

# International Standard Development for Transport and Logistics

Shinichi Ishii, Dr. of Eng.

Convener of ISO/TC122/WG12

Expert in ISO/TC104 and ISO/TC204

Expert in UN/CEFACT/T&L Domain Group

Visiting Professor of Graduate School of Hokkaido University

Visiting Professor of Japan Institute of Advanced Science and Technology

Visiting Professor of Tsukuba University

Senior Consultant for Global Infrastructure Consulting department

Nomura Research Institute, Ltd.

# CONTENTS

---

**1. International standard for Transport and Logistics**

**2. ISO / TC204 / WG7**

**3. ISO / TC104**

**4. ISO / TC104**

**6. UN/CEFACT**

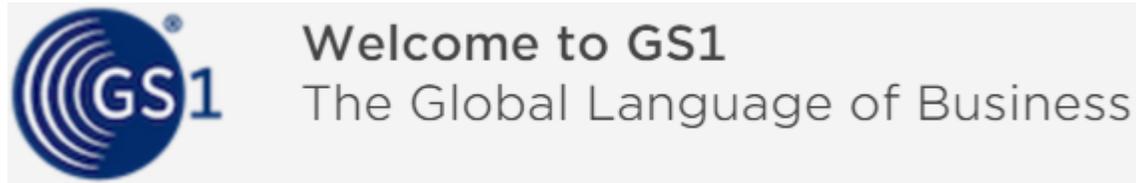
**6. GS1**

# 1 . International standard for Transport and Logistics

## ISO, UN and Other Organizations

---

- ISO
- UN
- Organizations



## Three ISOs published ISO 26683 -1 & 2 and Vehicle Visibility in the Supply Chain in TC204/WG7

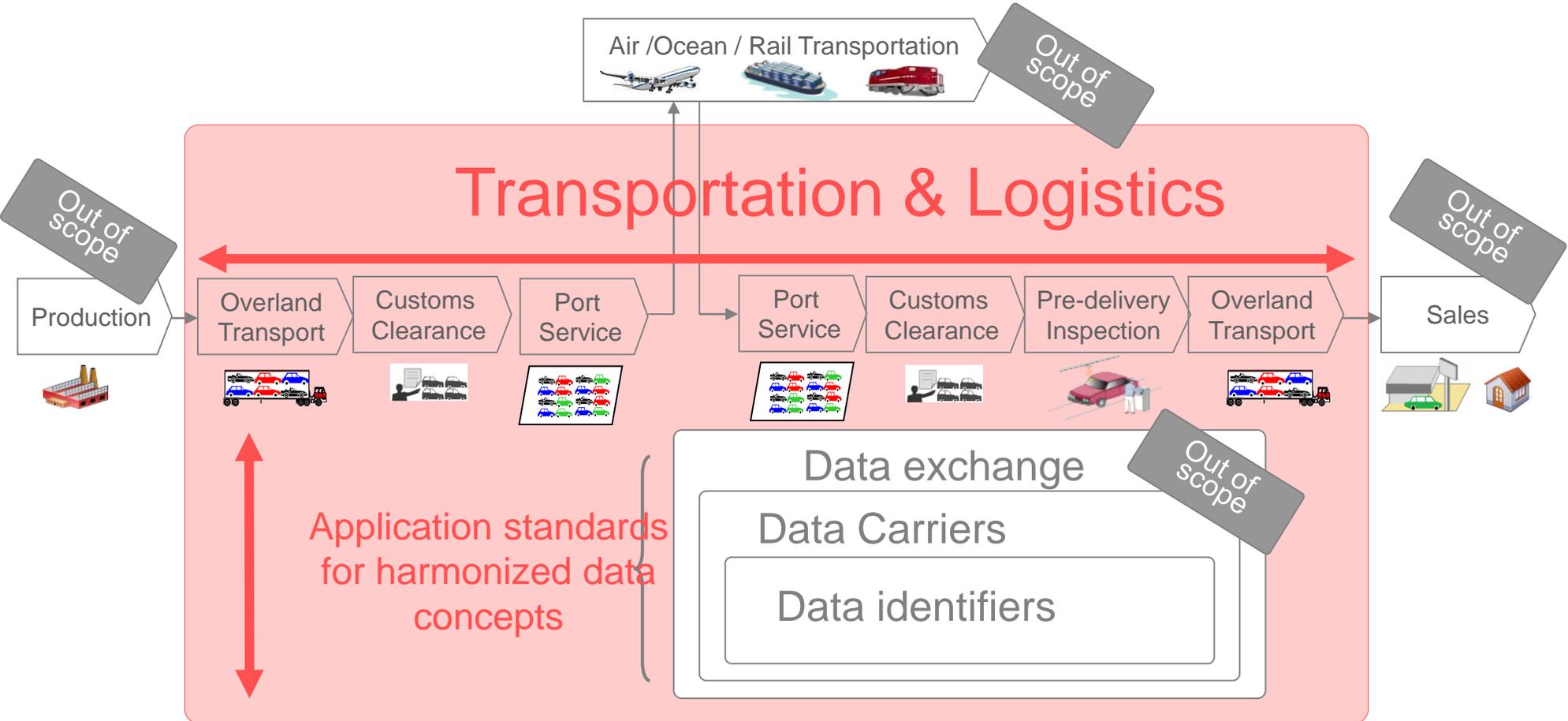
- (1) ISO 26683-1 ‘Intelligent transport systems — Freight land conveyance content identification and communication (FLC-CIC) — Part 1: Context, architecture and referenced standards’, for Publication.
  
- (2) ISO 26683-2 ‘Intelligent transport systems — Freight land conveyance content identification and communication (FLC-CIC) — Part 2: Application interface profiles’, for Publication.
  
- (3) ISO 18495-1 Automotive visibility in the supply chain - Architecture and data
  
- definitions



# ISO 26683 Part -3 & 4 is still under consideration

- 26683-3(Monitoring cargo stress measurement information during road transport) and 4(Security profile), we are still waiting for inputs from other international standards development bodies with ISO/TC122, ISO/TC104 and UN/CEFACT (Transport Domain Group).

# ISO 18495-1 Automotive Visibility in the Supply Chain



# Justification

**New Vehicle**  
(International)

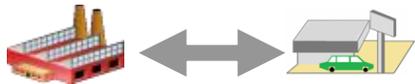
New vehicles  
(Japan, etc)

**Used Vehicles**  
(International)

**Industrial Vehicles**  
Agricultural Vehicles  
Construction Vehicles

## Trade

Manufacturers  
· Distributers



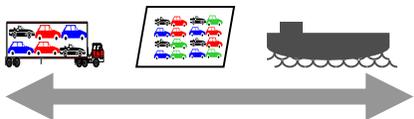
· VIN ISO3779

· Non-ISO VIN  
· In-house codes

· Non-ISO VIN  
· In-house codes  
· VIN ISO3779

## Logistics

Logistics  
Service  
Providers



**No common data identifier exists  
in the area of Automotive  
logistics**

# What is TC104

- TC104 is the ISO Technical Committee doing standards for 'ISO Freight Containers'



# What Does TC104 Do Exactly?

- All aspects of 'the box'

- Structural  
(size, strength, etc)



- Lashing details



- Reefer issues



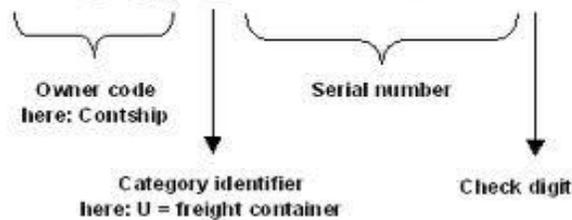
# What Does TC104 Do Exactly?

## ■ All aspects of 'the box'

- Markings & identification (visual & electronic)



**CSQU3054383**



- 'Structural' security mechanisms



- Numerous other 'enhancements'

# What Does TC104 Do Exactly?

■ Also works with:

● ‘Strange’ box types



● Some ‘unboxed’ freight



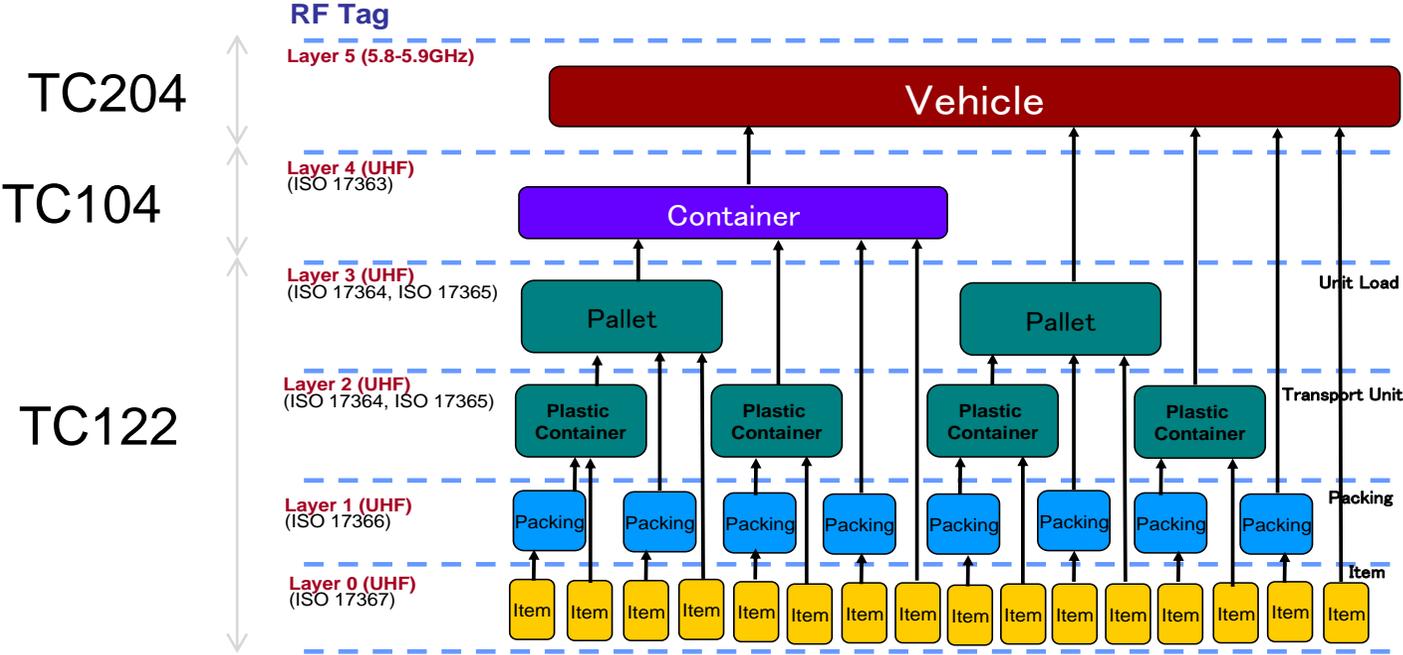
# Newest Activity in TC104

---

## ■ CTD / CTMS

- CTD = Container Tracking Device
- CTMS = Container Tracking & Monitoring System
- New-technology system to provide enhanced (even real-time) tracking of container location and onboard condition (e.g., temperature, humidity, shock, vibration, intrusion, etc)
- Particularly valuable for specialty cargoes (like foodstuffs, pharmaceuticals, military materials, etc) but useful for 'normal' cargoes as well
- Currently in NWI ballot (closes 10-24-12)

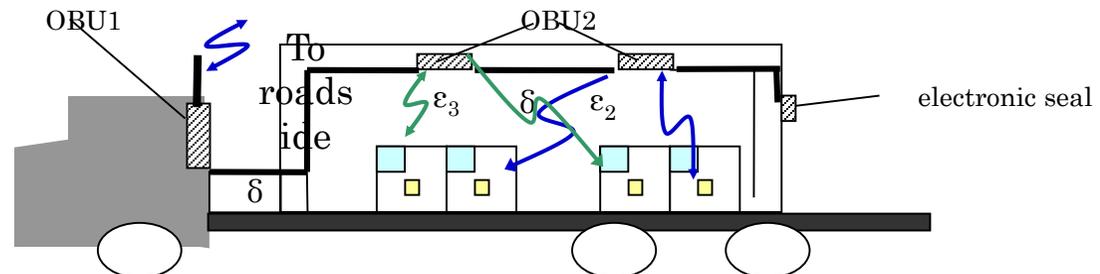
# Standardization Relationships



Plus: **TC8** oversees 'Container Operations'

# TC104 & TC204 WG7

- Several historical areas of mutual interest
  - Handling of hazardous materials
  - Markings and identification
  - Security (both physical and electronic)
  - Compatibility of communications
    - Using TC204-developed capabilities to extend the reach of short-range TC104-developed messaging
- International shipment of new-production vehicles



## Supply Chain Application for Packaging and related technology

Work Item	Title	Project Leader	Stage	Stage Date	Limit Date
15394	Packaging -- Bar code and two-dimensional symbols for shipping, transport and receiving labels		30.20	2013-12-13	2014-05-22
22742	Packaging--Linear bar code and two-dimensional symbols for product packaging		60.60	2010-12-15	2015-10-15
28219	Packaging--Labelling and direct product marking with linear bar code and two-dimensional symbols	Bob Fox(US)	30.20	2013-12-13	2014-05-22
17363	Supply chain applications of RFID-Freight containers		60.60	2013-11-15	---
17364	Supply chain applications of RFID -- Returnable transport items(RTIs)and returnable packaging items (RPIS)		60.60	2013-02-22	---
17365	Supply chain applications of RFID --Transport units		60.60	2013-02-22	---
17366	Supply chain applications of RFID --Product packaging		60.60	2013-02-22	---
17367	Supply chain applications of RFID --Product tagging		60.60	2013-02-22	---
18574	Internet of Things(loT)in the supply chain-- Containerized cargo		20.00	2013-02-15	Will move to JTC1/SC31
18575	Internet of Things(loT)in the supply chain-- Products & product packages		20.00	2013-02-15	Will move to JTC1/SC31
18576	Internet of Things(loT)in the supply chain-- Returnable transport items(RTIs)		20.00	2013-02-15	Will move to JTC1/SC31
18577	Internet of Things(loT) in the supply chain -- Transport units		20.00	2013-05-04	Will move to JTC1/SC31

# Exploiting Technologies

---

Technology & Devices	Examples
Communication options for various settings	<ul style="list-style-type: none"><li>• Wireless Body Area Networks(WBAN)</li><li>• Wireless Personal Area Network(WPAN)</li><li>• RFID Networks, including NFC</li><li>• Local Area Networks(LAN),and</li><li>• Wireless Wide Area Networks(WWAN)</li><li>• 3G,4G,LTE,SATCOM</li></ul>
Methods to secure localization and tracking	<ul style="list-style-type: none"><li>• GPS</li><li>• GPRS</li><li>• RTLS</li><li>• Resolution, and</li><li>• Inertial navigation</li></ul>
Appropriate devices for the standard	<ul style="list-style-type: none"><li>• Linear bar codes</li><li>• 2D symbols</li><li>• RFID</li><li>• Sensors/motes/actuators,and</li><li>• Smart phones</li></ul>

# Liaison of TC122

---

## **Liaison from ISO/TC 122**

JTC 1/SC 31

JTC 1/SC 6

ISO/TC 104

ISO/TC 145

ISO/TC 204

IATA

ISOC/IETF

ITU-T

OGC

OneM2M

## **Representing ISO/TC 122**

JTC 1/SWG 1(Accessibility)

JTC 1/SWG 5(IoT)

COPOLCO

# UN/CEFACT since July 2011, Programme Development Areas

**Trade & Transport Facilitation** : International Trade Procedures, Customs, Transport & Logistics

**Supply Chain** : Supply Chain Management, e- Procurement, Payments/Finance, Accounting and Audit

**Regulatory**: Customs, e-Government, Environnemental Management

**Sectoral** : Agriculture, Health Care, Insurance, Travel/Tourism

**Methodology & Technology** : Business Process Analysis, Methodology, Harmonization, Libraries, Audit, UN/EDIFACT, XML

**Bureau Programme Support BPS** : Communications, Liaisons, Legal, Secretariat

# Review and new Direction

---

- Using consistent semantics (data, codes) independent of technical solutions
- Multimodal solutions
- Applying modern modelling techniques
- Building from existing (EDI) user based implementations
- In co-operation and co-ordination with:
  - Other industrial / commercial sectors (GS1...)
  - Governments and regulatory bodies (Customs WCO...)
  - Other ITS standardisation instances: ISO TC204... and consortia: UBL...
  - Projects: EFM US, e-Freight Europe, IATA CargoXML...
- Promotion / dissemination of standards deliverables

# UN /CEFACT TRANSPORT

## 50 EDIFACT standard messages for Transport/Logistics among total 250

### ➤ *EDIFACT messages for Multimodal Freight - exemples*

- Transport Order - Bordereau groupage : IFTMIN – IFCSUM
- Status report : IFTSTA
- Transport Booking : IFTMBP/BF/BC
- Manifest : IFCSUM ( EDIMAN)
- Transport contract ( CMR, [CIM](#), [Bill](#) of Lading, Air Way Bill..) : IFTMCS
- Dangerous goods notification : IFTDGN
- Containers mouvement, maritime and inland : CO....
- Stowage plan ( Bayplan ) : BAPLIE
- Berth management : BERMAN
- Waste disposal : WASDIS
- Logistics, cargo handling : HANMOV
- Invoicing : IFTFCC – INVOIC
- Customs : Manifest, declaration, response :CUSCAR,CUSDEC,CUSRES



THE  
INTERNATIONAL  
TRANSPORT  
IMPLEMENTATION  
GUIDELINES  
GROUP

## **GLOBAL HARMONISATION OF EDI IN TRANSPORT**

**CREATED SEPT 1995** as an official sub-group of D4/TBG3 Transport

### **MISSION**

- Provide Principles and Rules for production of consistent and harmonised implementation guidelines and user manuals of UN/EDIFACT and XML Transport messages throughout the world

**PIONEERING WORK FOR YEARS TO HELP USERS IN IMPLEMENTING STANDARDS**



Creating A Single Global Electronic Market

### **International Consortium :**

- UN / CEFACT
- OASIS Organisation for Advancement of Structured Information Standards (Internet world W3C)

**Launched Sept 1999**

**Objective : develop specifications for XML exchange architecture**

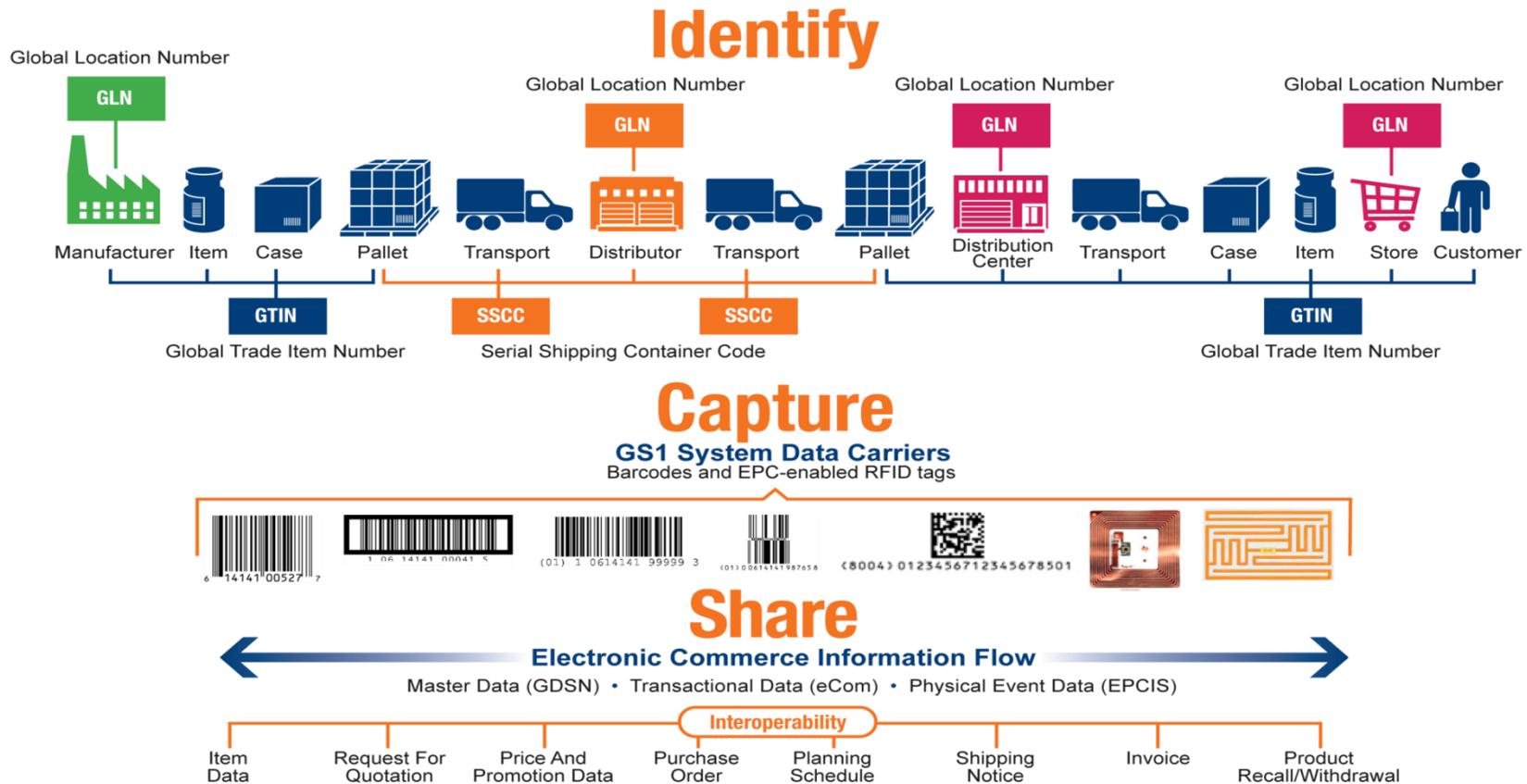
### **Standardisation roles split between:**

- UN/CEFACT, : **semantic contents** data and business models based on the considerable asset of EDIFACT
- OASIS : technical infrastructure allowing to share registries / dictionaries

## 6. GS1

# Integration of Identifying, Capturing and Sharing information

## GS1 US's Approach is combine with GS1 Standards



# Contact Information

---

**Thank you very much for your attention**

Shinichi Ishii  
Senior Consultant  
Nomura Research Institute, Ltd.

[s-ishii@hotmail.co.jp](mailto:s-ishii@hotmail.co.jp), [ishii.shinichi@gmail.com](mailto:ishii.shinichi@gmail.com)