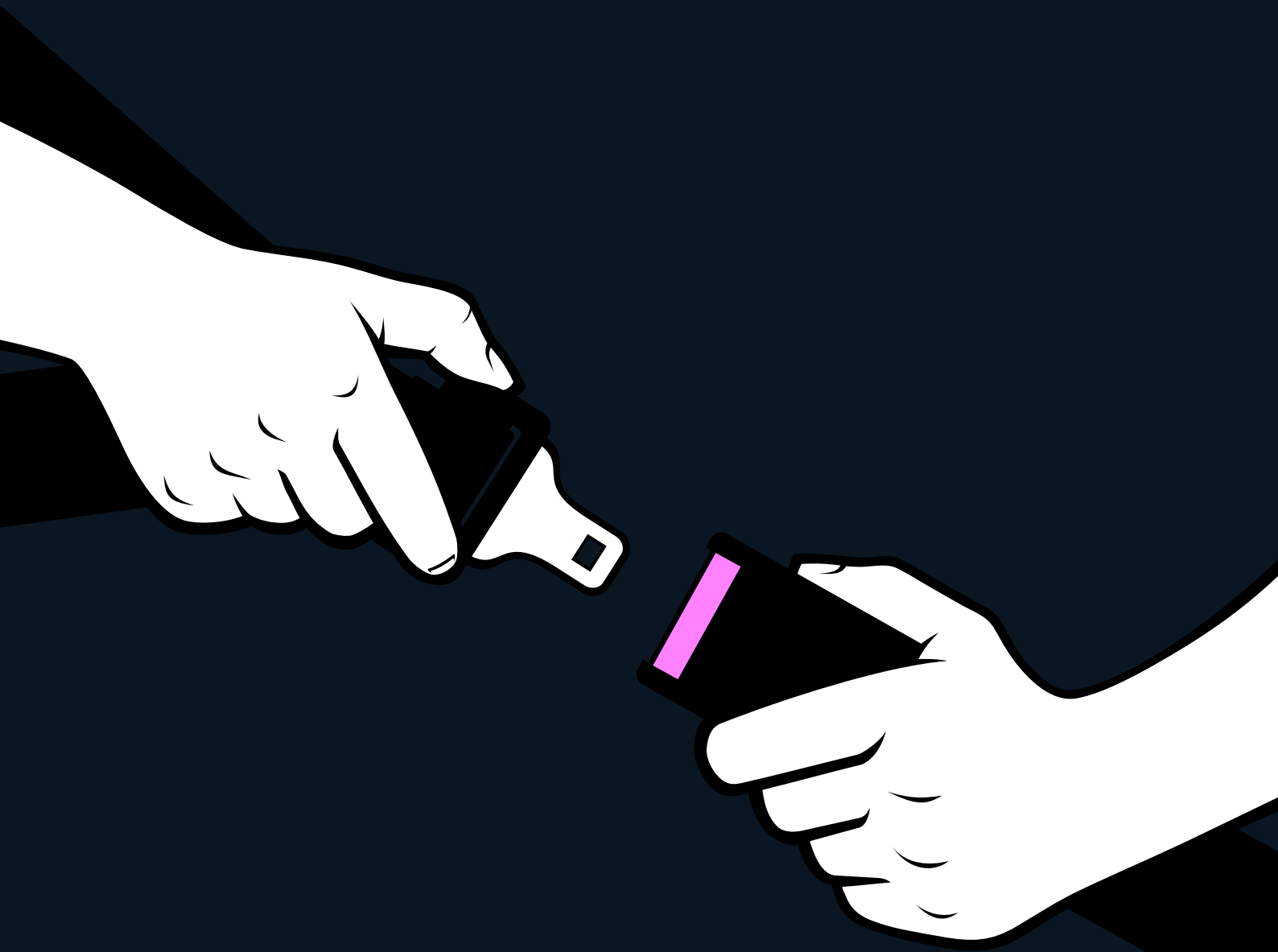
LifeHash®

THE LIFEHASH

Guide to Blockchain

STRAP YOURSELF

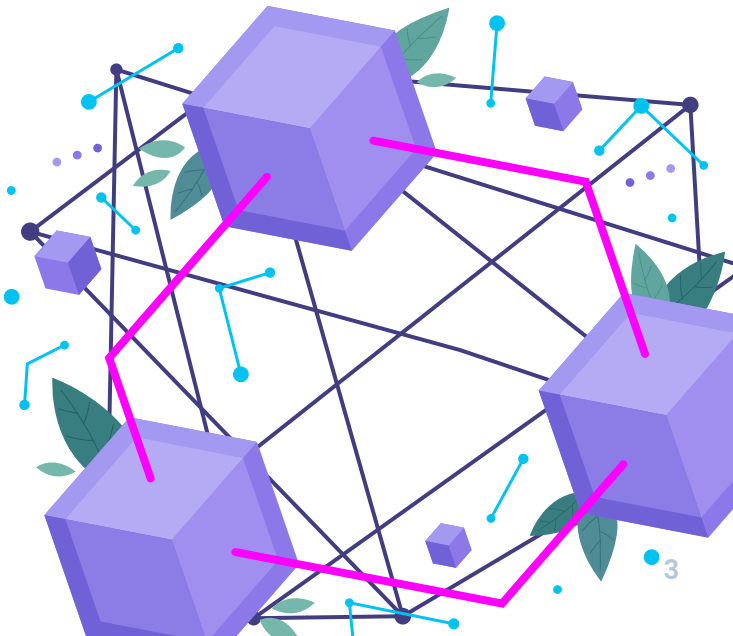
(strap yourself in, we're about to rundown some pretty complex tech in about 10mins flat)



Blockchain is most commonly associated with Bitcoin and other cryptocurrencies. While Bitcoin and other cryptocurrencies use blockchain technology to provide transactions, they can provide more than just financial records.

Blockchain records the process of transactions and the tracking of assets. The tracked asset can be a tangible asset, like a house, car, cash or land or an intangible asset, like intellectual property, patents and copyrights.

Ultimately, almost anything can be tracked and traded on a blockchain network.



But, How Does it Work...

Blockchain is a decentralised record of digital transactions distributed between many different computers. Unlike vulnerable conventional databases held on a centralised server, blockchain is decentralised, and no single entity controls it.

The records, or ledger, as it is known, is distributed between users who have access to one shared copy. And, because of this decentralised, distributed system, a majority consensus is required from the network to update the ledger.

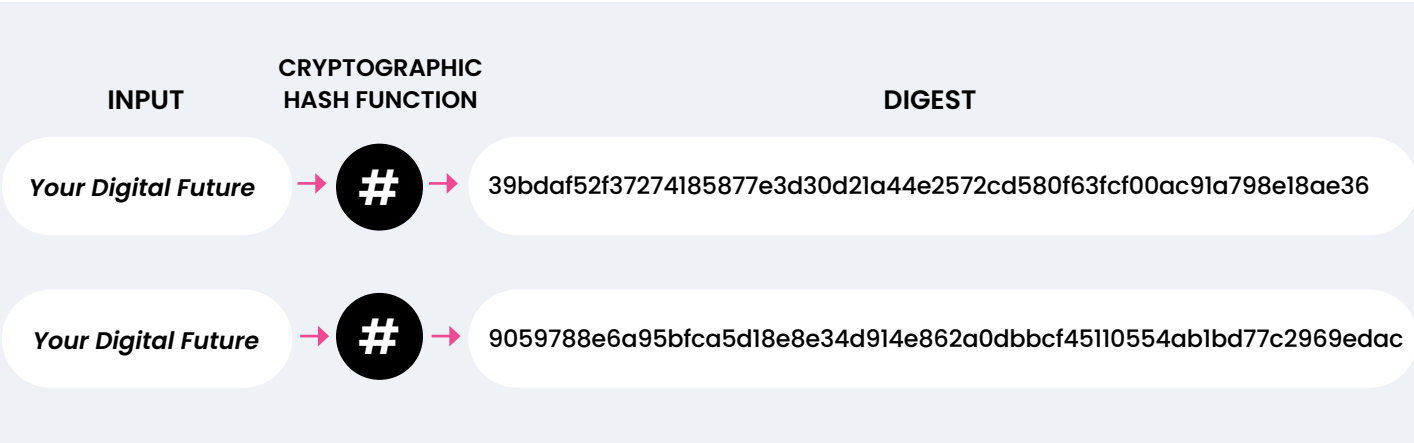
When discussing blockchain, three words are going to come up time and again;

- **Distributed** - utilising many computers worldwide that are owned by different entities.
- **Decentralised** - managed by public verification across the network.
- **Encrypted** - a process known as 'hashing' encrypts data sent to the blockchain.

Let's Talk About Encryption...

Before entering a blockchain, complicated mathematical algorithms convert information into a string of characters known as a hash. This process known as hashing ensures that encrypted data is virtually impossible to decrypt. And, a change of even a single point of data will produce a completely different hash value.

Look at the difference between the two hash values below when adding just a single letter 's' to the phrase, Your Digital Future!



So, Why Call It Blockchain?

The name blockchain originates from the fact that it stores transaction data in blocks.

A block is only open for a fixed amount of time, and once a block is full of transactions, a miner (more about them in a bit) verifies the block and closes it.

Part of the process of verifying a block is to attribute it with a timestamp. This timestamp, combined with the previous block's header, creates the new header.

The system of encrypted headers links each block in an unbreakable chain, hence the name blockchain.



You Could Describe it as... a Database with a Difference!

A traditional database is usually controlled either by an individual user or organisation on a private network. And, the data is stored in a single location, whether cloud storage, hard drive or another form of digital storage.

As you may have guessed, blockchain is the complete opposite of a traditional database. Blockchain is not controlled by a single user or organisation within a private network but is managed and verified by miners across a global network of individual computers or nodes.

Time for a few more definitions...

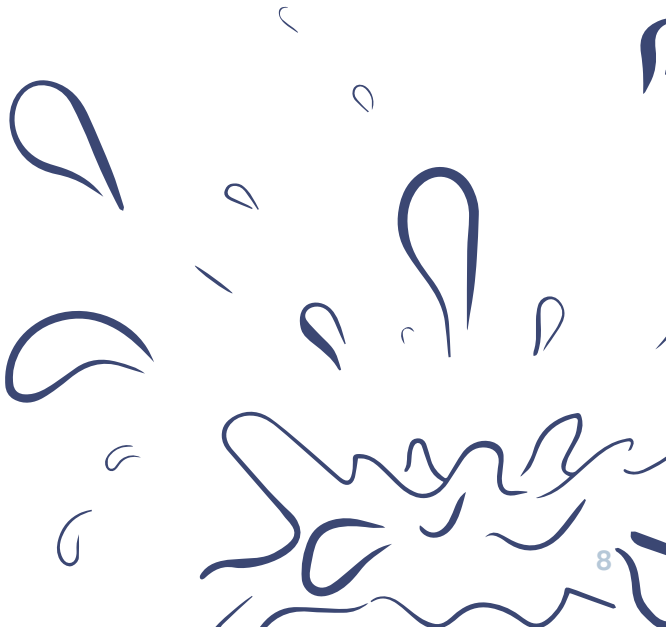
- **Block Explorer** - an online search facility used to view all transactions on a blockchain.
- **Miner** - Specific computing equipment run by people and responsible for validating transactions and adding them to the blockchain.
- **Node** - computers on the network used to receive, validate and execute transactions.

Clear as Mud so far, or Transparent like a Blockchain?

In today's murky world where seemingly ethical businesses are revealed as anything but, blockchain is like a glass of water from a mountain spring, crystal.

Blockchain records transactions across many computers in such a way that they can't be altered. The result is an audit trail of transactions with super high accuracy as it is nearly impossible to falsify data on the blockchain.

Add public access to this ledger through block explorers, and you have just about the most transparent system for recording data on the planet, or off the planet for that matter!



Security in Diversity

Blockchain is not a one-size-fits-all solution, and different measures are needed to cover all the bases. Here's a brief explanation of the different types of blockchain networks;

- **Public**

  Anyone can join and start using the network, the public ledger is accessible to all, and it's entirely decentralised.

- **Private**

  Invite-only and controlled by an institution or group, often used to manage the flow of financial transactions, contracts, medical records, and other sensitive information.

- **Permissioned**

  Members of the blockchain network are known and verified.

- **Consortium**

  Shared by a group of organisations, all of which can add blocks to the chain.

TIME TO RECAP

Time for a Recap before we Blast on to the Benefits

So far, we've covered the basics, but if they're not so basic and you need a quick refresher, here we go.

Blockchain, it's a chronological ledger of encrypted data shared across a distributed, decentralised (remember those words?) network, managed by users and accessible to everyone, with cryptography securing access and consensus creating certainty of the data you share.

And, finally, what you've been waiting for... a numbered list.



The Top 5 Benefits of Blockchain!

Blockchain is already being used across the globe in various applications as industries realise the benefits of the revolutionary technology. Here we look at some of the many benefits of blockchain.

01 Trust

Without total trust in the security, accuracy and provenance of your data, you are vulnerable on all sides. The simple fact that blockchain provides an immutable record of transparent, timestamped transactions between users builds trust and allows you to pursue excellence with confidence.

02 Connection

At a time when global communities are becoming more connected, a universal ecosystem to exchange secure data is needed. Enter blockchain, the ability for information to be verified without the need for a central authority, on a publicly accessible database, means data can be shared in real-time across industries, and everybody gets a copy.

03 Security

A transparent, distributed, decentralised network where all participants agree to the validity of each record without a centralised party. Where all records are individually encrypted, timestamped and linked in a fixed chain of data blocks. Where users can remain anonymous and only need a public key, all results in blockchain being virtually impossible for anyone to hack.

04 Smart Contracts

When speed is of the essence and bureaucracy is slowing you down, smart contracts are your saviour. A computer protocol that can verify, enforce, or negotiate a contract when predetermined conditions are fulfilled effectively streamlines business processes. On or Off-chain, the full potential of smart contracts is expanding every day.

05 Future Proof

The arrival of the Internet of Things (IoT) has created volumes of data that are becoming increasingly hard to verify.
This is slowing operations and decreasing productivity for businesses, which are already being forced to sit on their unused reserves. Blockchain is rapidly scalable and capable of processing the high volumes of data that IoT creates.

Like to see real-world examples? Have a look at Insurance...

What's the Problem...

The insurance industry has been having a rough time over recent years, and the pandemic has only magnified the situation.

Age-old problems such as fraud and customer satisfaction are still present while data security breaches are on the increase and complex issues with business interruption policies erode trust. It is little wonder that Insurtech is on the rise as the industry seeks solutions through technology.

...and Our Solution

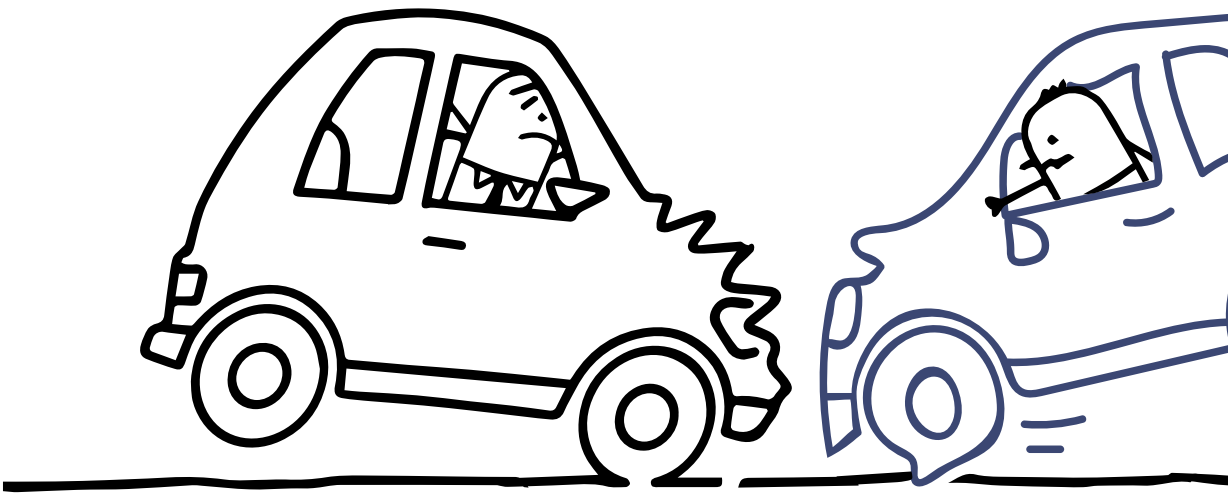
LifeHash uses mobile and web app technology combined with established blockchain from Bitcoin and DigiByte to capture property and casualty claim reports, medical reports, multimedia, emails, etc. and secure them at source.

For Example...

At the scene of a car crash, the claimant with a LifeHash enabled insurer can open their mobile app and begin the process of recording the details of the incident immediately.

Our easy to follow guide developed in consultation with internationally accredited police officers provides a step by step process to gather the best evidence.

Personal information, locations, environmental conditions, vehicle damage, and more, all captured using multimedia and secured digitally to a blockchain at the scene.



Here comes the best bit...

The Results

Let's roll with the above example and look at the customer benefits as they happen.

- **Convenient claims app,** customers demand mobile technology for ease of use. In this instance, it also comes with the reassurance of expert guidance.
- **Faster reporting,** the need to go home and report a crash, and risk losing evidence, is over.
- **Accurate claims reports,** remove the room for mistakes by instantly securing data to the blockchain at the scene.
- **Direct communication platform**, customers can see the progress and details of their claim on their mobile device.
- **Swift resolution**, with the entire claims process optimised, ultimately the customer gets reimbursed quicker.

Rewind to the problem...

'age-old problems such as **fraud** and **customer satisfaction** are still present while **data security** breaches are on the increase and complex issues with business interruption policies erode **trust**'

...Fast-forward to the future

- **Fraud** - drastically reduced through accurate, immutable, multimedia data secured at the scene through registered devices linked to verified users.
- **Customer Satisfaction** - on the up, with a convenient claims app enabling faster, easier reporting, along with enhanced communication and a swifter resolution.
- **Data Security** - rock-solid, blockchain provides the most protected means of securing data. Plus with less data to secure due to the way blockchain works, the risk is diminished even further.
- **Trust** - from both sides, not only provided by transparent, accurate data but from reduced investigations and swift resolutions.

With reduced costs from streamlined claims, a win in the fight against fraud, customers loyal to your brand and accurate data at your fingertips, the future's looking bright.

To Wrap Up, LifeHash Explained in 2 Minutes

Did we mention that we use established blockchain from Bitcoin and DigiByte? Well, there is a good reason for this...

Bitcoin is the original, world-first, decentralised peer-to-peer global payment network. As the original and longest-living decentralised transaction network, Bitcoin enjoys, by far, the most outstanding security and integrity of all blockchains due to the enormous hashing power of its global network. So, we chose it as the foundation for our technology simply because its unmatched level of security provides what we need exactly when it comes to delivering immutable data.

Yet, while Bitcoin offers the best-of-class security, DigiByte offers increased transaction speed and smart contract capabilities.

DigiByte enjoys a broad network of more than 200,000 downloaded nodes worldwide and tens of thousands of active nodes. This network enables DigiByte to create blocks every 15 seconds, 40x faster than Bitcoin, making it especially suitable for applications requiring fast transaction times. The DigiByte network has a long history of security-focused innovation whilst at the same time ensuring scalability. When speed and scalability are of the essence, DigiByte is your answer.

Here comes the rocket science...

The Interplanetary File System (IPFS) is a peer-to-peer (p2p) system for storing and accessing files, websites, applications, and data. Created in an attempt to address the deficiencies of a primarily centralised internet and current data storage, IPFS uses a novel p2p file-sharing system to decentralise both. We firmly believe that it is a solution that can change the way information is shared worldwide and assist in the fight to repatriate data.

A very brief summary of the benefits

- **Resilience** - If traditional servers become unoperational, you're content can not be served. IPFS allows your content to always be available.
- **Freedom** - Censorship by third parties is much more difficult due to IPFS decentralisation.
- **Security** - With a distributed network, there is no single point of attack, making it harder to compromise.

Your Digital Future

At LifeHash, we believe there is a real global need to take back data control from big tech and empower the public with data ownership.

This realisation forms the building blocks for LifeHash and fuels our research into alternative ways of utilising blockchain to shape a more transparent digital future.

We are focused on developing platforms to allow industries to reach another level of technological advancement, whether by streamlining processes through eradication of corruption in data handling or enabling them to provide absolute provenance of their product.

We understand the technology, and you understand your industry, let's work together and use blockchain to create solutions.

We hope you have found this article helpful and are looking forward to discussing your needs.