

# [ Kibe-log ]

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## The Digital World INFRONEER aims to create

Dear Stakeholders, I am Kazunari Kibe, President and CEO of INFRONEER Holdings Inc.

Thank you so much for reading the "Kibe-log" again.

This time I would like to explain the background and intentions behind our collaboration with the Whole Earth Foundation ("WEF"), including the establishment of a new company, which was released on May 9, 2023.

As explained in a recent release, INFRONEER will provide 2 billion yen in funding to the WEF, which operates the blockchain-based TEKKON gaming app, and will establish a new company that will utilize various infrastructure data collected by TEKKON, a citizen participation data collection app developed by the WEF.

This new company is looking to build a new infrastructure management service using the collected infrastructure data with citizen participation in collaboration with the "Fantasy Marketing Department", an informal division of Maeda Corporation, a group company under INFRONEER.

Why is INFRONEER investing in the blockchain and game app business? We will elaborate our objectives and background one by one in the following.

## Collaboration with Japan's proud entrepreneur

First, let me talk about the WEF and TEKKON, the partners in this partnership.

The WEF is a corporation established in Singapore by Takashi Kato, a well-known "serial entrepreneur". Mr. Kato, a former banker at Bank of Tokyo-Mitsubishi, started SCHAFT, a humanoid robot venture company in Silicon Valley, U.S. In November 2013, he sold the company to Google, attracting the world attention.

In June 2015, he founded FRACTA in Silicon Valley, an AI startup that develops software to optimize

water piping updates through artificial intelligence. In May 2018, he sold a majority stake of FRACTA to Kurita Water Industries (Mr. Kato served as its CEO until 2021).

He then established the WEF in 2020 to implement a mechanism he devised that combines blockchain and infrastructure data collection.

As these footprints indicate, Mr. Kato is an entrepreneur who has used technology to provide solutions to the problems of aging infrastructure and maintenance that the world is facing.

Next, I would like to talk about TEKKON, which is operated by the WEF.

TEKKON is a location-based game in which players earn points by taking and posting pictures of infrastructure such as manholes, utility poles, and electric lights. "Pokémon GO," which caused a huge boom, is a game in which players catch Pokémon in the city, but TEKKON is characterized not by Pokémon, but by the fact that players take pictures of various infrastructure in the city.

"Pokémon Go made me addicted to catching Pokémon, so what's the fun in shooting manholes?" You might be thinking, "Why would it be fun to take pictures of manholes?"

But there are incentives in place.

Earned points can be exchanged for crypto asset tokens listed on overseas crypto asset exchanges (a type of crypto asset, in TEKKON's case, WEC), which can ultimately be converted to cash. With that said, since September 2022, when TEKKON was released, the number of registered users has reached about 130,000 globally, as well as 3.94 million manhole postings, and 550,000 utility poles postings. (As of May 23, 2023)

## Existing infrastructure with no digital data

So why the infrastructure images? Behind this is the problem of aging infrastructure that countries around the world are facing.

Japan, for example, is entering a period of renewal for many of its civil engineering infrastructure and public buildings, including roads, ports, water supply, and sewage systems, many of which have been in place for a long time. According to the Cabinet Office, the total cost of maintenance and renewal of civil engineering infrastructure and public buildings required between 2015 and 2054 will be 547 trillion yen. That amount

is enormous.

But the problem is not only the cost of maintenance and renewal. Japan has been developing its infrastructure since the era of high-speed economic growth. However, the information on the infrastructure is incomplete and is not stored in the form of digital data.

For example, in the case of waterworks, there is almost no information remaining on water pipes laid before 1975. For water pipes installed after that, information on when and where they were buried is recorded, but the data on the documents often differs from the actual location. Manhole data has also not been digitized.

The same thing is happening with other infrastructure. Power companies do not have data in digital form on the utility poles they have placed, and municipalities do not have data on the streetlights they have installed on the roads. Without digital data, they cannot proceed with DX.

Of course, it is conceivable that local governments and electric power companies could check infrastructure once again. But this is not very realistic as it would require a tremendous amount of money and manpower to check all the infrastructure throughout the country. When I was searching for a way to collect digital data to diagnose and predict the deterioration of roads, waterworks, sewage, and other infrastructure, I met Mr. Kato, the founder of FRACTA, and learned about TEKKON.

To collect digital data of infrastructure, TEKKON is trying to harness the power of the general public by combining location-based games, crypto tokens, and social contributions. This game is not very suitable for underground pipes like water pipes, but for above-ground infrastructure, taking pictures and visually checking the condition is not a problem. I believe this is a very well-designed system.

Japan has 15 million sewage manholes and 36 million utility poles. Looking at the world, it is estimated that there are 200 million sewage manholes and 460 million utility poles. Similarly, infrastructure data has not been digitized in other countries. We see TEKKON's potential as quite high.

## The world we want to realize through TEKKON

As you can see, it is important for society to collect digital data on various infrastructures. Now, let me answer the question of why INFRONEER is establishing a new company with the WEF and how this will contribute to INFRONEER's growth.

One of the reasons we partnered with the WEF this time is the value of the data itself that is collected by TEKKON.

As we have written in the Kibe-log, INFRONEER is committed to "de-contracting" as a pillar of its business strategy. In addition to the traditional contracting business, "de-contracting" means taking business risks for projects as an operator who knows construction inside out. One direction in this area is to focus on concessions, in which the company acquires the rights to operate infrastructure such as roads, water supply, sewage systems, and arenas.

We believe that infrastructure business with its investment, can generate more returns than contracting business by leveraging our engineering and financial expertise.

In this infrastructure business, data on aging infrastructure is highly valuable.

INFRONEER, through its subsidiaries Maeda Corporation and Maeda Road Construction Co., Ltd., is undertaking the maintenance and management of roads and public facilities that are under the control of the municipalities. Right now, we are checking the condition of the infrastructure by ourselves, but if we can utilize the data those local citizens have posted, it will be possible to increase the value of the existing infrastructure together with the users.

In addition, as data on aging can lead to the invention of new models for infrastructure renewal, this information must be highly sought after by related companies. We think that the data itself is also in high demand.

The other reason we partnered with the WEF is its technology for developing algorithms.

As mentioned earlier, Mr. Kato, who founded the WEF, started FRACTA in Silicon Valley, USA, before establishing the company. FRACTA is a company that provides software services to diagnose and predict the deterioration of various types of infrastructure, such as waterworks and railroads. This company has already been sold to Kurita Water Industries Ltd., but the engineers involved in FRACTA remain at the WEF. I think that we can work with them to create a new algorithm for diagnosis of deterioration.

Aging water pipes are not only affected by when they were laid, but also by various other factors such as road congestion, temperature, soil, and the burial depth of the pipes. If we can develop an algorithm that can input such data and identify the optimal time for renewal, it would be a major competitive advantage for the infrastructure business in the future.

And the last thing I want to mention is the importance of "moving first".

## To remain a front runner

As you are all aware, the construction industry is very conservative, and there are still many aspects of the industry that remain unchanged. It is symbolized by the fact that the business model of contracting, which has been in use since the Edo period, is still the mainstream. In this circumstance, INFRONEER is promoting "de-contracting" to create a new business model for the construction industry, but very few people would feel that the construction industry is innovative.

The world is changing at an incredible pace. Like ChatGPT for generative AI, blockchain, metaverse, and so on. The only way to incorporate these new technologies and services into your business model is to try them out.

We expect the use of virtual reality (VR) and metaverse will expand in the fields of construction and infrastructure in the future. By reproducing real structures such as buildings and condominiums within the metaverse, it will be possible to simulate optimal construction methods, construction periods, costs, and more. Demolition can also be simulated risk-free within the metaverse. I think there is a high affinity between the fields of construction and infrastructure and the metaverse.

In addition, as TEKKON has shown, combining blockchain and crypt tokens may enable the creation of a new mechanism for citizen-participatory infrastructure management. As the cost of infrastructure maintenance and management increases in the future, if we can successfully involve the power of citizens, we may be able to reduce those costs.

To open up new business areas in these construction and infrastructure industry, it is essential to have outside help like Mr. Kato, who is familiar with cutting-edge technology, as well as traditional resources. To this end, we want to team up with challenging people in different industries and start something new.

As is widely believed, the future of business is all about data. The world of infrastructure is no different. To be a front runner in the infrastructure business, we need to have a variety of data related to infrastructure. Of course, there are many companies that are far ahead of us, but we believe that it is very meaningful to enter this world of data as a pioneer in the construction and infrastructure industry.

It may be a while before we see results, but we hope to see this investment recognized as a major turning point when we look back on INFRONEER's footsteps in the future.