

# Bosch Truefood+

Trust & Transparency across the Value Chain



# Agenda

1. The business case: current situation and challenges
2. Customer needs
3. Applications of Truefood+ in the Agri supply chain
4. Our value proposition
5. Harnessing Azures services

# Agriculture + Blockchain = Better Food for Consumers

**\$4.53 Trillion**

Aggregate retail revenue of Top 250

**SIZE**

**382**

Food Recalls in USA in year 2016

**IMPACT**

**~10 mn**

The average direct cost of a food recall

**\$1.4 Bn**

Investment in Blockchain over past 3 years

**GROWTH**



# Food Value Chain

## Stakeholders and their needs

truefood+



- ▶ Product Freshness
- ▶ Product provenance
- ▶ Brand trust
- ▶ Sustainable & ethical practices



- ▶ Food Safety & recall
- ▶ Provenance & differentiation
- ▶ Product misinformation protection



- ▶ Brand counterfeit protection
- ▶ Greater control over supply chain
- ▶ Efficient Inventory management



- ▶ Farmer Incentivisation
  - ▶ Sustainable Practices
  - ▶ Data Sharing
- ▶ Agri input authenticity verification



- ▶ Operational optimization
- ▶ Condition monitoring
- ▶ Certifications management

# Our value proposition



## FOOD FRESHNESS

Utilize the achieved End to end transparency across the value chain to propagate freshness & also increase shelf life



## FOOD SAFETY

Ensuring the safety of the products flowing across the value chain and to remove contaminated product before its reaches the consumer



## FOOD WASTE REDUCTION

Optimize supply chains & monitor environment around the products to increase shelf life and provide faster response to food recalls leading to lesser food wastage



## FOOD PROVENANCE & SUSTAINABILITY

Provide provenance to your end products by authenticating origin and sustainability certifications.



## FOOD TRACEABILITY & TARGETTED RECALL

Securing the global supply chain through serialization and data interoperability to track the movement of food across every step enabling targeted food recall



## INTEGRATION TO EXISTING IT SYSTEM

The blockchain layer's easy integration with the existing IT infrastructure in the food retail and distribution firms provides higher technical value add with lesser change management

# BLOCKCHAIN FOR FOOD SAFETY AND FRESHNESS



## FOOD PROVENANCE



- ▶ Annual grocery sales are on the rise in all regions worldwide, with an emphasis on fast, fresh, prepared foods, mainly because of increased customer understanding on the source of the food, the provider's sustainability initiative, and overall freshness.
- ▶ Truefood+'s Blockchain platform ensures product information, right from farm to logistics to being delivered at stores, does not get tampered with - by various stakeholders in the chain - and ensures top quality produce is delivered to customers.

## IMPACT FOR RETAILERS



- ▶ Consumer confidence
- ▶ Increased efficiency due to detailed display of movement of goods
- ▶ Cost reduction on manual certifications management & investigations

20% of top grocers will use blockchain by 2025, Gartner



# Track and trace of fresh food, dairy & meat

Truefood+'s Blockchain platform provides a view into the key details of origin, transport & production throughout the supply chain, allowing stakeholders to respond better to demands.

## JOURNEY OF FOOD



Farm



Fork



Powered By Blockchain  
(Trust & Transparency across the value chain)

Swift & easy on-boarding services for the complete value chain

Distributed ledger based shared record of food system data

Time stamp & condition monitoring based freshness quotient algorithms



# Food Provenance

Provides knowledge about the source of food, its journey through the value chain and authentic certifications. Trust what you consume is always fresh.



**Freshness:** Use transparent date of harvest & geo-location on the packaging to influence buying decision

**Brand Differentiation:** Leverage provenance and 'being local' to give the brand greater definition and differentiation

**Certification:** Highlight the integrity of the products by providing assurance of authentic certifications

# BLOCKCHAIN FOR PRODUCT RECALLS



## RETAIL FOOD RECALL



- ▶ For large retailers, the costs of removing a contaminated/defective food item can accumulate to multi-billion dollar losses.
- ▶ The safe, efficient and rapid removal of contaminated products is crucial to growers, packers, processors, and distributors of food, regardless of a businesses size.
- ▶ Truefood+ enables retail food establishments and other the retail food industry players have in place a standardized plan that allows them to respond swiftly when a recall is issued.

## IMPACT FOR RETAILERS



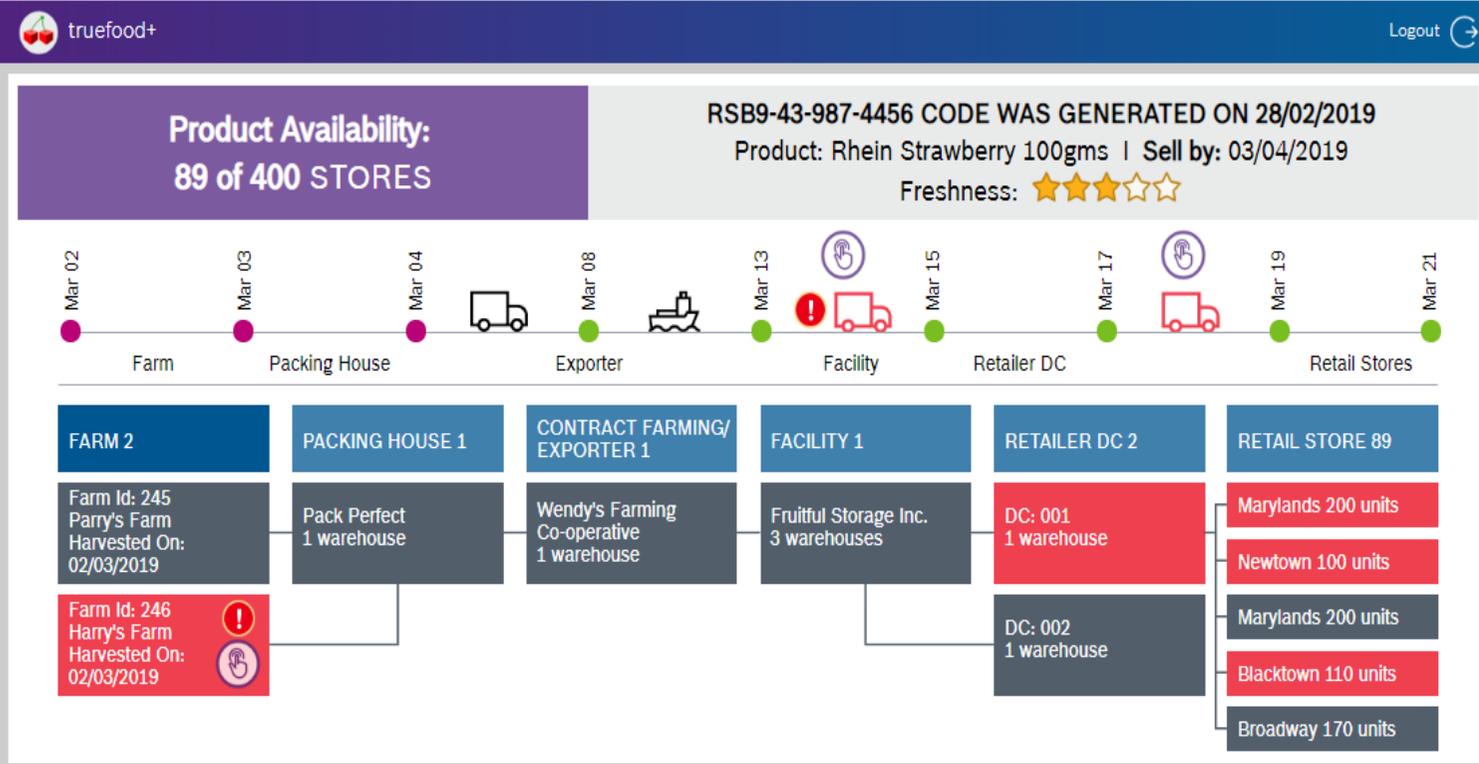
- ▶ Reduce direct costs associated with Product Recall
  - ▶  $\text{Price} \times \text{Quantity} + \text{Notification Costs} + \text{Transportation Costs} = \text{Direct Cost}$
- ▶ Compliance Penalties & lawsuits
- ▶ Lost Sales
- ▶ Insurance Impacts
- ▶ Brand Deterioration

It's estimated that 22 products are recalled or withdrawn from sale per week across Europe



# Product Recall Dashboard

Targeted food recalls with precise root cause identification, leading to reduction in time to recall, expenditure to recall with minimal brand damage



**Food Safety:** Safely track products in seconds (rather than weeks) to reduce cross-contamination, the spread of foodborne illness, unnecessary waste and the economic burden of recalls.

**Reduce Food Waste:** Optimize supply chains to increase shelf life and provide faster response to food recalls leading to lesser food wastage

**Sustainable Sourcing & Authentic Certification:** Effective monitoring of vendors quality assurance processes



# Condition monitoring

Communicates with the IoT condition monitoring device to keep track of the environment around the produce during transit & storage and further report adverse events to regulators and relevant stakeholders.

The screenshot displays the Bosch Transport Data Logger application. A modal window titled "Bosch Transport Data Logger" is open, showing a report for "Container A" dated "15 March 2019 - 09:58". The report includes the following data:

FROM	TO
13 March 2019 09:15	15 March 2019 09:56

- Temperature:** min 0.5°C / max 2.0°C
- Humidity:** min 80% RH / max 95% RH
- Tilt:** No Violation
- Shock:** No Violation

A "Send Report" button is located at the bottom of the modal. The background shows a supply chain map with stages: Farm, Packing, and Retail Stores. A "Product Availability" section indicates "89 of 400 S". A "GENERATED ON 28/02/2019" timestamp and "Sell by: 03/04/2019" are also visible.

**IoT enabled sensors** for real-time perishable food supply chain monitoring, in order to estimate the food quality and to predict its shelf life

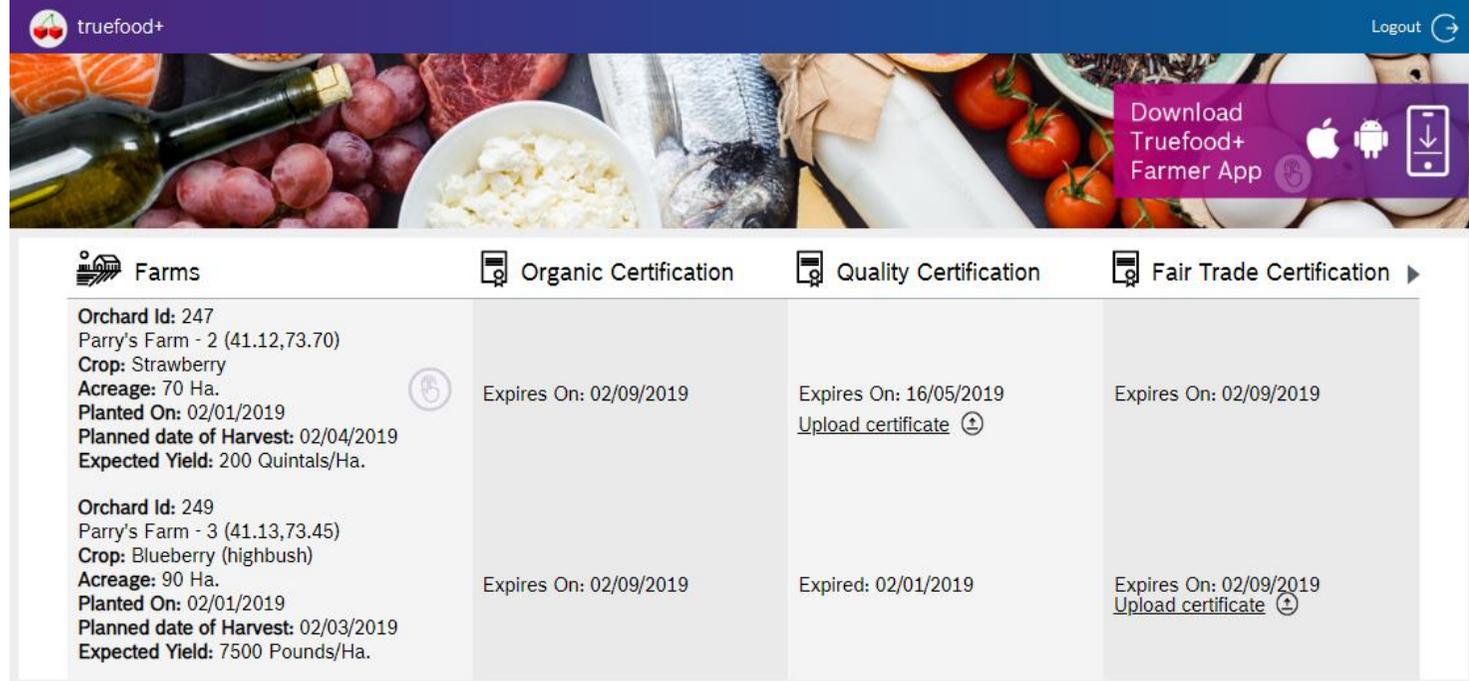
Threshold breach **alarms & alerts** for relevant stakeholders

The in-built track and trace mechanism then allows **removal of spoiled product** from the supply chain system before reaching the P.O.S.



# Certificate Management

Digitizes paper based documents and allows it to be shared across the network for faster information flow, an efficient supply chain and to prevent fraud.



Digitization of compliance certificates and supply chain documents including country of origin

Selective sharing of digital assets with relevant stakeholders

Seamless process optimization and faster payment cycles solves the problem of inefficiencies, forgery and large account receivables

Tracks every detail of the document and keeps tab of all changes made to it in order to avoid malpractices.

# Harnessing Azure services



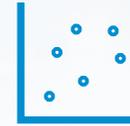
Integration to  
speed data into  
cloud



Storage to  
scale without  
latency



Visualizations  
to surface  
insights



Analytics to  
predict and  
plan



Security to  
protect data



## Ready to experience the power of blockchain and transform your business in compliance with the DSCSA?

- We will connect you with the Bosch Truefood+ sales team: [bhuvan.Shetty@de.bosch.com](mailto:bhuvan.Shetty@de.bosch.com)
- Learn more: [bosch-india-software.com](https://bosch-india-software.com)

