



CRATOS

The Future of Voting System on the CRATOS app



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1. ABSTRACT

“The Future of Voting System”

The future of the electronic voting system, a real-time voting system platform the CRATOS app and CRATOS (CRTS) Token

CRATOS is a token used within the CRATOS app, a real-time voting platform that has secured a total number of 410,000 downloads and over 156,000 users¹⁾ by far. Through the issuance of CRATOS tokens and the successful operation of the app, we will build a groundwork to develop the existing voting system and step into the advanced democracy.

With the vision of the CRATOS app and its token, CRATOS will become a game-changer that can disrupt the existing voting, public opinion poll, and media markets. This whitepaper has specified the detailed items thereof.

1) Korean version of the Cratos (300K downloads, 100K users), Global version (130K downloads, 200K users)

CRATOS

The Future of Voting System



2. BACKGROUND

“Democracy is not just the right to vote; it is the right to live in dignity.”

by **Naomi Klein**

Through which channel are you hearing the news? And how much can you rely on the news? In the midst of the Internet era, most people hear the news via various media. Sometimes, they see the news through communities or by watching TV news, and recently through new medium such as YouTube. Would there be any chance where neutral or objective news can exist? Looking at it from a journalism perspective, it is difficult for an objective news/facts to exist in this world.

The community, including social media, we visit often consists of biased groups or gatherings of people having a similar disposition with the readers. The social media algorithm analyzes users' preference to continuously show us threads that suit users' tastes. It can never expose the news having dispositions that do not match with users' preference. If we read the news that are in our taste through social media, we get to feel that current public opinion is similar to what we think.

Most large media corporates are driven by sponsorship received from political groups or the capital strength of advertisers. Therefore, as the media is in the influence of political groups, it is unable to purely deliver objective facts. Large press companies we are well familiar with clearly indicate either conservative or progressive tendency, and their chief editors are selectively delivering the news that is preferable by their forces or groups.

The public opinion poll or survey is not that much different either. Survey research organizations are implementing the public opinion poll on state affairs every week, and also its other various types such as the survey on the approval rating of presidential candidates, etc. when the election period approaches. It is deemed that public opinion polls or surveys proceed fairly. However, the results often exceed the error range depending on which organization conducts the public opinion poll with a similar question, and the result values of the poll change depending on the nuance or expression of the questions. In addition, the results of the poll may vary depending on which organization carries out or commissions the poll.

If we accept the above-mentioned biased news or the results of public opinion polls without critically thinking it through, the views distorted by the media are engraved on our minds. We get to think that information exposed from the news may be objective, and it is easy for readers to assume that the public opinion polls reflect the public opinion fairly and accurately.

The CRATOS app has been designed for those people who are questioning about all the edited information and news that exist in this world. It also has been devised for people who respect a single vote, which is precious for democracy.

Since it is difficult to confirm public opinion due to the distorted information of the world, we have created a voting system where multiple number of people can participate in voting without having distorted views. Just like in the ancient Greece where the people had developed democracy through the direct voting system, we are also planning to proceed the app similarly.

The direct voting system used in the ancient Greece was impossible to scale up as all citizens had to gather at a particular place to vote. However, it is deemed that the 21st century is the optimum period to proceed scale-up due to developed system and technologies.

The term 'democracy' is a compound word between 'Demos', which refers to the people, and 'Kratos' meaning power and authority. This means that the foundation of democracy is stated as 'authority (power)' comes from the people.

To inherit the spirit of democracy from the early stage, we have named the token & the app to CRATOS (CRTS), and proceed a project for the existing voting system reform and democracy development.

3. EXECUTIVE SUMMARY

The CRATOS app is a real-time voting system. It raises objections to the issues with the existing biased media corporations and the public opinion poll system with limitations. The planning of the system has started with the beliefs that if the absolute majority of users participate in voting and vote-rigging is prevented by restricting voters on one vote per-person basis, we will be able to confirm the public opinion faster and more reliable than the conventional public opinion poll.

Moreover, we think that it is necessary to have a place for a heated discussion, which is called the beauty of democracy. The problem with the existing internet communities was that they are highly biased and had a closed-minded view to exclude those users who claim different opinions from the associated groups.

Thus, we are making an effort to create a community where the left and right can coexist, and at the same time, a public community that overcomes the limitation of a community by also including shy-moderates (the users having shy and moderate tendency)

Through its launch in December 2020, the CRATOS app has currently achieved over 600,000 downloads and over 300,000 users as of Oct 2022. The community has been developed so as to include about two-thirds of its members having progressive and conservative tendencies in nature, and the remaining one-third as moderates.

The app's usability can be maximized if the voting app allows absolute majority of citizens to participate in voting during the early planning stage of the system. Thus, to allow many users to participate and to equip with a compensation system for it, it is now connected to the blockchain system.

By issuing ERC 20-based tokens to the voting app, we are compensating the users' participation with CRATOS tokens, and trying to build a crypto ecosystem.

In addition, the vote results would be recorded on blockchains in order to secure the vote results.

Multiple number of participants can be acquired through providing a proper reward to participants engaged in the movement of democracy. Also, the more participants engage in it, the more accurate public opinion can be reflected in CRATOS.

The participants of the CRATOS app can receive the following rewards: 2)

- Reward of 500 CRTS for member registration to the app
- Reward of 2 CRTS for voting participation in the app
- Reward of 25 CRTS for creating a voting thread in the app
- Reward of 10 CRTS for posting a comment on the app

2) This reward above is available between Aug 2022 and Dec 31st, 2022. It is subject to change based on increased number of users in the future and the issued number of tokens. Its details will be announced in the website or the app, CRATOS.

4. ABOUT THE CRATOS APP

The CRATOS app is a real-time voting system launched in December 2020 and December 2021 (Global version). It can be used now by downloading it from the Android Play Store and Apple App Store. Major features and UI of the app are as following:

A. Major features

I. A real-time vote posted by the users

Anyone can generate a vote once per day³⁾, and they can participate in voting immediately. Once the users start voting, the results can be aggregated in real-time.

The statistics of the results are indicated comprehensively by gender and age group.

For intuitiveness and simplicity of UI, the real-time voting can establish binary options at this moment. We are planning to add an advanced feature later.

II. 'CRATOS' posted by the administrator (administrator's vote)

For CRATOS votes posted by the administrator, the voting items related to real-time issues are posted with a neutral and objective view. In contrast to the case for the "real-time voting" described above, the statistical values remain invisible until the voting is over, in order to maintain objectiveness of the voting.

III. Public Opinion Poll

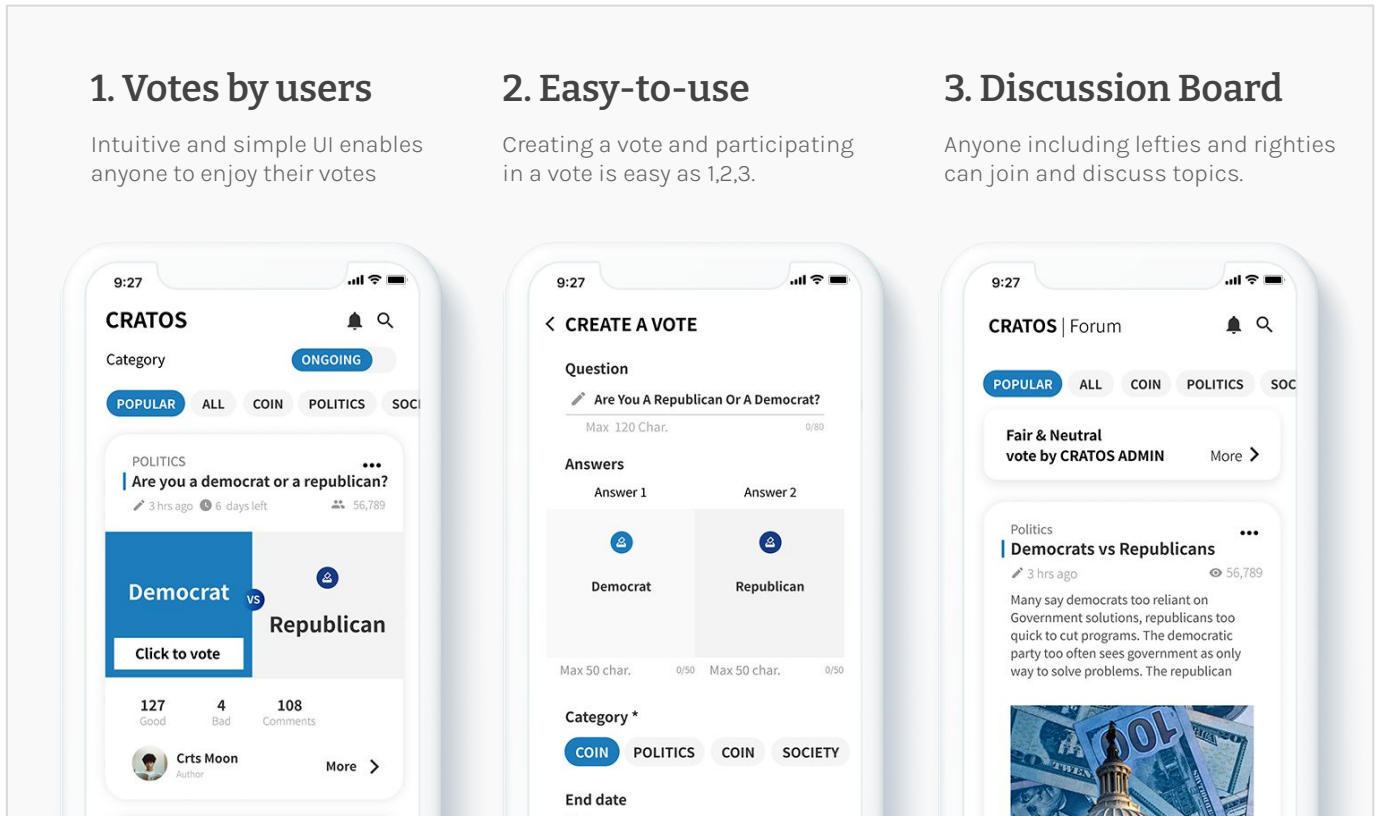
As of Oct 2022, there are many media partners in Korea, i.e. Newsis, PAXNet News, GreenEd News, and CoinNess, which have been using our public opinion polls. The competitive edges of the Cratos' service is to provide the accurate data with a faster time, process at an affordable cost.

3) A CRATOS policy to prevent the users from establishing a vote indiscriminately and to promote them to establish voting items carefully.

IV. Discussion board

The discussion board is a place where the users can have a free discussion on a single topic.

B. The CRATOS app UI



< Figure 1. The app UI >

C. Community guideline

CRATOS is an app with multiple users participating in voting, and through accurate compliance with the community guideline, we are promoting a cleaner and more productive discussion compared to other apps.

I. Guidance on common regulations for voting and discussion board

CRATOS promotes constructive and productive discussions and criticisms through the members' democratic and fair atmosphere. We hope that the community is managed based on respect and understanding among the members with different tendencies, and the following are the community guideline to accomplish that. We understand that the members may find it unyielding when votes, discussions or comments are deleted sometimes. However, please regard this as one of the solutions to maintain the community properly.

- a. In members should use the honorific to each other.
- b. In the case where a member condemns or curses a certain member without any cause, the relevant comment, the discussion or vote will be deleted.
- c. In the case where a member condemns or curses certain group without any cause with respect to voting topic or discussion content, the relevant content will be deleted by the administration team.
- d. For votes, discussions, or comments regarding the deceased, more strict guidelines shall apply in accordance with the internal policies of CRATOS.
- e. Votes, discussions, or comments that instigate a trouble or have an impolite intention will be deleted by the administration team.
- f. Contents that do not suit the relevant category will be deleted by the administration team.
- g. Clickbait, promotional or sexual contents (comments, discussions, or votes) will be deleted by the administration team.
- h. An identical content posted up repetitively will be deleted by the administration team.
- i. A user should only use a single account. If illegal behaviors such as one person using multiple number of accounts, transferring or lending his/her account are caught, the relevant account will be deleted by the administration team.
- j. Contents (comments, discussions, or votes) that are reported by another member five times will be automatically deleted by the system regardless of details of the contents.
- k. A member who continuously reports another member indiscriminately or falsely will be dropped out by the administration team arbitrarily.
- l. A member who has an unpleasant profile photo or nickname will be dropped out by the administration team arbitrarily as it can make an unpleasant impression to other members.
- m. A thread posted repetitively by a single user can become the target of receiving restrictions.

II. Voting-related regulation

The voting function of CRATOS is a core function of democracy, a foothold for making a better society, as well as a way to express opinion freely. CRATOS strives to create votes in an objective and neutral position, and also show people's opinion as statistics. Thus, compliance with the community guidelines is an essential element for maintaining the community.

- a. Vote topics (questions) should remain neutral, and questions that derive biased answers can be deleted by the administration team.
- b. For votes, we also recommend you to provide answers to both choice alternatives with the same proportion. If answers to one side of the choice alternatives are more advantageous or the vote includes choice alternatives that derive certain answers, the vote can be deleted by the administration team.
- c. Comments that are irrelevant to votes or comments, which include sexual or raw criticism, can be deleted by the administration team.
- d. Contents that may lead to making a slander to a certain member or group, as well as dissemination of false information can be deleted by the administration team.

III. Discussion-related regulation

Discussion function of CRATOS is a mean to allow communication among the members having different political or personal tendencies, and it exists to respect and understand other members, as well as to find a middle ground that is more constructive. To make a community that allows communication and discussion with other members instead of pouring out raw criticism, we request you to comply with the following community guidelines.

- a. Although the members can freely post topics (questions) and contents of votes, threads that contain raw criticism, sexual or cursing words can be deleted by the administration team.
- b. Comments that are irrelevant to the topic or that contain sexual, or cursing words can be deleted by the administration team.
- c. Contents that may become a criticism to a certain member or group or dissemination of false information, can be deleted by the administration team.
- d. Discussion-related links should be relevant to the discussion thread, and links that can cause damage to the users such as those containing promotional links or malignant codes, etc. can be deleted by the administration team.
- e. Images that contain sexual or raw criticism can also be deleted.

5. PROBLEM & SOLUTION

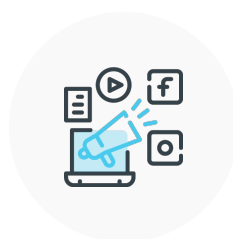
CRATOS aims to complete building 'The Future of Voting System', and also to solve the following problems in the existing market.



**Lack of fair voting
and public opinion
polls**



**The existing
community having
extreme political
tendencies**



**Media having
political colors**



**Inefficient
voting system**

A. Lack of fair voting and public opinion polls

When each election ends, the voters will not be perfectly satisfied with the election results. For rigged election controversy, people always raise doubtful points to the ruling/opposition party regardless of the government. This proves that the currently existing voting system has a significant problem, and also means that there is a sufficient demand to disrupt the market.

Unsatisfaction towards the results is not clearly indicated only in votes, but also in public opinion poll. There is a considerable number of people who always have doubtful points on the results of public opinion poll in surveys on the approval rating of presidential candidates and government operation, which are carried out by well-known public opinion agencies. It is hard to efface the impression that the results vary depending on which agency conducts the public opinion poll and that result data, which suits the tendency of the commissioned agency, are derived by the media that commissioned the poll.

CRATOS will become a system where most of the people can participate in voting and check its results within 5 minutes, by moving beyond the scope of merely providing fair and objective voting and surveys for groups of minority (a sample group of 1,000 people), which are conducted under public opinion polls.

B. The existing community with extreme political tendencies

There are a vast number of online communities in the Republic of Korea. Although most online communities were initiated without having anything to do with politics in the early period, they clearly showed political colors as users gathered. As time passed by, a phenomenon occurred where the community rejects opinions of users that are far apart from the political colors preferred by the community are rejected. The beauty of democracy is based on seeking a better solution by discussing and exchanging different opinions with others, as well as understanding and respecting one another.

Currently, CRATOS is the only voting platform in Korea where all the left/right and moderate users participate in voting. It promotes a constructive and healthy discussion, and it is the place without unpleasant and groundless criticism, provocative language, or political provocateur.

It is overcoming disadvantages of the existing community, and especially, developing into a platform where shy-moderate users can comfortably voice their Opinion. In addition, it can be regarded as a good case of overcoming limitations of the community where existing moderate users had a hard time settling in.

C. Media having political colors

Most of the media that we encounter exhibit political colors. Major media press corporations and broadcasting companies also distribute the news, which suits the taste of the ruling party that sponsors or supports them. If the reliability of the news has decreased, the people use the belittling word 'trash reporters' to devalue the reporters, creating a bad image of the media that instigates people.

If we can confirm public opinion of all people from the CRATOS app in real-time, the political instigation through media will decrease rapidly, and it will also become a great help for development of democracy.

D. Inefficient voting system

The budget used in the general election held on April 15, 2020, in the Republic of Korea had reached \$350+ million USD⁴⁾. Moreover, a tremendous amount of budget was used unnecessarily for the by-election held on April 7, 2021, as well. Today, the entire world is in the midst of the fourth industrial revolution, and the intact services are increasing dramatically due to the COVID-19 which had occurred in 2020. Despite the progress on social distancing implemented due to the COVID-19, people are still adhering to the inefficient voting method where they should gather in a single place to proceed to vote.

Due to the aging population, the number of the workforce is decreasing and the budget burdened by the country is increasing slowly. In the midst of this circumstance, it is highly necessary to have a way to reduce the budget used as taxes more than ever before.

If we can realize the untact voting system at the national level by applying KYC to electronic voting system of the CRATOS app, it is expected that enormous social benefits and positive effects will emerge.

4) Reference: Total general election budget of 350+ million USD... the value of a single vote as 40K USD
<https://www.ksilbo.co.kr/news/articleView.html?idxno=758387>

6. VISION

Vision of CRATOS

CRATOS is aiming to become the public voting app.

As the public voting app, more accurate data shall be shared by allowing the entire public to participate in voting. To achieve that, it is necessary to introduce a compensation method, which can attract multiple number of participants. We are trying to introduce token system for this purpose.

Providing rewards to participants is an expression of respect for voting and mutual opinion exchanges, which are the foundation of democracy. To prevent negative use and rewards of tokens, we are planning to configure the community guidelines for strictly managing the machine-based voting or thread posting behaviors.

CRATOS has an objective of becoming the public voting app within 2 years, and the administrator voting, which is the core function of the app, will be prepared from an objective perspective. Through objective questions that exhibit a higher level of fairness than the existing public opinion poll agencies, we will allow the entire public to voluntarily participate in voting within 5 minutes, thereby bringing an innovative change to the voting system.

This will become a game-changer that disrupts the existing public opinion poll agencies and media.

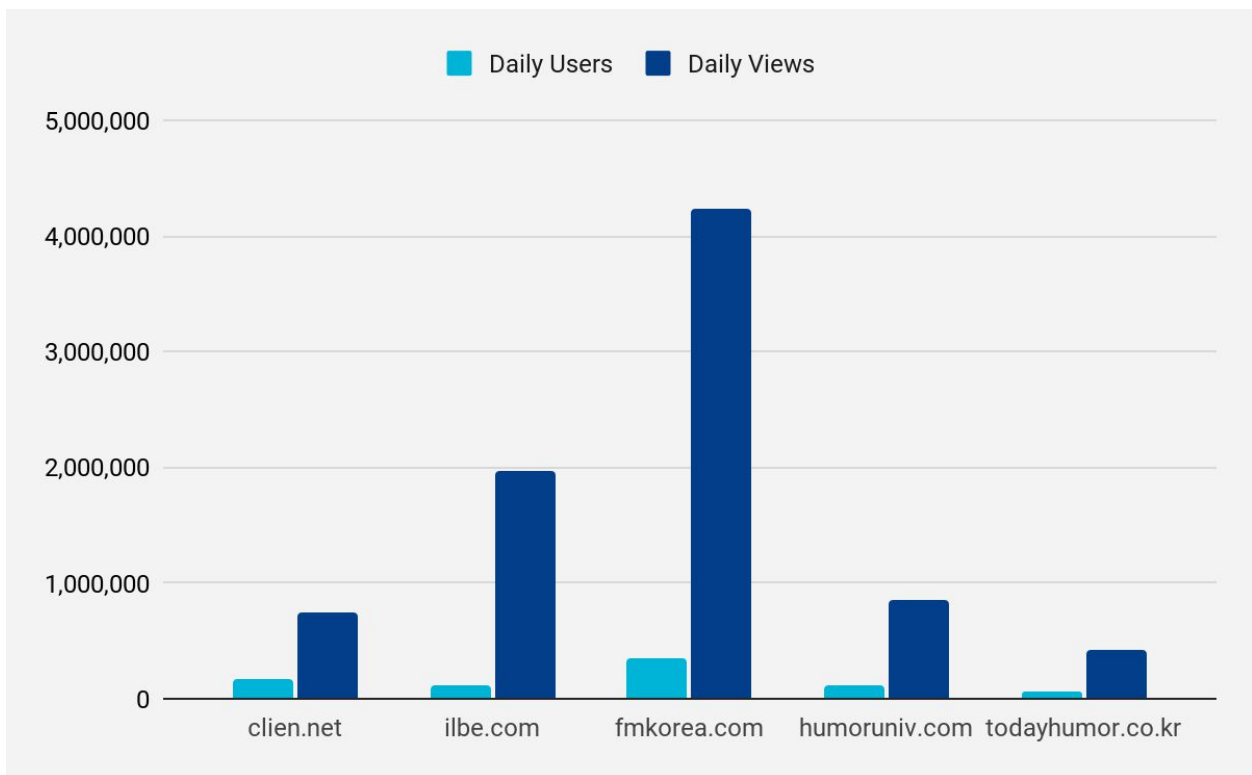
For the CRATOS version 3.0, we will introduce a voting system that can certainly secure KYC (Know Your Customer) to bring a large-scale change to the inefficient voting method currently used in Korea. In the existing voting method where voting is made at polling places, tax amount of \$500M USD⁵⁾ or more is wasted during each election period. Also, a lot of human and material resources are wasted for election items, facilities, and materials, etc. Therefore, CRATOS aims to change the current inefficient system by continuously upgrading its live electronic voting system, in order to reduce inefficient consumption of resources.

5) Reference: Budget for local government election held on June 13th as 1,700 billion won... looking at the local government election with its figures <https://www.hankookilbo.com/News/Read/201806041782070978>

7. MARKET

The markets that CRATOS aims to enter include Korean market as first, Chinese market as second, North American market as third, and the global market at the last. The target customers of Korea may be the entire public, and the app is planning to evolve into the public voting app through a planned Go-to-market Strategy.

The target users of the early period in Korea by CRATOS are currently the user groups who are largely interested in politics, and currently the users who enjoy using online communities having political tendencies.



< Figure 2. CRATOS Competitive Analysis >

Total number of users of major online communities in Korea, which include ClieN (www.clieN.net), Ilgan Best (www.ilbe.com), FMKorea (www.fmkorea.com), Humor University (www.humoruniv.com), and Today Humor (www.todayhumor.co.kr) is more than 800,000, and their members exhibit extreme conservative/extreme progressive tendency for their political orientations.

Number of users reading the news via NAVER and Kakao, which are similar to Google in Korea, surpasses 60 million⁷⁾, and Korea has relatively higher interest in politics compared to other countries. Thus, the development into the public voting app means developing into an app used by about 50 million people. If CRATOS service can be applied to the general election and presidential election, which are voting events conducted at the national level, this will lead to occupying a large market where the country becomes its client.

In CRATOS, 15,000 or more vote items have been published by far. If Big Data analysis technology can be utilized, estimation can be carried out to find out which side between progressive and conservative groups has a higher proportion as ratio (%), and not by classifying the user's political orientations into left/right in a dichotomous way. Therefore, it can provide much more accurate data than the existing public opinion poll.

For instance, in the case where user 'A' of CRATOS participated in 100 votes, provided 75 progressive answers and 25 conservative answers, the user can be analyzed as a simple progressive supporter by other public opinion poll agencies. However, Big Data analysis of the app indicates the user as having progressive orientation of 75%. Therefore, it will allow more detailed analysis of the user than the existing public opinion poll.

More accurate data means that the result values are more accurate than the single-time public opinion poll, which is used by the existing public opinion agencies. Various types of media or political (institutions) can rely on data of CRATOS more reliably, thereby allowing it to advance into a larger market.

The existing public opinion poll targets a sample group of 1,000 people and applies error values on the results. In addition, the poll is preceded by consuming at least \$20K USD. The CRATOS app will become an innovative platform that enables a faster data analysis as 100,000 or more users participate in each voting item.

7) Reference: Kakaotalk stays longer than NAVER... NAVER is more advantageous for portal, map and webtoon services.
https://biz.chosun.com/site/data/html_dir/2020/07/09/2020070901297.html

8. CRATOS TOKEN

The name of CRATOS is derived from the democracy of the Ancient Greece. The term ‘democracy’ is a compound word between ‘Demos’, which refers to the people, and ‘Kratos’ meaning power and authority. This means that the foundation of democracy is stated as ‘authority (power) comes from the people.

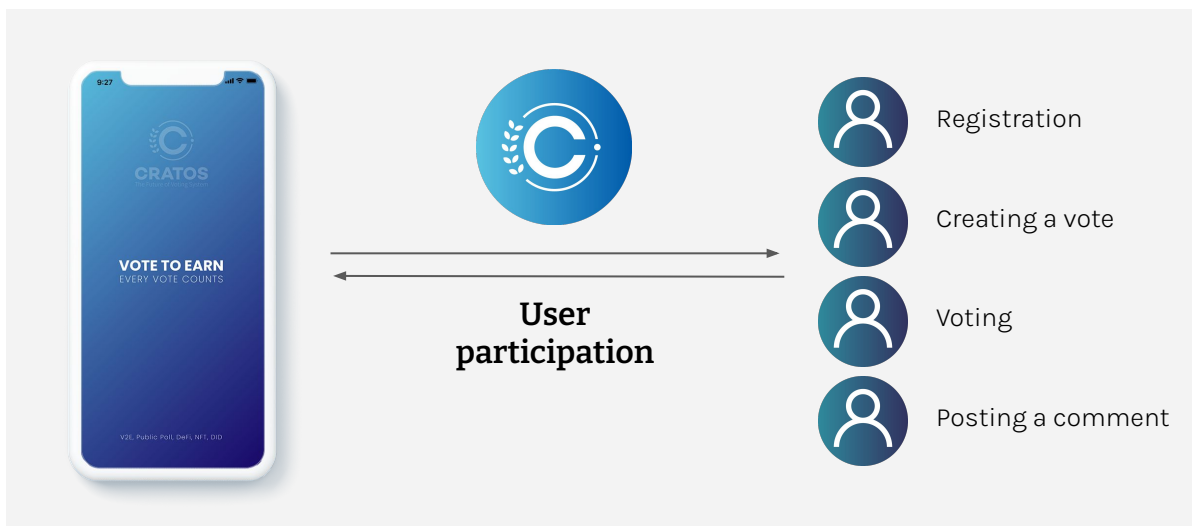
Information on CRATOS (CRTS) are as follows:

Item	Details	Remarks
Name	CRATOS	
Symbol	CRTS	
Standard	ERC-20 Token (& BEP20 available)	
Maximum Supply	100,000,000,000 CRTS	

Value CRTS only has potential value and is not secured or guaranteed as a certain asset or a particular price.

CRATOS token does not represent ownership or rights of the CRATOS app.

As a compensation for the authority coming from the public, which is the foundation of democracy, CRATOS will compensate for the following activities:



< Figure 3. CRTS token Economy >

A. Rewards standard: From July 1st, 2021 to December 31, 2021 (Ended)

Activity	Amount	Remarks
Registration	2,000 CRTS	The first time only
Vote participation	10 CRTS	Daily limit : 500 CRTS
Vote generation	100 CRTS	Daily limit : 100 CRTS
Commentation	20 CRTS	Daily reward limit : 100 CRTS

- The details on the above-mentioned reward will be provided on a six-month basis. Any updates or changes of standard will be announced on the app and CRATOS' official website 1 months prior to its occurrence and necessary actions will be taken.

Rewards for initial participation in the CRATOS app are as follows. As the app has made a record of 200,000 or more downloads within a short period, it is expected that number of users will increase exponentially within a short time due to the app's gamifications and compensational elements the users can experience. In addition, if multiple number of users is compensated for the tokens, the sell volume of tokens will exceed the buy volume of the tokens in the crypto exchange where CRATOS will be listed. This will become an uncertainty for CRATOS owners and purchasers. Therefore, CRATOS plans to prevent CRATOS price drop through various methods, which will be implemented through paragraphs (B) and (C).

B. Reward standard after halving: From Jan. 1st, 2022 to June 30th, 2022 (Ended)

Activity	Amount	Remarks
Registration	1,000 CRTS	The first time only
Vote participation	5 CRTS	Daily limit : 250 CRTS
Vote generation	50 CRTS	Daily limit : 50 CRTS
Commentation	10 CRTS	Daily reward limit : 50 CRTS

- The details on the above-mentioned halving period will be provided on a six-month basis, and the reward standard is subject to change depending on increase rate of number of users. Any updates or changes of standard will be announced on the app and CRATOS' official website 1 months prior to its occurrence and necessary actions will be taken.

C. Rewards standard: From Aug 1st, 2022 to December 31, 2022

Activity	Amount	Remarks
Registration	500 CRTS	The first time only
Vote participation	2 CRTS	Daily limit : 140 CRTS
Vote generation	25 CRTS	Daily limit : 25 CRTS
Commentation	5 CRTS	Daily reward limit : 10 CRTS

- The details on the above-mentioned reward will be provided on a six-month basis. Any updates or changes of standard will be announced on the app and CRATOS' official website 1 months prior to its occurrence and necessary actions will be taken.

To respect the users who trust the visions of CRATOS, as well as to compensate for democratic participants who engage in those visions, CRATOS is planning to burn the tokens to prevent excessive selling in the following cases:

D. CRATOS token burning: Every 6 month from Jan 1st, 2022 if the conditions are met.

Condition	Amount	Remarks
The app user increase from the previous year is less than 100%	5% of the initial supply burning from Reward Pool (36%)	i.e.) Comparing users at 0 AM on 01/01/2022 with users on 01/01/2021

- The details on the above-mentioned burning will be provided on a six-month basis, and a fluctuation may occur depending on CRATOS distribution amount and liquidity. Any updates or changes of the standard will be announced on the app and CRATOS' official website 1 months prior to its occurrence, and necessary actions will be taken.

Since CRATOS tokens are generated with a limited quantity and burned due to the above-mentioned token burning condition, there may be a shortage of tokens for reward. If that occurs, tokens will be purchased from the crypto exchange, not from the token holders, and the token holders do not have a right against CRATOS to redeem their CRTS tokens. The entire amount of the purchased tokens will be used for rewards for the participation, which is prescribed in paragraph (A). Moreover, as there are chances where an unexpected spike in price will occur if the purchasing amount is much higher than the selling amount during the buy back process, the buy back process will be made through the following criteria.

E. CRATOS token buy back criteria

Criteria	Time of purchase	Remarks
The maximum limit of daily purchase shall not exceed 3% of the trading volume on the previous day	Purchase time should not be announced to prevent any spike	The purchase is only from the exchange, not from the token holders. The token holders do not have a right against CRATOS to redeem their CRTS tokens.

- The details on the above-mentioned buy back will be provided on a six-month basis, and a fluctuation may occur depending on analysis on CRATOS distribution amount, liquidity and the reward amount. Any updates or changes of the criteria will be announced on the app and CRATOS' official website 1 months prior to its occurrence, and necessary actions will be taken.

F. Token Transfer Process

Classification	Details	Remarks
Minimum amount	50,000 CRTS	
Minimum unit	50,000 CRTS	
Transaction fee	2%	i.e.) 1,000 CRTS Tx fee for 50,000 CRTS transfer request

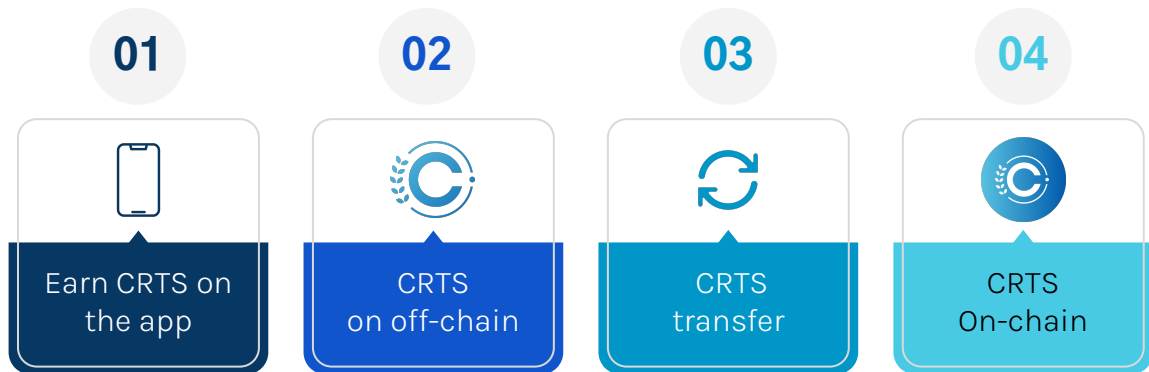
- The details on the above-mentioned transfer is subject to change. Any updates or changes of the transfer will be announced on the app and CRATOS' official website 1 months prior to its occurrence.

The participants of the app will receive rewards of CRTS tokens through the processes of member registration, vote creation, vote participation, and comment posting, etc.

In general, tokens shall be automatically on-chain when they are generated. However, in the case of the app and CRTS, each activity has a small amount in reward, and the transaction fee(gas fee) of ERC20 tokens will be relatively high. The transaction fees may be higher than the transfer amount.

For this reason, tokens acquired from the CRATOS app are stored in off-chain. When the user acquires 50,000 CRTS or more, the tokens will be On-chain through the 'token transfer request', and users can send the off-chain tokens to a designated place.

2% transaction fee is applied when transferring. For example, a charge of 1,000 CRTS is deducted for each 50,000 CRTS transfer request. Therefore, when remittance request is made for 50,000 CRTS, 49,000 CRTS (which excludes the charge of 1,000 CRTS) will be transferred.



<figure 4. CRTS token transfer procedures>

9. TOKEN ECONOMY & BUSINESS MODEL

The CRATOS app provides CRATOS tokens based on participation by the users. The reason why the reward is given is that we can collect and monetize the collected data from the votes. And there are various ways for CRTS token holders to use their tokens as below:

A. CRTS Reward on the app

As referred to the section 8., the CRTS would be given to the users with the 6-month halving period. The halving period of the reward helps us compensate the users on the app and take control of the token supply distributed into the market at the same time.

B. DAO Governance

The CRTS token holders can create a proposal to develop and improve Cratos project. And other token holders can participate in voting for the proposal. By holding a CRTS token, you can be a part of the community-oriented project. The voting power is proportional to the amount of CRTS tokens that you hold at the time of the snapshot.

C. Transaction Fee

On the Cratos mainnet, CRTS can be used as a transaction fee. The transaction fee can be distributed to the validators.

D. Payment on the app and the ecosystem

CRTS can be used as a payment method. Since we have been conducting public opinion polls for several media companies. They can make a payment in CRTS. And there are various ways of consuming the CRTS tokens, such as the entertainment functions on the app.

And CRTS can be a payment method for any DApp on the mainnet as we expand the Cratos ecosystem.

Besides the token economy, there are some of the business model/revenue streams as below:

A. Acting as a public opinion poll agency

The existing public opinion poll agency consumes a tremendous amount of cost to conduct the poll to a sample group of 1,000 people and receives at least \$20,000 USD or more from a commissioned institution. Since the CRATOS app is able to aggregate accurate vote results within a short period as 100,000 (and not 1,000) or more users participate in voting, it can become the frontrunner of the public opinion poll market.

B. Sales of voting big data

As of today, the app has proceeded 15,000 or more voting items within 5 months since its launching. If number of users increases, voting items of the app will become more diverse, and analysis on participants can also be more advanced. Analysis on tendencies of users who will vote for over 100 times (and not merely participate in the single-time public opinion poll) will become a highly significant data for groups who intend to understand political parties and political orientations. In addition, as effects of this data can allow informing the results of simulation on presidential election and general election votes, it is so invaluable that it is impossible to measure how much it is worth. Selling the big data analysis results to a political party will maximize the profit of CRATOS.

C. Introduction of electronic voting system at national level

If the electronic voting system implemented in the CRATOS 3.0 version is applied to the national voting system, it can achieve dramatic reduction of national budget of 100 million USD or more each year. Furthermore, if the use fee of the CRATOS system is estimated, it will become a large income source for the app.

This will be the major token economy of CRATOS since a portion of the profit goes for burning tokens as referred to Section 10. B..

10. Cratos DAO Governance

DAO Governance

With Cratos token holders, Cratos will gradually become a fully decentralized organization. In other words, it is a community-owned/managed decentralized organization.

We believe that there has been enough time to have sufficient holders from Cratos app users, token holders, etc and start operating DAO.

Simply, DAO is a decentralized autonomous organization where a token holder can post any proposal regarding Cratos project and other holders can participate in a vote. The vote right is proportional to the amount of the Cratos token that an individual holds at the time of snapshot.

At the initial stage of DAO, the Cratos team will be active to post a proposal to guide you on how it can be operated. And the team will strive to work on developing the project in the prospect of technology, ecosystem and business.

DAO will enable us to have our community members to become a part of the management team in a decentralized way.

In the future, we will be implementing the auto-executable proposal so that at the end of the proposal, the proposal would be executed when it is approved by the community.

Voting Power

Voting power is calculated from the amount of the token with the wallet connected with the Cratos DAO. Therefore, the voting power is proportional to the amount of the tokens at the time of the snapshot for each proposal. .

11. BUSINESS DEVELOPMENT

CRATOS has the following business development plan for vitalization and compensation of CRATOS token :

CRATOS and participation of the users will play a significant role for the growth of the app.

The CRATOS app will start creating profits based on the three business models prescribed in Article 9, and part of the generated profits will undergo the token burning process to adjust the distributed amount of tokens, thereby contributing to profit generation of the token owners.

A. Profit generating methods

I. Acting as a public opinion poll agency

The existing public opinion poll agencies are consuming \$20,000 USD or more to conduct the poll to a sample group of 1,000 people. Media corporates must distribute the survey on support for state affairs on a weekly basis. In addition, spending \$20,000 or more every week to prepare a single news article is highly inefficient in the midst of degraded profitability of media corporates.

The CRATOS app is planning to disrupt the market of existing public opinion poll agencies with the cost of \$10,000 USD, and this will bring a tremendous amount of profit if it advances not only to Korea but also to Chinese and North American markets.

For example, the app is conducting 1,000 polls at \$10,000 / poll, then it would be a revenue of \$10 million USD.

II. Sales of voting big data

Sales of voting big data may bring an excessive amount of profit. Political data acquired from a refined user data analysis will become a charming data for political parties in each country. By possessing the data of citizens, simulation data on the presidential or general election can be secured. Simulation data can be utilized in a similar way with the following example:

When a conservative party 'A' is facing a general election, if simulation on expected winner in general election is run based on big data analysis of the app, accurate data on advantageous political parties and politicians are secured for each region.

If a fierce competition between conservative and progressive parties is expected in election precinct 'B' in Seoul, conservative party 'A' can put up a competitive candidate and make him/her win the election in election precinct 'B'.

On the other hand, in election precinct 'C' where any politician is 'most likely to get elected regardless of who is running for it, the party can put up a relatively less well-known politician. If the election precinct 'D' shows 'weakness', the party can allocate a less well-known politician to give up that precinct. With this strategy, they can secure more than 10% of election precincts additionally through the simulation.

Achieving victory in general election or presidential election means that the party will possess authority to control the national budget, this can become an astronomical amount if converted into money value.

The government parties will also regard buying big data and simulation data at \$100M USD sufficiently charming.

III. Introduction of electronic voting system at national level

In case of Korea, the current electronic voting system becomes a cause of wasting \$450M USD⁸⁾ for each election.

Budgets that are used by each country for voting held every year are much more enormous.

Assuming that CRATOS's electronic voting system is applied, only 50% of the budget can be used. This will become an income source that will bring \$200M USD or more sales for each election.

8) Budget for local government election held on June 13th as 1,700 billion won... looking at the local government election with its figures
<https://www.hankookilbo.com/News/Read/201806041782070978>

B. CRATOS Token burning

There may exist two different methods of sharing profit generated by the CRATOS app. First method is to buy as much tokens as certain portion of EBITDA (Earning Before Interest, Taxes, Depreciation, and Amortization) on the exchanges and to distribute the CRTS tokens to the users. Second method is to burn CRTS tokens that correspond to certain portion of EBITDA. Although both methods have pros and cons, the former has an ambiguity on how much amount will be distributed to the users. It can proceed graded payment to pay a large amount to users who are active participants and a less amount to those who rarely participate. However, this can lead to an unfair distribution.

Therefore, CRATOS has selected the CRTS token burning method.

The incineration method of CRATOS is as follows:

I. The token burning method of CRATOS

- Criteria of EBITDA: based on EBITDA on financial statements at the end of each fiscal year.
- Calculation of burning amount: CRTS tokens that correspond to 30% of EBITDA in the current year are to be burned. The current value of CRTS specified in www.coinmarketcap.com on May 1st at 00:00 in the following year of the fiscal year is to be calculated, and its corresponding number of tokens is to be burned.

i.e.) In the case where the financial statement of 2022 indicates 10 million USD EBITDA of 2022, and the price of CRATOS is indicated as 0.3 USD on May 1st, 2023 at 00:00, 10,000,000 CRATOS tokens shall be burned as it corresponds to 3 million USD(30% of 10 million USD).

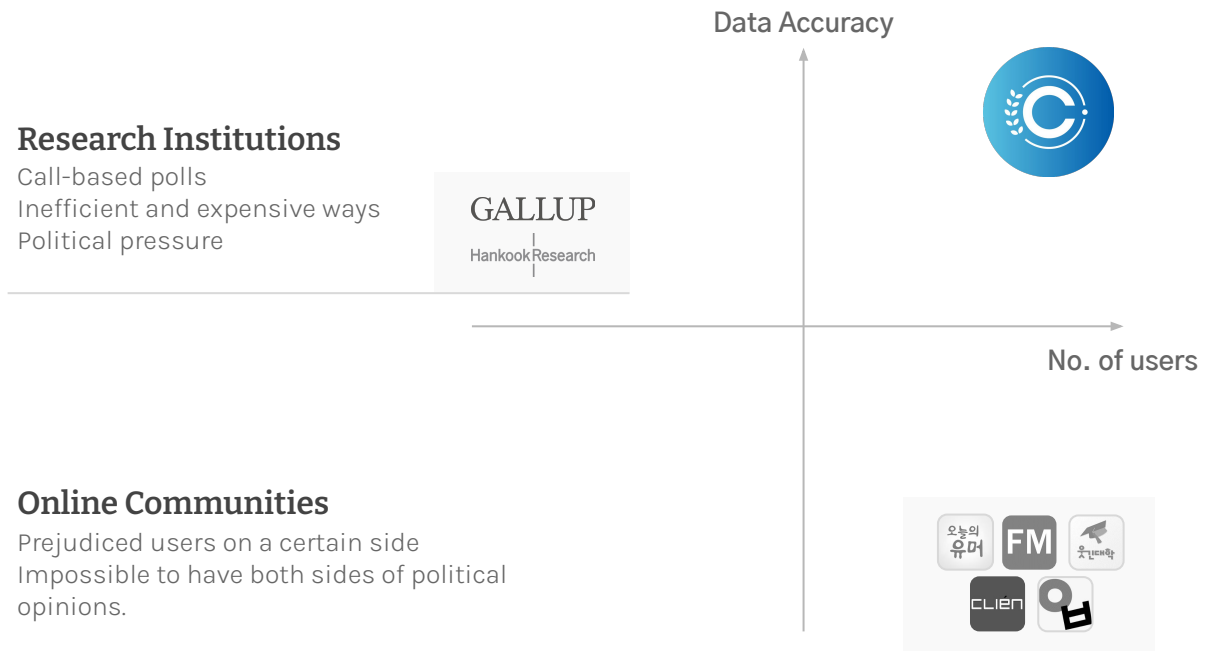
However, if the company currently possesses insufficient number of tokens, these can be bought back from one of the exchanges that has the largest trade volume, and the CRTS token burning can be proceeded.

12. COMPETITIVE ANALYSIS

CRATOS and its app have competitive superiority in two different aspects.

A. Competitive superiority as a platform

The CRATOS app is planning to engage in competition with politically oriented online communities in a target market during the early stage, followed by competition with research institutions. Competitive superiority as a platform of Van Vote includes identification of political orientations based on accurate micro-level big data analysis through multiple votes (not the one-time vote), and possession of superior popularity compared to other politically oriented communities due to coexistence among left/right/moderate groups.



<figure4. Competitive analysis as a platform>

13. ROADMAP



- The above roadmap is an expected schedule of CRATOS, and it can change depending on market situation, development, and management situations.

13. ROADMAP



- The above roadmap is an expected schedule of CRATOS, and it can change depending on market situation, development, and management situations.

14. TOKEN ALLOCATION

A. Details of CRATOS TOKEN

Item	Amount	Remarks
Reward Pool	36,000,000,000(36%)	Reward for users
Ecosystem	20,000,000,000(20%)	Partnership
Foundation	16,000,000,000(16%)	12-month lock-up
Development	15,000,000,000(15%)	6-month lock-up
Marketing	13,000,000,000(13%)	Unlocked
Total	100,000,000,000(100%)	

I. Reward Pool (36%)

Reward Pool is a compensation for the participants using the CRATOS app, and the compensation may be cut by half due to the 6-month halving periods. If all 36,000,000,000 CRTS allocated to Reward Pool are consumed, the tokens will be bought back on the exchange.

- The following are estimated amount of token reward based on the initial token reward standard of Reward Pool:

Classification	CRTS	Number of participants	Participations	Amount
Registration	2,000	1,000,000	1	2,000,000,000
Vote participation	10	100,000	1,000	1,000,000,000
Vote generation	100	50,000	10	50,000,000
Commentation	20	100,000	30	60,000,000
Total				3,110,000,000(8.64%)

The above amount is the annual expected amount calculated by numericizing statistics of the amount estimated since the launching of the CRATOS app in December 2020, and we are expecting to distribute 8.64% of 36,000,000,000 tokens of Reward Pool each year. Also, a data similar to the above will become the criteria for applying the halving period.

II. Ecosystem (20%)

For ecosystem, we are planning a cooperation with strategic partners to establish CRATOS' overseas cooperation and partnership, and the amount is deposited accordingly. The amount allocated to ecosystem is expected to be consumed through various marketing methods such as promotion and air-drop with strategic partners, etc.

III. Foundation (16%) : 12-month lock-up

Foundation is the amount allocated for the foundation's operation, and 16% of the total issued amount was allocated for operations of the app and CRATOS. In addition, business model can be developed for the app, which can lead to profit generation.

IV. Development (15%) : 6-month lock-up

Development is expected to be used for development of the CRATOS app and CRATOS token. Through continuous development, CRATOS, and its app is planning to proceed advancement of the app and token, and the amount is allocated to development teams of the app and CRATOS.

V. Marketing (13%)

The amount allocated to marketing is 13% of the total issued amount. To allow CRATOS to become the public voting app and advance to Chinese, North American markets, and global market, we are planning to use it as the budget for various marketing activities.

B. CRATOS Token Unlock and distribution schedule

Category	Amount	Notes
Reward Pool	36,000,000,000(36%)	For rewards
Ecosystem	20,000,000,000(20%)	–
Foundation	16,000,000,000(16%)	A) 12 mo. lock-up
Development	15,000,000,000(15%)	B) 6 mo. lock-up
Marketing	13,000,000,000(13%)	Unlocked
Total	100,000,000,000(100%)	

A. Foundation (16%)

The Foundation will be locked up for 12 months from the TGE. From the 13th month, 0.5% (500,000,000 CRTS monthly) will be unlocked and distributed monthly, which will occur for 32 months, until Jan 2025)

B. Development (15%)

The Development will be locked up for 6 months from the TGE, From the 7th months, 1.25% (1,250,000,000 CRTS monthly) will be unlocked and distributed monthly, which will occur for 12 months, until Dec 2022)

- Please note that the tokens being unlocked does not necessarily mean a direct injection of the supply into the market. And the schedule above is subject to change, and any such changes will be announced in advance.

15. DISCLAIMER

PLEASE READ THIS DISCLAIMER SECTION CAREFULLY. YOU ACKNOWLEDGE THAT YOU HAVE READ, UNDERSTOOD, AND AGREED WITH THE TERMS AND CONDITIONS. YOU COMPREHEND AND ACCEPT THE LIABILITY OF THE CRATOS WHITEPAPER AND THE INFORMATION ON THE CRATOS OFFICIAL WEBSITE.

This whitepaper aims to provide precise information about CRATOS. All of the contents above are for information purposes only. This whitepaper should not be in any form of investment advice, suggestion, or legal advice. It is YOUR RESPONSIBILITY to do your own research and analysis before making any decision on your investment. You should independently take financial and legal advice from a professional and verify any information on this whitepaper, although we strive to ensure accuracy of the information listed here and on the website.

If you decide to invest/purchase CRATOS Token, you should check if your country has any regulation in buying & trading cryptocurrencies.

CRATOS does not guarantee or accept any legal liability of the information listed on the whitepaper and the site. CRATOS also does not provide any opinion or advice to buy and sell CRATOS Tokens.

The price of CRATOS and other cryptocurrencies are extremely volatile, which means the investment in CRATOS may grant you a potentially huge profit. At the same time, the investment may lead you to a potentially huge loss. We STRONGLY recommend you not to invest all your money in CRATOS.

The English version of this Whitepaper is the official whitepaper of the CRATOS Token. We strongly encourage you to read carefully the English version when you read the whitepaper in other languages.

Purchase and investment of CRATOS Token through this Whitepaper do not guarantee the capital used for purchase/investment or profit rate. Risk of loss exists in all or part of the capital used for purchase/investment and profit rate. The investor shall bear all risks associated with the capital and profit rate, which are described in this Whitepaper, under the principle of taking self-responsibility. In addition, CRATOS and Pharos Labs carrying out services to handle your investments are not responsible for the investment losses.



CRATOS TOKEN

The Future of Voting System on the CRATOS app



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