



The Global Language of Business

Introduction of GS1 System of Standards

Collaboration in Standardisation
delivering value to Users



A need for global standards...



What happens when there aren't global standards?

CONFUSION resulting in:

- Inefficiencies
- Increased risk
- Lost opportunities



GS1: A global language

GS1 is a global standards organisation

- neutral and **not-for-profit**
- **USER-DRIVEN** and governed
- global and local
- inclusive and collaborative



GS1 is both global and local

GS1 Global Office

Identification, creation, development and maintenance of standards and our foundational architecture, coordination with other international bodies, development of training programmes...

GS1 Member Organisations

- Local offices in 112 countries around the globe
- Implementation of standards, local regulatory adjustments, community management and relationship management with local governments and regulatory agencies...

GS1 standards are used billions of times every day, everywhere

in **over 2 million organisations**

in **close to 150 countries**



by **big retailers**

by **small shops**

by **world-famous brands**

by **logistics**

and **many more...**

GS1: Bringing companies together

GS1 brings together companies representing all parts of the supply chain.

Manufacturers, Distributors, Retailers, Hospitals, Logistic Service Providers, Warehouseers, Carriers, Forwarders, Customs Brokers, Customs Organisations, Solution Providers, Software & Hardware Providers, Local and International regulatory authorities and more work together to create, implement and use standards

Our **vision** is a world where **goods** and related **information** move **efficiently** and **securely** for the benefit of businesses and people's lives



GS1 standards benefits

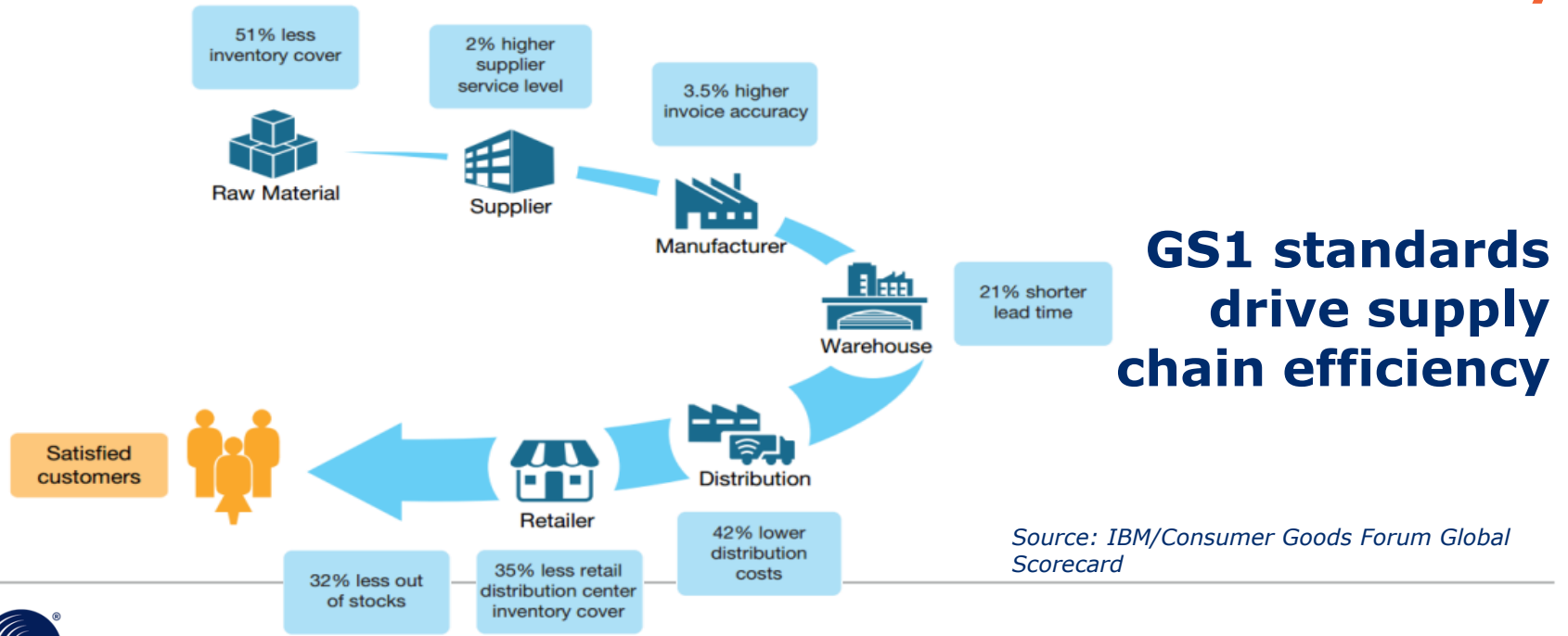


Efficiency

Safety

Collaboration

Sustainability



Source: IBM/Consumer Goods Forum Global Scorecard



Some of the world's best-known companies sit on our Board



Unilever

METRO Group



DAYMON
WORLDWIDE
DESIGN



Johnson & Johnson



...just to
name a few!

Business need

Shippers and Logistic Service Providers **need** to know exactly **where** their shipments are at **any given time**

GS1 can help!

The GS1 System of Standards provides a standardised way to **identity** items and locations... to **capture** details about supply chain movements ... and to **share** that information both internally and with authorised business partners

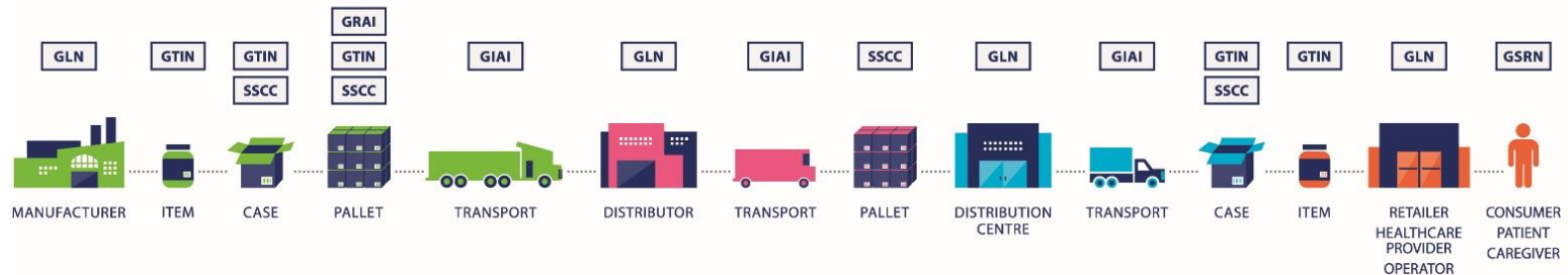


Do you know where
your shipments are ?

GS1: A global system of standards

IDENTIFY: GS1 Standards for Identification

GLN Global Location Number **GTIN** Global Trade Item Number **SSCC** Serial Shipping Container Code **GRAI** Global Returnable Asset Identifier **GIAI** Global Individual Asset Identifier **GSRN** Global Service Relation Number



CAPTURE: GS1 Standards for Barcodes & EPC/RFID

GS1 BARCODES

EAN/UPC



GS1-128



ITF-14



GS1 DataBar



GS1 DataMatrix



GS1 QR Code

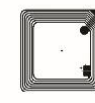


GS1 Composite Barcode



GS1 EPC/RFID

EPC HF Gen 2



EPC UHF Gen 2



SHARE: GS1 Standards for Data Exchange

MASTER DATA Global Data Synchronisation Network (GDSN) **TRANSACTIONAL DATA** eCom (EDI) **Event Data** EPC Information Services (EPCIS)



Manage even the most complex Supply Chains with just a few Keys.

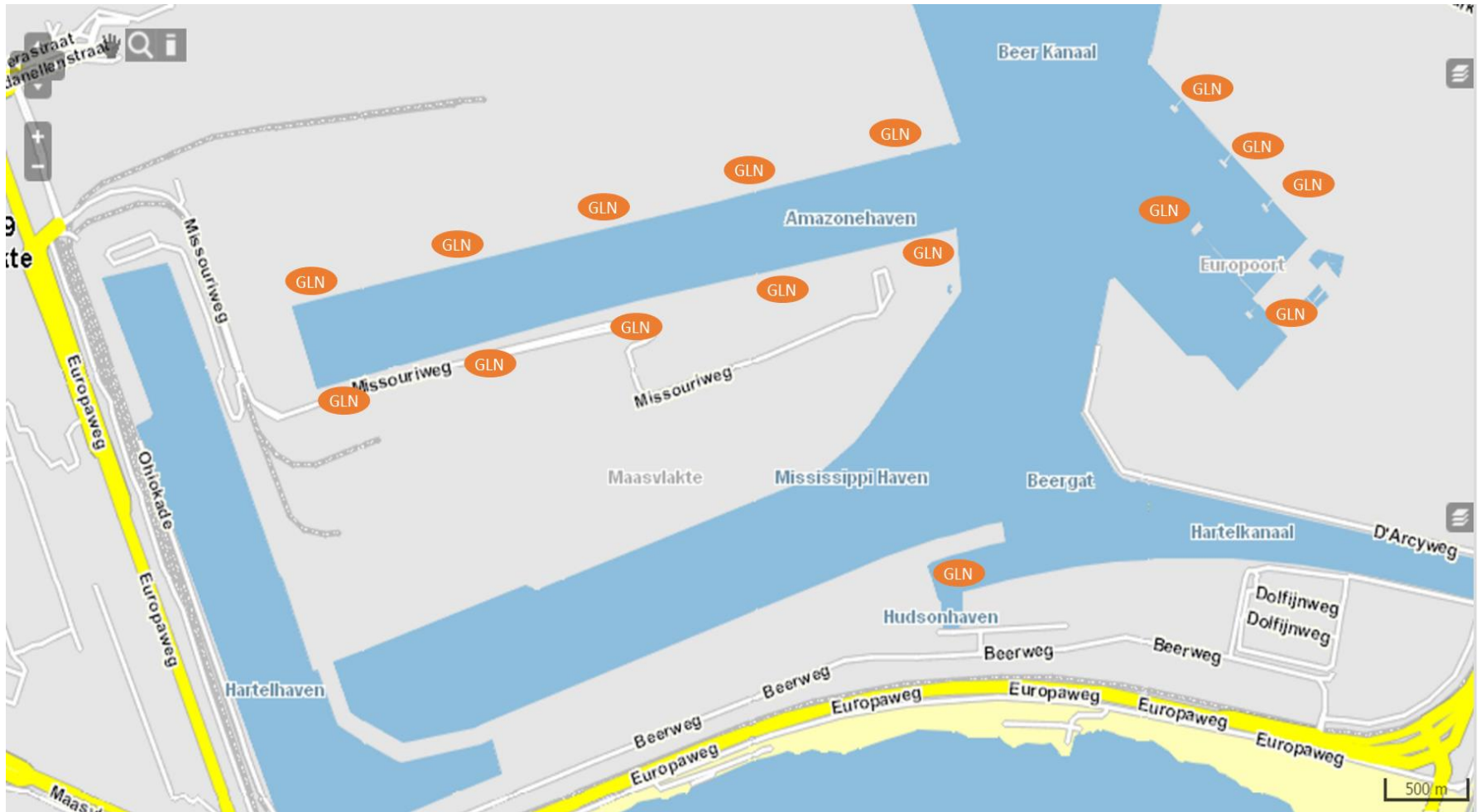


GLN – Global Location Number

Global Location Number can identify:

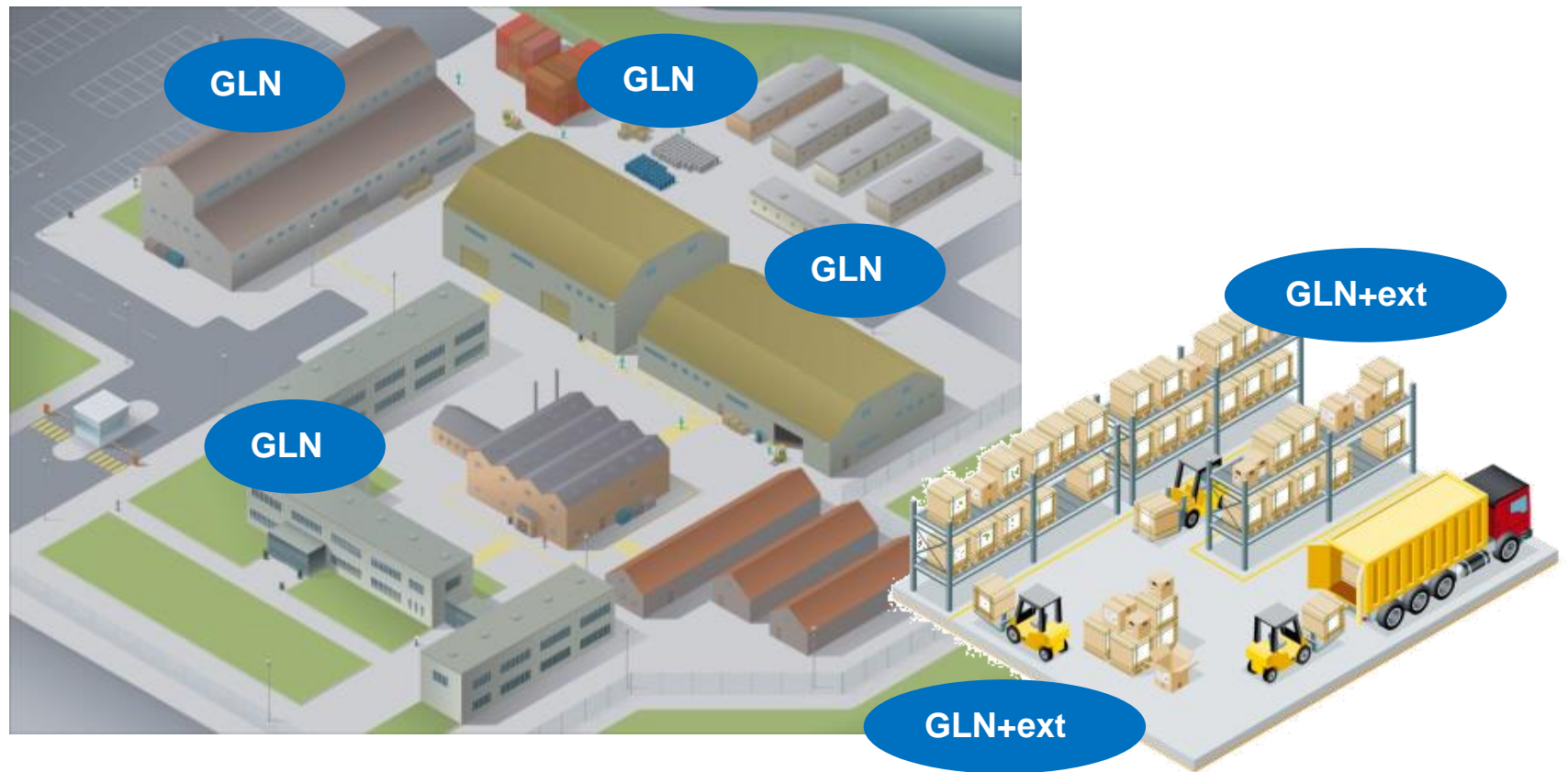
- Any type or level of physical location (hierarchy)
- A company's physical locations, e.g. store, warehouse, berth in a port
- Organisation as an entity
- A company's legal and functional entities

Sample GLN hierarchies



Sample Hierarchies

Physical inventory locations



Identification Standards example (1)



Challenge for selecting standards:

1. Port to port, end to end solution
2. Guarantee data quality
3. Not creating conflicts when assigning numbers
4. Fit for data exchange
5. Comply with existing standards
6. If such standards are not in place yet, select most frequently used identifier for the time being

Solution:

1. As international as possible
2. Unique numbers maintained by an organization
3. Meaningless numbers
4. EPCIS format (what, where, when, why)
5. ISO standards
6. Industry practice

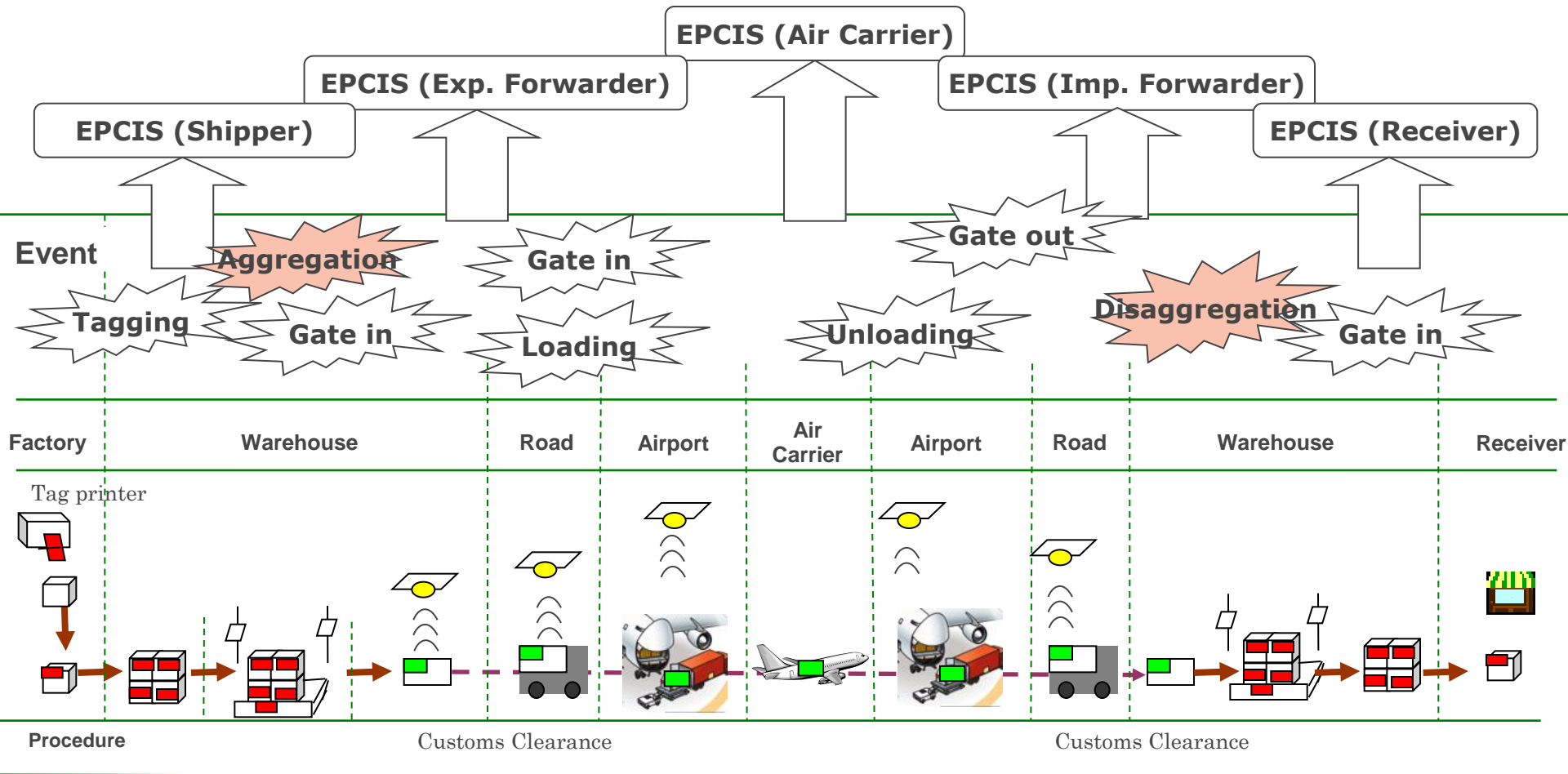
Identification Standards example (2)

EPCIS standard, ISO/IEC 19987:2015

What:	Vessel = IMO number (not an ISO standard yet) Barge = ENI number (not an ISO standard yet) Train = GIAI number (ISO /IEC 15459) Truck = License number (not an ISO standard yet) Container = BIC code, ISO 6346
Where:	GLN number, ISO 6523
When:	Time, ISO 8601
Why:	CBV, ISO/IEC 19988:2015 (to be expanded with maritime events, e.g. ETA Berth)

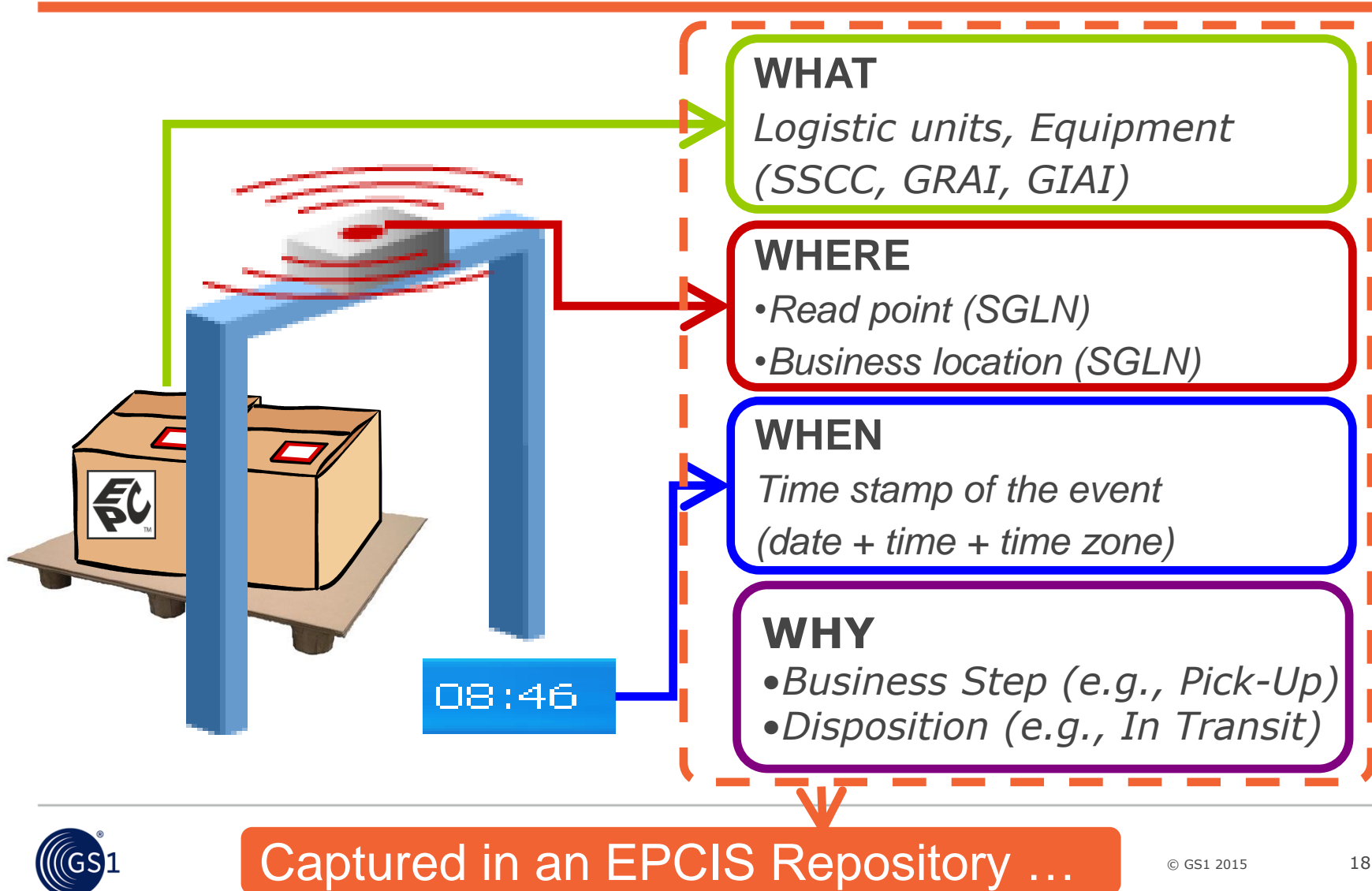
Need for Interoperability among standards
from multiple standards organisation

Overview EPCIS

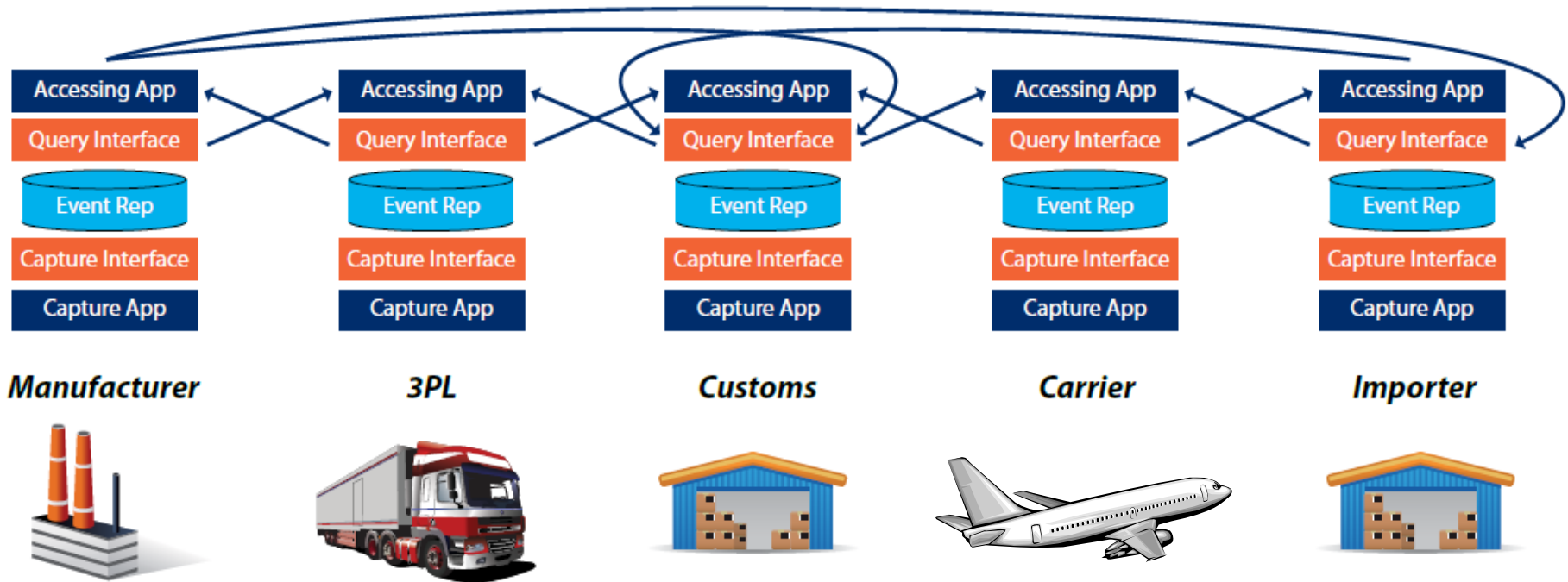


EPCIS is data carrier neutral and can be used with any capture methods: Barcodes, EPC/RFID tags, Optical Character Recognition, etc.

EPCIS: Capture Logistic Events



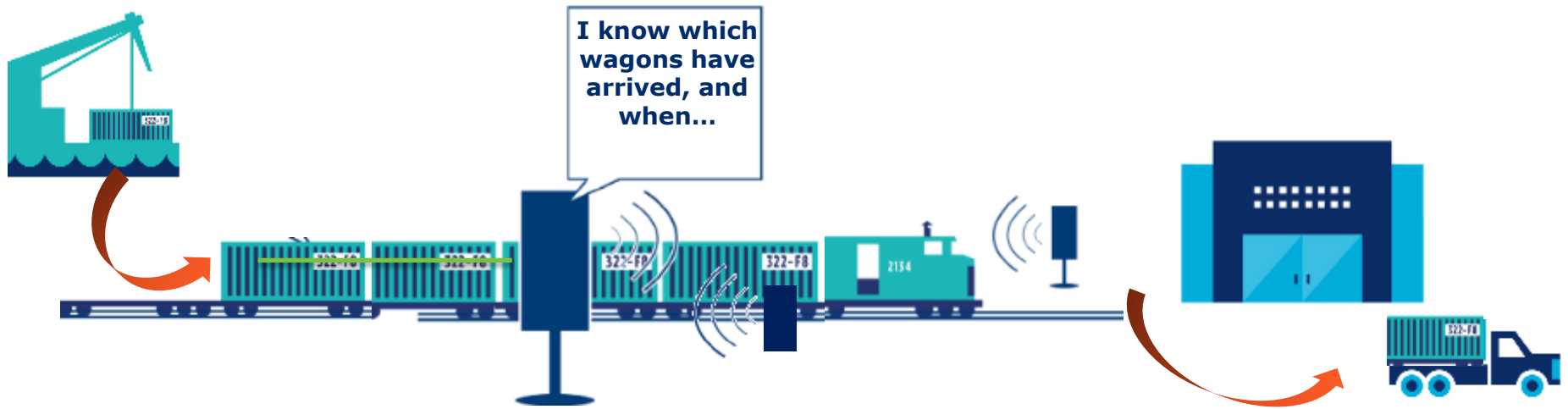
EPCIS end-to-end Piece Visibility



EPCIS enables tracking and tracing AND easy sharing of event data in real-time among trading partners up and downstream

<https://www.youtube.com/watch?v=2aIAV88U6F4>

Enabling **wagon visibility** by sharing **real time information** with customers.



Use of GS1 identification keys (GIAI) to uniquely identify vehicles so wagons can be read by different parties.



Works with passive tags: Possible to read passive tags at more than 200 kilometres per hour.



EPCIS facilitates the sharing of real time information among many players involved in rail industry such as infrastructure managers, train operators, cargo owners and other interested parties.

RFID Reader



Tag on vehicle

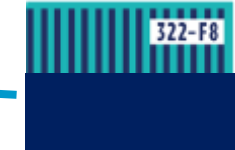


The Reader calls out with a radio wave that looks for a tag

RFID Reader



Tag on vehicle



Data

The Tag sends back data to uniquely identify the vehicle



Thank You for your attention

Questions





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