The Global Language of Business

Standards & Traceability. Tech for Nerds, Marketing Trend or a Safety Necessity?

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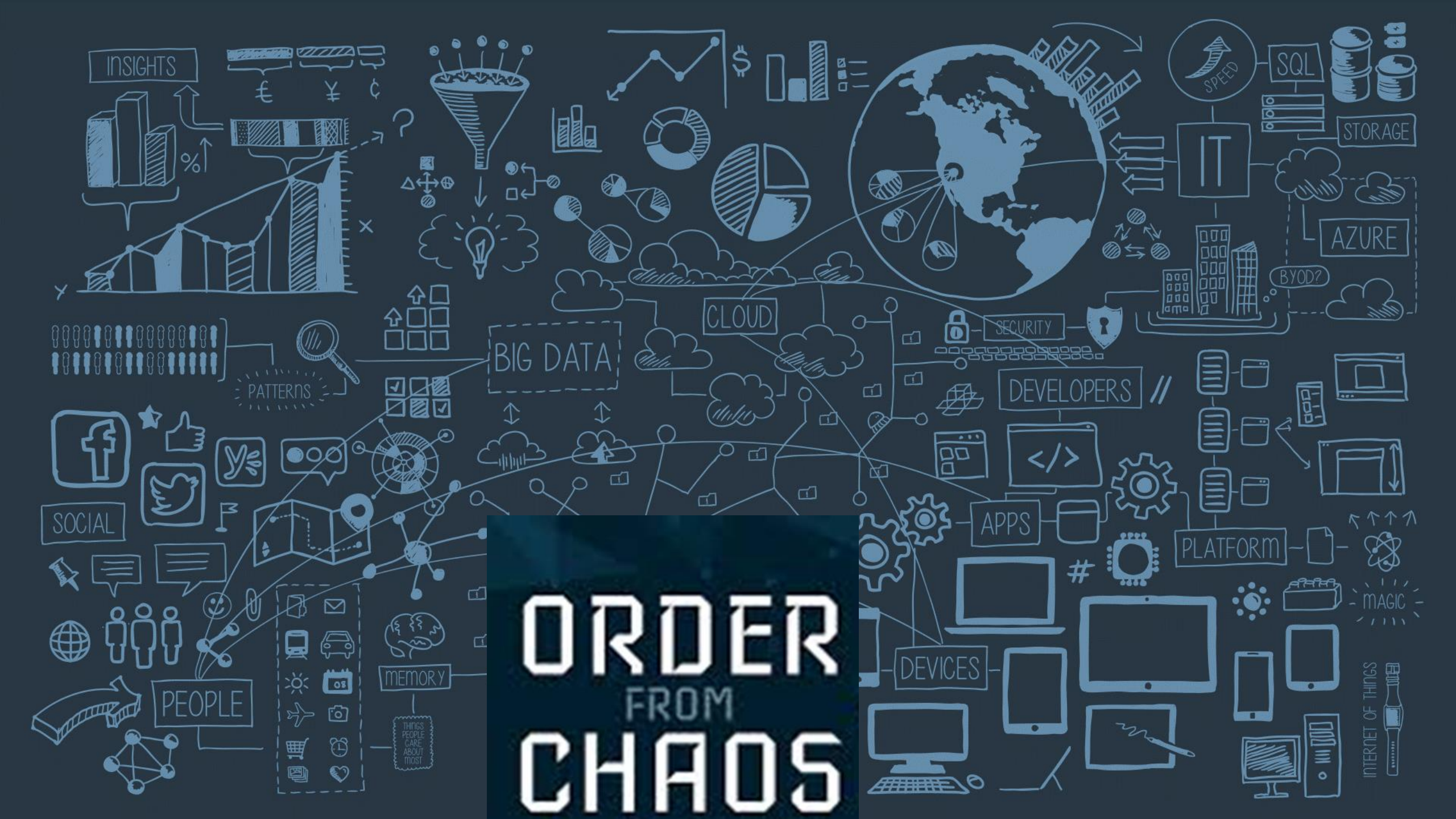
GS1 Association Greece

02/10/2019

COMMUNICATION
SCIENCE
ENGINEERING
DEVELOPMENT
NETWORK
FUTURE
INTERNET
MODERN
DATA
ILLUSTRATION
VIRTUAL
ELECTRONIC
SOFTWARE
OFFICE
BINARY
SCHEMATIC
CONCEPT
ENTERPRISE
INTELLIGENCE
STYLISH
FUTURISTIC
DIGITAL
COMPUTER
TECH
INFORMATION
REVOLUTION
ABSTRACT
SECURITY
POWER
CREATIVE
TECHNOLOGY
INDUSTRY
SYSTEM
RESISTANCE
CIRCUIT
INDUSTRIAL
CODE
CHIP
DESIGN
HARDWARE

SOCIAL
NETWORKS
GLOBAL
ECONOMY
PLAN
LIFE
E-MARKETING
COMMUNICATION
MARKETS
ADVERTISING
PROMOTION
SOCIAL
COMPUTER
SOCIAL MEDIA
TARGET
SERVICES
CONSUMER
CONSUMER DEMAND
MULTIMEDIA
NETWORK
PROJECTS
ORGANIZATION
WEB MARKETING
APPS
STATISTICS
DISRUPTIVE
INTERNET
ADVANCES
PROGRAMMING
BRANDS
SOLUTIONS
TECHNOLOGY
BUSINESS
VISION
RESEARCH
PLANNING
WEB DEV
BRAND
WEB SERVICES
STRATEGY
WORLDWIDE
BIG
BUZZ
DATA
ORGANIZATION
BEHAVIOUR
PRO
PRICING
NEXT GENERATION
MEDIA
MOBILE
SCIENCES
PLANNING
INFORMATION
SOCIAL NETWORKS
DIGITAL


INSIGHTS
SPEED
SQL
IT
STORAGE
AZURE
BYOD?
CLOUD
SECURITY
BIG DATA
PATTERNS
DEVELOPERS
SOCIAL
APPS
PLATFORM
MAGIC
PEOPLE
MEMORY
THINGS PEOPLE CARE ABOUT MOST
DEVICES
INTERNET OF THINGS
ORDER
FROM
CHAOS

Navigating the changing World

Business Trends (&) or (VS) Technology enablers

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Top 7 World Business Trends

1. DATA SECURITY & PRIVACY

- Cyber Security Market already exceeds $100billion and expected to exceed $200billion by 2021 [1].

- Consumer privacy concerns from recent data breaches.

- GDPR

1. https://www.statista.com/statistics/595182/worldwide-security-as-a-service-market-size/

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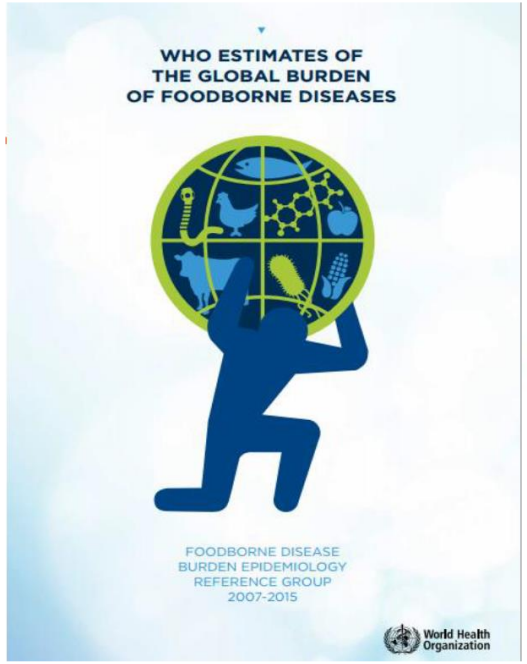
Top 7 World Business Trends

2. TRACEABILITY

- Across sectors & Markets
  - Each Year 600 million or almost 1 in 10 people fall ill after consuming contaminated food.
  - Of these **420.000 people die**, including **125.000 children under the age 5** according to WHO (World Health Organisation)



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Top 7 World Business Trends

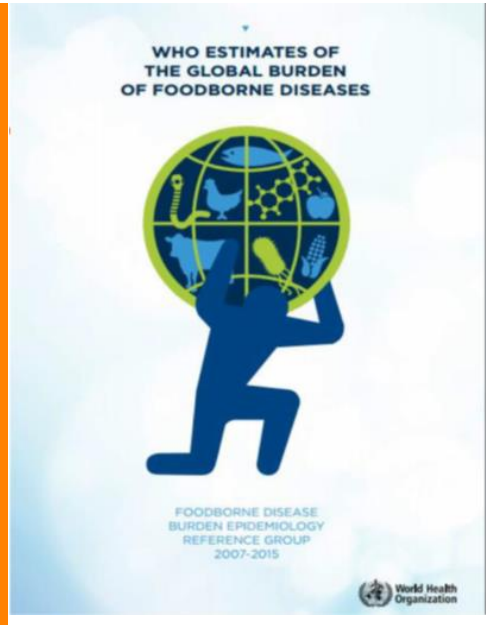
2. TRACEABILITY

Each year 10% of world population

600 million people

become ill after eating contaminated food

Of these **420.000 people die**, including **125.000 children under the age 5** according to WHO



Contamination poses a potential threat of

$55.5 billion/year

Top 7 World Business Trends

3. SUSTAINABILITY

- Is a global mega trend that encompasses both environmental and social issues such as
  - ✓ reducing waste,
  - ✓ new ways of optimising the use of resources,
  - ✓ finding new opportunities to recycle and
  - ✓ reuse packaging and products at end of life,
  - ✓ and ensuring the fair trade of products.

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Top 7 World Business Trends

4. ON DEMAND LOGISTICS & SERVICES

- By 2050 almost two-thirds of the population living in urban centres by 2050[(2)].
- B2B companies are looking to reduce inventory and streamline their processes.
- All this calls for more and more automation throughout transport and logistics processes for increased efficiencies when making on-demand deliveries.

2. https://www.ey.com/gl/en/ issues/business-environment/ey-megatrends-urban-world

© GS1 2018

Top 7 World Business Trends

5. AUTOMATION & "SMART EVERYTHING"

- **Everything that can be connected, will be connected.**
- IoT technologies and devices along with high-bandwidth wireless communication and data transfer are all becoming cheaper.(3)
- Today, these technologies are making a huge impact in the automation of existing processes— estimated to save over $1 trillion per year for asset operators.(4)
- Smart Factories, Smart Homes, Smart Cities, Smart Logistics, Smart Health etc.

3. Bernardi, Linda; Sarma, Sanjay; Traub, Kenneth. (6 October 2017). The Inversion Factor: How to Thrive in the IoT Economy

4. https://www.wsj.com/articles/beer-maker-uses-machine-learning-to-keep-beverages-flowing-11548239401

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Top 7 World Business Trends

6. MASS CUSTOMISATION

- "Companies are asking how to make it possible to get more value from personalisation." **Marina Kotsianas, CEO, Artia Strategies,**
- Customisation is possible in many industries, including personalised apparel, food, consumer electronics, beauty care and automotive.
- Across healthcare, individualised medicine and treatment are personalising patient care in new ways.
- In manufacturing, new systems can "think" multiple moves ahead to find new ways of maximising production throughput
- These systems are opening the door to extreme **customisation called "order of one" and "batch size 1,"** enabling factories to ship orders of one directly to customers.
- Enabling technologies that most impact mass customisation include autonomous logistics, robotics, A.I., and the Internet of Things and sensors.

© GS1 2018

the growing power of the consumer

Millennials are replacing baby boomers. Social and behavioural changes are empowering consumers, who expect:

- **increased transparency,**
- **connectivity and integration of their services and products**
- **all at lower costs,**
- **with increased speed**
- **and a greater focus on sustainability practices.**

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Consumers want to know more information about the products they purchase than ever before.

10.4

is the number of sources the average shopper consults, double the number from 2016

More than 50% of consumers make purchase decisions before they even enter the retail store

Online CPG Sales Headed for 10 Percent, Food Processing, 22 February 2017

© GS1 2018

Consumers do not shop entirely online or offline. They shop wherever and whenever they want to shop.

76%
of all consumer shopping *begins* online

Online CPG Sales Headed for 10 Percent, Food Processing, 22 February 2017

66% of millennials shop online weekly

84% of 35- to 54-year-olds shop online monthly

E-commerce: Build, Drive and Earn E-commerce Growth for Retail Success, IRi, January 2017

© GS1 2018

Global view of online CPG growth

UK's online grocery market will grow by 48% by 2022 and account for 7.5% of the total UK grocery market

The U.S. online grocery market will grow by 129% by 2022 and account for 2% of the total U.S. grocery market

China's online grocery market will grow by 286% by 2022 and account for 11.1% of the total Chinese grocery market

The Online Store of the Future, IDG

© GS1 2018

Today’s brand owners

© GS1 2018

Today's retailers

© GS1 2018

GS1 standards are helping brand owners and retailers to meet the needs of consumers for trusted information about the products they purchase—no matter how or where they shop.

Physical identification

Digital identification

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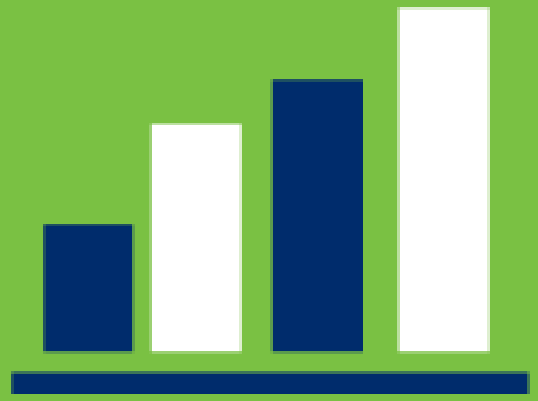
GS1 standards provide accurate and complete product information that can be used in and across B2B and B2C business processes and platforms.

Enable better search results



Achieve smarter analytics

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Technologies Enabling Business Trends

1. IoT, sensors and biometrics
2. Artificial intelligence (A.I.)
3. Open, structured and linked data
4. Autonomous logistics
5. Blockchain and distributed data
6. Computer vision
7. Voice recognition
8. Robotics
9. Augmented, virtual and mixed reality

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Technologies Enabling Business Trends

- IOT sensors and biometrics technologies **impact**: Automation & Smart Everything, empowered consumers, on-demand logistics and services, traceability and sustainability.

- AI impact: the automation and Smart Everything trend, empowered consumers, and help solve new problems in real-time for on-demand logistics and services as well as data security and privacy.

- Open, structured and linked data: This will have a strong impact in **all the business trends** that rely on interoperable data, especially empowered consumers, traceability, and automation and Smart Everything.

- Autonomous logistics impact: on-demand logistics, automation and Smart Everything.

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Technologies Enabling Business Trends

- Blockchain and distributed data: emerged as a potential enabler for traceability, especially in food safety applications.
- Computer vision: enabler of many business trends, notably automation and Smart Everything as well as on-demand logistics and services.
- Voice recognition: empowered consumer, and automation and Smart Everything.
- Robotics: automation and Smart Everything trend; it is also assisting in the scaling of mass customisation.
- Augmented, virtual and mixed reality:automation and Smart Everything and empowered consumer business trends

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Food Traceability & Food Safety

" Implementing a traceability system does not, in itself, ensure food safety;

It does allow a more rapid and efficient response to food safety problems, enabling quick identification of problem sources and their location in the supply chain." (*)

* Asian Development Bank Institute paper; Food safety & ICT Traceability systems

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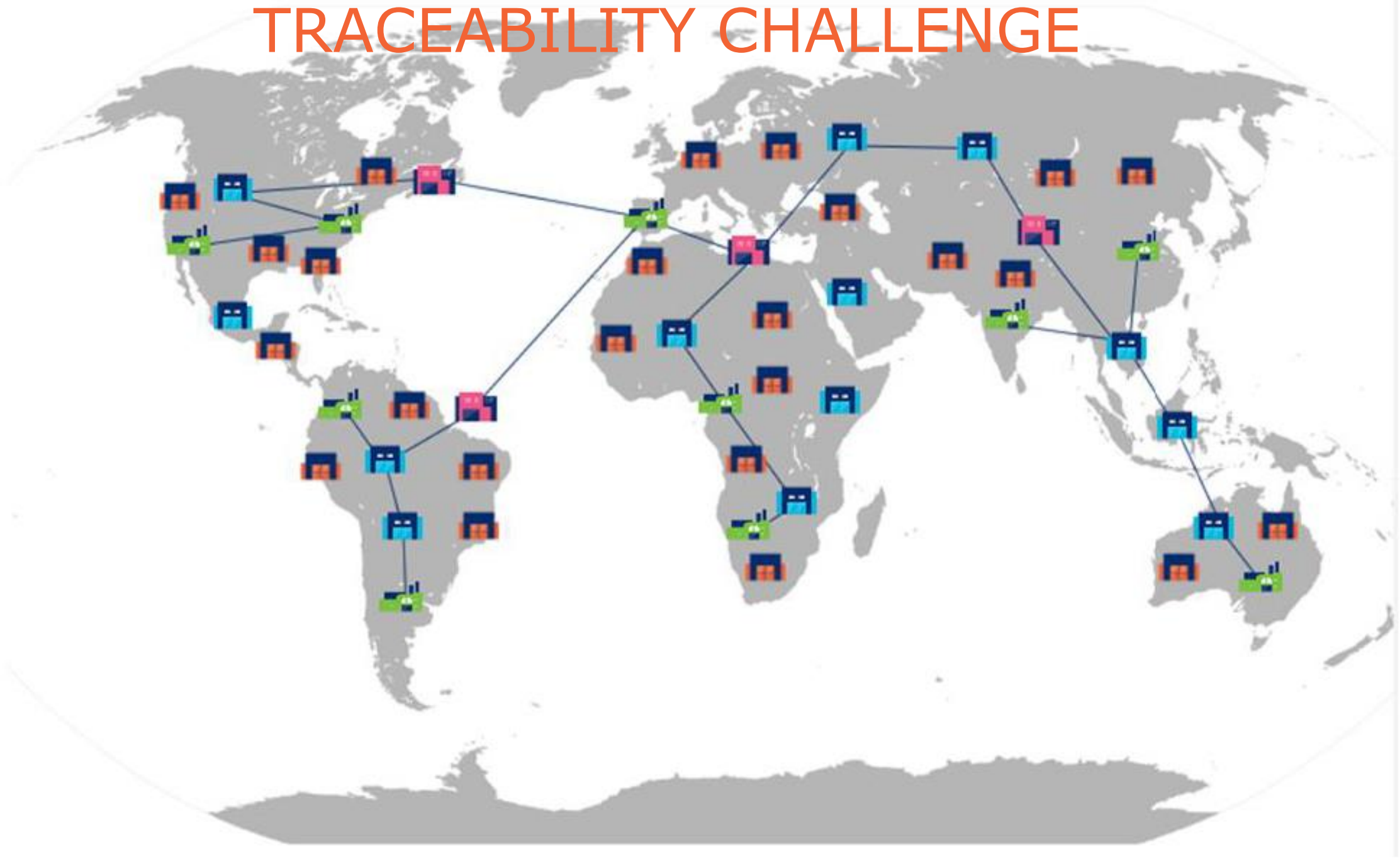
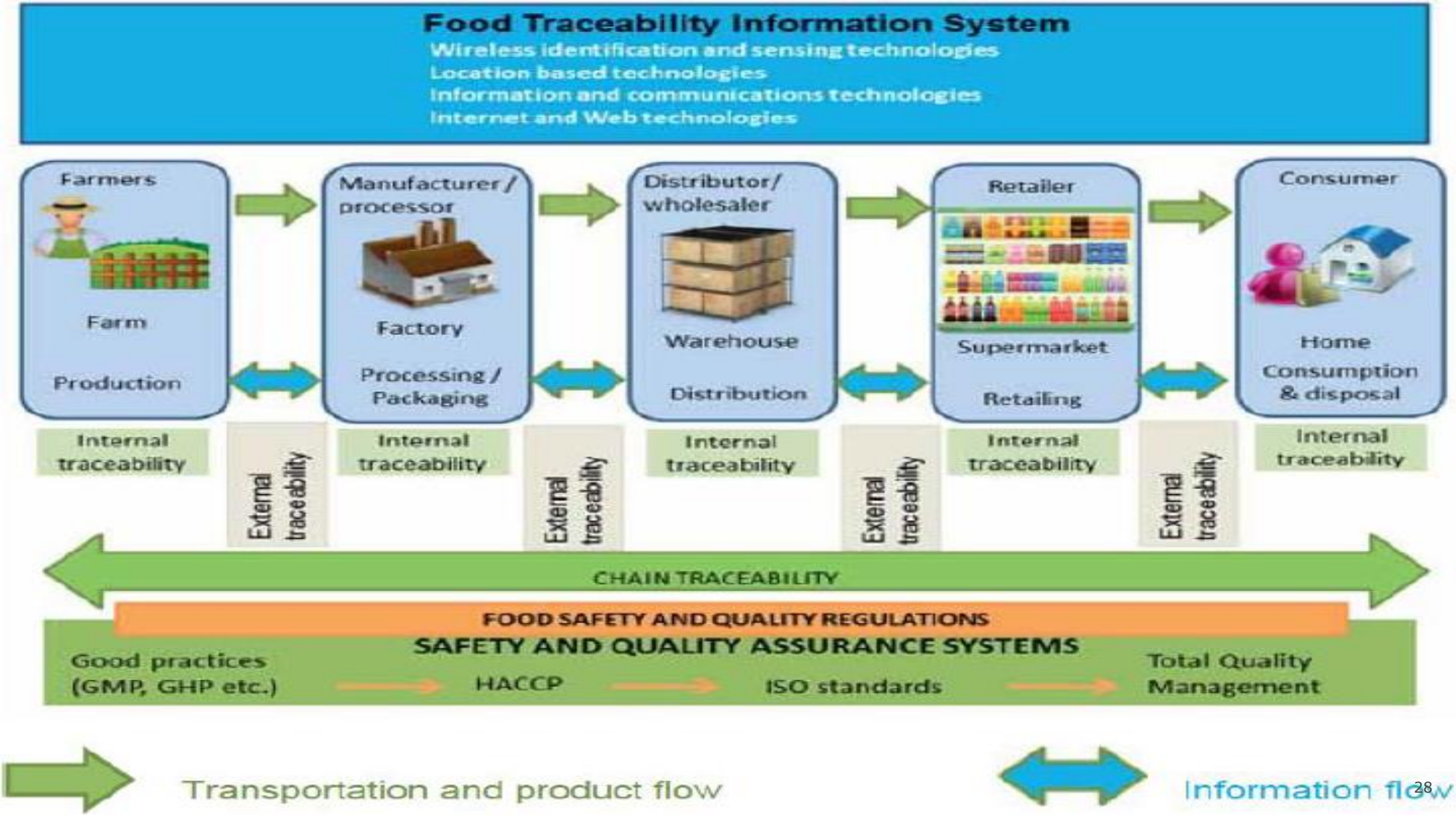
TRACEABILITY CHALLENGE



Where is my shipment?
Was it sustainably sourced?
Is this safe to eat?


Food Traceability Information System
Wireless identification and sensing technologies
Location based technologies
Information and communications technologies
Internet and Web technologies
Farmers
Farm
Production
Manufacturer / processor
Factory
Processing / Packaging
Distributor/ wholesaler
Warehouse
Distribution
Retailer
Supermarket
Retailing
Consumer
Home
Consumption & disposal
Internal traceability
External traceability
Internal traceability
External traceability
Internal traceability
External traceability
Internal traceability
External traceability
Internal traceability
CHAIN TRACEABILITY
FOOD SAFETY AND QUALITY REGULATIONS
SAFETY AND QUALITY ASSURANCE SYSTEMS
Good practices (GMP, GHP etc.)
HACCP
ISO standards
Total Quality Management
Transportation and product flow
Information flow

CONSUMER

1 TRUST

Contaminations, recalls and counterfeits change **consumer perceptions** and purchasing behaviours

Want safe, genuine products and **trust** information on products they buy

INDUSTRY

2 RELIABILITY

Industry needs to **track, trace and authenticate** their products/ components from their origin

Want to make sure products they supply to consumers **are safe**

AUTHORITIES

3 COMPLIANCE

Ensure safe environment for citizens through new regulatory requirements

Products sold to consumers **must be safe**

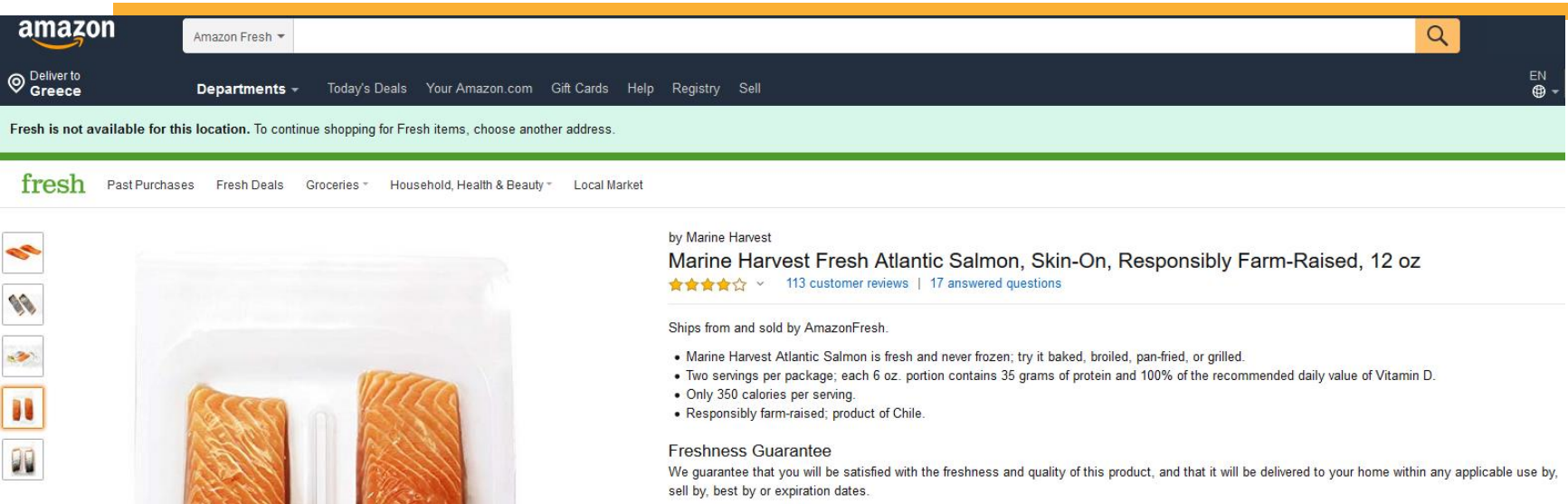
Imagine a farmer preparing a shipment and easily being able to communicate important information about the harvest, sustainability measures or requirements to downstream trading partners.

Imagine consumers being able to quickly determine details on the origin and path of the product they are considering.

Traceability benefits

- Improve consumer safety
- Reduce food loss and waste
- Provide consumers with in-demand information

How fresh is the product ?



0 votes

Question: How fresh is the salmon? I have a histamine problem and can only consume the freshest fish

Answer: Then I wouldn't get this. It definitely wasn't that fresh to me.
By AJS on March 18, 2018

0 votes

Question: Do they use antibiotics?

Answer: I don't know, sorry. Good question! I'll have to check next time.
By Julia Hoff on December 5, 2018

Πηγή:
https://www.amazon.com/gp/product/B0732ZP2HC/ref=pd_alm_hps_1_1_af_nereid?fpw=fresh&pd_rd_r=752f4ba9-9a97-4a6a-b8a5-bff9ea77564c&pd_rd_w=zuMBp&pd_rd_wg=q3cw0&pd_rd_i=B0732ZP2HC&pf_rd_r=DJKXA3BCM7SEK29Z0EZQ&pf_rd_p=2be7bb20-8e19-44ad-b1bc-3587825c50b1

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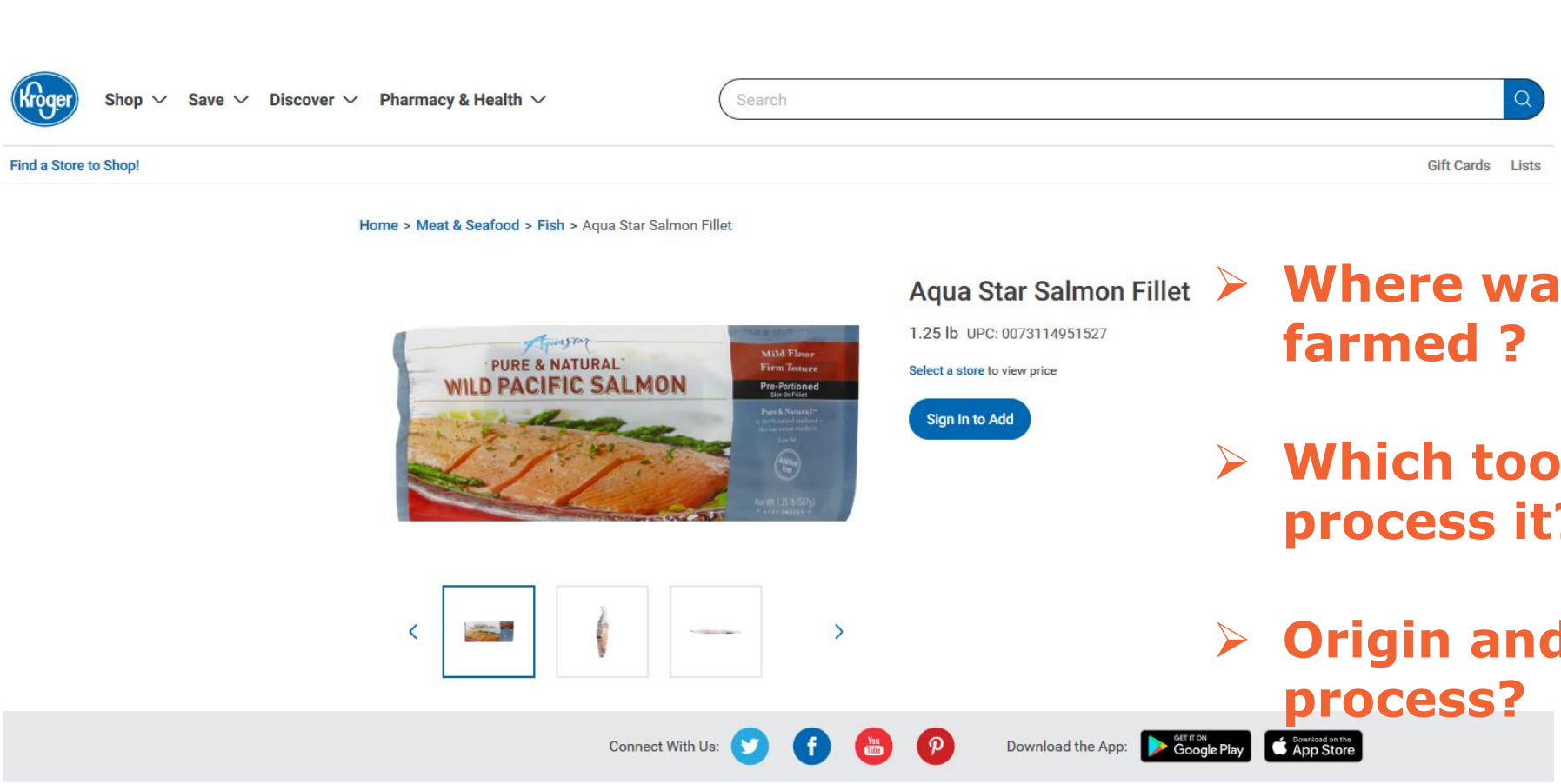
Origin of the product ?



- **Where was it caught or farmed ?**
- **Which tools were used to process it?**
- **Origin and country of process?**

Πηγή: https://www.kroger.com/p/aqua-star-salmon-fillet/0073114951527

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Is it safe to consume it ?

- **Allergens?**
- **Ingredients?**

Πηγή: https://www.aldi.co.uk/10-cod-fish-fingers/p/055335005072800

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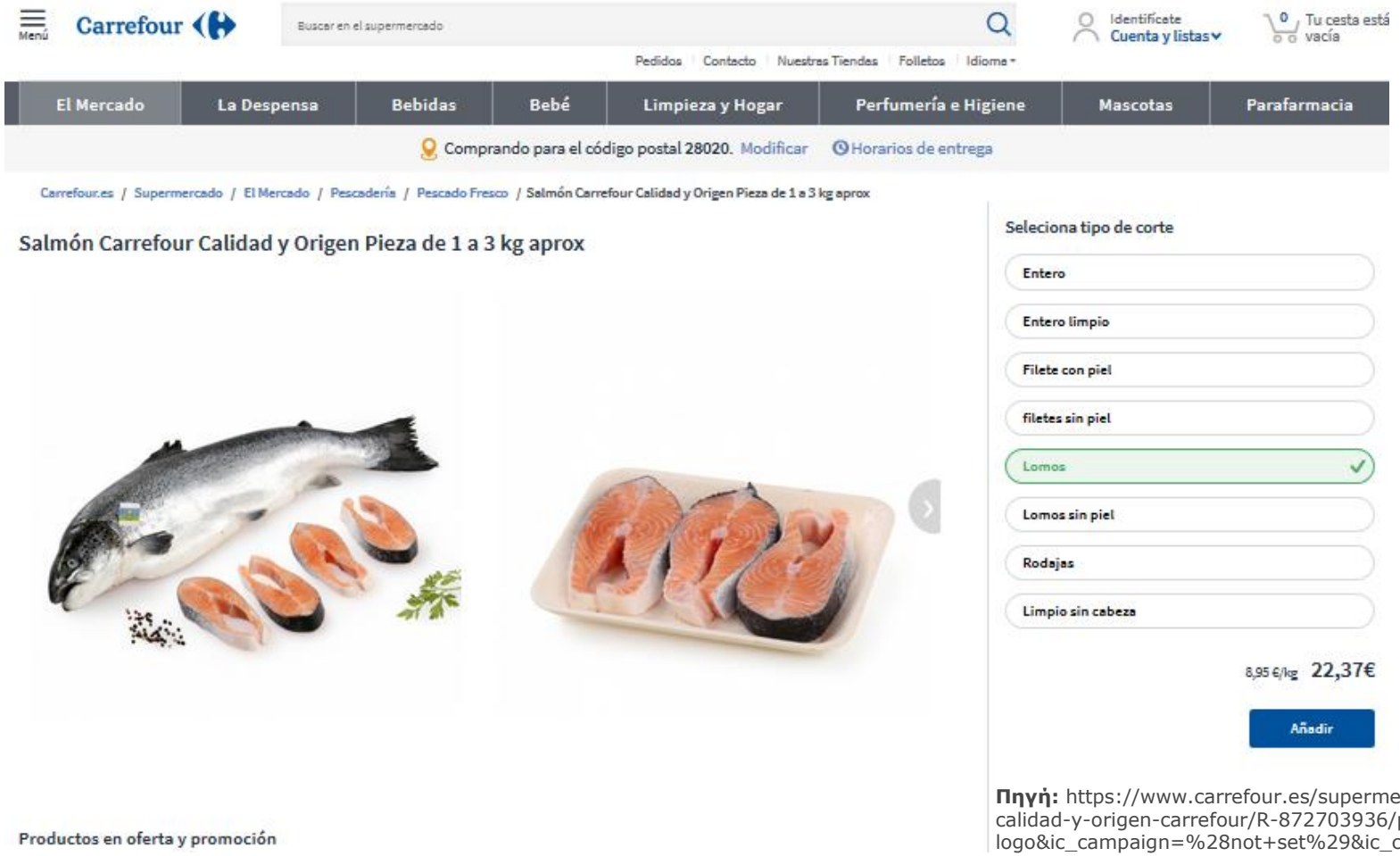
How good is it for my health;



- **Ω-3 ;**
- **Health benefit or claim?**

Πηγή: https://www.carrefour.es/supermercado/salmon-carrefour-calidad-y-origen-pieza-de-1-a-3-kg-aprox-calidad-y-origen-carrefour/R-872703936/p?ic_source=nonfood&ic_medium=header-logo&ic_campaign=%28not+set%29&ic_content=nn

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GS1 EPCIS
Achieve End to End Traceability
&
Provide the information to the consumers

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GS1 EPCIS

EPCIS (Electronic Product Code Information System): Πρότυπο μοντέλο διασύνδεσης δεδομένων για τη συλλογή και διανομή πληροφοριών συμβάντων εφοδιαστικής αλυσίδας

- Το Πρότυπο GS1 EPCIS επιτρέπει στις επιχειρήσεις να συλλέγουν και να ανταλλάσσουν πληροφορίες για την αλυσίδα εφοδιασμού σχετικά με την κυκλοφορία και την κατάσταση των αγαθών, τόσο εντός της επιχείρησής τους όσο και με τους επιχειρηματικούς εταίρους τους.

- Το Πρότυπο GS1 EPCIS έχει εγκριθεί ως πρότυπο και από το Διεθνή Οργανισμό ISO **(ISO/IEC 19987:2015).**

- Απαντάει, με ηλεκτρονικό τρόπο, σε **4 βασικές διαστάσεις ενός γεγονότος της εφοδιαστικής αλυσίδας ενός προϊόντος**.

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GS1 EPCIS Γεγονότα & Διαστάσεις

ΠΟΙΟΣ	Περιγράφει τα εμπλεκόμενα μέρη της διαδικασίας (Business Parties) – Δεν αποτελεί βασική διάσταση του EPCIS
ΤΙ	Ποιο προϊόν/κιβώτιο/φορτίο συμμετείχε στη διαδικασία;
ΠΟΤΕ	Σε ποιο ακριβές διάστημα (Ημ/νία και ώρα) πραγματοποιήθηκε και έληξε το γεγονός;
ΠΟΥ	Σε ποιο ακριβές σημείο (φυσική ή λειτουργική θέση) συνέβη το γεγονός;
ΓΙΑΤΙ	Ποια ήταν η ακριβής αιτία πραγματοποίησης της ενέργειας;

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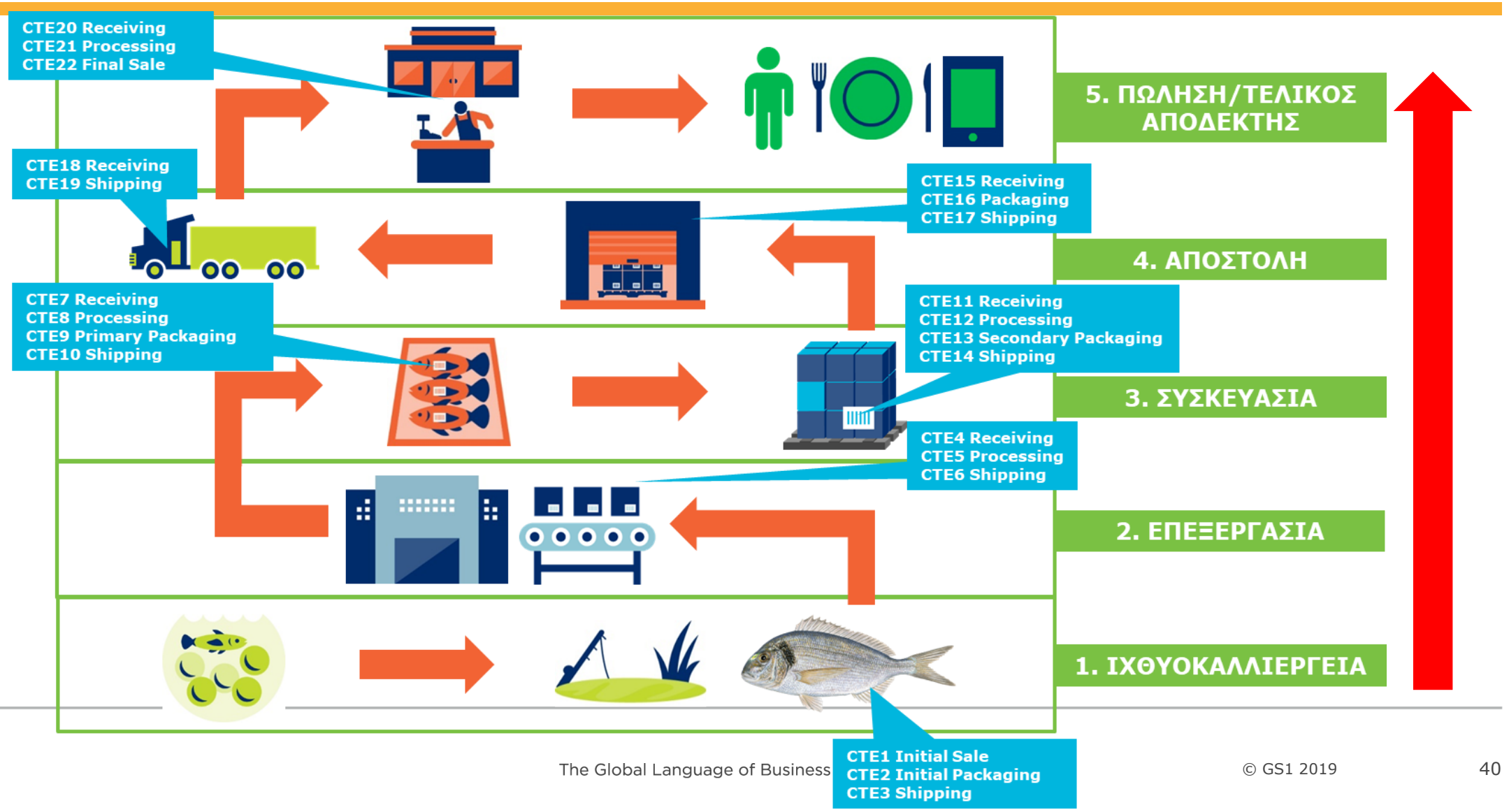
Υπόδειγμα Κρίσιμων Γεγονότων Παρακολούθησης (CTE – Critical Tracking Events) Εφοδιαστικής Αλυσίδας



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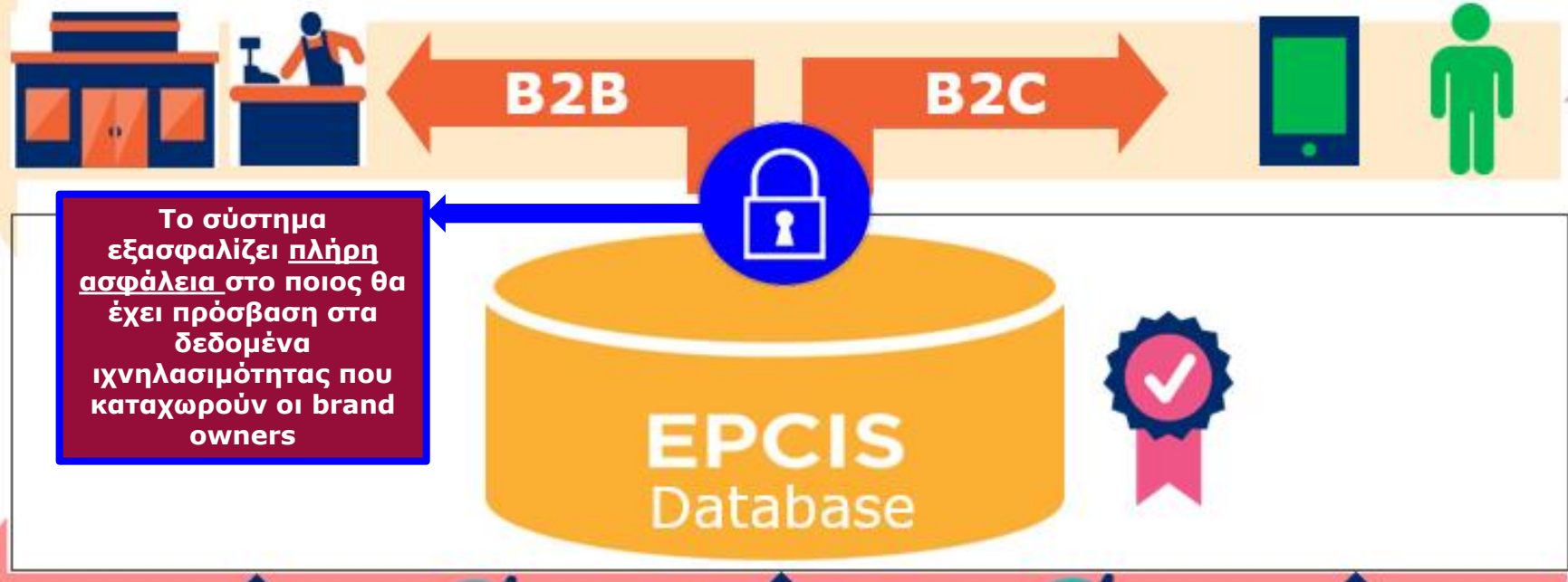
GS1 EPCIS – Λειτουργία

Κοινοποίηση Δεδομένων:
Ο brand owner αποφασίζει ποιος εμπορικός συνεργάτης θα έχει πρόσβαση στα δεδομένα



Το σύστημα εξασφαλίζει <u>πλήρη ασφάλεια</u> στο ποιος θα έχει πρόσβαση στα δεδομένα ιχνηλασιμότητας που καταχωρούν οι brand owners

Καταχώρηση Δεδομένων:
Ο brand owner είναι αποκλειστικά υπεύθυνος και διαχειριστής των δεδομένων που εισάγονται στην πλατφόρμα EPCIS

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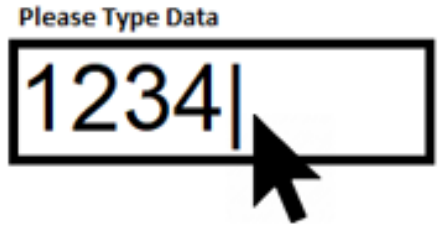
Εφαρμογή GS1 EPCIS Database

https://www.ftrace.com/en/gb



PRODUCT INFORMATION

GTIN / EAN:	04260278110016
Lot No.:	kut999
Product type:	Saithe(=Pollock) (Pollachius virens)
Production method:	Aquaculture
Catch area:	FAO 27.2 - Norwegian Sea, Spitzbergen, and Bear Island (Subarea II)
Catch methods:	Pair trawls
Catch date:	01.12.2014
Vessel:	Antares (SAS211)
Unloading port:	Cuxhaven
Processing parties:	Kuhlmann GmbH, Meißen, Deutschland Kutterfisch-Zentrale GmbH, Cuxhaven, Deutschland
Manufacturing date:	18.12.2014 08.10.2014
Best-by date:	31.10.2014

PACKAGING AND CONTENT

(Sample Package)

Πρότυπα GS1 & Εφοδιαστική Αλυσίδα Τροφίμων

Διαλειτουργικότητα Μεταξύ Διαφορετικών Συστημάτων

Δομημένες και Μοναδικές Πληροφορίες

Πλήρη Και Αξιόπιστα Δεδομένα Ιχνηλασιμότητας

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Working with **AU / US** Governments to improve compliance and border processes

Australia - USA

- Australian and US Governments **using GS1 to Avoid Product Identification Errors** for exported meat

- Use of GS1 *"barcodes as a means to **verify whether containers of imported product with missing** or completely illegible shipping marks are part of a lot **certified** on the accompanying foreign inspection certificate"*

- Added functionalities to system piloted in APEC

USDA Food Safety and Inspection Service

Australian Government
Department of Agriculture

GS1 standards play a

vital role in all business sectors

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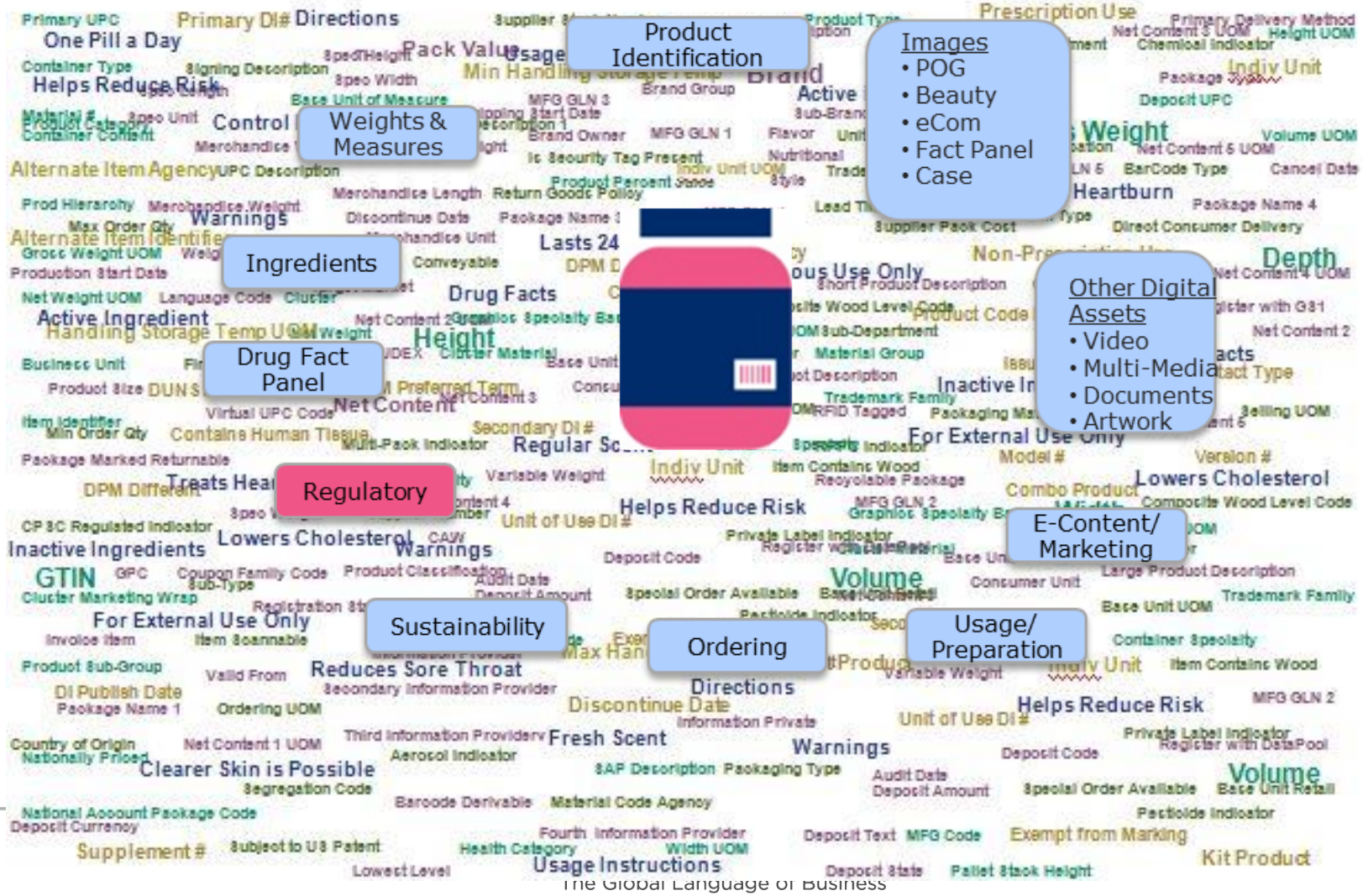
Master Data & GDSN (Global Data Synchronisation Network)



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Master Data

Master Data:

- Brand (GS1 Κωδικοί GTIN, Όνομα, περιγραφή, Target Market κλπ.)
- Marketing (μηνύματα, επισημάνσεις κλπ.)
- Συσκευασία (τύπος, διαστάσεις κλπ.)
- Χαρακτηριστικά Προϊόντων (Προωθητικές ενέργειες, οδηγίες χρήσης, target ages κλπ.)
- Τιμές, Εκπτώσεις, Φορολογική Επιβάρυνση κλπ.
- Διατροφική αξία, συστατικά κ.α
- Είδος GS1 Barcode επί των συσκευασιών & άλλες ειδικές σημάνσεις
- Προωθητικές πληροφορίες
- Οδηγίες Μεταφοράς και Αποθήκευσης

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Global Data Synchronization Network

ΗΠΑ
Καναδάς
Αυστραλία
Ηνωμενο Βασίλειο
Γαλλία
Ολλανδία
Σουηδία
Βέλγιο & Λουξεμβούργο
Μεξικό
Κίνα
Ισπανία
Πορτογαλία
Τουρκία
Ιρλανδία
Αργεντινή
Ουγγαρία
Κροατία
Βραζιλία κα...

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GDSN: Στατιστικά Στοιχεία

Το GDSN σήμερα*:

- **40 Data Pools** πιστοποιημένα από το **GDSN**
- Περισσότεροι από **25.000.000 κωδικοί προϊόντων** καταχωρημένοι στο Global Registry
- Περισσότερες από **45.000 επιχειρήσεις – χρήστες**

*Στοιχεία Ιανουάριος 2016

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HellaSync
powered by GS1 Association Greece

- Το ελληνικό **Data Pool**
- Δημιουργήθηκε από τον GS1 Association Greece
- GDSN **Certified Platform**
- Πεδία για την εναρμόνιση με τον **ΕΚ 1169/2011**
- **Δωρεάν Υπηρεσία**

Ready for EU1169?

Για περισσότερες πληροφορίες :

www.hellasync.org

© GS1 Association Greece 2016

Ενδεικτικοί χρήστες/Λιανέμποροι USA

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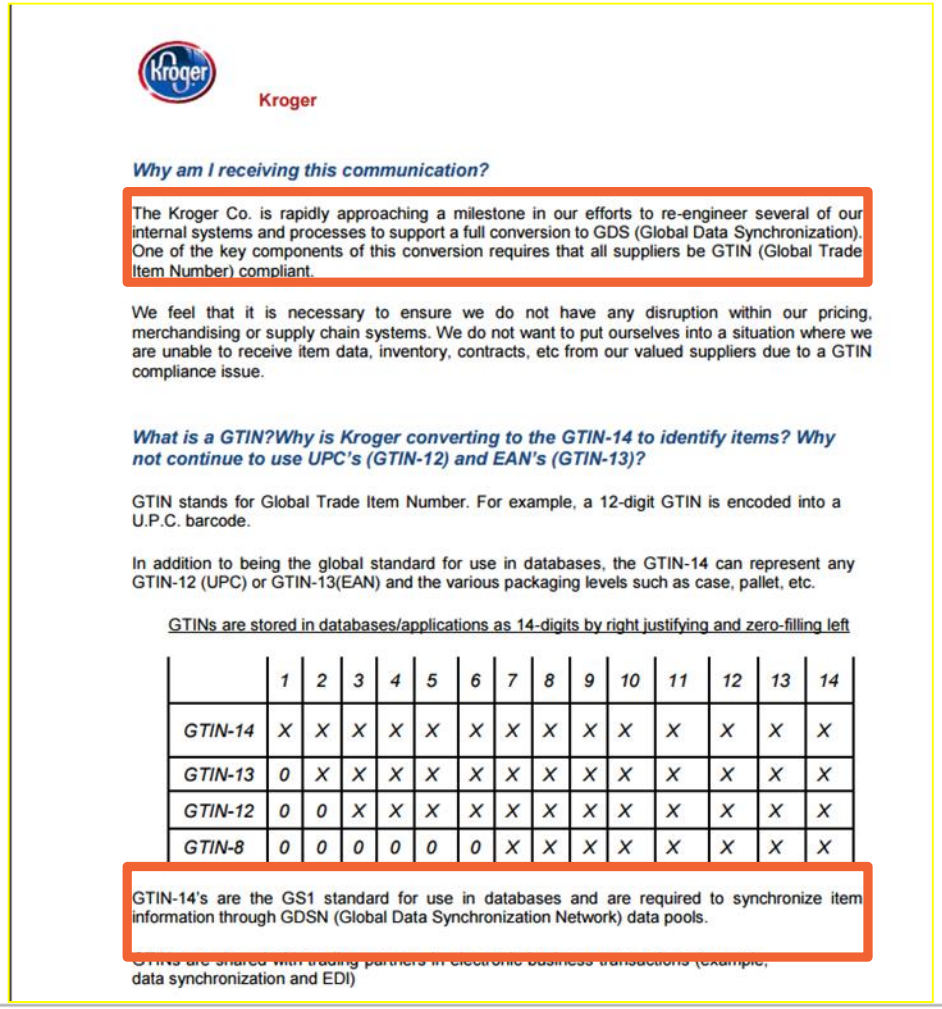
Απαιτήσεις Λιανέμπορων



Kroger

Why am I receiving this communication?

The Kroger Co. is rapidly approaching a milestone in our efforts to re-engineer several of our internal systems and processes to support a full conversion to GDS (Global Data Synchronization). One of the key components of this conversion requires that all suppliers be GTIN (Global Trade Item Number) compliant.

We feel that it is necessary to ensure we do not have any disruption within our pricing, merchandising or supply chain systems. We do not want to put ourselves into a situation where we are unable to receive item data, inventory, contracts, etc from our valued suppliers due to a GTIN compliance issue.

What is a GTIN?Why is Kroger converting to the GTIN-14 to identify items? Why not continue to use UPC's (GTIN-12) and EAN's (GTIN-13)?

GTIN stands for Global Trade Item Number. For example, a 12-digit GTIN is encoded into a U.P.C. barcode.

In addition to being the global standard for use in databases, the GTIN-14 can represent any GTIN-12 (UPC) or GTIN-13(EAN) and the various packaging levels such as case, pallet, etc.

GTINs are stored in databases/applications as 14-digits by right justifying and zero-filling left

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
GTIN-14	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GTIN-13	0	X	X	X	X	X	X	X	X	X	X	X	X	X
GTIN-12	0	0	X	X	X	X	X	X	X	X	X	X	X	X
GTIN-8	0	0	0	0	0	0	X	X	X	X	X	X	X	X

GTIN-14's are the GS1 standard for use in databases and are required to synchronize item information through GDSN (Global Data Synchronization Network) data pools.

data synchronization and EDI)

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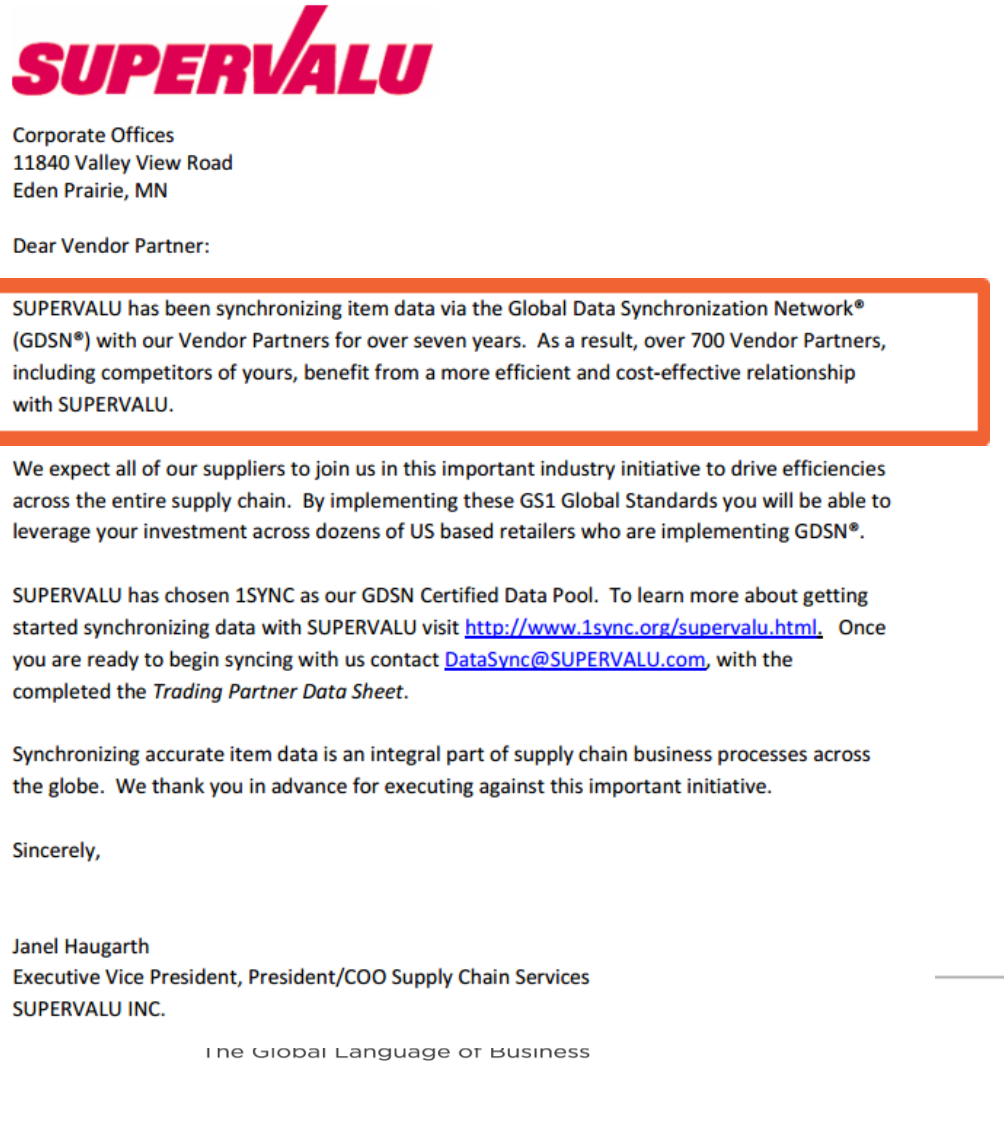
Απαιτήσεις Λιανέμπορων



SUPERVALU

Corporate Offices
11840 Valley View Road
Eden Prairie, MN

Dear Vendor Partner:

SUPERVALU has been synchronizing item data via the Global Data Synchronization Network® (GDSN®) with our Vendor Partners for over seven years. As a result, over 700 Vendor Partners, including competitors of yours, benefit from a more efficient and cost-effective relationship with SUPERVALU.

We expect all of our suppliers to join us in this important industry initiative to drive efficiencies across the entire supply chain. By implementing these GS1 Global Standards you will be able to leverage your investment across dozens of US based retailers who are implementing GDSN®.

SUPERVALU has chosen 1SYNC as our GDSN Certified Data Pool. To learn more about getting started synchronizing data with SUPERVALU visit http://www.1sync.org/supervalu.html. Once you are ready to begin syncing with us contact DataSync@SUPERVALU.com, with the completed the *Trading Partner Data Sheet*.

Synchronizing accurate item data is an integral part of supply chain business processes across the globe. We thank you in advance for executing against this important initiative.

Sincerely,

Janel Haugarth
Executive Vice President, President/COO Supply Chain Services
SUPERVALU INC.

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Απαιτήσεις Λιανέμπορων

SAFEWAY
Ingredients for life.

Grocery Delivery | Gas Rewards | My List

No Store Selected
Select A Store | Store Locator

just for U | Grocery Delivery | Our Store | Recipes & Meals | Pharmacy & Nutrition

In About Us

- Our Story
- Supplier Diversity
  - Defining Our Terms
  - Working With Safeway
  - What We Buy
  - Featured Vendor

Related Links

- Careers
- Investors
- Affiliate Program
- Safeway Foundation

Working With Safeway

getting started: retail sale items

To help you initiate your relationship with Safeway, we suggest that you do the following:

- Visit one or more of our stores to compare your product or service to what we currently offer our customers.
- Evaluate your product in terms of its value: How will it help Safeway customers? What will they find useful or enjoyable about your product? How will it enhance the existing line of goods and services at Safeway? Are your cost and suggested retail price competitive?
- Additionally, for retail sale items: Does your product have the required universal product code (UPC) number for scanning, billing and inventory purposes, from GS1 US? (Learn more by calling 937-435-3870 or visiting gs1us.org)
- Please check with the U.S. Food and Drug Administration at 1-888-INFO-FDA (1-888-463-6332) for more information on labeling requirements and exemptions. Specifically for food items, the following site will provide you an in-depth look at a sample label:
  FDA Food Labeling Guide

Walmart

General | Insurance | Goods for Resale | Health & Wellness

not be accepted and the facility must undergo a Walmart security audit.

General Merchandise Requirements

GTIN/UPC (GS1 Company Prefix) Membership Number

Walmart requires a GS1 Company Prefix number, on your application documents. The initial

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Ενδεικτικοί χρήστες Παγκοσμίως

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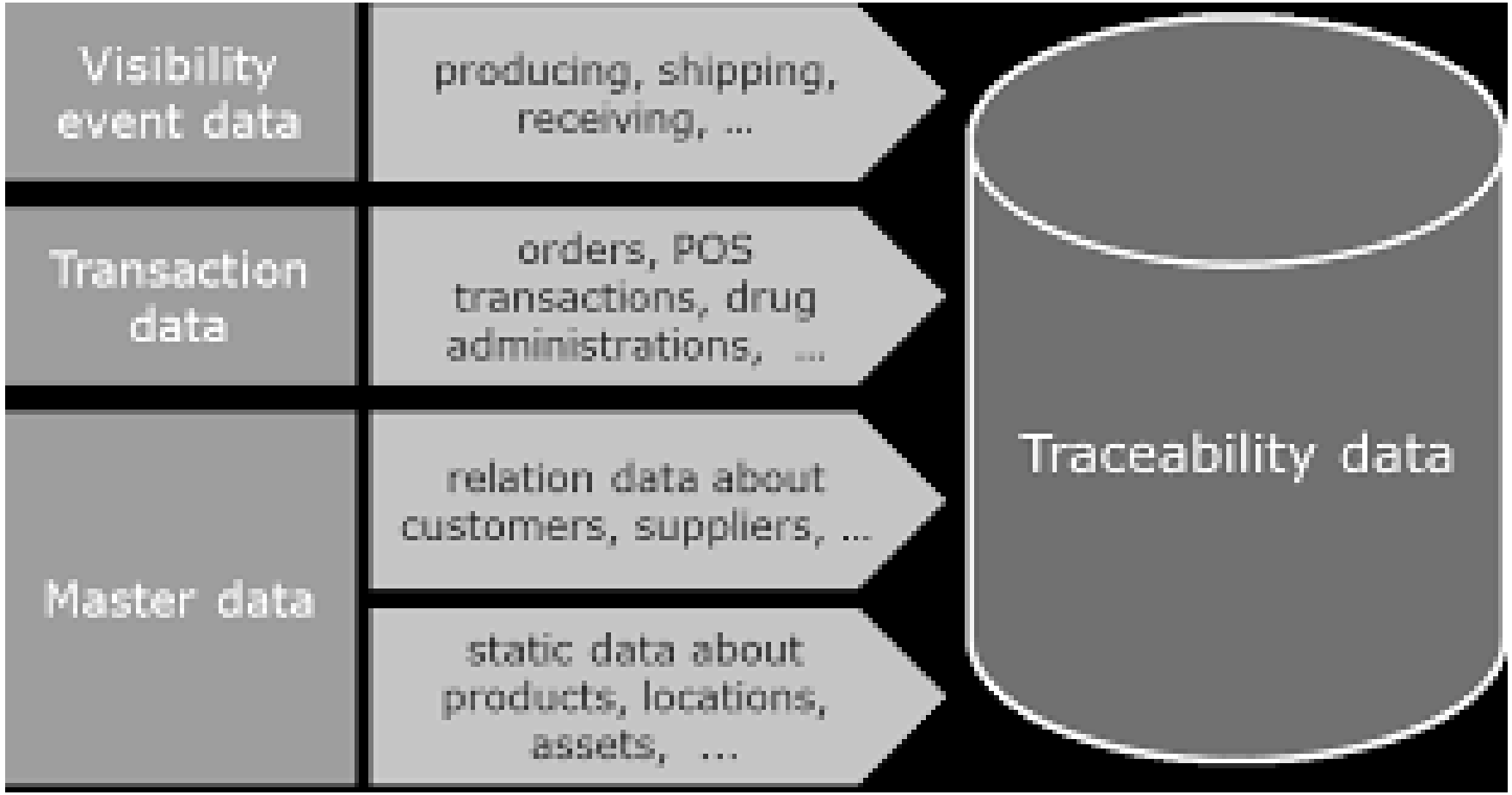
Product’s World of Data



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- Provide trusted product information via unique, persistent identification and accurate, complete data
- Deliver supply chain efficiencies and support agility and responsiveness
- Generate higher quality data at a lower overall cost and improve the shopping experience for consumers

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GS1
'We believe in the power of standards
to transform the way we work and live'

GS1 Association Greece

Δρ. Γεώργιος Σαραντανγάς

Director, Standards & Solutions

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