

PROJECT

## Blockchain based traceability system

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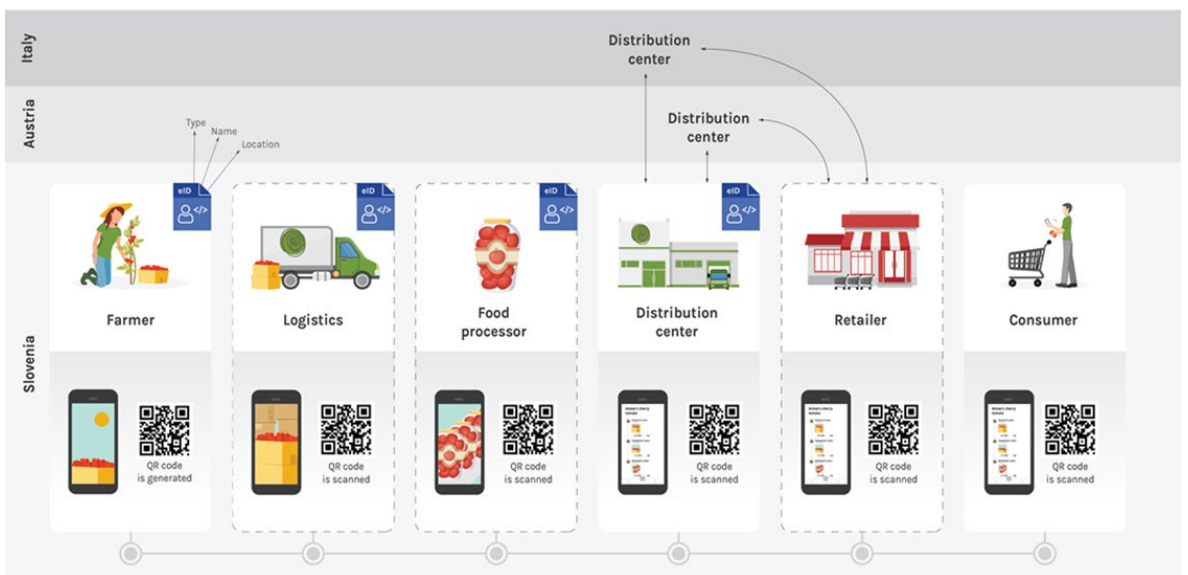
### Challenges in food supply chains

Food supply chains are dealing with increasing food fraud challenges and consumer trust and their interest in knowing more about the food they eat. Traceability can ensure a product's follow-up through each stage of its life cycle and provides consumers more visibility and guarantees on the items they buy.

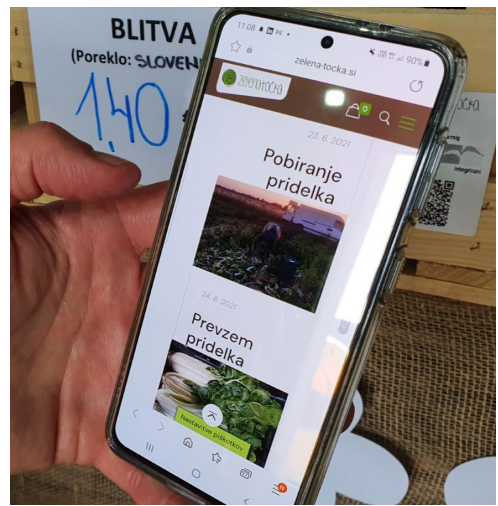
Blockchain (BC) is a digital distributed ledger where data is saved into blocks linked together with cryptographic technologies.

### Blockchain based traceability system

In BC technology, transactions can be written to the BC to create permanent and immutable records, protected against subsequent manipulations. Each supply chain actor writes relevant data about the products in the chain of blocks. The producer receives a digital identity and enters the farm and field production data. Processing actors provide information about their entity, equipment, processing methods, and batch number. The distribution actor provides shipping details, storage conditions, and time in transit. As the producer or processing actor prepares the digital delivery docs, the retailer accepts the product by scanning the QR code, which signs the transaction and directly transfers the data to the store business management system.

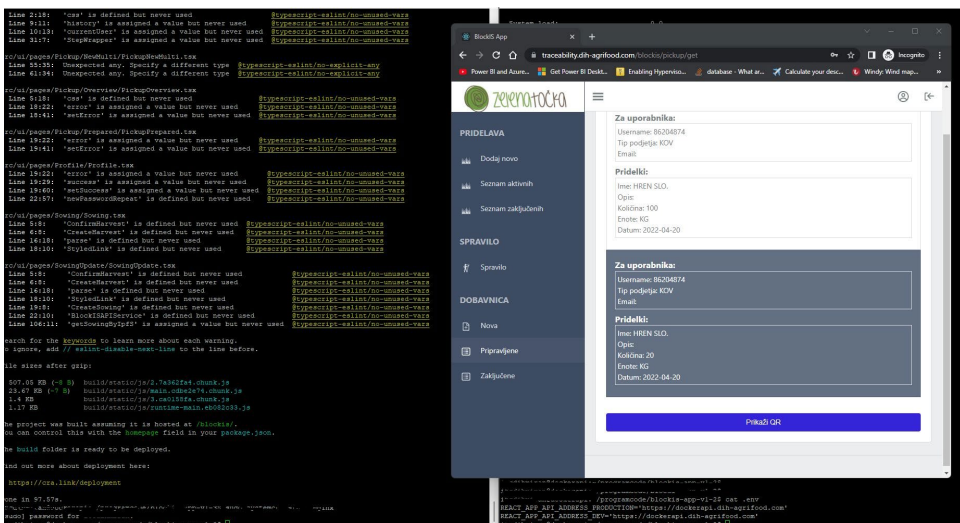


At the final stage, the mobile device enables the consumer to scan the product QR code and review the food traceability record on a screen.



## Interfaces and user interaction

The User interface is designed with a focus on end-users (farmers) and consumers who all mainly use mobile phones, but there is also a management part mainly used on desktop devices by store employees.



## Conclusion

Blockchain can provide an efficient solution to the urgent need for improved food traceability and increase safety and transparency.

