



Internet of Things Connected to Blockchain

Technical White Paper

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Notice

Current document (the White Paper) is written for information purposes only and we are publishing this White Paper solely to receive feedback and comments on our project plans from the public

We reserve the right to make any changes as we consider to be necessary, based on market factors and our advisors' recommendations.

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Please note that our CHARGED Token is not a stable coin.

This document represents the second public version of the White Paper. We are always open to receiving constructive feedback, and we will implement suggestions that fit with our Ecosystem. In case you would like to provide such feedback, please use our community channels.

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Introduction

At GoCharge.tech we're connecting IoT devices to blockchain. Our initial goal was to connect power bank sharing stations to MultiversX blockchain and allow users to rent power banks by paying with crypto. In 2022 we started work on the Proof of Concept and in November our MVP was presented at the xDay conference in Paris where users were able to rent power banks by paying with EGLD. [Click here to see how it works.](#)

In the meantime our team decided to go multi-chain and connect the MVP to multiple blockchain networks. In February 2023 we announced the successful connection between goCharge.tech app and Binance Smart Chain. [Click here to see how it works.](#)

More chains to be announced at a later stage.

From the beginning our infrastructure was designed to be easily integrated with other services and solutions. As an example, the goCharge.tech app will allow users to connect their Electric Vehicle chargers and accept crypto payments. The goal is to build a decentralized network of EV chargers around the world. Individuals and companies will be able to connect their EV chargers to our app and allow anyone to book a time slot, charge EVs and pay with crypto.

In few words, the app.goCharge.tech is designed as a mobile and web app with 2 main branches:

1. Connect users to a network of power bank sharing stations (owned by GoChargeTech and those in franchise) and allow multi-chain crypto and fiat (credit or debit card) payments.
2. Connect users to a network of Electric Vehicle chargers, owned by individuals or companies, and allow users to book time-slots, charge EVs and pay with crypto tokens from multiple blockchain networks.

Problem Description

Mobile phones, tablets and other devices.

In today's world, it's almost impossible to go anywhere without your phone. We rely on our smart devices for so many things, from communication to entertainment, and it's essential to keep them charged. But what happens when you're not in the proximity of a charging socket and your phone runs out of battery?

Electric Vehicles.

The EV market is growing at a fast pace. According to Delloite by 2030, the global EV market share will be ~30%. One downfall is the lack of charging infrastructure. Of course, people are buying EV chargers and installing them at home or at their private parking spots. The downside is the expensive cost and the fact that more than half of the time these EV chargers are not used - which leads to a longer period to return the investment.

Problem Solution

goCharge.tech - a shareable platform with global impact.

Meet **goCharge.tech** - a platform that connects users to a network of shareable IoT devices like power banks and EV charging stations. By using our web and mobile app, users will be able to:

1. Rent power banks from a network of stations owned by GoChargeTech and franchise owners.
2. Find an EV charger in proximity to a specified location. Book a time slot and charge the car.
3. Use blockchain technology to pay for services described above.
4. Connect EV charger to our platform and earn passive income by sharing it with other users.
5. Buy EV chargers compatible with our infrastructure and earn passive

income via our platform.

6. Buy power bank sharing stations and earn passive income via our platform.

At its core, our platform uses blockchain technology for traceability and payments, handled by Smart Contracts on multiple chains, thus opening opportunities for global, decentralized recharging points in the future.

How does it work?

goCharge.tech app will come with 2 sections:

- Power bank sharing stations
- EV chargers network

To **rent a power bank**, users will have to follow steps below:

1. Scan the QR code which is displayed on the station.
2. Choose a payment method. Sign transaction for crypto or enter card details for fiat money.
3. A power bank will be released from the station. Charge your device(s).
4. Return power bank (to any station from our network).

To **charge an EV**, users will have to follow the steps below:

1. Lookup for needed location on map page and book a time slot on the selected EV charger.
2. Choose a payment method and sign the transaction.
3. Drive to the selected location and charge EV.

What is the goal?

We aim to install power bank sharing stations in the European Union countries as per following yearly schedule:

1. 50+ stations in the first 6-12 months
2. 500+ stations in the period 12-24 months
3. 2000+ stations in the period 24-36 months

With a median number of 10 power banks per station it will result in a total number of 20,000 units. Our target is to reach 7 customers/month/power bank, which leads to 140,000 unique users.

The average number of mobile phone subscribers in the European Union for 2020 was 20.07 million/EU country which results in a total (approx) number of 541,890,000 subscribers. To achieve our goal just in the EU region, we have to target 0.00025% of the total number of mobile users. Of course, not all users will have access to our sharing stations. Let's take into consideration only the top 10 cities (by population) in the EU - it will sum up to 23,190,960 people. From this number, let's take into consideration only 25% (people that are active, commute, dine in the city, etc). Doing the math, the market share we are aiming for is: $140,000 * 100 / (23,190,960 * 0.25) = 2.41\%$.

Why connect IoT to blockchain ?

In our business model, blockchain solves a few issues.

1. First of all, it cuts the payment processor fees down to the equivalent of \$0.01 - \$0.001 per transaction. Here we can include MultiversX, Binance Smart Chain, Polygon, Solana etc.
2. Blockchain transactions are immutable. This removes the payment-dispute case when a customer can ask for chargeback from the bank. It will cost more than the transaction itself. Imagine paying a \$20 dispute fee for a transaction of \$1.
3. Smart Contracts can handle transactions and automatically transfer the profit to the owner's wallet, return the deposit to the customer and so on.

Our business model includes a big number of transactions with small amounts starting at a few cents per tx. In the image below you can see the cost difference between MultiversX fees and other traditional card payment processors for an average of 2000 transactions per day and the average amount of \$1 per transaction.

By replacing CC payment with blockchain token payment we can save approx \$200 per day. [Click to view the calculator.](#)

Another downside of the CC payment is the deposit release time. When a user rents a power bank, a deposit (battery value) will be held. With blockchain this amount will be instantly transferred back to the user's

wallet by the Smart Contract when the power bank is returned. Getting back money to the card account can take a few days - which means your

Your key figures

Number of transactions / day

Transaction volume / day in \$

Your transaction costs

Technology	cost / day	cost / month	cost / year
Elrond blockchain	18.56 \$	556.92 \$	6,775.86 \$
Credit cards (Visa / Mastercard)	226.00 \$	6,780.00 \$	82,490.00 \$
Paypal	658.00 \$	19,740.00 \$	240,170.00 \$
Amazon	658.00 \$	19,740.00 \$	240,170.00 \$
Klarna	665.80 \$	19,974.00 \$	243,017.00 \$
WePay	658.00 \$	19,740.00 \$	240,170.00 \$
WooCommerce	658.00 \$	19,740.00 \$	240,170.00 \$

Your savings

Elrond compared to...	per day	per month	per year
Credit cards (Visa / Mastercard)	207.44 \$	6,223.08 \$	75,714.14 \$
Paypal	639.44 \$	19,183.08 \$	233,394.14 \$
Amazon	639.44 \$	19,183.08 \$	233,394.14 \$
Klarna	647.24 \$	19,417.08 \$	236,241.14 \$
WePay	639.44 \$	19,183.08 \$	233,394.14 \$
WooCommerce	639.44 \$	19,183.08 \$	233,394.14 \$

money is blocked.

Card payment is also integrated.

Of course, not all our customers are aware of blockchain and crypto payments. For this case, we're also implementing card payment, but the payment processor fee will be added to the final price. A theoretical example:

1. Let's say 1 hour rent will cost 10 cents

2. Paying with ESTD token will cost 10 cents
3. Let's say the payment processor's fee is 1.4% + 30 cents
4. Paying with credit card will cost (1+3 from above):
$$10 \text{ cents} + 10 \text{ cents} * 0.014 + 30 \text{ cents} = 40.14 \text{ cents}$$

Franchise & EV charging platform

Power bank station franchise.

Our startup is based in the European Union so all the franchise data below refers (at this moment) only to EU residents. We will include other countries later (depending on legal requirements & regulations).

We're planning to implement 2 types of franchise:

1. Individuals can buy a battery but keep it in one of our stations. They will be able to borrow anytime, any battery, from any place and will pay only a small fee for charging the power bank (to the station owner). When someone else is renting their batteries, power bank owners will receive a fee. As for example:
person A has a battery; person B rents the power bank owned by person A; person A receives a fee from person B's payment.
2. Legal entities can buy stations with power banks that will be included in our app. These entities will pay a small fee for infrastructure (servers, support, maintenance), but all revenue from these power banks rentals will go into their accounts.

Running commercials on power banks sharing stations.

Our power banks sharing stations come with an integrated display that can play ads. Both GoChargeTech and franchise owners will be able to manage ads and get additional revenue from advertisements and commercials played on their stations.

EV charging platform.

Individuals and companies (owners) will be able to use our platform to connect their EV charging stations to blockchain networks or buy ones that are already connected. These EV chargers will be displayed in our app as a list or as a pin on the map. Owners will be able to manage time slots and set the availability for customers. As an example, owner X has a parking spot with an EV charger connected to our app. X's parking spot is free weekdays from 09:00 till 17:00. X adds this time interval in our app and other users (customers) can see availability, reserve a time spot and charge the car. All the transactions are handled by Smart Contracts. Customers will pay with crypto and smart contracts will automatically transfer the profit into the owner's wallet.

Why Blockchain?

In our business model, blockchain solves a few issues like payment processing fees, chargeback disputes, proof of franchise ownership etc.

MultiversX

MultiversX is a distributed transactional computation protocol which relies on a sharded state architecture and a secure Proof of Stake consensus mechanism.

Reasons to choose this blockchain technology:

1. MultiversX is the first European carbon negative blockchain (source & source).
2. It's a highly scalable, fast, and secure blockchain platform built for internet scale.
3. Performance: 15,000 current TPS, 6s block time, \$0.001 tx cost, can scale beyond 100,000.
4. Secured with 3200 nodes all around the world.
5. Maiar.exchange - decentralized exchange with more than \$1.5 billion total value locked (and growing).
6. Big ecosystem.

7. Developer friendly. ESDT tokens.
8. Global community.
9. Fast growing user adoption.

Website: <https://multiversx.com>

Whitepaper: <https://files.multiversx.com/multiversx-whitepaper.pdf>

Dex Exchange: <https://xexchange.com/>

Binance Smart Chain

BNB Smart Chain is a high-performance blockchain with an emphasis on smart contract programmability. Binance Smart Chain is quickly growing in popularity, so it has to be doing some things right - here are the BSC ecosystem's biggest advantages.

- Cheap transactions: Binance Smart Chain (BSC) is a smart contract-enabled high throughput blockchain that boasts low fees.
- High speed: BSC is characterized by extremely fast processes and uses the advantages of Binance Chain in this respect.
- Fast adoption rates.
- Bridging allows for easy token migration.
- Compatibility: Binance Smart Chain is compatible with the Ethereum Virtual Machine and corresponding smart contracts are also supported by BSC. This also makes it easier for programmers to make the switch.

Website: bnbchain.org

Polygon

Polygon, formerly known as the Matic Network, is a scaling solution that seeks to give several methods to boost the speed of transactions on blockchain networks while lowering the cost and complexity.

- Availability: On Polygon sidechains, transactions are quick, low-cost, and safe, with finality on the mainchain and Ethereum as the first suitable Layer 1 base chain.

- High throughput: On the internal testnet, it was able to reach up to 7,000 TPS on a single sidechain. For horizontal scaling, many chains will be created.
- Customer experience: WalletConnect support; native mobile applications and SDK; and developer abstraction from mainchain to Polygon chain.
- Security: Operators of polygon chains are also stakers in the PoS system.

Website: polygon.technology

Support for other blockchain networks to be added in the future.

CHARGED Token

GoChargeTech Token (symbol CHARGED) is an utility token that is created on the MultiversX blockchain network and it will be used in the GoChargeTech ecosystem. The GoChargeTech ecosystem includes CHARGED Token, the mobile (and web) application (and consequently the website).

As mentioned above, the mobile (and web) application will enable both CHARGED Token users and fiat users to make the payments for the rentals of the power bank. CHARGED Token will be used for paying EV charging services via our app. Also, the CHARGED Token has additional utilities for its users/holders, as mentioned in the section below.

The issuing entity of the CHARGED Token is Mobility Software Labs SRL (the "Issuer"), a limited liability company incorporated and governed by Romanian law.

CHARGED Token is not backed by fiat or other physical assets which could be categorized as securities.

Please note that there are no guaranteed financial returns arising from holding CHARGED Token.

By acquiring the CHARGED Token, no shares are granted in the Issuer's share capital and implicitly neither voting rights in the Issuer nor other rights regarding the acquisition of Issuer's shares (including option rights).

No dividends are granted related to the eventual profits of the Issuer to the CHARGED Token holders/users.

CHARGED Tokens are not securities or other types of financial instruments.

CHARGED holders will not have any kind of representation, property, rights, equity nor any kind of values in any of CHARGED Ecosystem's entities, the Issuer or any related companies or partners/collaborators.

Tokenomics

CHARGED Token is an Elrond Standard Digital Token that will be used for the transactions in our applications.

CHARGED Token has the following utilities for the CHARGED Token owners:

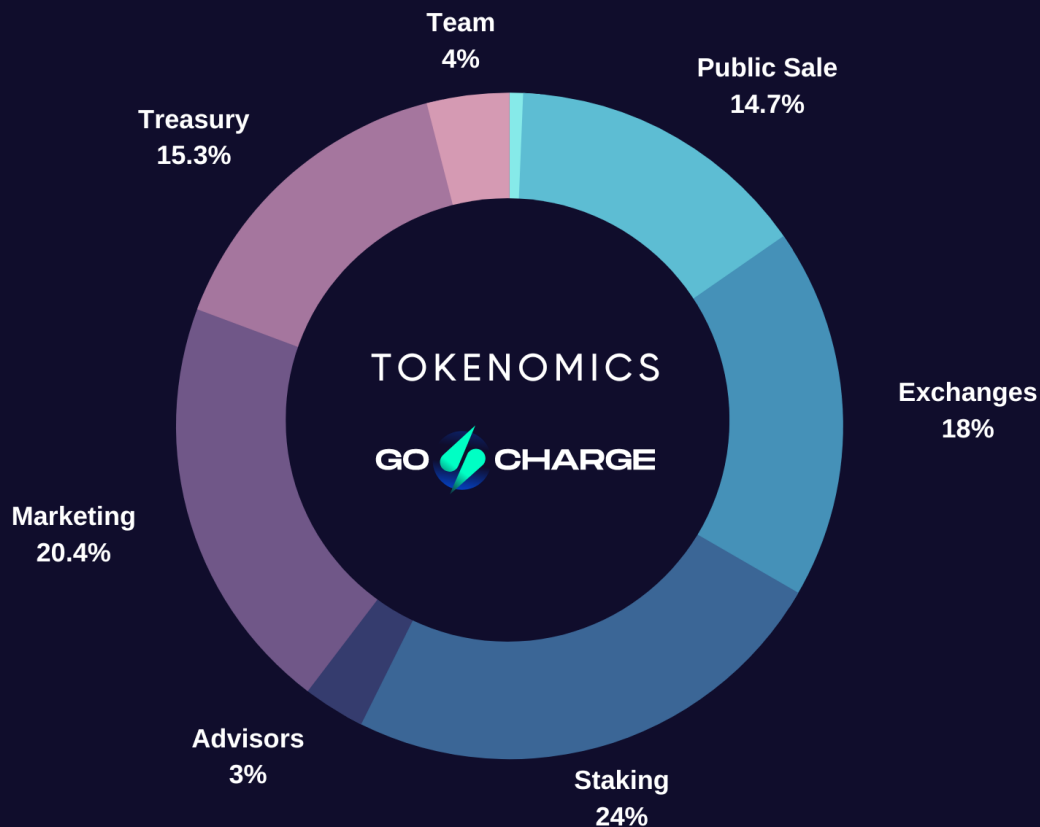
- (i) pay power bank rentals via goCharge.tech application;
- (ii) pay for EV charging services via goCharge.tech application;
- (iii) buy power banks and stations to be used with the goCharge.tech application;
- (iv) stake and receive rewards;
The rewards are in fact an incentive offered to CHARGED Token users/holders to assure their loyalty and the future development of the GoChargeTech Ecosystem.
- (v) swap and trade CHARGED Token once it is listed on DEX and CEX;
- (vi) participate in raffles and airdrops;

Token details

Token symbol: CHARGED

Token type: Elrond Standard Digital Token

Initial supply: 200,000,000



Team vesting period

The GoChargeTech team members will receive 4% of the tokenomics which means 8,000,000 CHARGED Tokens, which are vested for 5 years. First unlock will happen in the 25th month from TGE as per the following schedule:

- 24th, 30th & 36th months: 20% (1,600,000 CHARGED)
- 42th, 48th, 54th & 60th months: 10% (800,000 CHARGED)

Roadmap

2021: Idea Creation.

The idea of the “GoChargeTech” project came to life in the middle of 2021. Established connections with suppliers. Started working on PoC.

2022 - Q1: Proof of Concept.

PoC is ready. Backend infrastructure and code to manage stations is in alpha version. Mobile app is built to accept credit card payments.

2022 - Q1-Q2: Whitepaper. Legal.

White Paper and tokenomics made public. Company incorporation. Implemented ESDT & EGLD payments in our MVP.

2022 - Q3-Q4: Minimum Viable Product.

Worked on project development. Create MVP connected to a smart contract on MultiversX blockchain. Presale. Release open source erdjs-vue library.

2023 - Q1-Q2: Public Sale. Electric Vehicle chargers.

Connect MVP to the Binance Smart Chain. New phase (EV chargers) announcement. Public Sale on BHero launchpad.

2023 - Q3-Q4: Install first batch of stations. Rewards platform.

First batch of power bank stations shipment. Code audit. Security & penetration testing. Install our first power bank stations in Amsterdam. Launch rewards platform.

2024 - Q1-Q2: Install second batch of stations. E.V. chargers beta app.

Second batch of power bank stations shipment. Monitoring and improvements. Expand the number of power bank sharing stations in the EU countries. Marketing and promotion campaigns. Release beta version for EV chargers app and test with early adopters.

2024 - Q3-Q4: Install third batch of stations. E.V. app on mainnet.

Third batch of power bank stations shipment. Monitoring and improvements. Expand the number of power bank sharing stations in the EU countries. Marketing and promotion campaigns. Release EV chargers app for all users.




2024 - Q4: Franchise.

Open power bank franchise to everyone. Individuals and companies can install their own stations and get revenue. Continue with marketing campaigns.

2025 - Q1: Growth.

Marketing campaigns and aim to grow at a fast pace and expand globally.

Core Team

	<p>Ion Vrinceanu CEO / CO-FOUNDER</p> <p>View profile</p>
	<p>Andrei Pinzaru Business Development / CO-FOUNDER</p> <p>View profile</p>
	<p>Radu Balan Project Manager</p> <p>View profile</p>

Limitation of liability

We shall not be liable to You or any other third party for damages, including any general, special, incidental, punitive or consequential damages arising out of the use or inability to use the Website or any Tokens (including but not limited to loss of data or data being rendered inaccurate or losses sustained by You or third parties).

We have no liability to You or to any third party for any claims or damages that may arise as a result of any payments or transactions that You conduct via the MultiversX blockchain with respect to Tokens.

Disclaimers

All information about the CHARGED Token and provided is conceptual and subject to ongoing legal, regulatory, tax, technical, and compliance reviews.

Neither CHARGED Token is not an investment in any way and is not a security. The possession of the CHARGED Token does not grant any title, right, or interest in any company and does not grant the owner a share of any profits outside of the capital gains (or losses) they might realize in trading on the crypto exchanges (e.g. Maiar exchange).

CHARGED Tokens are neither structured nor sold as securities or any financial instruments.

In no event the Issuer, as defined above, (and its Team members) is liable to any person or entity for any kind of any damages, losses, liabilities, costs or expenses of any kind, whether direct or indirect, consequential, compensatory, incidental, actual, exemplary, punitive or special for the use of, reference to, or reliance on this White Paper or any of the content contained herein, including, without limitation, any loss of business, revenues, profits, data, use, goodwill or other intangible losses.

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Markets are volatile and the price for all tokens (including CHARGED) can rise or fall at any time leading to permanent losses.

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The GoChargeTech Ecosystem Project may be modified by us by modifying/renouncing/delaying certain parts or elements of the GoChargeTech Ecosystem Project, on our sole discretion, due to external factors, such as market evolution or due to operational opportunity reasons or decisions.

We make no representations or warranties, express or implied, written or oral, made by or on behalf of us in connection therewith, including any representations or warranties of title, functionality, merchantability, usage,

security, suitability or fitness for any particular purpose, or technical quality of the CHARGED Tokens.

We will not be responsible or liable to you for any loss and we take no responsibility for, and will not be liable to you for, any use of the CHARGED Tokens, including but not limited to any losses, damages, or claims arising from: (i) user error, incorrectly constructed transactions, or mistyped addresses; (ii) server failure or data loss; (iii) unauthorized access or use; (iv) any unauthorized third-party activities, including without limitation the use of viruses, phishing, brute-forcing or other means of attack against the service or CHARGED Tokens.

Please note that tokens exist only by virtue of the ownership record maintained in the MultiversX blockchain. Any transfers or sales occur on the MultiversX blockchain. We cannot affect or otherwise control the transfer of title or right in any tokens.

We are not responsible or liable for any sustained losses or injury due to vulnerability or any kind of failure, abnormal behavior of software (e.g. wallet, smart contract), blockchains or any other features of the Tokens.

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