network's total supply.

Hedera dapp ecosystem, custody, and hardware wallets:

hedera.com/wallets

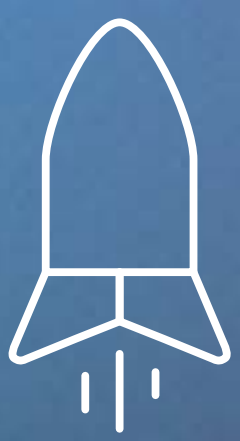


Low, Predictable Fees

Fees on Hedera are fixed and won't fluctuate based on network usage. They're set by the Hedera Governing Council, always based in USD, and paid in HBAR.

Average Transaction Fee
\$0.001 USD

Estimate the operational costs of your application:
hedera.com/fees



Blazing-Fast Transactions with Finality

The Hedera network is incredibly fast and offers low bandwidth consumption, enabling real-time application experiences for every use case.

10,000+ Transactions per second

3-5 Sec Confirmation to finality

15 Million Gas per second

An Open Source Network—Built by the Community

The Hedera codebase and standards are open source - changes are proposed by the community through Hedera Improvement Proposals (HIPs).

 AMARI

 buidler
L a b s

 CALAXY

 DOVU

 FARMLINGS

 ENVISION
BLOCKCHAIN

 HashPack

 hashport

 HORIZEN
LABS

 Hsuite

 ioBUILDERS

 INFINITE
powered by SUKU

 launchbadge

 LimeChain

 LG

 Luther
Systems

 meeco

 OBJECT COMPUTING
YOUR OUTCOMES ENGINEERED

 SAUCERSWAP

 SIKI

 SNICKER
DOODLE

 SWIRLDS
LABS

 THE HBAR
FOUNDATION

 unthink.ai

 TYMLEZ

 venly

View all HIPs and start contributing:
hips.hedera.com

Governed by Global Organizations

The Hedera Governing Council is a fully decentralized governing body of global organizations consisting of web3 applications, enterprises, and universities.

 abrdn

 DLA PIPER

NOMURA

 Australian Payments Plus

 edf

servicenow

 AVERY DENNISON

Google

 Shinhan Bank

 BitGo

HITACHI

 Standard Bank

 BOEING

IBM

 Swirls

 Chainlink

 IIT MADRAS

TATA

 COFRA

 LG

 UBISOFT

 DELL Technologies

 LSE THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE

 wipro

 DENTONS

magalu

worldpay

Deutsche Telekom 

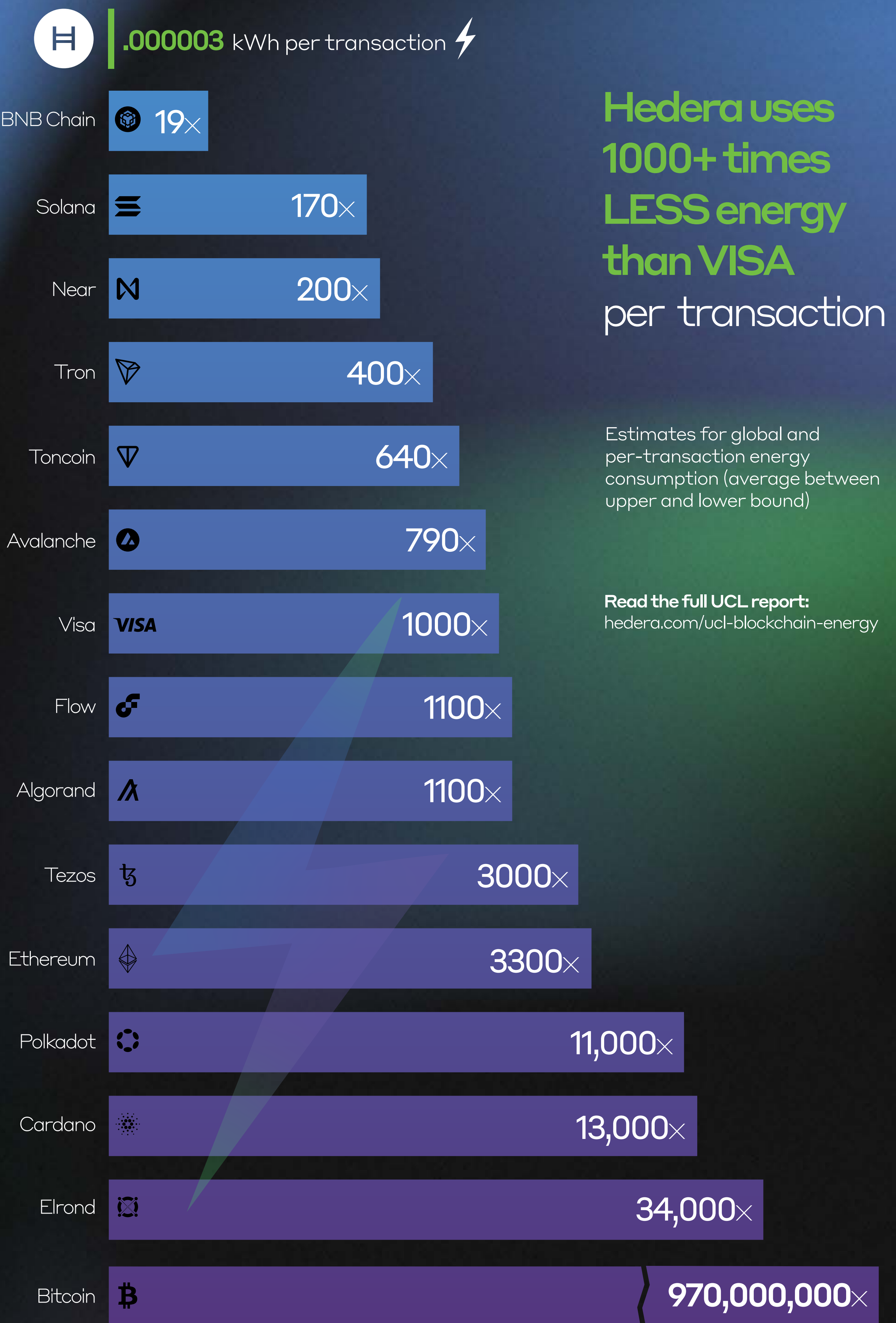
 Mondelēz International

 ZAIN

Learn more about the Hedera Governing Council:
hedera.com/council

The Greenest Blockchain

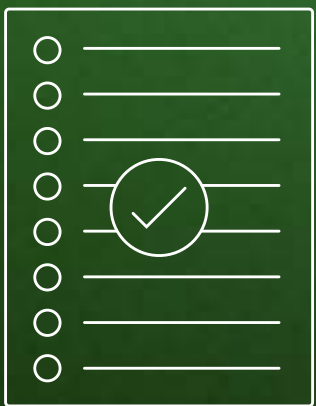
Hedera is committed to sustainable network operations and offers the lowest energy consumption per transaction compared to alternative blockchain networks and modern payment systems.



Learn more about the sustainability of Hedera:
hedera.com/sustainability

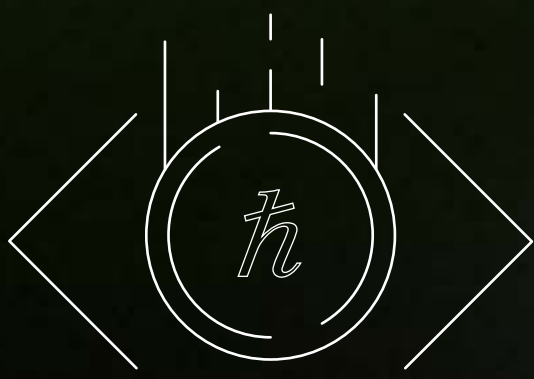
Hedera Use Cases

Hedera network services offer developers a foundation for building game-changing decentralized applications across many use cases.



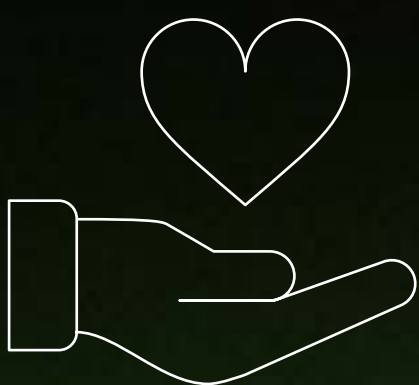
Real World Asset (RWA) Tokenization

Hedera facilitates seamless tokenization of diverse real-world and digital assets, unlocking trillions in illiquid assets and providing unparalleled performance, security, and compliance for thriving tokenized economies.



On-chain Finance

Build bank-grade applications for the next generation of finance - Hedera powers stablecoin issuance and management, real-world asset marketplaces, lending protocols, and more.



Consumer Engagement & Loyalty

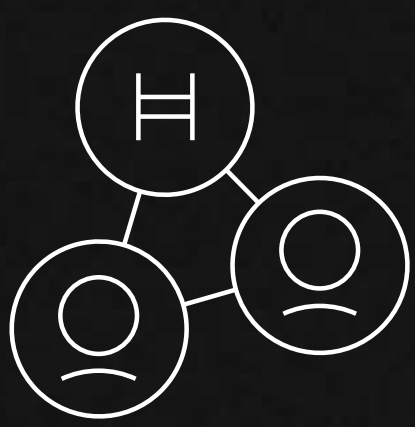
Issue NFT membership and reward tokens in real-time, track engagement transparently, and cultivate a trustworthy, decentralized ecosystem that encourages customer loyalty and participation.



Sustainability

Build, deploy, or access sustainability solutions that take full advantage of Hedera's low energy network, with world-class governance.

Learn more about the use cases and applications built on the open source, public Hedera network:
hedera.com



Smart Contracts 2.0

The Smart Contracts 2.0 service uses the Besu EVM and is optimized for the Hedera network to offer 350+ calls per second.



EVM-based Smart Contracts

Build and deploy EVM-based smart contracts using the most popular languages, including Solidity and Vyper.



15 Million Gas per Second

Hedera can process up to 15 million gas per second, 6x the amount Ethereum aims to achieve in the same period.



Modern Development

Build with the most ubiquitous web3 libraries, web3.js and ethers.js, and development tools and applications uses JSON-RPC.

Step-by-Step Tutorial

Create a simple smart contract on Hedera using the Solidity programming language:

hedera.com/smart-contract-tutorial

Enterprise Applications

Enterprise applications using Hedera to improve business processes and procedures.



View more enterprise application on Hedera:
hedera.com/enterprise-applications

Web3 Applications

Participate in DeFi protocols, staking, NFT marketplaces, payments, creator economy, and more.

A E N



clout.art

D O V U



GoMint.

HASHAXIS

.hashgraph.name

HashGuild

hashp.art



KrypC



MIO



Revel

SAUCERSWAP



Tangent

THIRD ACT

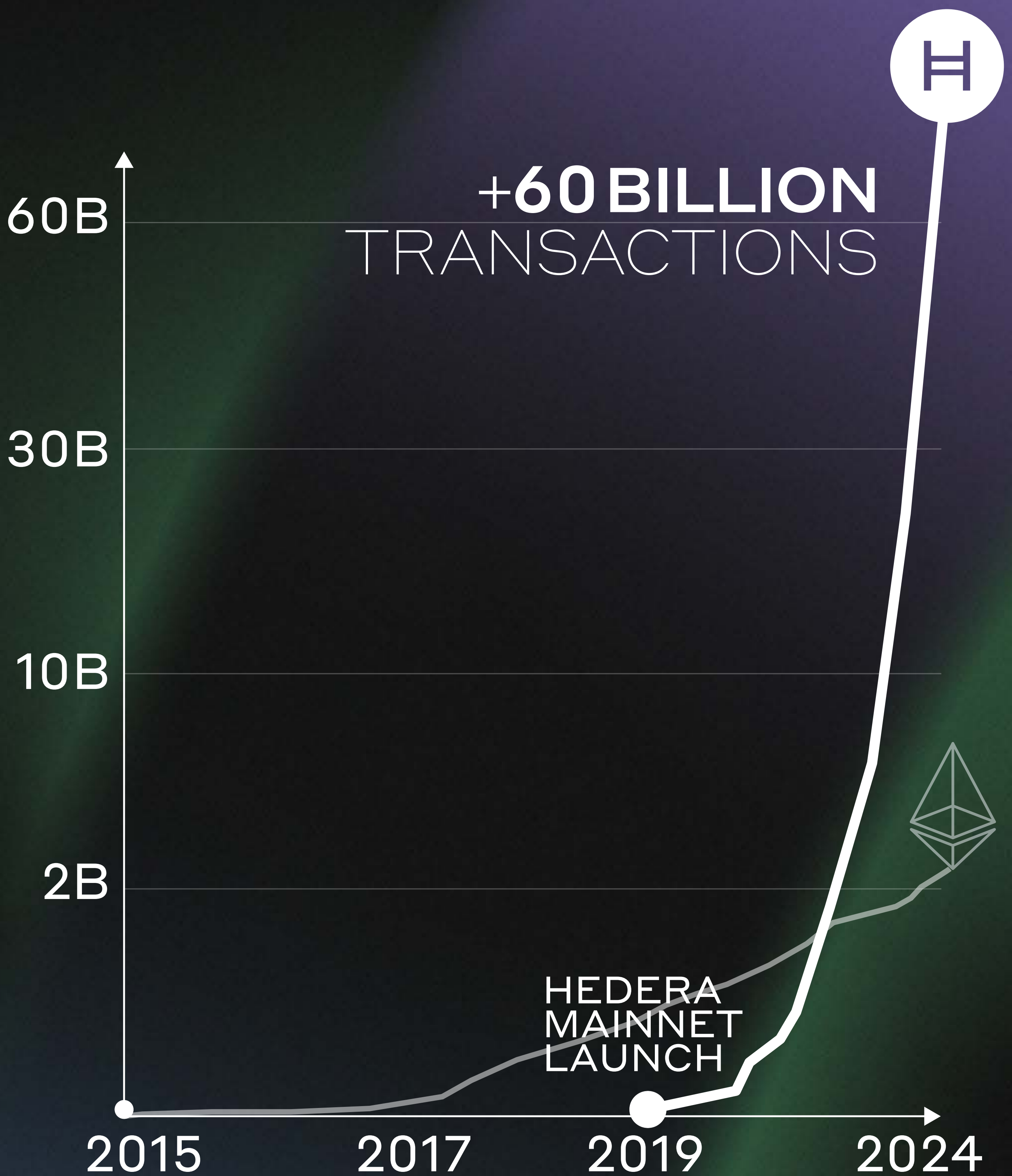


tune.fm



View more permissionless applications on Hedera:
hedera.com/ecosystem

Application Driven Transactions on Hedera



Hedera is the most used public network by total transaction count. Applications utilizing Hedera's network services have driven over **60 billion real-world application transactions** on the Hedera mainnet, far surpassing Ethereum's total transaction count.

Network dashboard and metrics:
hedera.com/dashboard

Getting Started



DEVELOPERS

Build the next big web3 protocol or improve enterprise business processes and procedures

Quickstart

Join the testnet and set up your development environment.

hedera.com/quickstart

Tutorials

Deploy a Solidity smart contract, mint an NFT, write verifiable data.

hedera.com/tutorials

Community

Join the Discord community for development support.

hedera.com/discord

Getting Started



HBAR ENTHUSIASTS & DAPP USERS

Set up a wallet, view supported exchanges, and connect to permissionless applications on Hedera.

Wallets

Create an account, manage your assets, connect to dapps.

hedera.com/wallets

Exchanges

Find exchanges that support HBAR trading pairs.

hedera.com/exchanges

Dapps

Connect to dapps for staking, NFTs, DeFi, and more.

hedera.com/dapps

Development Grant

The Hedera ecosystem offers supportive grant programs and accelerators:

hedera.com/grants