



GLITZKOIN

# BLOCKCHAIN ECOSYSTEM FOR THE DIAMOND INDUSTRY

Diamonds are all about glitter, glamor and prestige, they symbolize luxury and opulence. Transactions in the diamond industry are made through personal contact, the parties involved try to assess each other and move ahead to the business process. It is rightly said that you should value the diamond dealer before valuing his diamonds. And even after applying the most diligent evaluation, there is ample scope for guesswork and misconceptions. GLITZKOIN has been initiated to bring transparency and simplicity to the diamond industry. It integrates the conventional diamond industry with the latest decentralized internet value system. Evaluations and assessments will no longer be done by guesses and hunches.

GLITZKOIN seeks to transform the diamond industry by diminishing barriers, increasing coordination, and instilling trust in cross-border transactions for the diamond industry.



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## a. Abstract

Blockchain technology and Crypto currencies are transforming the world and the Diamond industry is no exception. Despite some nascent efforts, no blockchain ecosystem focused on the diamond industry has been designed that encompasses the various issues faced by the industry.

The need for transparency, visibility and objectivity in the diamond industry was felt many decades ago. The need for person to person contact when processing a diamond purchase or sale, limited the size of the market.

GLITZKOIN focuses on integrating the best features of the conventional diamond industry with, the utility and functionality of the latest blockchain technology.

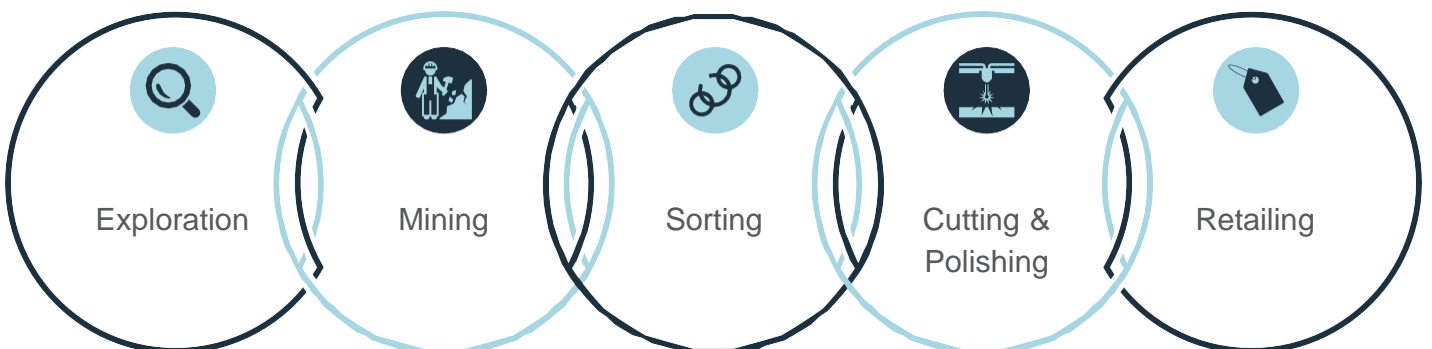


## b. Diamond Industry

Diamonds are one of the world's, and specifically Africa's, major natural resources. An estimated US\$15 billion worth of rough diamonds are produced per year, of which approximately US\$8.5 billion are from Africa (approximately 65%). The diamond industry employs approximately ten million people around the world, both directly and indirectly, across a wide spectrum of roles from mining to retail. Global diamond jewelry sales continue to grow, increasing three-fold in the past 25 years, and are currently worth in excess of US\$79 billion every year.

Data sources : [www.mining.com](http://www.mining.com) [www.statistica.com](http://www.statistica.com)

The diamond jewelry supply chain (known as the diamond pipeline) is the process that brings diamonds from the earth to consumers. It has several different stages:





## c. Vision

This document outlines GLITZKOIN's vision for the diamond industry. GLITZKOIN seeks to build a blockchain based open ecosystem for the diamond industry where all the trade in diamonds can be conducted and coordinated. **The Stellar blockchain resources are deployed to achieve this objective.**

GLITZKOIN is a global startup that uses the best of emerging technology including blockchain, smart contracts and machine learning to assist in the reduction of risk and fraud for banks, insurers and open marketplaces in the diamond and precious stone industry. We provide a full ecosystem for the diamond industry from a supply chain solution, to tracking & certification of diamonds and finally a decentralized exchange for the trade of diamonds and related services.

### ◆ GLITZKOIN UTILITY FOR THE DIAMOND INDUSTRY

We incorporate the latest blockchain technology into the supply chain of the diamond industry. This opens up a new platform to conduct global trade in diamonds. Besides reducing the costs related to a transaction, GLITZKOIN eliminates the inefficiencies that are inherent to paper based transaction processing. A set of advanced functions are implemented to provide a very intricate and detailed, diamond tracing and tracking capability. The objective is to decentralize the market place for diamonds, this will vastly open up access for buyers and sellers of diamonds. The diamond trade does require additional ancillary services like shipping, finance and insurance. These services will be provided by separate service providers. The GLITZKOIN Project will only integrate them **(in the second phase)** in the platform and not be charging any commission or brokerage for such third party services.

### ◆ MARKET TRENDS AND POTENTIAL

There is no doubt that the implementation of GLITZKOIN, will increase the market reach of the diamond industry. The increased visibility of products and the acceptance of a crypto currency, will make it possible for diamond dealers at all levels to increase their market share. At the same time, the transparency of the whole process and the authentication of the diamonds, will instill confidence in both professional and first time diamond buyers. The absence of middlemen and a lowering of transportation and other related costs, will allow for highly competitive pricing.

## d. GLITZKOIN Use Cases Overview

### ◆ GLITZKOIN OBJECTIVES AND FUNCTIONALITY



#### **Integrating the latest blockchain technology into the diamond industry supply chain**

- A global trade platform using blockchain technology aimed at improving the cost of transportation, lack of visibility and inefficiencies with paper-based processes
- Connecting all stake holders from Mining companies to Retail customers



#### **Global Diamond Track and Trace**

- Block chain based tracking for certified diamonds
- A record of attributes, origin and history of each diamond
- Theft prevention by authenticating and tracking the diamond
- Track stones all through their value added journey



#### **Decentralized Market Place for trade in diamonds**

- Facilitate trustless transactions between diamond traders
- Allowing anyone to buy and sell diamonds
- Facilitate ancillary services like shipping and insurance for diamonds fulfilled by third party providers **(in the second phase)**
- Drastically cut the time required for trade transaction settlements

## a. Supply Chain on Blockchain for the Diamond Industry

### ◆ DIAMOND INDUSTRY SUPPLYCHAIN USING BLOCKCHAIN

GLITZKOIN is not just another blockchain, our team comprises of professionals from the diamond industry and experts from the technical field related to blockchain and crypto currencies. There are a number of stakeholders in the diamond industry, starting with the mining companies and including diamond polishers, certification authorities, retail sellers and consumers. By bringing all these stakeholders on to the same platform, we facilitate the ease and efficiency of fulfilling transactions.

**Privacy options have been configured specifically for the diamond industry.** We ensure transparency by building on both, public and private blockchains so as to achieve a hybrid technical model. This combines the best of both worlds; high security of the public blockchain is paired with permissioned controls in private blockchains, this allow us to better serve the industry.

GLITZKOIN combines privacy, accessibility, and security to create enterprise-ready applications. Current blockchain technology does not meet industry needs as the Transaction data is completely public and Network security is often uncertain.

- **PRIVACY**

GLITZKOIN uses zk-snarks and bulletproofs to keep transaction data completely private, which means transaction data and trade secrets remain encrypted and obscured from competitors.

- **USER FRIENDLY**

GLITZKOIN solutions will seamlessly integrate into existing business processes and applications. No technical knowledge is required for companies or users.

- **IDENTITY & NETWORK SECURITY**

GLITZKOIN's supply chain is completely secure and based on the federated byzantine agreement system to run network governance protocol and eliminate bad actors.

- **HISTORICAL RECORDS**

Securely record historical data and transactions allowing suppliers to prove their reliability to buyers and rating institutions.

- **THIRD PARTY APPLICATIONS**

GLITZKOIN enables companies to quickly build customized, end-to- end, supply chain applications with data privacy **(this in the second phase)**.

## b. Decentralized Exchange

- ◆ GLITZKOIN implements a global exchange that focuses on bridging the gap between the traditional diamond industry and the innovative financial markets spearheaded by cryptocurrencies. With extensive industry knowledge, we aim to engineer a ground-breaking change – enabling people to liquidate and invest in diamonds like any other financial asset, all within a transparent and secure environment. The GLITZKOIN Diamond Exchange enables anyone to invest in individual diamonds, shares of a high-value stone or shares in a basket of diamonds like an ETF (when fully implemented).
- ◆ Traders can have full confidence in buying and selling, even without prior knowledge of diamond trading. Thanks to the decentralized nature of the exchange, our machine learning algorithm, and blockchain technology that rates a diamond's asking price, the value of any diamond listed on the Exchange is completely transparent; liquid because it creates a two-sided market by enhancing both the supply and demand and standardized because GLITZKOIN creates a unique benchmark value, rate and smart contract for every stone.
- ◆ It enables trustless transactions between diamond traders or any two parties. Anyone can buy and sell diamonds, there are no restrictions and GLITZKOIN will ultimately connect end users, retailers, to market makers, mining companies and polishers. Trade and Transaction settlement times will be drastically reduced due to the effective implementation of GLITZKOIN on the Stellar blockchain.
- ◆ The Decentralized Exchange that is powered by GLITZKOIN uses proprietary machine-learning algorithms and has been created to bring transparency and coherency to the global diamond markets. The exchange comprises three main elements: the gem composite, which represents a diamond's gemological perfection; the parallel composite indicating the rarity of a diamond category and the indices composite, giving potential traders market directions for the diamond industry. Diamonds are uploaded to the exchange post registration with our track & trace ledger and classified by categories. The exchange has been designed to incorporate artificial neural network technology using all available diamond data.
- ◆ The GLITZKOIN project addresses the pricing issues and the need to unlock diamonds as an investment option using blockchain technology. Blockchain technology is best known for providing the foundation of the peer-to-peer (P2P) cryptocurrency and payment system Bitcoin. In recent years, the blockchain concept, also called the distributed ledger system, has spread in popularity. This has resulted in various blockchain-based applications in the finance sector, in prediction markets, as a platform for the Internet-of-Things applications and so on. GLITZKOIN utilizes the Stellar blockchain for its solution. In addition to the underlying distributed ledger, Stellar incorporates smart contracting capabilities in a secure fashion while providing a very high number of transactions at significantly low transaction costs.



- ◆ Since not everyone who reads this white paper would be a technical expert, we present a simplified explanation for a 'smart contract'. The concept requires the existence of an agreement between two parties, a smart contract would be meaningless without the consent of both parties to the transaction. This agreement will be verified by complex algorithms. The validation process can happen without the existence of a third party witness to the agreement. We do not tokenize diamonds, GLITZKOIN is a utility token to be used for a decentralized blockchain ecosystem for the diamond industry. Its aim is to make transactions faster and trustless. This fosters confidence in both buyers and sellers, creating a robust and active platform which thrives on a healthy interaction between all stake holders.
- ◆ The diamond industry includes a number of stakeholders, objectives and agendas for each differ widely. When introducing the latest technology like blockchain, it is necessary to do some handholding. The GLITZKOIN **diamond trading platform**, will bring together diamond sellers both big and small, on the same platform. The procedures set up to list a diamond will ensure transparency, security functions have also been incorporated. On the demand side, both seasoned buyers and novices, are more willing to transact on such a comprehensive platform. It is essential to understand that, this platform will open markets to buyers who are transacting in diamonds for the first time but more importantly, are cyber savvy. This brings diamond sellers closer to a growing market that would otherwise, be eclipsed from conventional diamond trading.
- ◆ To address two of the most significant obstacles that hinder diamonds from becoming an asset class, GLITZKOIN 's proprietary machine-learning algorithm, delivers transparency and coherence to the entire process of diamond appraisal. The trading platform takes gemological data, diamond financial indices data and global inventory data into consideration. Utilizing the global diamond inventory data, GLITZKOIN quantifies diamond prices and ranks individual diamonds and their respective prices. Briefly, machine learning allows software applications to accurately predict outcomes without being explicitly programmed.
- ◆ Diamonds listed on the GLITZKOIN blockchain based platform would represent a single diamond. It is important to understand that the prices of diamonds vary widely. Once you consider the smart contract itself to be a tradeable asset, it is possible that the smart contract for a high value diamond, could be 'owned' by more than one buyer. This concept of shared ownership will cease to exist when, the transaction calls for the physical delivery of the diamond.
- ◆ To present the concepts involved in an easy to understand manner, the buying of a smart contract would update the digital wallet of the new owner. A buy transaction that requires the precious stone to be physically delivered, will trigger an audit of the certificate that accompanied the diamond when it was listed.

- ◆ It is important to emphasize that a diamond to be listed, must be certified by one of the testing labs listed by GLITZKOIN. The physical characteristics of the diamond as mentioned in the certificate, will be listed on the blockchain. Since the main objective is to build a tradeable smart contract for each diamond, the price or 'value' of the diamond will also be mentioned. With keen interest shown by major diamond sellers in the GLITZKOIN diamond trading platform, we anticipate that a significant number of transactions will initially involve the physical movement of the diamond transacted. As the diamond industry in particular and the casual diamond lover in general, feels comfortable to trade on a blockchain – we might soon see the smart contracts themselves, being traded as an 'asset'.
- ◆ Harnessing the ledger concept of blockchain, all transactions related to diamonds will be stored on the ledger. The secrecy that normally shrouds diamond trade will no longer exist, all transactions will be listed in a transparent manner. A Diamond-Smart Contract will be generated for each diamond, these contracts in themselves can be traded. Since the major work of ensuring accuracy of records will be performed by GLITZKOIN, a buyer wishing to make a purchase need not be a diamond expert. While allowing the diamond smart contracts to themselves be traded, nothing stops a buyer from making a diamond purchase and requesting for physical possession of the precious stone.
- ◆ A trader who purchases a Diamond-Smart Contract will be able to request the delivery of a physical diamond. In such cases, the delivery process will begin when the Diamond-Smart Contract status changes to In-Delivery Process and the diamond is sent to the owner. Once the owner receives the diamond, the Diamond-Smart Contract will be marked as delisted by the smart contract.
- ◆ One of the most exciting and innovative trades the GLITZKOIN platform will offer its users is the "Shared Investment" option. After uploading a diamond for trade, a diamond holder will have the option of selling the stone as a single Diamond-Smart Contract or as multiple Diamond-Smart Contracts. Choosing the multiple Diamond-Smart Contracts option will create multiple smart contracts that represent partial ownership of the backed diamond. This function will, for the first time, allow retail clients to invest in high-valued diamonds that are usually a speculative and volatile segment of the diamond market.



## c. Global Diamond Track and Trace

- ◆ GLITZKOIN builds a global, digital ledger that tracks and protects valuable assets throughout their lifetime journey. We collect an asset's defining characteristics, history, and ownership to create a permanent record on the blockchain. This digital incarnation, or thumbprint, is used by various stakeholders across a supply chain pipeline to form provenance and verify authenticity.
- ◆ GLITZKOIN has built innovative solutions in markets where provenance matters and where transparency is key to ensuring ethical trade. Beginning with the diamond industry we will soon incorporate other precious stones.
- ◆ The blockchain based tracking for certified diamonds records attributes and origin for each stone. This critical information is available to anyone who wants to verify the authenticity of a specific diamond, this provides for Theft Prevention. Buyers would show a high preference for authenticated diamonds. Besides authentication of diamonds, the GLITZKOIN platform will also make it possible for a stone to be tracked all through its journey on the value chain.
- ◆ Digital Certification and Verification which is done using specially designed Smart Contracts, ensures transparency and authenticity of the diamonds that are traded globally. This protects the provenance of high value assets like diamonds. This facilitates trustless trade on the global marketplace while reducing risk and combating theft, trafficking and fraud.
- ◆ Diamond sourcing from the mining operations and right up to the cutting and polishing phase is fraught with problems. Unfair labor practices, environmental degradation and the funding of violence in parts of Africa, can all be traced to the diamond industry. GLITZKOIN has configured its blockchain platform to increase transparency into the diamond supply chain. This will go a long way in reducing the problems explained above (in the second phase as, accurate grading reports not developed for diamond rough).
- ◆ GLITZKOIN aims to build trust across the supply chain from the source to the consumer by deploying blockchain based solutions that enable companies to be more transparent on how they process their products. This includes disclosing everything related to the environmental impact of the mining operations. Dealers are encouraged to disclose detailed information regarding the origin of the diamonds and labor practices used in the cutting and polishing process.
- ◆ Tracing the provenance of diamonds shows how the application of this technology can fundamentally change the way diamonds are exchanged. A diamond's provenance is often threatened by conflict stones and the tampering of certificates.
- ◆ GLITZKOIN track and trace blockchain is a permanent, digital, global ledger that tracks and protects diamonds and other valuable stones on their lifetime journey. Potential clients include banks, insurance companies and certification houses. The solution can be put to good use in the diamond verification processes by banks, insurers, law enforcement, and even the owners themselves, who can be confident about the sourcing of their assets.

## d. Open Ecosystem

Connect jewelry stores, connect RapNet and IDEX, Connect Mining & Polishing companies etc APIs.

### ◆ STELLAR PARTNERSHIP

GLITZKOIN is a proud contributor of the Stellar community, committed to advancing open source collaboration and working alongside the brightest minds in the blockchain space.

### ◆ THE GLITZKOIN OPEN ECOSYSTEM

The GLITZKOIN Ecosystem is a collection of decoupled services which run in tandem to provide a seamless experience for diamond traders, buyers, sellers and other stakeholders. It also allows developers to build new and innovative applications.



#### GLITZKOIN Wallet

The coin management platform helps users and developers view coin balances, transaction history and even subscription contracts. Developers can also see cumulative payments and other user specific information (in the second phase).



#### GLITZKOIN API

The GLITZKOIN API plays a pivotal role in GLITZKOIN. The API can be used to access the various services offered by GLITZKOIN. Developers are responsible to implement the GLITZKOIN API within their site or mobile app (in the second phase).



#### GLITZKOIN Merit Engine

Once the ICO is completed, the EME kicks in. It is a fair pre-decided mechanism which decides when and how to reward coins to the community (in the second phase).

## ◆ Q4 2017

- Initial Spark followed by Background Research
- Development of Initial Concepts and Diamond Industry Outreach
- Initial White Paper and Design Prototypes

## ◆ Q1 2018

- Glitzkoin Project Scope, Token Use Case Design and Token Economics
- Core Founding Team on Board
- Company in Stealth Mode, Company Registered in Estonia
- Project Deck and White Paper, Technical Architecture
- Official Website Launch
- Token Presale Launch

## ◆ Q2 2018

- Launch of Public Token Sale
- Conclusion of Token Sale and Distribution of
- Blockchain Based Diamond Trading Platform Development (DiaEx)
- Start GlitzKoin Global Marketing Effort

## ◆ Q4 2018

- GTN Token Listing on Crypto Exchanges
- Beta Testing of Diamond Trading Platform
- Development of Global Diamond Track & Trace System

## ◆ Q1 2019

- Level 2 Testing of DiaEx With Crypto Payment
- Global Diamond Track and Trace System Deployment
- Bug Fixes and Enhancements to Deployed System

## ◆ Q3 2019

Adding more Features/tools to DiaEx

Continued Marketing to Increase GlitzKoin Awareness

## ◆ Q4 2019

- Testing the DiaEx platform with actual transactions
- First integration of crypto payment module
- Testing diamond price calculation w.r.t GTN

## ◆ Q1 2020

- Working with group of actual diamond traders
- Training process to use the DiaEx platform
- Explaining basic concepts of crypto to diamond traders
- Running pilot run with transactions and payments

## ◆ Q2 2020

- DiaEx first phase launch, traders login, feedback collection
- Monitor trade transactions and crypto payments
- Collection of feedback, understanding issues

## ◆ Q3 2020

- First phase run done. DiaEx access locked
- Tech team and diamond team discuss issues
- Define updates, development team commences

## ◆ Q4 2020

- Customer support team training begins
- Call fresh diamond listings from all diamond traders
- Check all listings against diamond certificates
- Approve listings that are verified to be right



## Token Distribution Table

Number of Tokens (Millions)	Purpose
245	ICO
200	Market Making + Excess Demand
200	Community
354	Management

## Token Bonuses

Tier	Purchase Amount (in USD)	Bonus
1	10,000 - 50,000	0%
2	50,000 - 200,000	5%
3	200,000 - 500,000	8%
4	500,000 & above	10%





**NAVNEET GOENKA (CEO)**

Besides being a 20 year veteran in the diamond industry, Navneet has a passion for technology and innovation. No one knows the operations of the 90 billion dollar industry better than him. He is aware of the inefficient processes followed in diamond trade for decades and is convinced, that revolutionary changes can directly increase the market scope for diamonds. The distributed ledger concept of blockchain technology, combined with the implementation of a crypto currency is precisely what the diamond industry needs. As CEO, Navneet Goenka is the main driving force behind the GLITZKOIN project.



**LILA HUSSAIN (Head of Business Development)**

Lila has 23 years of experience providing fiscal, strategic & operations leadership. She was general manager of the Lima Airshow, Biggest Airshow in South East Asia for over 14 years. She does a lot of social work and is on the Board of various Human Rights and Women Entrepreneurship organizations.



**SHASHANK AGARWAL (Head of Technology)**

A blockchain expert with over 10 years of experience in the technology industry. Shashank is also well versed with web and cloud based applications. His extensive experience covers businesses across UK, UAE and India. Besides being a qualified engineer, Shashank also has a MBA qualification from the Imperial College London.



**NILESH AGARWAL (Head of Product Development)**

With experience in some of the most reputed high-tech environments like Microsoft, Amazon and Samsung – Nilesh is ideally suited to head the GLITZKOIN Product Development team. For technical applications to unleash their full potential, it is necessary to implement easily understandable and usable user interfaces. No one understands this better than Nilesh, he has been closely involved in the conception, development and implementation of numerous applications in a wide range of industries. We are glad to welcome him into one of the most promising and powerful blockchain projects, rooted in the multi billion dollar diamond industry.



**OLGA ROSINA (Diamond Specialist)**

Olga has been a diamond industry veteran for over 20 years. She has worked with giant diamond mining companies, Alrosa and Gokhran. Both these operations are owned by the Russian government. She holds a Masters' degree in Management and Informatics along with a diploma in Nuclear Power Plant Management. Olga was a winner of several Russian Beauty Queen titles in the late 90s.



## DATO' ALIA HM JALLY (PR and Media Relations)

With two decades of experience in the high profile marketing and PR industry, Dato' Alia HM Jally has handled projects for Malaysia's biggest business houses. Dato' Alia has branded and marketed products on every media channel including, TV and social media. After having started her career with leading global PR firm Edelman, Dato' Alia drew experience from a host of Malaysian branding and marketing houses. She is today the COO of The Week Folk Entertainment SdnBhd.



## DINESHWARAN YOOGAN (Marketing Manager)

Leveraging his experience in international trade and business communication, Dineshwaran Yoogan, heads the GLITZKOIN marketing arm in Malaysia. With an excellent grasp of blockchain applications and the operation of crypto currency, Dineshwaran has been instrumental in drawing the attention of Malaysian CEOs and government decision makers to the GLITZKOIN project. On the academic front, he holds a qualification in Banking and Finance from the Victoria University at Sunway.



## MIKHAIL KOZLOV

Leveraging his strong business acumen and thorough knowledge of finance and economics, Mikhail Kozlov was one of the contenders for the post of President during the last elections in the Russian Federation held in March 2018. He is also an active participant in high profile television forums where he, shares his expertise in business management and managerial resource development. Mikhail Kozlov spearheads the business plans of GLITZKOIN in Russia.



## DATUK MAT RABI ABU SAMAH

Retiring as the Chief Of Staff in the Malaysian Armed Forces, Vice Admiral Datuk Mat Rabi Abu Samah ( Retd) has over the past decade, played a significant role in shaping the Malaysian corporate landscape. He is an alumni of the IMD in Switzerland and has served on the boards of Khazanah Nasional, Langkawi Tuna Berhad and Wilhelmsen Ship Services. Datuk Mat Rabi Abu Samah, is currently the Director of BHIC BOFORS ASIA SDN. BHD. With the public and private sectors in Malaysia, showing a high degree of interest in the GLITZKOIN project, we are honored to have the Vice Admiral (Retd.) on our advisory board.



## PAOLO ALBERTELLI

With more than two decades of expertise in crafting fine jewelry, Paolo Albertelli is a well known personality in his profession. He has always shown a keen interest in new technologies related to jewelry production and has played, an active role in promoting the Italian jewelry industry. Paolo has partnered many developmental projects that, aimed at bringing technology to lift, fine Italian jewelry to the next level. Some of these projects have now developed into patented processes and equipment. His profession and passion to share his knowledge and expertise, has taken him to over 50 nations. He continues to attend global jewelry shows across the globe as an invitee.



## ROHIT AGARWAL

A graduate from the Indian Institute of Technology (IIT) the institute, that has delivered some of the finest global Computer Science talent, Rohit Agarwal is a software engineer with extensive knowledge of technology for business applications. A stint with Yahoo as a Senior Software Engineer, exposed Rohit to some of the most advanced techniques in systems design and business process development. As the GLITZKOIN project rapidly moves into the next phase, handpicking the best technical talent will be a regular feature. We welcome Rohit Agarwal to the GLITZKOIN team.

[www.glitzkoin.com](http://www.glitzkoin.com)