



THE NATIONAL ACADEMY OF SCIENCES OF BELARUS
ID CENTER

www.ids.by

Information and technology
platform for confirmation of
safety, quality and
traceability of production

www.ids.by

Gennady VOLNISTY

Technical director

volnisty@ids.by



Tasks of adoption of electronic interaction systems in manufacture, trade, logistic, transportation

Foreign market

Domestic market

e-Trade

On-line confirmation of quality and safety of products

Single Window – description of products by suppliers according to the requirements of the uniform international standards

General Food Law (Traceability)
REACH (*Registration, Evaluation and Authorisation of Chemicals*)
standards for quality, safety and traceability ISO 28000, ISO 22000, ISO 13485 etc.

Data synchronization in supply chains

Electronic interaction of the supervision bodies



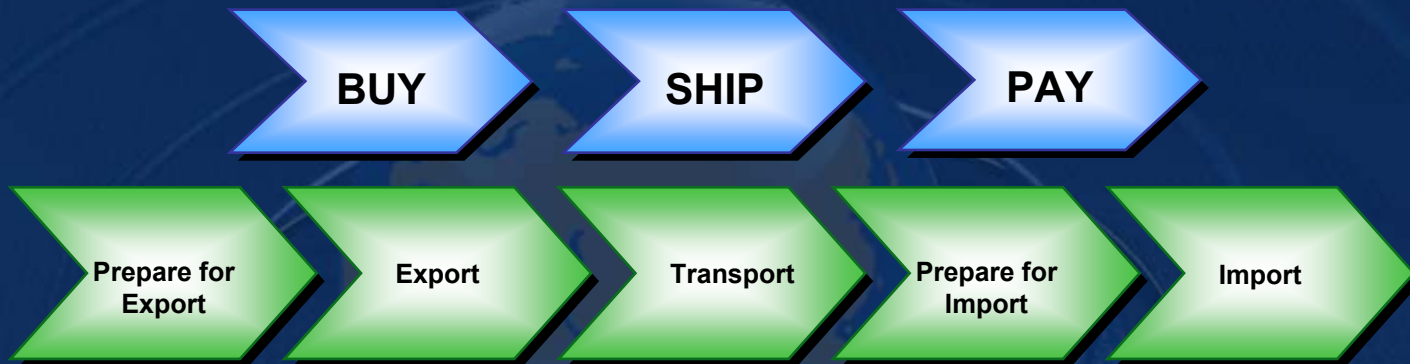
Бизнес-процессы, регулируемые Центром ООН по упрощению торговых процедур и электронному бизнесу (UN / CEFAC)



UN/CEFACT

United Nations Centre for Trade Facilitation and Electronic Business

Buy-Ship-Pay



INVOLVES

Commercial Procedures

- Establish Contract
- Order Goods
- Advise On Delivery
- Request Payment
- Packing
- Inspection
- Certification
- Accreditation
- Warehousing



Transport Procedures

- Establish Transport Contract
- Collect, Transport and Deliver Goods
- Provide Waybills, Goods Receipts Status reports etc.



Regulatory Procedures

- Obtain Import/Export Licences etc
- Provide Customs Declarations
- Provide Cargo Declaration
- Apply Trade Security Procedures
- Clear Goods for Export/Import



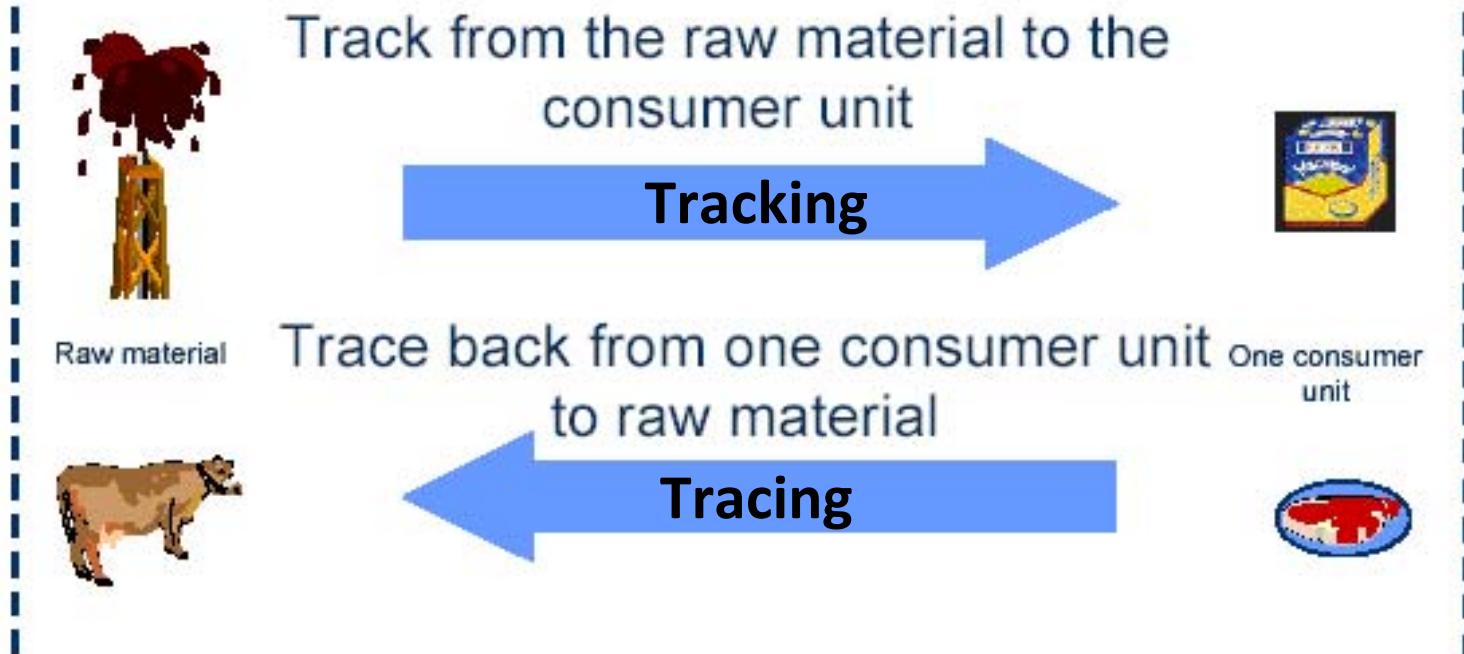
Financial Procedures

- Provide Credit Rating
- Provide Insurance
- Provide Finance
- Execute Payment
- Issue Statements





Traceability



In between: transport, service provider, logistic provider



Objectives of the www.epass.by project

- Form a public electronic resource containing identification and description of the products formed in accordance with the international standards, which will provide all participants of goods distribution networks including regulatory bodies, enterprises and final customers with the necessary and sufficient information about the product, its quality and safety
- Create national information and technology platform for interaction of partners in the chain “manufacture-shipment-distribution-sale-realization-utilization”, which will allow product traceability
- Systemize approaches and accelerate large-scale implementation of the e-commerce systems based on the unified formats and standards of the electronic data interchange recommended by the **UN/CEFACT**.



- 1. Identification**
- 2. Master – data (e-pass)**
- 3. Classification**
- 4. Synchronization data**
- 5. EDI**



Matrix of development of tracing systems

1. Principles of tracing	2. Used technologies	3. Implementers
Unique identification	Universal automated identification of participants, materials, constituent parts, production	ISO 15417, ISO 15420, ISO 15459, ISO 24724, ISO 16023, ISO 18004, etc. GTIN, SSCC, GLN, Application Identifiers - AI
Acquisition, processing and recording of data	Automated data acquisition based on bar coding technologies and RFID technologies	EAN/UPC, UCC/EAN-128, ISO 17363 – ISO 17367 EPC Global
Relation management	Electronic data processing	ISO 13485, ISO 22000, ISO 28000, Application software
Communications	Electronic data interchange (VAN/Internet)	ISO 9735, ISO 15000, EANCOM®/XML



Multiplicity of approaches to traceability – complicated interaction and huge total expenditure

- Multiplicity of approaches to identification of objects and products of various economic fields (agriculture, industrial production, food, pharmaceutical production, etc.) impedes traceability in the chain “manufacture-shipment-distribution-sale-realization-utilization”, makes it difficult to create unified national and international on-line platforms for Tracking and Tracing of production and generates complicated interaction of the regulatory bodies and business which causes huge total expenditure.



Universality of the automated identification technology



Country prefix

460 - 469
Russia

481
Belarus

487
Kazakhstan

482
Ukraine

country company product / department/
serial number

Global Location Number

GLN : XXX YYYYYY ZZZ C
(Global Company Prefix, Global Location Number)

Global Trade Item Number

GTIN : XXX YYYYYY NNN C
(Global Trade Item Number)

Serial Shipping Container Code (UCR)

SSCC : 3 XXX YYYYYY ZZZZZZZZ C
(Serial Shipping Container Code)

Document type and number

GDTI : XXX YYYYYY ZZZ C WW...W
(Global Document Type Identifier)

Service type and number

GSRN : XXX YYYYYY ZZZZZZZZ C
(Global Service Relation Number)

Combines 150 countries.

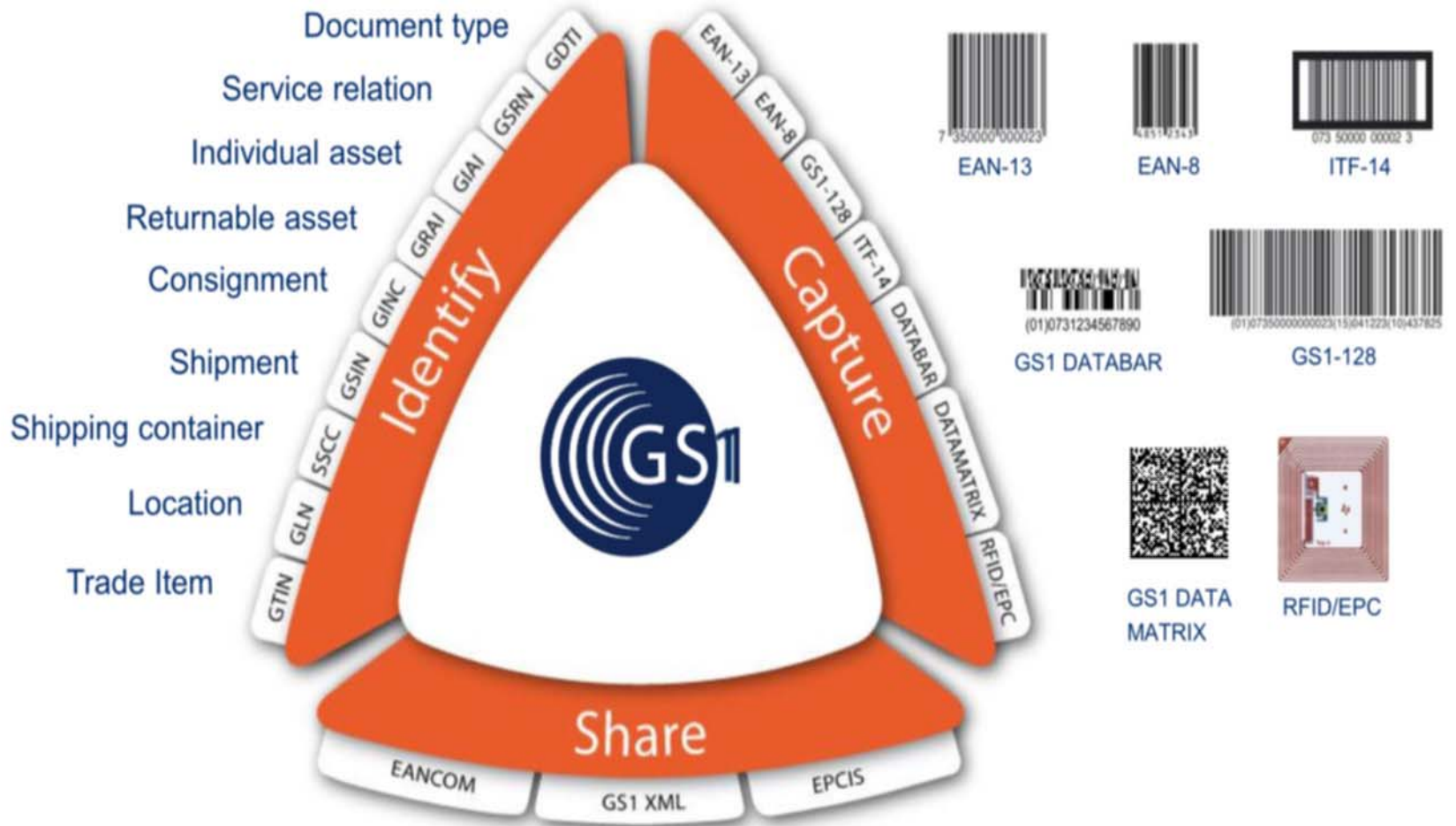
Over 1,5 mln companies.

Supports over 90% of global trade and transportation and logistical operations.

A I : application identifiers



The GS1 System





Main sections of the electronic passport (Master Data) of product

Main Section

- General information about the item
- Manufacturer identification data (GLN)
- Supplier identification data (GLN)
- Addressee identification data (GLN)

Detailed description of the item

CUSTOMER UNIT (CU)

Идентификация товара (GTIN)

Классификация данных
(ОКРБ, ТНВД, GPC)

Данные о наличии сертификатов
и других документов

Общие данные о товаре

Временные параметры
(дата изготовления, дата поставки,
срок годности)

TRADE UNIT (TU)

Идентификация торговых единиц
(GTIN)

Физические параметры (цвет,
размер, вес)

Условия хранения (температура,
влажность)

Правила формирования
логистической единицы

Ценовые параметры

Условия поставки

Временные параметры
(дата изготовления, дата поставки,
срок годности)

DESPATCH UNIT (DU)

Идентификация логистических
единиц (GTIN)

Физические параметры (цвет,
размер, вес)

Условия хранения (температура,
влажность)

Правила упаковки

Ценовые параметры

Временные параметры
(дата изготовления, дата поставки,
срок годности)



CLASSIFICATION

	Экономическая активность (economic)	Продукция (product)	Таможенны е операции (customs)	Сети синхронизации (GDSN)	Электронная торговля (eTrade)
Internatinal	ISIC Rev. 3.1	CPC	HS	GPC	UNSPSC
EU	NACE Rev. 1.1	CPA	HS	GPC	UNSPSC
Belarus	ОКРБ - 005	ОКРБ - 007	ТНВЭД	GPC	UNSPSC

ISIC – International Standard Industrial Classification
 NACE – Nomenclature Activity Classification Economy
 CPC – Central Product Classification (GS1)
 CPA - Classification of Products by Activity
 HS – Harmonized System Codes
 GPC – Global Product Classification
 UNSPSC – United Nation Standard Product and Service Code (UNDP/GS1 US)

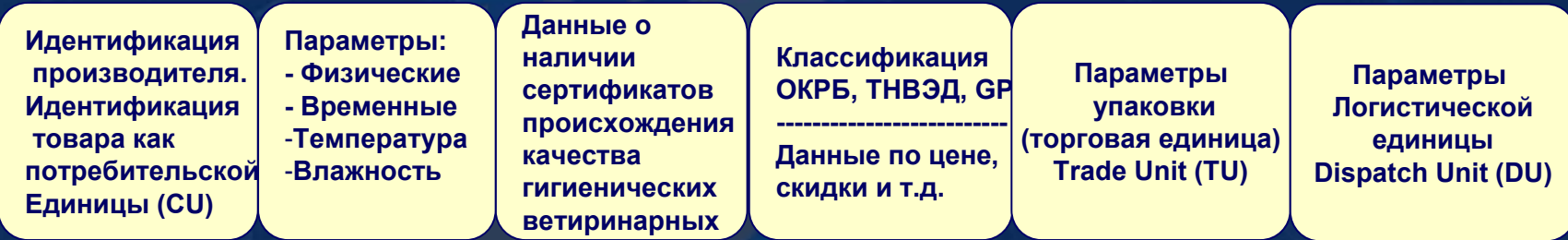


Information space based on Electronic Passport of product for confirmation of quality, safety and traceability of goods

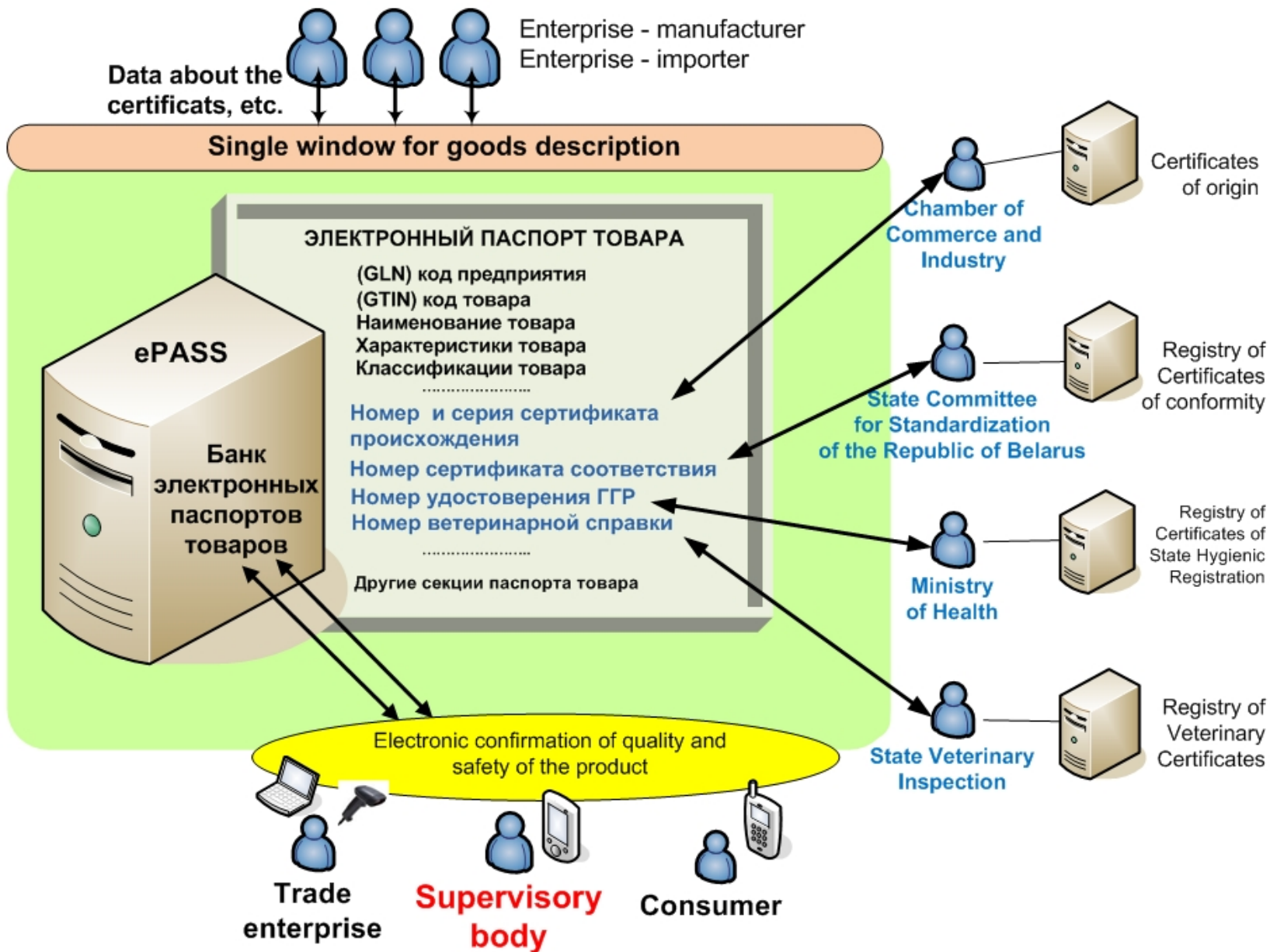
Формируют данные
↓
Производитель
Поставщик



**e
P
A
S
S**



Quality and safety of goods





Tasks of the system

«Pool of electronic passports of products»

(www.epass.by)

WWW.ePASS.BY – Single Window

Harmonization with the international requirements

- Identification of trade partners and goods
- Classification for domestic and foreign trade
- Creation of “Single Window” for consumer trade and logistic units

Confirmation of quality and safety of goods

- Electronic confirmation and control of quality and hygienic safety of goods in commodity distribution networks: manufacture-transportation-shipment-realization

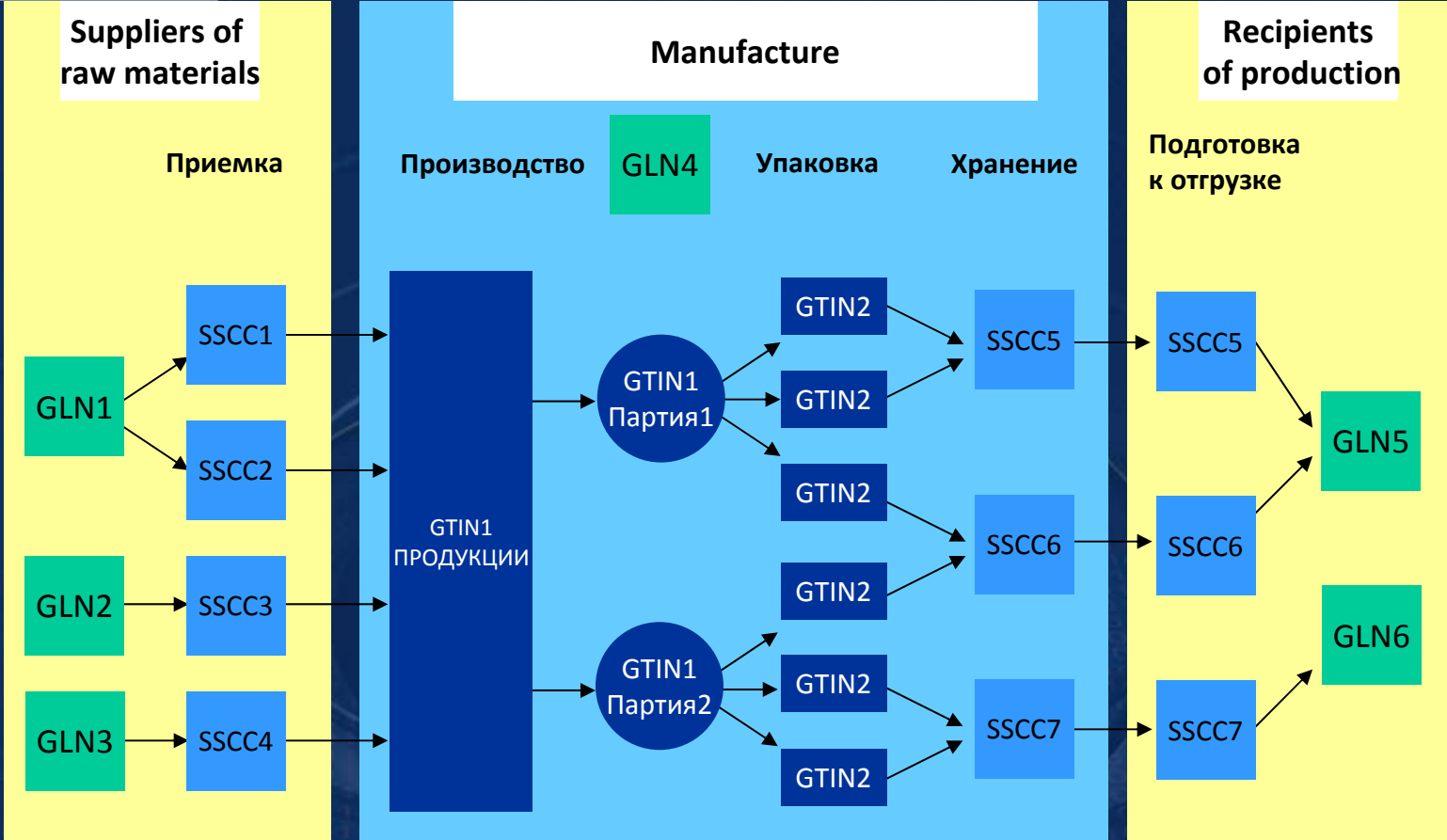
Promotion of goods on the market

- Synchronization of data about participants and goods between trading partners
- Promotion of Data Pools containing information about production in global data synchronization networks (GDSN)





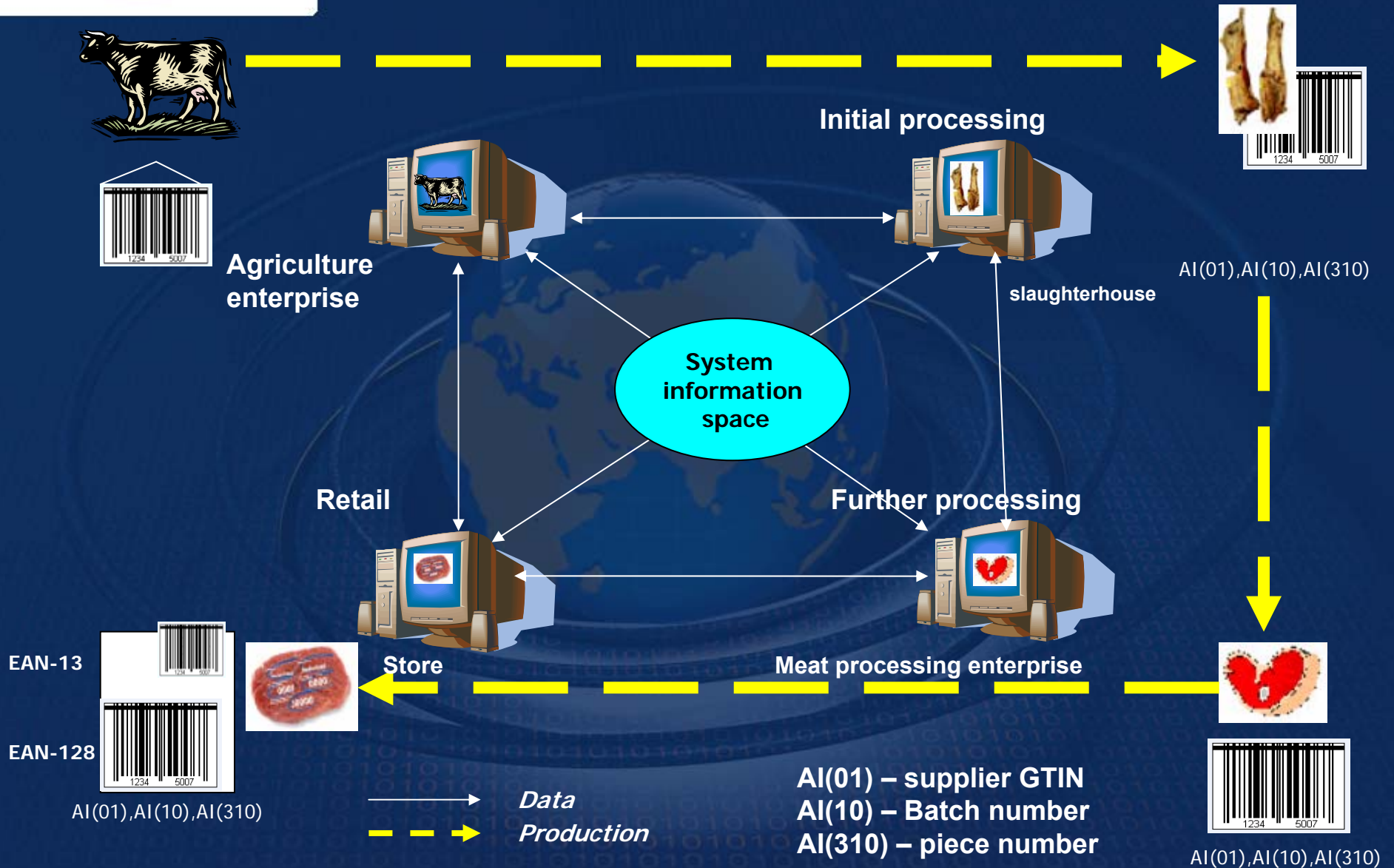
Tracing system based on the GS1 Identifiers



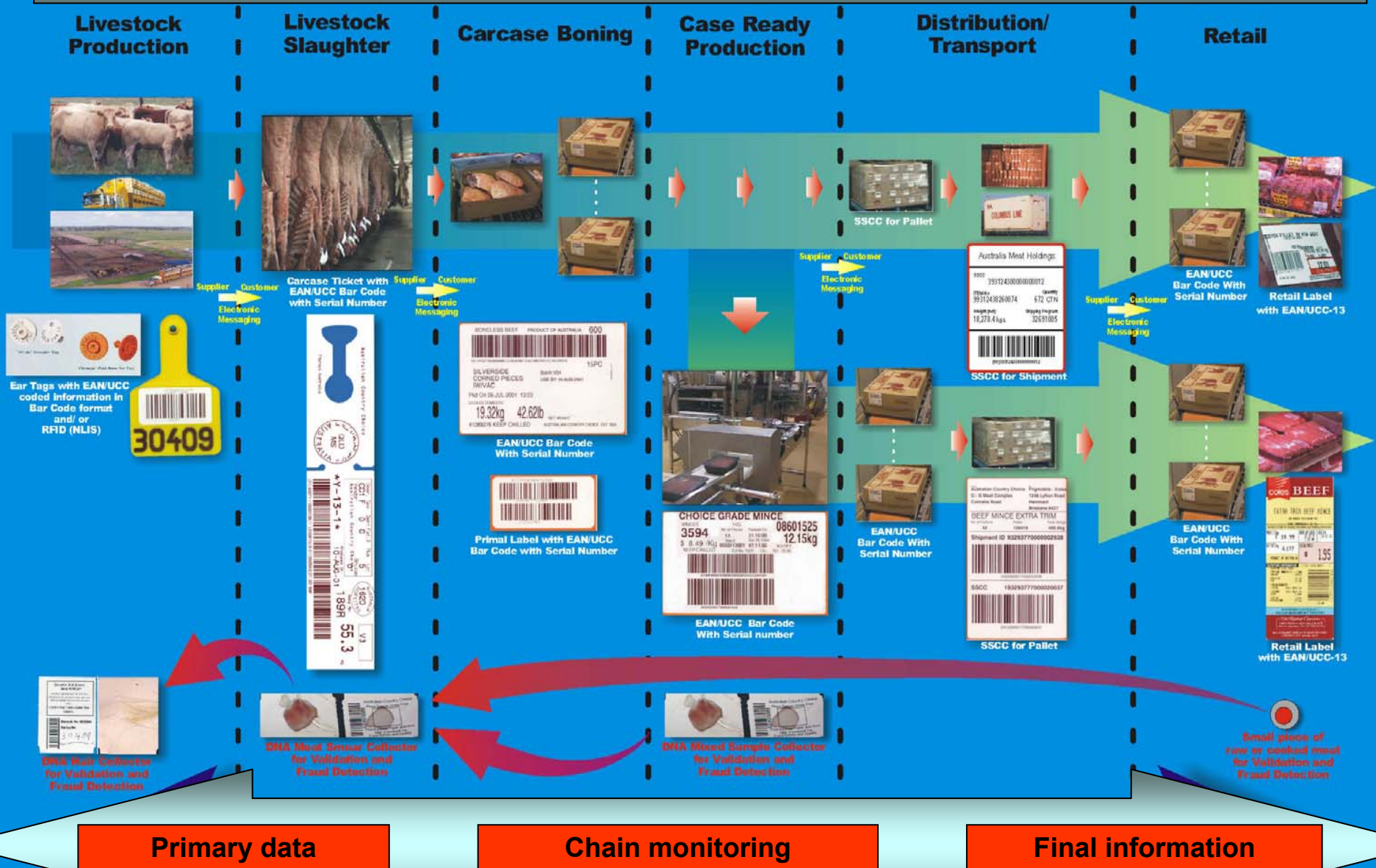
- ▼ Место нахождения источника
- ▼ Логистические единицы с сырьем
- ▼ Производственная линия
- ▼ Партия торговых единиц
- ▼ Объединение единиц
- ▼ Промежуточная группировка (опция)
- ▼ Логистические единицы готовой продукции
- ▼ Положение места назначения



Flows of information and goods (meat products)



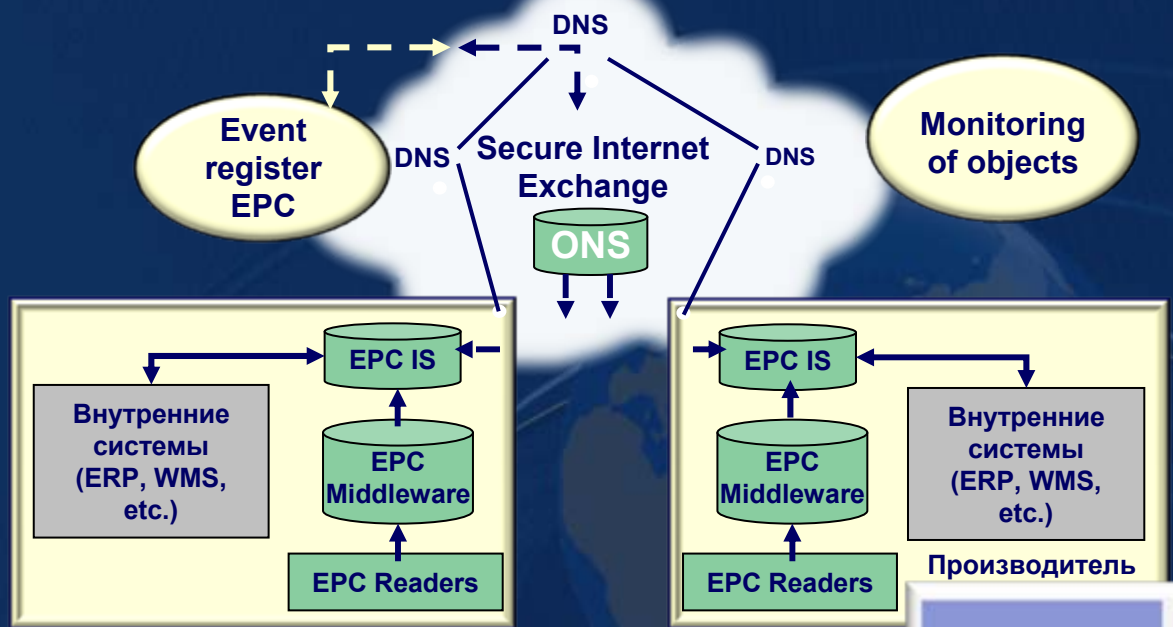
Management of chain “manufacturer-consumer”





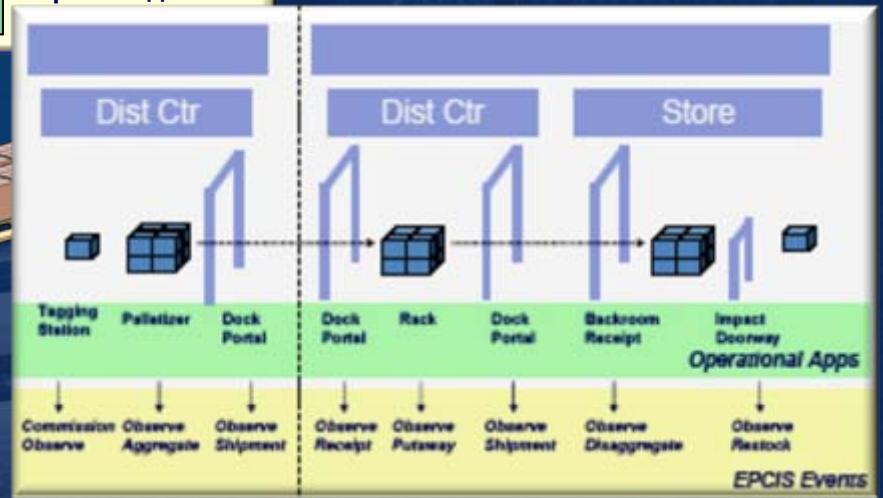
Item monitoring network on the basis of the Internet of Things

Identification + Internet



Monitoring of objects

Transportation





Electronic Data Interchange

PRICAT – catalogue of goods and costs



ORDERS – orders



ORDERSP – answers on orders



INVOICE – invoice



DESADV – dispatch notification



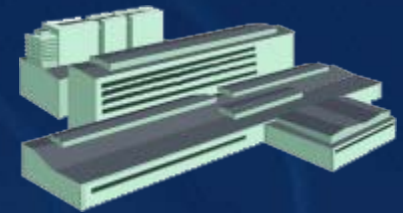
RECADV – receipt notification



INVRPT – inventory report message



**Manufacturer
(Supplier)**



**Distribution network
(Buyer)**



Proposals for the platform development and interaction with WP.6, UN / CEFACT, GS1

- **Experts involvement and studying of similar approaches in other countries;**
- **Creation of experts working group from representatives of the countries concerned to develop a regional project under the guidance of UNECE (WP.6, CEFACT) and GS1;**
- **Promotion of the project at regional levels.**



Thank You