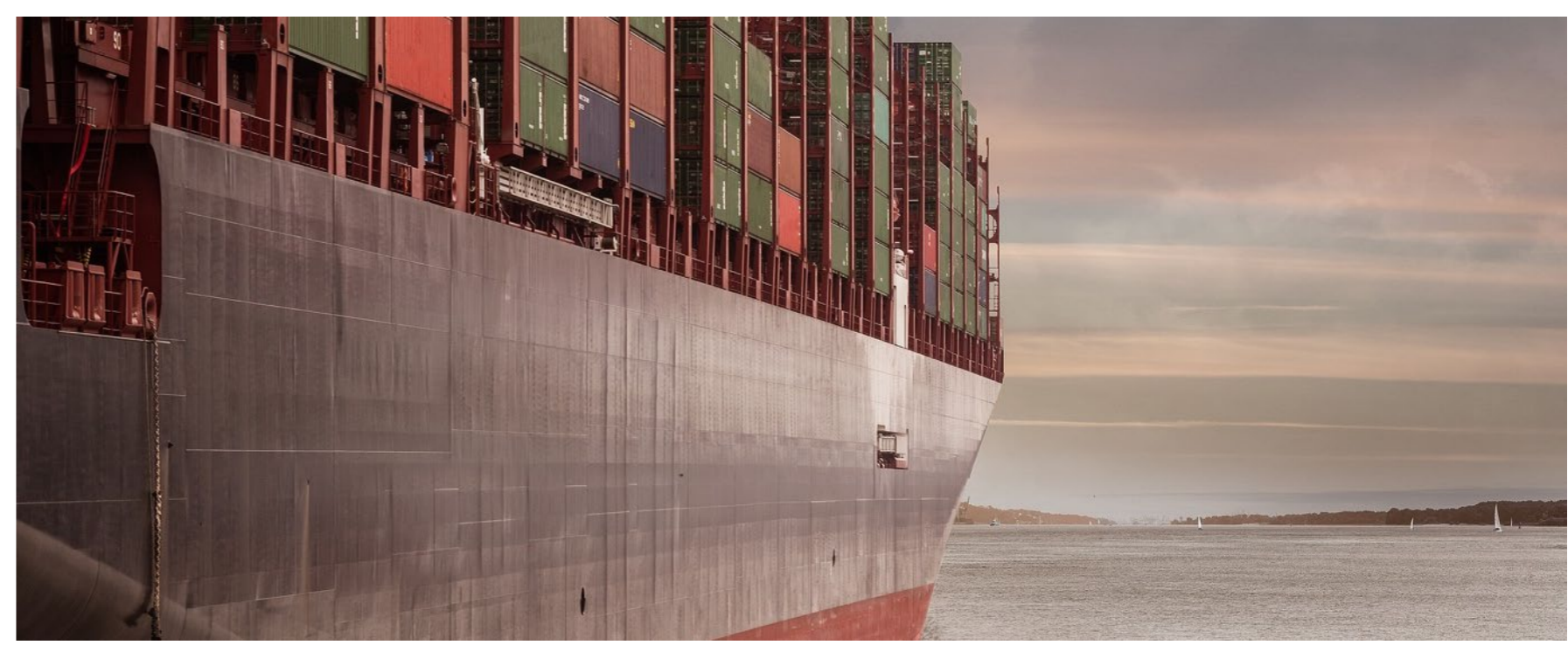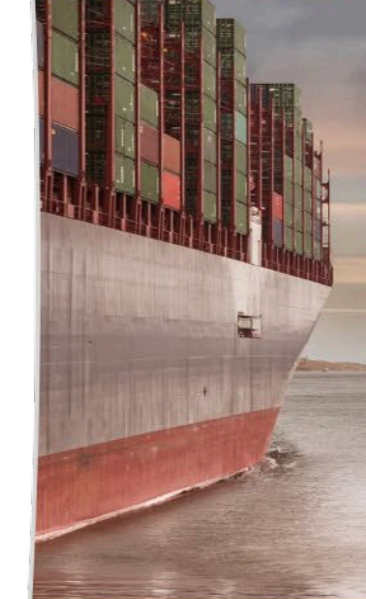# Challenges of end-to-end traceability : a perspective on how to combine existing and emerging digital technologies
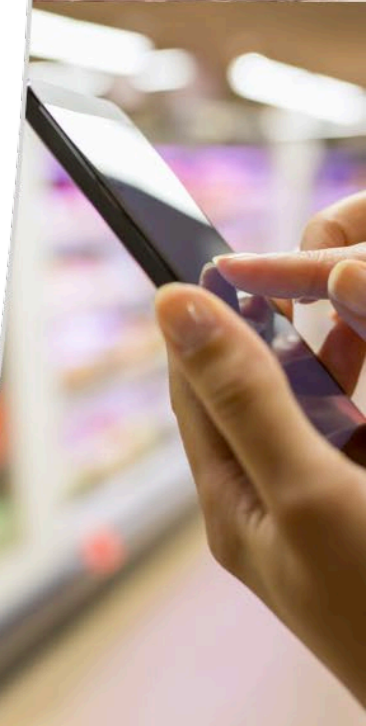
tilkal

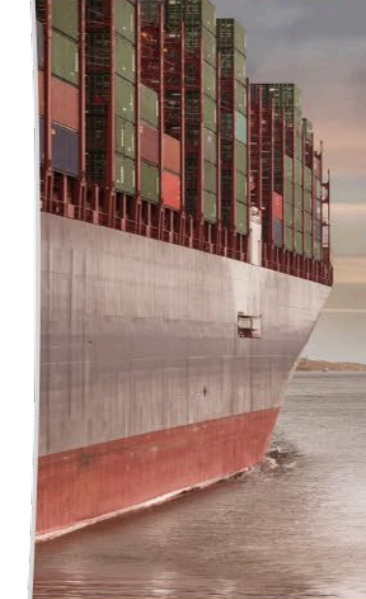Why is it difficult to answer this question?

> **Traceability means aggregating data throughout transport, aggregation, repacking, copacking, etc**

tilkal

› 73%

« I am worried about food safety»
+7% in one year

› 84%

« I prefer to choose a product that
has more natural ingredients»
+20% in 1 year

› 1 french out of 2

« Backing out of buying a product
due to lack of information »

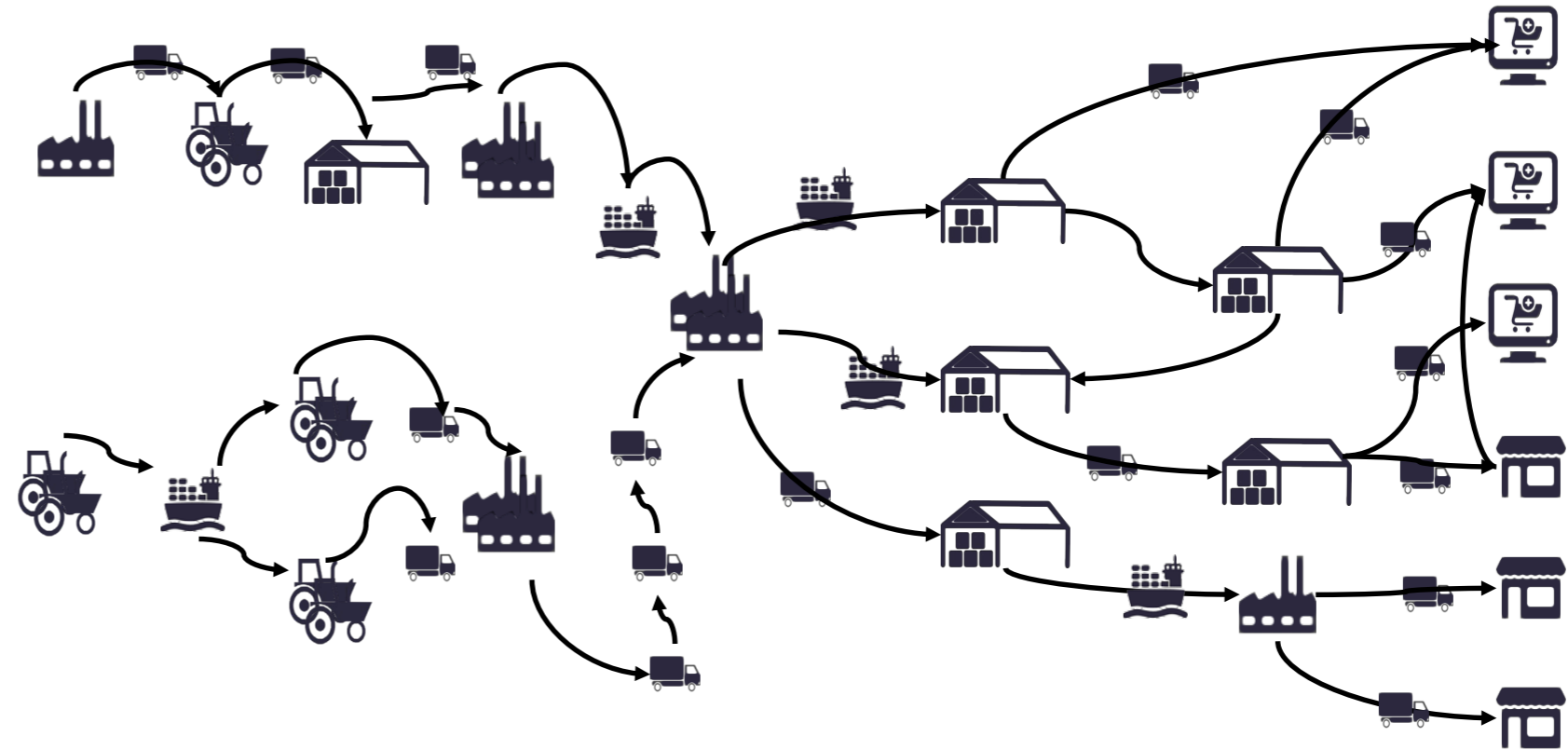**› 85%**

« I want to be sure of the origin
of the product »

[OPINIONWAY ALKEMICS – Study 2019] [KANTAR - Study January 2019]
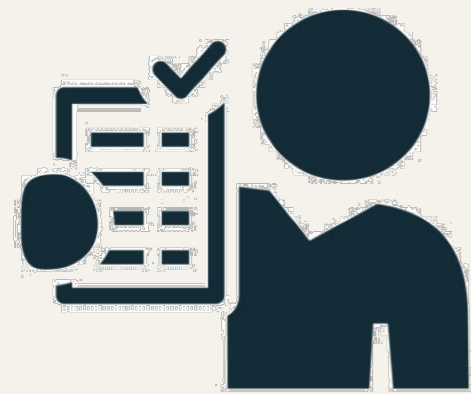
yesterday

nowadays

(notwithstanding free trade zones, subcontracting, etc)

> **Supply chains are distributed and ever evolving environments**

> **Various maturity level, heterogenous systems, and different interests**
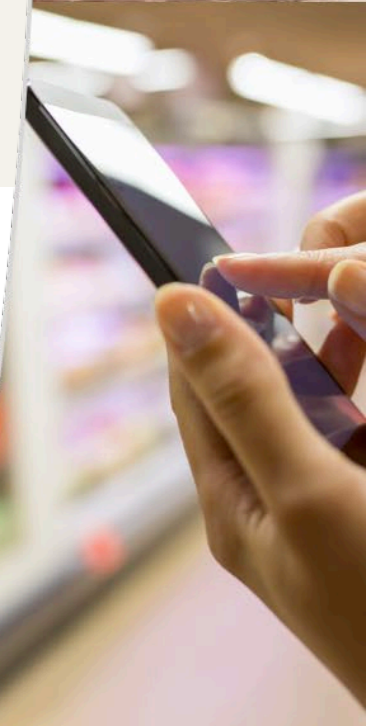
Audit

Systems

ERP

WMS

TMS

Marking & IoT

FR
85 5845
7523

RFID

❯ **Parallel imports, recall, global waste reduction, forecast, sourcing risks, etc.**

Global & fragmented Supply Chains + **Local Track & Trace systems** → **Reliable traceability** ✗
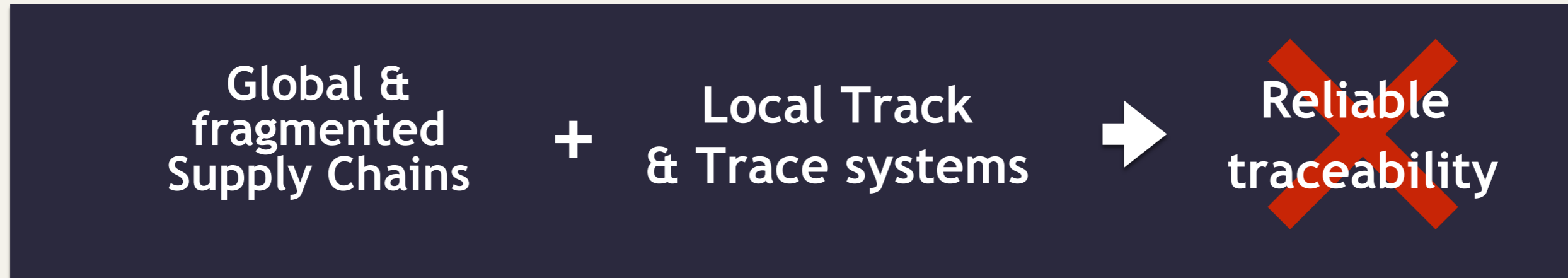
**Modern traceability is about unlocking data
and organizing it in terms of flow (end-to-end & real-time)**

tilkal
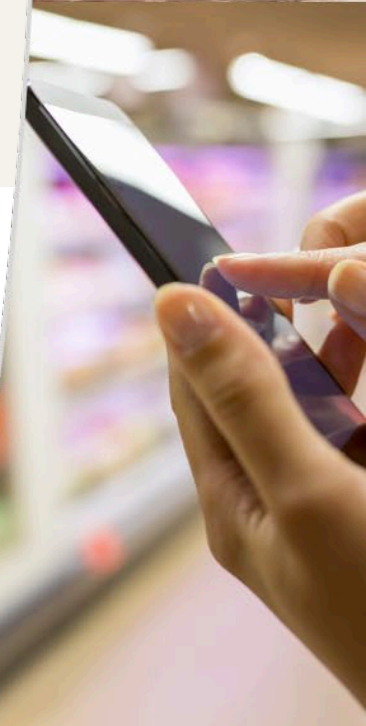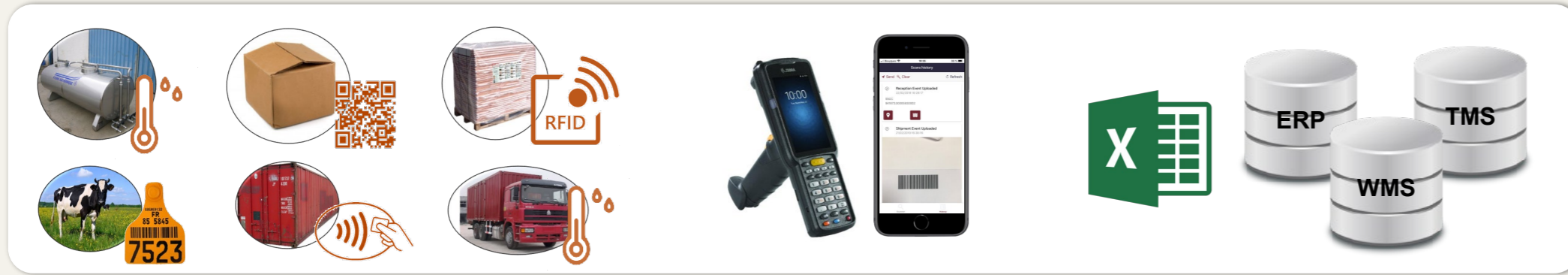
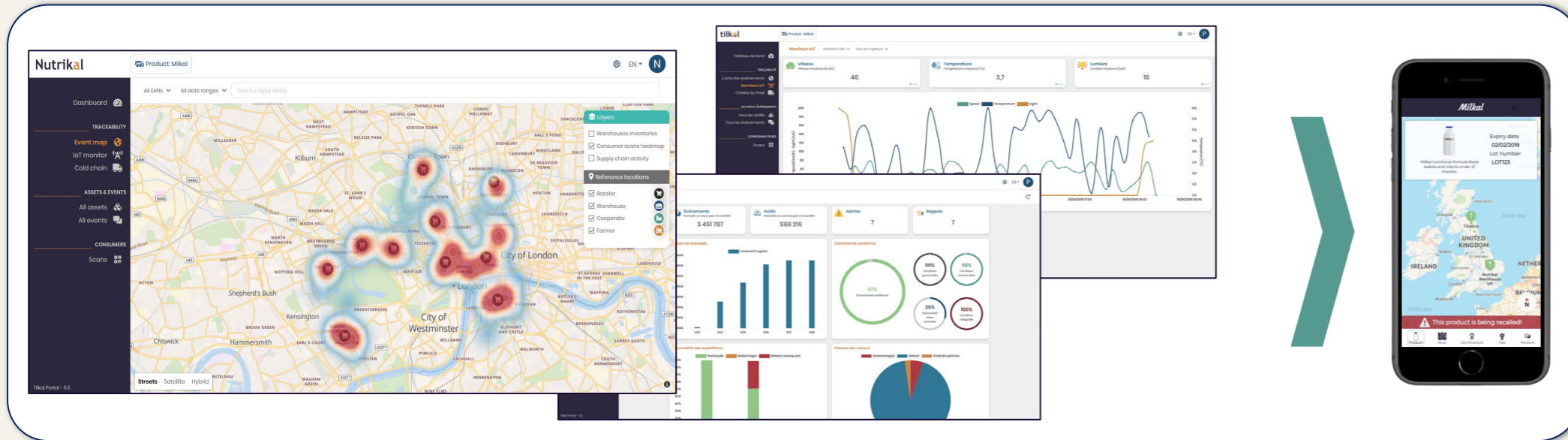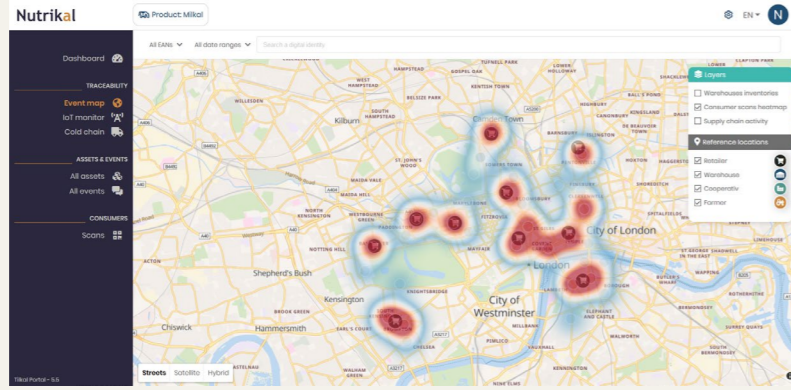**Collect variety of data sources**
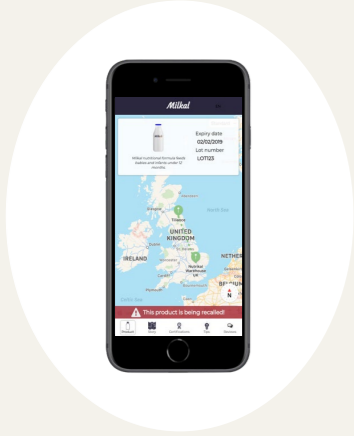
ERP · TMS · WMS

- **Aggregate data in a distributed & secured network**
- **Ensure auditability and create a mechanism of accountability**

Gain forecast & real-time insights
Detect fraud
Build proof-based transparency

REAL LIFE EXAMPLES WITH TILKAL
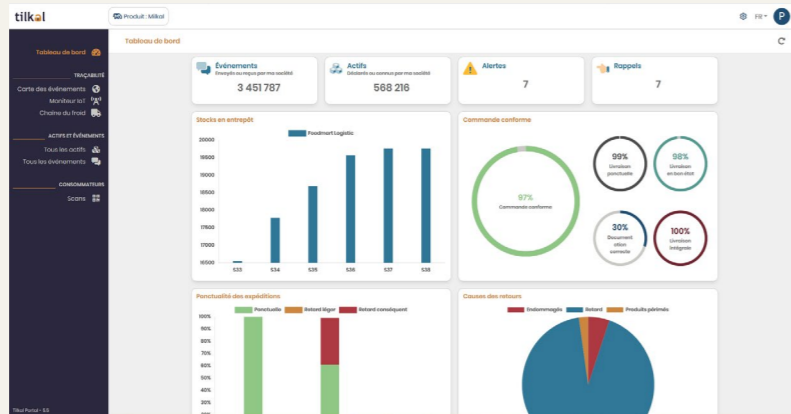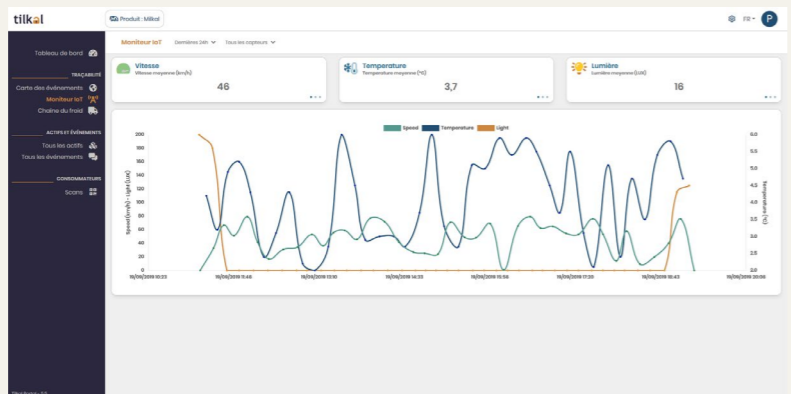
Real time transparency

8M products per year across 16 GTIN's (in France)
2-way channel

3rd party inventory

Operations digitization (unboxing / boxing of products, cartons and pallets)
Real time inventory level from downstream 3rd party warehouses
Under deployment in 100+ warehouses (in Asia)

Cold chain monitoring

Real-time readings from IoT sensors on delivery trucks (in Middle East)
Identification of cold chain failures, root cause and responsibility
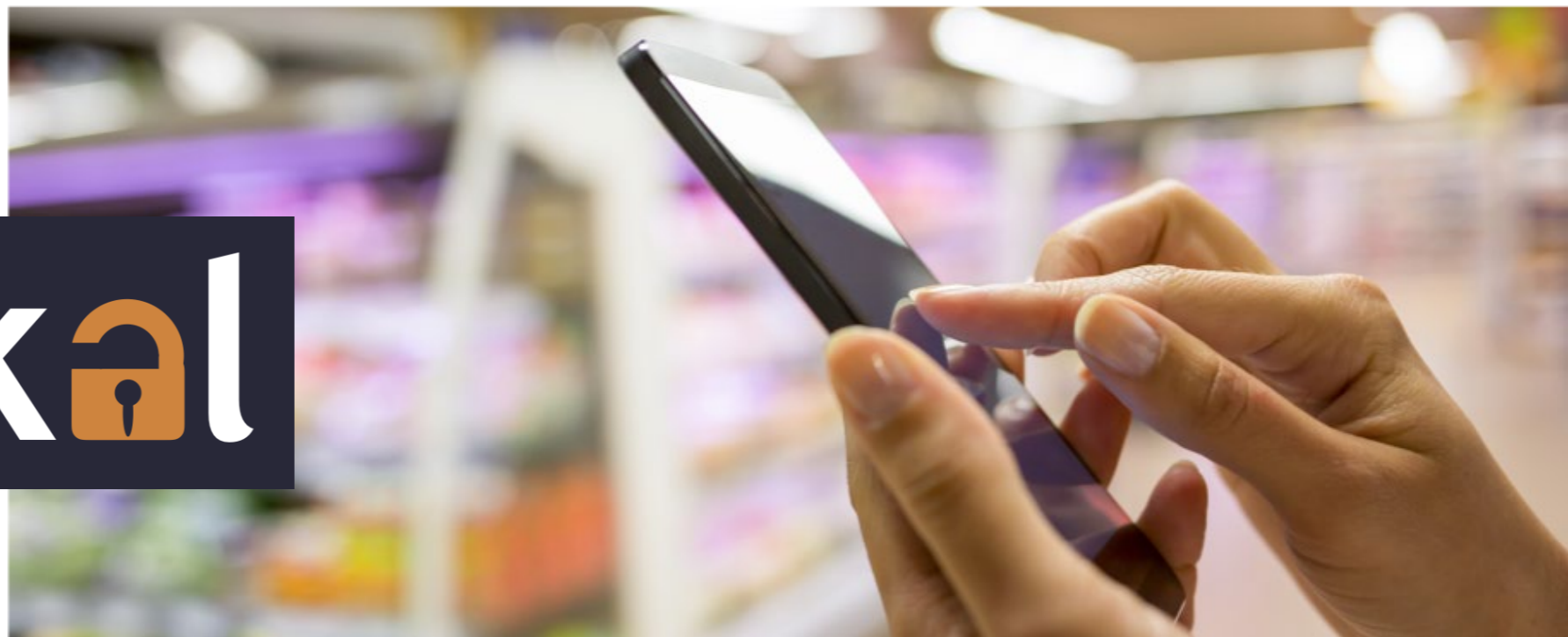100k + data points captured and analyzed per week

> Don't believe promises based on a buzzword, investigate the network.

> Auditability & immutability require decentralized nodes.

> If you host your own node, you control your accountability.

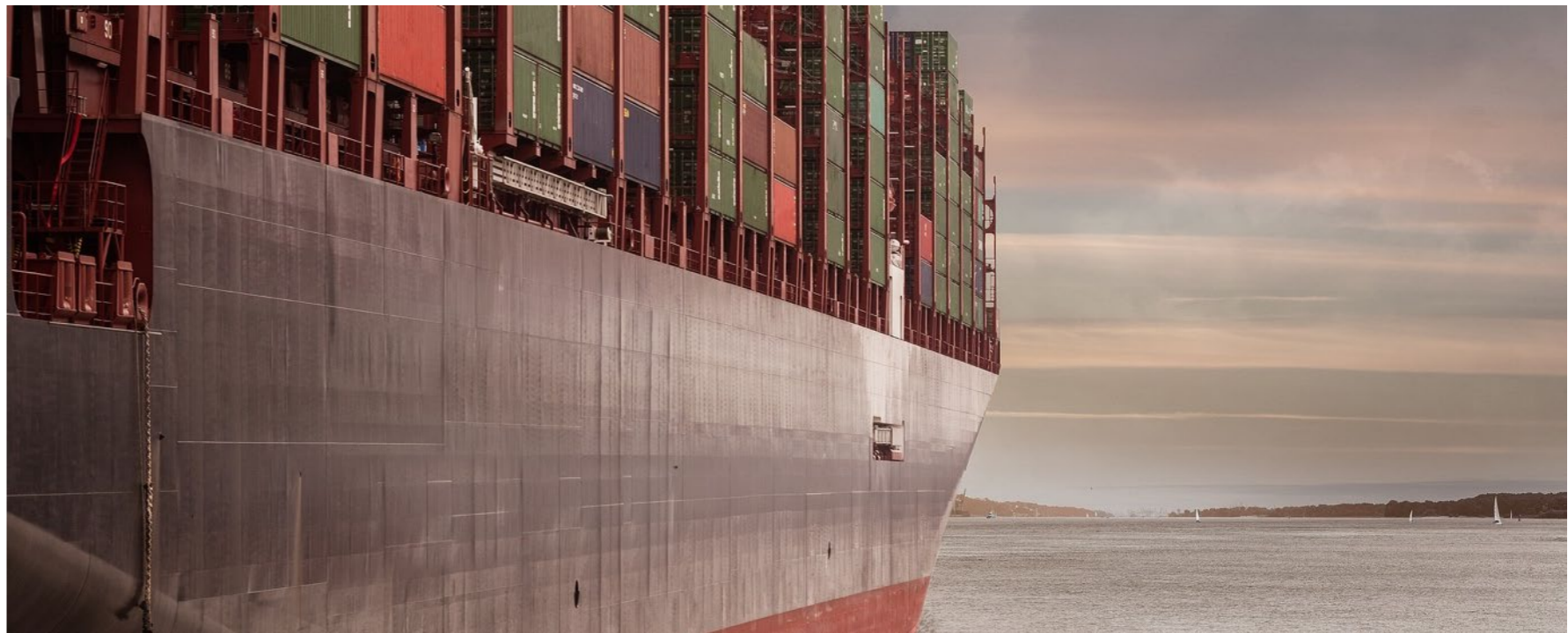If you don't, your accountability will be in the hands of someone else.

![tilkal logo]

Matthieu Hug
Chief Executive Officer

📞 +33 6 08 66 18 63
@ matthieu.hug@tilkal.com
🐦 @tilkaltech

WWW.TILKAL.COM

Joseph Azar
Chief Operating Officer

📞 +33 6 75 03 22 02
@ joseph.azar@tilkal.com
🐦 @tilkaltech

Software infrastructure for supply chains blockchain network+ API + big data analytics
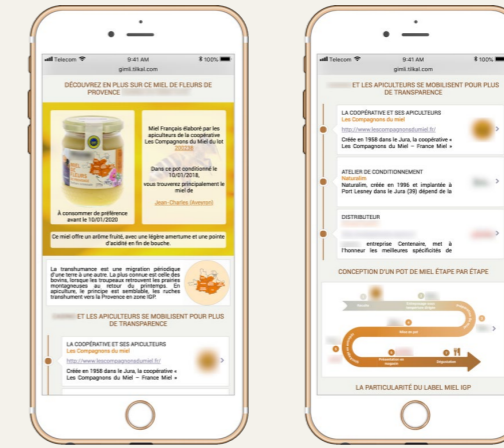
End-to-end data sharing network
Collect. Secure. Distribute.

Real-time traceability
Share. Analyze. Improve.

Consumer transparency
Inform. Inspire. Build trust.

[Ex: product recalls, grey markets detection, customer insights]

> Shared and neutral B2B network

> Turn key solution

> Compliant with data standards (eg GS1)

> Enterprise-level architecture and security