Exorde Protocol
Clear the way in the Web Jungle

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1 Introduction

Data growth has been impressive in the past few years as the online world keeps growing and accelerating. An astonishing 90%[1] of internet data has been created in the last 2 years. Today, the Web hosts close to 2 billion active websites and is an ever-evolving data jungle. In recent years, a great deal of attention has been devoted to the rise in "fake news": everything from satire and misleading content to articles that are completely fabricated. When any type of content (image, news, video, audio, ...) makes it on the web, it can spread anywhere in a matter of seconds, without any original context, for any purpose. Any authentic content (or not) can be reused to create viral fake information to manipulate the public opinion on a given subject in the short term or hurt the reputation of any entity (organizations, personas, etc). News is consumed more and more via personalized and customized news sites and social media (personalized search, news feeds), creating a bubble effect, isolating users from any news and information that is deemed inconsistent with their bias & beliefs. Rapid technological advancements and this bubbling effect mean that fake news or other informative campaigns have the potential to create a much bigger impact on society over time. The greatness of the challenge can be seen from the fact that large companies like Twitter, Google, and Facebook seem to struggle against misinformation despite the resources invested. According to a report from Oxford University, almost 60% of misinformation surrounding the coronavirus pandemic remains on Twitter without a warning label[2]. Facebook has increased its efforts to combat fake news, by employing human fact-checkers in combination with artificial intelligence systems. Even though the vast majority of Facebook's efforts against fake news are powered by artificial intelligence, those fact-checkers, providing the necessary human touch to reviewing fake news, are overwhelmed with the amount of data flooding the social-medial giant's platform.

The issue of leveraging information and doing online virality analysis is a global

challenge. Therefore we believe that it can only be tackled by a global approach that goes beyond the reach of individual social networks or media platforms. This solution needs to leverage both AI, on a large scale, and the work of a heterogeneous self-governed community. We propose Exorde as a solution: a global, open, censorship-resistant, and fully transparent information platform enabling trust, relevance & neutrality in its data services.

[1] Big Data, for better or worse: 90% of world's data generated over last two years - ScienceDaily

[2] Twitter Fails To Remove Almost 60% Of COVID-19 Misinformation, Study Claims - Forbes

2 What is Exorde?

Exorde is a new protocol aimed at collecting & extracting sentiment from social networks all over the world through a decentralized community. Exorde's decentralized approach is key to it's success as it allows for data collection on social networks that are locked depending on location, locked behind proxies, or even on entirely different Internets.

Thanks to its unique approach, Exorde's data is extremely precise, therefore enabling its usage in several use cases such as market predictions, e-reputation and trend analysis. Exorde's utility token, the EXD token, is used in this regard to incentivize Exorde's community to prioritize collecting data in relation with client demands. This process guarantees that the EXD token fully encompasses the value of the data created by the Exorde protocol.

2.1 The Exorde Protocol

The Exorde protocol is aimed at incentivizing a decentralized community to collect publicly accessible data across social networks all around the world, regardless of language barriers, in order to extract live global sentiment with regards to a wide variety of subjects.

The Exorde protocol runs thanks to its contributors: a decentralized community spread out all over the world which runs the appointed Exorde data scraping module to collect and analyze live social network data. These contributors earn EXD tokens as well as a small amount of Reputation for every task they fulfill.

EXD tokens are used as payment for the work of the contributors. This utility token is the unique bridge between client requests and contributor-related tasks within the Exorde protocol. All data collection requests are paid in EXD tokens which are allocated as additional rewards on client-defined subjects that contributors will then prioritize scraping.

Reputation is a non-tradeable, non-transferable currency that is hard to earn and easy to lose, and that reflects on a specific contributor's work history within Exorde. Every time a task is successfully carried out, a small amount of Reputation goes to the contributor who carried it out. Reputation is used to partake in governance, staking, and several high-level decisions affecting the entire protocol. The more Reputation a contributor has, the more sway that contributor can operate over Exorde. Failed tasks and bad actors are two sources of severe Reputation slashing.

Functionally, at the platform's core are the Work Systems or "lobbies" to which contributors connect, and from which said contributors are randomly allocated tasks within Exorde's ecosystem. A contributor can access a Work System by running Exorde's appointed module, under the form of an executable, which automatically scours through Social Networks on the Internet to collect publicly accessible information, prioritizing client-defined subjects.

Work carried out within the Work Systems is decomposed into three major parts:

1) **Spotting:** Exorde's entry point begins with URL submissions. Each URL corresponds to a comment, a post, an article, or any textual information in relationship with a specific subject that is of interest to Exorde. Every Spot consists of one URL that is submitted by a contributor, and if validated by the protocol, is then sent to the following processing steps.

2) **Processing:** Once a URL has been successfully vetted, it is then sent to the Processing phase. In this phase, the URLs are processed by complex NLP algorithms to obtain an overall "sentiment" with regards to the themes to which they are linked. This step is what allows the Exorde protocol to evaluate live sentiment of people all around the world on client-defined subjects.

3) **Archiving:** In an effort to preserve the transparency and neutrality of the protocol, the output data of the Exorde protocol is stored on archiving platforms such as Filecoin. This data serves as a tamper-proof record of the work that was conducted by the contributors and will be publicly accessible to all.

2.2 Products and Target Clients

Exorde's core features encompass a far reaching community capable of collecting data across all social networks and all languages in real time, a decentralized NLP-processing pipeline that can produce Terabytes of data per day, and a unique infrastructure established for transparency, neutrality and open collaboration.

Possible use cases for Exorde's data are very numerous. From a product strategy perspective, we've decided to focus on the following:

1) **Market Predictions**: Recent research has shown that predicting market trends using social networks is not only possible, but overwhelmingly efficient. Models utilizing this approach yield prediction results ranging from 62.48%[1] all the way to 89.6%[2]This of course is extremely interesting from a business perspective as most traders today aim to achieve 51% accuracy on their investments.

   Early in 2021 we launched a Proof of Concept application that allowed us to track the amount of times Bitcoin was mentioned on Twitter in real time. We quickly realized there was a strong correlation between the resulting curve and Bitcoin's price variations.

   As Exorde's main goal is to extract live global sentiment with regards to a wide variety of subjects, it made sense for us to start off with market predictions as it was the most feasible first step technologically-speaking. We now have a fully-working application dedicated specifically to market predictions accessible here: Exorde Index.

   The result is an application destined to predict market fluctuations for all sorts of tokens and stocks over the next hour, the next 4 hours, the next day and week. Clients will include intra-day traders and hedge funds. Exorde Index also proposes a wide array of personalized alerts to better assist its clients in trading at the right moment.

2) **E-Reputation**: Just as Exorde Index is aimed at selling market predictions based on extracted live global sentiment with regards to tokens and stocks, the exact same technology can be used to analyze live global sentiment with regards to brands, public figures and current events. E-reputation scores represent Exorde's main source of revenue as it targets essentially large-scale B2B clients.

   E-Reputation encompasses overall live sentiment that people on social networks express towards a client-defined subject. This reputation score is correlated to large amounts of metadata expressing (but not limited to) user location, language, predominant sentiment and most active social networks on the topic.

   Such information is especially relevant to large businesses and governments trying to measure accurately the effect and range of their communications and products. This system acts as a great PR-measuring tool, and a very powerful survey with capturing sentiment at any given moment, on any subject. As the subjects that are explored for e-reputation are client-defined, a direct correlation is established between EXD token value and client traction.

3) **Web Analysis**: Exorde's final intent is to provide a public service to help people navigate information without location-related constraints, regardless of language and physical barriers. To this day, a large amount of the information returned from a simple "web search" is largely affected by the location from which it was carried out and the input language used.

   This means that a significant amount of information related to client-defined queries is never shown to the end client. Furthermore, this reinforces opinion polarization, as just like in social networks, people are more often then not only confronted to the same sort of opinions.

   Additionally along with the exponential increase of the volume of information created on the Internet over the last years comes the exponential amount of misinformation and disinformation. With the arrival of deepfakes and very advanced text generating bots like ChatGPT, it is becoming increasingly difficult to isolate the truth from any given event.

   Exorde's Web Analysis tool exists to offer people a new way of exploring information all over the world in real time. Exorde's mission is to make

information everywhere accessible to everyone, free of any censorship, but also to act as an archive for past trends. This data "gold mine" is the first layer for a new generation of Machine Learning companies aspiring to bring about revolutionary ideas to life for tomorrow's Web.

[1] Predicting Bitcoin price fluctuation with Twitter sentiment analysis – Sattarov, O., Jeon, H. S., Oh, R., & Lee, J. D. (2020)

[2] Using Time-Series and Sentiment Analysis to Detect the Determinants of Bitcoin Prices – Georgoula, I., Pournarakis, D., Bilanakos, C. (2015).

3 Exorde's Place in Web3

Could We Fight Misinformation With Blockchain Technology?
- The New York Times

How Blockchain Can Prevent the Spread of Fake News
- Blockchain Blog | Dr Mark van Rijmenam

The popularity of blockchain-based systems is growing fast. This new sector is expected to disrupt the whole industry of content creation, distribution, rights management with even new forms of remuneration. Blockchain and decentralized ledger technologies are capable of disrupting the entire creation chain. Blockchain helps here with the advent of decentralized autonomous organizations (DAO) that can accompany creators in their creation and production processes. To do this, a computer program executes a smart contract, whose rules are pre-established by the collaborators and recorded in a blockchain. The contracts can't be tampered with. For each task identified within the various processes, the amount of remuneration and the rights acquired on the result of the task are clearly defined. In a creative collaboration between the participants, the creation is then broken down into "creative tasks" whose assembly forms the work.

The assembly, done in a decentralized and collaborative way, without third parties, is a key point, leading to the creation of value through a new form of efficient, transparent, and open collaboration. The blockchain records, automatically and

in real-time, the execution of each task as well as the transaction associated with the remuneration of each collaborator. Motivated by guaranteed remuneration, the tasks are assured to be performed by a skilled collaborator, as DAOs and smart contracts are open systems where skilled workers can join freely and contribute as long as they follow the given DAO framework, rules, and guidelines.

In the last years, NLP models like BERT allowing for precise sentiment extraction from large volumes of text have exploded. In combination with some of the first functional and scalable fully-decentralized infrastructures like SKALE, this is a golden opportunity to create the first fully decentralized, transparent and community-driven data collection and sentiment-analysis protocol. This also explains why such a protocol was not be possible before (NLP became scalable with transfer-learning in 2018-2019, scalable blockchain platforms after 2018, and decentralized storage in 2019-2020 with Filecoin).

To this day, data scraping and sentiment analysis is performed only by centralized entities. Decentralization is in fact viewed as a liability for efficiency when it comes to IT infrastructure, as it slows down processes due to slow validation steps imposed by consensus-driven decisions. This is why Exorde's current competitors rely on centralized systems such as Lunar Crush, IntoTheBlock, and more traditional players like Bloomberg.

A lot of companies going into web3 attempt to do the same thing traditional companies are already doing, adding the blockchain & decentralized spin, and hoping for a different (better) result. As this has become a standard in the web3 industry, it is becoming more and more critical to justify and highlight the use of such technologies and the additional competitive edge they confer to a protocol.

Exorde was not built around blockchain and decentralization. Blockchain and decentralization were built into Exorde, as they made sense for what we are trying to achieve. Exorde aims to collect and analyse subjective information (such as publicly accessible information on social networks), and process said information through complex NLP algorithms, to create much needed metrics for traders and businesses alike. Here are the reasons why we need Blockchain & Decentralization in Exorde:

- **Blockchain**: When handling subjective information, especially on current events which can be prone to much controversy, being able to prove that the protocol in its whole remains transparent and tamper-proof is essential.

What's more is that the data generated by the protocol must also remain tamper-proof in the future, acting therefore as an archive, or a snapshot, of the current state of information at the time of its creation. Blockchain solves these issues and further facilitates neutral execution of the different processes required to generate Exorde's data, as well as payment for the contributors responsible for it.

- **Decentralization**: In order to stay objective with regards to the information it collects and deliver the same result regardless of the language used, the political stance of the text analyzed, to remain neutral with regards to the countries target by said text, but also the network on which the text was initially posted, we need a decentralized community. No one individual can be said to be neutral when confronted with a single piece of information. However, a community of individuals chosen at random appears to be the most neutral entity in this situation to date, and therefore is the solution we have opted for. Fundamentally, this translates into obtaining data of higher quality at the end of our processes, as the data will be more representative of reality. Furthermore, as Exorde is a community-driven protocol, we expect that additional variations of the data-collection modules will be created in the future, allowing for further bias relaxation. Last but not least, we expect decentralization to be a major strength in the years to come for Exorde both from the execution standpoint (as the protocol can draw from a community's processing power), but also from the standpoint of the nature of our mission: to collect data everywhere, regardless of physical and virtual barriers, in real time.

Taking into the aforementioned points, we believe Exorde to be a novel solution to tackling tomorrow's information-related challenges. The uniqueness of our approach makes us stand out today from the existing competition, and is already extremely promising in the results that we are obtaining.

In the upcoming years, we aim to establish Exorde as the reference for collecting and analysing information all over the world in real time, on any given subject, and producing very valuable metadata usable by all sorts of businesses. In this regard, Exorde will become a first layer of data analysis for new Machine Learning companies to build on. Furthermore, Exorde will act as the first layer for centralizing opinions across all platforms, all languages, and all countries.

4 Tech components

Exorde is built on 4 major technological pillars:

1) **Ethereum**, a Layer 1 network: acts as a secure & transparent settlement layer. This is the chain that secures the Exorde token economy

2) **SKALE**, a Layer 2 network: an elastic sidechain network connected to the Layer 1 chain, acting as the Execution layer. It is a scalable and elastic environment, enabling high transaction throughput. The Exorde SKALE sidechain is where Exorde contributors and users will connect. It is on this Layer 2 that the Exorde collaborative work architecture is built on. This layer allows a scalable platform to be built on, for thousands of users to participate and interact.

3) **IPFS + Filecoin**, a decentralized storage network: acts as a censorship-resistant distributed storage for the data being created by the Exorde Work Systems. IPFS is not a storage solution in itself, it is a distributed FileStore, that enables integrity & ownership of the data, enabling Exorde to prove that the data is not tampered with from input to output. Any data indexed on IPFS, by its CID (content hash identifier), is immutable. All participants in the Exorde Protocol have the certainty that all data they fetch from IPFS is what they should see, enabling efficient consensus in a decentralized environment.

4) **NLP**, the branch of AI handling unstructured text. In Exorde, NLP modules are used by the platform's contributors to maintain and organize a decentralized neural database composed of all the pieces of information that the contributors are feeding into the system. NLP enables the automation of clustering similar & related content online, to build knowledge graphs on top of the raw data.

These pillars are critical to achieving Exorde's mission. Ethereum is needed to secure Exorde's governance and economy. SKALE Layer 2 is crucial to offer an application and platform that scales with its userbase, with minimal interactions costs & latency. Filecoin is the storage and content-distribution network of Exorde, serving its knowledge in a scalable way for the entire Web while guaranteeing the integrity of its data (Filecoin relies on IPFS, a censorship-resistant and immutable storage network).

Exorde is powered by its community, ruled by its economy and rules. This community of participants will be working collaboratively on a base layer of indexing. This main layer, which is essentially a collaborative information graph, is "woven" and developed through distributed web crawling, data mining data processing, performed by participants. Technically, this process consists of each participant extracting structured and hierarchical information from web pages, such as text (articles, social media, free text, etc.). This knowledge extraction is a challenging part of the work. It will be performed by a hybrid mix of artificial intelligence and community-based work. The AI component (using NLP for textual content) will allow recognizing entities in a text, extracting sentences, facts, correlating them with each other, and performing similarity checks. The supervision part will add the necessary human-related interaction to pre-process and foster the work produced by AI-based tools. This approach seems essential to make the work of the participants as efficient as possible but above all the most relevant and up-to-date regarding the information mined by the network.

As it is a decentralized work, it has to be peer-reviewed by the network. This means that a set of validators will systematically check and assess the quality of the work performed by a given indexer. Validators will evaluate work based on a set of guidelines and charts. Exorde's token economy is a core component of every process: contributor's work will be validated and then rewarded with Exorde's Token (EXD). The rewards will incentivize the fastest, most relevant, and up-to-date work to be performed, as it will reward the contributors performing the most valuable work (both in quantity and quality). The token-based incentives model creates a favorable competition-based dynamic, by attracting the best data scientists, scrapers, and information spotters in the network. This decentralized and competitive dynamic ensures that Exorde increases relevance, quality, and speed on the capture of information on the Web, increasing the value of its services and products.

4.1 Work Systems

Work Systems are a set of decentralized virtual & anonymous “lobbies” in which contributors (user and “bots” alike) will work together to achieve specific clear-cut goals. Work Systems offer a reward in EXD to all its contributors upon completion & validation of the work required from them.

Participation in Work Systems is regulated in two ways:

- **Reputation** (RP): As a contributor contributes to Exorde's Work Systems, said contributor is rewarded in EXD and RP (Reputation). Reputation is not tradeable and attests to the contributor's involvement in the Exorde environment. Certain Work Systems such as Moderation are only available to contributors with a very high amount of RP, acting therefore as a testimony to that contributor's trustworthiness with regards to Exorde.

- **Staking**: to prevent spamming and ill-intentioned contributors, every participant in every Work System requires an "entry-fee" or stake. The stake is paid in EXD and is either paid back in full if the contributor's submission is accepted, or slashed (partially or totally) if it is not.

How to participate in the WorkSytems?

Participating in a Work System simply requires having an Exorde-compatible virtual wallet activated. These wallets can be created directly through Exorde's main website. If this option is privileged, user wallets will be protected by Exorde Labs (double authentication, support & more..).

Certain Work Systems are locked as they will require a set amount of RP to be available. Work System selection can be performed directly on Exorde's main website or through the API that Exorde Labs will provide.

Each Work System will come with a tutorial explaining how that Work System works that contributors will be forced to follow on their first contribution to it. After going through the tutorial, the contributor will enter a queue to be allocated the most critical work in the Work System to which he/she has subscribed.

Upon completing the work related to the Work System, that contributor will obtain a reward in EXD and RP put on "hold" . This "hold" will be released when verification has been performed on the work done. If validated, the contributor is rewarded according to the quality of his/her participation. If rejected, the contributor's reward will disappear as well as his/her stake.
Work Systems are the core of Exorde. They are built to be:

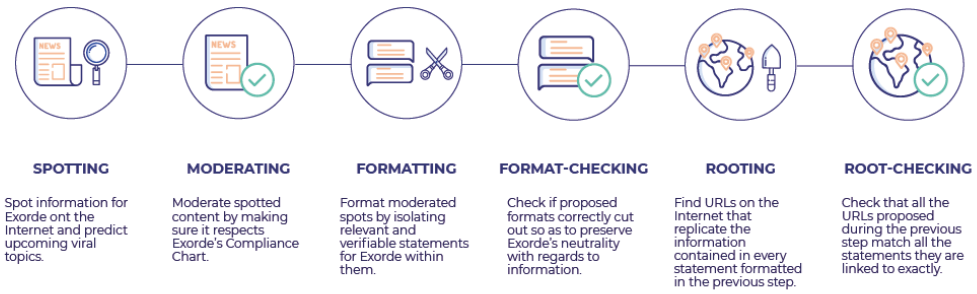
- **Neutral**: contributors are anonymous, only identifiable by an ID created for the Exorde platform. This anonymity enforces Exorde's neutrality, and therefore its value as a service specialized in providing trust scores for information

- **Transparent**: all contributions are publicly accessible through the use of the blockchain

- **Fair**: contributors know the maximum of EXD they can make in participating

- **Collaborative**: almost all Work Systems require a consensus of votes to be reached to produce value
- **Accessible**: Work Systems can be accessed through Exorde's official website with no background tech knowledge required, or through an API provided by Exorde Labs for those more comfortable with technology
- **AI-Powered**: Exorde Labs will provide open-source AI modules to help contributors automate Exorde's Work Systems. Such open-source modules will not be sufficient to fully automate the processes but will act as a guiding template for those willing to work on making them better
- **Modulable**: All Work Systems rewards can be adjusted through a series of votes to make sure that the available workforce for Exorde is evenly spread out. Further modulation can be brought about by adjusting stakes for these same systems, further balancing the entrance of certain systems

This summarized process of the Work Systems workflow will be detailed below:



1) **Spotting:** a simple Work System where a Spotter places a vote on a URL in exchange for a small stake in EXD. Spotters are asked to prioritize viral information (URLs that are prone to generating the most internet traffic). Spotted URLs are eventually Moderated to make sure they respect Exorde's Compliance Chart (which Spotters should keep in mind while placing their votes). If the Spotted URL is accepted during that phase, it will move on to the next Work System: Formatting.

2) **Moderating:** A system that ensures that Spotted content for Exorde respected Exorde's Compliance Chart

3) **Formatting:**: Format information sources in such a way that they can be Rooted effectively and in a deterministic way. Formatters are asked to follow a series of guidelines to establish how a piece of information should be Formatted. Information sources are broken down into "Formats" or series of "facts" that are relevant to Exorde, neutral in the way they are cut (not leaving out important contextual information), and verifiable.

4) **Format-checking:** Assess the quality of a Formatting session by reviewing its resulting Formats and their compliance with Formatting guidelines. A Formatting submission is either accepted in full or not at all. This all-or-nothing system allows for more simplicity within Exorde and avoids having recursive Formatting sessions where only certain Formats would have been accepted for instance. This will also enforce collaboration between Formatters to reach a consensus faster while maintaining quality.

5) **Rooting:** Root the Formatted-content by finding URLs on the Web for every Format or 'fact' within the information source that directly repeats said Format. Rooting is the center-most important Work System of Exorde. This is where a given content (for a given source/creator) will be linked to other contents elsewhere on the Web, therefore creating a 'map' of the Web in the process.

6) **Root-checking:** Assess the quality of a Rooting session by reviewing its resulting proposed URLs and their compliance with Rooting guidelines. A Root submission is either accepted in full or not at all. This all-or-nothing system allows for more simplicity within Exorde and avoids having recursive Rooting sessions where only certain Formats (and their URLs) would have been accepted for instance.

More information on the Work Systems (incentives and rewards curves, formulas) can be found in Exorde's Whitepaper.

4.2 Voting Systems

Voting Systems are a subset of Exorde's Systems aimed at regulating the inner workings of the Exorde platform. Through them, Exorde's community will be able to fine-tune anything ranging from the rewards given by the Work Systems

(modulable for every Work System), all the way to the trust scores allocated to every information source (done for every domain name on the Web). Voting Systems are essential in Exorde to preserve the neutrality of the platform and ensure that the community retains all the power to shape Exorde's future.

Participation in Voting Systems is regulated in two ways:

- **Reputation**(RP): As a contributor contributes to Exorde's Work Systems, said contributor is rewarded in EXD and RP (Reputation). Reputation is not trade-able and attests to the contributor's involvement in the Exorde environment. Certain Voting Systems such as changing Work Systems-related variables are only available to contributors with a very high amount of RP, acting therefore as a testimony to that contributor's trust-ability with regards to Exorde.
- **Staking**: to prevent spamming and ill-intentioned contributors, every participant in every Voting System requires an "entry-fee" or stake. Unlike Work Systems, this stake is not paid back. Voting System stakes are far lower than those that can be found in Work Systems, as their role is mostly to fight against vote spamming.

More information on the Voting Systems can be found in Exorde's Whitepaper.

5 Token Economy

Exorde's utility token was not designed as a part of the Exorde Protocol. The Exorde Protocol was designed around Exorde's utility token. This is a difference of paramount importance, as none of what we have designed Exorde to be could exist without the EXD token at its center, acting both as a means of reward for the protocol's contributors, but also as a way for Exorde's clients to obtain data from the protocol itself.

Bypassing this utility token approach and reverting to traditional FIAT currencies like dollars or euros for payment of the contributors would have translated into much more economic complexity from a reward perspective, but also the complete loss of anonymity for the contributors collecting information for the protocol (some of which putting themselves at risk in doing so depending on local jurisdiction), as well as far more legal constraints linked to every currency used in that regard.

The native token of the Exorde ecosystem is the utility token EXD. This multipurpose Utility Token will be used for Governance, Staking, and for paying Exorde's data-related services.

5.1 Utility Token

The EXD token, based on the ERC-20 standard, is the native asset of the Exorde ecosystem. It is a utility token with multiple utilities:

1) Acts as the fuel for the Exorde Protocol. Clients of the protocol can place bounties on topics, themes, or keywords (in EXD token) to incentivize data collection & processing by the Exorde Network. The bounties will be deposited & locked in the protocol, and then distributed during the bounty's lifetime (at each URL for example) to workers who collect data relevant to the bounty's theme or keyword. The duration and the total value of the bounty are the main variables impacting the rate of rewards per data item (tweet, comment, article, etc.). It will be possible to set up long term bounties and short term bounties which will affect the flow of EXD to the contributors working on them.

2) Used as rewards (economic incentives) for the participants in the Exorde Work Systems. Each system will reward the work done by its contributors, according to their quality, quantity, and reactivity. The rewards amounts

will be designed and adjusted by the Exorde Governance to incentivize the most relevant, up-to-date & consistent work done by the contributors, and to spread Exorde's workforce out evenly over all the different tasks.

Exorde's Governance system involves Protocol Votings and Pollings. The reputation holders govern the technical part of the protocol, its parameters (reward rates, rules, reputation system parameters, etc.), and its functionalities (they decide on updates, new smart-contract-based functionalities, etc.). The system is economically designed to align the interests of the reputation holders with the EXD holders' interests, to ensure its long-term stability, to keep its data relevant, and to guarantee maximal value creation by the ecosystem.

As there will be different types of decisions and different levels they apply to (technical decisions, global updates, big-picture type of decisions), the Governance will be structured in several committees, with a hierarchy in the decision-making, to make Exorde's governance fluid, efficient and scalable while still keeping complexity as low as possible. In certain higher-level governance decisions, votes will be token-weighed, so as to guarantee business-aligned long term objectives for the protocol.

Note: Reputation is the key resource to governing the Exorde protocol. This resource is non-transferable and can only be minted through validated contributions in the network.

5.2 Token Emission

Exorde's native utility token, the EXD, is based on the ERC-20 standard, its total supply will be two hundred millions (200 000 000 EXD).

During the initial token distribution event, EXD tokens will be minted and allocated to different entities (Seed investors, partnerships, Founders, Advisors, Protocol Rewards, Community Bounty program, Liquidity Pooling).

The initial token distribution will have the following structure and smart contract enforced vesting:

- **Investors**: tokens reserved to early/seed investors; Linear vesting of 24 months.
- **Team Fund**: tokens reserved to incentivize Exorde Labs team members and Founders to contribute to the project with a long-term mindset. Linear vesting of 72 months.

- **Advisors**: tokens reserved to Advisors who support the project. Linear vesting of 24 months.
- **Protocol Rewards**: tokens reserved for rewards to community members participating in the Work Systems and the broader Exorde ecosystem. Linear unlock over 60 months.
- **Exorde Labs**: tokens reserved for the private entity Exorde Labs. This fund is aimed to assist in regulating the Exorde protocol during the first years. Linear unlock over 72 months.
- **Community/Bounty Program**: tokens reserved to the community members who participate in the community-organized data science tournaments and other campaigns, aimed at improving the technology and adoption of the ecosystem. No vesting.
- **Liquidity Providing**: funds reserved for liquidity bootstrapping (for example on decentralized exchanges). No vesting.
- **Airdrops**: funds reserved for airdrops and airdrop-related tasks. No vesting.
- **Public Sale**: funds reserved for the public sale. No vesting.

In the setup that has been designed, no entity can mint more tokens than the total supply of 200 000 000 EXD. The initial token amounts are fixed and can't be changed later on, and by doing so, we prove to our potential investors that the Exorde ecosystem is committed to its original business plan.

Note: The amounts and allocations described above are subject to change until the Public Sale event.

6 Team

Térence Gras, CEO

Terence is a computer vision engineer very involved in anything AI/ML-related for image processing. He has worked both in the video game industry and on production lines in the spatial & transportation sector. This is also where Terence has learned to pitch new ideas, to drive new technology adoption in big groups with international influence. His role in this project is that of steering the Company's Vision in the right management and defining the business strategy both short & long term.

Mathias Dail, CTO

Mathias is a software engineer with a specialization in data science. Initially, with a background in programming, networking, and back-end systems, he has specialized later in Data Science and most especially NLP. He always had a thing for complex systems & interconnected architectures. Curiosity made him discover smart contracts development when it started to emerge a few years ago. Since then, he has kept learning about decentralized protocols & token models. He realized that combining NLP technology with the strengths of decentralized networks could leverage the entire unstructured Web through a complex, coordinated, yet fascinating approach. Therefore, his mission is to combine NLP with the power of decentralized systems, through a new form of digital organization, to make Exorde emerge as an innovative service of the Web3 ecosystem.

Damien Pucheu, COO

Damien is a software engineer who worked for Suez, Monsieur Tshirt, and Lectra. He joined Exorde to build all the visible parts (platform, APIs & extensions) to offer the best experience to all users. Great operational leader, he always knows what web technology to investigate and integrate to make a better product. He identifies the best solutions quickly and always keeps scalability in mind. As the company will grow he will focus on its COO role by working on business and processes to help Exorde reach its goals.

7 Legal Disclaimer

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