



electroneum

Overview & White Paper

# The purpose of this document is to explain:

- What Electroneum is
- Who the team are behind the technology
- Why it is unique and attractive to consumers
- Details of the current Electroneum technology
- Our vision for the future of Electroneum
- The details of the crowdsale token sale and how to get involved

## Looking for technical details?

This document is the Electroneum business overview and white paper. If you are looking for the technical white paper which includes full details of the cryptography and technology behind the Electroneum blockchain, please download it from <http://electroneum.com/technical-white-paper.pdf>

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# Introducing Electroneum:

The World's First Common Cryptocurrency

**Electroneum, built on its own blockchain, has been developed with the explicit intention of gaining mass adoption via the 2.2 billion smart phone users. It launches via a token sale on September 14th and represents a unique opportunity.**

The cryptocurrency market, once so clearly dominated by Bitcoin, has become fractured and catalysed by the introduction of new thinking and new technology. Electroneum represents another vast leap forward; it offers owners both the benefits of existing cryptocurrency usage and technology, as well as an interesting opportunity to be an early adopter of a possibly significantly disruptive new technology. Where previously cryptocurrency usage has been almost entirely the domain of speculators and the tech-savvy, Electroneum is set to become the first digital coin to enter common usage due to its groundbreaking ease-of-use for the ordinary mobile user.

**Key points of difference for**

**Electroneum include the following:**

- Maximum coin volume of 21 billion, which will mean transactions have only two decimal places and have a 'real money' feel that Bitcoin lacks.
- Electroneum wallets can easily be managed on a smartphone, and the coins can be generated by the unique mobile miner running as a background activity.
- It enables very fast micro-transactions and currency can be transferred between different apps, games and users.
- It relies on its own purpose-built blockchain, unlike many other currencies launched in 2017 so far.
- It has a single-minded development team behind it, with the clear goal to break into and dominate the mobile currency

market.

This overview paper outlines in detail the concept and planning behind Electroneum and the opportunity to be involved in September's token sale.

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## Electroneum

Electroneum is a cryptocurrency (see “A simple explanation of cryptocurrencies” on **page 19**) or “alt coin”. It’s pronounced “ehlek-troh-nee-um”.

It is named after the electron which all cryptocurrencies rely on.

Electroneum is the first cryptocurrency that is designed around mobile ubiquity.

To put it another way, it is designed for the estimated 2 billion smart phone users around the world.

## The team behind Electroneum

Electroneum has been developed by an experienced team of software developers lead by Richard Ells.

Richard Ells has a history of building successful digital businesses. He founded and grew a successful digital agency, which is still running today, over 20 years later.

More recently, he founded Retortal.com in 2013. As the CEO, Richard Ells has assembled a team of over 40 developers and created a social media management platform, used by global fortune 500 companies. Retortal’s software is used daily by many thousands of people.

## Development Team



Richard Ells



Adam Atkinson



Robert Hopkins



Michael Wiltshire



James Atkinson



Ben Whomsley



Terry Hunter



Natalie Hayon



Dean Cole



Costin Cristoi



Imogen Dale



Barbara Southwell



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## Advisors



### **Mark Robinson**

During the 20 years Mark served as a director on the boards of private businesses and companies listed on the London Stock Exchange, Mark was recognized for numerous awards for his entrepreneurial style and collegiate approach to leadership. His focus is on identifying opportunities and enabling dramatic corporate expansion.



### **Andy Denton**

Online gaming consultant with over 20 years experience in ecommerce, online gaming and Fintech businesses. Having worked with major online and offline gaming businesses such as William Hill, Nektan, Aristocrat Gaming, Gala Coral and Microgaming, Andy has significant experience in the online gaming and cryptocurrency space.



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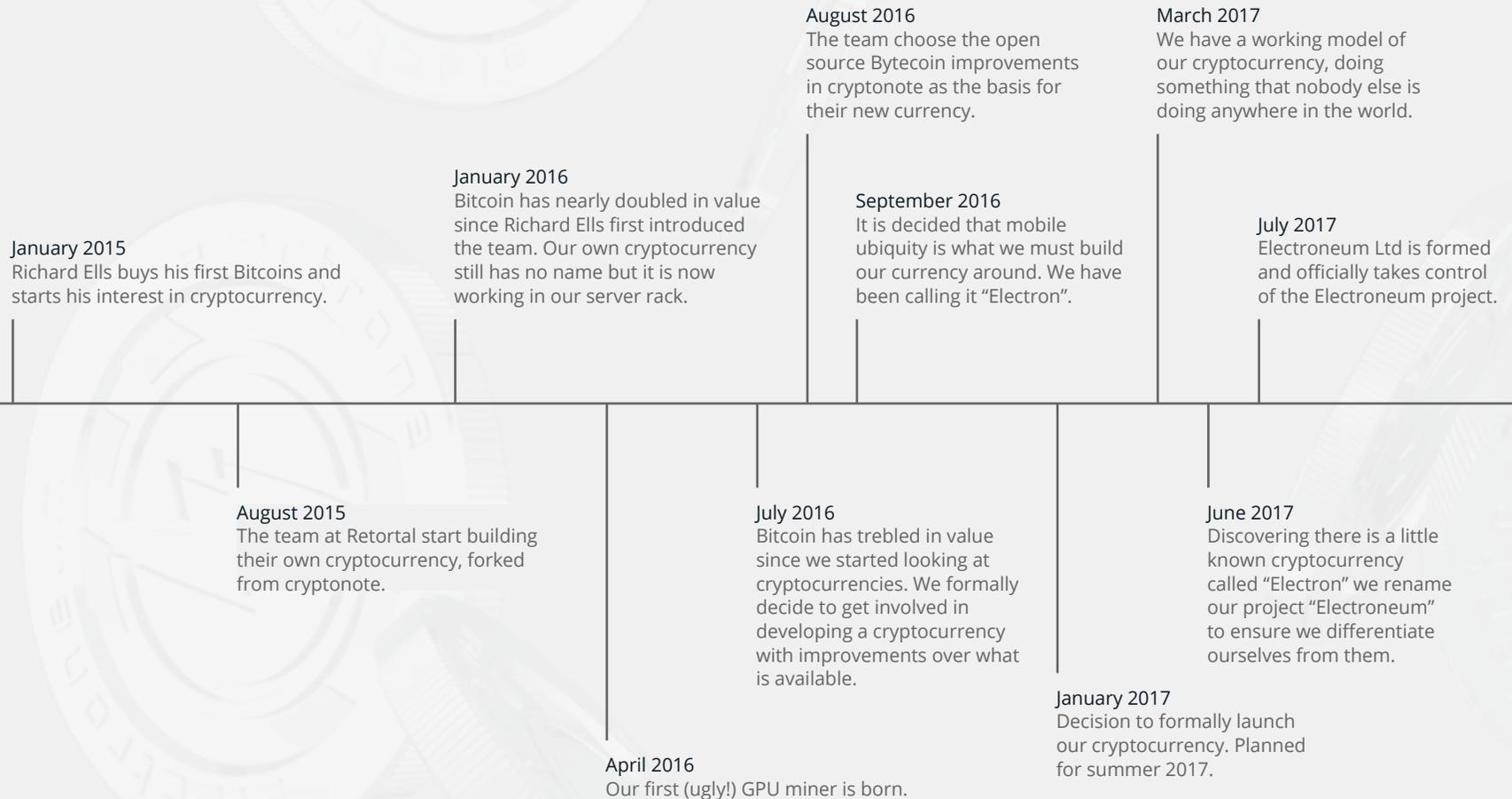
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*Electroneum is being developed by Electroneum Ltd, which comprises of a small foundation team of 10 people who all started as members of Retortal, and have worked together for over 3 years. Mostly comprised of coders and developers, you'll also find an expert at cryptography and an astrophysicist on the team. The development takes place in the Retortal offices in Kent in the United Kingdom.*

*Due to the open source nature of our development, the progress and direction of Electroneum is not fully contained within Electroneum Ltd, however our core team will play an enormous role in shaping, nurturing and developing Electroneum during its early adoption.*



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What is Electroneum?

Electroneum is a complementary currency that has been developed to allow anyone, regardless of technical ability, easy access to a cryptocurrency. Within a few minutes of installing the mobile app any user can see Electroneum being added to their wallet via the unique mobile mining experience. Nearly all cryptocurrencies are “mined” with specialist equipment. Electroneum can be obtained via the mobile mining experience on the app.

We’ve developed a fully functioning crypto coin with some very unique features. We’ve identified multiple enormous markets and we’ve created a free Apple and Android app that allows us to start penetrating those markets from day one after the token sale (31st October 2017).





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Electroneum. More accessible and more understandable for the average person

Even though Electroneum utilizes a tried and tested blockchain (the same blockchain model as the 9th largest cryptocurrency by market capitalization - Monero, and the 12th largest - Bytecoin 1) it has been developed to have some unique features which make it far more accessible for the average person.

Breaking down the barriers to cryptocurrency entry

Current cryptocurrencies are new (relatively!) and exciting, but beyond the reach of your everyday person. To access cryptocurrencies you have to make or buy a G.P.U. mining rig or send copies of your passport and personal documents to a website that you have probably never heard of.

Electroneum has all the great security and anonymity of the leading crypto coins but it's controlled by a **free, easy to install app, which gives instant access to Electroneum with no card details or ID.**

The Electroneum app also lets you manage your wallet and send or receive Electroneum in a secure way.

Mining Electroneum coins from your phone

Installing the free Electroneum app (Apple or Android) immediately gives the user the ability to start gaining Electroneum in their wallet. All the time the app is live (even in background mode) it will be running the unique app based crypto mining experience, which requires ZERO technical knowledge.

It takes up very little bandwidth, so doesn't cost much to run on 3G or 4G data.

We've made the token supply of

Electroneum coins high, to enable our app users to quickly gain some Electroneum and start to understand it's use. They will find the app interesting, recommend the app and send and receive coins easily with no technical ability.





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Two decimal place based cryptocurrency, with high coin number (money supply)

Cryptocurrencies often have relatively low coin numbers.

For instance, Bitcoin only has a maximum of 21 million coins.

What this means is that the whole coins tend to have a large value and thus real world transactions for small amounts of value tend to look rather strange to humans.

We are quite used to swapping coins for things, but if you bought a can of Coke with Bitcoin at the moment (June 2016) you would pay something like 0.000391 Bitcoin.

This is not a very “human” number. We have made Electroneum’s blockchain have 21 billion coins, which will move the decimal places forwards.

Electroneum only uses two decimal places. Everyone is familiar with a payment system that uses two decimal places, and it sits more comfortably with them. We believe this will encourage adoption rates, and make transactions easier to understand and easier to perform

mental calculations with. It’s easier to tell someone that the price of an item is 345.67 Electroneum than it is to say 0.01374 Bitcoin.

With Electroneum that same can of Coke would cost 99 Electroneum. That looks a lot more like a human currency, right?

**Easier to mine, easier to understand.**

With Electroneum’s supply of 21 billion coins we’ve made it easier to mine whole coins and pay with whole coins. Our studies of non crypto-literate users showed that they prefer to see a whole number in their wallet than fractions of a coin.

When people in our test groups saw they were getting coins in their wallet by leaving the app running, they rated the experience higher than when we tested the experience with fractions of a coin appearing.

Mobile phone CPUs are not very good at the math behind mining cryptocurrency and so the amount of coins they could mine if we

followed Bitcoins model would be very disappointing.

We have deliberately avoided using a blockchain that can be mined with super powerful ASICs (the way all Bitcoin are mined) and created a blockchain that can be mined with CPUs, which enables the AVERAGE person to get involved.

See the Electroneum Technical White Paper from <http://Electroneum.com> for a technical description of how the Electroneum memory bound algorithm for proof of work is specifically designed to promote CPU mining, which average users have access to and reduce the heavy industry approach of mining that takes place in the Bitcoin market, and reduce the prevalence of GPU mining that has become synonymous with Ethereum mining (Ethereum is the second largest cryptocurrency by market capitalization).



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What is ready to go live immediately after the token sale crowdsale?

We have already developed, finished and tested:

- Blockchain (the underlying technology behind all cryptocurrencies)
- App based wallet (allows access to Electroneum with zero tech knowledge)
- App based mining (allows non technical people to gain some Electroneum easily)
- Offline Wallet (allows a completely secure, unhackable, offline wallet to be created)
- Windows wallet
- Windows miner (leave your PC mining for more coins at home or the office)
- Mining pool software (we run this to make mining easier. Open source to allow others to develop their own pools)
- Blockchain explorer (used to verify payments and examine the blockchain – open source)
- Third party payment API (used to allow third parties to accept Electroneum or pay out Electroneum – this is critical to implementation with the Gaming Industry)

These items are enough for us to launch the user friendly, more accessible cryptocurrency, Electroneum and gain traction, but we are operating an electroneum token sale for a more ambitious plan.



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# Cryptocurrency Industry Overview

The cryptocurrency, crypto tokens and other digital assets based on blockchain technology are currently experiencing an explosive growth period.

Blockchain technology allows the first true internationalisation of a store of value, and recently the adoption rate has meant explosive growth in wallet numbers.

2017 started with Bitcoin as the number one cryptocurrency with a market capitalization of 12 billion US dollars. Ethereum, a very young upstart of a cryptocurrency was valued at 700 million USD.

The explosive start to 2017 has seen Bitcoin surge to a market capitalization of over 40 billion USD and Ethereum has caught up at an incredible pace and now has a market capitalization of over 28 billion USD.

The market is excited by the opportunities that blockchain technology and decentralization of currency present.

There are over 800 alternative crypto currencies trading today, with a new use case for blockchain emerging every week. You need to think carefully before choosing a token to ensure the team, the technology and the idea are sound.





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# Why would someone buy some Electroneum?

Blockchain technologies and cryptocurrencies are disruptive and are growing at an exponential rate (<https://www.technologyreview.com/s/607947/the-cryptocurrency-market-is-growing-exponentially/>).

We believe that Electroneum as a new, easy to access cryptocurrency, could appeal to regular people in larger numbers than we've seen with existing cryptocurrencies such as Bitcoin and Ethereum.

As such, we think that Electroneum will have great appeal for:

- Long-term holders. Those who wish to buy and hold Electroneum for its future use cases.
- Digital coin enthusiasts. Those looking to acquire Electroneum coins and get involved in cutting edge technology before anyone else.



# Electroneum Long Term Goals

The scope of our long terms goals is largely defined by the tokens sold in the crowdfunding token sale. With that in mind we have developed a development and marketing strategy for every crowdfunding token sale outcome.

*The following would take place in addition to the previous development and marketing agendas.*

Tokens Sold: \$0 - \$1m

## Technical Development

Continue with our current development pace. Integrate our Electroneum API with a number of virtual goods sellers to start accepting Electroneum.

## Marketing

Use the funds market Electroneum as a standalone cryptocurrency to mobile phone users. Engage with thought leaders and stakeholders in the gaming industry and develop relationships. Social media campaign, there is a huge amount that can be done on social media to promote Electroneum and its special money-making mining feature, particularly as the demographic most likely to use social media is most likely to be into gaming. We have produced an animated explainer video for the online gaming community which is ready to launch.

Tokens Sold: \$1 - \$5m

## Technical Development

Increase the full time team to allow a dedicated team to start work on the Electroneum Virtual Currency Exchange.

Use funds to develop and release a significant enhancement to the Electroneum app to make it easy to send Electroneum to someone just by knowing their mobile phone number.

The new app will work in a similar way to WhatsApp (Telegram, Line, WeChat). Once you have verified your own mobile number via SMS you will be able to send and receive Electroneum with a name or contact number.

## Marketing

Partner with game industry leaders to integrate The Electroneum Virtual Currency Exchange. Develop viral marketing campaigns to on-board gamers.

Use the funds market Electroneum as a standalone cryptocurrency to mobile phone users. Engage with thought leaders and stakeholders in the gaming industry and develop relationships.

Capitalize on Electroneum's Ease of use.

Go where the people already are, make it effortless to get it and use it, make it integral to our target market's existing activities/destinations including games and apps. Ultimately, put it in the faces and wallets and pastimes of the people we want to take it up. Make it obvious, intuitive and second nature.

Create kudos - Bitcoin has a brand that associates it with cutting edge technology and decentralisation which makes it cool. Electroneum can be fun (gamers) but just as equally, empower the unbanked or create a futuristic brand space and this technology can be flexed for different demographics, cultures and locations across the world. The Electroneum brand has a few qualities at its core, and this can be nuanced to feed the imagination of different consumers to meet the needs of their earning and spending mentality.

*The following would take place in addition to the previous development and marketing agendas.*

Tokens Sold: \$5 - \$10m

## Technical Development

Take on Xbox and Playstation developers to create the worlds first games console mining software. Allow the 620 million games console owners to leave their console mining for Electroneum when they are not in use. Develop GUI based wallets and miners for Windows and Mac.

## Translating

Raising this level of funds makes it worth translating and marketing in multiple languages. Our initial targeted languages are listed as Standard Chinese, Hindi, Portuguese, Arabic, Russian, Japanese, German, Indonesian, Spanish, French and Italian.

## Marketing

Use influencers leverage the celebrity status of the gaming 'stars' who have hordes of fans who pay them to follow their game play. Their use of the currency winning and currency mining features will literally showcase the product and how it works to our key market of gamers. Use these adopters to influence the bulk of the bell curve.

# Electroneum Long Term Goals

*The following would take place in addition to the previous development and marketing agendas.*

Tokens Sold: \$10 - \$20m

## **Technical Development**

Hire developers, designers and engineers with experience of integrating with the largest brands.

## **Translating**

Raising this level of funds would enable us to translate into the 30 most predominant languages on the planet.

## **Marketing**

Authority highlighting the security credentials of the currency will make it attractive to those who are still wary of purchasing online.

Our marketing at this level will include some key endorsements. Aside from being endorsed by gaming influencers, the security and convenience of Electroneum could be endorsed by global celebrities.

*The following would take place in addition to the previous development and marketing agendas.*

Tokens Sold: \$20 - \$40m

## **Technical Development**

Ensure our blockchain development team is assembled from the finest minds in the industry, allowing us to take Electroneum forwards with upgrades and developments to meet future expectations and requirements.

## **Marketing**

Encourage takeup of everyday online usage getting voucher apps like Groupon, Wowcher, TravelZoo and ecommerce sites like Amazon, Ali Baba and Taobao on board will bring the currency into the everyday domain for millions of consumers.

Set up JV's and try to work with major websites, attempting to partner with the likes of Facebook and Google. Ensuring consumers know they can mine while they're surfing the web and earn valuable currency via their phone, desktop and laptops.

Look at building in mining features into existing popular games by partnering with the game producers. Attempt to create JV with Minecraft as the user could be mining a real world currency (Electroneum) at the same time as playing the game.

*The following would take place in addition to the previous development and marketing agendas.*

Tokens Sold: \$40m+

## **Technical Development**

Enable Electroneum to be "whitelabelled" enabling other future coin token sales or creations to make use of it, whilst adding features or markets. This will enable Electroneum to capitalize on other people's ideas and help to prevent Electroneum being superceded.

## **Marketing**

Market Electroneum globally as THE internet currency.

Create a brand around Electroneum that allows it to be accepted in the same way as Paypal is accepted. Paypal is just a vehicle but millions of people choose to use Paypal even though their bankcard provides the exact same service.

Take our marketing to places that have never been reached. Through global outreach, sponsorship and viral marketing we believe we can access 10s of millions of people who currently do not have a bank account, but do have a smartphone.



# The Electroneum Crowdsale Token Sale (fundraiser)

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Early adopters can obtain some tokens via our Electroneum token sale. We are allowing users a chance to purchase Electroneum in advance of it being listed on the various exchanges.

What we can achieve will vary based on the number of tokens sold in our token sale.

General development roadmap order based on funds:

1. Global translation of the app
2. Integration of a global SMS message system to authenticate app users and allow a "WhatsApp / Telegram" style system to make the transfer of Electroneum even easier between coin owners.
3. International promotion of Electroneum
4. Development of a GUI CPU miner which runs in Windows

A team will be concurrently building the virtual currency exchange app and global marketing. The desktop version of the exchange will be

available via our GitHub open source repository (<https://github.com/Electroneum/>).

## Electroneum Token Sale Pricing and Release Schedule

Electroneum will be holding its token sale on September 14th, 2017. The token sale will run until the initial coin block has been taken up or October 31st, 2017.

We have deliberately made one thousand times as many Electroneum coins as there are Bitcoin available, to move the decimal places forwards and make the coin more accessible to the average user. Please see page 9 for more information about Electroneum and how it is more

accessible and understandable than other crypto currencies.

There will be a total of 6,300,000,000 (6.3 billion) Electroneum coins available for \$0.01 US Cent each at the offering. Payment must be made in Ethereum or Bitcoin.

We believe that rewarding users for early adoption will enhance the future usage of Electroneum and encourage fast growth.

We have set up the following bonus structure to reward those who buy tokens earliest.

Period	Date	Bonus Rate	Electroneum Issued
1 <sup>st</sup> 7 days	14 <sup>th</sup> - 20 <sup>th</sup> Sept 2017	50%	150 coins per USD \$1
2 <sup>nd</sup> 7 days	21 <sup>st</sup> - 27 <sup>th</sup> Sept 2017	40%	140 coins per USD \$1
3 <sup>rd</sup> 7 days	28 <sup>th</sup> Sept - 4 <sup>th</sup> Oct 2017	30%	130 coins per USD \$1
4 <sup>th</sup> 7 days	5 <sup>th</sup> - 11 <sup>th</sup> Oct 2017	20%	120 coins per USD \$1
5 <sup>th</sup> 7 days	12 <sup>th</sup> - 18 <sup>th</sup> Oct 2017	10%	110 coins per USD \$1
last	19 <sup>th</sup> - 31 <sup>st</sup> Oct 2017	0%	100 coins per USD \$1



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# The Electroneum Crowdsale Token Sale (fundraiser)

## Unsold coins - mining bonus

If there are any Electroneum coins left at the token sale closing date of October 31st 2017 they will be distributed into the mobile mining bonus pool.

It has been common in token sales to destroy any remaining coins.

We have decided that there is no 100% guarantee that these coins are “burned” or destroyed and so we have decided it would be in the projects best interest if the remaining coins are used in a controlled manner to increase the mobile miners output.

By slightly increasing the mining return on mobile devices we will dramatically increase the viral number of Electroneum users, which will increase the global distribution of Electroneum.

If mobile miners are able to mine Electroneum worth USD \$30 per

month we will NOT release any bonus pool. If mining drops below that figure we will release enough to bump mobile mining up to \$30 USD value per month.

## Participating in the Electroneum Token Sale

Electroneum coins will be available in the token sale before they are accessible by the general public.

Buyers will be able to purchase Electroneum coins in one of two ways:

1. With Ethereum
2. With Bitcoin.

If you have other, alternate, cryptocurrencies that you would like to use to purchase Electroneum coins then please use Shapeshift (<https://shapeshift.io/#/coins>) to convert to Ethereum or Bitcoin before taking part in the Electroneum Token Sale.

## The Electroneum Token Sale manager

We have developed a unique platform to manage the token sale process: <http://my.electroneum.com>.

Simply create an account and follow the instructions to get involved with the token sale.

You will be able to track your transactions and see (in real time) the exchange of Bitcoin or Ethereum for Electroneum.

At the end of the token sale your Electroneum balance will be moved into an Electroneum wallet address (or wallet addresses) of your choice.

Early-stage startups are high risk. Remember your capital is at risk. Electroneum has no guaranteed value.



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# Electroneum Market Context

## Two main focus areas

We have focused our research and attention on two huge potential markets for the use of Electroneum. The speed of our market penetration into each of these will depend largely on the sales made in the Electroneum token sale.

The two markets that we are focusing our attention on are:

1. Gaming (computer games)
2. Gaming (gambling)

## 1. Computer Gaming Industry

We plan on changing the way gamers (computer game players) and game companies work together during the constant migration of gamers to what's new and exciting. The average retention rate of a multiplayer online game is just 20% after the first 30 days. (<http://www.pocketgamer.biz/comment-and-opinion/60228/the-numbers-behind-the-lifecycle-of-mobile-games/>)

Gamers are constantly seeking the new and following what's on trend.

The app based Electroneum virtual currency exchange will allow gamers

to transfer some of their hard work and time from one game to a new game by enabling them to monetize their "in-play" virtual currencies and take them with them into the real world. At the same time the game company develops an exit based revenue stream and an additional introductory revenue stream (as they take commission on entry and exit of the game).

There are over 2.2 billion gamers in the world.<sup>1</sup>

The average lifecycle of a mobile game includes nearly 80% of its userbase migrating away from it within two months after intense use.<sup>2</sup>

Massively multiplayer online games (MMOGs) have a lower player retention rate than mobile games, with a remarkable 80% drop in the first 30 days. (<https://mmos.com/editorials/mmo-hopping>)

Hard work, lost.

Most multiplayer or player interaction games have some kind of virtual currency

Currently the time and hard work that a player puts in to a game is all lost the moment they choose to

leave it in search of something else. In a nutshell, Electroneum will allow people to keep the value of their hard work from within one game and transfer it into their next game. The game companies will be incentivized to allow this by sharing the profit from the BID/ASK spread (the price difference between buying and selling), allowing them to monetize people leaving and further monetize people joining the game.

The computer games industry has grown steadily year on year and is variously predicted to reach between US \$90 billion and US \$128 billion by 2020.<sup>3</sup>

More importantly for Electroneum, it is not just revenue that is increasing. The user (gamer) numbers are increasing even more rapidly with mobile gaming and social games such as MMOG (massively multiplayer online game) gaming responsible for most of that growth.

## References

<sup>1</sup><https://ukie.org.uk/research>

<sup>2</sup><https://www.entrepreneur.com/article/293750>

<sup>3</sup><https://www.entrepreneur.com/article/293750>



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The global games audience is estimated to be between 2.2 and 2.6 billion players.<sup>1</sup>

More than 48% of gamers are now choosing social games.<sup>2</sup>

Only 1.9% of gamers make in-app purchases, leaving gaming companies looking for alternative ways to monetize players.<sup>3</sup>

## Existing Virtual Currencies

A large percentage of social games and MMOGs use internal credits or some form of game based virtual currency within their virtual economy.<sup>4</sup>

Games rely on “money like” credits or direct virtual currencies (such as Farmville Dollars or Tencent’s QQ coins). Some games, such as the hugely popular World of Warcraft, which has over 12m subscribers use a number of different virtual currencies from relatively obvious ones such as “brawlers gold” and “coins of air” to more poetically named “bloody coins” and “dalaran Jewelcrafter’s tokens”. What they all have in common is that they can

all be seen as an in-play store of value, and just like the real world, the harder it is to obtain the virtual currency, the larger its in-game value.

## Current Market for Virtual Currency Exchange

A black market of unregulated “gold farmers”<sup>5</sup> has developed, nearly always against the game company’s terms and conditions, that enables people that don’t have the time commitments or skills required to acquire enough virtual currency within the game to make external purchases of virtual currencies with tangible or hard currencies.

## Virtual currency market size and activity

This black market for virtual currencies is supported by portals such as [www.g2g.com](http://www.g2g.com) which enables people to purchase in-game virtual currencies for fixed dollar prices.

Game companies have no input into the way the current unregulated market operates, and make no profit from the sale of their virtual currencies and virtual items.

Since the game companies are not involved, the system for taking the payment and delivering the virtual currency to the new owner is extremely fragile, and fraught with uncertainty. The original currency owner has to agree to meet the new owner within the game somewhere, and then drop the virtual currency or item on to the virtual floor, giving a few moments to pick them up.

Most gamers would be unaware of black market sites like [www.g2g.com](http://www.g2g.com) or worried about using them for many reasons, such as providing credit card details to black market operators and relying on the seller to arrange to meet within the game.

## References

<sup>1</sup><https://ukie.org.uk/research>

<sup>2</sup><http://www.bigfishgames.com/blog/2017-video-game-trends-and-statistics-whos-playing-what-and-why/>

<sup>3</sup><http://www.techtimes.com/articles/144329/20160325/report-finds-1-9-percent-mobile-gamers-make-app-purchases.htm>

<sup>4</sup>[https://en.wikipedia.org/wiki/Massively\\_multiplayer\\_online\\_game#Virtual\\_economies](https://en.wikipedia.org/wiki/Massively_multiplayer_online_game#Virtual_economies)

<sup>5</sup>[https://en.wikipedia.org/wiki/Gold\\_farming](https://en.wikipedia.org/wiki/Gold_farming)



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# Electroneum Market Context

Game integration. Market growth.

By getting some game companies to integrate directly with our exchange, there will be no risk to players and far more exposure of the ability to trade virtual currencies, as the game companies will have a financial incentive to monetize players exit from the game.

There are no published figures for the size of the market for in-game currencies, however figures from 2008 in China alone placed the figure at several billion Yuan per year (US \$450 million).

Game companies adopting the Electroneum exchange platform would grow this market significantly.

Game companies selling virtual goods and currencies direct

Mobile games struggle more than online games, with only 1.9% of players opting to make in-app purchases.<sup>1</sup> Around 75% of MMOG (massively multiplayer online game) companies have already started

allowing players to fast track their progress within the games by purchasing virtual currencies or virtual items for fixed dollar amounts themselves, this has slowed the black market operators, but has not prevented it because players cannot cash in their old items with the game companies when they decide to leave the game, but they are left with a virtual commodity that they can sell on the black market.

If the game company had integrated with the Electroneum virtual currency exchange, a number of things would happen:

1. The player would have a market to sell their virtual currency on (into Electroneum coins)
2. The game company would earn commission (in Electroneum) on the sale
3. The player would be free to hold their coins until they entered a new game, whereby they could buy new virtual currency or items with their Electroneum.

4. The game company would also earn commission on the purchase side of virtual currency allowing them to monetize the front end acquisition of players in addition to any game purchase price.

## Risk to game companies

The game companies that are already selling their own virtual commodities for cash might not want to integrate with Electroneum as it would reduce that market (not eliminate it), as players would be bringing some value from another game.

## Benefits to game companies

However, game companies that have currently not adopted that model would benefit from multiple things:

1. A new entry and exit revenue stream

## References

<sup>1</sup><http://www.techtimes.com/articles/144329/20160325/report-finds-1-9-percent-mobile-gamers-make-app-purchases.html>



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2. Access to new players who are searching for a market in which to spend their Electroneum
3. Publicity. The first adopters will gain huge publicity in the gaming press for taking the steps to bring their virtual currencies out into the real world, just like the Forex markets.

## Open Source Virtual Currency Exchange

We don't see Electroneum as owning and running the exchange we see us as developing the technology to allow anyone to set up an Electroneum exchange.

This increases the likelihood of Electroneum becoming the defacto cryptocurrency for use within the virtual currency world, and discourages competition.

## Game company feedback

We have established a dialogue with a number of game companies, including some of the top 10 game companies in the world by turnover and the feedback has been positive. The ease of integration

was an important factor, which we have taken note of and used in developing our API, which is ready to deploy.

Even game companies that are currently monetizing their in-play virtual currencies by taking credit card payments for currency and virtual items have been willing to engage in further discussion.

Game companies in general appear to accept that blockchain technologies are coming and they need to embrace them rather than ignore them.



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## 2. Gaming (gambling market)

The gaming market is not slow to catch on to a new market and you will find many gaming companies in all gaming sectors that accept Bitcoin.

The problem that they are facing is the difficulty of obtaining Bitcoins in the first place.

To obtain Bitcoins for local cash you have to:

1. Have a bank account.
2. Send copies of your passport and personal documents to a website that you have probably never heard of.
3. Make an international transfer of funds, which probably involves sitting down in your bank and paying a US \$30 fee for making the overseas transfer.

## Opening up enormous new gaming markets

Over 2 billion people in the world do not have a bank account (<https://letstalkpayments.com/39-of-the->

[worlds-population-does-not-have-a-bank-account/](#) ).

This is a market that gaming companies are desperate to access, but up until now have been unable to.

This market literally cannot make a digital payment of any kind.

Many developing nations, especially India and China are of huge interest to the gaming companies.

Developing countries are experiencing huge growth in internet access, mostly by smartphone. Over 54% of people in developing countries have some form of internet access (<http://www.pewglobal.org/2016/02/22/smartphone-ownership-and-internet-usage-continues-to-climb-in-emerging-economies/>).

This is a stark contrast from the number of people with bank accounts, and shows that there are hundreds of millions of people who have internet access but no bank account.

These people could, in theory, enjoy the digital gaming market if they could obtain Bitcoin.

Electroneum solves this problem by allowing the accumulation of funds by mobile mining, which means it could be used for gaming.

Winnings can be paid back to the users wallet address, allowing them to play and carry out other transactions in Electroneum. The gaming company profit in Electroneum will be exchangeable by the gaming company into USD via a digital asset exchange like Kraken, Bittrex, Poloniex.

## Gaming Market Feedback

We have a consultant on board from the gaming industry who has shown the Electroneum concept to a number of gaming companies with international interests. The feedback has been overwhelmingly positive and we will be taking this project forwards after the token sale.



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# A simple explanation of cryptocurrencies

## A simple explanation of cryptocurrencies

Imagine a world without money.  
Not easy to do. We've lived with  
money in some form or other  
since civilisation began. Money is  
a way of storing your hard work in  
a convenient way to exchange for  
someone else's hard work.

We're so used to money in its  
modern day form that we don't  
spend much time thinking about it  
as a concept.

Modern fiat currencies such as  
the US Dollar and the Great British  
Pound are based on trust. These  
traditional currencies are no longer  
backed by anything (the gold  
standard ended in the US in 1971  
and the UK in 1931). Trust works  
well in very large, stable, economies,  
however most of the world is made  
up of poor countries with less stable  
economies.

When a government is short of  
money, it is awfully tempting to print  
some more.

The problem with printing more  
money is that the store of value  
is decreased with the increase  
of supply. If you don't already  
know about hyperinflation then  
Google the "Weimar Republic  
Hyperinflation" or "Zimbabwe  
hyperinflation" to see what happens  
to a currency when too much is  
printed.

## Electronic Currency

Traditional currencies are made  
of paper and metal, however in  
most developed nations people  
can exchange these currencies  
between themselves electronically  
by relying on a third party (a bank)  
to store ledgers of the money. The  
bank stores a digital number (the  
amount of currency one person  
has) and they inform another bank  
that some of that money has been  
sent to someone else. One ledger is  
decreased and another increased.  
All of the existing digital exchange of  
money is done by third party trust in  
banks.

The concept of a  
cryptocurrency is not just  
a way to transfer money  
between people, it is an  
entirely new way of thinking  
about money.

The reason we currently need banks  
to make digital transfers is because  
of something called the Double  
Spending Problem. All digital things  
can be copied. You've heard of the  
film industry suffering from pirated  
movies. The film industry has spent  
years and many millions of dollars  
trying to prevent it, but they have  
failed. Digital things can be copied.  
This means that in the past, any  
digital currency suffered from the  
ability of users to "print more of it".

The double spending problem is  
solved by cryptocurrency, and in  
solving it, has opened up a radical  
new way of thinking about store of  
value, trust and convenience.

Before you dismiss this and think  
"banks do a perfectly good job, we  
don't need this" remember that



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Taxis were doing a perfectly good job before Uber.



But Uber works better.



Landline phones were perfectly good phones.



But cell phones are better.



Cryptocurrency is a better way  
Cryptocurrencies are not controlled by an any organisation or individual.

We currently rely on banks to keep that ledger up to date. If the bank goes bust with our money on their ledger then we might well say goodbye to the money. Certainly the bank will charge you (or the receiving party) for digitally

transferring your money.

With a cryptocurrency everyone who uses the currency has a copy of the ledger. No one person or organisation is in control of the ledger.

All the currency rules and regulations are clearly defined and the currency system itself

is open source. This means that everyone who is using the currency is controlling the currency, but there is nobody in charge. The cryptocurrency manages itself.

This sounds fantastically complicated – and it is, however just as you don't need to understand how an iPhone works to gain great benefit from it, the same is true of cryptocurrencies, and they are getting more accessible with each forward step of the technology. Electroneum is one such step.



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## Why not use a bank?

Being able to transfer money to someone else without having to use a bank dramatically reduces the complexity and increases the speed of international transfers. This makes international trade easier and cheaper.

With the amount of fraud that is reported online people are fearful of entering their financial information to make purchases, especially for small, low cost items. Cryptocurrencies can be anonymous, and protect the payor and payee.

There are over a billion people in the world that do not have access to a bank, and yet they have access to the internet. There are over 2 billion people in the world without a bank account, and mobile devices and internet access is growing fast.

## Why use a cryptocurrency?



Store value securely, privately and digitally.



Move that money around the world almost instantly with zero cost.



There are over 210 million people who use PayPal to make internet transactions <sup>1</sup> – even though they have a working bank card that they could use to make the payment directly. They chose PayPal for additional security and convenience. Cryptocurrencies offer a high level of security and anonymity without requiring a bank to be involved.

## References

<sup>1</sup><https://www.statista.com/statistics/218493/paypals-total-active-registered-accounts-from-2010/>



electroneum