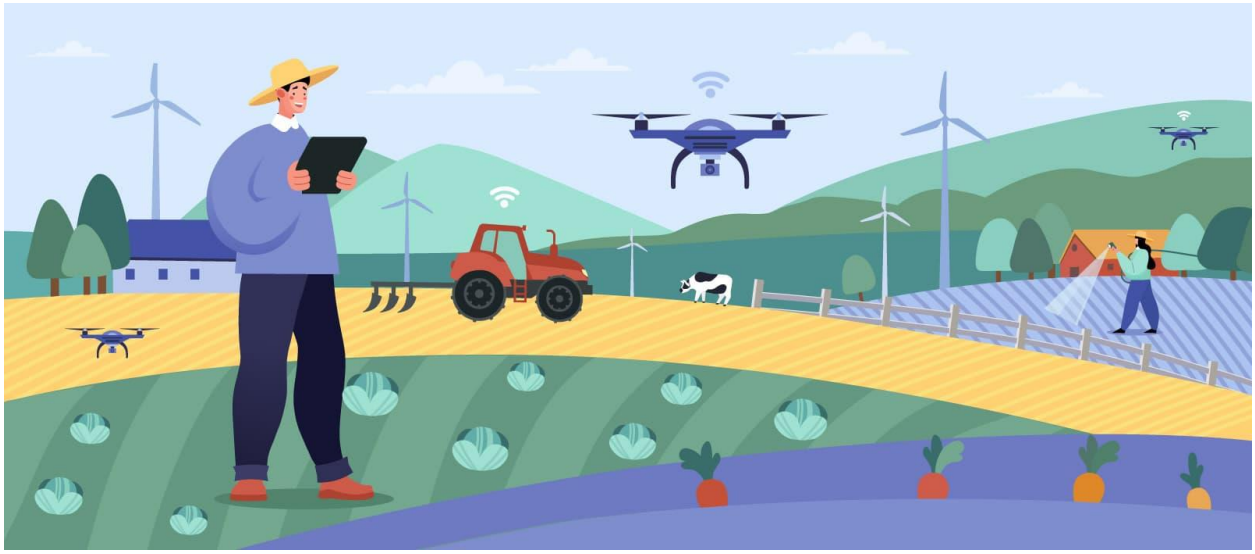
BUSINESS REQUIREMENTS

Blockchain in Agriculture:

- **Agriculture has always played a vital role in the promotion of life and wellbeing across the globe.**
- **But it is in dire need of innovations.**
- **One technology is ready to offer new methods of work and interaction between producers and consumers and solve many industry problemsblockchain.**



- Blockchain has been a buzzword since the inception of bitcoin, but when it comes to embedding this technology in enterprises, cryptocurrency is not what businesses are looking for.

- It is blockchain technology itself that matters. This innovation is currently transforming many industries, including agriculture.
- Agricultural trends are directly related to what is happening to the world's population, namely continuous population growth, urbanization, and globalization.
- As of January 2021, there are 7.8 billion people in the world.
- The World Bank estimates that the number will continue to grow, reaching 9.7 billion by 2050 and 11.2 billion by 2100.
- You don't need to be an expert to understand that with such numbers of people, the demand for food will also increase significantly.
- Since this sector is so crucial to global prosperity and must adapt to a myriad of challenges over time, blockchain supporters have begun to introduce this technology into agriculture.
- But is it really a big leap forward or merely the senseless digging of an already sown field? Let's figure it out!

Using blockchain for agriculture: potential benefits

- While blockchain technology has gained popularity, mainly due to its invasion of the financial sector, even its basic characteristics and capabilities can greatly transform other industries, including agriculture.

- **Transparency and trust:**
  - Most businesses are accustomed to trusting authority or seeking services from third parties.
  - Blockchain is changing these habits: peer-to-peer architecture, cryptography, and mandatory verification of identity and transactions now ensure trust amongst participants in the network.
  - Customers also trust retailers and farmers more when they know where their food came from, how it was delivered, and how it got to a given supermarket.
  - They can receive all this information through blockchain-based applications.

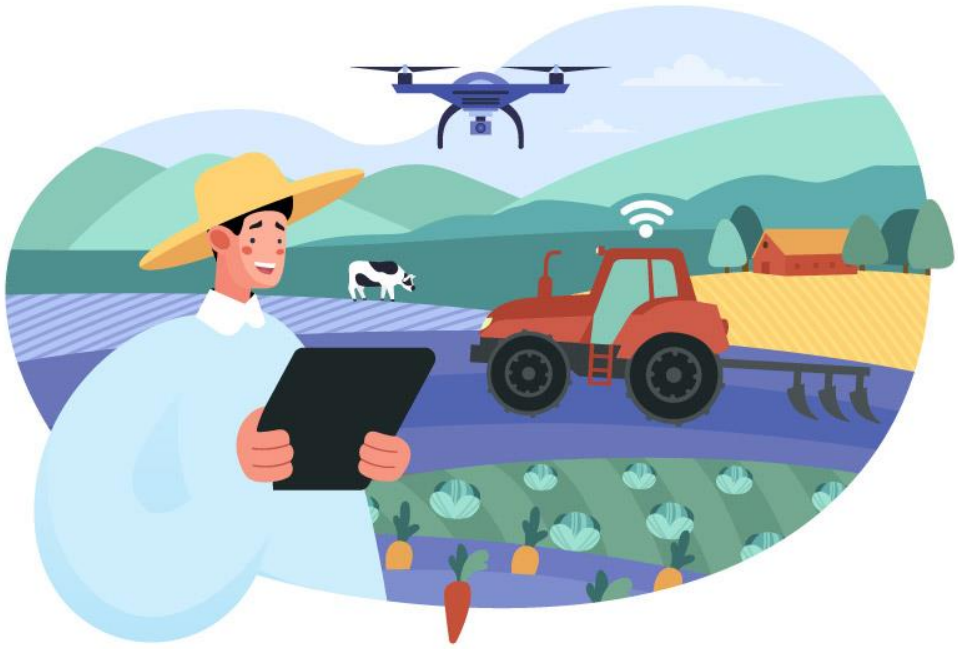
- **Intermediaries? No, thanks.**
  - By utilizing blockchain, the need for a large number of intermediaries is significantly reduced.
  - Banks, notaries, and many third-party sites are no longer necessary, so you can save money.

- **Once on the blockchain, always on the blockchain:**
  - Every piece of information added to the blockchain is immutable and time-stamped.
  - Taking into account that it's validated by multiple network participants, you can always be sure that the data is legitimate.
- **Fraud and malfunction detection:**
  - Blockchain doesn't completely exclude the possibility of fraud, but it can help to seriously reduce risks.
  - Take supply chains, for example. Since all stages of the supply chain can be tracked through the blockchain and the information is immutable, such an application becomes very difficult to manipulate.
- **Enhancing food quality and safety:**
  - The agri-food system is extremely large and complex.
  - It needs to be simplified and improved not only for farmers, suppliers and retailers but also for the end consumer, as their health heavily depends on what products they buy.
  - Using blockchain-based platforms, supply chain participants can report emerging issues in real time.

- If a foodborne disease outbreak still occurs, retailers can determine where the contaminated food came from in a matter of seconds.
- This helps to implement quick food recalls and thereby save the health and even the lives of buyers.

Building smart agriculture with blockchain:

- Smart agriculture means the wise use of natural resources and the reduction of environmental impact through the implementation of ICTs, blockchain, IoT, and other modern technologies for collecting and analyzing data.
- Traditional systems with centralized control are often vulnerable to data corruption, as the authority running the system can be biased and seek to achieve certain results by inputting the wrong information.
- Such platforms are also often subject to cyber attacks.



Addressing challenges:

- In the case of blockchain technology, all data stored in blocks is transparent for each participant involved in the process.
- In addition, all information is verified and remains unchanged after being added to the blockchain. There is simply no “edit” option here.
- Blockchain helps to collect data at all stages of crop and food production.
- Through decentralization and encryption, blockchain technology ensures the security of the entire system.

The future of blockchain technology in agriculture:

- In the future, we will certainly see the interdependent growth of the following three phenomena.
- It all starts with *global population growth*, then leads to an *increase in demand for food*, and this, in turn, requires innovation.
- One of the most promising solutions to this problem is *blockchain technology*.
- Agricultural blockchain solutions can address many important industry challenges such as food tracking, food quality and safety, monitoring and weather forecasting.

- Blockchain helps improve the efficiency, transparency and accountability of the food supply chain and enhance trust between network participants.
- Consumer confidence increases as well, since with blockchain technology they get access to all the data about the products they buy.
- In this way, blockchain is able to make agriculture more efficient, profitable, and secure.
- However, every business has its own goals and needs, so developing a custom platform that fits all the requirements perfectly is a challenging task.
- If you have ideas about your own agriculture blockchain-powered app, make sure to find a professional blockchain development team that will translate your plans into a real solution.