

What Are Blockchains, and What Are They Good for?

SPEAKER

Chris Dixon, Andreessen Horowitz

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State of Crypto

Crypto Skeptics in the Media

FORTUNE

THE LEDGER • BITCOIN

3 Reasons for the Crypto Collapse



WIRED

BRUCE SCHNEIER OPINION 02.06.2019 09:00 AM

There's No Good Reason to Trust Blockchain Technology

MIT Technology Review

In 2019, blockchains will start to become boring

After the Great Crypto Bull Run of 2017 and the monumental crash of 2018, blockchain technology won't make as much noise in 2019. But it will become more useful.

Bloomberg

Yep, Bitcoin Was a Bubble. And It Popped.

Millennials, like generations before them, just got a painful lesson about speculation.



Forbes

From Bitcoin To No Coin, Crypto World Under Pressure As Values Tumble



The New York Times

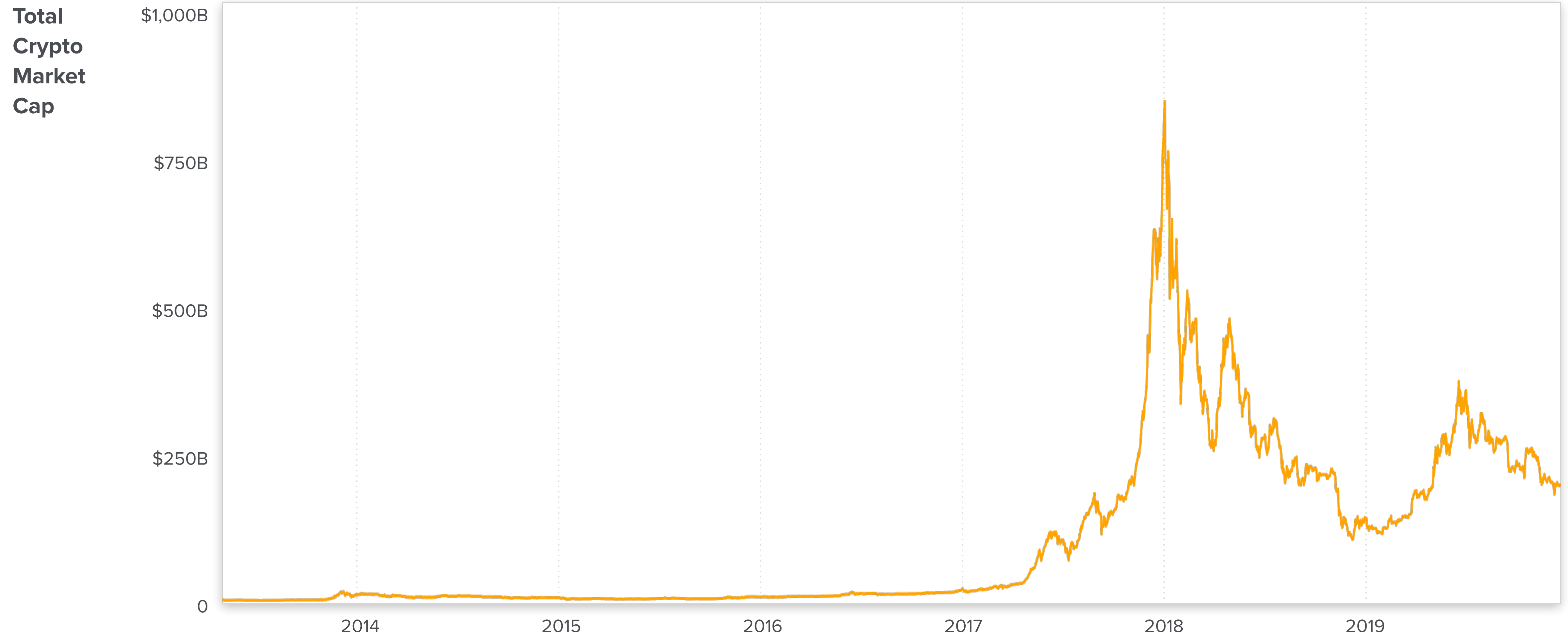
Bitcoin Has Lost Steam. But Criminals Still Love It.

The police hoped that taking down online black markets would chase away criminals. But the amount of Bitcoin spent on illegal purposes has reached a new high.



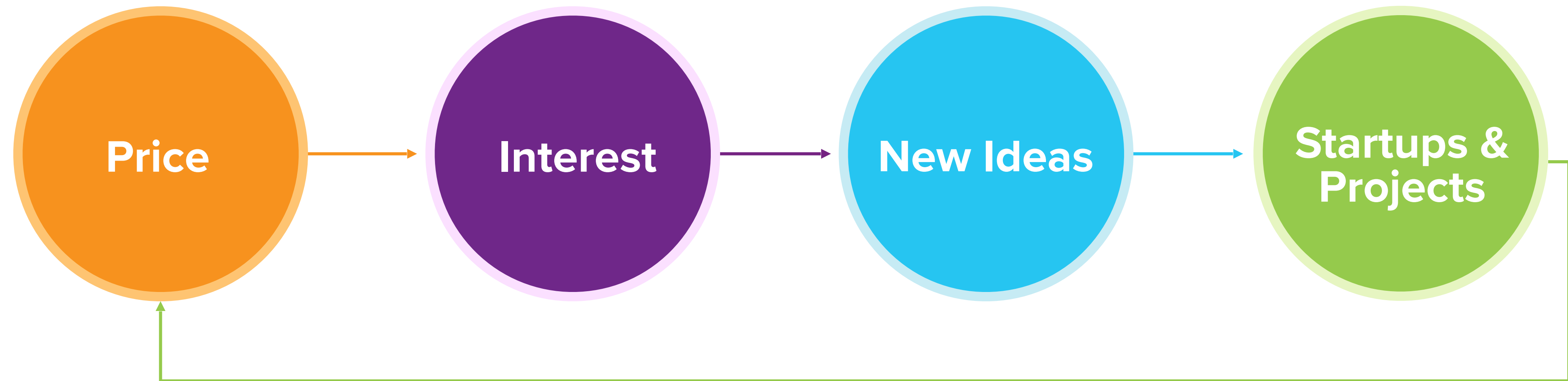
Crypto Skeptic's Perspective

“Crypto had a bubble in 2017, which then popped and the space lost momentum.”



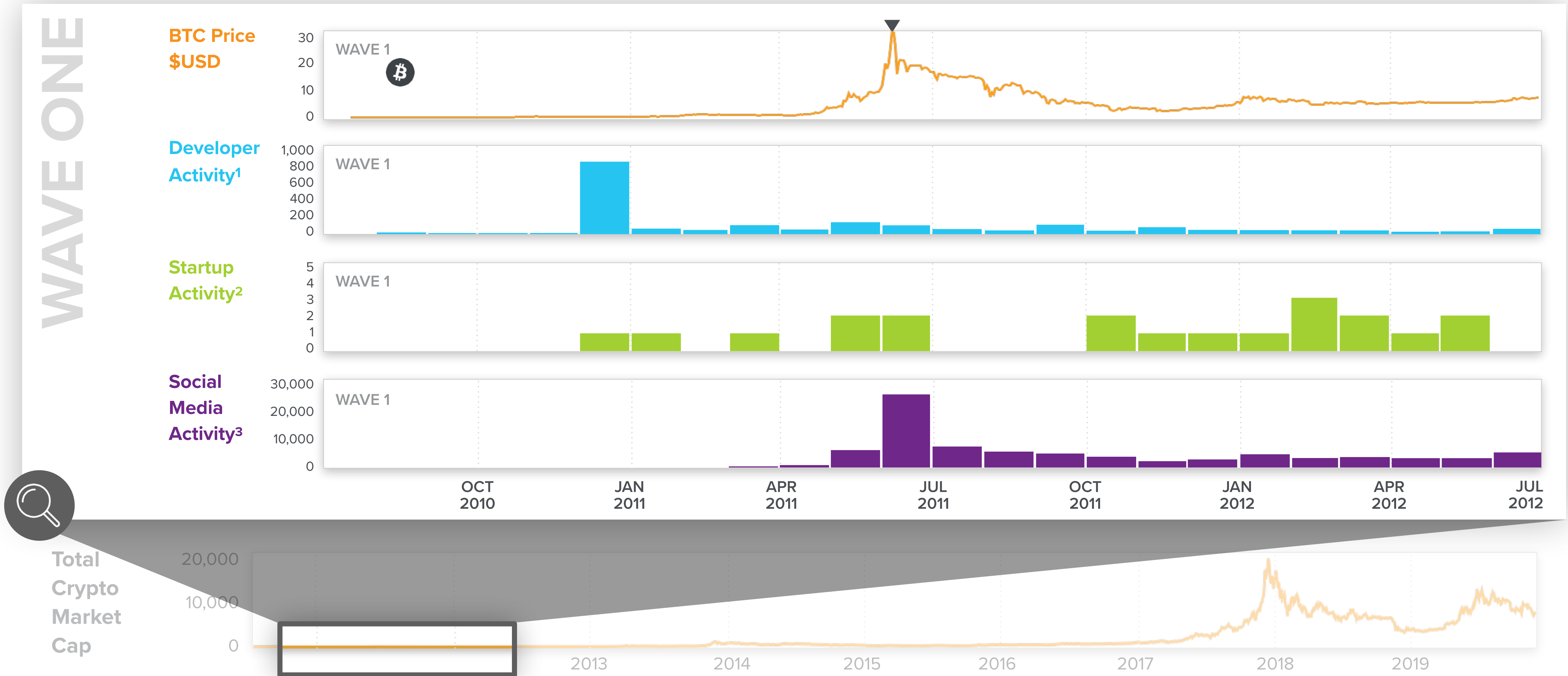
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The Reality: Crypto Develops in Cycles That Appear Chaotic But Have an Underlying Order



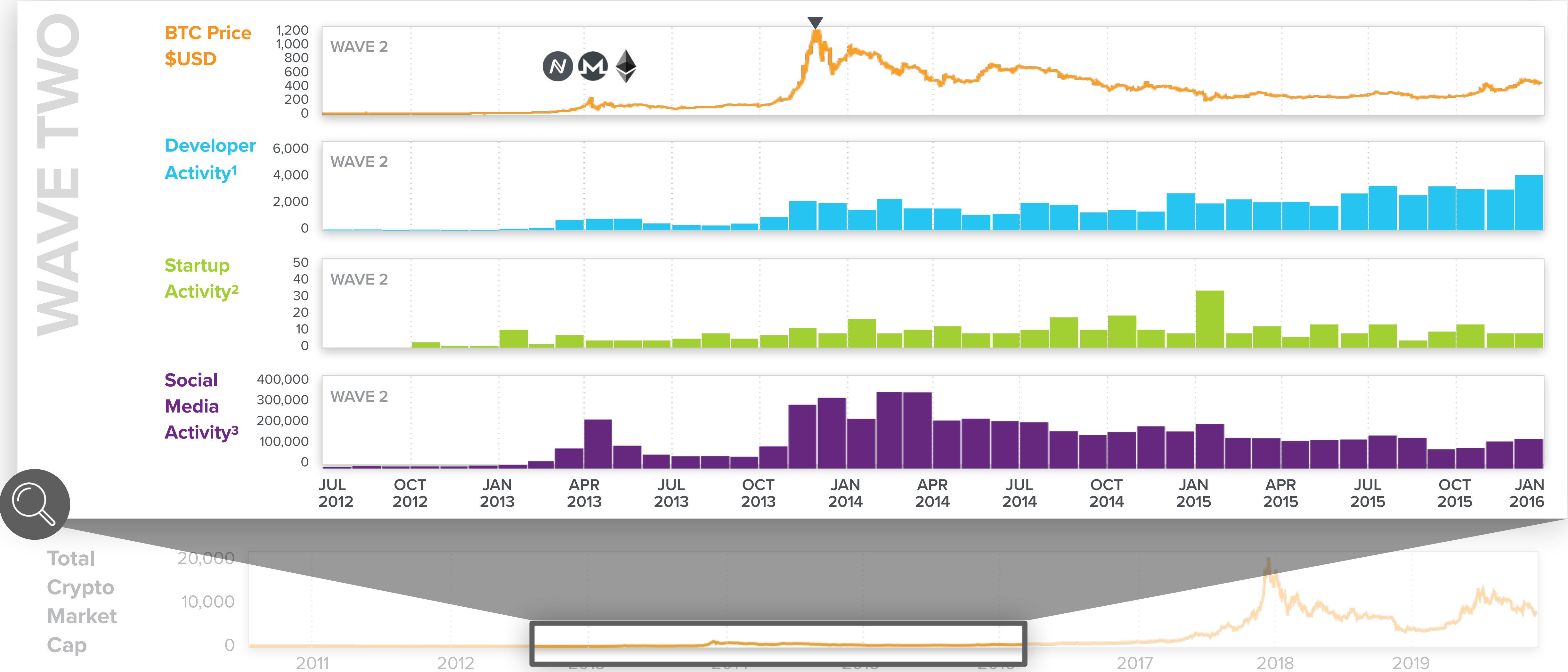
The Insiders' Take: First Wave of Innovation

2010–2012



The Insiders' Take: Second Wave of Innovation

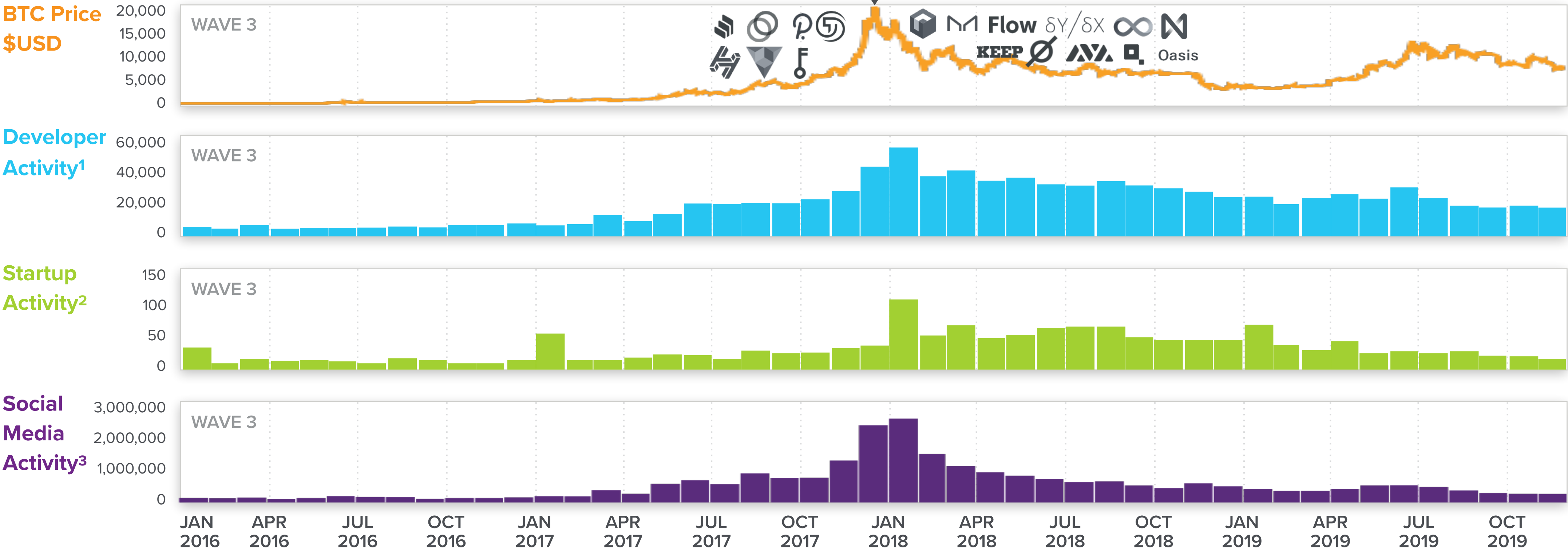
2012–2016



The Insiders' Take: Third Wave of Innovation

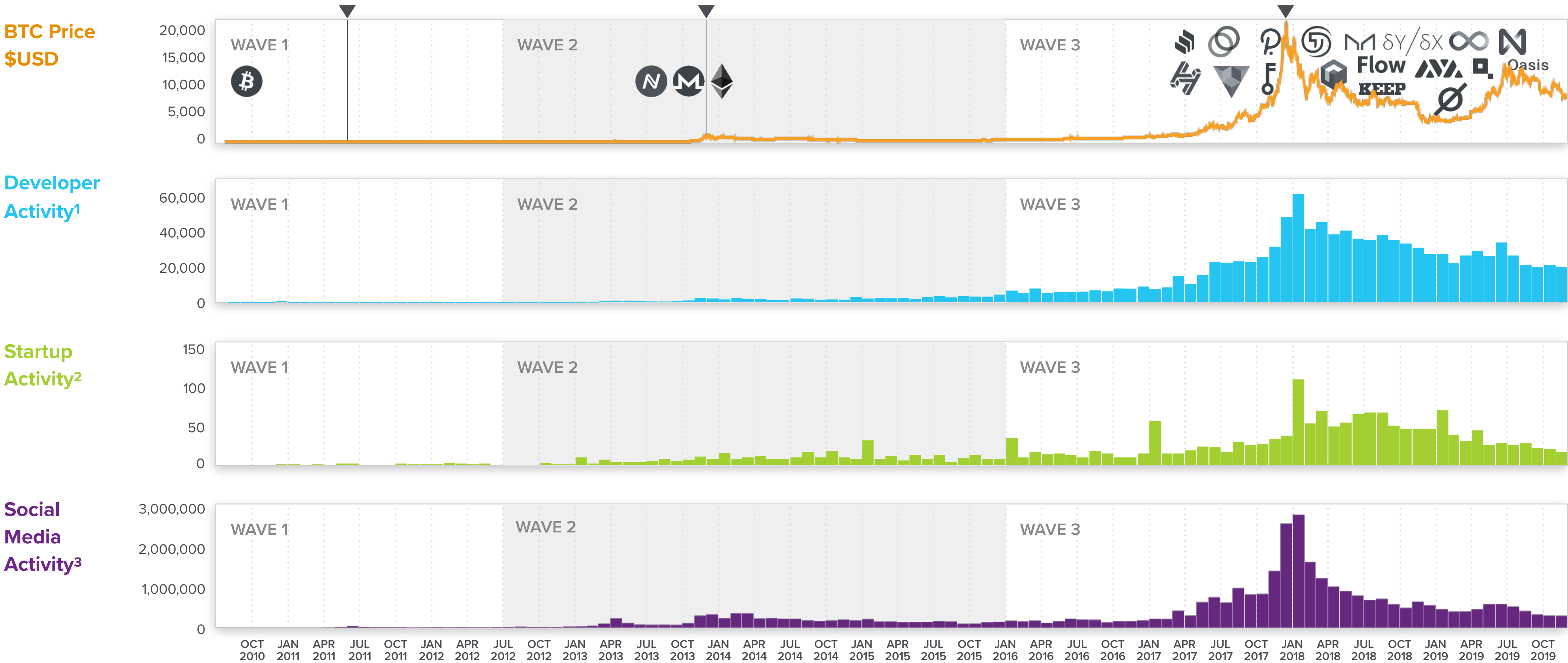
2016–2019

WAVE THREE

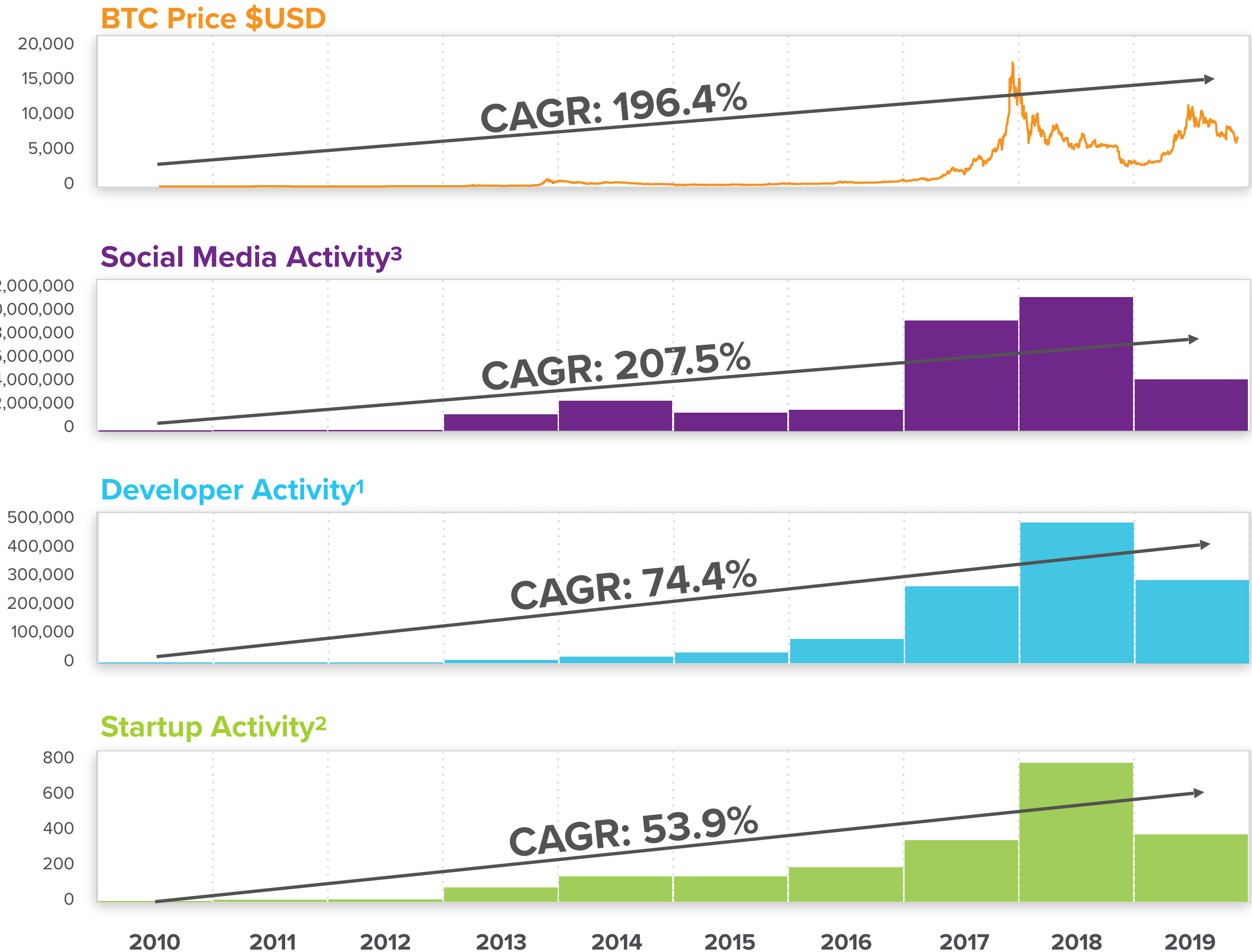


Crypto Innovation: All Waves

Crypto progresses in waves that from the outside look chaotic but have an underlying order

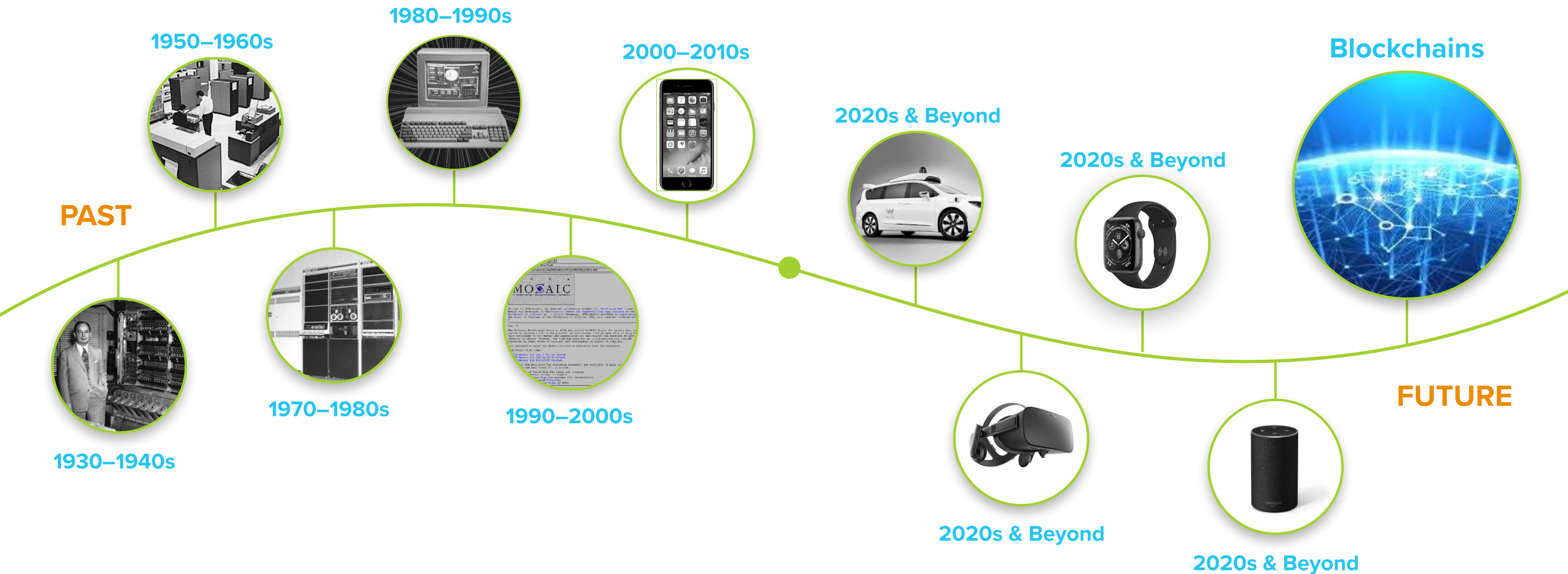


The result is consistent long-term growth, driven by a feedback loop between interest and innovation.



**The best way to think of blockchains
is as a new type of computer.**

History of Computing Platforms



Blockchain: A virtual computer that runs on top of a network of physical computers that provides strong, auditable, game-theoretic guarantees that the code it runs will continue to operate as designed.

Computers That Can Make Commitments



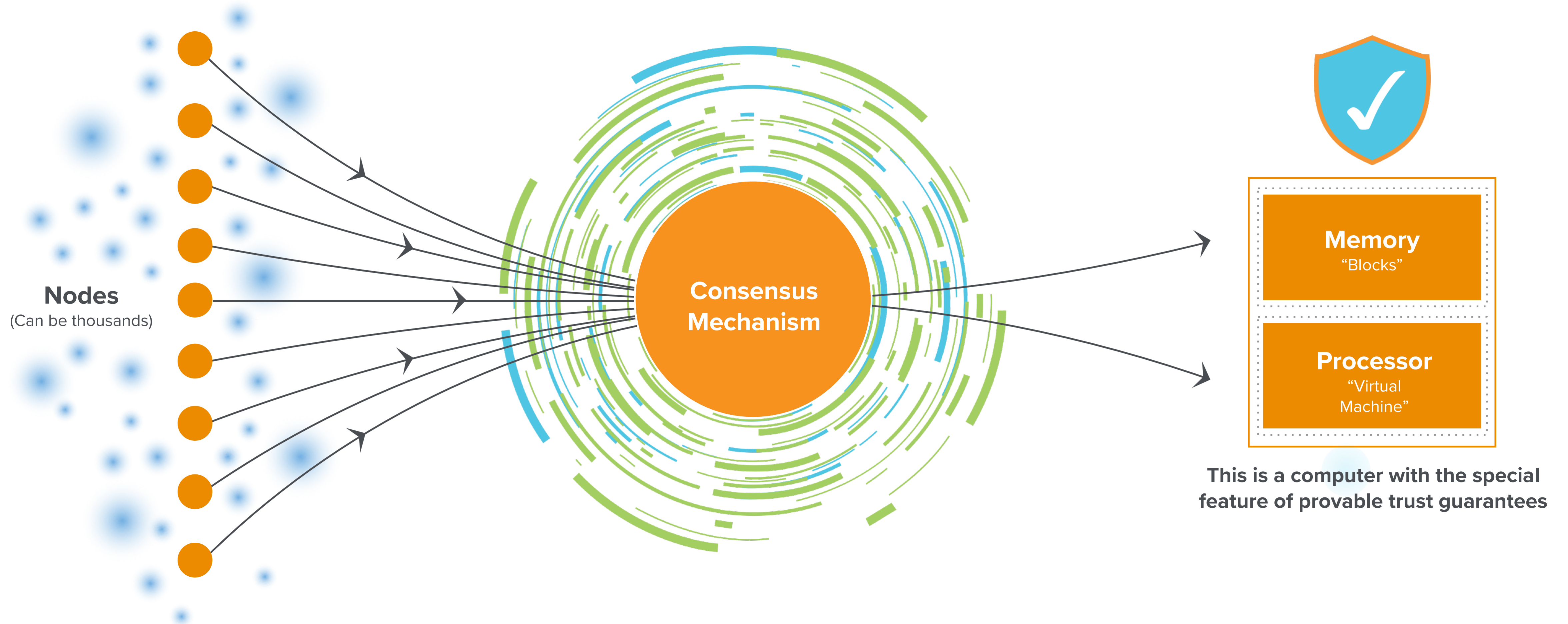
**Fixed Supply:
21 Million**

**No Double
Spend**

**Your Bitcoin Is
Yours**

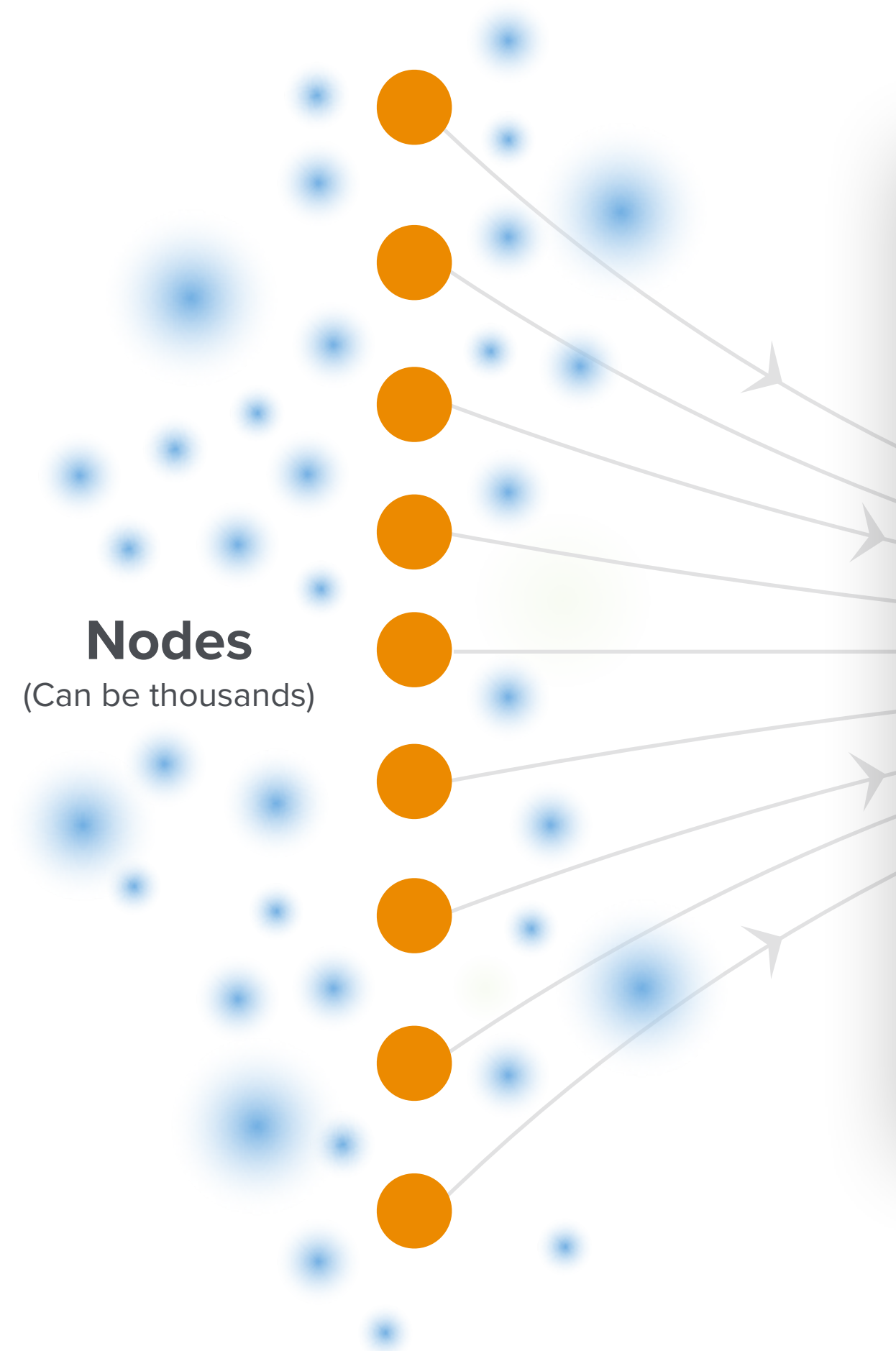
Architecture of Blockchain Computers

Computer composed of nodes which are physical computers (e.g. PCs), joined together via a consensus mechanism.



Nodes

Nodes are the method by which anyone—without needing permission—can join the network and become part of the blockchain computer.



Each node runs all or part of the code required to make the system function.

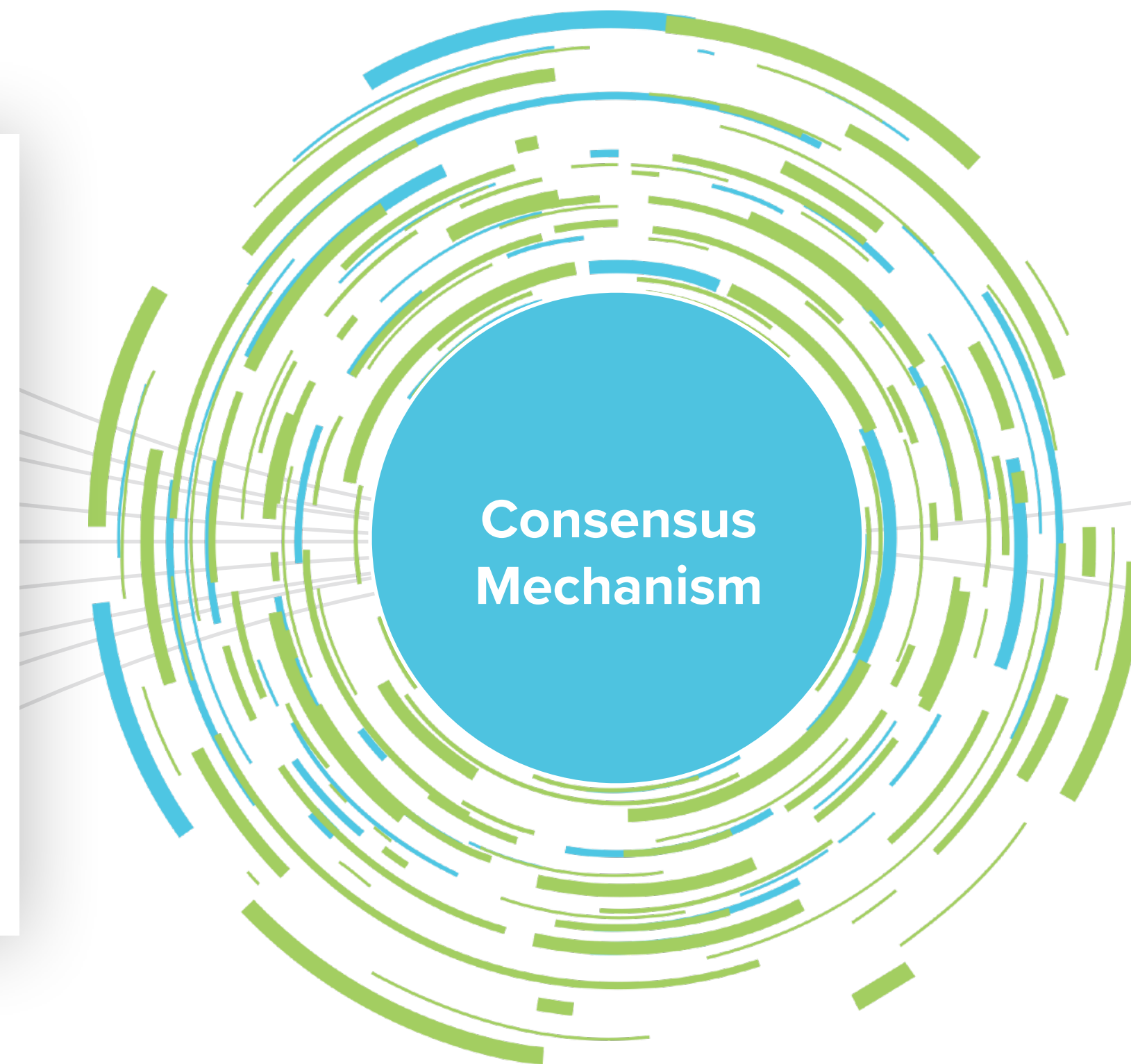
Nodes are incentivized to behave honestly, but a well-designed consensus mechanism enforces the correct operation of the blockchain computer even if a significant number of nodes misbehave.

the special
guarantees

Consensus Mechanism

Consensus mechanism aggregates the “votes” from the nodes to determine the correct operation of the blockchain computer.

The rounds of voting are broken into “blocks” which are then chained together, hence the term “blockchain.”



A well-designed consensus mechanism gives mathematically provable guarantees about trustworthiness of the computer as a whole.

feature of provable trust guarantees

The Result: Trust Guarantees

The game theory of nodes + consensus mechanism provides **trust guarantees** to anyone using it—users, developers, creators, businesses, other computers or services—that no previous computer architecture could provide.

These trust guarantees means that the rules of the system can't change without due process as defined by the system's governance protocols. **“Don't be evil” becomes “Can't be evil.”**

These trust guarantees also enable the credible creation of **new computing primitives** such as digital money, digital goods, smart contracts, decentralized organizations, etc.

Like All Early Computers, Blockchain Computers Have Strengths and Weaknesses

	Strengths	Weaknesses
Early PCs	Smaller, cheaper	Slow, expensive, user experience
Early Smartphones	Portable, GPS, camera, cellular connectivity	Performance, price, inputs (keyboard)
Early Blockchains	Provable trust guarantees	Scalability, user experience

Killer Apps Took Advantage of Strengths: Weaknesses Diminished Over Time.

Killer Apps	
PCs	Word processing, spreadsheet, desktop publishing <i>Took advantage of price/size to become ubiquitous</i>
Smartphones	Ride hailing, photo sharing <i>Took advantage of GPS, camera, connectivity, portability</i>
Blockchains	Trust enables new digital primitives: <i>Digital money, digital goods, smart contracts, DAOs, trusted software platforms, community owned and operated digital services, + much more as-yet-invented?</i>

Computers Can Be General Purpose or Application Specific

General Purpose

DEC minicomputer

WWW

iPhone

Apple Watch

Ethereum

BENEFIT:

Unlocks third-party developer creativity

Application Specific

Wang word processor

AOL

Blackberry

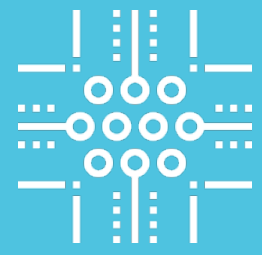
Fitbit

Bitcoin

BENEFIT:

Optimize full-stack for specific application

Crypto Landscape

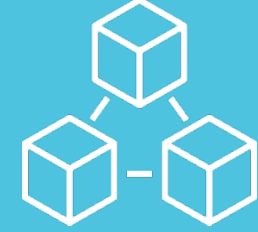


Supporting Infrastructure

coinbase

ANCHORAGE

BisonTrails



Store of Value Blockchains

bitcoin

chia

MONERO

Zcash



Payment Blockchains

celo

libra



Smart Contracts Blockchains: Platforms & Apps

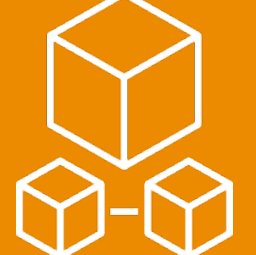
ethereum

DEFINITY rally Compound

NEAR MAKER

Flow Uniswap

OASIS LABS NUMERAI



Other/Emerging Blockchains

ARWEAVE

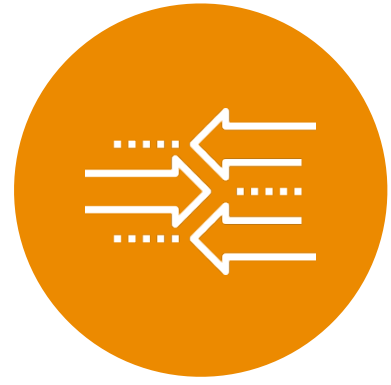
handshake

Filecoin

FORTE

sia

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PAYMENT BLOCKCHAINS

Mobile Peer-to-peer Payments

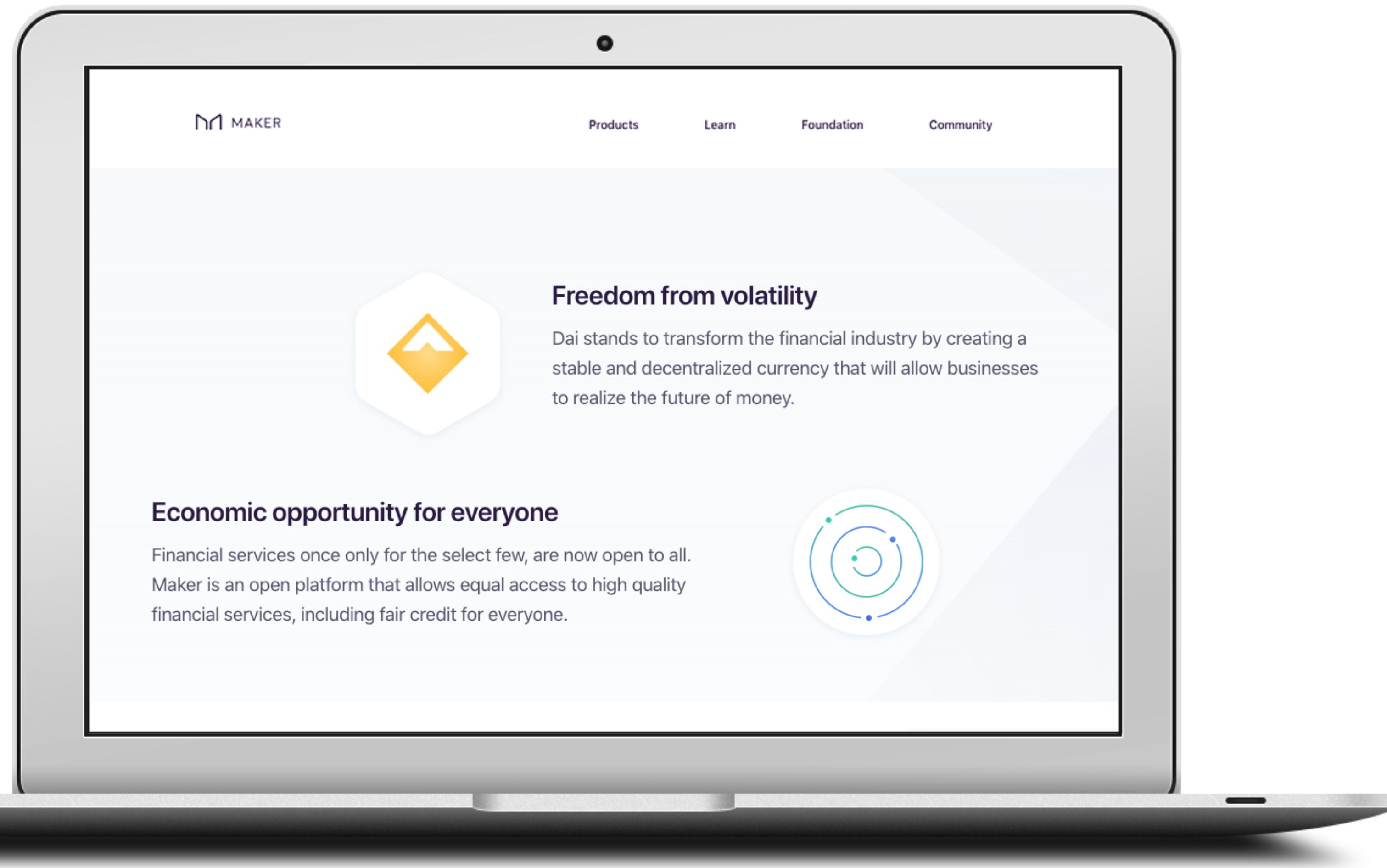


 celo
 libra



SMART CONTRACT BLOCKCHAINS

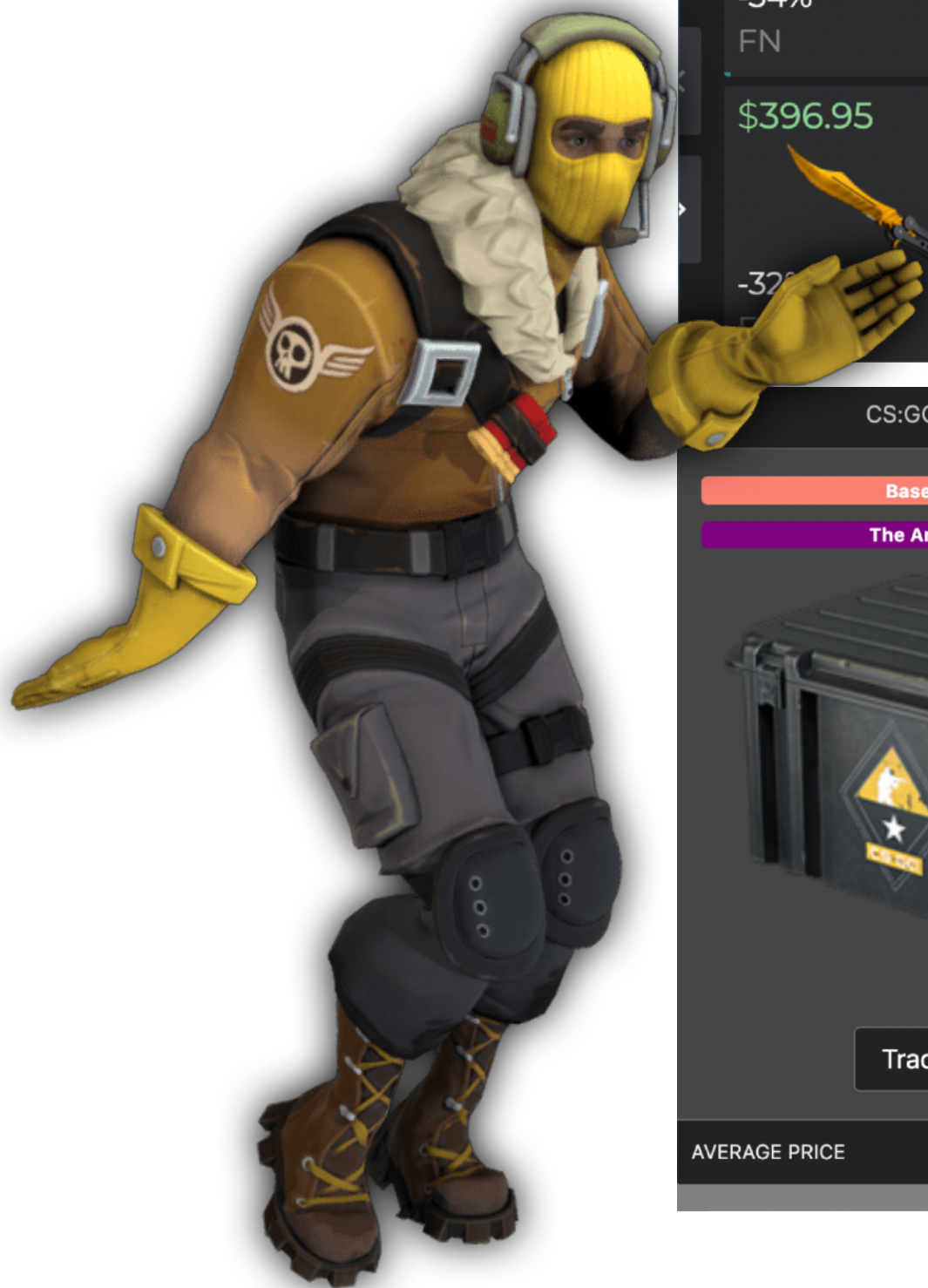
Decentralized Finance





OTHER EMERGING BLOCKCHAINS

Gaming/NFTs



USERS' OFFERS

Game
CS:GO

Sort by
Best Deals

-34%
FN

\$396.95

-33%
FN

\$1,413.90

-32%
FN

\$407.57

-23%
MW

\$554.85

-26%
FN

\$554.85

-33%
FN

\$408.39

-32%
FN

\$396.95

-11%
FT

\$1,413.90

-30%
FN

\$407.57

-23%
FN

\$554.85

-23%
FN

\$554.85

-30%
FN

\$408.39

CS:GO WEAPON CASE

Base Grade Container

The Arms Deal Collection

Trade for \$9.49 on CS:GO MONEY

AVERAGE PRICE

\$14.86 (6 Keys)

Markets

BITSKINS

SKINBARON

CS:GO MONEY

LOOTBEAR

SKINBAY

STEAM

CS:GO Weapon Case

\$50.00

\$11.78

\$7.59

N/A

N/A

\$12.24

30 DAYS

60 DAYS

90 DAYS

180 DAYS

360 DAYS

Price

NEUTRAL TREND

Units Sold

18

16

14

12

10

8

6

6

8

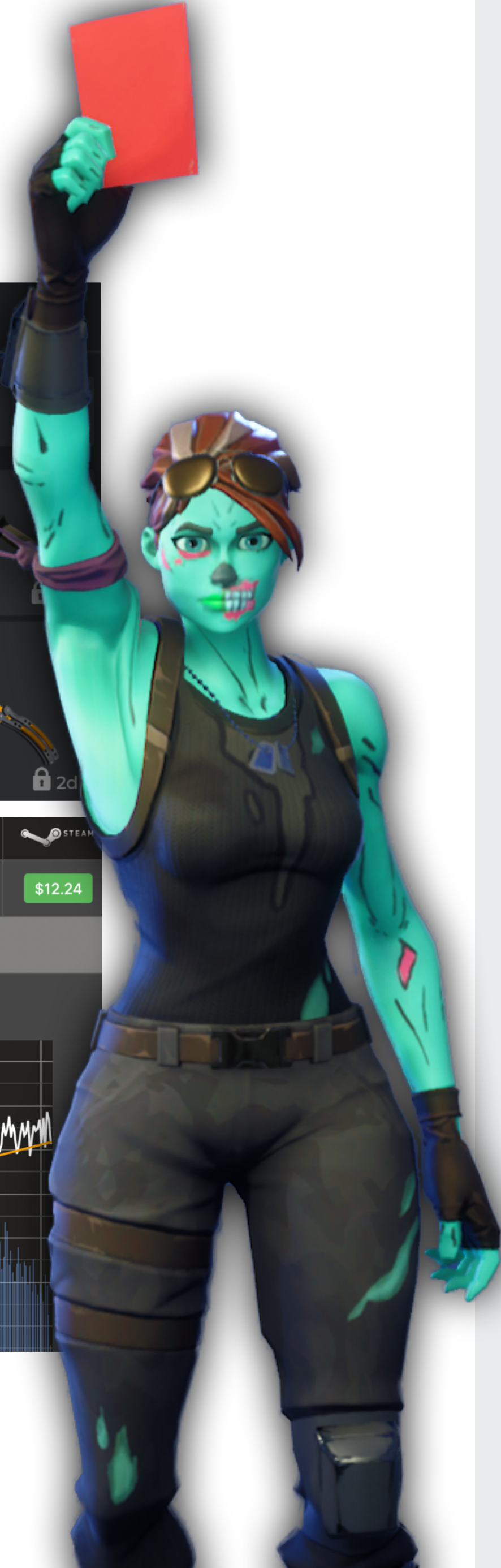
10

12

14

16

18



FORTE
Flow

a16z
[CRYPTO STARTUP SCHOOL]