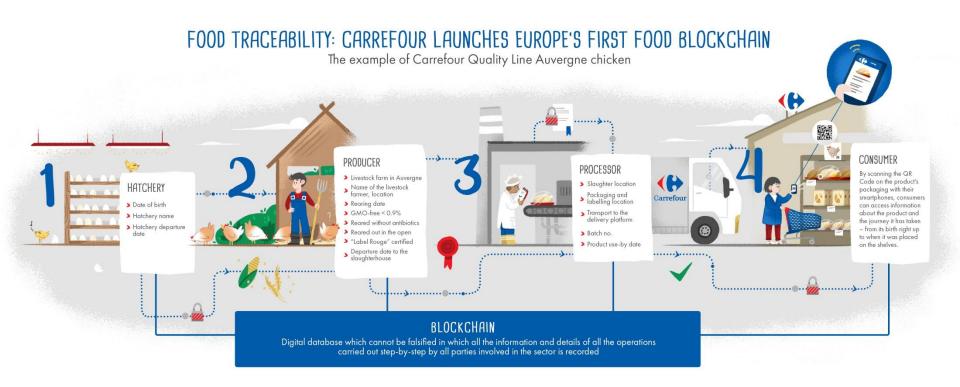


From trust to truth: leveraging blockchain technology for food traceability

Carrefour France

Emmanuel Delerm – blockchain program director

Europe's First Food Blockchain: Carrefour Quality Line Chicken







Data published for the consumer: CQL Chicken

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C (Informations sur votre produit (Informations sur votre produit Informations sur votre produit AXEREAL Poulet fermier **ELEVAGE ALIMENTATION** En savoir d'Auvergne jaune filière du 02/10/2017 au qualité Carrefour 03/01/2018 Nourri sans OGM (<0,9%) A consommer jusqu'au: aux céréales et soja Par: 13/01/2018 français (100% de Thibault D'AUBIGNY végétaux, minéraux et A conserver au froid Lieu: vitamines dont 75% de iusau'à 4°C VILLEBRET céréales minimum) selon 3 A cuire à coeur types de menus Elevage: alimentaires. Fermier, en plein air, label rouge certifié par Certipaq Arrivé Auvergne Sans traitements **ABATTAGE** En savoir antibiotiques **INCUBATION** le 03/01/2018 né le 02/10/2017 D'Aubigny Thibault ... Abattoir: Couvoir: ACCOUVAGE Arrivé Auvergne dans le Couvoir De Bourgogne respect des normes d'hygiène et de l'animal Départ du couvoir : le 02/10/2017 Lieu:

Shelf life & Hatchery informations

Breeding informations

Feeding and slaughtering informations



A french retailer launching the 1st food blockchain in Europe









- retail pioneer
- 12 000 stores
- 13 millions customers each day
- engaged in « food transition for all »

- « quality line » products
- strong partnership with the stakeholders
- knowledge of the field for 25 years

- ' + ' product
- joint engagement
- communication to customers, media & employees



The quality line chicken « blockchained » is a *première*, in the scope of our vision 'Food transition for all'

Transformation plan Carrefour 2022: 4 strategic pillars among which:

Redesign food offering to serve food quality



on food transition:

'Tomorrow, Carrefour will spearhead the Food Transition for All. → It's the challenge that we will need to face in this 21st century.'

on blockchain:

'By 2018, the BlockChain system should be present in all Carrefour subsidiaries, they should lead by example in terms of traceability.'

• on the 2017' experimentation:

'We are now testing out an application of this technology on our bird-raising sustainability. Which we means that we can trace the entire journey of a chicken from the hatchery from its inclusion in our stores, going through breeding, feeding, care and indeed slaughtering.'



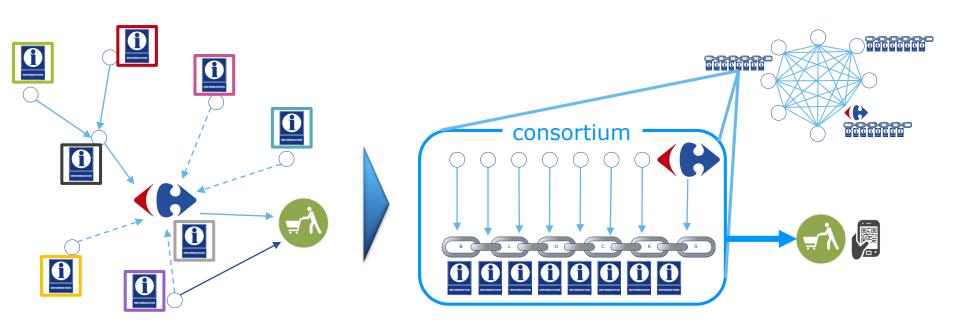
What's interesting with blockchain tech?



- One distributed and shared ledger for all, immutable and guaranteed
- A consensus required from all to validate new blocks
- No hegemonic actor
- Designed to automatize processes and workflows
- Operationally efficient: less paper, collecting data directly from the emitting source



Organizing data into chain of blocks



Without blockchain, informations are:

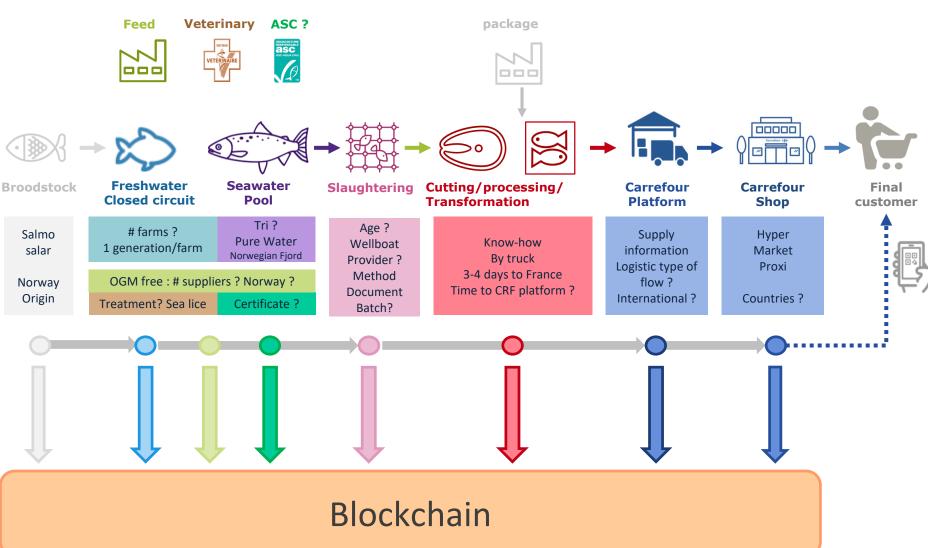
- retrievable but scattered
- reliable but not very accessible
- decentralised and fragmented
- under various formats.

With blockchain, informations are:

- shared via logical events
- unfalsifiable, immutable
- mirrored, distributed
- secured.



Building the blocks: Salmon Quality Line with Leroy





Touch, Trust, Truth



- Veracity by design
- Immutable
- Distributed & Shared



- Quality Lines, Retailer own product
- Community around the product
- Engagement & claims beyond labels



- In-Store digital experience
- Customer's choice to use and trust
- Already several independent applications (Vivino, WeChat, Yuka, ..)



Many thanks!



