GGTKN

Whitepaper

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Contents

1. The purpose of the token

The GG Token is created for a number of unique reasons:

- to educate population of Africa, Latin America and Caribbean about blockchain technology
- to give an alternative to Mobile Money and Vouchers system for many unbanked around the world. The average transaction cost for mobile money or vouchers varies between few % up to 12% / transaction/deposit/withdrawal. With GG TKN we can lower it below 1% and maintain the speed of transfer of around 1-3s thanks to BSC BEP20 blockchain.

- to encourage people to use the token on broad network of worldwide partners who all agreed to give special ongoing discounts and bonuses (described in more details later in this document) for those who pay with GG TKN

GG Token market size covered by legal gambling onshore licenses issued by local governments covers:

Already aquired:

- 90% of Sub-Saharan Africa population 1 140 000 000 (1.14 bilion)
- all Latin America population 664 228 483 (+600m)
- Central America population 47 448 336 (+47m)
- Caribbean Islands population 44 420 000 (+44m)

Participating countries already announced (and more will be announced) on our website and whitepaper.

2. Team experience

We are a team of industry experts united together towards the common purpose of creating the biggest, fully transparent lottery games. We create and manage the software of multiple national lotteries in Zambia, Nigeria, Peru, Haiti, and the number keeps on groing, as as there are 17 countries from Subsaharan Africa, Latin America, and the Middle East waiting to join the project.

We operate the best white label lottery intermediary software called WhiteLotto, offering the possibility to run a lottery messenger service translated to +40 languages in white label model.

Thirty years of experience in the lottery industry and dozen years of experience in online software have given us a nice head start to bring you fully transparent, decentralized, blockchain based, online lottery software that powers up multiple government-regulated lotteries and the biggest lottery across the globe - GG World Lottery with a guaranteed minimum jackpot of $100,000,000. The success of GG World Lottery inspired us to develop more games: GG World Raffle, GG World Keno, GG World Pick 3, GG World Pick 4, GG World 5/90 NAP 2, GG World 5/90 Chance 5, and new ones are already in the testing stage.

The drawing process has been questioned by many for years. We have decided to revolutionize the old-school drawing methods and provide a solution that puts an end to any doubts. True Random Number Generator developed by our team is unique on the world-scale level by integrating the RNG system into a provably fair application that provides the draw transparency by using Ethereum Smart Contracts. Certified by Gaming Labs International.

3. Utility and benefits of the token

✓

Discounted price for white label setup fee at **WhiteLotto.com** for a lottery or casino project.

✓

More generous bonuses in casino (deposit bonus, free spin bonuses, cashback bonuses).

✓

Instant deposits and withdrawals with fees as low as 5GWEI.

✓

Dedicated GG TKN raffle with draw fairness and transparency thanks to blockchain based draws.

✓

Up to 80% discounts in e-commerce shops when buying digital and physical goods with GGTKN. **GGToken.Shop and Cheers-shop.co.uk**

✓

All of the projects will keep ongoing bonuses and promotions for GG TKN users permanently.

✓

Inhouse payment gateway operating in 20 countries already with worldwide expansion ahead, accepting cards, mobile money, e-wallets, and alternative payment methods.

✓

Discounted prices on White Lotto network of lottery messengers (for example **LottoPark.com**). Lifetime discount up to 80% on tickets when using GGTKN as a payment method!

✓

Can be used for anonymous gambling. Trustwallet, Metamask and many more verified and approved.

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4. Partners who already signed contracts

LotoPeru

Online lotto, casino and sportsbetting in Peru licensed by the Peruvian government. Offline sales allowed across the country. License available for the next 12 years with extension priority. LIVE

Already accepted on NFT primary marketplace that tokenise ultra rare high value artwork (web2 + web3 concept): PEL Project Available at **pelxp.com**. LIVE

LOTTO.HT

Online lotto, casino and sportsbetting operator from Haiti. Offline sales allowed across the country. LIVE

LottoPark.com

Established in 2015, worldwide range lottery messenger services, powered by WhiteLotto,accepting players from + 50 countries, available in +40 languages. Recently added online casino suite. LIVE

LOTTOZAMBIA.COM

National Lottery of Zambia established in 2018. Online and offline sales available. LIVE

25LOTTO

Nigerian lottery operator. Online and offline sales available. LIVE

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WhiteLotto

Offers the possibility of running a platform like LottoPark in white label model. Thanks to developing the whole platform in-house from scratch combined with a unique technological approach, the time required for setting up a fully functional platform was reduced from months to weeks. LIVE

Luminaria Global

B2B networking platform brought by the industry top networkers who started their experience in projects like Amway. LIVE.

LotoCash

Online lotto, casino and sportsbetting operator from Haitii. Offline sales allowed across the country. LIVE

RC-LOTTO

Australian licensed raffle and bet on lotto project. LIVE.

LOTTO.GT

Online lotto operator in Guatemala, licensed by the Guatemalan government. LIVE

PREMIER Loto

PremierLoto.cm

National Lottery of Cameroon. LIVE

PREMIER Loto

PremierLoto.mw

National Lottery of Malawi. LIVE

PREMIER Loto

PremierLoto.td

National Lottery of Chad. LIVE

PREMIER Loto

PremierLoto.mz

National Lottery of Mozambique. LIVE

PREMIER Loto

PremierLoto.cg

National Lottery of Congo-Brazzaville. LIVE

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GGTOKEN.shop

Best vitamins, minerals, and premium supplements - 100% clean label, no artificial additives. LIVE

+10
10 Sub-Saharan African countries

+10 SubsahranAfrican countries TBA

Going Live in 2023

+3
Asian countries

+3 Asian countries TBA

Going Live in 2023

CHEERS
PREMIUM HEALTH & CARE

Highest quality Cheers producs distributor for the UK market. LIVE

+4
Latin America countries

+ 4 Latin America countries TBA

Going Live in 2023

+3
Middle East countries

+3 Asian countries TBA

Going Live in 2023

5. Global marketing

We're constantly expanding our operations all over the globe. The map presents the current markets we operate in.

6. Token details / Where to buy

Token Name: GG TOKEN

Token Ticker: GGTKN

Total CAP: limited to 10% in 2023

Supply: 12 726 273 000 GGTKN

Token Contract: **0x1F7e8fe01AEbA6fDAEA85161746f4D53DC9bdA4F** (BEP20 Network)

Lock certificates: **10% Lock certificate** & **80% Lock certificate**.

Supply Lock Extension Announcement: 30.03.2024

TrustWallet.com, MetaMask, Safepal, ONTO, and many other wallets - Verified & Approved

Guardarian - Buy with card, sepa & swift - **http://guardarian.com/buy-ggtkn**

Changenow - Swap any crypto with GG Token - **https://changenow.io/currencies/gg-token**

NowPayments.io - Payment gateway that accepts GG Token

GLI certificate - **https://access.gaminglabs.com/certificate/index?i=314**

Burn mechanism : To be Announced in Q4 2023.

BSC Scan - Blue Check Mark

Security Audit done by Interfi with a score of 8.5/10: **GGTKN Audit Report**

ISO 25000 certificate

Where to buy GGTKN?

Private pre sale is finished. Project funding is secured!

DEX trading now available at:

PanCakeSwap (Pair BNB/GGTKN)

PanCake Swap (Pair BUSD/GGTKN)

CEX trading now available at: **tokpie.com**

7. True Random Number Generator

Our team introduces **True Random Number Generation** based on the randomness provided by the Quantis True Random Number Generator to all their lotteries. The TRNG hardware has been created by ID Quantique SA, Chemin de la Marbrerie 3, 1227 Carouge - Genève, Switzerland.

GG International uses the 16Mbps PCI-E version of the Quantis hardware which has the most certifications on the market including NIST SP800-22 Compliance, METAS Certification, CTL Certification and iTech Labs. Quantis has also been approved by national authorities. It works using a quantum optical process as a source of a truly unpredictable randomness. The output is a high bitrate stream of random numbers, which passes all statistical tests - **most notable ones are NIST and DIEHARD**. Quantis is also highly resilient to environmental influences[1].

It may be helpful to give an overall view of the planned system to fully understand the goal and the methodology. **The solution proposed by GG International is unique on the world-scale level** by integrating the RNG system into provably fair application that provides the draw transparency to its users by using Ethereum Smart Contracts.
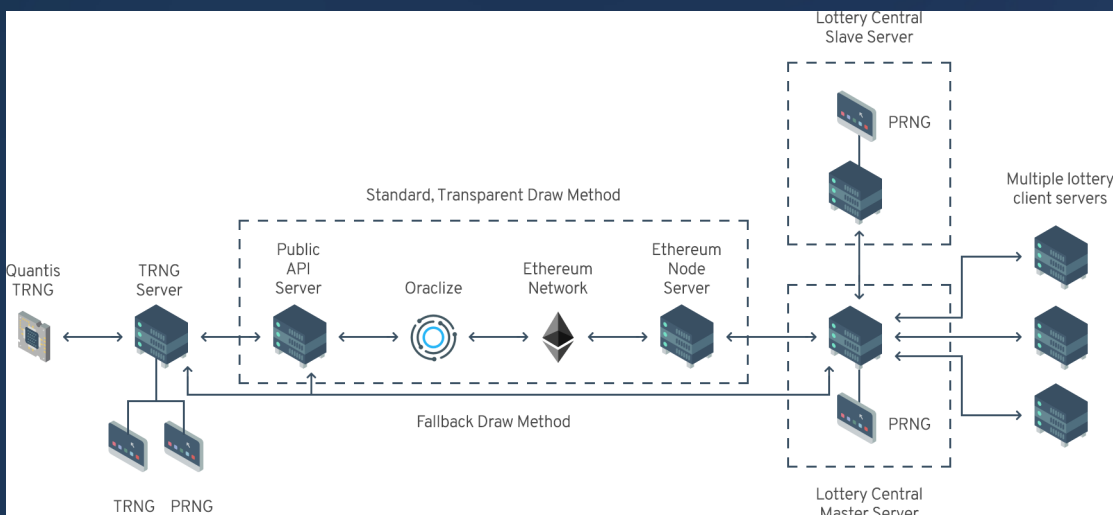

Figure 1. Overall schema of the proposed lottery system

Figure 1 gives a general look on the system design. The main point of our randomness solution is the TRNG Server with Quantis TRNG hardware installed. The TRNG Server is hidden behind the Public API Server, which stands as the gateway to the real TRNG Server and communicates with it to provide publicly accessible random numbers. The TRNG Server is accessible only for requests initiated from Public API Server or Lottery Central Server (used when the blockchain is unavailable for any reason – for example because of heavy usage).

Normally, the Lottery Central Server communicates with the Ethereum Node Server which uses the Smart Contract deployed on the Ethereum Network to fetch random data using Oraclize (3rd party company) from our publicly accessible API hosted on our Public API Server. This will provide the draw transparency, but it will also expose the draw infrastructure to the public. Because of this, to drastically decrease the chance of the draw to fail, we have introduced a fallback mechanism, which will fetch the draw numbers privately when the public infrastructure is under attack or unavailable for any reason. The Public API Server will cut off the access to our TRNG Server when an attack occurs, giving the chance for our private fallback methods to fetch the random data.

The draw algorithm explaining the detailed use of the infrastructure is presented on the figure 2.2. Steps certified by Gaming Laboratories International (the TRNG and PRNG programs) are marked with blue color and are based on two separated servers - TRNG Server with TRNG (True-RNG) and PRNG (Pseudo-RNG) applications (the latter serves as Fallback Application #1) and Lottery Central Server with PRNG (Pseudo-RNG) application only which serves as Fallback Application #2.
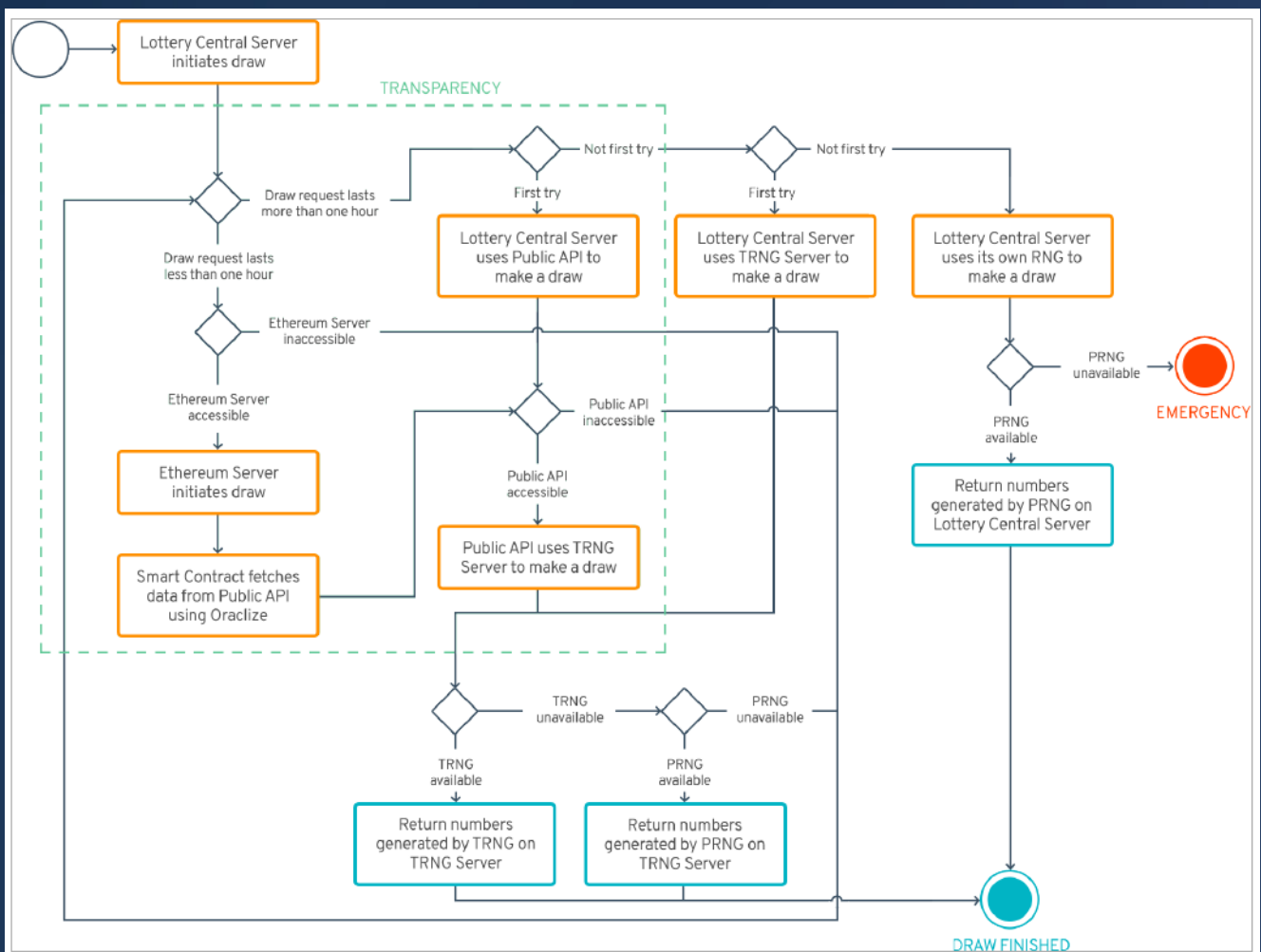

Figure 2. Description of the RNG scaling method

The steps that will provide transparency are marked with green box. The company reserves the right to not provide the transparency when the transparent draw cannot be made in one hour and/or Public API is inaccessible for any reason, although each draw that couldn't be made transparent will be analyzed and the cause will be publicly described.

The Public API is pretty simple. Just open the following URL to get six numbers from 1-36 range:

https://rng.gg.international/random?count[0]=6&max[0]=36

Using this URL it is possible to draw the numbers using Ethereum Smart Contracts, Oraclize and True Random Number Generator and make the draw fully transparent on the blockchain.

However, this method contains one possible caveat – it assumes the Oraclize does not modify the results. Oraclize created multiple proofs (TLS Notary proof, Android proof, Ledger proof) to overcome this issue and authenticate their results, however these methods do not guarantee 100% transparency.

One possible way to overcome this problem is to send hashed proof along with the response (using public key) and allow to decrypt the proof using hidden private key later. It could work perfectly, however there is one thing more that can make an influence on the draw. What if Oraclize will make multiple requests to the Public API and sends one that fits it the most? All of the requests will have valid proofs however the draw could not be trusted. That is why we have introduced draw tokens.

https://rng.gg.international/draw?count[0]=6&max[0]=36

Each draw has its unique token and each draw is saved with that token. Thanks to this, we are able to remove trust from Oraclize and provide fully transparent draws. The tokens are a part of our Public API. Each draw is associated with unique token which is generated in the time of the draw. This way, GG International Ltd is ensuring everybody, that they didn't know the token before. Additionally, it is always possible to fetch the draw details later using its unique token, for example:

https://rng.gg.international/draw/test

where "test" is a token returned by the previous method. This will give more sophisticated response than before:

```
{"numbers":[[4,6,5,26,9,3]],"token":"test","created_at":"2018-09-20T18:33:10+00:00"}
```

Everyone may be sure to receive the same draw data using the same token. The created_at variable ensures that the draw was carried out exactly when Oraclize fetched the URL.

The Public API has strict usage limits and every IP abusing the API will be banned for a specified amount of time. However, GG International is open to work with audit companies that would like to test Public API randomness on the huge amount of data by whitelisting their IPs.

Scaling method

GG International, after extensive testing, developed its own scaling algorithm to properly distribute random numbers based on unsigned short variable to specified draw range. The scaling algorithm, as well as whole randomness solution is certified by Gaming Laboratories International ensuring everybody of proper distribution of numbers within the specified draw range.

```cpp
const unsigned short VARIABLE_MIN = numeric_limits<unsigned short>::min();
const unsigned short VARIABLE_MAX = numeric_limits<unsigned short>::max();

unsigned short RNG::readNumber()
{
    unsigned short number = 0;
    do
    {
      number = _readShort();
    }
    while (!checkNumber(number));

    number = scaleNumber(number);

    return number;
}

unsigned short RNG::_getLimit()
{
  const unsigned short RANGE_MIN = draw_ptr->getNumbersRangeMin();
  const unsigned short RANGE_MAX = draw_ptr->getNumbersRangeMax();
  return VARIABLE_MAX - (VARIABLE_MAX % (RANGE_MAX - RANGE_MIN + 1));
}

bool RNG::checkNumber(unsigned short number)
{
  return !(number >= _getLimit());
}

unsigned short RNG::scaleNumber(unsigned short number)
{
  const unsigned short RANGE_MIN = draw_ptr->getNumbersRangeMin();
  const unsigned short RANGE_MAX = draw_ptr->getNumbersRangeMax();
  const unsigned short LIMIT = _getLimit();
  return static_cast<unsigned short>((static_cast<double>(number) -
VARIABLE_MIN) * (RANGE_MAX - RANGE_MIN + 1) / (LIMIT - VARIABLE_MIN) +
RANGE_MIN);
}
```

Scaling algorithm - part of the RNG source code

The Pseudo-RNG (PRNG) application uses the same algorithm.

TRNG Hardware Details

The contents of this section are highly based on the information provided by ID Quantique SA[2].

The Quantis RNG algorithm is based on quantum physical processes which are fundamentally random. Subatomic particles' behavior at the quantum level is one of the few completely random processes in nature.

From the quantum physics point of view, light consists of elementary "particles" called photons. Photons exhibit a random behavior in certain situations. One such situation, which is very well suited to the generation of binary random numbers, is the transmission upon a semi-transparent mirror. The fact that a photon incident on such a component be reflected or transmitted is intrinsically random and cannot be influenced by any external parameters. Figure 3 schematically shows this optical system.
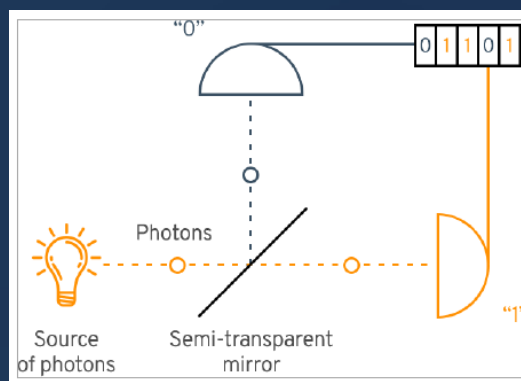

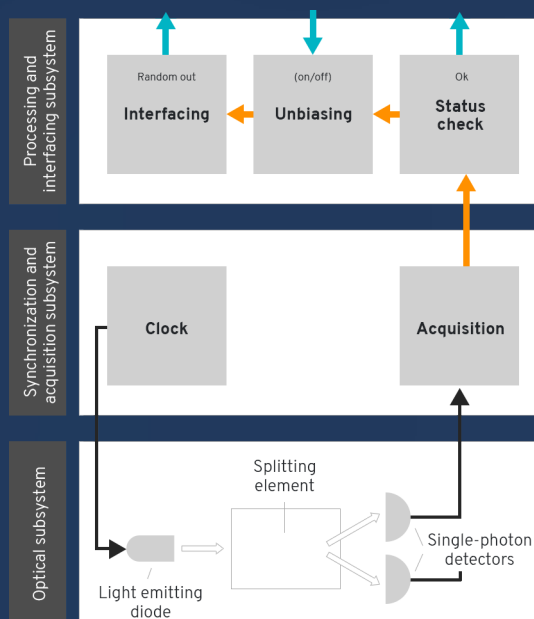*Figure 3. Optical system used to generate random numbers*

Figure 4. Block diagram of the Quantis RNG

Figure 4. shows the block diagram of the Quantis random number generator, which consists of three subsystems.

The first one is the core of the generator and contains the optical elements that are used to implement the random process and produce random outcomes. It comprises a light emitting diode producing the photons, a transmission element, where the random process takes place, and two single-photon detectors - detectors with single-photon resolution - to record the outcomes.

The optical subsystem is controlled by a synchronization and acquisition electronic circuit. This subsystem comprises a clock and triggering electronics for the photon source, as well as the acquisition electronics for the single-photon detectors. The processing and interfacing subsystem perform statistical and hardware checks, as well as unbiasing of the sequence. This subsystem also shapes the output electronic signals.

Physical processes are difficult to balance precisely. It is thus difficult to guarantee that the probability of recording a 0, respectively a 1, is exactly equal to 50%.

With Quantis, the difference between these two probabilities is smaller than 10% - or equivalently the probabilities are comprised between 45% and 55%. As this bias may not be acceptable in certain applications, the processing unit of Quantis performs unbiasing of the sequence.

The processing unit of Quantis performs a real-time verification of its functioning. It continuously checks if the light source and the two detectors are correctly working, and that the raw output stream statistics are within certain bounds.

Quantis is one of the most certified true RNG in the market. It has successfully passed the following certifications or government validations:

- NIST SP800-22 Test Suite Compliance
- Several iTech Labs individual Certificates
- METAS Certification
- CTL Certification

8. Our history and achievements

The company's initial history begins between 2000 and 2009 when the team was gaining experience while working as freelancers for other lottery projects. This is when a vision of creating an online lottery ticket selling platform emerged. The final result may be seen today at lottopark.com.

At first, LottoPark was ran using other domains, but its final name was introduced in 2015 when the domain was acquired. LottoPark name was chosen due to the fact it has the same meaning and has a similar spelling in almost every language. LottoPark's success pushed the growing team to develop and introduce WhiteLotto.com, which offers the possibility of running a platform like LottoPark in white label model. Nearly every month brings a new partner and a platform being put up online. Thanks to developing the whole platform in-house from scratch combined with a unique technological approach, the time required for setting up a fully functional platform was reduced from months to weeks.

WhiteLotto.com sees the lottery messenger service industry as one of the best in the internet's history. Customers are extremely loyal and each month brings a substantial growth in sales. Thanks to the huge rollovers in European and American lotteries which often go beyond $100 000 000 and receive great media coverage all over the world, WhiteLotto's partners get a free advertisement for their service.

The year 2017 brought the most ambitious vision and project ever: a world game similar to Powerball or Eurojackpot with a common prize pool for all the countries participating in the GG World game. The project supports local charities. The company acquires its first licenses in Africa and the WhitePaper for the project is created by GG International team, the company that takes over the management of White Lotto and supports lottery projects today.

GG World Lottery was launched in November 2019 and instantly become a hit on WhiteLotto network. The game portfolio grew in time with the development of GG World Raffle, a game with the highest odds of winning the jackpot (1:100) and GG World Keno which has become one of the company's bestsellers thanks to the draws taking place every 4 minutes and a possibility to win up to $1,000,000.

Striving to create the best lottery experience, the portfolio was expanded with more games to suit the local markets. GG World Pick 3, GG World Pick 4 with draws taking every full hour have been added to the offer. GG World 5/90 NAP 2 and GG World 5/90 Chance 5 are the newest additions developed in 2022. Variations of Pick3/4 and Keno based on popular NY games are currently being developed.

Another great addition to the company's offer developed this year is the online casino suite, already used by a growing number of operators (casino.lottopark.com, casino.lottomat.com, lovcasino.com). The solution offers the players the possibility to play hundreds of popular games (slots, poker, baccarat, blackjack, roulette, video poker, scratch cards) from dozens of providers.

Being aware of the insufficient use of the online channel by the industry and objections to traditional lotteries, GG International has created a unique solution on a global scale, True Random Number Generator (TRNG). The solution works based on the natural randomness of the world and utilizes the principles of quantum physics. The system has successfully passed the tests at Gaming Laboratories International, a recognized authority in the gaming industry, and received certification for highly-regulated jurisdictions. GLI is a leader in gaming and lottery solution testing, trusted by regulators in 475 jurisdictions all over the world.

While working on the technical aspects, the company has obtained numerous licenses for running official national online lotteries. The first one, Lotto Zambia was launched nearly instantly in 2019. The company's strategy focuses on starting operations in particularly attractive emerging markets. Another national lottery, LottoNigeria was launched in 2020. LottoPeru and LottoHaiti have been launched in Q3 2021. LottoGuatemala is the next one being developed and will be launched in Q2 2022.

What started as a bunch of friends working as freelancers became a full-blown lottery software company, employing more than 50 people full-time, and more than a 100 are cooperating as 3rd parties on various aspects of our numerous projects. These numbers will quickly grow in 2022 as there are 17 countries from Subsaharan Africa, Latin America, and the Middle East waiting to join the project.

It may be clearly seen it was a fantastic (although laborious) journey for us and creating GGTKN which we strongly believe will become the most popular, easy-to-use payment method for lottery and gambling services is your opportunity to ride with us!

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9. Early Adopters, Investors, GG Token Supporters

Wojciech Lysak
GG International Director

Expert in international solutions. Fifteen years of experience in online gaming entertainment and online marketing. Well-known and always present on multiple gaming conferences. Expert in B2B relationships and connections. Experienced in multiple successful start-ups.

Allen Wu
GG International Asia Director

Allen Wu is a serial entrepreneur entrenched in several sectors including financial services, tech, minerals, aviation and tourism, and real estate. He is CEO of BZG Asia Investment LLC, Chairman of Regent Blockchain Group, and Chairman of Achiko. Meanwhile he serves as Vice Chairman of Global Belt and Road Foundation, Executive Director of Global Blockchain Association, and First Vice Chairman of Apac Economic Leaders.

Alain Matar
GG Middle East Director and Africa relations

He is an expert in valuation and fundraising. Working with a number of corporations in the field of business marketing has rendered him to become a strategic advisor of our team. Has a deep knowledge and numerous connections in the Middle East and Africa markets.

Krzysztof Maslowski
CEO Verseoads.com

I've been cooperating with Wojciech on various international projects for a decade now. It's a great honor to provide my ppc, google and social media experience to make GG World the biggest lottery ever created.

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Early Adopters, Investors, GG Token Supporters

Adepoju Emmanuel Abiodun
25Lotto.com Director

Cedrick Poitevien
LotoCash.com Director

Andres Zalaquet
LotoPeru.com and LovCasino.com director.
Nitten Capital director.

Mardo Soo
Consulting24.co

Fastest-growing consultancy company in Estonia by volume and has obtained over 400 crypto licenses so far. Clients have processed a total of over 2 trillion in transactions.

Claude Payen
Lotto.ht Director

Andy Nakashima
Luminaria Global

Jurgen Calleja
Payment Service Provider Expert

Experienced Founder with a demonstrated history of working in the e-learning industry. Skilled in Negotiation, Management, E-payments, Pre-sales, and Mobile Payments. Strong business development professional with a B.A.(hons) focused in History and Classic from University of Malta.

10. Roadmap

2000-2009

Team members work as affialites for the online sportsbetting and adult industry.

2009-2012

Expansion of the affiliate work to casinos and lotto.

2015

Creation of the own inhouse lotto platform.

Curacao license (valid until today) granted for the project, renewed every year.

2017

Lotto platform white label technology.

2018

True Random Number Generator with draw transparency features thanks to blockchain connection.

Gaming Labs International Certificate.

STO

LottoZambia.com launch.

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2019

GG.World - $100 000 000 Jackpot game in White Lotto Network

LottoNigeria.com launch.

2020

GG World Raffle

Technology to sell offline printed lottery tickets.

Doublejack.online games.

Faireum.win Raffle

GG World Milion, GG World X - 10 milion Jackpot game

GG World Keno

2021

GG World Pick3, GG World Pick4

Casino.Faireum.win launch

Lotto.ht launch

Casino.LottoPark.com, Casino.LottoMat.com and many others with hundreds of games supplied by dozens of operators.

LotoPeru.com launch

Q1 2022

PICK3, PICK4, Keno based on NY results, Keno based on NY results

5/90 Chance 5, 5/90 NAP2

Mega Jackpot game for Africa

Super4 and Super 5 jackpot games for Africa

LovCasino.com - lottery messenger licensed in Peru, available for all Latin America

Congo lottery operations start

LotoCash.com launch

Q2 2022

Luminaria Global B2B Network

Lotto.gt - Guatemala lottery

Walletconnect integration - anonymous gambling

Online casino in Peru - LovCasino.com

Q3-4 2022

Work on Premier Loto and Pel projects

Q2 2022

PremierLoto.cm

PremierLoto.mw

PremierLoto.td

PremierLoto.co.mz

PremierLoto.cg

LottoNigeria.com merge with 25Lotto.com

MegaJackpot.ph - Lottery Messenger targeting

Philipines and South East Asia markets

PelXp.com - NFT Platform connecting web2 and

web3 worlds

Q3-4 2022

Lotto in Dubai

Lotto in Mali

Lotto in Kenya

Lotto in Philipines

Sports Lotto

Pick2 lottery game

Pick5 lottery game

Pick Games on White Lotto network

5/90 Game on White Lotto network

New Casino Platform merged with

lottery products

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Q3 2023

Bridge to new blockchain - TBA

CEX listings

Q4 2023

GG Token Wallet App

In house lottery studio with live draws done by

physical certified lottery machines

Burn model announcement

GGTKN