

Whitepaper 4.1

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### **Abstract**

Data has become vital in all areas of our lives. The value of data is increasing day by day, especially with the surge in the use of social media applications. TrueFeedBack is building a blockchain-based ecosystem to transform data into value. TrueFeedBack, within the ecosystem it has created, focuses on the technologies necessary to develop innovative products that will turn all kinds of data into profit in the real sector and the crypto world. TrueFeedBack develops its products with blockchain infrastructure, big data analysis platform, and machine learning algorithms and offers them to the service of users and companies.

TrueFeedBack builds a blockchain-based data collection and analysis platform, enabling users to earn TrueFeedBack Tokens (TFBX) as a reward for their actions with the features on their mobile application. In addition to advertisements, games, news, events, surveys and tasks, new features such as shopping will enable users to spend their tokens without withdrawing and the upcoming social media concept will allow users to spend more time on the application.



## Abstract

In addition to the Ethereum network, the TFBX token is also included in the CELO network in order to take part in the CELO ecosystem. It makes crypto payments accessible to everyone and allows secure, swift and low cost transfers making it perfect for claiming rewards regardless of amount, anywhere and anytime. TFBX token on the CELO network has been created and through a bridge, TFBX tokens will be able to function on multi-chain. The ecosystem awards, which is currently 16% of the token distribution, will be distributed on the CELO network and stored within the application thanks to a new product TrueFeedBack is launching: TFB Wallet. Thanks to this wallet, every user will have their personal wallet and will be able to do transactions with very low fees through the CELO network.

TrueFeedBack has set goals to transform the potential it has in the cryptocurrency ecosystem into products. An environment that increases the added value of TrueFeedBack will be created on a decentralized exchange by bringing different projects together with investors. It is planned to create a marketplace and expand the usage area of the TFBX token by offering the NFT world, which is gaining popularity, to the service of others.

TrueFeedBack provides the necessary structure for the development of innovative marketing and new financial technologies for the real sector and the crypto world by not only producing data but also analyzing the data in the most effective way with its data-oriented infrastructure. With its approach to transforming data into profit, TrueFeedBack has combined its data analytics platform with the crypto world. TrueFeedBack is seeking to become the ultimate provider for any companies or institutions using products to store or analyze data on the blockchain network by 2023.

### Introduction

The emergence of Bitcoin and the technology that enables it to work (blockchain) has many other promising applications due to its inherent robust design. With Bitcoin, quick point-to-point money transfers became possible without intermediaries. With the introduction of Ethereum, which enables different applications to be developed on the blockchain infrastructure, a world where many applications can be programmed with the help of smart contracts was born. With these innovative developments, projects related to blockchain technology are increasing rapidly.

Blockchain technology qualities such as anonymity, transparency, autonomy, and immutability are transformed into applications by projects. The ability of projects to quickly issue their own cryptocurrencies with the help of this technology has shaped a new economic model based on cryptocurrency. Investors who find the benefits of the cryptocurrency economy very attractive investment in such projects. Although it is still not much for the financial world, according to 2021 data, there is an average daily volume of 225 billion dollars (Coinmarketcap). This volume is increasing rapidly with the emergence of new projects.

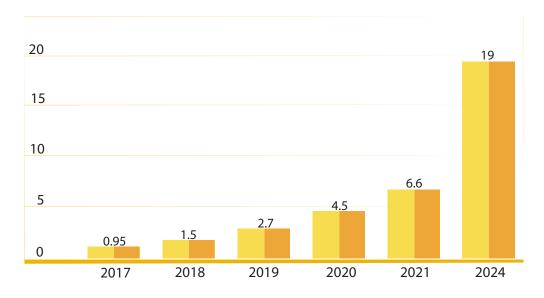


Figure 1. Worldwide spending on blockchain solutions from 2017 to 2024

### Introduction

TrueFeedBack creates an ecosystem based on data analysis, which can be transformed into a cryptocurrency economy, where users and investors can profit with the assistance of blockchain technology. All kinds of data produced today are inevitably valuable, and this value is increasing even further. TrueFeedBack accurately collects and analyzes data from users and shares its results. In the process of collecting data, the user earns TFBX tokens as a reward.

Via the TrueFeedBack application, users can earn TFBX tokens by participating in surveys, performing tasks, evaluating activities, watching ads, reading news, and playing games. By providing new features, it also provides the infrastructure that can be gained from content production.

TrueFeedBack offers the opportunity to extend to large audiences and reach the data in an analyzed way for people, institutions, organizations, and those who want to do research in any field. It also provides the essential environments for converting the analyzed data into precise decisions that will increase the earnings of the companies. Services are offered to increase the profitability of companies through methods such as creating target audiences, receiving realistic feedback about products and services, making sectoral projections, and direct interaction with the consumer.

TrueFeedBack, which offers a unique environment for those who produce and need data, provides users anonymity with the advantage of blockchain technology which is embedded in this process. TrueFeedBack does not collect personal information. Thus, users can easily share their data and earn money in return.

### Introduction

Digital marketing with instant data and making fast and correct decisions are among the indispensable elements of competition for a company. Advertisements made on social media reach large audiences, but the data about the behavior of these audiences are not recycled in a way that will benefit the decision-maker. Here, people are hesitant to review the ad, then worry that the company will constantly display similar ads. Since consumers remain anonymous in the TrueFeedBack ecosystem, companies reach the information about the interest of the person, not their personal data.

TrueFeedBack data analytics platform focuses on the holistic evaluation of users who participate in advertisements, news, tasks, surveys, and events. This innovative approach will create a sectoral breakthrough with social media data and the efforts to evaluate personal data, especially in our world where big data is imperative. Through this process, the ability to evaluate the user's data in activities without collecting personal data is achieved thanks to our ability to use the advantage of blockchain technology. Another innovation brought by the platform is that it rewards its users for sharing its data, unlike major social media platforms that collect users' data for free and turn it into information to sell it. Those who want the data must pay the price to the user. In this process, TrueFeedBack acts as a bridge, collecting user data for a reward while preserving the anonymity of the user and presenting its results through the data platform.

TrueFeedBack BlackStar mobile application can provide companies with a 360-degree view of consumer characteristics and behaviors to transform data into custom targeting segments in an optimized manner. Companies can create, segment, and scale custom audiences to power omnichannel marketing campaigns that drive consumer engagement and acquisition. It can easily do a survey about a product with classifications such as a particular age group, gender, and income status. In addition, it can analyze the data (such as survey, advertisement, task) previously collected and new data in an integrated manner.

## TrueFeedBack **Ecosystem**

TrueFeedBack has been built as an ecosystem that offers innovative products and services that companies need in the real sector and the crypto world by using blockchain technology. Business Services Platform, Data Analysis Platform, and Cryptocurrency-Blockchain Platform components that can be accessed with mobile and web applications in the ecosystem were designed (Figure 2). Each platform contains sub-services and features that may be needed. The main purpose here is to offer the cycle that enables the services provided with the TFBX token to be converted into a value. Since the services used by investors, users, and companies in this cycle will be performed with TFBX tokens, the economic infrastructure works in a sustainable manner.

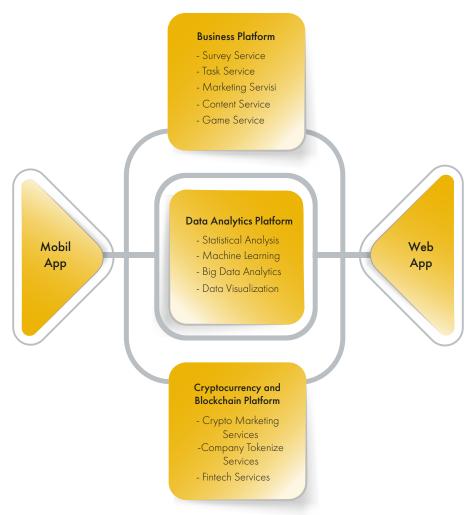


Figure 2. TrueFeedBack ecosystem components

## Cryptocurrency and Blockchain Platform

As the processes related to the use of blockchain technologies in daily life increase, cryptocurrency has started to attract more investor attention. Safe execution of transactions such as money transfer, borrowing, and lending, digital buying and selling of assets, fast and efficient payment create opportunities that can be benefited for TrueFeedBack. TrueFeedBack users have an essential place in the ecosystem as potential crypto asset investors. It is included in the ecosystem as a component of the Cryptocurrency and Blockchain Platform so that it can easily access the products and services to be developed to transform this potential into profit under TrueFeedBack. With this component, a platform where True-FeedBack users can perform all kinds of transactions related to cryptocurrency is targeted.

TrueFeedBack application creates crypto marketing opportunities for many blockchain-based projects. Thanks to the features in the application, users can find the opportunity to obtain information about the projects and contribute. Thanks to the wallet feature of the marketed crypto assets directly from the application, it will be possible to perform buy and sell transactions. When communication channels such as Twitter, Instagram, Medium, Reddit, and Telegram used in crypto marketing are used in conjunction with TrueFeedBack, an effective marketing process will be executable.

A future awaits us in which crypto assets will not only be an investment tool but also available to exchange products and services. TrueFeedBack application will become available as a shopping platform when the necessary infrastructure is set up as a payment method, and countries prepare the legal regulations. Consequently, users or companies will be able to easily sell their products and services with cryptocurrency payment methods.

## Cryptocurrency and Blockchain Platform

With its potential users within the cryptocurrency ecosystem, TrueFeed-Back also aims to establish a protocol-based decentralized structure where activities such as borrowing within a financial infrastructure, trading different crypto assets, transferring crypto assets can be carried out with TFBX tokens.

TrueFeedBack presents a concept that combines the data economy with blockchain technology. TrueFeedBack transforms data into profit as a crypto asset by developing data operations for storing and analyzing data in the blockchain network by using the anonymity, transparency, immutability and distribution features of blockchain technology with the products it develops. For this purpose, thanks to the technological cooperation with the Celo network, the products have been developed and will continue to be developed depending on the roadmap. Thus, it will develop data processing applications in accordance with the DeFi concept required by the crypto economy it will create. For this purpose, the existing mobile application (currently there are 150K+ users in Android and iOS markets) will gain a wallet feature on the Celo network. Swapping, staking, farming and lending functions will be used primarily with crypto assets in the Celo network through the wallet feature. After the assets in the Celo network are processed, a protocol that can work cross-chain with other networks will be developed, allowing users to use all kinds of DeFi features with different networks on a single point. All kinds of data obtained from the survey, task, advertisement, news and game features provided by the TrueFeedBack mobile application can be evaluated in the field of crypto marketing.

## Data Analytics Platform

What adds value to data is providing meaningful results by analyzing it. Analyzing and visualizing the data collected from true persons, consisting of target-oriented profiles, contributes significantly to decision-makers taking fast action. Robust software and hardware infrastructures must process data from many different sources within the big data concept.

TrueFeedBack has developed the Data Analytics Platform to develop and use products that may be needed in terms of software. Data Analytics Platform provides statistical analysis, big data analysis algorithms, machine learning algorithms, and quality visualization tools that a company may need. Data collected from activities such as surveys, tasks, advertisements, news, events, and content via the application can be analyzed according to the desired profiles. It contributes to obtaining effective results by establishing a relationship between these data.

All services on the Data Analysis Platform are performed using TFBX tokens. Thus, companies spend the TFBX tokens they buy from the exchange on the platform and reuse them in the cycle.

## Business Service Platform

Business Services Platform includes features that help individuals, institutions, and organizations plan and carry out activities such as market research, marketing, and content delivery based on data. All kinds of actions (surveys, tasks, advertisements, content creation, etc.) that can be carried out on the web to support traditional marketing activities can be designed on this platform. Services to be used on the platform work with TFBX tokens. The needed TFBX tokens can be used by transferring them from the exchange to wallets, or they can be transferred to the wallet by buying online.

As cryptocurrencies become widespread in our daily life, more and more people will start using cryptocurrencies as a payment method. People who use cryptocurrencies care about their anonymity and will not want to share any information with a store, company, or restaurant. So getting feedback from these customers will be a problem. At this point, the TrueFeedBack platform will establish partnerships with crypto payment platforms and will be able to provide feedback services to companies.

The token economy will be operated within the TrueFeedBack ecosystem to include users and investors. Users will receive TrueFeedBack tokens as rewards by participating in surveys, missions, events, advertising, news, and games. These awards are determined by the party requesting data such as the person, institution, company, etc., who want to reach the users through these activities by depositing the total amount of the award and the survey commission fee to the TrueFeedBack platform. The party making this purchase will be the consumers of the TFBX token, and the demand for the TFBX token will not decrease over time. On the other hand, platform users will try to use the platform to continue to generate more income. Therefore, many users will want to sell their tokens over time. Thus, the TFBX token that can be distributed against data collection will always be available on the market. As the number of rewards increases on the platform, more and more users will receive their rewards. Commission fees from the platform will be a fragment of TrueFeedBack's revenue.

## TrueFeedBack Products and Services

## TrueFeedBack BlackStar Mobile Application

TrueFeedBack BlackStar mobile application is designed to enable users to earn more by expanding the field of data collection with its new features such as survey, event, task, advertisement, game, and shopping. Taking into account the privacy of the user, the TrueFeedBack Blackstar application provides a platform that analyzes the data generated by the use of each feature and delivers the results to the parties. TrueFeedBack Version 2 (BlackStar) will offer new ways for users to increase their earnings with the features it brings while allowing customers to process and analyze more data. New versions of the application will be published by adding features, especially through methods where users will gain value as a content producer and benefit from the sharing economy concept. TrueFeedBack considers its users not just a consumer but as producers from which they can earn crypto assets.

### **Advertisement**

Advertisements are a marketing tool where the consumer is presented with information about a product or service and is used extensively in the world of the economy. With the developments in the digital world, the direct delivery of advertising to the consumer and their response has become very important for companies. Especially today, as digital marketing spending is increasing rapidly, those who publish advertisements earn serious economic returns. The platform offers a new business model in which users interacting with advertising will make a profit. With its innovative approach, the feedback to be made about the advertisements on the application (asking for information about the advertisement content, an evaluation about the advertisement, etc.) is rewarded by the advertiser. Thus, the advertiser company ensures that the ad is watched/read and can directly deliver its reward to the viewer/reader of the ad as a TFBX token. In addition, the company will be able to deliver special discounts to the consumer who is interested in its advertisement through the system. Therefore, the user will be able to take action related to the advertisement without sharing personal information. The ability to analyze the reactions given to the advertisement is very valuable information for the company in terms of processes such as product, campaign, and new advertisement. With the TrueFeedBack data analysis platform, certain reports can be submitted to companies quickly in order to analyze this information.

#### Games

Mobile games have an important place in the gaming world. TrueFeed-Back offers a competitive environment in games by rewarding users' recreational time. Those who play games for a certain period of time are rewarded with TFBX tokens in accordance with the rules of the game. The games offered on the platform may consist of games that try to enter the market as well as games that are widely played. The user can participate in the games for free or by paying TFBX tokens in proportion to the number of references. There may be different rewards and rating times for each game. Users will compete for prizes in accordance with the rules set for the games they play. Game pools are created by TrueFeed-Back advertisers or sponsors by purchasing TFBX tokens. Players watch ads every time they want to register their points on the system. After ad tracking, the ad reward is added to the pool. Rewards are automatically distributed to users' accounts in the application, according to the distribution rule determined every 24 hours. Games can have more than one advertiser or sponsor.

#### News

As a result of the rapid publication of news in the digital world and its ability to reach the reader, high reader traffic has been reached. Today, many newspapers are making the decision not to publish the news on paper anymore. In addition to the news published in the digital environment, it also brings advertising links and this provides a serious profit to the publisher. The TrueFeedBack application comes with a new feature that will show users quality content and reward them for reading. Thus, they will be able to access reliable news sources and earn TFBX tokens by reading the news. Rewarded news readings are quite significant in terms of analysis, as the feedback of the news being liked or not liked by the reader will be effective in determining the types of news that they follow. Results that can provide access to news types that attract the attention of the reader will increase the prevalence of the application.

#### Tasks

Companies are growing in today's world and delivering at different points geographically. With this growth, they can be located far from a store, a representative, a restaurant, or a control point that they can access immediately. Furthermore, if branches learn about an audit, they will be more careful, and companies will not have a chance to find out what kind of service real customers receive. For this reason, customers can better decide whether a service/product is satisfactory or not than audits. Mystery shoppers work all over the world to experience the quality of service they receive as real customers and transfer this information to the companies along with their feedback. However, these people are not full-time employees, they usually work with an agency. Therefore, they need to reveal their identity in order to get work from these institutions.

TrueFeedBack platform offers an option for companies or agencies to perform these tasks and receive a reward in return. Companies will be able to define and send the task through the TrueFeedBack system and determine each step that needs to be taken, for example, what kind of photos or videos will be taken, how detailed this information should be given, its location, etc. When users open the TrueFeedBack application, they can see the tasks that they can perform in their vicinity. If they decide to fulfill the task, those who can complete the task as desired by the company will be able to earn their rewards as TFBX tokens. There is no such reward system in which people are not obliged to reveal their identity in order to be rewarded. This system will be attractive to many users who are concerned about sharing their identity.

With the task feature, it is possible to monitor and evaluate products and services, especially in social media and web environments, quickly and effectively. Since the users are real people, all transactions are carried out organically.

### Survey

A survey is a traditional data collection tool where questions are prepared, and answers are collected to get an idea about a topic. Surveys help decision makers understand how the community thinks by researching a relatively small group of people. In other words, surveys aim to better understand focus groups' thinking by using statistics. Surveys have a great impact on feedback. A company may want to analyze the market to see if its next product will be successful. In elections, a candidate may want to keep the pulse of the voters on what needs to be done to get more votes. In an academic study, data related to the research topic may be needed. For these purposes, surveys are used extensively.

Although online surveys are becoming popular, they have their limitations and disadvantages. Some online surveys do not encourage people, while others are open to manipulations as the data of participants can be shared for ads about products and services without their consent. Therefore, a robust system design is required for a survey to be successful. TrueFeedBack uses blockchain technology for online surveys, keeping in mind the disadvantages, making survey participants anonymous, and earning rewards. It also guarantees that the questions are answered by real persons and the rewards are distributed to the owner of the survey.

Collecting data through surveys alone is not enough. There are many factors that determine the success of a survey. First of all, the content must be well prepared and the participants carefully selected to reflect the opinions of the focus group. Accurate data must also be carefully analyzed to achieve the targeted results. TrueFeedBack, with Version 2, also offers services to meet this need on a data analysis platform.

## Survey

Customers can create any type of question (text type, multiple choice, etc.) in their survey. In order to create the survey, customers must deposit sufficient TFBX tokens from their accounts and decide on the reward they will distribute per participant. The location, gender, age, range, etc., for the focus groups they want to survey. They can determine the specifications. After the required specifications are determined, the survey is created and published over the TrueFeedBack application. Once published, the survey is shown to the users in the focus group by notification.

The survey will be online for the time requested by the client. All collected data will be shared with the client. If a client wants to conduct more surveys on the TrueFeedBack platform in the same focus groups, they will be able to see the previous responses of the participants, assuming that the same participant participated in the previous survey. This information will be shared with a random identity of the participant. Access will be available through an advanced data analysis platform, without the customers needing to download data from the TrueFeedBack system and spend time to obtain meaningful results.

#### **Events**

Measuring the response of the participants instantly in a conference, presentation, lecture, concert, video conference, movie, theater, etc., will make a serious contribution to obtaining information about the performance of the event. The TrueFeedBack application offers you the opportunity to evaluate an event you attended at the end quickly. From the organizer's point, it will help them to have an idea about whether the event has reached its purpose with the quick and correct feedback it will receive. Moreover, if the event organizer wishes, the participants can be rewarded with TFBX tokens in return for this contribution. At the end of the event, the organizer only shares the code valid in the event with the attendees. Users can participate in the evaluation by activating the code published specifically for the event through the application. This code is valid only for the event and for a certain period of time. If there is a reward in the evaluation, users instantly receive TFBX tokens as rewards. The organizers of the event can easily use all their activities on the data analysis platform in planning their next activities by evaluating the profiles of the participants.

## Shopping

As cryptocurrency is a new concept, some users regard converting the tokens they earn into money in stock exchanges as an elaborate and laborious process. The TrueFeedBack Shop provides an environment for converting earned TFBX tokens to products or services off the exchange. Here, various products (T-shirts, cups, books, etc.) or services (online course discount coupons, food and beverage coupons, etc.) can be purchased in exchange for TFBX tokens. The product range will be enriched with a platform that users can use as a digital marketing tool.

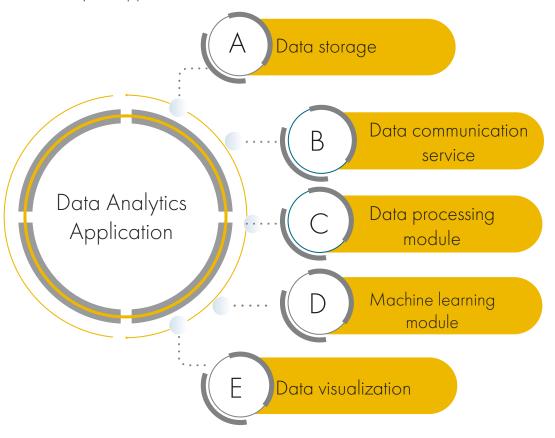
### **TFB Wallet**

TFB Wallet is a digital wallet that allows users and investors to save and manage their TFBX and other cryptocurrencies based on the CELO blockchain network. TFB Wallet also provides the management of TFBX tokens that users earn through different features in the TFB BlackStar mobile application. Thanks to this wallet, every user will have their personal wallet and will be able to do transactions with very low fees on the CELO network.

## Data Analytics Application

Data Analytics Application; It is a product that enables users and companies to analyze the data produced with the TrueFeedBack mobile application and other ecosystem components in the most efficient way using statistical methods and machine learning models. It is designed to analyze data effectively and transform it into value-added results.

#### Data Analytics Application;



It is developed to serve with its main services.

### Data Analytics Application

The Data Analytics Application, which will work with a software concept that can process the data of the companies or the end-users other than the data on the TrueFeedBack platform, will have the following general features:

- Service-based architectural model
- Bulk data analysis capability
- Data processing model in line with customer demand
- Flexible, easy, and accessible model
- Intelligent customer reporting mechanism
- Ability to use previous data effectively in models
- To be able to check the data for conformity and accuracy
   Communication mechanism over multiple data points over services
- Fast data processing and scaling
- Flexible and expandable infrastructure
- Creating Data as a service (DaaS) model
- Providing the Federated DaaS model
- Feedback as a Service model development (FaaS)

TrueFeedBack is designed to convert data to value as an essential function. Each feature on the application allows companies to work with the correct data to use the data efficiently. With the flexible design of using the data, the tools required to transform the data into meaningful results, not just collecting, are included in the application. It has been developed for small or large organizations to evaluate data quickly and effectively with a data-driven concept. Artificial intelligence-based algorithms will soon be integrated and usable in all processes of assessing data.

Digital advertisements have an important place in our daily life. Digital advertising tools have become the most effective marketing medium to reach potential customers, with an average person's screen time being 4 hours and increasing usage rates day by day. According to the data in Statista, despite the setback experienced in 2020, it can be seen that the total digital advertising expenditures worldwide increased and reached approximately 333 billion dollars (Figure 3). 54% of the advertising expenditures made in the USA were made through digital channels, reaching a total of 121 billion dollars and thus ranking first in the world. Worldwide digital advertising expenditures are expected to reach 536 billion dollars in 2024. The increasing use of digital advertising tools has also increased the need for diverse advertising services.

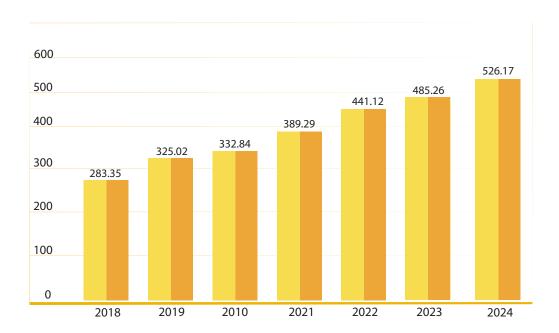


Figure 3. Worldwide Advertising Expenditures and Projections (Billion \$)

In the digital world, the web, social media applications, and games are where advertisements are consumed heavily. Via TrueFeedBack mobile application and its focus on revenue sharing, ads watched are rewarded with TFBX tokens in a fast, effective and secure manner.

TrueFeedBack offers an effective application that can play a role in both crypto marketing and real sector marketing activities with its potential user base. The ad can be targeted effectively according to the user profile. It is useful for the company to stay in touch with the target audience and also contributes to the brand's image as the user will know that the tokens are awarded by the company. The company, on the other hand, makes sure that its awards really reach the target audience thanks to the infrastructure provided by TrueFeedBack. TrueFeedBack plays a role in establishing a link between the advertisement producer and the consumer, thanks to the blockchain-based application it has developed.

The role of cryptocurrencies in our daily lives is increasing exponentially. With this increase, we see more and more cryptocurrencies in marketing tools every day. A crypto exchange ad on television, sponsorship of a sports team, or advertising of different crypto technology in digital advertisements has become a regular occasion.

In this context, TrueFeedBack Advertising Service is an ideal advertising service created to instantly connect companies directly with the user, promote their brand and to take action. In addition to the niche finance and technology sectors, dynamic advertising modules can be offered to companies that potentially target millions of users. Technology and finance sectors, which are the 3rd and 4th sectors with the most intense competition in terms of CPC (cost per click) and GDN (Google Display Network), are the main sectors that TFB Advertising Service addresses.

TrueFeedBack Advertising Service is among the world's leading marketing platforms for target-oriented crypto marketing. With TrueFeedBack Advertising Service, crypto companies can expand their communities, increase their brand awareness and attract investment. TrueFeedBack Advertising Service gives companies the opportunity to reach the specific investor or user profile they desire, and instant results can be presented thanks to the dynamic structure of the user group with different surveys and tasks.

The marketing activities targeted by the companies are successful when they are carried out in a holistic and innovative manner. TrueFeedBack offers services that can bring the innovative approach of the crypto ecosystem to the marketing world (Figure 4).

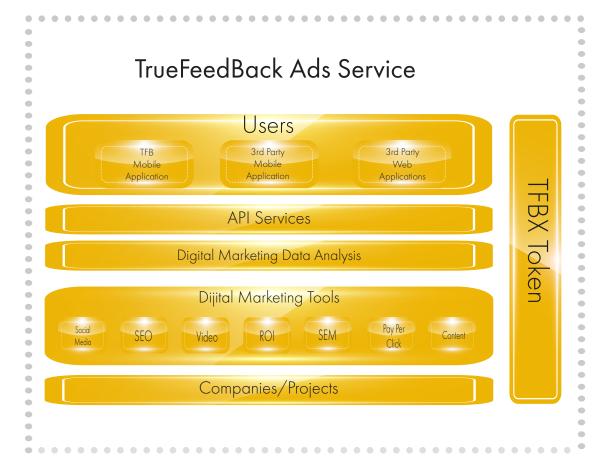


Figure 4. TrueFeedBack Ads Services components

TrueFeedBack offers its products that can be used for marketing as a service layer. Thus, apart from the TrueFeedBack mobile application, it enables third-party web and mobile applications to benefit from this infrastructure. Developers who use this service will contribute to the spread of TrueFeedBack as they can earn their earnings quickly and reliably as TFBX tokens.

The TrueFeedBack Advertising Service, which will work in integration with the data analysis platform, will also offer its customers an environment to quickly evaluate their advertisements. As companies can see the effects of their advertising expenditures, they will have the opportunity to plan an effective marketing activity. All metrics of digital marketing will be made available on the data analysis platform to be used with TFBX tokens. Therefore, the TFBX tokens to be spent in the planning, execution and evaluation of marketing activities will be included in the cycle within the ecosystem.

TrueFeedBack Advertising Service is designed in a system that can offer its services through the mobile application, as well as work in integration with external sources in receiving and sending data. The main marketing tools that can be used on the platform will work as follows:

Social Media: The task feature in TrueFeedBack mobile application is of great importance to increase the visibility of companies on social media and the number of followers. Thanks to this feature, users can be given social media tracking tasks and be rewarded with the TFBX tokens determined after confirming that the users have performed the task as instructed.

- Video: The video ads of the companies can be shown to the relevant user audience, and the users are rewarded with TFBX tokens in return for the ad they watch. Thus, companies can provide video ads to people who are completely in their target audience anytime.
- Pay Per Click: Company banner ads are shown to the target audience determined by the company and the company is rewarded with TFBX tokens in return for clicking on the advertisement.
- PR: With the news service in the TFB Blackstar application, companies can publish their own press releases and show these bulletins to the relevant audience. At the end of the newsletters, users can click the button, watch the company advertisement and win their prizes.
- Community: TrueFeedBack Ads Service plays an important role for crypto firms to develop their communities. Companies reach the audience they need with the TrueFeedBack mobile application and enable the right people to join their communities with the task feature.

TrueFeedBack Advertising Service has been designed to provide com+panies the below benefits:

- Competitive cost
- Instant results
- Increasing website traffic
- Increasing brand awareness
- Easy to reach the target audience
- Quickly measure success metrics

has been designed to be beneficial.

TrueFeedBack offers a sharing economy in which users are rewarded by companies in order to ensure that companies operate effectively within the marketing ecosystem it creates. Thus, investors, users, and companies can benefit in a cycle provided with the TFBX token (Figure 5).

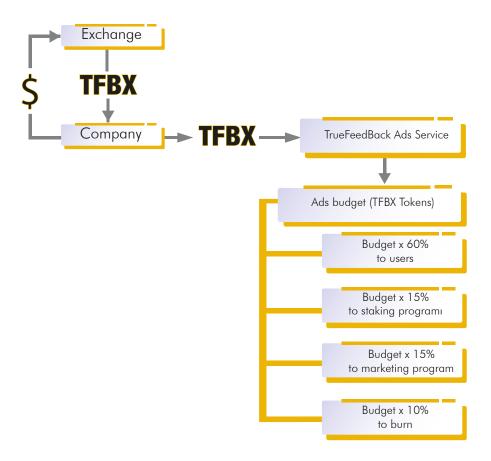


Figure 5. Economic Cycle of the TrueFeedBack Ad Services.

While TrueFeedBack Advertising Service highly rewards the users through the services offered on the TrueFeedBack Mobile Application, TFBX investors gain 15% from the pool staking program and benefit economically from the lowered supply with burned TFBX tokens. With the contribution made to the marketing budget, it can take the necessary steps in business development. TrueFeedBack Advertising Service feeds its own ecosystem with the advertisements it receives and contributes to the TFBX economy.

## TrueFeedBack Content Service

TrueFeedBack Content Service is the enhanced version of the news section in the TrueFeedBack mobile application. While content can be transferred directly from third party services, users will earn money by sharing their content. Users will be able to access reliable news sources according to their interests and earn TFBX tokens by reading the news, not only about cryptocurrencies. Thanks to the crypto, current, sports, economy, etc. tabs, users will encounter rich content. As a result of these contents and the benefit provided to the reader, TrueFeedBack Content Service will become a powerful alternative to e-newspapers over time.

TrueFeedBack Content Service will also be an important platform where press releases of companies working with TFBX tokens are available, and innovations are announced. Companies will be able to present their own content and track how much they are followed by whom, whether they are liked or not, average reading time, and other user behavior statistics through reports.

# How TrueFeedBack Uses Blockchain Technology?

In obtaining the correct data, it is very important that the data source is a real person and that the identity remains anonymous. TrueFeedBack uses the cryptocurrency approach while rewarding users using blockchain technology. In addition, the application ensures participation in a way that is not open to abuse by real persons.

# Anonymity of User ID

If the user is not anonymous, their response to the question will differ significantly from their actual views due to emotions. For example, if respondents support a party other than the organization/company conducting the survey, they may be reluctant to reflect their opinions accurately in the survey.

Finding participants in obtaining the data needed is another problem. People are often not motivated to share their data unless they have some interest. To overcome this problem, money, gifts or lottery tickets can be offered to encourage participants. However, reaching these awards in the classical way can reveal the identity of the participant. Identity sharing poses a trust issue with the platform, as every move a user can make can be recorded on the platform. This allows the platform to find users' shares data and use this information for some purposes without the user's consent. In the future, users should be 100% sure that their personal information is secure and that their answers will not be leaked to other parties without their consent.

# Anonymity of User ID

The TrueFeedBack platform is designed to overcome these problems and help to get more accurate results. To do this, one must first solve the anonymity problem. Thus, he receives the most objective answers from the participants. The TrueFeedBack Team has produced solutions using blockchain technology. Users only enter an email address and an ERC20 wallet (MyEtherWallet, Trust Wallet, etc.) address information to register in my system. An ERC20 wallet address consists of numbers and characters so it doesn't contain any information about the user. Some may object to collecting users' email addresses, but users are not required to provide an email address with information about their identity. There are two reasons why the TrueFeedBack platform requests email information; the first is to verify that a user is not a bot, and the second is to enable these email addresses to be used as a communication channel (for password reminders, etc.). At this point, we should point out that the email data of the users will not be shared with the third party, a user ID will be provided to the poll maker to see the user's history, with only numbers and letters because this information will be very important for the analysis of data. Therefore, there will not be any information to identify a particular user on the TrueFeedBack platform. It is a pretty easy solution for this problem, but it solves the anonymity problem effectively.

TrueFeedBack uses blockchain technology to encourage users while remaining anonymous. The TrueFeedBack platform asks the creator to decide on one reward per participant and the maximum number of participants. When users join the activity on the app, they see how much reward they will receive. The data collector makes sure that the rewards really reach the participants, thanks to the transparent feature of blockchain technology.

### User Being a Real Person

The most important issue when ensuring users' privacy is preventing people from using multiple accounts to earn more money.

With the new version of the mobile application, it will gain the functionality of a wallet, and a match with unique phone numbers will be established. Since this mapping will be on the layer to be created with a special protocol provided in the CELO network, the anonymity of the users will remain. When a user logs on the system, encrypted identification is provided. This information is kept in the blockchain network, and if a user tries to misuse the system by creating multiple users, all of their accounts will be blocked. It is inevitable for our customers to collect accurate data and continue our operations.

## **Technology**

## Data Analytics Platform Infrastructure

Data from different services are transmitted to the data operation module in the platform via the data communication gateway that provides a flexible service structure. Afterward, the data are collected and transmitted to the data processing module where the data relation module provides data associations. The processed data is stored by sending this data generated after the data processing module to the database cluster structure. When necessary, with different machine learning algorithms in the Machine Learning Module. This Machine Learning Module analyzes data that can communicate with the data discovery module. In addition, by working independently, the Data Result module will visualize the results and make real-time decisions. In the Data Result section, reporting, visualization, and real-time data processing will be operated most efficiently. The service layer provides the data analysis components created in the Platform layer to be served as a service. In this section, a uniquely flexible service structure is created for each specialty area, and each new service to be added to the system is easily integrated. In this respect, the data analysis architecture is built on a flexible model. In general, we can summarize the data flow as follows; a) Transmission of the generated data from Resources to the Platform, b) Recording of the data after the most accurate and up-to-date technologies in the Data Operation module, c) Making accurate and intelligent decisions from data with machine learning methods, d) Data Discovery module operations for data discovery, e) Reporting of data, performing operations such as visualization, f) Integrating the Platform with the Services. The following section explains the modules and functions of the architectural structure.

## Data Analytics Platform System Architecture

TrueFeedBack data analysis infrastructure is built in the architectural structure shown in Figure 10. Infrastructure that consists of Resources, Main Platform(Gateway, Data Operation, Data Discovery, Data Result), Database Cluster, Machine Learning Models, Security and Services main modules.

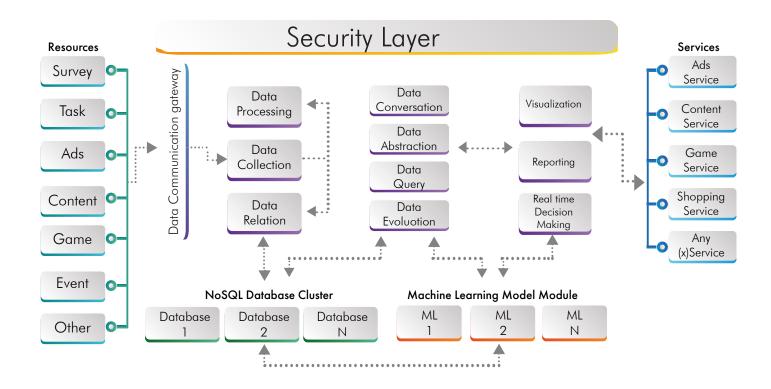


Figure 10. TrueFeedBack data analytics system architecture

#### Resources

In the Resources, TFB users generate different data such as surveys, tasks, activity, news, games, etc., using TFB applications. In general, the data collected through the blockchain TFB application are processed within the Data Operation main module through three semi-sub-modules: Data Collection, Data Processing, Data Relation. Data obtained from different sources are taken over the data communication service and transmitted to the data collection module. This module has been created in accordance with the different ways to receive data as a gateway with data entry in the system. All kinds of data sent on the system are entered for processing and relation.

## Data Operation

The Data Operation part generally performs the processing of the obtained data after it is collected, and the data is recorded into the database by establishing a relationship between the data. The following section explains the submodules and components below.

#### Data Collection

In order to analyze the data created in different types and models through the TrueFeedBack application, it must first be collected in the most efficient way. This data collection will be provided through the blockchain data communication service. The ability to categorize and classify different data in the model is carried out in this section. TrueFeedBack platform collects many kinds of data such as surveys, tasks, and notifications from many areas.

#### Data Processing

More efficient processing of data received and collected from different applications through the TrueFeedBack platform is ensured. Depending on the complexity and diversity of the data obtained, it is processed with data processing technologies and prepared for data association. At this stage, the data obtained with the data collection module is processed in the best way. It is also essential to detect and extract duplicate data.

#### Data Relation

Data Relation module provides relational models between data sets processed in different fields. Among the data created in this domain, it is guaranteed that the relational models of the data processed in the NoSQL database are preserved. This step helps to understand the data better. The Data Relation module communicates with the Data Processing module and can perform correction and verification operations in the data processing module.

The data processed in the data operation are recorded in the database for use in Data Discovery and Machine Learning modules.

## Data Discovery

The Data Discovery module performs operations for the data abstraction processes of the necessary transformations to evaluate data saved in the database. At the same time, queries are carried out regarding the required data. The submodules and components related to the Data Discovery are described below.

#### Data Conversion

In this sub-module, data transformation processes are performed to use the data differently to obtain the analytical data results necessary for data discovery operations.

#### Data Abstraction

In this sub-module, important data will be highlighted among the data discovery processes. Data kept in the background can also be used if needed. In this way, instead of more complex data, larger data that can be important to users can be extracted.

## Data Query

In this module, database query operations that may be required in data transformation operations will be performed. In this way, the data obtained from the database will be used in analysis when necessary.

#### Data Evaluation

This module ensures that the data are evaluated and effectively extracted, and interpreted from the data.

## Machine Learning

This module provides the most successful modeling using different machine learning algorithms in general and extracts more effective analyses from the data collected in the system (Figure 11).

The machine learning module, one of the essential components of the TrueFeedBack data analytics platform, will allow the data generated within the platform to be processed with different machine learning algorithms. In this way, the platform can make smart decisions, estimate the derived results of the data quickly, and display the analysis results.

Concretely, the machine learning pipeline is also at the heart of delivering personalized content to each user. As depicted in the figure below, multimodal information sources are utilized in training. The results of such training would help fine-tune the content that users get from the platform.

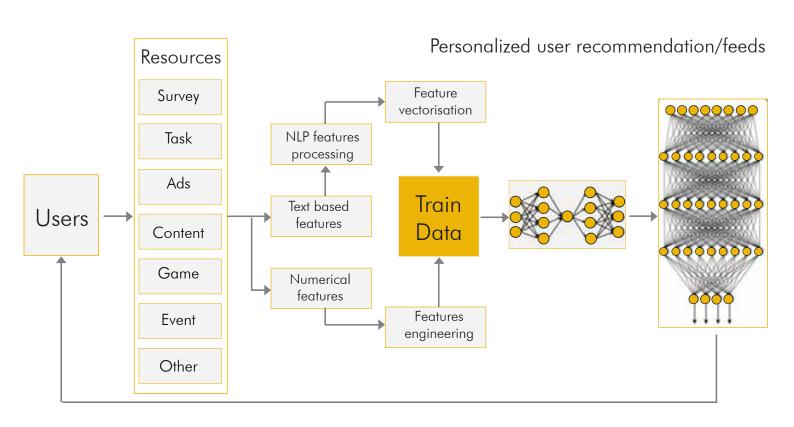


Figure 11. TrueFeedBack data analytics platform machine learning processes

The machine learning module, one of the essential components of the TrueFeedBack data analysis platform, allows the data produced within the platform to be processed with different machine learning algorithms. In this way, the data analysis platform will be able to generate intelligent decisions for the end-users. In this way, a quick prediction was established from the data, and a mechanism that can perform an accurate analysis of the data will be acquired.

## Image Processing

Regarding the tasks to be performed by the users on the TrueFeed-Back platform, the image files they have uploaded to the system are verified and automatically approved. After analyzing the images, the data will be decomposed using the machine learning algorithms, the features extracted and classified. Then, with the proper machine learning methods, it will be determined with a high success rate whether the content of the image files transferred to the system during the tasks is correct. In addition, analyzes and evaluations will be performed to process different image data within the system.

## Natural Language Processing (NLP)

Using artificial intelligence with NLP, a method will be used to make sense of the data reported by users via TrueFeedBack. Data is evaluated at the highest level in these studies that are carried out to understand every data created by the user properly, and entered as text.

#### Data Evaluation Results

#### Visualization

After analysis and modeling of the data obtained through the system, the results will be created as a text file and studied for a better understanding of the results. This visualization process is essential for the analysis platform design. Different visuals and diagrams can be created for data analysis according to user demands, and visual analyzes will be created, resulting in the effective use of data. The results thus obtained will not provide the most effective assessment of the new information created.

With the graphics and artificial intelligence support created in the visualization section, anomaly detections on the data will be created. By having artificial intelligence services of the visualization tools, it will be able to produce separate artificial intelligence outputs over these services. In addition, if the data is too large, size reduction operations can be performed on the data.

## Reporting

This module enables the results of data discovery and machine learning platforms using tables, graphics, or figures. At the same time, dynamic reporting provides filtering according to different parameters. In this way, the most accurate and fast results obtained from the data whose value has increased due to the analysis.

## Real-time decision making

In this module, a structure where the decision maker and the results are evaluated in the system will be created in order to obtain some results in the system in real-time. Within the platform, it will be ensured that decisions are made quickly and the results are communicated to the users in the most efficient way.

The system is generally designed to provide the following features:

## High Performance

Thanks to its distributed architecture feature, demands on the TrueFeedBack application ensure that the architectural structure can work with high performance. CouchDB backend services offer accessibility and fault tolerance that help balance load and ensure robust performance delivery. Specifically, it is a database engine with distributed architecture and replication, which makes it fault-tolerant. It also supports PostgreSQL, which facilitates architecture, faster query, and better usability and query response.

## Scalability

The system architecture provides quick response to incoming requests without disruption, despite the significant increase in user demands and inbound requests. In this way, a highly scalable architectural structure is established. The fact that the system works well under varying loads is directly due to the argument advanced for high performance. It should be noted that distributed system models improve and positively affect load balancing.

## Fast Data Processing

On the TrueFeedBack platform, data can be processed without delay, and the platform, supported by machine learning models, processes the data in the fastest way and saves the obtained analyzes to the database. There are three important points here.

- Querying big data and reading data from only a few data points per record
   Bulk statistics or features derived from logs
- O Machine learning assessment in data logs
- Data streams or collective data are directed to the data processing line. The use of cache is important to store frequently queried data points. In addition, the document-based CouchDB's schema conversion to the relational database PostgresSQL ensures that the data is also available in the PostgreSQL database and that a very fast relational database query can be executed.

Records returned from the results of the documents are parsed into the data analysis API that Apache Dask for parallelism and Apache Sketches for fast batch analysis and derived feature analysis.

#### Fault Tolerant

Thanks to the TrueFeedBack architecture, efficient data analysis ensures that data can be processed without error.

TrueFeedBack platform is also used for machine learning modeling, statistical models, and sensitivity analysis. (Figure 12).

Furthermore, the machine learning module also incorporates other components, as shown in Figure 12. In particular, the aggregate statistics and statistical models. For example, aggregate statistics might help compute the most frequent answer in a survey. On the other end, statistical models (Gaussian mixture models, Gradient Boosting, K-Means) help in the computation of parameters (analysis of user platform activities) that might help the system and user in future decision making.

To add robustness, there is also a module for sentiment analysis that would help analyze the user amount of the platform, survey, and games on the platform and how these can be improved.

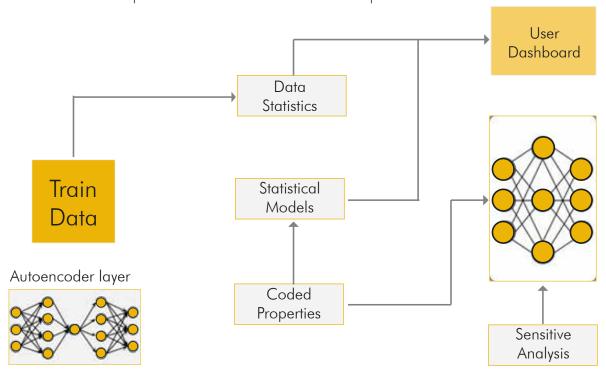


Figure 12. TrueFeedBack machine learning, statistics, and sentiment analysis infrastructure

# Data Analytics and Modeling Pipeline

The TrueFeedBack data analytics platform has adopted the basic model of service delivery as Data as a Service (DaaS). The generalized data analysis pipeline was constructed as shown in Figure 13. It is listed as the "Extract, Examine, Discover, Transform, and Save Cycle". It is at the center of its analytical framework. The loop has a two-way link with data analysis and models. This structure ensures that the models and the data analysis process receive the same relevant data. The results obtained from the analysis of the data and the models are again stored in E3TLS and transferred to the intelligent visualization platform.

### Models and Analytics Cycle

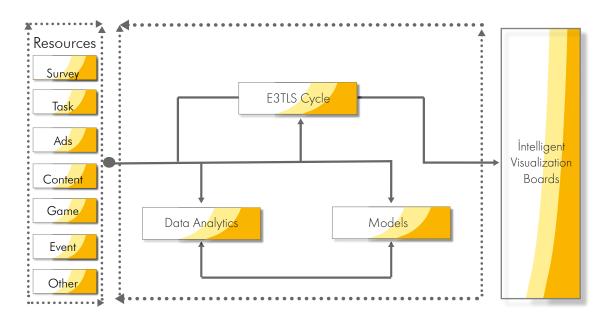


Figure 13. Generalized data and model analysis pipeline for TrueFeedBack

# Data Analytics and Modeling Pipeline

In the analytics and models part of the diagram, Apache Spark provides distributed computation and analysis on the queried data points. In addition, Dask ensures the parallelization of models and calculation steps. Emphasis is placed on using Apache Sketches for quick query analysis. In addition, federated learning will be supported for training and updating models. The federated ecosystem is illustrated in Figure 14. Federated learning provides distributed training of models as opposed to centralized training. Specifically, as shown in Figure 14, it ensures that training is located anonymously for each specific user while the weights are updated according to the overall pattern.

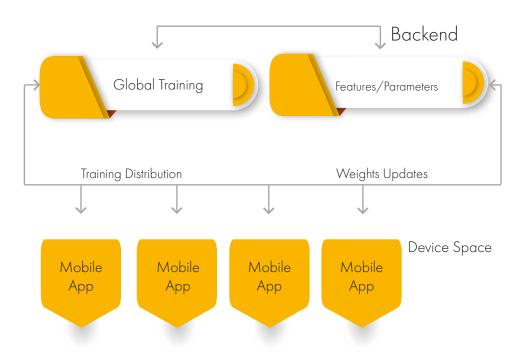


Figure 14. Federated components used in TrueFeedBack data analytics infrastructure

## Data Analytics Technologies

TrueFeedBack makes extensive use of open source technologies, which have become "State of the Art" for data analysis, to develop new products. The applications of the Apache Foundation, which are very popular in these technologies, are shown in Figure 15 below. These technological modules are essential for the processing of distributed information.

Furthermore, federated learning is utilized for training and updating models. Federated learning ensures distributed training of models - as opposed to centralized training. In particular, it ensures training is anonymously localized to each particular user while weights are updated to the global model.

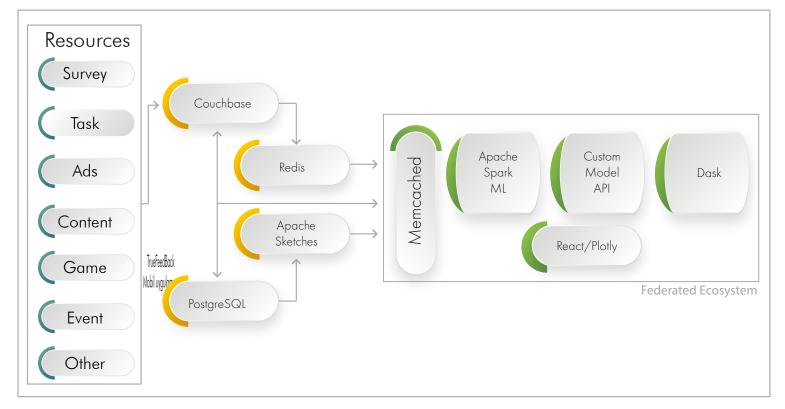


Figure 15. Open source technologies that make up the TrueFeedBack data analytics platform structure

The figure depicts the use of Apache Sketches, Dask, and Federated Ecosystem. Flask helps to serve data models as an API.

# Roadmap

#### 2021 Q3:

In the third quarter, many services that were prepared and tested in the previous quarter (NFT Shopping Platform, TFB Business Service, TFB Content Service, TFB Advertising Service, TFB Shopping Service) will be released.

#### 2021 Q4:

The second version of the TFB Data Analytics Platform, whose first version was published in the second quarter, will be published in the last quarter, and data analytics tools will be tested on the blockchain network. The most important action in this quarter is that the DEX Platform will be released during this period. The platform called TrueDEX is an indispensable part of the TrueFeedBack ecosystem and will have the feature of being a platform where all the coins in the ecosystem are listed.

# Blockchain Infrastructure Technologies

The CELO infrastructure, which was created to enable the use of smartphones to access financial services on a decentralized platform, is the basis for the development of TrueFeedBacks' innovative products. With the TrueFeedBack mobile application adding the wallet feature, the rewards earned from the features in the application will be transferred to the user's wallet instantly.

CELO blockchain infrastructure is built with the concept of the Ethereum network, which is widely used to build general purpose decentralized applications. Despite its similarity to Ethereum, Celo is a completely different blockchain/protocol and CELO assets are not directly accessible from the Ethereum network. The ERC-20 standard widely used for creating cryptocurrencies in smart contracts is compatible with CELO. Both its own tokens and an ERC-20 compatible token can be created on the CELO blockchain. The TFBX token will be produced as a cryptocurrency on the CELO network and can be used interchangeably with the Ethereum-based TFBX token.

TrueFeedBack uses CELO technology as a blockchain infrastructure in mobile and web applications (Figure 16). This technology includes the CELO Blockchain Network and the CELO Smart Contract Layer working with the CELO protocol. The application layer includes the current mobile application of TrueFeedBack and the web applications that will be activated in the future (decentralized exchange, shopping platform, NFT platform, etc.).



Figure 16. TrueFeedBack application components on CELO blockchain infrastructure

# Blockchain Infrastructure Technologies

CELO blockchain is built with an open cryptographic protocol that allows applications to transact and execute with smart contracts in a secure and decentralized manner. Since it has a common structure with Ethereum, it has full EVM compatibility in terms of smart contracts. It uses a Byzantine Fault Tolerant (BFT) consensus mechanism instead of Proof of Work and has different block format, transaction format, client synchronization protocols, and gas payment and pricing mechanisms.

CELO core contracts are a set of smart contracts running on the CELO blockchain that incorporates most of the concept of platform features including ERC-20 compliant currencies, authentications, proof of stake and governance. These smart contracts are upgradeable and are managed by the decentralized governance process.

TrueFeedBack features within the mobile application ecosystem allow end users to manage their accounts and make payments in a secure and simple way by taking advantage of the innovations in the CELO protocol. Applications to be developed can work with external mobile or backend software. TrueFeedBack apps interact with CELO blockchain to call the code that makes up the API of CELO core contracts to execute transactions. Third parties can also deploy custom smart contracts that their own apps can launch, which can take advantage of CELO core contracts. TrueFeedBack applications may use central cloud services to provide some of their functions (such as images, video, audio files).

## Token Economy

As TrueFeedBack, we have prepared our new token economy that will be valid in 2021-2025.

With our new token economy, 5,000,000,000 TFBX tokens have been issued. The existing TFB token has been replaced 1: 1 with the newly issued TFBX token.

Our new token economy has been allocated the following:

- The circulating supply: 47%
- Team: 10%
- Development: 7%
- Marketing: 11%
- Staking: 6%
- Strategic partnerships: 2%
- Ecosystem: 16%
- Advisors: 1%

The exchange program was carried out in the following steps:

- 1. The TFB token on the Bithumb Global exchange has been automatically replaced with the TFBX token. The clearing process was completed on April 27, 2021.
- **2.** TFB tokens on the Hotbit exchange have been automatically replaced with TFBX tokens. The clearing process was completed on April 14, 2021.
- **3.** For investors who have TFB tokens in their wallets other than the Exchange, the exchange process was open on our website until 28 May 2021.
- **4.** In the TrueFeedBack mobile application, TFB tokens are automatically exchanged for TFBX tokens.

## Roadmap

The TrueFeedBack 2021 roadmap was announced on March 21, 2021.

#### 2021 Q2

- Joining Celo Alliance Program
- TFB Mobile App V.3
- Testing the TFB Business Services on Web Platform
- Testing the TFB Ads Service
- Data Analytics Suite V.1
- Testing the NFT Shopping Platform
- Testing the DEX Exchange Platform
- Establishment of the TrueFeedBack London, UK Office

### 2021 Q3

- Launching the NFT Shopping Platform
- Testing TFB News Service
- Multilanguage Support for Mobile App
- Releasing TFB Business Services
- Releasing TFB News Service
- Releasing TFB Ads Service
- Establishment of the TrueFeedBack Gulf Regional Office
- Testing TFB Shopping Service

## Roadmap

#### 2021 Q4

- Data Analytics Suite V.2
- Testing Data Analytics Tools on Blockchain
- Launching on a DEX Exchange platform
- Number of target Users: 500K
- Releasing the TFB Shopping Service
- Publishing the TFB Services Integration Platform

As TrueFeedBack, the new token economy, which will be valid in 2021-2025, was shared with its investors and users on March 21, 2021. The new token economy is organized as follows:

#### 2021 Q2:

When Whitepaper 4.0 is released, most of the goals in Q2 will be realized and significant progress will be made in the rest. The most important action of the second quarter of 2021 is to be included in the Celo network. By being included in the Celo network, a faster and more reliable functioning of the token circulation is aimed. The purchase of tokens and any other transactions on the platform will take place without the need for approval and done automatically on the Celo network.

In addition to the stated targets, our Central-Africa office is planned to be opened by the end of Q2. This office is of great importance for both software technical support and marketing TrueFeedBack to the Central-Africa region where there is high crypto potential.

# Global Expansion

In line with our global marketing strategy, regional offices are of great importance in order to reach users, companies, and investors more comfortably all over the world. Regional offices will be beneficial both for the faster globalization of TFB and for people to reach our representatives and receive support in their own language. As explained in the TFB 2021 road map, , London regional office will be opened in 2021. In addition, our Rwanda-based Central Africa and Macedonia-based Balkans regional offices are planned to serve in 2021.

## TrueFeedBack International Offices



Figure 17. Office targets in the TrueFeedBack globalization process

## Global Expansion

When looking at the adaptation of cryptocurrencies around the world, Nigeria ranks first. Our Central-Africa office will be beneficial for the TrueFeedBack project, both for data analysis and for TFB to reach a wider audience. Our London office will represent TFB in the financial center of the world and at the same time be the address of providing direct contact with international investors. Our Gulf office will be located in Kuwait and will deliver the TrueFeedBack project to the investors of the Gulf region, which has recently grown rapidly in the crypto world.

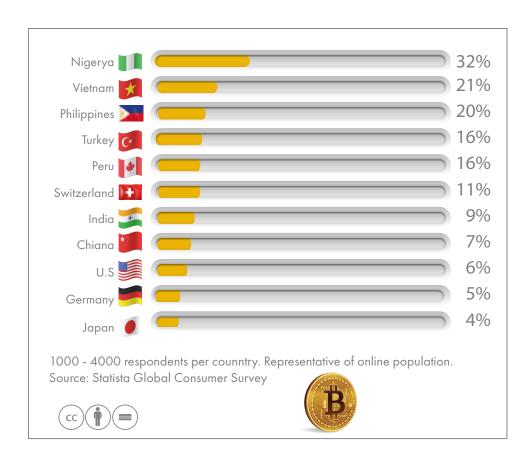


Figure 18. Cryptoasset ownership and usage rates by population of countries

## **Team**

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https://www.statista.com/chart/18345/crypto-currency-adoption/
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