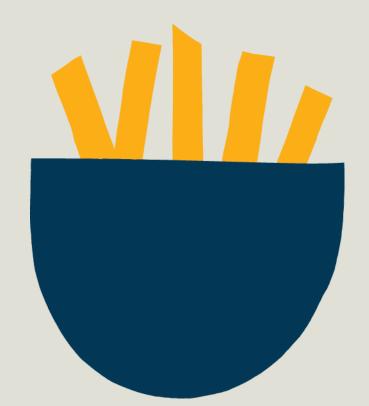


Conditioned Goods: temperature tracking with connected sensors

June 2022, Maxime Bouillon







Maxime Bouillon

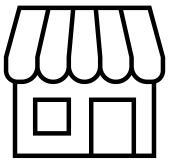
- Industrial system engineer, 3 years @Faurecia
- A 3 years of ZZP, social entrepreneur
- Researcher & teacher @Windesheim since 2020
- Ecology, supply chain, emerging techs

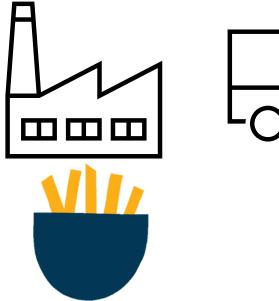
Picture a cold chain

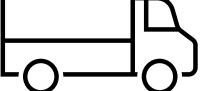














Who are we?











blockchain europe.nrw





Your logistic partner



InnoTractor

Research questions



What is the value of real time data for the stakeholders in the process studied ?

Can blockchain help LambWeston to manage their data between pre-frying & storage?

What further process optimization can be achieved next?

Current situation



A producer, a transport, a cold storage (3PL)

About temperature logging and recording

Normally processed manually via thermometer & recorded by hand

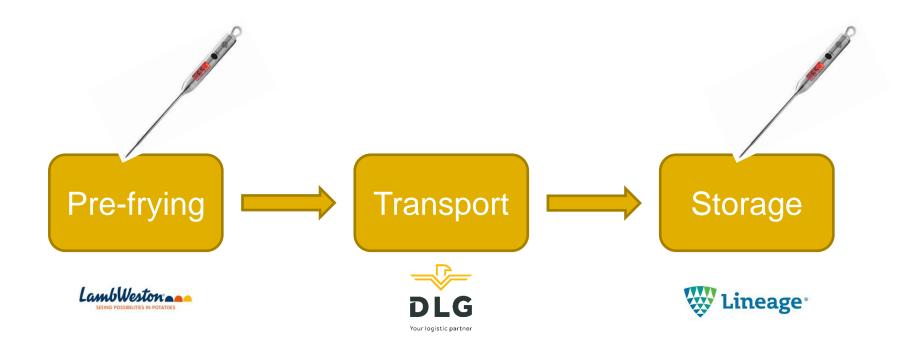
Leading to inaccuracies in processes and wastes

Current situation







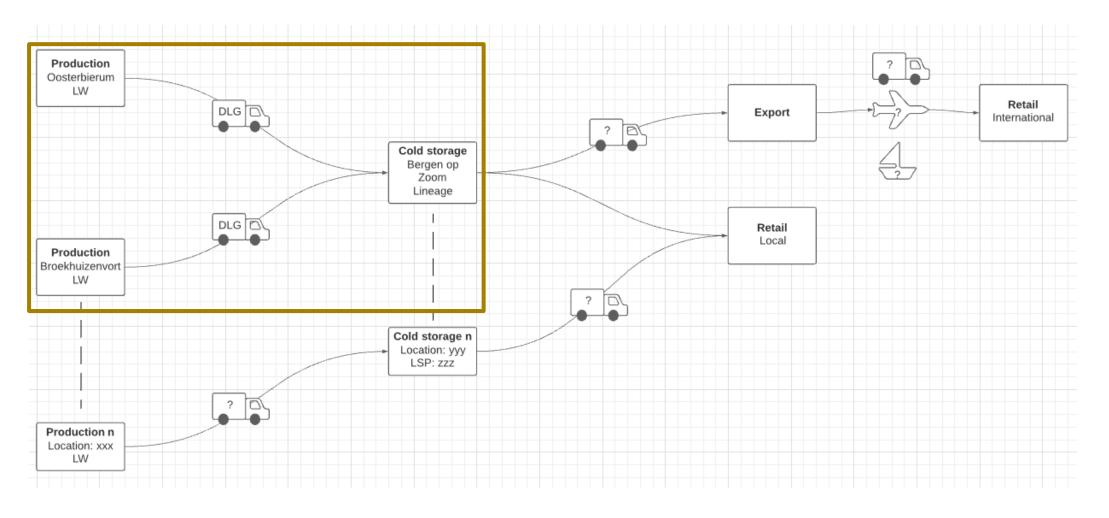


Current situation









Envisioned solution

Not a big problem (yet)

Expansion of the chain soon (multi modal & stakeholders)

There is a potential for a better temperature management (a.k.a. energy saving)

A tool to get insight on temperature, facilitate dispute management and enable process improvement

W Lineage

DLG





SEEING POSSIBILITIES IN POTATOES



Feasibility study

Sensor experiment

Blockchain-based web application

Work done during use case



Lineage DLG



Both sensors attached inside a box

LambWeston

Both sensors attached outside a box

Sensor placed inside the box with fries Attached to pallet





Both sensors attached outside a box



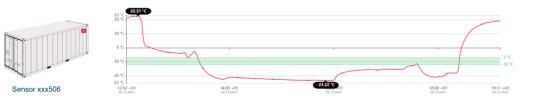


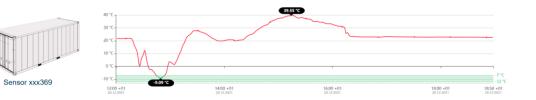




Both sensors attached outside a box One inside the reefer, the other in the driver's cabin

LambWeston



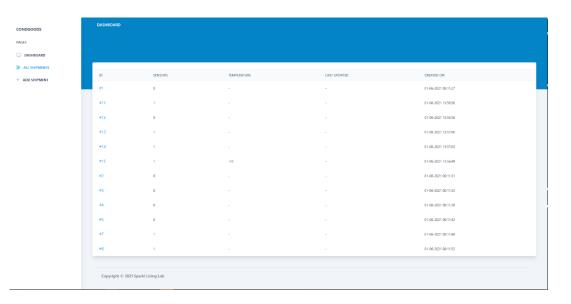


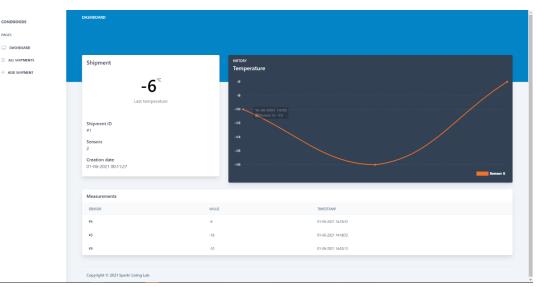
Work done during use case

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	Copyright © 2021 Sparki Living Lab

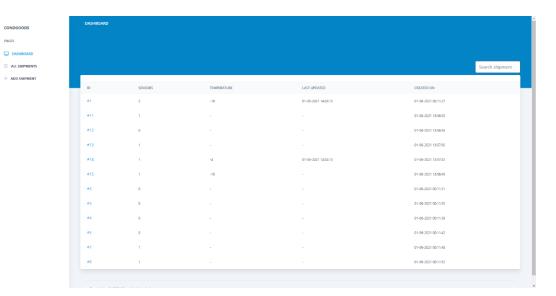
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DLG

SEEING POSSIBILITIES IN POTATOES



Hurdles & benefits



Hurdles

- Sensor testing and operationalization
- Multi-stakeholder coordination
- Picking and adapting the best blockchain environment
- Combining sensors & blockchain

Benefits

- Give a controlled access to information
- Receives data from smart sensors
- Facilitates disputes
- Enables process improvement with weaknesses highlighted
- Better energy management

What's next?



Gathering learnings in a one-pager

Closing consortium in July

Currently in discussion to expend work on sensors with Lamb Weston