

Fundstrat Global Advisors 150 East 52nd St., 31st Floor New York, NY 10022

Avalanche: Building a Novel dApp Protocol for the Internet of Finance Ava Labs is building the Avalanche protocol which expects to deliver the highest performance, most secure, and most energy Avalanche (AVAX) efficient general-purpose cryptonetwork for highly decentralized applications, novel financial primitives, and new interoperable **Digital Assets Research** blockchains. Using its innovative Avalanche consensus mechanism, the protocol hopes to create a new digital crypto-native Leeor Shimron^{AC} economy for frictionless real-world and digital asset exchange, composable financial application primitives and derivatives. Web 3.0 privacy-focused data and social applications, and more. Avalanche expects to scale these use cases for global userbases. 212-293-7140 | @LeeorShimron Leeor.Shimron@FundStrat.com The Avalanche core team consists of seasoned professionals and distributed systems researchers. As the CEO and Founder of Ava Labs, Dr. Emin Gün Sirer is a former professor of computer science and networking systems at Cornell David Grider. CFA 💆 University. He developed Bitcoin-NG, a bitcoin scaling solution, and Bitcoin Covenants, a security solution. To develop the 212-293-7144 | @David Grid Avalanche protocol, he successfully built a team with experience in institutional finance, private markets, and technology (Slide 3). David.Grider@FundStrat.com Avalanche aims to build on earlier breakthroughs to develop a fully internet-native economy. Early cryptocurrencies TL:DR offered global, decentralized, non-sovereign, digital money. The second wave of crypto platforms built on the core technology and enabled the creation of ecosystems of programmable dApps. These dApps included DeFi products, NFT collectibles, and other vield-generating apps and use cases. However, these platforms haven't proven themselves to be designed for every use case. Implementing novel consensus Now, a third wave of cryptonetworks are aiming to support a wider range of dApps on cheaper and faster blockchains. By offering that aims to achieve scale, a dApp platform with low fees, high scalability, and network interoperability, Avalanche believes it will enable the creation of a fully security & speed with digital economy on a global scale (Slide 6). unprecedented decentralization Avalanche is organically growing a comprehensive DeFi & Web 3.0 ecosystem. Third-party developers are rapidly deploying Impressive ecosystem growth new DeFi products on the Avalanche (Contracts) C-Chain. These decentralized applications span decentralized exchange, with DeFi & Web 3.0 dApps liquidity mining, lending, synthetic assets, and more (Slide 7). Avalanche's unique, multi-chain framework enables core functions **Risks:** Competing L1s or L2s to interoperate seamlessly, without causing performance degradation as we see in networks that pile all activity into one chain. overcome technical & regulatory This is leading to rapid, precipitous growth of assets, applications, and custom implementations on subnets tailored to enterprises and institutions (Slide 9). challenges Network metrics are competitive with top protocols in terms of scalability, security & speed. In order to host a wide range **Key Statistics** of decentralized applications and build a robust digital economy, the blockchain base-layer must offer decentralization, security, and scalability with low transaction fees. Avalanche's mainnet already offers a transaction settlement layer with characteristics Token Price \$28.13 that are highly competitive with the leading staking networks and proof-of-work cryptocurrencies across these metrics (Slide 11). Range (52W) \$2.79 / \$59.94 Additionally, AVAX's proof-of-stake consensus incentivizes token lockups with high staking rewards (Slide 13). \$3.6B Market Cap Partnerships may help bootstrap network adoption and growth. The Avalanche protocol is a young network that initially Circulating Supply 128.0M launched its mainnet in September 2020, yet it already boasts an impressive ecosystem of partners, integrations, and third-party applications. Beyond DeFi and Web 3.0, the Avalanche Foundation and Ava Labs are building out tooling and infrastructure to Volume (24H) \$210.9M support a wide range of crypto products and use cases. Integrations with the leading crypto exchanges, wallets, stablecoins, and asset tokenization projects could fast track adoption and incentivize users to engage with the Avalanche network (Slide 14). Source: Coinbase (3/31/2021) What could go wrong? Avalanche fails to execute on its roadmap, competing layer-one protocols or second-layer solutions This document is prepared solely for iterate faster and deliver scalable cryptonetworks. Avalanche fails to attract significant developer mindshare and adoption. clients of Fundstrat Global Advisors. For Inquiries, please contact sales at: Bottom line: Although the network is young in its growth and development, Avalanche implements an interesting 212-293-7140; sales@fundstrat.com Bloomberg: FSGA <<GO>>; consensus mechanism that may successfully deliver a scalable and interoperable cryptonetwork to enable a global and Access Research Library fully digital economy of decentralized financial applications and Web 3.0 personal data sovereignty. fundstrat For Reg AC certification and other important disclosures see Slide 17 www.fundstrat.com

Project Overview



Founder and CEO:	Emin Gün Sirer	
Headquarters:	New York, NY	
Founded:	2018	

Summary

- Ava Labs is the New York-based technology company developing the Avalanche consensus protocol and network. Avalanche is an open-source platform for launching highly decentralized applications, new financial primitives, and new interoperable blockchains.
- The project was founded in 2018 by Emin Gün Sirer, Maofan Yin, and Kevin Sekniqi who were all researchers at Cornell University. Sirer is renowned for his contributions to peer-to-peer systems, operating systems and computer networking.

Project Objectives

- Democratize financial markets and bridge all blockchain platforms together into one interoperable ecosystem
- Create the highest performance, most secure, and most energy efficient decentralized protocol
- Next generation blockchain platform enabling anyone to digitize, create, and exchange assets

Value Proposition

- Developers who build on Avalanche can easily create powerful, reliable, and secure applications and custom blockchain networks with complex rulesets or build on existing private or public subnets
- Avalanche gives developers complete control on both the network and application layers–enabling them to build anything they can imagine

Financing History

- The firm is well capitalized having raised \$6 million in a Series A financing round and \$54 million over two token sales
- Ava Labs has backing from leading investment firms including a16z, Bitmain, Dragonfly Capital Partners, Galaxy Digital, Initialized Capital & NGC Ventures



Source: Fundstrat, Ava Labs

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Founding Team Spun Out Of Cornell And IC3, Tech & Finance Expertise

Dr. Emin Gün Sirer	John Wu	Kevin Sekniqi	Ted Yin
CEO and Founder	President	COO and Co-Founder	Chief Protocol Architect and Co-Founder
 Associate Professor (on leave) from Cornell University Creator of first PoW based currency Karma, Bitcoin- NG, Bitcoin Covenants Author of seminal Bitcoin Selfish Mining Paper In 2003, published the first cryptocurrency that uses distributed mint based on PoW 	 Former CEO of the Digital Assets Group at SharesPost Founder of \$500 million hedge fund, Sureview Capital Former portfolio manager at Kingdon Capital and analyst at Tiger Management Received MBA from Harvard Business School and BS from Cornell University 	 Cornell PhD Candidate 2021 (currently on leave) Former researcher and software engineer at Microsoft Former researcher and software engineer at NASA Jet Propulsion Laboratory 	 Cornell PhD Candidate 2021 First author of Hotstuff Consensus Protocol Paper, used by Facebook Libra Blockchain Former research assistant at Vmware, SpeechLab of Shanghai Jiao Tong University, and the Institute for Infocomm Research
SIP SHARESPOST	SUREVIEW CAPITAL LLC	Micros	soft VM Ware

Source: Fundstrat, Ava Labs

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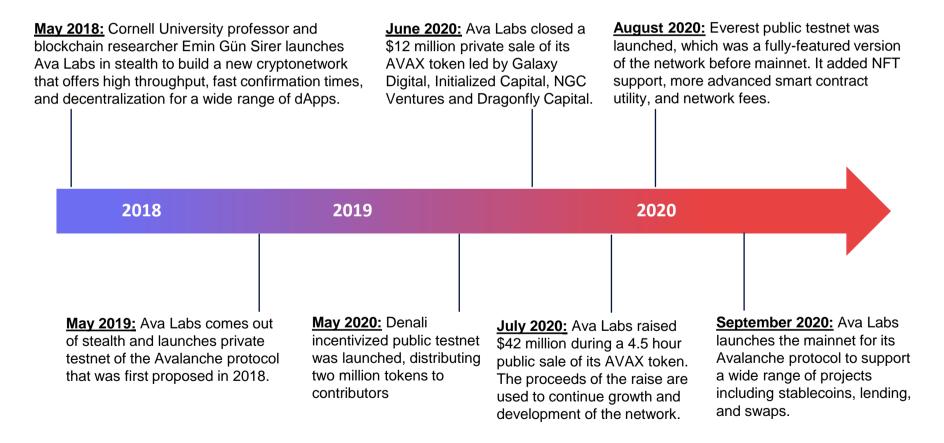
Ava Labs History And Avalanche Protocol Development

In its short history, Ava Labs achieved significant historic milestones

 Avalanche Consensus was initially outlined in a whitepaper by a pseudonymous group called Team Rocket in 2018, an idea Sirer and his colleagues were also pursuing. With those proofs, Sirer, Sekniqi, and Yin began Ava Labs to develop a novel layer-one blockchain based on the proposed breakthroughs.

• Since its founding, Ava Labs raised \$60 million and launched three testnets and the public mainnet of the protocol.

Figure: Ava Labs Historic Milestones



Source: Fundstrat, CoinDesk, TheBlock

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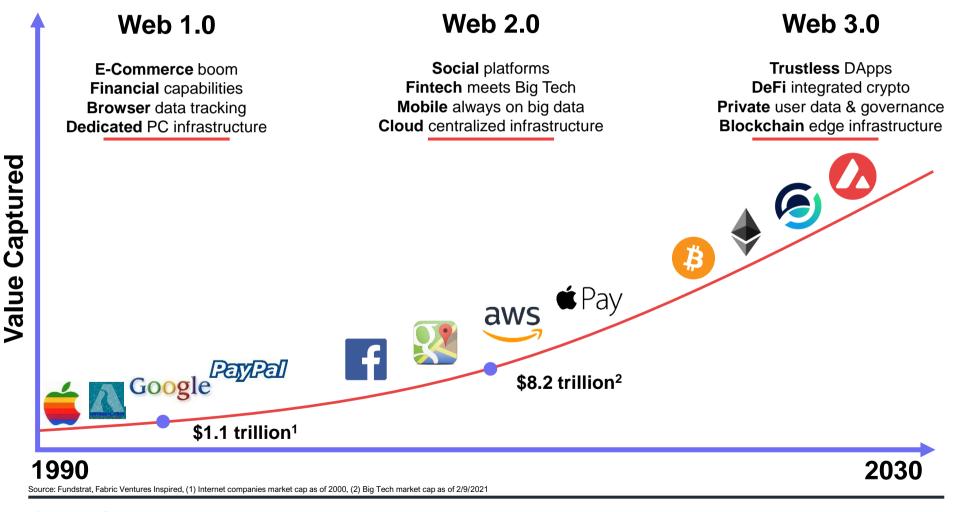
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Cryptonetworks Are Platforms For The Next Era Of The Web Web 3.0 promises to give users back control of their data & privacy

 The internet continues to evolve. Web 1.0 PC networks connected us online and gave as access to information and e-commerce payment gateways. Web 2.0 mobile-first social networks connected us to online communities while algorithms used our data to optimize user experience. Web 3.0 cryptonetworks consist of trustless protocols giving users back control of their data and privacy with DeFi applications natively embedded.

Figure: Evolution of the Web

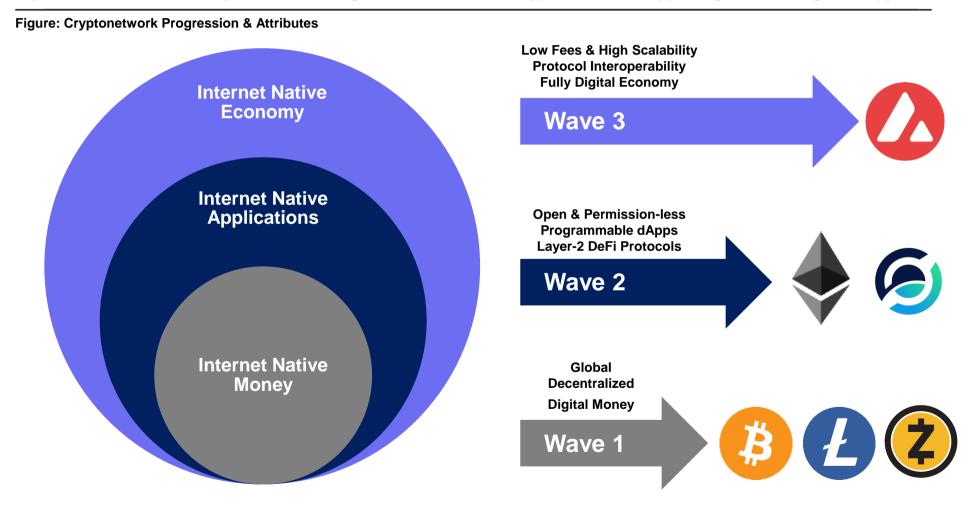


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Avalanche Aims To Develop A Fully Internet-Native Economy Avalanche may solve technical issues to support full range of dApps

• Early cryptocurrencies offered global, decentralized, non-sovereign, digital money. The second wave of crypto platforms built on the core technology and enabled the creation of ecosystems of programmable dApps. These dApps included DeFi products, NFT collectibles, and other yield-generating apps and use cases. However, these platforms proved to be slow and expensive, ushering in the third wave of cryptonetworks supporting a wider range of dApps.



Source: Fundstrat

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Focused On Building Comprehensive DeFi & Web3 Ecosystem Avalanche is making progress within leading DeFi use cases & apps

- Third-party developers are rapidly deploying new DeFi products on the Avalanche (Contracts) C-Chain. These decentralized applications span decentralized exchange, liquidity mining, lending, synthetic assets, and more.
- Since its launch February 9th, Pangolin Exchange had \$855M+ in total trading volume and \$250M+ total liquidity. As tooling and DeFi primitives continue to be built, we expect more developers will flock to the Avalanche platform.

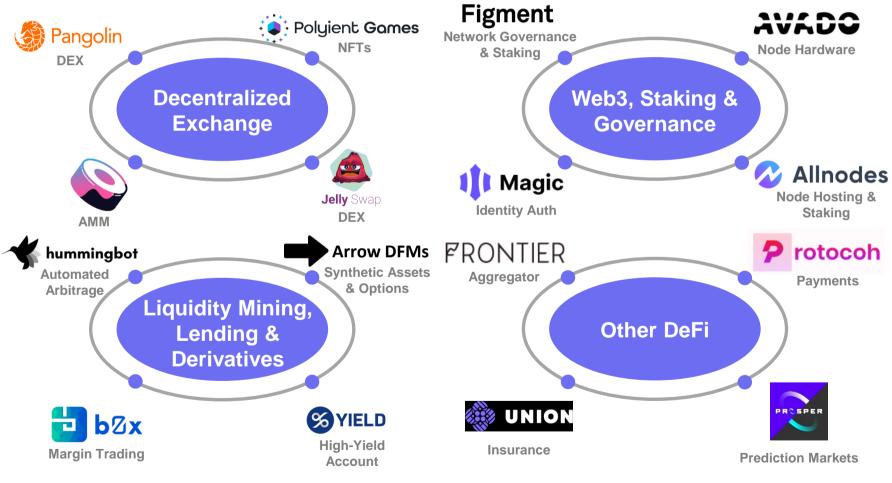


Figure: DeFi & Web3 Ecosystem Projects

Source: Fundstrat, Ava Labs, Pangolin Exchange

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Avalanche Consensus Is Competitive With Leading Protocols AVAX token accrues value as usage of the network increases

- AVAX is the native token of the network and is expected to accrue value as it secures the network, pays for transaction fees, and provides the basic unit of account between the multiple blockchains deployed on the network.
- Avalanche consensus does not require proof-of-work, it is energy efficient and green. It is expected to offer a strong probabilistic safety guarantee in the presence of adversarial actors without sacrificing throughput and scalability.

Figure: AVAX Token & Avalanche Consensus Overview

AVAX Token Overview		Avalanche Consens	<u>sus</u>		
Symbol	AVAX 🔼	Transaction (Tx) Issued Validator Receives Many Tx's Confirm Tx is Valid			
Native Platform	Avalanche			d?	
Primary Purpose	Platform's Native Asset		•••	Yes	Ignore
Price	\$28.13	Query K Select K	K Random Be	gin Repeated	Add Tx to
52 Wk Range (High/Low)	\$59.94 / \$2.79		s (Weighted 🗲 🗕		ist of Valid Tx's
Market Cap (\$M)	\$3.6B				
24H Volume	\$210.9M	Update Tx Confidence Yes Reject Any Tx's That Conflict With			
Circulating Supply	128.0M	Confidences	et?		Accepted Tx
Initial Supply (Locked &		A No		Accept	
Unlocked) / Fully Diluted Supply	360M / 720M	Consensus: Classi		-	
	360M / 720M \$297.4M / 82.6%	Consensus: Classie		-	Avalanche
Unlocked) / Fully Diluted Supply Supply Staked (\$M) /		Consensus: Classie	cal vs Nakamo	to vs Avalanche	Avalanche
Unlocked) / Fully Diluted Supply Supply Staked (\$M) /	\$297.4M / 82.6%		cal vs Nakamo	to vs Avalanche Nakamoto	
Unlocked) / Fully Diluted Supply Supply Staked (\$M) / % Initial Supply Staked	\$297.4M / 82.6%	Scalable	cal vs Nakamo	to vs Avalanche Nakamoto ✓	✓
Unlocked) / Fully Diluted Supply Supply Staked (\$M) / % Initial Supply Staked	\$297.4M/82.6% Correction Service BITFINEX Huobi FTX	Scalable Highly Decentralized	Classical Classical -	to vs Avalanche Nakamoto ✓	√ √
Unlocked) / Fully Diluted Supply Supply Staked (\$M) / % Initial Supply Staked	\$297.4M/82.6%	Scalable Highly Decentralized Low Latency	Classical Classical - - √	to vs Avalanche Nakamoto ✓	√ √ √

Source: Fundstrat, Ava Labs, Coinbase

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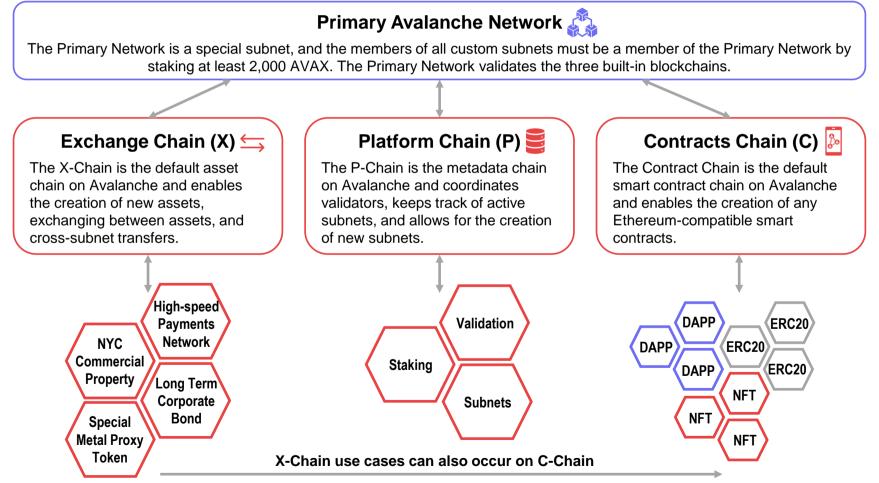
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Slide 8

Avalanche Architecture Enables Platform To Scale With Usage Subnets can be launched to optimize for specific use cases

- Avalanche features three built-in blockchains (subnets) which are all validated and secured by the Primary Network. A subnet is a dynamic set of validators working together to achieve consensus on the state of a set of blockchains.
- Subnets are highly customizable blockchains, allowing for the creation of networks with unique properties and predefined rules such as type of virtual machine, governance, membership parameters, and regulatory compliance.

Figure: Avalanche Network Architecture Diagram



Source: Fundstrat, Ava Labs

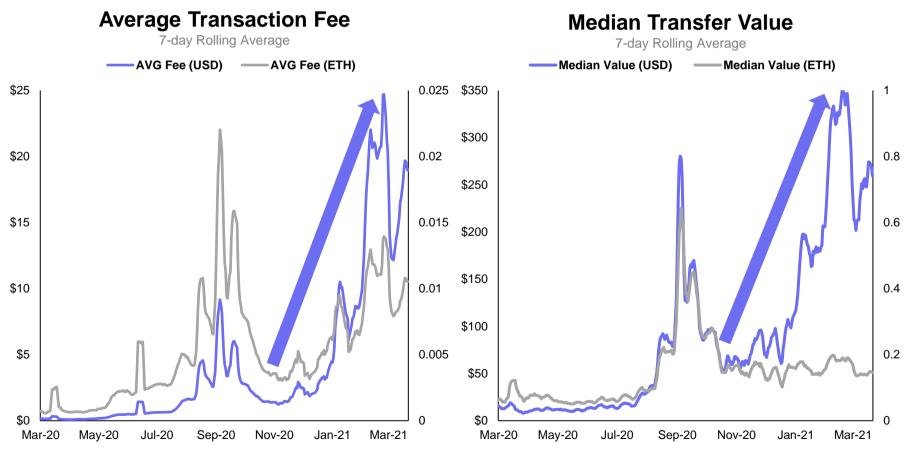
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Ethereum Bottleneck Is Pricing Out Users & Transactions

New protocols may enable products requiring cheaper transactions

- As users dive into new DeFi products, transaction fees on the Ethereum blockchain have skyrocketed. High transaction fees can limit certain use cases and price out smaller users/transactions from the network.
- Ethereum has shown it is useful and has established significant network effects. However, new layer-one protocols focused on scalability and low fees could grow complementary ecosystems and enable novel use cases.

Figure: Ethereum Network 7-day Rolling Average Transaction Fee and Median Transfer Value Date: 3/1/2020 – 3/21/2021



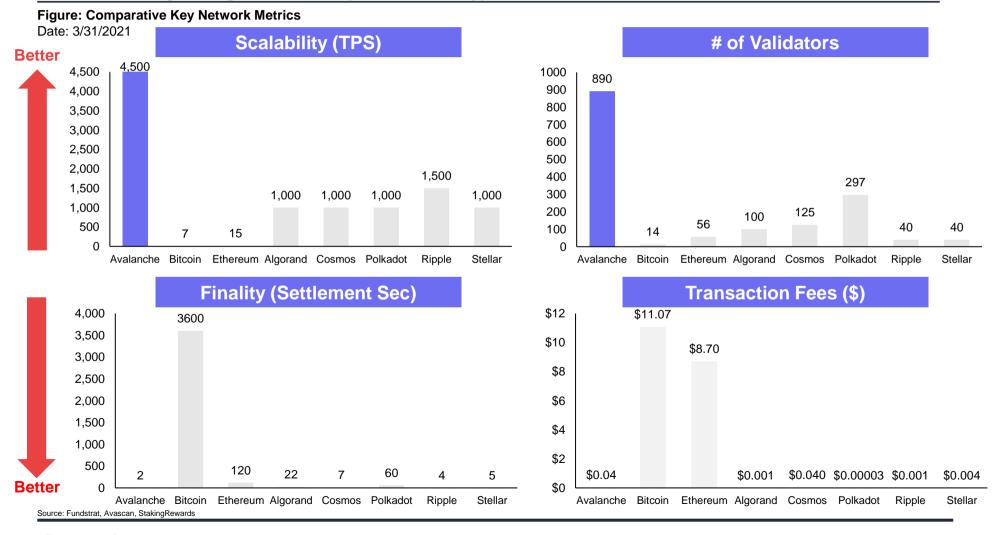
Source: Fundstrat, CoinMetrics

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AVAX Is Competitive In Terms of Scalability, Security & Speed Avalanche Consensus aims to deliver performance without tradeoffs

- In order to host a wide range of decentralized applications and build a robust digital economy, the blockchain baselayer must offer decentralization, security, and scalability with low transaction fees.
- Avalanche's mainnet already offers a transaction settlement layer with characteristics that are highly competitive with the leading staking networks and proof-of-work cryptocurrencies across these metrics.



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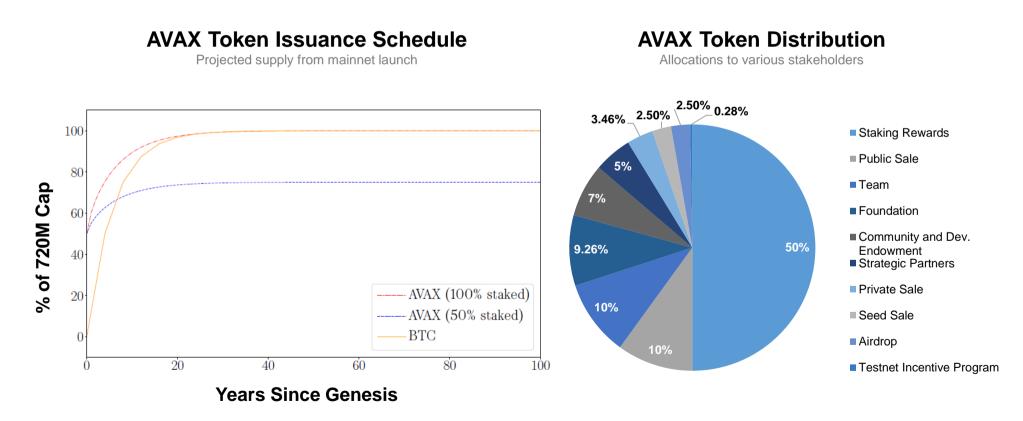
AVAX Token Supply Issuance Schedule



Supply cap of 720M with initial mainnet supply of 360M at launch

- Approximately 50% of the token distribution is allocated as staking rewards and the remaining 50% is split between public and private sale investors, the Avalanche Foundation, the Ava Labs team, grant program, and token airdrop.
- AVAX has a burn and mint model in which user transaction fees are burned and newly minted tokens are rewarded to validators. In the long run, token burns may cause the network to be deflationary as tokens are removed from circulating supply.

Figure: AVAX Issuance Schedule and Initial Token Distribution



Source: Fundstrat, Ava Labs

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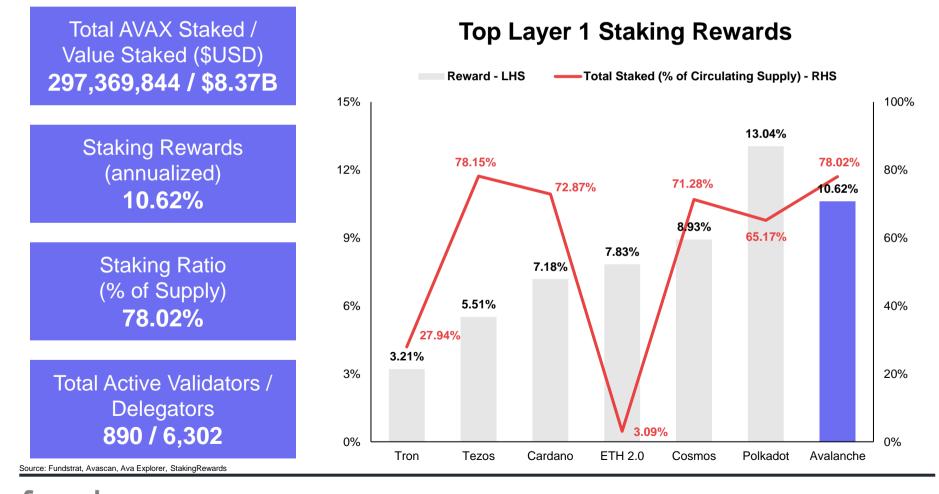
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AVAX Incentivizes Token Lockup With High Staking Rewards Staking reduces circulating supply & allows the network to function

- Validators play a crucial role in processing transaction and securing the network. They must stake at least 2,000 AVAX to participate and receive token rewards based on proof-of-uptime and proof-of-correctness.
- AVAX also has governance properties and network nodes can vote on certain protocol parameters by staking. These may include specific protocol developments and the inflation/reward rate within pre-established boundaries.

Figure: Competing Layer 1 Staking Rewards and % of Supply Staked Date: 3/31/2021

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Building Ecosystem In Fastest Growing Crypto Segments New partnerships support efforts for rapid adoption and growth

• Beyond DeFi and Web 3.0, the Avalanche Foundation and Ava Labs are building out tooling and infrastructure to support a wide range of crypto products and use cases.

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• Integrations with the leading crypto exchanges, wallets, stablecoins, and asset tokenization projects could fast track adoption and incentivize users to engage with the Avalanche network.

Figure: Avalanche Ecosystem Partnerships & Projects



Avalanche-X Grant Program Bootstraps Ecosystem Growth Inviting developers to build critical infrastructure and products

- The grant program is designed to kickstart growth and provide resources for developers and other participants to grow the Avalanche ecosystem. 7% of the total token supply (~50 million AVAX) will be allocated to the Community & Developer Endowment, of which the Avalanche-X program is part.
- To date, the program has funded critical infrastructure and applications including block explorers, payment and trading products, an educational platform, and node and wallet infrastructure, amongst other tooling.

Figure: Avalanche-X Grant Program

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Eligibility	Project Requirements	Grant Size
Ava Labs will consider all applications, whether the applicant is new to the space or a seasoned developer, as long as they want to help grow the Avalanche ecosystem.	All projects must contribute to the growth of Avalanche, as a fully open-source and decentralized ecosystem.	The grant amount depends on the complexity and scope of the project. The maximum limit is \$250,000 unless otherwise stated for specific grants.
Cohort 1 May 19, 2020		Cohort 2 October 6, 2020
Applications	NoTex User Servic	
Financial Products Protocoh	Bloc Jelly Swap	
Tooling / Infra Source: Fundstrat, Ava Labs		

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Appendix - Comparison of network stats, category descriptions and sources

	Scalability (TPS)	# of Validators (Consensus Nodes)	Security (Settlement Sec)	Transaction Fees (\$)	
Avalanche	4,500	890	2	\$0.04	
Bitcoin	7	14	3600	\$11.07	
Ethereum	15	56	120	\$8.70	
Algorand	1,000	100	22	\$0.001	
Cosmos	1,000	125	7	\$0.04	
Polkadot	1,000	297	60	\$0.00003	
Ripple	1,500	40	4	\$0.001	
Stellar Lumens	1,000	40	5	\$0.004	
Description		Sources			
Scalability	Throughput (transactions per second) capacity of the network		Ava Labs <u>https://ripple.com/xrp/</u> <u>https://www.theblockcrypto.com/linked/77349/centres-usdc-coin-is-now-</u> <u>supported-by-algorand-in-addition-to-ethereum</u>		
Consensus Nodes	Number of nodes/miner entities primary affecting technical network consensus (issuing ledger changes) in the last 24 hours		https://avascan.info/staking/validators https://polkadot.subscan.io/validator rs https://www.etherchain.org/charts/topMiners https://www.blockchain.com/charts/pools https://stellarbeat.io/		
Finality	Number of seconds before a transaction is expected to be considered secure against double spend attempts based on historical precedent of reversed transactions		Ava Labs https://ripple.com/xrp/ https://investorplace.com/2021/01/stellar-lumens-should-increase-in-valu		
Transaction Fees Average transaction fee on the network https://https//htttps//https//https//https//htttps//https//ht			https://polkadot.subscan.io/tools/charts https://ethgasstation.info/ https://bitinfocharts.com/comparison/bit https://atom.tokenview.com/en/charts	coin-transactionfees.html	
purce: Fundstrat, Ava Lab	s, Avascan, Ethernodes, Bitnodes, Subsca	IN, RIPPIE, TheBlock	inceptify atomicon conversion of charts		

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Positive (+): The analyst expects the performance of his industry/sector coverage universe over the next 6-18 months to be attractive vs. the relevant broad market benchmark, being the S&P 500 for North America.

Neutral (N): The analyst expects the performance of his or her industry/sector coverage universe over the next 6-18 months to be in line with the relevant broad market benchmark, being the S&P 500 for North America.

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