Rise and History of Blockchain

Bhadla Solar Park

NFT's : Revolutionary or Scam

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SSGMCE Students' Branch

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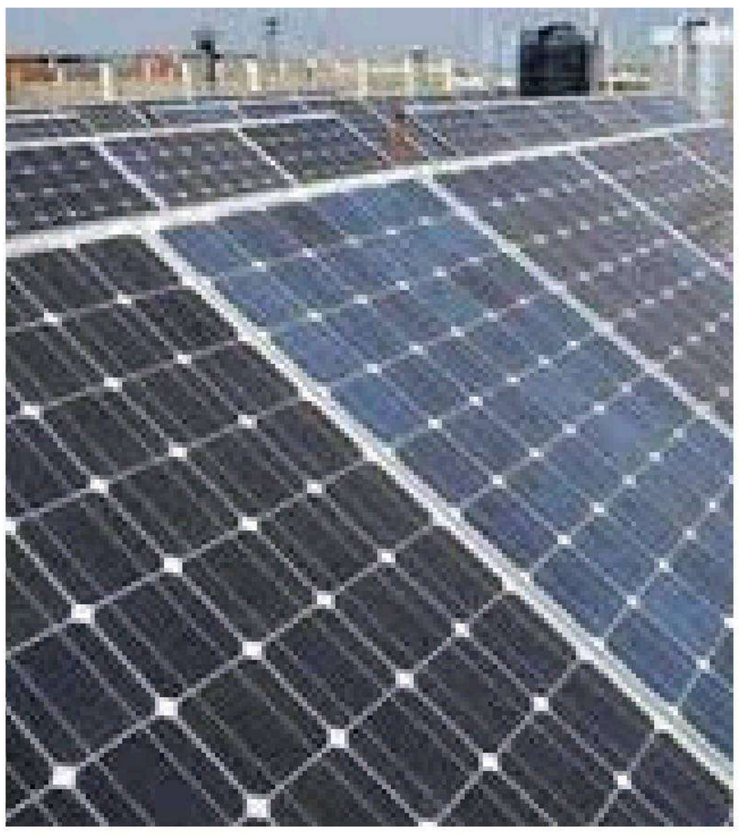
BHADLA SOLAR PARK

ABOUT BHADLA SOLAR PARK

Bhadla Solar Park is the largest solar park in the world as of 2021, and is spread over a total area of 5,700 hectares in Bhadla, Phalodi Tehsil, Jodhpur District, Rajasthan, India. The park has a total capacity of 2245 MW. India has been listed in the largest solar energy producers list by the USA Institute for Energy Economics and Financial Analysis. Bhadla Solar Power Plant is a 2245 Megawatts plant and situated on 14000 acres of land. This project has been constructed in 4 different phases. Earlier China was the leading producer of solar energy but now India even though the late joiner of the race is way ahead of China.

1. The project commenced in 2015 with an investment of $1.4 billion.
2. The temperature in Bhadla ranges from 46 to 48 degrees and it is defined as uninhabitable by experts.
3. The entire project was divided into four phases. In the first phase of the park's establishment, solar panels were established to produce 65 MW of energy.
4. The first two phases of the park were developed by the Rajasthan Solar Power Park Company Limited.
5. Saurya Urja Company of Rajasthan developed the third instalment.
6. The project in its final stage was designed by Adani renewable energy park. The capacity of the project was 500 MW.
7. The nearest urban habitation is 50 kilometres from the solar power plant. It is situated in Phalodi. This project is a part of a 1,00,000 megawatt solar energy grand plan.
8. As per the main developer BK Dosi, this region receives good radiation the whole year. 10 million solar panels have a generation capacity of 2245 megawatt.

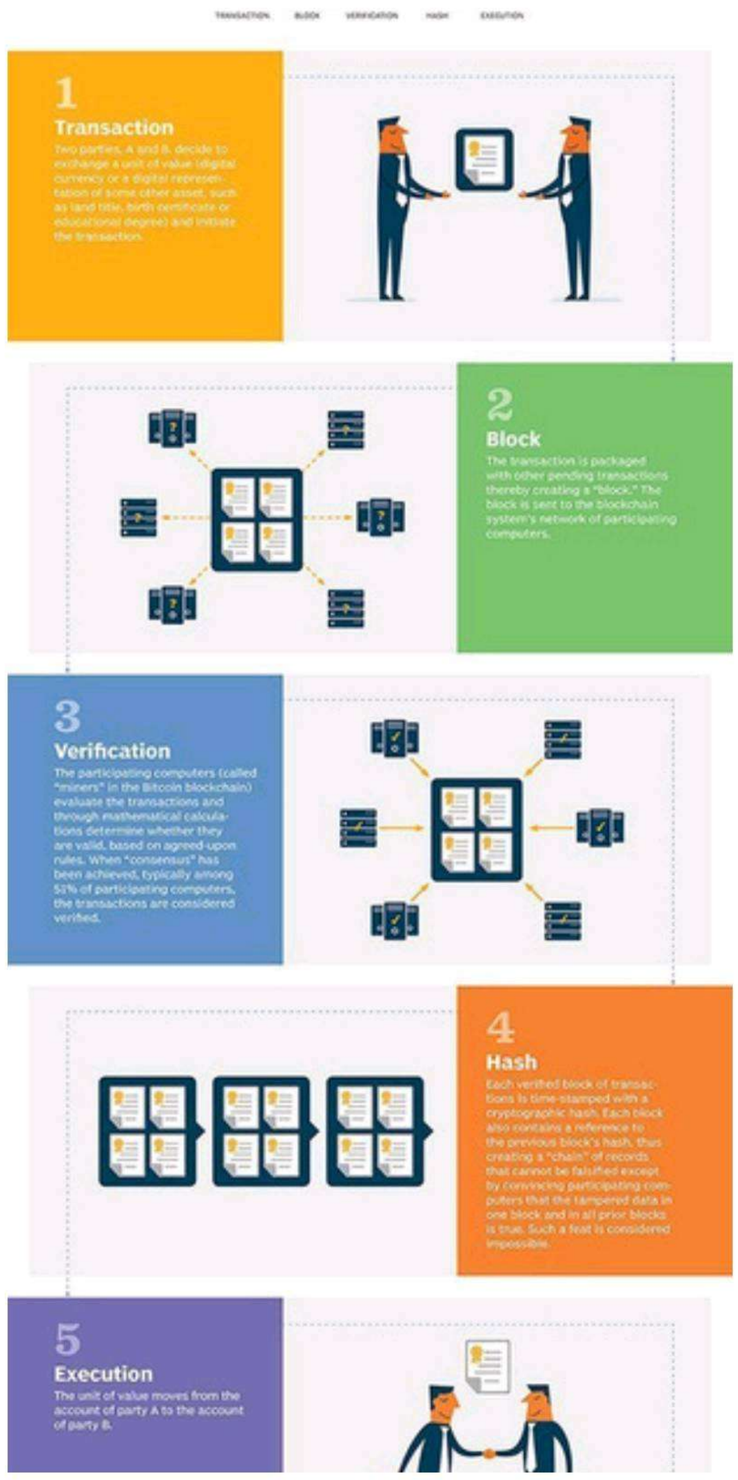


9. The solar panels are cleaned by robots and are monitored by humans.
10. Coal has a 70% share in India's electricity generation which is a matter of environmental concern.

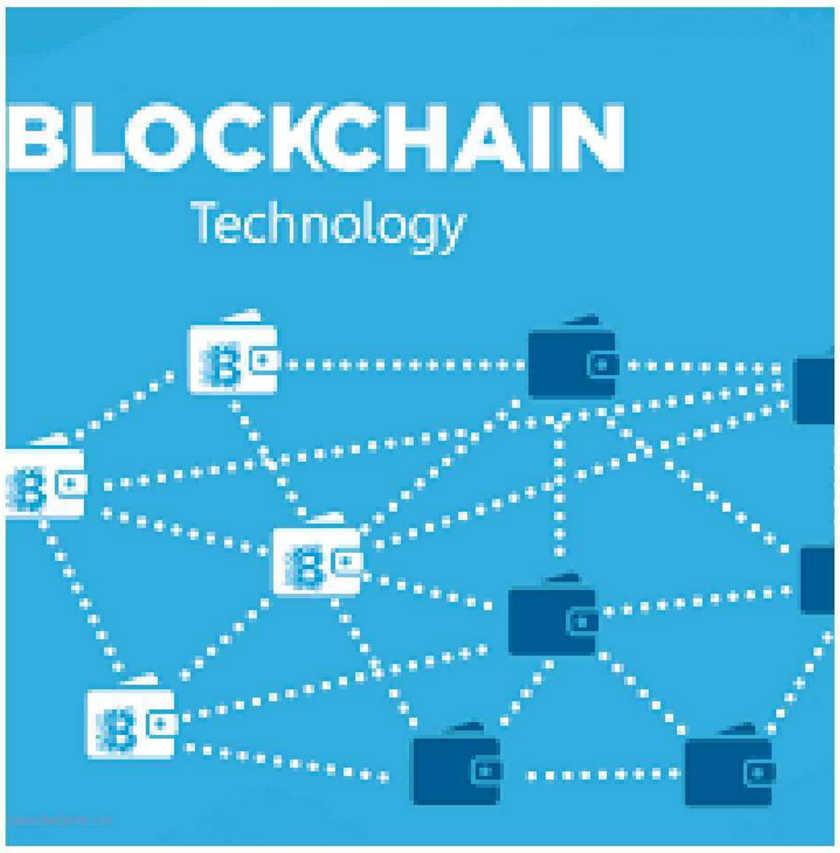
The auction for this park was surprisingly lower than NTPC with a per-unit price as low as INR 2.62. NTPC is as high as INR 3.20 per unit.

RISE AND HISTORY OF BLOCKCHAIN

BLOCKCHAIN TECHNOLOGY



Blockchain Technology has to be one of the biggest innovations of the 21st century given the ripple effect it is having on various sectors, from financial to manufacturing as well as education. Unknown to many, is that the history of Blockchain dates back to the early 1990s.
It is important to know about the history of Blockchain for Blockchain enthusiasts and Blockchain aspirants. A blockchain is a type of database that is a public ledger for recording transactions without needing a third-party to validate each one. The blockchain is distributed across a peer-to-peer (P2P) network. It is made up of data blocks that are linked together to form a continuous chain of immutable records.
Blockchain was first introduced in 2008 as the distributed ledger behind bitcoin transactions. The technology has since taken on a life of its own, with interest coming from many quarters. Initially, blockchain provided a distributed public ledger to support the cryptocurrency bitcoin. Blockchain made it possible to record bitcoin transactions without the need for a central authority to establish trust in a trustless environment. Not only did this make transactions more efficient, it also eliminated the costs associated with third-party verification.



1979-2007: Creation of Blockchain and Early Years

Many of the technologies on which blockchain is based were in the works long before bitcoin appeared. One of these technologies is the Merkle tree, named after computer scientist Ralph Merkle. Merkle described an approach to public key distribution and digital signatures called "tree authentication" in his 1979 Ph.D. thesis for Stanford University. He eventually patented this idea as a method for providing digital signatures. The Merkle tree provides a data structure for verifying individual records.

RISE AND HISTORY OF BLOCKCHAIN

But Merkle was not the only one to help set the stage for blockchain. David Chaum described a vault system for establishing, maintaining and trusting computer systems by mutually suspicious groups in his 1982 Ph.D. dissertation for the University of California, Berkeley.
During these early years, there was plenty of other activity that also helped make blockchain possible. For example, this era saw the rise of the P2P network, a concept popularized in 1999 by the now defunct Napster. Some would argue that Napster was not a true P2P network because it used a centralized server. However, the service still helped breathe life into the P2P network, making it possible to build a distributed system that could benefit from the compute power and storage capacity of thousands of computers.

2008-2009: Bitcoin and Blockchain get their start

In 2008, Satoshi Nakamoto published a white paper introducing the concepts behind bitcoin and blockchain. Nakamoto is thought to be a pseudonym used by the individual -- or group of individuals -- who proposed the technology. Blockchain infrastructure would support secure, peer-to-peer transactions without the need for trusted third parties such as banks or governments, according to white paper. Nakamoto's true identity remains a mystery, but there has been no shortage of theories.
The bitcoin/blockchain architecture introduced in 2008 built on technologies and concepts from the previous three decades. Nakamoto's design also introduced the concept of a "chain of blocks." This made it possible to add blocks without requiring them to be signed by a trusted third party. In fact, Nakamoto defined an electronic coin as a "chain of digital signatures," where each owner transfers the coin to the next owner.
But Nakamoto's white paper was just the beginning. In 2009, bitcoin went from concept to reality.

·Jan. 3, 2009. Nakamoto mined the first bitcoin block, validating the blockchain concept. The block contained 50 bitcoins and was known as the Genesis block -- aka block 0.

- Jan. 8, 2009. Nakamoto released Bitcoin v0.1 to SourceForge as open source software. Bitcoin is now on GitHub.
- Jan. 12, 2009. The first bitcoin transaction took place when Nakamoto sent Hal Finney 10 bitcoin in block 170.
- Oct. 12, 2009. The #bitcoin-dev channel was created on Internet Relay Chat for bitcoin developers.
- Oct. 31, 2009. The first bitcoin exchange -- Bitcoin Market -- was established, enabling people to exchange paper money for bitcoin.
- Nov. 22, 2009. Nakamoto launched the Bitcointalk forum to share bitcoin-related news and information.

2013-2015: Ethereum and Blockchain rise to fame

When 2013 arrived, bitcoin was well-established and continued on its upward trajectory. In February, Coinbase reported selling $1 million worth of bitcoin in a single month at more than $22 each. By the end of March, with 11 million bitcoin in circulation, the currency's total value exceeded $1 billion. And in October of that year, the first bitcoin ATM launched in Vancouver, B.C.
The year 2014 was a turning point for blockchain, as financial institutions and other industries began to recognize and explore its potential, shifting their focus from digital currency to the development of blockchain technologies.

2016-present: Blockchain goes mainstream
Today, a growing number of industries view blockchain as a valuable technology -- separate from bitcoin or other cybercurrencies.
Throughout these years, there was a growing interest in using blockchain for applications other than cybercurrency. This trend continues into 2021 as governments and enterprises look to blockchain to handle a variety of use cases. This includes voting, real estate, fitness tracking, intellectual rights, the internet of things and vaccine distribution. Moreover, multiple cloud providers now offer blockchain as a service, and the demand for qualified blockchain developers is greater than ever.

RISE AND HISTORY OF BLOCKCHAIN

The Future of Blockchain Technology
Trying to predict the future of any technology is never easy, and blockchain is no different -- especially since its history is so short. However, if blockchain continues on its current path, it affects many industries -- including retail, mining, travel, healthcare, education, agriculture and entertainment. The biggest effect might be in financial services, especially with the growing movement toward decentralized finance, which uses permissioned blockchains to handle complex financial use cases. Governments will also likely continue to embrace blockchain.

As universities, governments and private corporations continue to research and invest in blockchain, the technology will only improve. But they must first address the challenges that blockchain brings -- particularly regarding security, privacy, scalability and interoperability. Blockchain is also not suited to every use case, and business must evaluate deploying it before investing in the technology and putting it into production.

NFT'S : REVOLUTIONARY OR SCAM

What are NFTs (Non Fungible Tokens)? What are their possible applications, the hype surrounding them, and the underlying (possible) risks?
NFT is a creation of tech entrepreneur Anil Dash and digital artist Kevin McCoy, who introduced "monetised graphics" in a live demonstration at the 2014 Seven on Seven event held in New York City's New Museum of Contemporary Art, US. Their idea was to give artists a chance to make some money and retain control over their work.
Three years later, NFTs took off when prices of CryptoKitties tokens began showing an upward tick.
However, the real 'revolution' happened only in 2021. For now, the history of NFTs can be divided into 'pre-2021' and 'post-2021'.
Many artists are certainly finding the world of NFTs attractive. Prominent Asian artists, including Takahiro Suganuma, Abdul Hafiz Abdul Rahman and Victor Wong, have launched their digital artworks as NFTs across platforms. It appears that NFTs are here to stay, at least because of their increasing significance for digital artists to showcase their work through this new means and make money from them.
Although NFTs have taken the world by storm, their future seems murky when one considers the 'frauds' on Cent. It raises questions about the authenticity of crypto art, its true value, resaleability and ownership.
But one has to first grapple with the thought that owning an NFT does not mean it can be prevented from duplication. For instance, a .jpeg file on the internet can be easily downloaded by millions even if it may be an NFT 'owned' by someone on the blockchain. This means unlike the Mona Lisa painting housed at Paris's The Louvre, which may have duplicates but none as perfect as the original, copies of these digital images most likely mirror the original artwork.
Therefore, the dark side of NFTs cannot be ignored even if one is a blockchain advocate who is sure that all of this is eventually coalescing as the Metaverse.

The NFT market is riddled with scams. In September 2021, a fake Banksy NFT titled Great Redistribution of the Climate Change Disaster was sold for over USD 300,000. Interestingly, the fake work was advertised as an auction on Banksy's website.
Furthermore, scammers and hackers are trying to lure unsuspecting enthusiasts through social chat apps, like Discord, using fake links that appear like opportunities to mint NFTs. They read and appear almost like click-bait phishing mails that were common in the early days of email. Not just Discord, phishing attempts can be made via Twitter and Instagram DMs, too.
Then there are bidding scams, which affect those who are selling NFTs. Malicious bidders can change the type of cryptocurrency listed as the preferred token with crypto that is lesser in value. This is done surreptitiously and leads to a loss for the seller when it goes unchecked.
In December 2021, a CryptoPunk NFT was sold for USD 532 million. In a way, it would have been a record sale in the art world, but it wasn't. Reports reveal a major issue in the transaction. The value of the NFT was actually pushed up by a single user who was both the buyer and seller.
This sort of trading is widespread in the NFT world because buyers and sellers can remain anonymous on the blockchain. The only thing public is the record, which is verifiable. The wallets involved in the transactions are known but the person or user behind the wallet remains hidden.The NFT market is riddled with scams. In September 2021, a fake Banksy NFT titled Great Redistribution of the Climate Change Disaster was sold for over USD 300,000. Interestingly, the fake work was advertised as an auction on Banksy's website.
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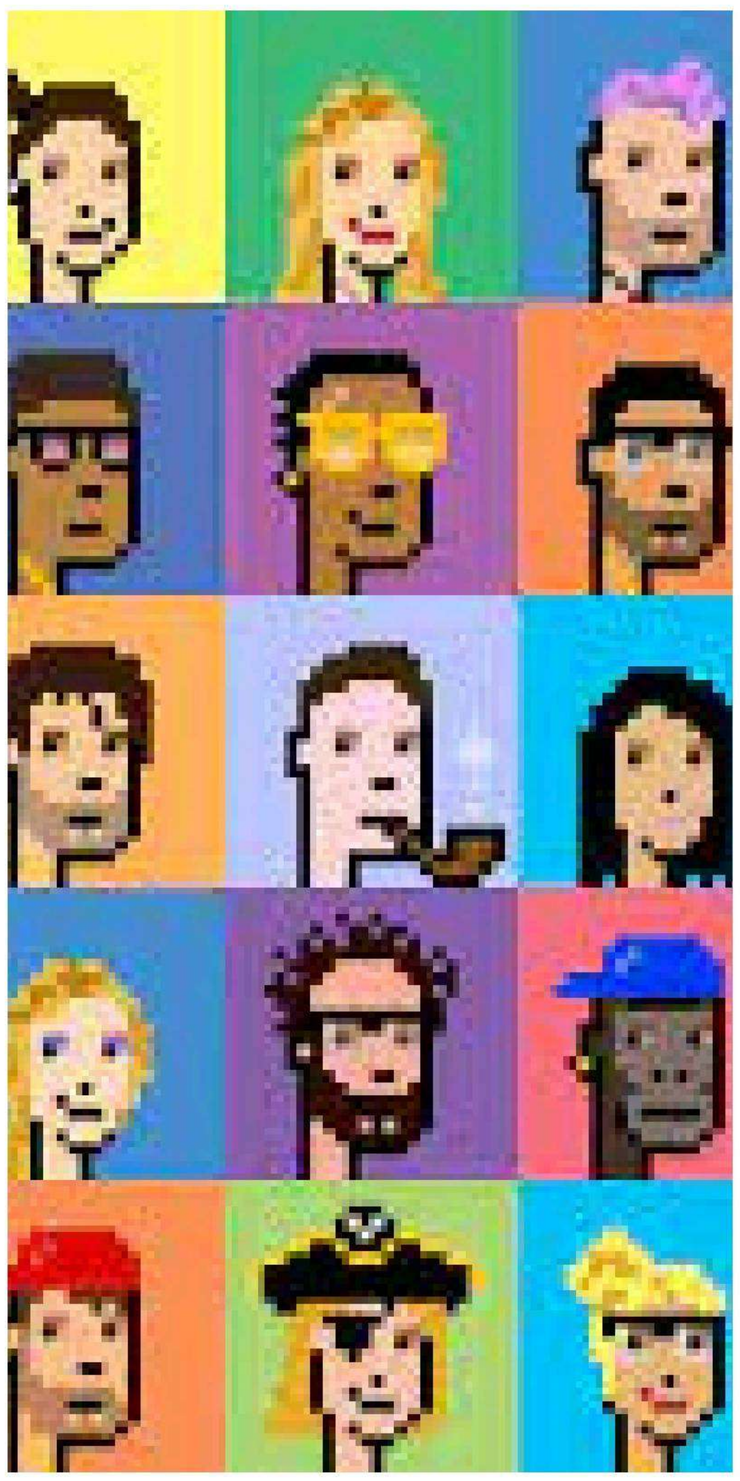
The fundamental difference between cryptocurrencies and NFTs is that the former is fungible. But like crypto, all NFTs exist on the blockchain — most of them on Ethereum. Therefore, like cryptocurrencies, the ownership of NFTs is stored on the blockchain, cannot be forged, and information is transparent. Additionally, NFT transactions, including gas (fees), involve cryptocurrency, no matter the marketplace. Simply put, the more the numbers and transactions involving NFTs, the more is the need for cryptocurrencies.

There is much more to the pitfalls of NFTs. As gaming platforms become more metaverse-centric, fears of scams on them are rapidly rising. One such concern has gripped Axie Infinity, a blockchain-based game created by Vietnamese studio Sky Mavis.

Simply put, it works on the concept of 'pay to earn'. Players use colourful digital creatures known as Axies to battle other players. The reward is called Smooth Love Potion (SLPs), which can be poured back into the game's virtual world Lunacia or exchanged for cash or crypto.



NFT'S : REVOLUTIONARY OR SCAM

Speaking to TIME magazine, macroeconomist and Web3 investor Tascha Che took on Olsen's arguments. In one of her excellent points, Che notes, "We're suspicious about new things in general if it disrupts our world view. There's an underlying fear of how it will become a disaster. You see this pattern happen repeatedly throughout history: with the industrial revolution and the digital revolution." Therefore, the current issues around NFTs might eventually get resolved and more investors might join in to make the concept of blockchain what it aims to attain.

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