Beyond the Obvious: The benefits of true end-to-end traceability and visibility for supply chains

Engaging directly with end consumers to build trust and loyalty has never been more important for your brand

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WELCOME

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In this webinar you will learn…

✅ How can organizations benefit from increased transparency in their supply chains? The obvious and not so obvious advantages

✅ How can technology help to ensure full traceability from source to consumer? How are market leaders doing it?

✅ How to leverage increased transparency to strengthen your brand: A case of an infant formula manufacturer

TRANSPARENCY

FULL SUPPLY CHAIN TRANSPARENCY

Supply chain transparency requires companies to know what is happening upstream and downstream in the supply chain, ideally down to product unit level, as close to real time as possible, and to use and communicate this knowledge both internally and externally.

Internal and external drivers are leading to more transparency in supply chains

External

CONSUMER SAFETY
Ensuring safe, secure & legitimate product is available in the supply chain for consumers

CONSUMER ENGAGEMENT
Increasing connectivity between consumer and supplier, creating a trusted, transparent relationship

BRAND PROTECTION & DIFFERENTIATION
Enhancing product security, deters entry of counterfeits and maintains brand strength

REGULATIONS
An increasing number of regulations are emerging, like the US FDA food traceability, the Russian crypto codes and upcoming Chinese food traceability legislation

Internal

SUPPLY CHAIN EFFICIENCY
Revealing the hidden bottlenecks, to be challenged and continuously improved, eliminate waste, and improve sustainability.

SUPPLY CHAIN RESILIENCE
Independent real-time data permits timely intervention and corrective actions when required

COMMUNICATION SILOS
Trusted shared data empowers cross functional cooperation, and inter organizational collaboration

SUPPLY CHAIN RISKS
Understanding the conditions experienced during global shipments, permits strategic planning to mitigate potential risks

Obvious and not so obvious advantages of transparency, traceability and visibility

Obvious:

- ✅ **Extended consumer touchpoints** with products

- ✅ **Create one shared trusted version of truth,** upstream and downstream

- ✅ **Openness and Accountability,** both internally and externally

- ✅ **"Farm to Fork",** you know what you eat

- ✅ **Regulation compliance**

Not so obvious:

- ✅ **Continuously improve**, a comprehensive picture enables us to optimize supply chain performance

- ✅ **Data driven insights**, improving supply chain resilience

- ✅ **Leaner and Greener**, reducing waste both of product, and in process

- ✅ **Recalls,** prevent, rather than react

- ✅ **Customer Value**, inefficiency should not cost the earth

- ✅ **Increased Sales**

The increase in trust due to greater visibility accounts for a 3.3 percentage-point increase in sales.

Source: 2019 paper by MIT's Sloan School of Management on the impact of supply-chain visibility on trust and its impact on purchasing decisions by the consumer

How can technology help to ensure full traceability from source to consumer? How are market leaders doing it?

Digitizing each individual product: every single product unique, traceable and interactive
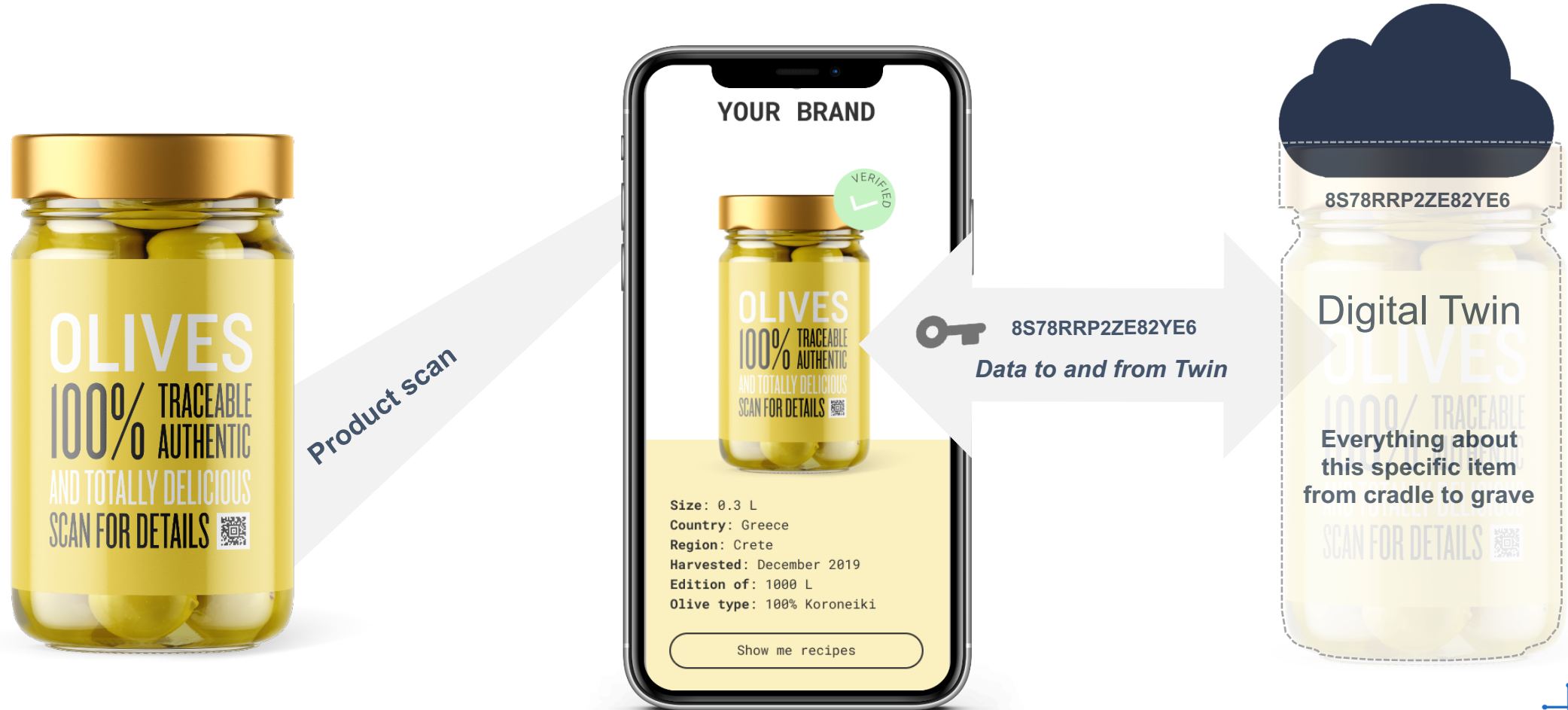
Kezzler's solution generates billions of unique, secure and traceable IDs:

1F2L119PT654W35
K89EDK763982KL9
2N7889ER194NGSD
M1PT537WA569SLA

The unique "digital DNAs" are assigned to every product as a QR code, data matrix, in an NFC/RFID tag, or any kind of carrier.

SERIALIZED
GUARANTEED AUTHENTIC PRODUCT
TRACEABLE, FROM
LAB TO PHARMACY

OLIVES
100% TRACEABLE AUTHENTIC
AND TOTALLY DELICIOUS
SCAN FOR DETAILS

SCAN & GET YOUR 5TH TUBE FREE LOYALTY TOOTHPASTE

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A digital representation of the product in the cloud platform makes it possible to record the product's entire journey along the supply chain

Product scan

YOUR BRAND

VERIFIED

OLIVES
100% TRACEABLE AUTHENTIC
AND TOTALLY DELICIOUS
SCAN FOR DETAILS

Size: 0.3 L
Country: Greece
Region: Crete
Harvested: December 2019
Edition of: 1000 L
Olive type: 100% Koroneiki

Show me recipes

8S78RRP2ZE82YE6

Data to and from Twin

8S78RRP2ZE82YE6

Digital Twin

Everything about this specific item from cradle to grave

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# Cloud-based digital twin platform details every aspect of the product's journey along the entire supply chain

Digital Twins

Harvesting structured data…   …and tying it together

Data aggregation and tracking throughout the supply chain

Sourcing & Manufacturing   **Shipment**   **Logistics**   **Point of Sale**   **Consumer & Recycling**

Monitoring Cargo Conditions in Transit

End-to-end traceability can be achieved by combining unit level product digitization and aggregation, with global real-time IoT sensor data

Can QR

Box QR

Pallet SSCC

Container SSCC

Global Real-Time
Cargo Monitoring and Tracking

arviem

KEZZLER
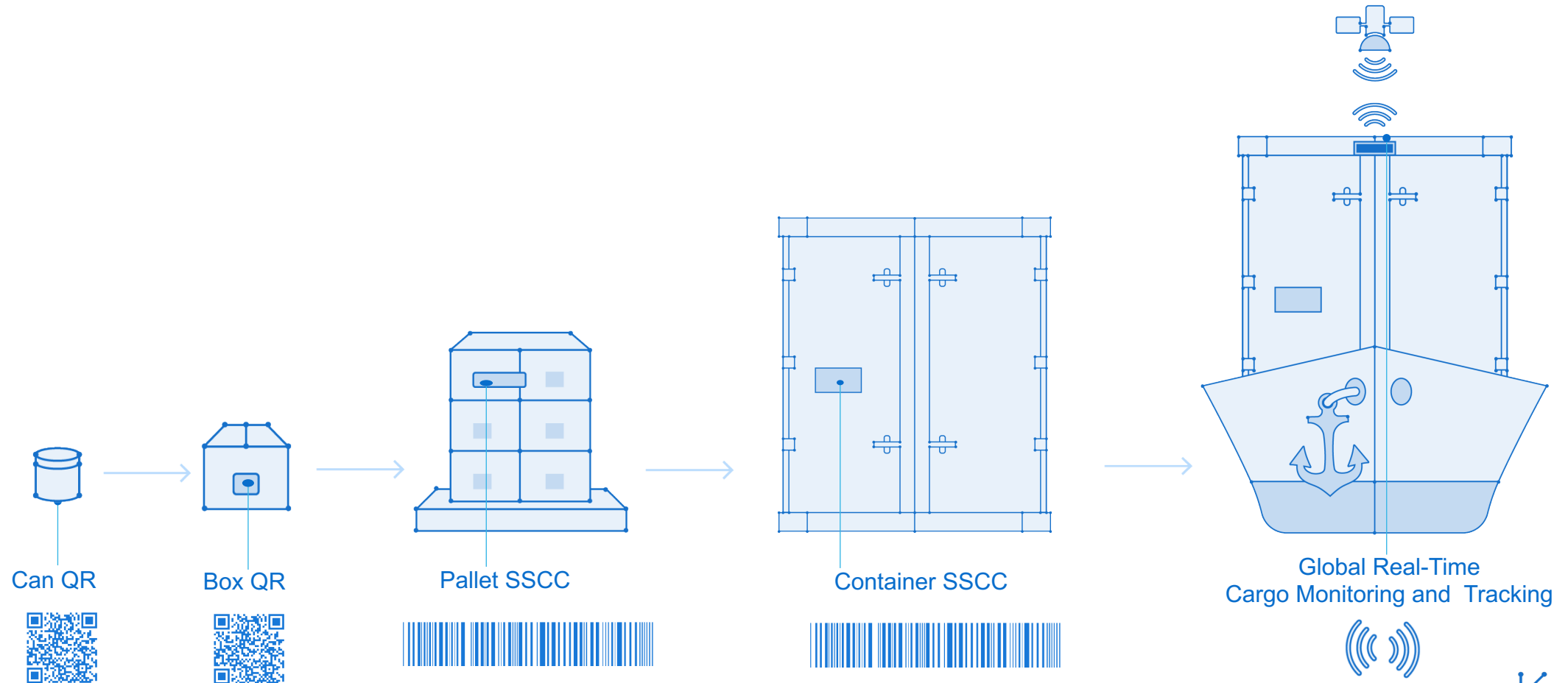
Traceability starts on product level all along the supply chain

Full traceability from source to consumer with data-driven consumer insights

Product quality **Claims** raised by consumer on end-product can be tracked back to shipment and properly investigated

Limit **Recalls** to the products of a given container that was damaged
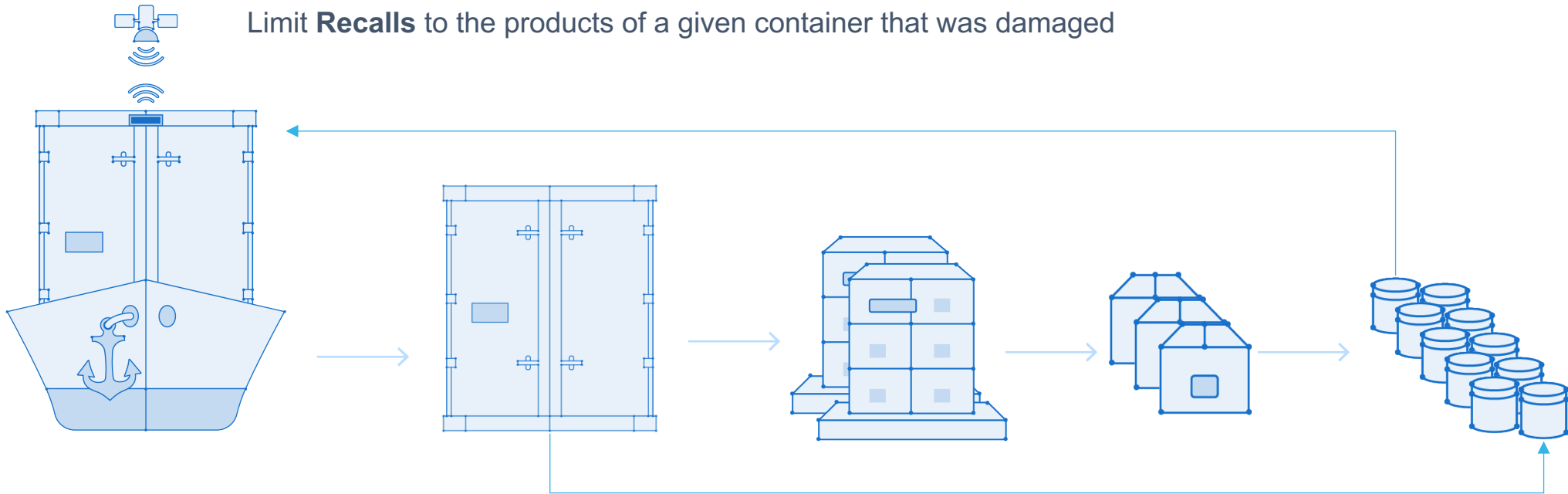
Theft of Container, unauthorized door openings – Products can be digitally market as stolen or suspicious

End-to-end traceability even during transport

Sensor data and alerts in-real time during the entire duration of shipments on each product

Position based ETA

Humidity fluctuations

Intrusion detection

Door opening

Shipment Duration

Shock detection

Temperature fluctuations

Route and shipment performance reports

Chain of Custody

Carbon Footprint Report

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MAX. GR.
TARE

Interactive consumer experience: engaging directly with end consumers to build trust and loyalty

Beyond operational efficiencies along the supply chain, end-to-end traceability enables an interactive customer experience with augmented products :

- The product serves as a Brand Owned digital marketing channel

- Contextual, real time consumer experience

- Recycling instructions and incentives

- CRM building / Loyalty programs

- Warranty registration / proof of purchase

- Product authenticity

How to leverage increased transparency to strengthen your brand: A case of an infant formula manufacturer

Global traceability services for the world's largest dairy cooperative increases brand loyalty

Background

- Consumers need access to timely, clear, reliable information

- 93% of moms in China find product information insufficient

- Chinese FDA reshaping traceability legislation

- More countries increasing attention to traceability

Photo © FrieslandCampina

FrieslandCampina

Project Overview

- Unique QR code for tracking and tracing and launch of consumer experience

- Full aggregation, allowing real track and trace for the full hierarchy

- Largest global implementation of GS1 Digital Link

- Kezzler started by serializing the complete annual production for China

- Malaysia, Hong Kong, Singapore, Greece and Russia was launched in 2020, more markets to follow

Photo © FrieslandCampina

Can QR | Box QR | Pallet SSCC | Container SSCC
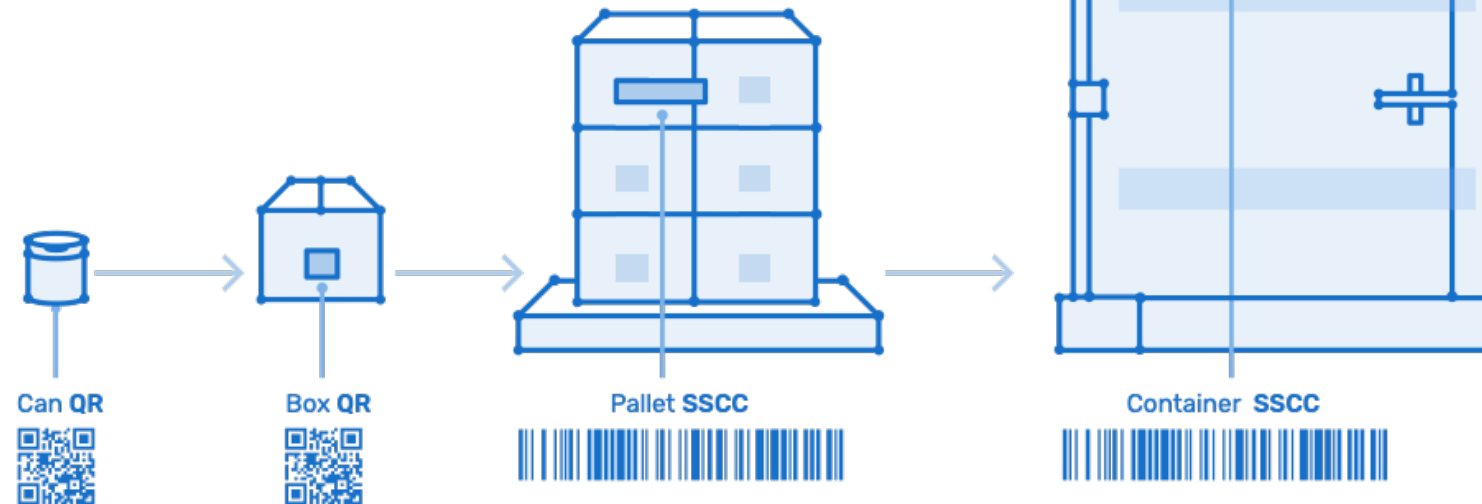
From Grass-to-Glass

- control of supply chain events

- eliminate counterfeits and diversion

- manage recalls and expiry dates

- increased loyalty and sales

- consumer and consumption insights

- rewarded for purchase

- check authenticity

- see origin of product & ingredients

Safeguarding product quality and preventing food fraud in-transit through IoT enabled cargo monitoring


The Challenge faced by the customer:

- Tin corrosion due to temperature and humidity fluctuations

- Mold and caking of the milk formula.

- Theft, formula tins were taken from the container and sold with replaced labels

- Threatened brand integrity

- Raised food authenticity concerns

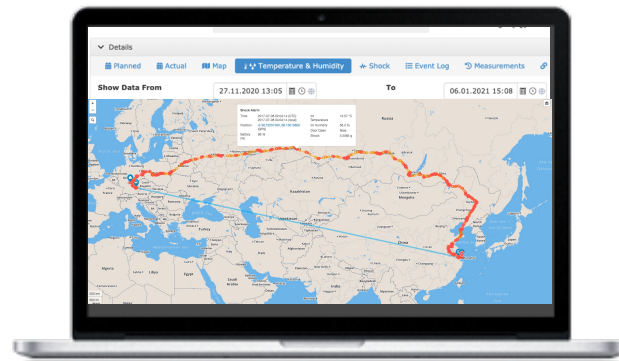- Less than desired supply chain performance

- Waste

Safeguarding product quality and preventing food fraud in-transit through IoT enabled cargo monitoring

The solution:

- Implementation of Arviem's real-time cargo monitoring solution to collect data on the journey of products

- Data collected on cargo location and cargo condition (humidity, temperature)

- Data analytics in place to identify patterns and provide insights to the route cause of the problems
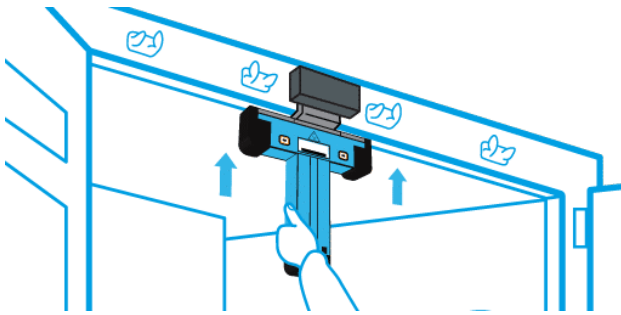
Sensor devices attached to shipments

Real-time location data

Real-time humidity & temperature data

Safeguarding product quality and preventing food fraud in-transit through IoT enabled cargo monitoring

The results:

- Product quality preserved during transit (mold and caking prevented)

- Cargo security increased, ensuring product authenticity

- Security and quality risk hotspots identified

- Data driven seasonal desiccant and reefer container use
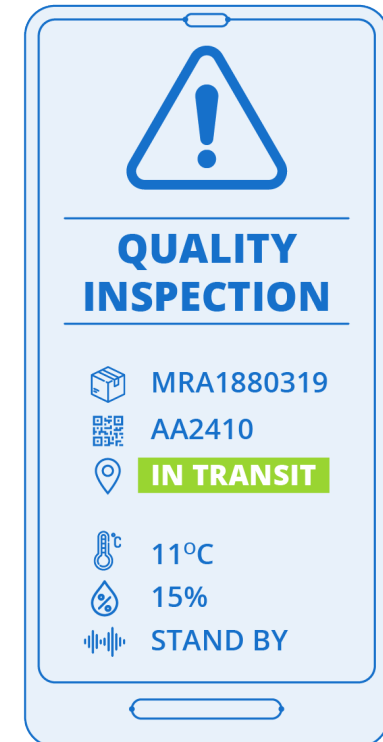
- Data driven demurrage cost reduction

sUCCESS

Adding extra layer of transparency with IoT sensor devices to generate additional benefits

Can QR

Box QR

Pallet SSCC

Container SSCC

Global Real-Time
Cargo Monitoring and Tracking
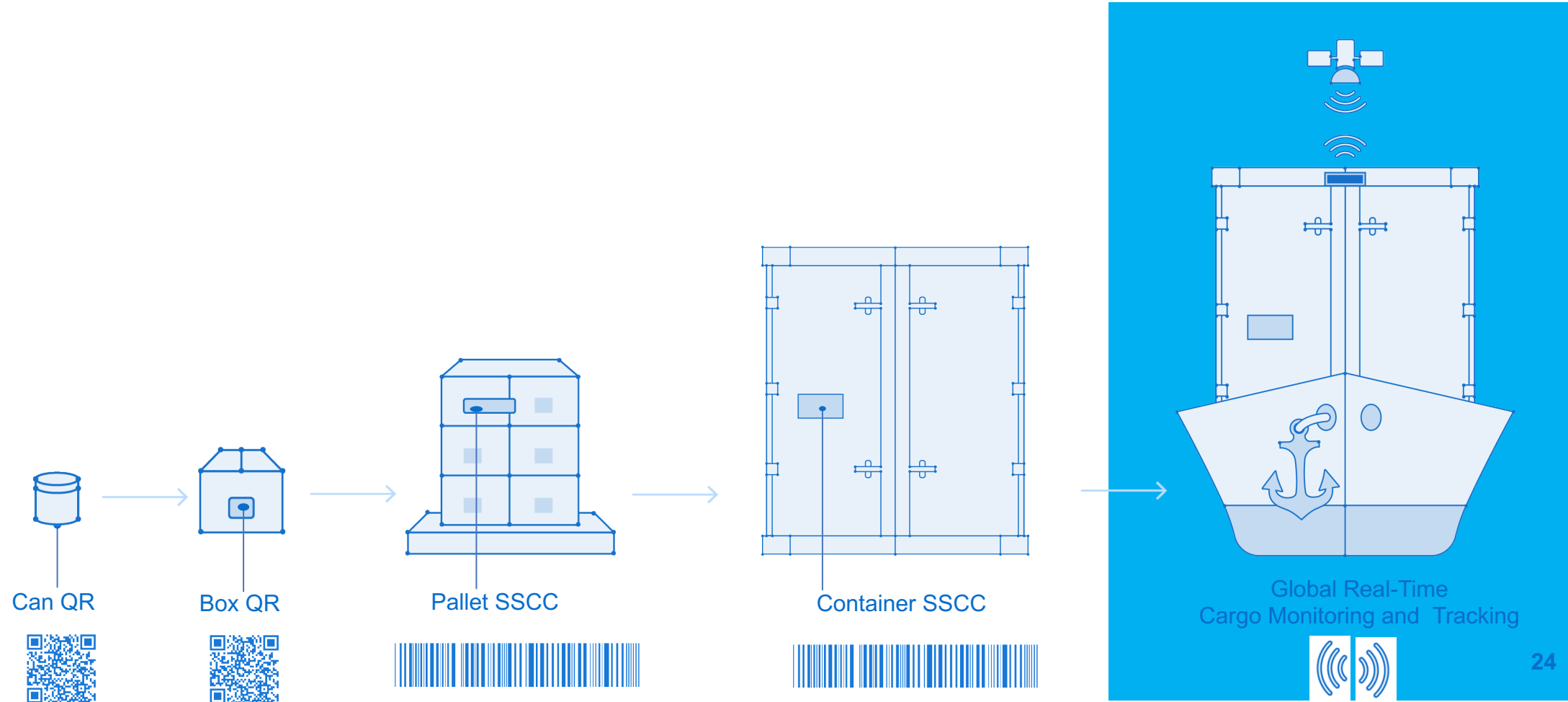
Ensuring product quality and security to increase consumer confidence

- Asset-centric intelligence to safeguard cargo in transit

- Ensure product quality and food safety through continuous cargo condition monitoring

- Streamline quality control and inspection processes, with proactive in-transit alerts

- Minimize product rejections by data-driven proactive measures if damage is assumed

- Quicker identification of identified risks, reduces recalls and impact on customer

- Data driven root cause analysis

- Product authenticity, from farm to plate

QUALITY INSPECTION

MRA1880319
AA2410
IN TRANSIT
11°C
15%
STAND BY

Sourcing & Manufacturing   **Shipment**   **Logistics**   **Point of Sale**   **Consumer & Recycling**

Key take-aways:

The benefits of true end-to-end traceability and visibility

- Creates a trusted brand relationship, creating competitive advantage and potential increase in sales

- Increases consumer confidence and brand success

- Reveals the hidden parts of a product's life cycle

- Improves cross functional / organizational collaboration

- Ensures product security, quality, and safety

Questions