# Introduction to Blockchain: Finance and Business Applications on the Algorand platform

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A long journey

- Approx. 5000 years ago: stocks in a temple start being recorded on clay. It's the beginning of writing, of numbers, of accounting (single entry).

- Approx. 800 years ago: in the Renaissance double entry accounting is developed. Accounting ledgers of banks start be used for large, international transactions. It is the first digitization of money.

- Few decades ago: Yuji Ijiri invents triple-entry accounting and 'Satoshi Nakamoto' creates Bitcoin, a public immutable decentralized ledger, digitally signed.

- Few years ago: a more sustainable and efficient mechanism, Proof of Stake, is developed and brought to high standards, smart contracts become central… and many other innovations going on now.
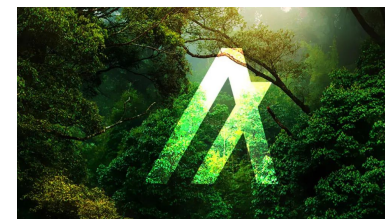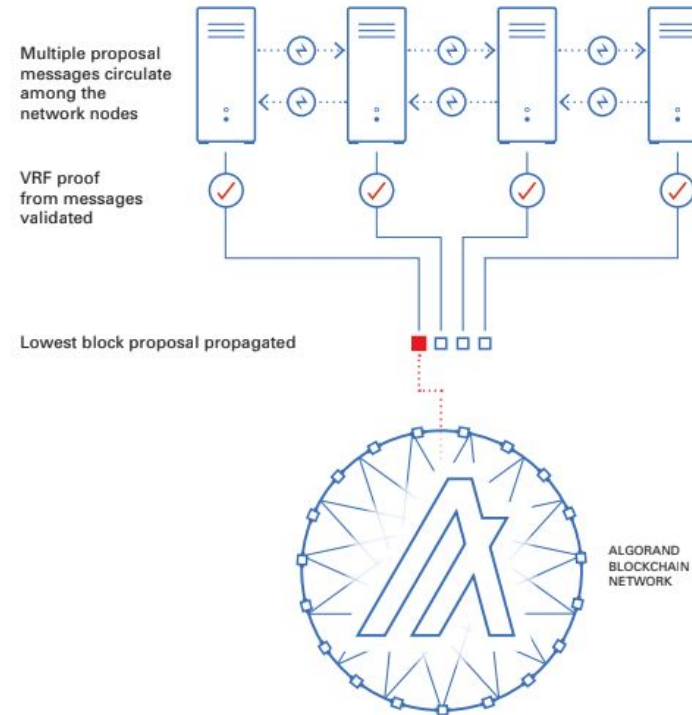
Algorand Protocol

Algorand was founded by Silvio Micali, recipient of the Turing Award (in computer science with Shafi Goldwasser, for zero-knowledge proof), of the Gödel Prize (in theoretical computer science) and the RSA prize (in cryptography).

Algorand is a Pure Proof-of-Stake public blockchain. In Proof-of-Stake, transaction Validators are not selected via mining like in proof-of-work, but proportionally to their stake in the blockchain representative asset. This allows security and scalability on a decentralized network, and very low carbon footprint.

Random selection of Validators in Algorand is based on Verifiable Random Functions (Micali, Rabin, and Vadhan in 1999). Algorand has very strong protocol-based functions such as atomic transactions (for delivery-vs-payment kind of transactions), ASAs for tokens, smart contracts based on a tailored language, TEAL.

Algorand can manage up to thousand transactions per second and achieves finality in seconds, it never had downtime, nor it experiences forks.

Multiple proposal messages circulate among the network nodes

VRF proof from messages validated

Lowest block proposal propagated

ALGORAND BLOCKCHAIN NETWORK

Decentralized Applications

On the Algorand platform application and activities are created and grow in a decentralized fashion, ranging from payments, social good, environment, notarization, tokenization, game-fi, web3, NFT, and several DeFi applications.

DeFi (Decentralized Finance) resembles some of the traditional financial services, but is decentralized and based on smart contracts. Do your own research: DeFi involves financial and technological risk, but it is proposing really new business models based on algorithms that are attracting a lot of interest also from institutional players.

In a decentralized exchange (DEX), everyone can create liquidity by putting two assets in a liquidity pool in a desired proportion. The market participants will decide what assets to buy and sell, altering the liquidity pool composition and therefore the exchange rate.

Decentralized stable coins are based on collateral contributed by users to keep the value of the asset stable. In a decentralized lending protocol, borrowers have to over-collateralize their borrowing with another asset. In both cases, smart-contract based algorithms manage pooling, overcollateralization and liquidation based on collateral value.

De-Fi and More

Here is an overview of Algorand Defi: https://algorand.foundation/algo-101/defi.

Among the features making DeFi particularly interesting:

 - Transparency and Inclusion (same conditions for all)
 - Level-playing field (same tech for all)
 - Immediate and Efficient Settlement and Finality
(in a protocol like Algorand with speed, finality, and low tx fees)
 - (Over-)Collateral Risk Management (via smart contracts)

Algorand technology serves different applications, from decentralized ones to institutional ones such as CBDC (Central Bank Digital Currencies).

Algorand has a large community of supporters, developers, ambassadors and start-ups, and the Algorand Foundation runs several programs to support the community, beside running a large Decentralized Governance program.
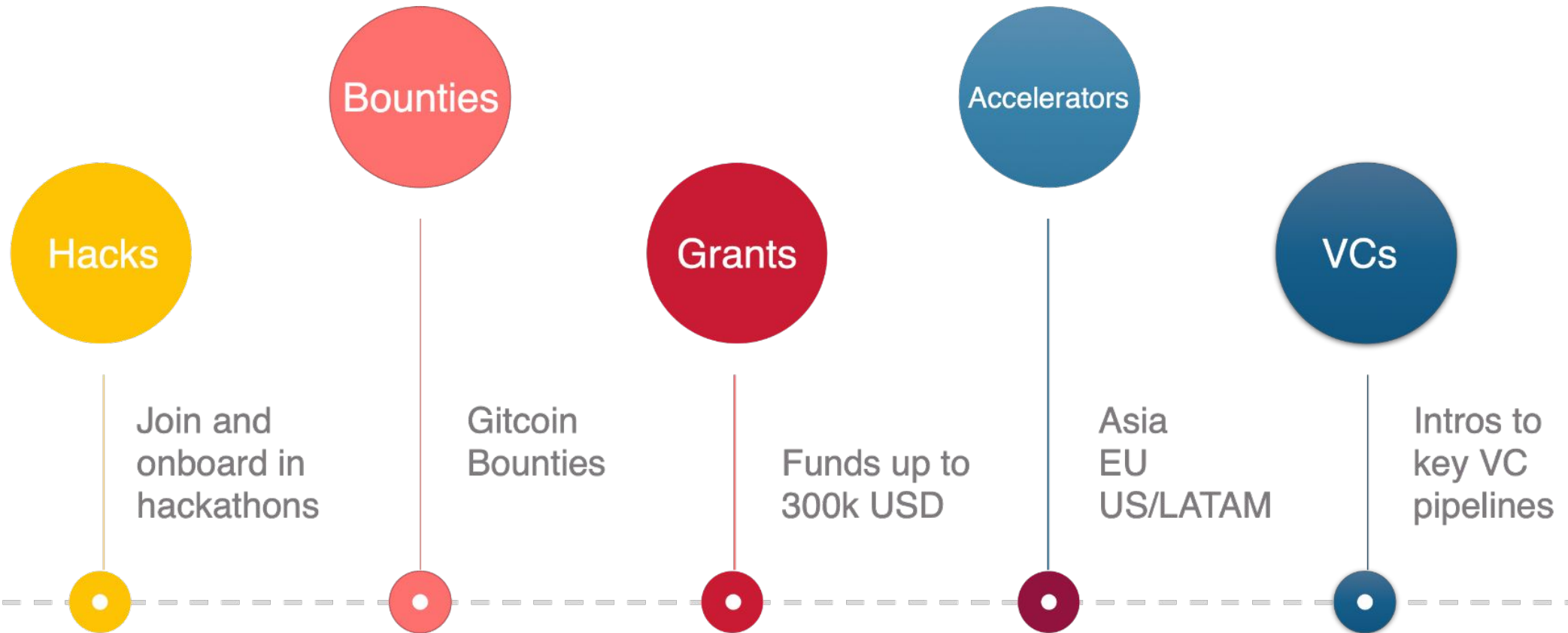
Crypto is disrupting the way we build and scale software

- Lower barrier to entry
- Faster access to capital
- Test in Production
- Value creation > Revenue generation
- Open source software allows for faster innovation
- Dapps benefit from Layer 1s' ecosystems
- Decentralized Teams
- Efficient incentives alignment
- Lower information asymmetry

Where do we start?

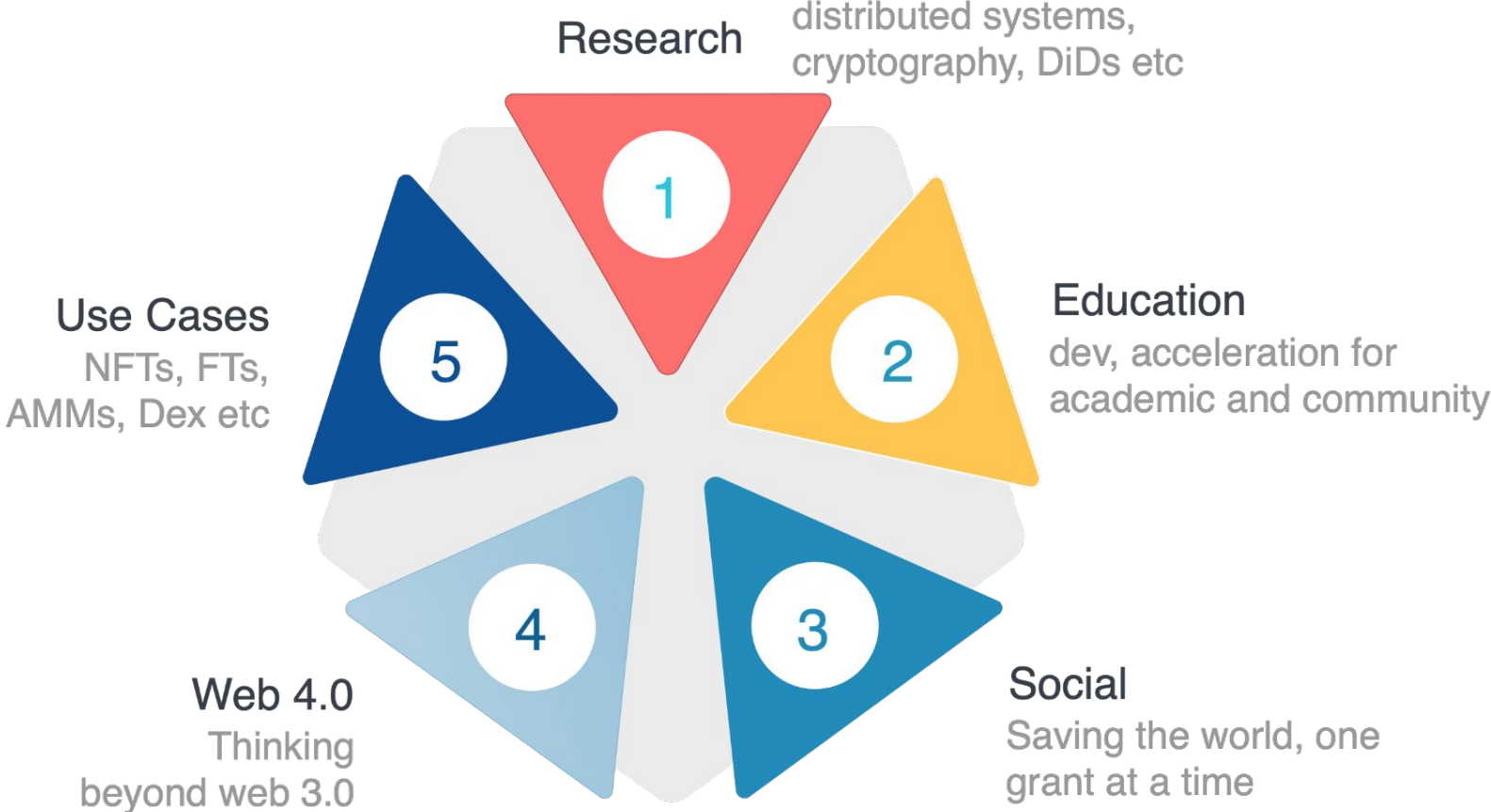A macro view of funding opportunities across the Algorand Foundation Ecosystem

Hacks

Join and onboard in hackathons

Bounties

Gitcoin Bounties

Grants

Funds up to 300k USD

Accelerators

Asia
EU
US/LATAM

VCs

Intros to key VC pipelines

250M Algo Grant Program

This multiyear fund is set up to further decentralize and empower developments supporting the growth of a thriving Algorand ecosystem.

Research
distributed systems, cryptography, DiDs etc

Education
dev, acceleration for academic and community

Social
Saving the world, one grant at a time

Web 4.0
Thinking beyond web 3.0

Use Cases
NFTs, FTs, AMMs, Dex etc

Additional Grant Programs

- 150M Algos DeFi Grant Program

- 100M Algos Algorand Centers of Excellence Program

- $20M EVM compatibility and Dev Tooling

- $2M Gitcoin bounty program

Algorand VC Network

- Borderless Capital ($500M Algo fund)

- Arrington Capital ($100M Algo fund)

- Skybridge Capital ($100M Algo fund)

- Eterna Capital

- Hivemind

- Pillar Ventures

Tips to enter the crypto industry

- Download Twitter and Discord

- Be an active member of the community

- Don't be afraid to reach out!

- Attend conferences and meetups

- There is no dumb question in crypto

- DYOR (Do Your Own Research), always!

Useful Links

- [Algorand website](#)

- [Algorand Foundation website](#)

- [Youtube](#)

- [Twitter](#)

- [LinkedIn](#)

- [Bounties](#)

- [Apply for a grant](#)

- [Algorand whitepaper](#)