GS1

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National Drug Information Sharing in the Thailand Health Care Supply Chain

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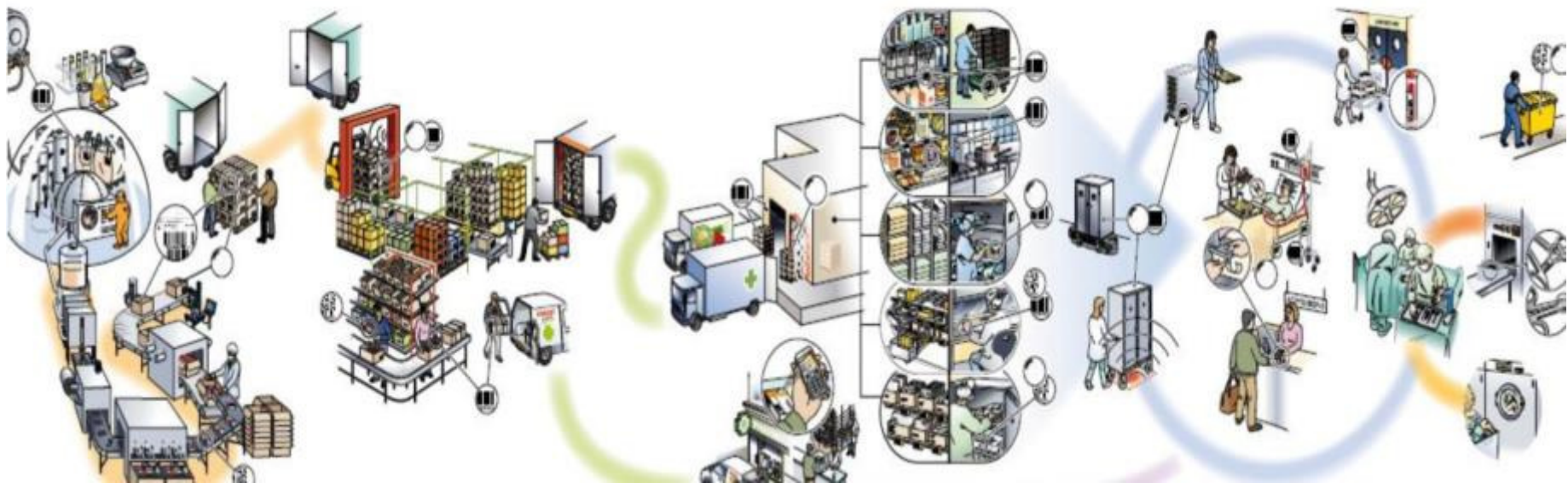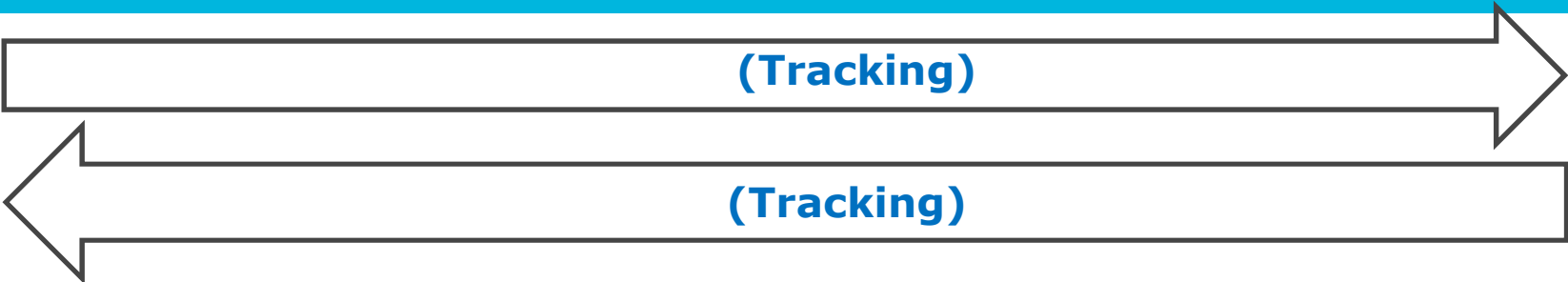# Our Inspiration
Material & Information Flows

Manufacturer　　　　**Logistics Distributor**　　　**Healthcare Provider**　　**Consumer**
　　　　　　　　　　　　　　　　　　　　　　　(Hospital, Clinic, etc.)　　**(Patient)**

Material Flows

Information Flows

(Ref: GS1 Healthcare)
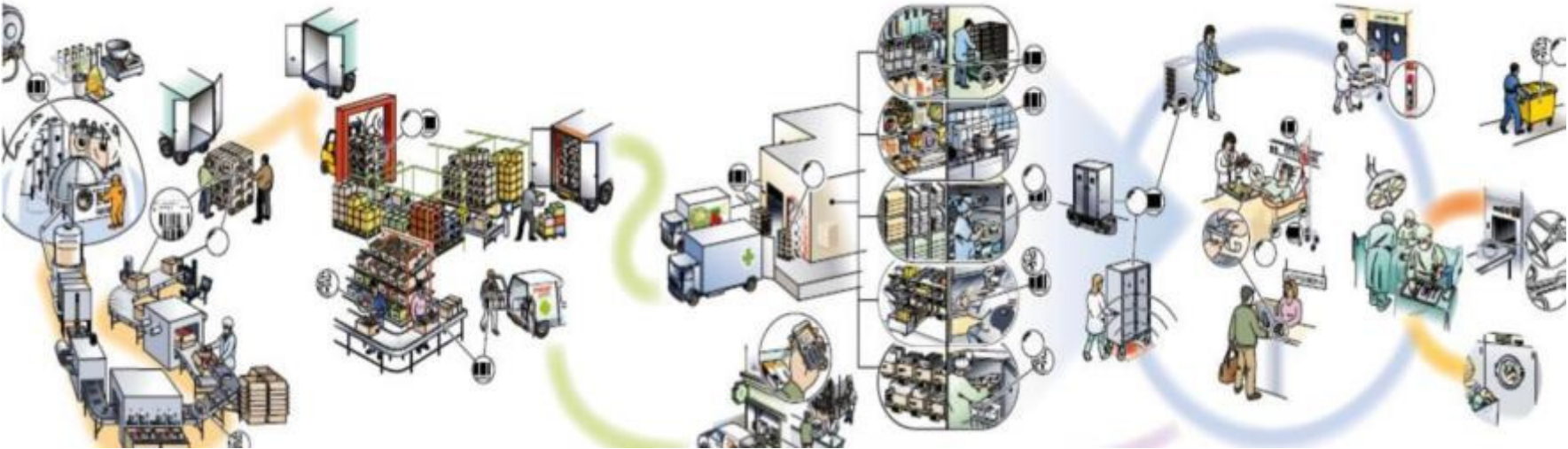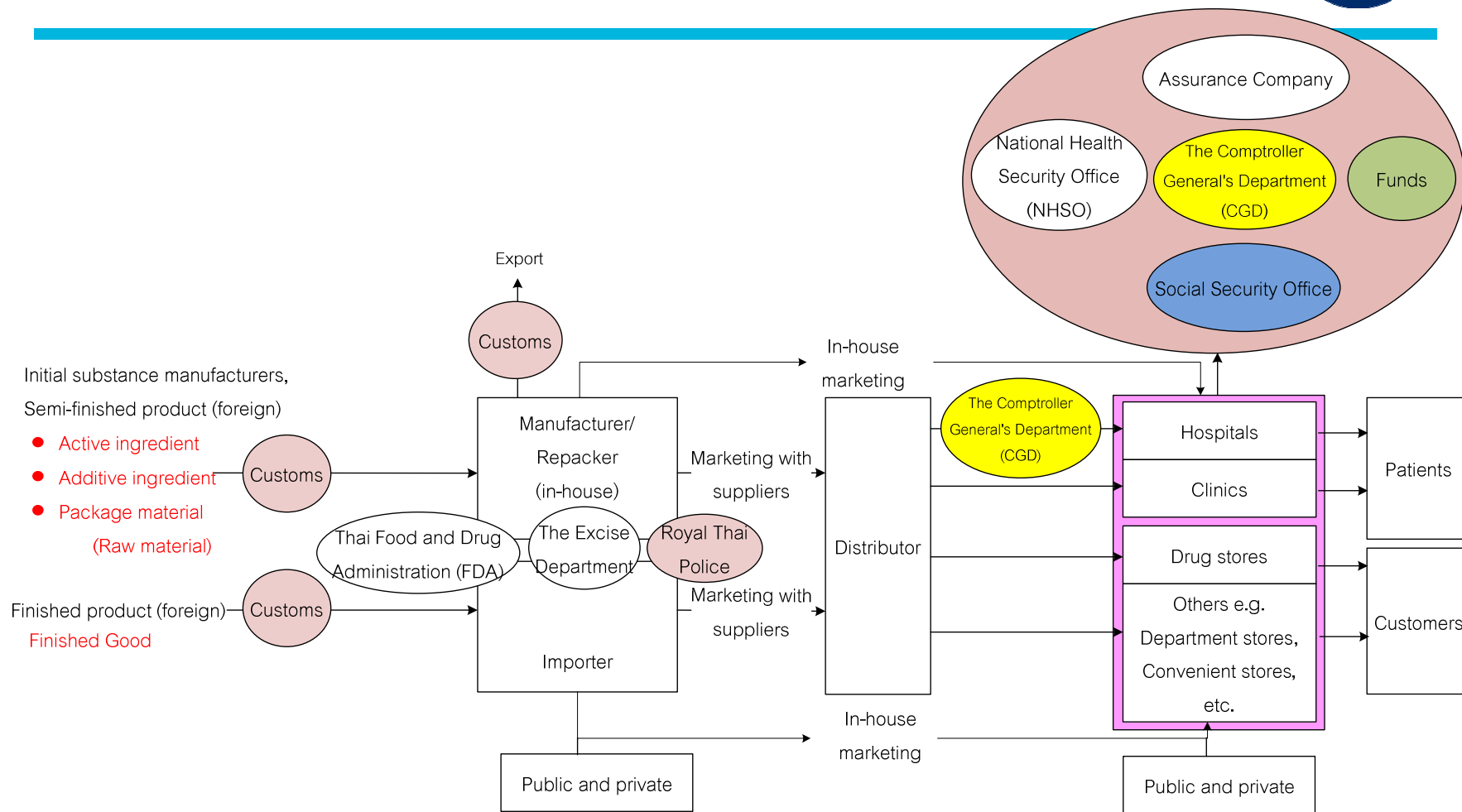
Traceability

(Tracking)

(Tracking)

| Manufacturer | Logistics Distributor | Healthcare Provider (Hospital, Clinic, etc.) | Consumer (Patient) |

Healthcare Supply Chain Stakeholder

Initial substance manufacturers,
Semi-finished product (foreign)
- Active ingredient
- Additive ingredient
- Package material
  (Raw material)

Finished product (foreign)
Finished Good

The Government Pharmaceutical Organization (GPO)
Defense Pharmaceutical Factory
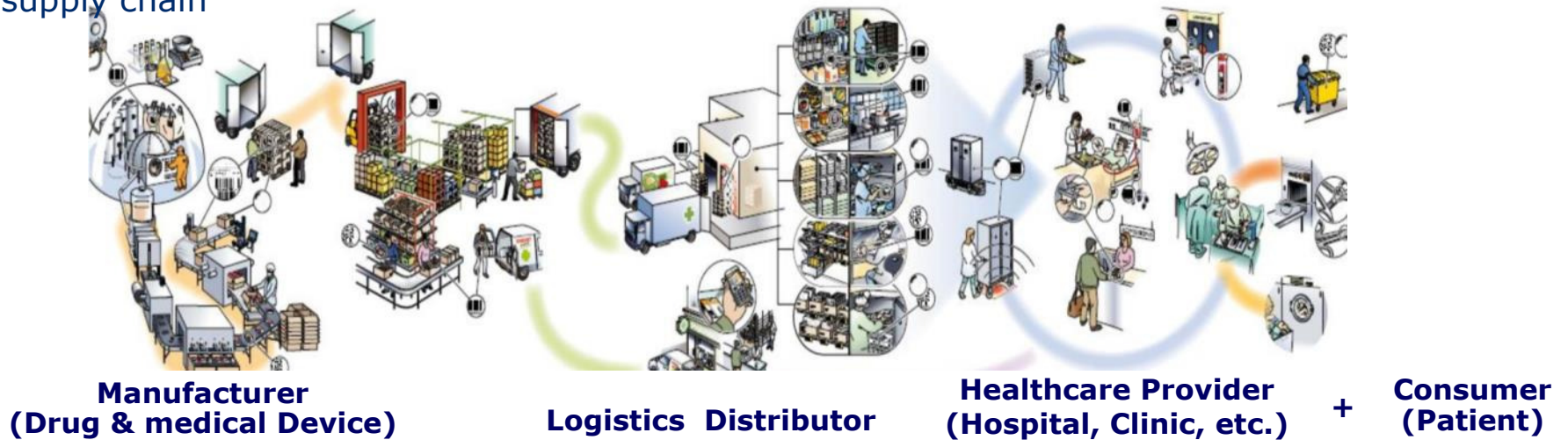Hospital in-house production

Current Situation

Topic	AS-IS	Problem	Impact
Standardized Code	• Too many Standard Code	• No mean to communicate	• Unable to refer to the same entity • No traceability
Standardized Data Exchange	• Fragmented Database • Communicate	• No synchronized integrated data • High Operating Cost	• No quick response • No traceability

From Our Research , To Achieve Supply Chain ...

1. identify the uniqueness of drugs and medical materials to communicate through the supply chain

**Manufacturer
(Drug & medical Device)**   **Logistics Distributor**   **Healthcare Provider
(Hospital, Clinic, etc.)** + **Consumer
(Patient)**

2. Develop a single datapool to provide standard data which is useable to all players in the supply chain

8 850781 830530
Standard Code

✚

Datapool

Public Information

GTIN 13

Professional Information

Logistics Information

Foundation Need
Standard Drug Code (GTIN) & Data Pool (DRUGNET)

- GTIN is used as a primary key to access the drug information in Datapool (DRUGNET).

Hospital use GTIN as a primary key to access the drug information in Datapool.

Drug suppliers use GTIN to identify drugs and input drug information to Datapool.

DATAPOOL
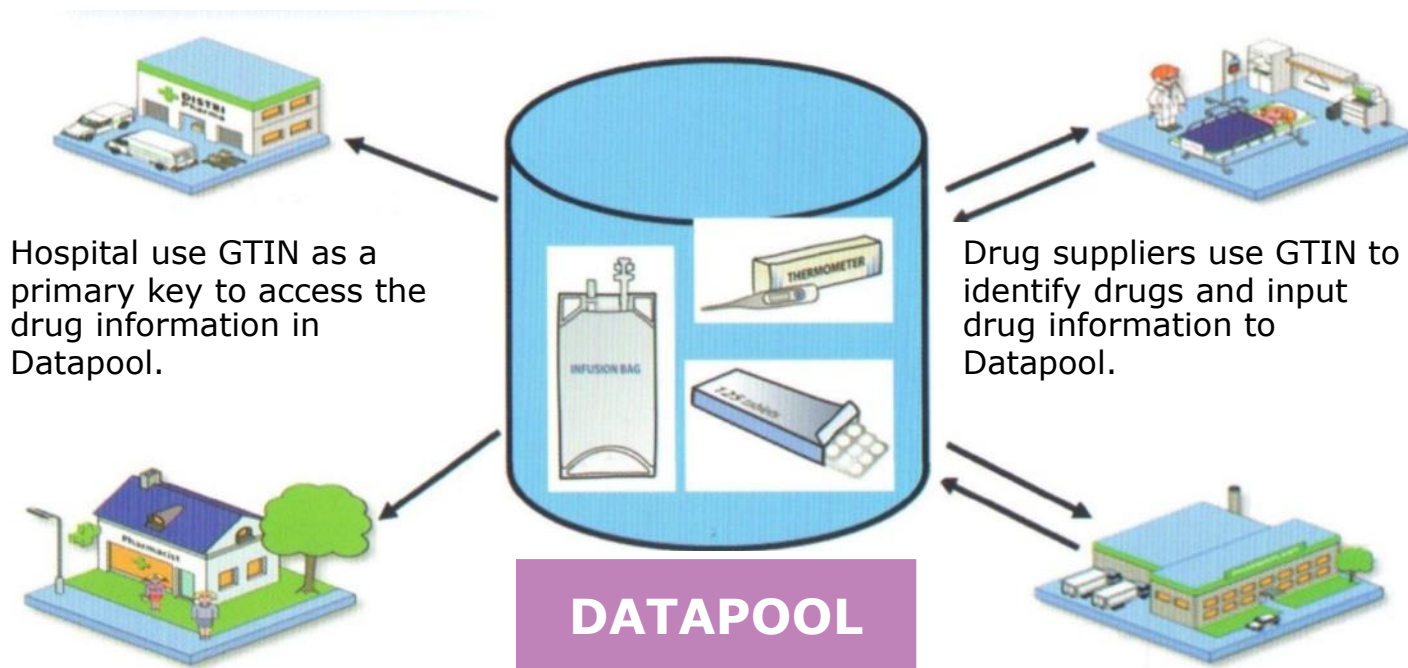
- There is a collaboration with medical supplier to input their drug information to DRUGNET and attach barcode on their packaging.
  Since 2008 , Hosted by Mahidol University and GS1 Thailand.

**DrugNET
National Drug Database**

Code
- GTIN
- TMT
- Drug 24
- Registration Code

Information
1. General Information
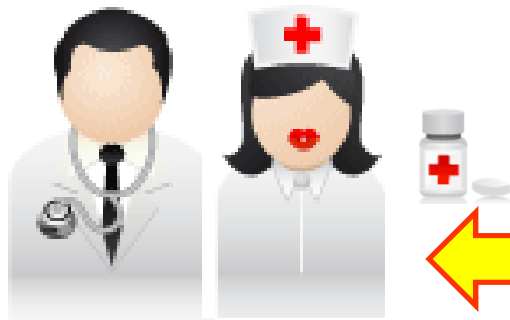2. Logistics Information
3. Clinical Information

Drug Information

Clinical Decision Support

Hospital – Supplier Purchasing Process

Reimbursement

Solution for in Improving logistics in hospitals

Wards using the data

Master data

Master data

❷ **Electronic Data Interchange (EDI) Portal**

encrypt/decrypt data between senders and receivers

Standardization

Standardization

Standardization
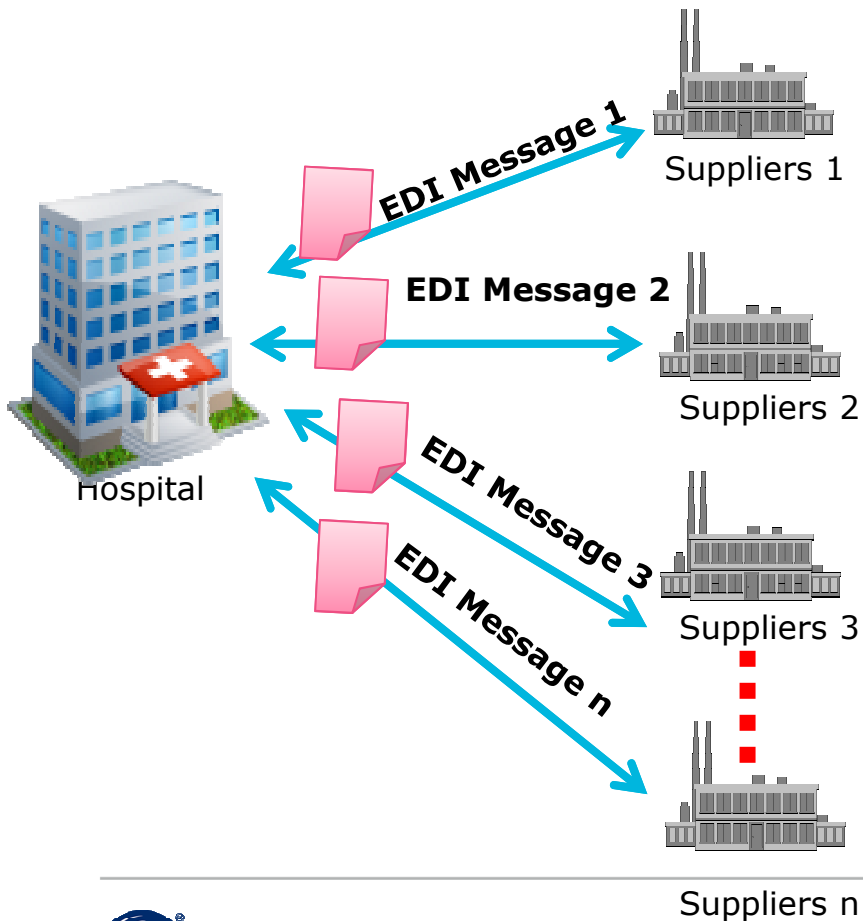
Hospital

Suppliers

❶Datapool

❸ **Traceability**
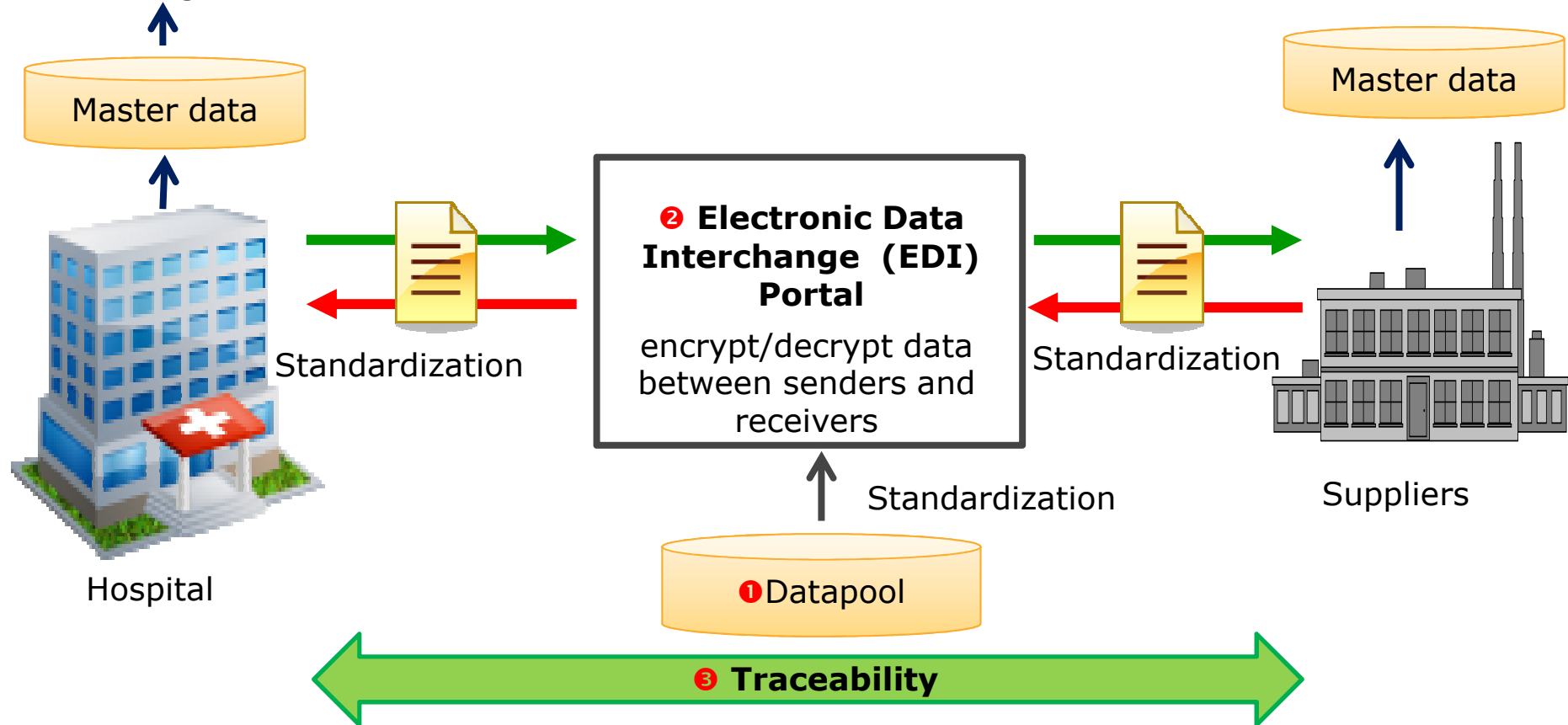
Remarks

❶ Developing National Database, healthcare information system and increasing patient safety in drug consumption (TRF-NRCT., 2011-2014)

❷ Implementation of Electronic Data Interchange In Healthcare Supply Chain (TRF, 2013)

❸A Drug Traceability for Enhancing Healthcare Logistics and Supply Chain Management in Thailand (TRF-NRCT., 2013)

EDI Solution Using Datapool

Current Practice

EDI Message 1 → Suppliers 1

EDI Message 2 ↔ Suppliers 2

EDI Message 3 → Suppliers 3

EDI Message n → Suppliers n

Hospital

Solution

Hospital ↔ EDI Portal

EDI Portal ↔ Suppliers 1

EDI Portal ↔ Suppliers 2

EDI Portal ↔ Suppliers 3

EDI Portal ↔ Suppliers n

Standardization ↑

Datapool
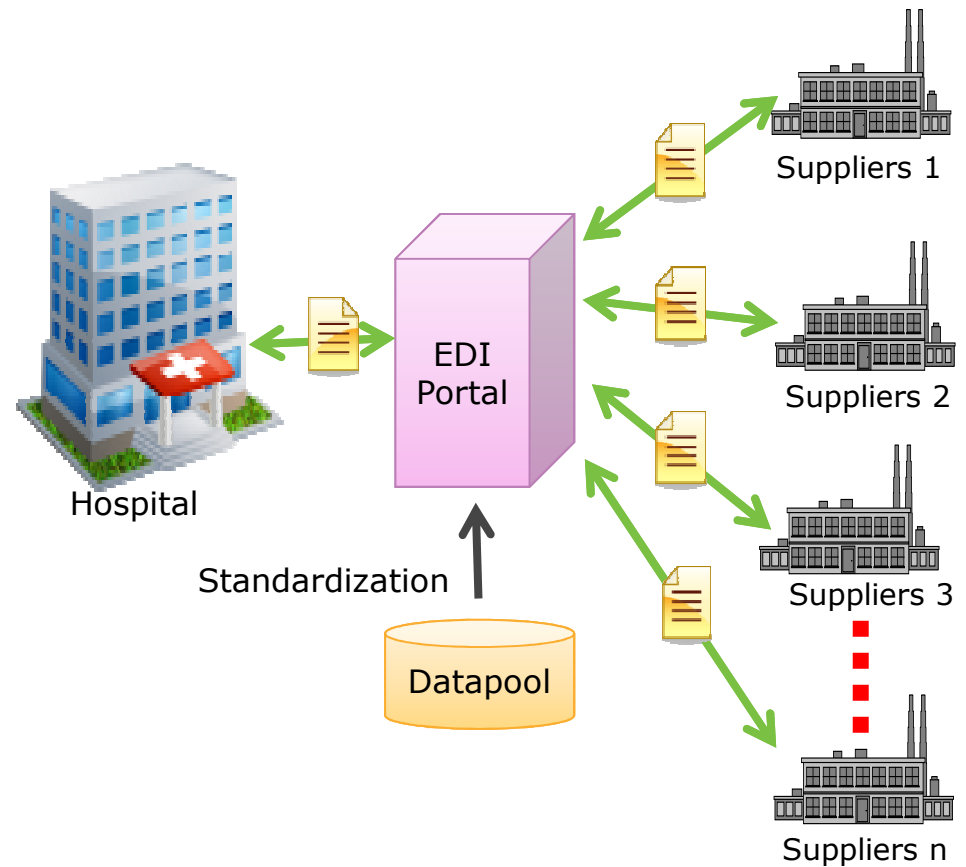
Meeting between <u>hospitals and suppliers</u> to start EDI implementation on 2 Oct 2015

Seminar & Training for Database Input
26 November 2013 , 22 January 2014

Project Stakeholders

- Mahidol University
- GS1 Thailand
- Ministry of Public Health
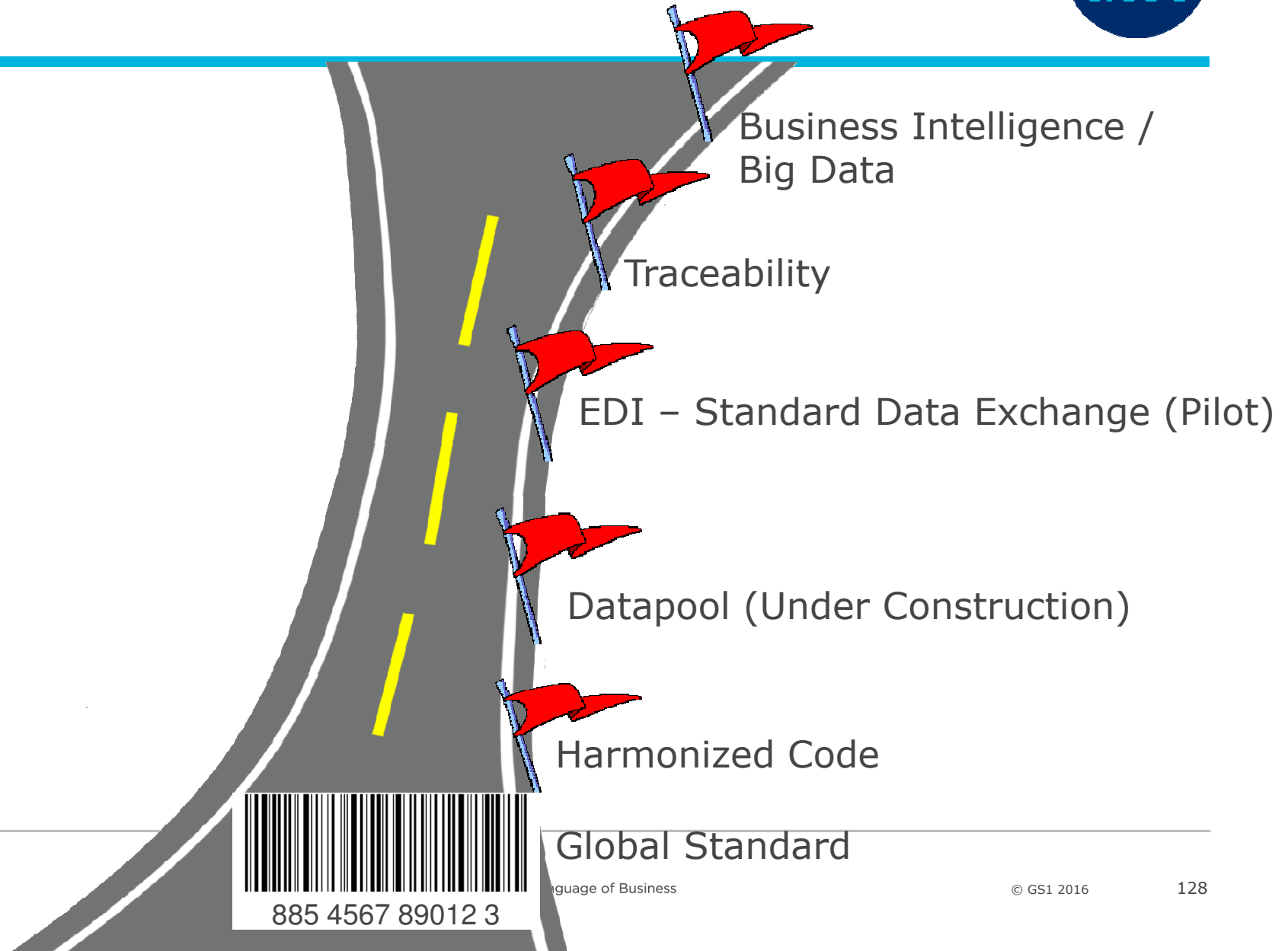- Ministry of Information and Communication Technology

GS1 Thailand
National
Product
Catalogue

Cost reduction (million baht)

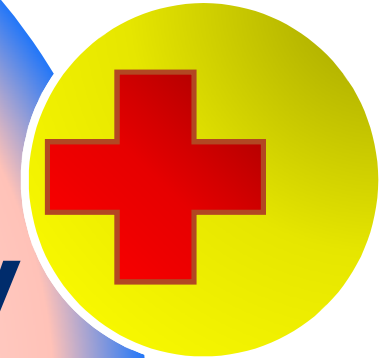| Benefit	% cost reduction(McKinsey, 2012)	Cost reduction (million baht)			
		Manufacturer	**Importer**	**Distributer**	**Hospital**
Medication Errors Cost	3.49 -22.29	817.95-5,271.23	1,738.26-11,202.12	987.44 -6,363.48	1,469.87 -9,472.50
Recall Handling Cost	4.65	90.88	193.14	109.72	163.32
Inventory Financing Cost	6.40	363.53-543.30	772.56 -1,158.84	438.86 -658.29	653.28 - 979.91
Inventory Management Cost	10.27-12.60	545.30-727.07	1,158.84-1,545.12	658.29 -877.72	979.91 -1,306.55
Obsolescence Cost	9.88	1,726.78-2,453.85	3,669.66-5,214.78	2,084.59 -2,962.31	3,103.06 -4,409.61
Data Management Cost	0.39 -0.97	90.88 -181.77	193.14-386.28	109.72 -219.43	163.32 -326.64
Cost reduction (million baht)	0.19-5.23	3,635.33-9,270.09	7,725.60 -19,700.28	4,388.61-11,190.95	6,532.76 -16,658.53

Our Roadmap

Business Intelligence /
Big Data

Traceability

EDI – Standard Data Exchange (Pilot)

Datapool (Under Construction)

Harmonized Code

Global Standard

885 4567 89012 3

LogHealth
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