Modern traceability and blockchain Challenges & Opportunities

Matthieu Hug
CEO, Tilkal

DAD, WHAT IS THIS BOTTLE OF MILK?

Where does it come from?

Is it safe? Is it recalled?

Was it transformed?

What's its history?

What's its impact?

Is it fair?

What are the challenges behind this simple question?

tilkal

CHALLENGE #1
BLIND TRUST IN BRANDS BELONGS TO THE PAST

73%

« I am worried about food safety»

+7% in one year

1 french out of 2

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

84%

« I prefer to choose a product that
has more natural ingredients»

+20% in 1 year

85%

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

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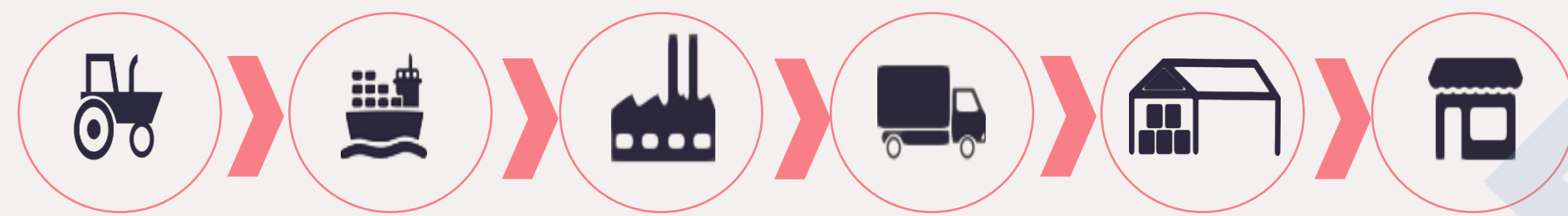[OPINIONWAY ALKEMICS – Study 2019]

tilkal

CHALLENGE #2
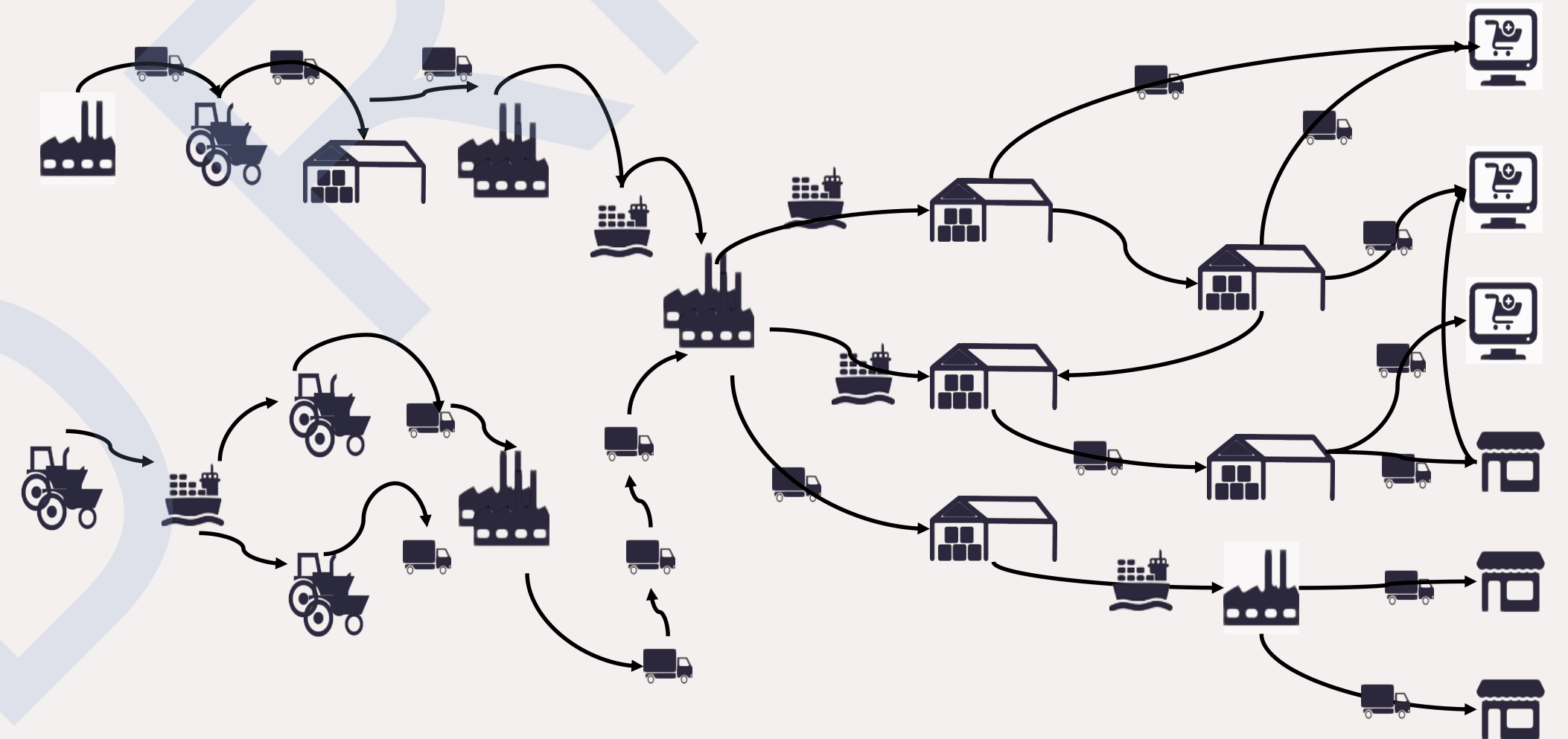## A BOTTLE OF MILK IS RARELY A BOTTLE OF MILK

Traceability means aggregating data throughout transport, aggregation, repacking, copacking, etc.

tilkal

CHALLENGE #3
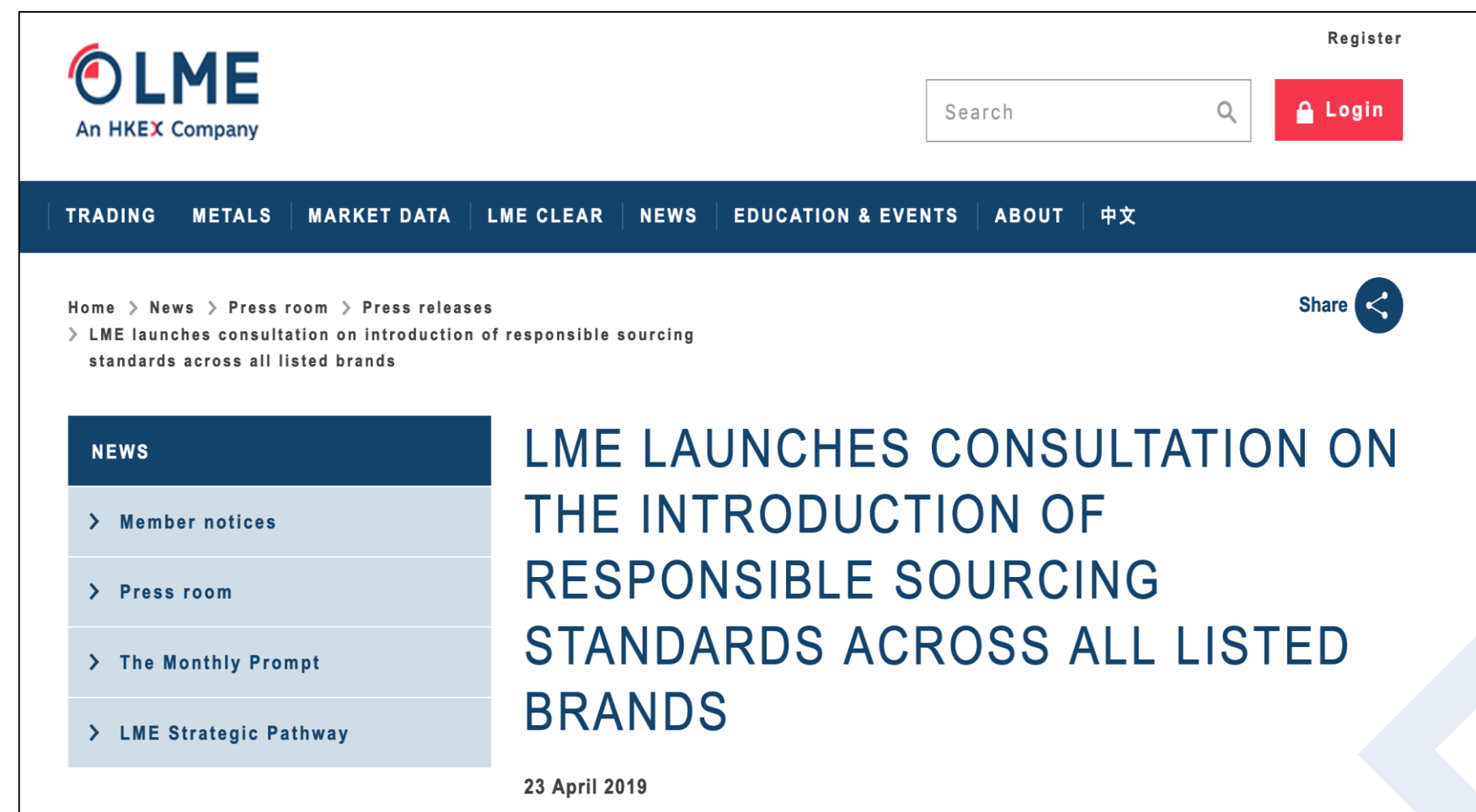# EXPLOSION OF SUPPLY CHAINS COMPLEXITY

Theory

Reality
(notwithstanding free trade zones, subcontracting, etc)

Supply chains are distributed and ever evolving environments.

Various maturity level, heterogenous systems, different interests.

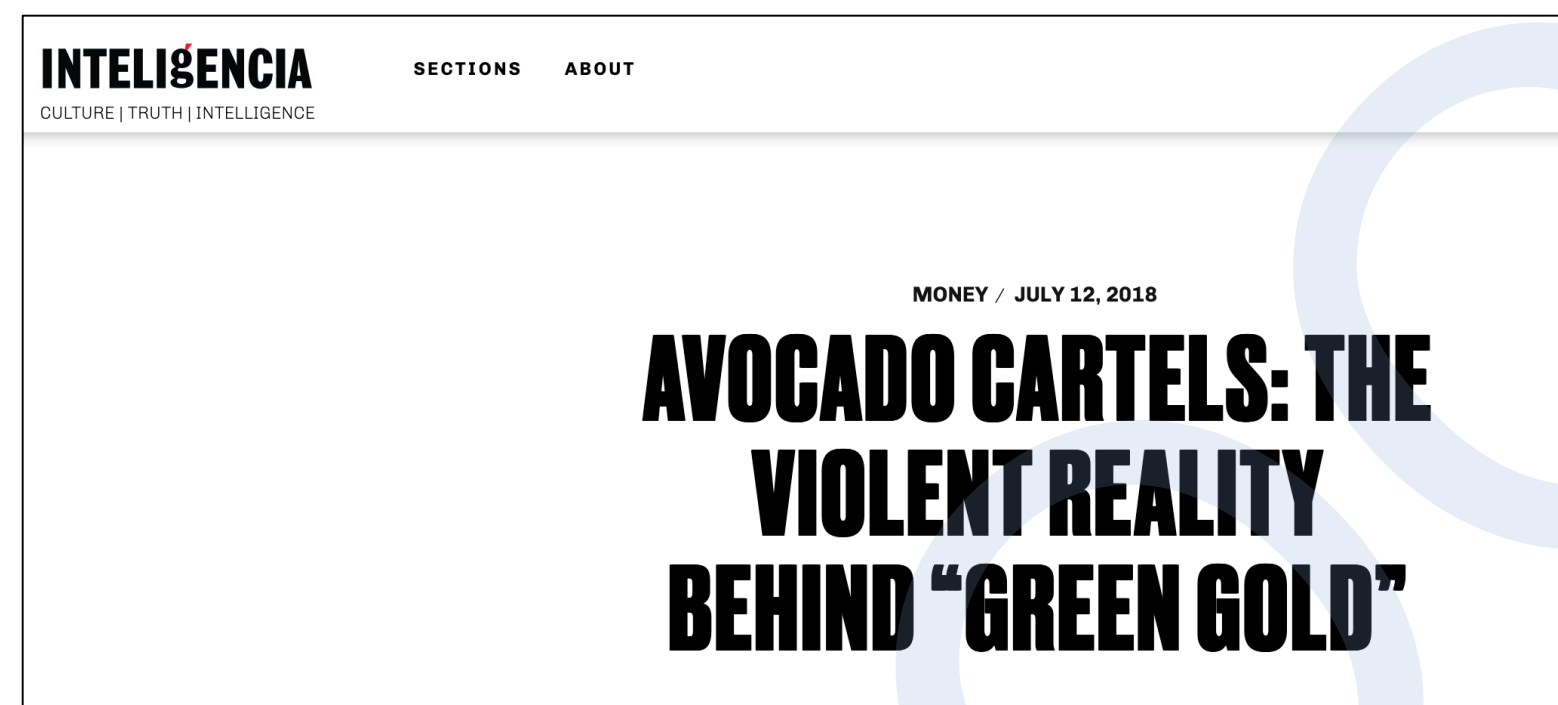**tilkal**

CHALLENGE #4
LOSS OF CONTROL IS SOMEONE ELSE'S (BIG) BUSINESS

LME An HKEX Company

Register

Search | Login

TRADING METALS MARKET DATA LME CLEAR NEWS EDUCATION & EVENTS ABOUT 中文

Share

Home > News > Press room > Press releases
> LME launches consultation on introduction of responsible sourcing standards across all listed brands

NEWS

> Member notices
> Press room
> The Monthly Prompt
> LME Strategic Pathway

LME LAUNCHES CONSULTATION ON THE INTRODUCTION OF RESPONSIBLE SOURCING STANDARDS ACROSS ALL LISTED BRANDS

23 April 2019

INTELIGENCIA
CULTURE | TRUTH | INTELLIGENCE

SECTIONS ABOUT

MONEY / JULY 12, 2018

AVOCADO CARTELS: THE VIOLENT REALITY BEHIND "GREEN GOLD"

Australasian LAWYER

News TV Deals Appoint

Risk of exposure to modern slavery a very real problem for Australian businesses – Law Council

Email to a colleague

by Sol Dolor | 27 Sep 2019

Syrian Refugees Toil on Turkey's Hazelnut Farms With Little to Show for It

On farms that produce 70 percent of the world's hazelnuts for Nestlé, Godiva and Nutella, Syrians say they can't earn a living wage — or much respect.

If it were a country, illicit trade would easily have a seat at G20

NO LOCAL APPROACH TO TRACEABILITY
CAN MATCH THE ISSUES OF GLOBALIZED SUPPLY CHAINS

Audit

1 or 2% of global flows

Punctual in time

T&T Systems

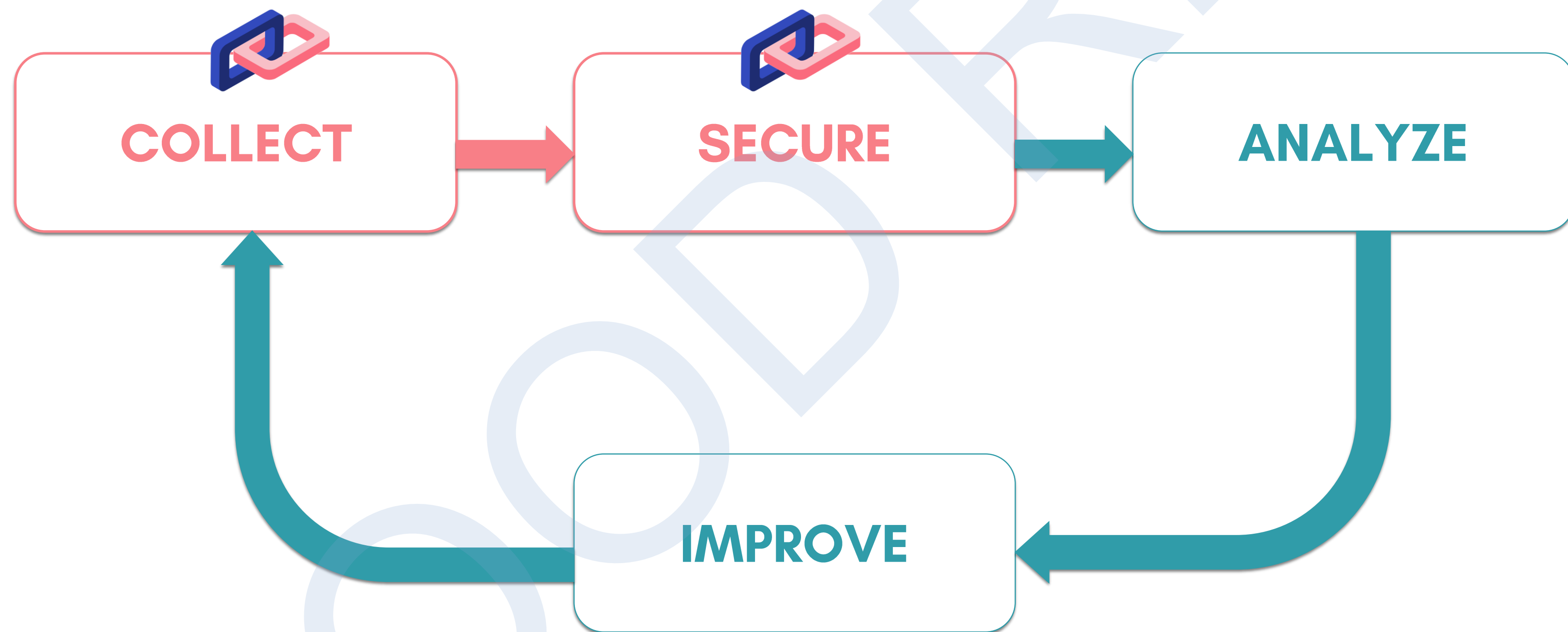**Isolated data**

Lots of paper

Marking & IoT

Local on the supply chain

Irreducible diversity

All of these approaches are necessary.
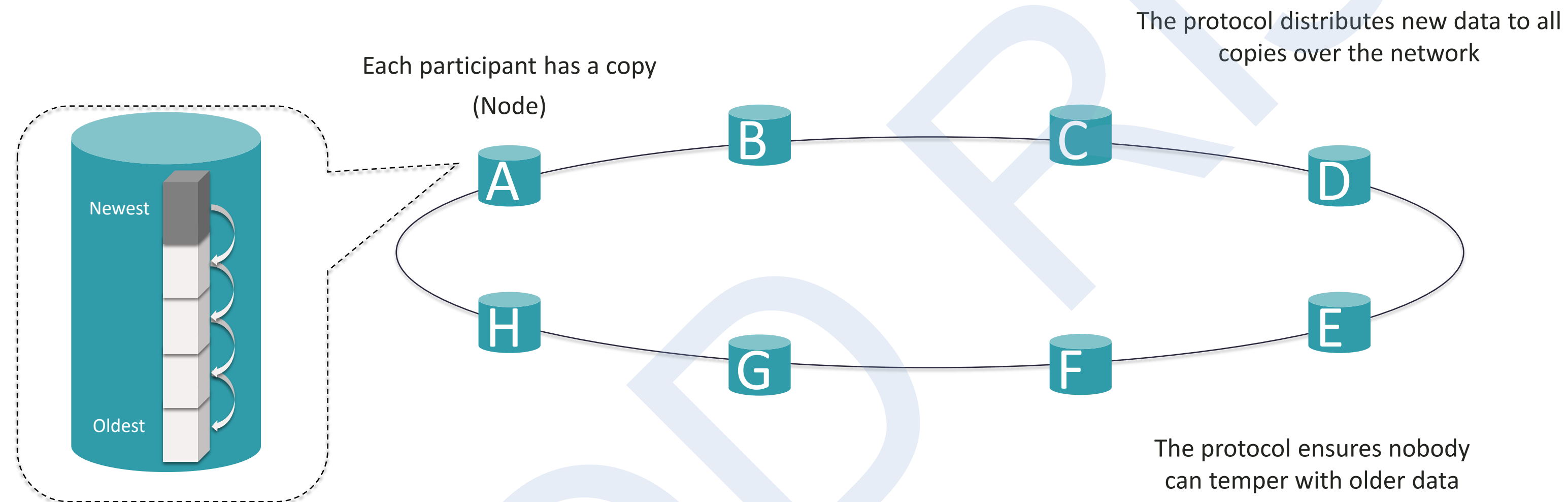
None is nearly sufficient to provide end-to-end traceability.

tilkal

TARGET
IMPROVE THE SUPPLY CHAIN BY LINKING TOGETHER ALL TRACEABILITY DATA

COLLECT → **SECURE** → **ANALYZE**

IMPROVE

tilkal

BLOCKCHAIN AT CORE
DATABASE (STRUCTURE) + NETWORK (PROTOCOL)

Each participant has a copy
(Node)

Newest

Oldest

The protocol distributes new data to all copies over the network

A B C D H G F E

The protocol ensures nobody can temper with older data

▷ **Shared and tamper-proof data**   ▷ **Auditable & reciproqual responsibility**

▷ **As long as nobody centralizes all copies of the database**

tilkal

TILKAL | SOFTWARE INFRASTRUCTURE FOR **TRACEABILITY 4.0**
– END-TO-END, REAL-TIME, DATA BASED –

B2B Blockchain Data Network
Notarize. Share. Audit.
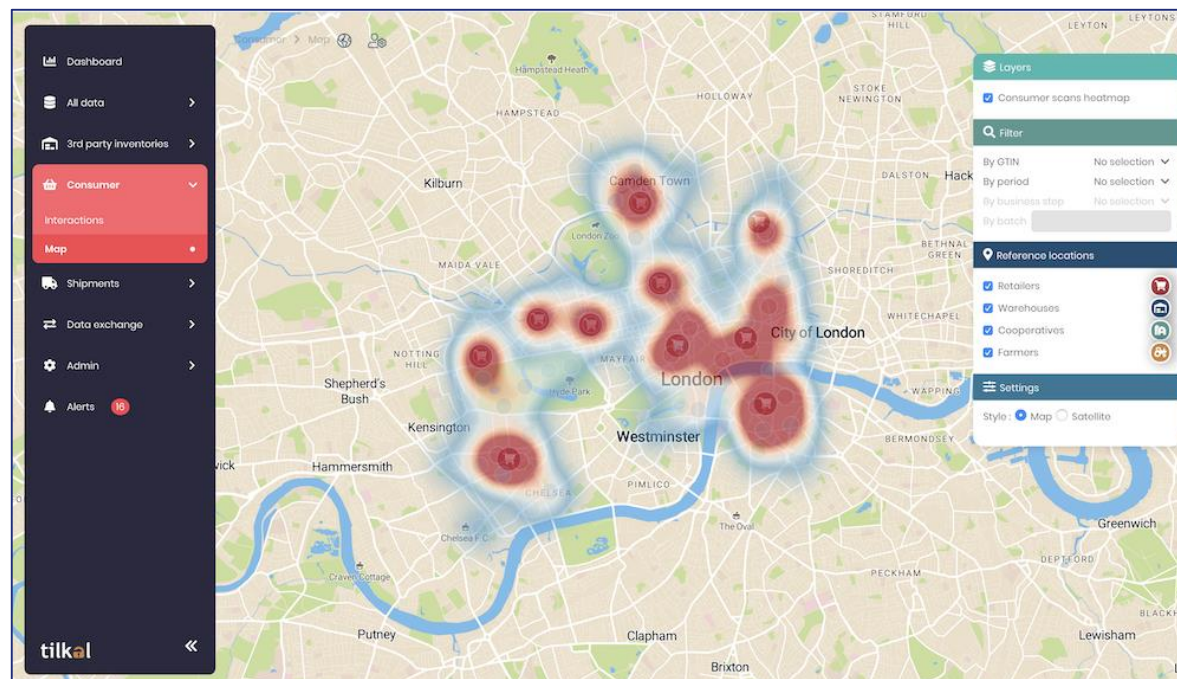
Data-based Traceability
Analyze. Alert. Improve.

OPERATIONS CONTROL

COMPLIANCE

TRANSPARENCY

tilkal
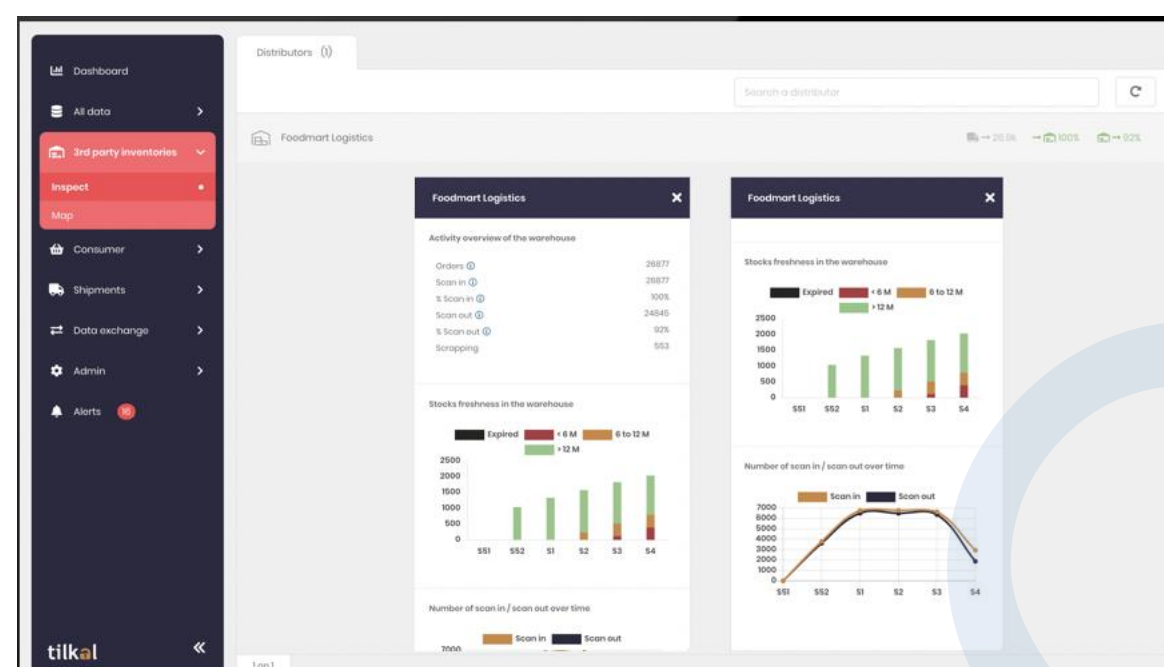
REAL LIFE EXAMPLES

Real time transparency

10M products per year across 16 GTIN's (in France)
Product specification conformity
2-way channel

Casino
PRODUITS DE QUALITÉ DEPUIS 1901

Naturalim

GALLIANCE

3rd party inventory

Infant formula safety
Operations digitization
Real time inventory from factories to Tier 1 & Tier 2 distributors
Under deployment in 100+ warehouses (in Asia)

DANONE
ONE PLANET. ONE HEALTH.

优1宝贝
www.u1baby.com

JiajiaLe
家家乐

Cold chain monitoring

CONFIDENTIAL
Major dairy producer

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

tilkal

KEY OUTCOMES

- Blockchain is a **key building block** to deploy modern traceability
  - embedded into a solution, it does not have to be complex.
  - beware of techno-washing: no node? no control!

- Traceability and data sharing raises the question of **incentives**
  - value sharing, visibility, market access, forecast, improved operations, etc.

- End-to-end traceability is an opportunity to turn a supply chain into a **positive differentiator** for all stakeholders

tilkal

THANK YOU!

Matthieu Hug, CEO

+33 (0)6 08 66 18 63

matthieu.hug@tilkal.com

www.tilkal.com

tilkal