



# Lite Paper

v1.0

October 2020

[www.cudos.org](http://www.cudos.org)

## Summary

Since the introduction of blockchain technology in 2008, the field has not only become a very active area of research, but also a financial ecosystem with many opportunities for investors and participants. Most recently, DeFi has become its own entity, raising exponentially from just under \$700M in January 2020 to over \$11B at the end of September. Platforms like Uniswap, Maker or even sudden phenomena like the controversial SushiSwap are revolutionising the ecosystem, and users are benefiting from it.

However, blockchain is still a new technology with limitations. While Ethereum's journey to overcome scalability issues by using sharding in 2.0 is slow, alternatives such as NEAR Protocol or Polkadot are emerging, but there is no definitive solution yet. Other recent projects like Algorand also offer interesting solutions, but are missing a Turing-complete layer. In a different direction, projects like Chainlink or DIA are creating data feed oracles, to provide external data to blockchains. Nevertheless, their scope is limited, leaving a space to provide cost-effective compute for blockchains.

This is where Cudo disrupts the market. Cudo is a company created in 2017 by its current CEO Matt Hawkins, after creating and selling C4L, one of the biggest cloud services providers in the UK. Cudo is a scalable compute network, which currently offers a professional mining platform for both amateur users and enterprise, supporting GPU, CPU and ASIC mining.

Cudo's goal is twofold: to provide a secure, Turing-complete layer 2 to blockchains through the CUDOS network, and to provide a cost-effective, low-latency alternative to the main cloud providers, by tapping into the computing power of data centres, mining farms and the millions of underutilised PC's, laptops and gaming consoles. By sharing part of its underlying technology with the CUDOS network, Cudo's cloud computing can effectively be understood as blockchain's layer 3, enabling any kind of workload to be requested from the blockchain and run in a decentralised way using SEV-secured hardware.

## Market Overview

As of September 2020, the cost of 1GB of storage in Ethereum, the most popular smart contracts blockchain, is counted in millions of dollars. The most basic transaction fee (21,000 gas) costs around \$1.5, and the average is over \$3. Compute and bandwidth are also orders of magnitude more expensive than centralised solutions, making its practical use for these tasks unfeasible. While Ethereum 2.0 and other layer 2 solutions as the ones outlined above are trying to solve this problem, there are also blockchain projects trying to provide distributed computing.

iExec and Golem are two representative examples of such projects. However, they have created a complex and highly technical product, which is not customer and enterprise oriented, cannot maintain a high throughput of jobs in the network and, most importantly, cannot ensure continued revenue for their hardware providers. On the other hand, Cudo ensures 24x7 revenue, and thanks to extensive market and technology research has secured partnerships to power its ecosystem. In addition, by having already created a professional mining platform, it already has over 20,000 concurrent devices at any time from over 140 countries, securing an initial user base.

## Centralised cloud computing

On the centralised cloud computing front, the COVID-19 pandemic has accelerated the adoption of many technologies. Cloud services have become even more of a basic necessity for many businesses, as proven by Q2 reports of cloud providers such as Amazon Web Services (AWS). This accelerated growth is not new, as AWS reported a revenue of \$35 billion in 2019, meaning a 35% increase with respect to the previous year. Microsoft Azure and Google Cloud also reported increases of over 50% in 2019 with respect to 2018. However, centralisation and data privacy are big issues with traditional cloud providers, in addition to the limited low-latency options. Cudo is looking to disrupt the traditional cloud scene, by providing personalised, low-latency compute at a fraction of the cost, while creating a new incentivisation culture for hardware providers, who will undoubtedly play a crucial role in blockchain's mass adoption.

[Nasdaq's 2020 Tech Trends report mentions edge computing and blockchain as emerging and blockchain as emerging innovations in industry to keep an eye on.](#)

## CUDO Ecosystem

Cudo Compute is a scalable compute network which generates value for all participants. Platform supporters are rewarded for the work devices contribute to the system, blockchain developers can unlock new functionality by using off-chain data and computation at competitive costs, and consumers of cloud services benefit from cost-effective computing with a high degree of personalisation.

## CUDOS Token

Cudo is introducing its own ERC-20 token, CUDOS, which powers the blockchain part of the network and allows all participants to stake and earn rewards and discounts. The token utility includes:

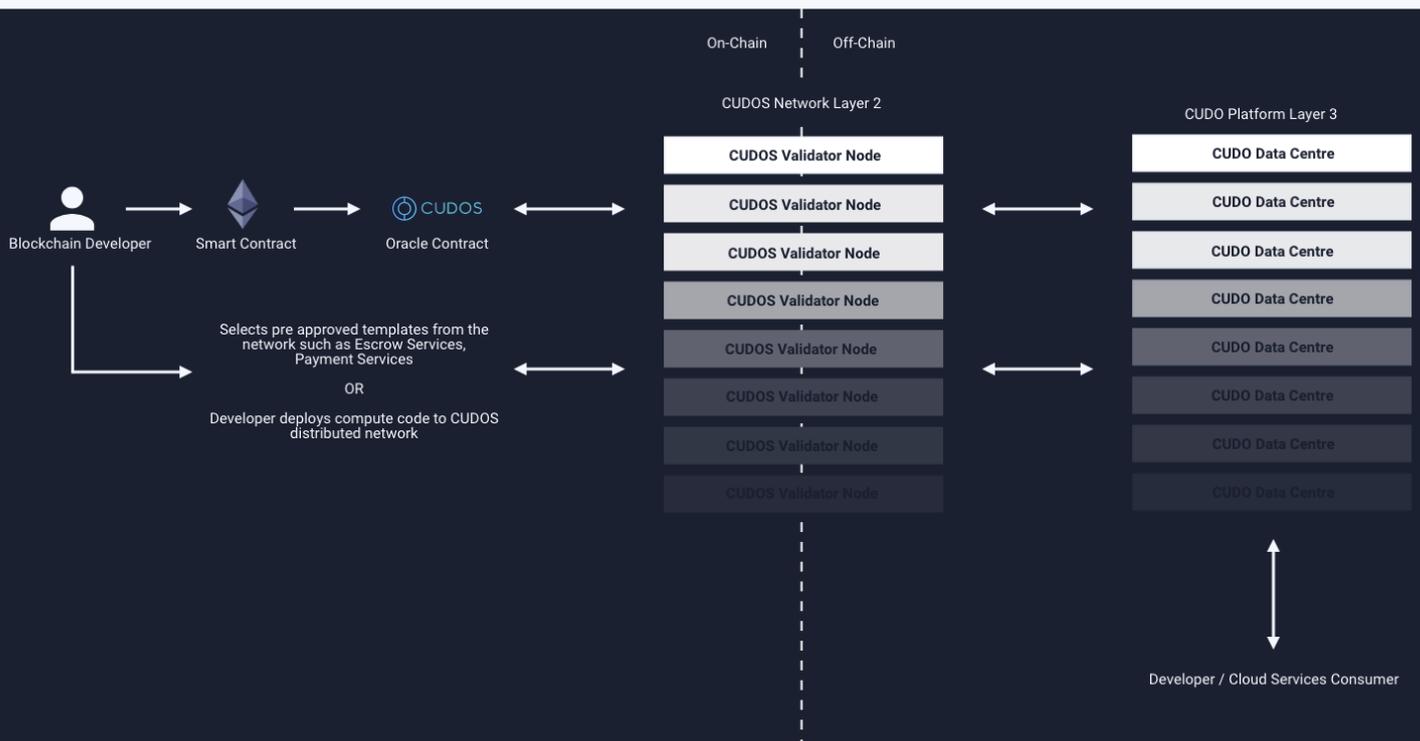
- Staking 2 million to become a CUDOS Validator Node (CVN) and get rewards
- Delegated staking to support CVNs
- MoE powering the CUDOS network
- Staking to qualify for receiving general compute jobs
- Staking to obtain a discount on the fees

CVN's hardware is initially validated by Cudo, to ensure the extra layer of security provided by AMD's SEV is available. Furthermore, all CVNs earn 24x7 revenue from various sources, in addition to the rewards obtained by facilitating the functionality of the network.

Cudo has put a lot of effort into the tokenomics and the token model, and has been advised by some of the industry's leading token economists, including Michal Bacia, AmaZix and Outlier Ventures. As such, the token has been designed to reflect the success of the platform, and to incentivise a healthy ecosystem bringing together token holders, platform participants and the Cudo team. We refer to our whitepaper and to our technical paper for a complete description of the model.

## Platform overview

CUDOS will deploy smart contracts that will act as compute oracles to connect blockchains to the outside world, acting as a layer 2. This connection is done via the CVNs, who will accept job requests, run them securely off-chain in parallel, and then reach a result consensus if necessary before submitting the final work to the original user. Anyone willing to support the platform but not wanting to become a CVN will be able to delegate their stakes to their favourite validator, earning rewards as well for their contribution.



Similarly, hardware providers running more traditional compute jobs through Cudo are able to stake CUDOS in order to get a discount on the fees paid, and also to qualify for different kinds of jobs. The focus for traditional compute will be video rendering at the start with data centres and mining farms, but use cases also include machine learning modelling, simulations in a wide range of industries such as aerodynamics, materials and research, and also many other specific workloads supporting a wide range of industries such as protein-protein docking for biochemistry companies.

## Relevant Links

Whitepaper: <https://www.cudos.org/whitepaper>

Technical paper: <https://www.cudos.org/technicalpaper>

CUDOS website: <https://www.cudos.org>

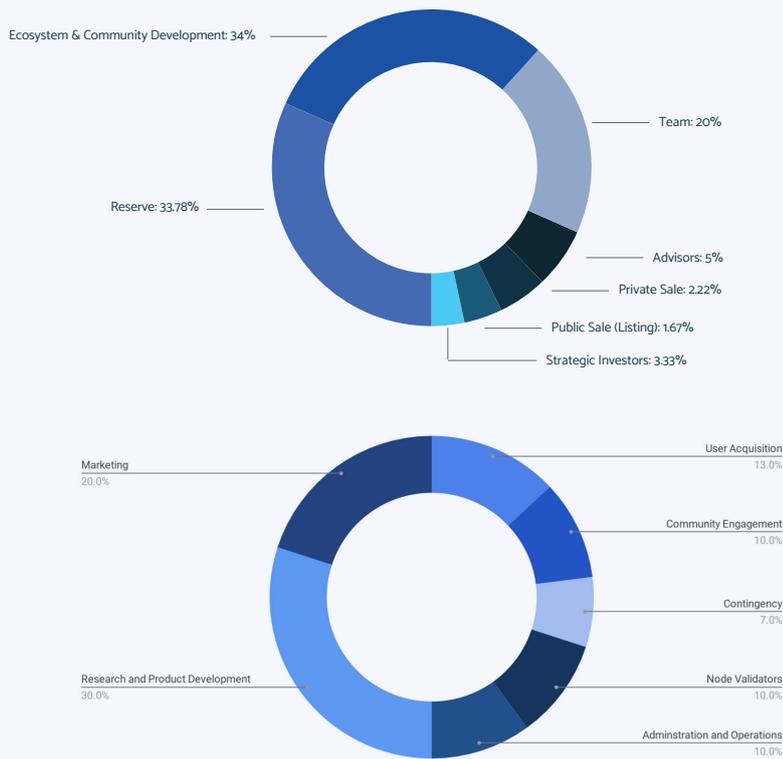
Cudo Ventures website: <https://www.cudoventures.com>

# Token Sale and Distribution

Private sale: 555,555,556 CUDOS	Public sale: 166,666,667 CUDOS
Total tokens for sale: 722,222,222 (7.22%)	
Hard cap: \$3,000,000	

Any unsold tokens in the sale will remain for at most 12 months after TGE with the issuer, and will be released periodically.

The total token supply is 10,000,000,000 CUDOS, which are distributed and used as follows:



# Roadmap and Key Milestones

The company will aim to deliver the project approximately within the time frame set above. Token holders will be advised if the milestones are not achieved.



## Leadership Team



**Matt Hawkins**  
CEO & Founder



**Pete Hill**  
VP of Sales



**Nuno Pereira**  
VP of Partnerships



**Andrew Sturme**  
Chief Technical Officer



**Andrew Walker**  
Chief Revenue Officer



**Lee Woodham**  
Chief Operations Officer



**Pete Willis**  
Lead Developer

## Advisors



**Jorg Roskowitz**  
Director of Blockchain  
for AMD



**Chris Deering**  
Former President and CEO of  
Sony Entertainment Europe  
'father of the Playstation'



**Maggie Fang**  
Early major investor in  
Alibaba and Uber.



**Sean Li**  
Creator of Kitematic,  
Fortmatic and key part  
of early Docker team  
following acquisition



**Malcolm Tuck**  
MD for ESET antivirus.  
Previous MD of  
Kaspersky antivirus



**Chris Gale**  
Co Founder at  
Veracity.io,  
a Founder of an early  
rich media mobile ad  
platform which sold to  
Phunware Inc.

# Disclaimer

## Director's Responsibility Statement

The Directors of Cudos Limited have issued this document, whitepaper and associated documents and have taken all reasonable care to ensure that the facts stated in this document are true and accurate in all material respects, and that there are no other facts the omission of which would make misleading any statement in the document, whether of facts or of opinion. The Directors accept responsibility accordingly.

## Summary of Legal Considerations, Risks and Disclaimers

**IMPORTANT NOTICE:** Please read the entirety of this "Summary of Legal Considerations, Risks and Disclaimers" section carefully. We recommend you consult a legal, financial, tax or other professional advisor(s) or expert(s) for further guidance prior to participating in the Cudos Token Generation Event outlined in This document, the Cudos Documents and White Paper. You are strongly advised to take independent legal advice in respect of the legality in your jurisdiction of your participation in the Token Generation Event. You should note that in the Token Sale Terms and Conditions that you will be acknowledging and accepting as part of the process to participate in the Cudos Token Generation Event, you will represent that you have indeed taken independent legal advice.

Please note that this is a summary of the "Legal Considerations, Risks and Disclaimers" document which can be found at <https://www.cudos.org/token/terms> and which you must read in full before: (i) making use of This document, the Cudos Documents and White Paper and any and all information available on Cudos Limited's (the "Company" or "Cudos") website at <https://www.cudos.org> (the "Website") and/or (ii) participating in the Company's token generation event outlined in This document, the Cudos Documents and White Paper (the "Token Generation Event"). Any undefined capitalised terms below shall have the meaning set out in the "Legal Considerations, Risks and Disclaimer" paper. This summary should not be relied on in place of reading the "Legal Considerations, Risks and Disclaimers" paper in full. The information in This document, the Cudos Documents and White Paper and all information available on the Website shall hereinafter be referred to as the "Available Information".

The "Legal Considerations, Risks and Disclaimers" paper, the full version of which was mentioned above, applies to the Available Information. The contents of the "Legal Considerations, Risks and Disclaimers" paper outlines the terms and conditions applicable to you in connection with (i) your use of any and all Available Information; and/or (ii) your participation in the Token Generation Event, in each case in addition to any other terms and conditions that we may publish from time to time relating to the Token Generation Event (such terms hereinafter referred to as the "Terms").

This document, the Cudos Documents and White Paper states the current views of the Company concerning the Cudos Compute Platform and related matters. The Company may from time to time revise This document, the Cudos Documents and White Paper in any respect without notice. The information entered in This document, the Cudos Documents and White Paper is indicative only and is not legally binding on the Company or any other party. This document is for informational purposes only and does not constitute and is not intended to be an offer to sell, a solicitation of an offer to buy, or a recommendation of: (i) the Company, (ii) an investment in the Cudos Compute Platform or any project or property of the Company, or (iii) shares or other securities in the Company or any affiliated or associated company in any jurisdiction.

The information set forth in the "Legal Considerations, Risks and Disclaimers" paper may not be exhaustive and does not imply any elements of a contractual relationship. While we make every reasonable effort to ensure that all Available Information is accurate and up to date, such material in no way constitutes professional advice. Individuals intending to participate in the Token Generation Event should seek independent professional advice prior to acting on any of the Available Information.

The Company does not recommend purchasing Tokens for speculative investment purposes. Tokens do not entitle you to any equity, governance, voting or similar right or entitlement in the Company or in any of its affiliated companies. Tokens are sold as digital assets, similar to downloadable software, digital music and the like. The Company does not recommend that you purchase Tokens unless you have prior experience with cryptographic tokens, blockchain-based software and distributed ledger technology and unless you have taken independent professional advice.

Citizens, nationals, residents (tax or otherwise), green card holders and/or Restricted Persons of any Restricted Jurisdiction shall not process the Available Information and are prohibited from participating in the Token Generation Event or the purchase of Tokens or any such similar activity.

In no event shall the Company or any current or former Company Representatives be liable for the Excluded Liability Matters.

The Company does not make or purport to make, and hereby disclaims, any representation, warranty or undertaking in any form whatsoever to any entity or person, including any representation, warranty or undertaking in relation to the truth, accuracy and completeness of any of the information set out in the Available Information.

You should carefully consider and evaluate each of the risk factors and all other information contained in the Terms before deciding to participate in the Token Generation Event.

This document, the Cudos Documents and White Paper may be translated to different languages but in the event of a conflict between documents, the English version of the White Paper will prevail.