

Food supply chains suffer from waste, fraud/counterfeiting, and slow recalls. A major reason is that information is often exchanged via manual or siloed systems, making it hard to (1) share the right data, (2) trust the data you receive, and (3) reconstruct a verifiable trace of who knew what, and when.

The demonstrator we are developing is a platform that enables controlled, permission-based data sharing using Solid protocols (i.e., who shares data with whom), strengthened by data integrity verification and traceability through blockchain-based anchoring.

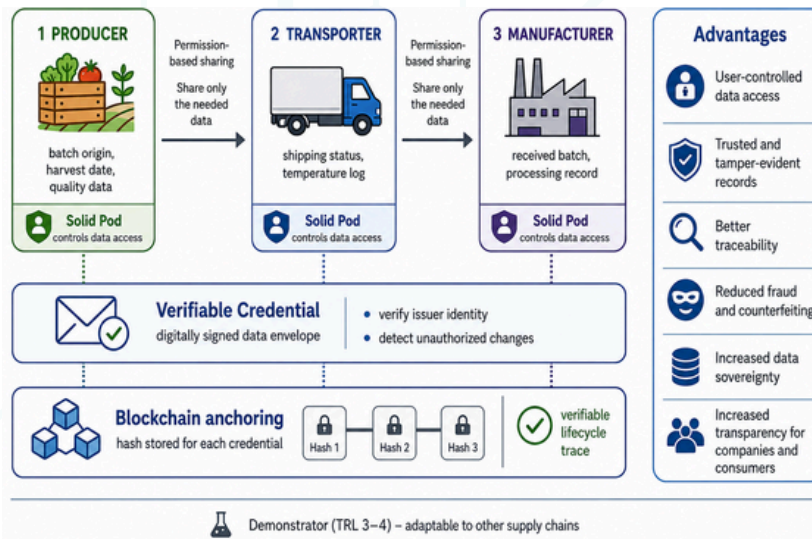
This demonstrator (TRL3-4) can be used in food industry quality systems to improve traceability, respond to transparency demands from clients and consumers, and avoid problems such as data loss or tampering, and slow batch recalls.

Each supply chain actor (producer, transporter, manufacturer, etc.) has a Solid Pod, i.e., “a personal data store” in which data-sharing rules can be specified precisely and solely by the user. Crucially, the user can decide who gets access to what data (for example, sharing product details with a packager but not with a transporter). In parallel, the data is shared as digitally signed “envelopes”, technically known as Verifiable Credentials, that enable detecting unauthorized changes and verifying the issuer’s identity. In addition, blockchain provides a second layer of protection by storing a hash for each envelope and, thereby, supporting verifiable reconstruction of a product’s lifecycle.

While the demonstrator is directly applied in the food domain, it can be generalized to any supply chain domain or any other scenario requiring trustworthy data sharing in decentralized environments.

Trusted data sharing in the Food Supply Chain

Secure, flexible and tamper-proof data sharing between stakeholders



Solid is a decentralized data-sharing framework that enables individuals to control their personal data by separating data storage (Solid Pods) from data use and applications.

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