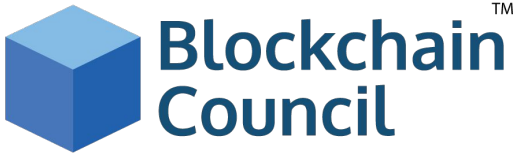
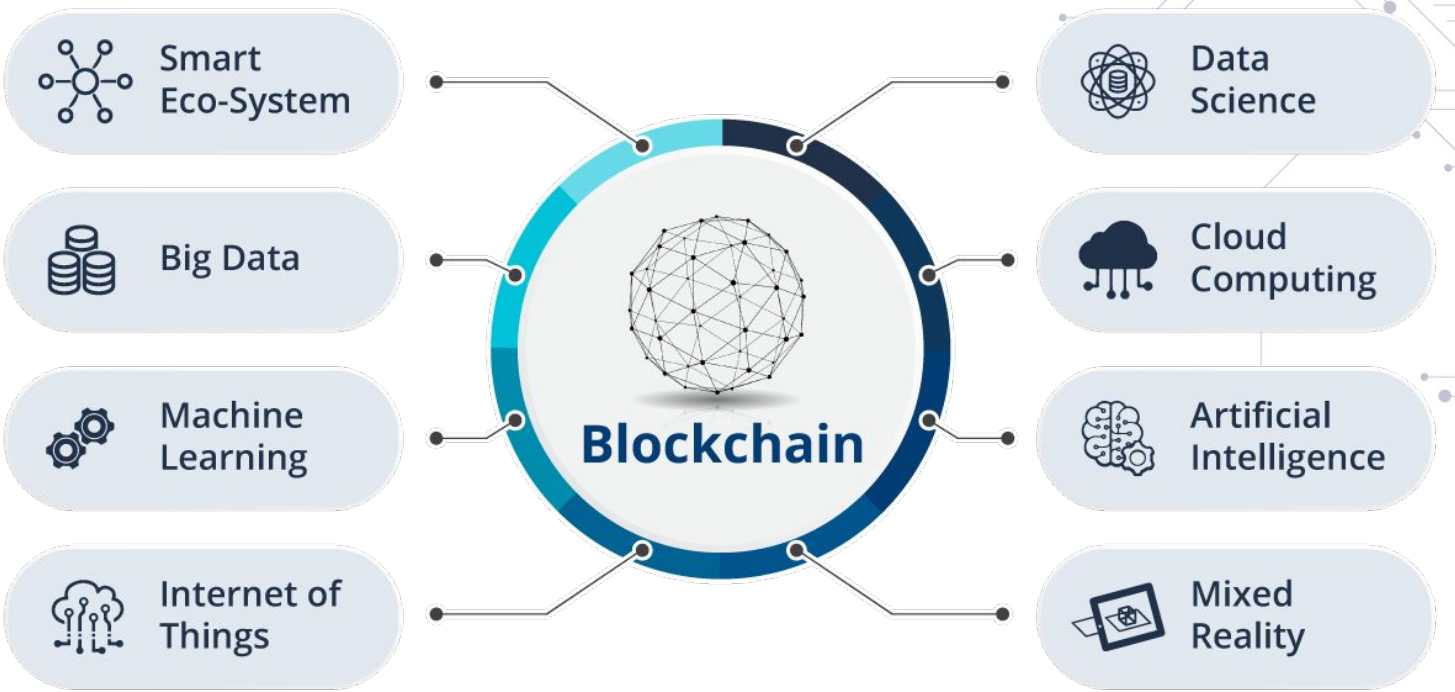


Certified Blockchain Architect

Additional Technologies Supporting Blockchain

Supported Technologies



Smart Ecosystem

These technologies can be used to make cities more efficient, transparent, secure, and more resilient. A few ways that blockchain could be used in smart ecosystem:

- **Smart Payments** – Facilitate all municipal payments on a blockchain based solution, including: city programs, assistance, welfare, payroll, etc.
- **Identity** – Decentralised Identity Management systems use blockchain to provide a secure mechanism for storing and validating identities, thereby reducing identity thefts and related frauds.
- **Transportation Management** – Use of blockchain to remove the rent-seekers in the ridesharing economy (Uber, etc.). This enables a truly p2p platform for transportation.
- **Smart Energy** – Create a more resilient power grid by using a blockchain powered p2p energy market. This removes sent seeking middle men and allows individuals to create, buy, sell, and trade energy while retaining value.
- **Government Services** – Smart contracts can be used for digitising citizen rights, transparent voting, tax, track ownership of assets, remove paper, and automate bureaucratic processes.
- **Waste management** – Improve efficiencies surrounded the entire waste management process by using IoT sensors and AI prediction modeling.

Big Data

Using blockchain adds another data layer to the Big Data analytics process. Most importantly, this data layer complies with 2 main demands of the Big Data analysis:

- Blockchain-generated Big Data is **secure**, as it cannot be forged due to the network architecture.
- Blockchain-based Big Data is **valuable,** meaning it is structured, abundant and complete, making it a perfect source for further analysis.

The data in the ledger can relate to energy trading, real estate and a variety of other domains.

Machine Learning

Machine Learning can be a game changer when used with Blockchain for the finance and insurance industries as it could be used as a tool to identify fraud. It can also benefit other industries far beyond finance and insurance because of a shared ledger system with two patterns of ML use cases:

- Model chains that address the whole chain or a segment;
- Silo ML and predictive models to address a specific segment of the chain.

The predictive model or silo ML isn't any different from what we currently do with available data. However, model chains are far more complex and should be able to quickly learn and adapt given the chain dependence.

Internet of Things

Some of the key benefits of using IoT with Blockchain are:

- Build trust between parties and devices.
- Reduce risk of collusion and tampering.
- Reduces cost by removing overheads associated with middlemen and intermediaries.
- Reduce settlement time from days to instantaneous.
- Enable Data security and protection with Blockchain.
- It will also enable autonomous decisions for devices, which will lead to efficient and timely results.

Data Science

Data science and Data analytics could easily plugin with Blockchain and provide numerous benefits:

- Fostering Data Traceability.
- Real-time analysis.
- Generating Trust.
- Data Sharing
- Data Integrity

Cloud Computing

Everybody takes Blockchain as a competitor for the cloud computing, but Blockchain together with cloud computing can do wonders. With the blockchain technology, cloud computing can be decentralised. Apart from reducing costs, the decentralisation also ensures efficiency while eliminating the risk of data breaches.

For example:

- Conduit: a platform founded by MIT trained Engineers seeks to gather unused computational capacity from various devices and share it with those who need it to run heavy computer applications.
- Leonardo Render: A project working on a solution that enables users to render their creative processes using external GPUs instead of personal GPUs or the cloud-based ones.

Artificial Intelligence

The potential of combining Artificial Intelligence with Blockchain is huge. It offers various advantages:

- The encryption provided by the Blockchain for storing information can easily benefit AI.
- Blockchains can help, track and understand decisions made by AI.
- AI can offer to manage Blockchain more efficiently, with intelligence.

DeepBrain Chain is one of the company working on creating collaboration between AI and Blockchain.

Mixed Reality

Decentralized nature of blockchain and use of cryptocurrency will power true virtual economies. For example, in online gaming, blockchain-based transactions can eliminate the need for a central hub or in-game store. Players can establish an online economy on their own terms. Thus a regular massively multiplayer game transforms from a managed gaming service to a complex virtual world.

How about VR? Existing VR games are not online or multiplayer. Playing a VR game seems like a lonely experience. A combination of the immersive quality of VR with the social experience of MMO gaming and cryptocurrency in-game purchases might create an exciting virtual analogue to the communities of the physical world.

The combination of AR/VR and blockchain capabilities could lead to a restructuring of offline economies, creation of new virtual economies, and the redesign of aspects of daily life presumed “natural” (i.e.: work, shopping, or leisure).

THANK YOU!

Any questions?

You can mail us at

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