National Single Window
[e-Logistics Initiative]
– Thailand Case Study –

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Government of Ghana
Single Window National Conference
"Collaboration -Towards a facilitated trade environment"
The National Stakeholder Conference on Establishing a National Single Window in Ghana is organized by Government of Ghana in collaboration with GIFF/CUBAG and supported by WCO; UNECE; ECOWAS and UNECA –ATPC
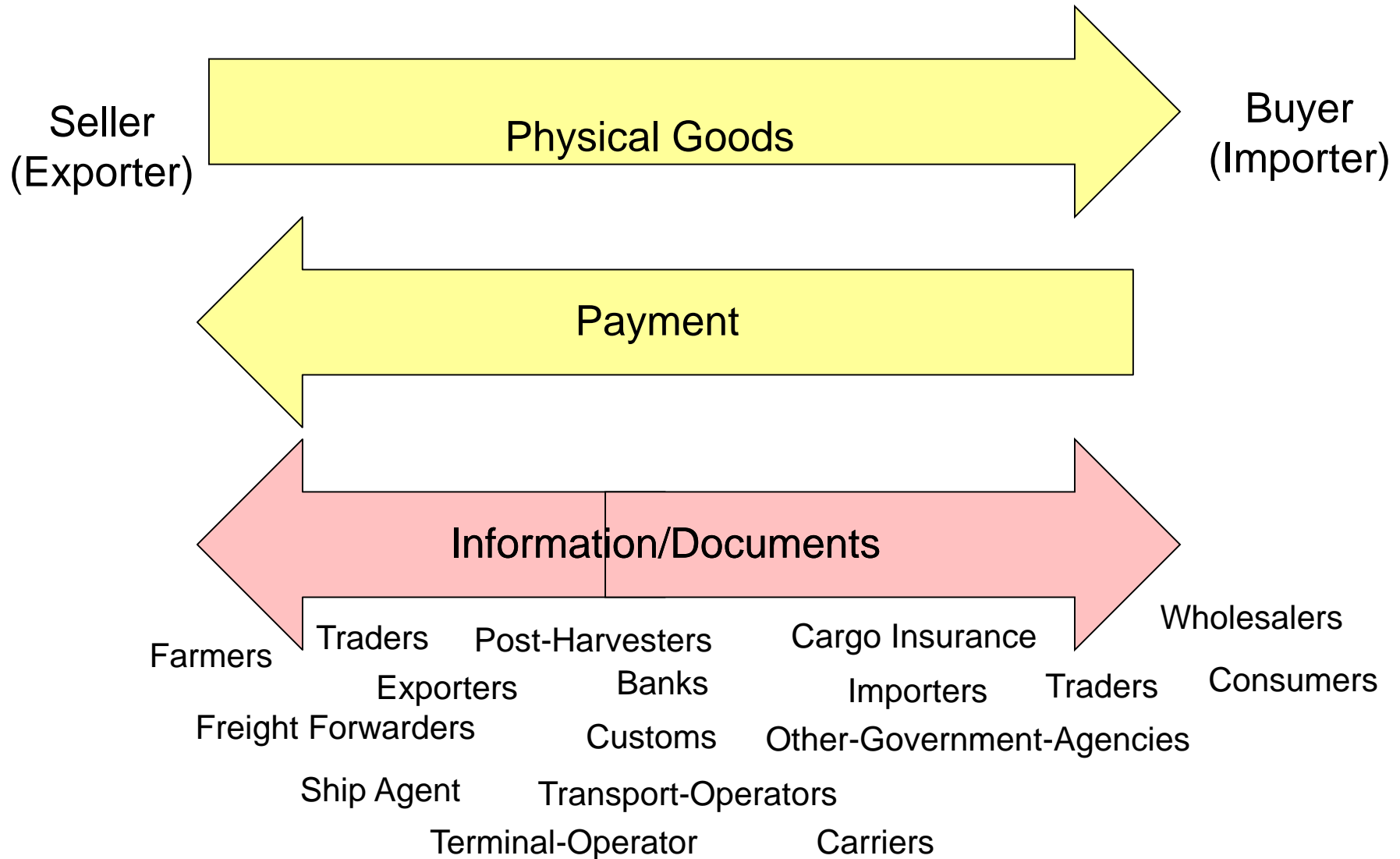December 1st, 2015

Topics of this presentation

1. **Why** we should be interested in business processes and document/information handling, and ICT applications in the trade and logistics supply chain?

2. **How** can we improve: case examples of

    –   Regulatory SW: G2G/regulatory ICT-enabled connectivity (National Single Window=NSW)

    –   Port SW: transport-to-transport ICT connectivity

    –   Trade SW: farmer groups, traders, exporters, importers, ... connectivity

3. **Recommendations**

G2G = Government to Government

Trade Logistics – 3 Kinds of Flow

Seller (Exporter) → **Physical Goods** → Buyer (Importer)

← **Payment**

Information/Documents (bidirectional)

Farmers, Traders, Post-Harvesters, Cargo Insurance, Wholesalers, Exporters, Banks, Importers, Traders, Consumers, Freight Forwarders, Customs, Other-Government-Agencies, Ship Agent, Transport-Operators, Terminal-Operator, Carriers

Documents related to Exportation of Rice
(from purchase order until the cargo container leaving the sea port)

36 Documents involving 15 parties, and more than 1,140 data elements to be filled in

1. Proforma Invoice (35)
2. Purchase Order (39)
3. Commercial Invoice (51)
4. Application for Letter of Credit (24)
5. Letter of Credit (32)
6. Packing List (25)
7. Cargo Insurance Application Form (20)
8. Cover Note (23)
9. Insurance Policy (24)
10. Booking Request Form – Border Crossing (25)
11. Booking Confirmation – Border Crossing (30)
12. Booking Request Form – Inland Transport (16)
13. Booking Confirmation – Inland Transport (18)
14. Bill of Lading (42)
15. Empty Container Movement Request (TKT 305) (20)
16. Request for Port Entry (TKT 308.2) (27)
17. Equipment Interchange Report (EIR) (24)
18. **Container Loading List (28)**
19. Container List Message (32)
20. Outward Container List (34)

21. Master Sea Cargo Manifest(17)
22. House Sea Cargo Manifest (37)
23. *Export Declaration (114)*
24. **Good Transition Control List (27)**
25. *Application for Permission to Export Rice (KP. 2) (24)*
26. Sales Report (KP 3) (21)
27. **Application for the Collection of the Permit for the Export of Rice (A. 3) (35)**
28. **Permit for the Export of Rice (A. 4) (35)**
29. **Application for Certificate of Standards of Product (MS. 13/1) (44)**
30. **Certificate of Analysis (17)**
31. **Certificate of Product Standards (MS. 24/1) (45)**
32. **Certificate of Fumigation (21)**
33. **Application for Phytosanitary Certificate (PQ. 9) (29)**
34. **Phytosanitary Certificate (33)**
35. *Application for Certificate of Origin (42)*
36. *Certificate of Origin (38)*

* Number in parenthesis is the no. of data elements

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Conduct Business Process Analysis
- Exporting Jasmine Rice from Thailand -

BUSINESS PROCESS ANALYSIS
GUIDE
TO SIMPLIFY TRADE PROCEDURES

16 days required for procedures & documents handling

Time-Procedure Chart
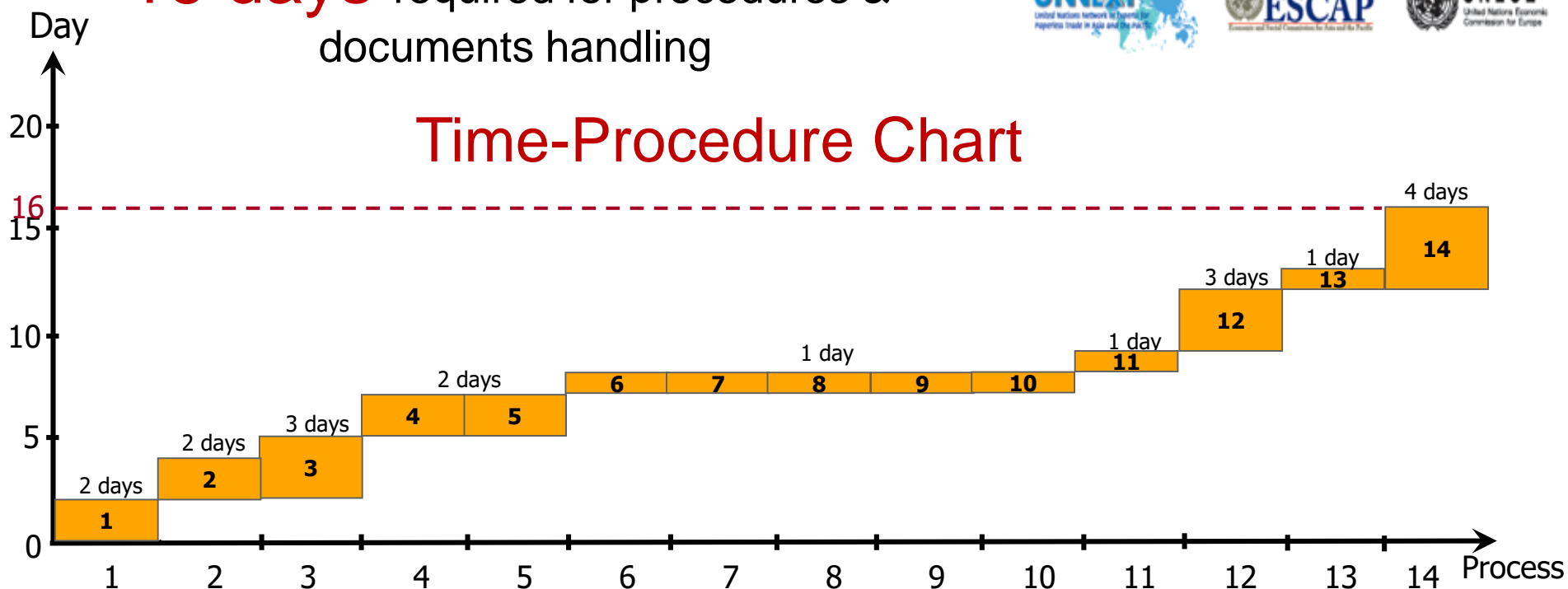
1. Buy - Conclude sales contract and trade terms
2. Obtain export permit
3. Arrange transport
4. Arrange the inspection and fumigation
5. Obtain cargo insurance
6. Provide customs declaration
7. Collect empty container(s) from yard

8. Stuff container(s)
9. Transfer to port of departure
10. Clear goods through customs
11. Handle container at terminal and stow on vessel
12. Prepare documents required by importer
13. Verify the accuracy/authenticity of exported cargo
14. Pay - Claim payment of goods

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Exporting Rice
(from purchasing time till the vessel leaving the port)

- 36 required documents (only 4-6 e-documents)

- 15 Stakeholders involved

- 14 big steps (123 small steps)

- 16 days needed (all together)

  – 6 days for regulatory procedures

  – 7 days for transport-related procedures

  – 12 days for traders, banks and insurance procedures

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The issue is about

Increasing
National Trade Competitiveness

by improving
Import-Export Procedures and Documents Handlings
among Government Agencies,
Business Entities and
Logistics/Transport Service Providers

This is called "Trade Facilitation" improvement
(the third flow of logistics)
(This is now the key national development agenda of most countries around the world.)

These indicators can help decision makers to understand the importance of import/export procedures in improving national competitiveness

Indicators	Ghana	Thailand	South Korea
Trading Across Borders rank	171	56	31
Time to export (days)	89	11	1
Cost to export (US$ per container)	490	223	185

Export Documents

Ghana	Thailand	South Korea
Bill of lading	Bill of lading	Bill of lading
Cargo release order	Certificate of origin	Customs Export Declaration
Commercial invoice	Commercial invoice	Packing list
Export Declaration	Customs declaration	
Export License	Packing list	
Non-traditional export form	Technical standards certificate	
Packing list	Terminal handling receipt	
Quality Control Certificate		
Terminal handling receipt		

Reference - World Bank's Doing Business 2016 Report – Trading Across Border (2016) www.doingbusiness.org

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Economic Impacts
because of the delay on trading across borders

- Each *additional day of delay* (e.g. because of trade logistics procedures) *reduces trade* by at least *1%*

   Ref: **"Trading on Time,"** Simeon Djankov, Caroline Freund, and Cong S. Pham, World Bank (2007).

- "Direct and Indirect Cost from import/export-related procedures and required documents is about *1-15% of product cost.*"

   Ref: **"*Quantitative Assessment of the Benefits of Trade Facilitation,*"** OECD (2003).

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Why trading across borders in many countries are difficult, time consuming and expensive?

- Procedures and documents handling remain largely paper dependent

- Missing and incorrect documentation slows progress through the supply chain

- Keeping documents & freight in sync is complex and costly

- Multiple parties capturing the same data is inefficient and error prone

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Why trading across borders in some countries are easier, faster and less risky?

Mainly because those countries gradually transform their paper-based environments into Collaborative e-Government/e-Business environments.
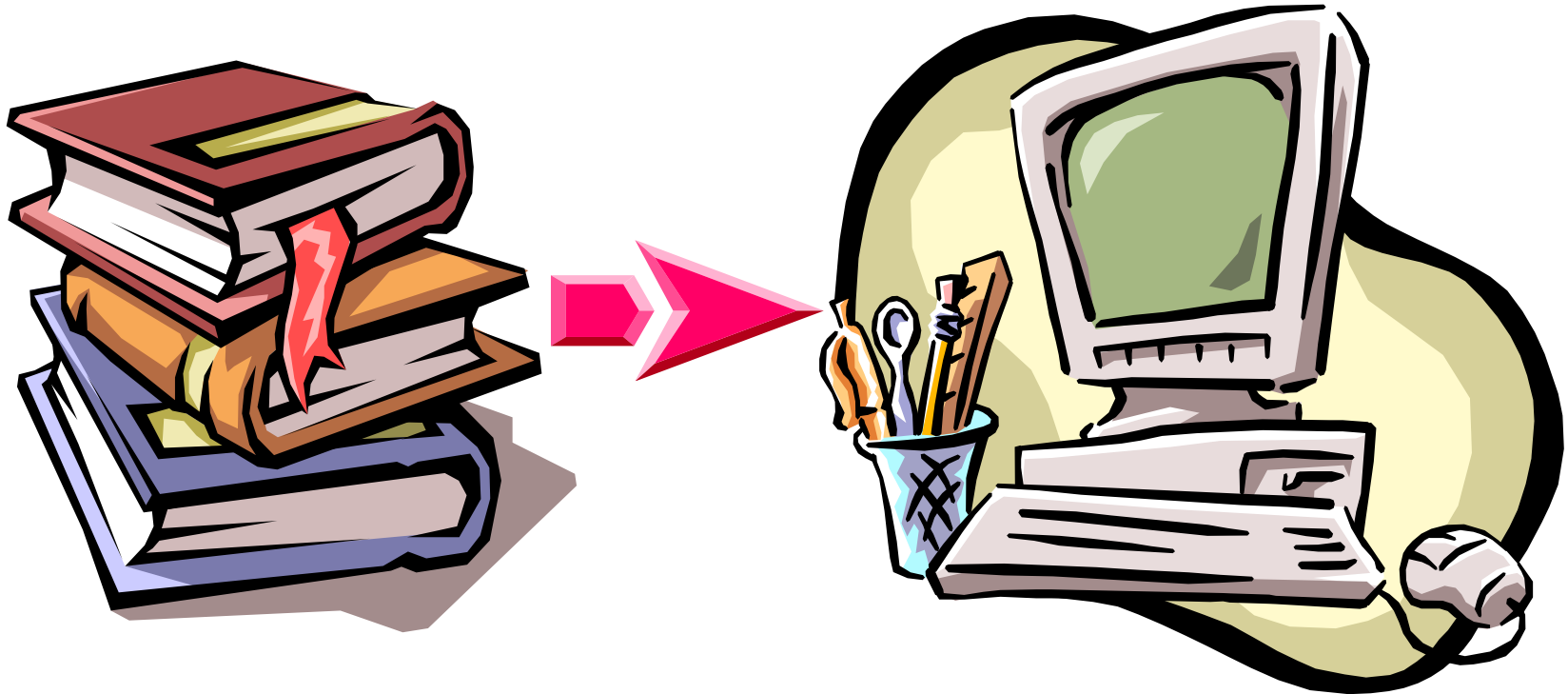
Paper-based Environment → **Paperless or e-Document Environment**

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Topics of this presentation

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2. **How** can we improve: case examples of

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3. **Recommendations**

G2G = Government to Government

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Thai Government Policy

- **National Logistics Master Plan (2007-2011)**
  - a national development agenda to become the world-class trade logistics hub

  - Reducing logistics cost (Cost Efficiency)

  - Increasing speed (Responsiveness)

  - Raising safety & certainty (Reliability and Security)

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Logistics Development Master Plan (2007 -2011)
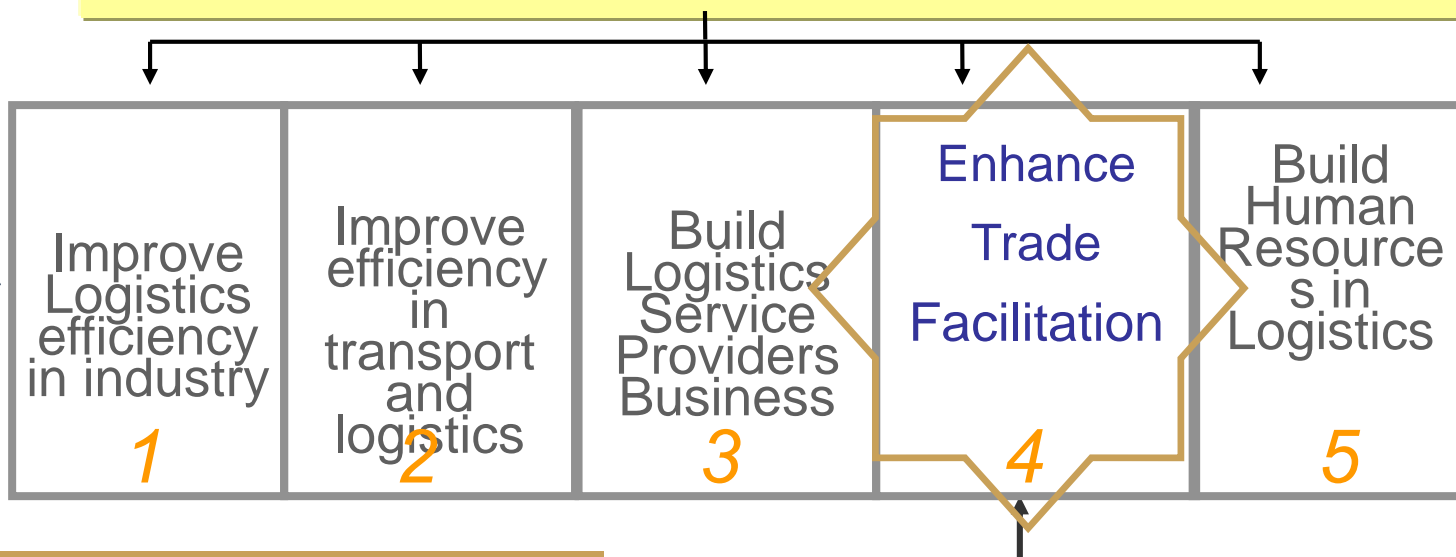## endorsed by the Thai Cabinet on Feb 2007

Vision

Towards A World-class National Logistics Environment to become a Trade Hub for Indochina

Objectives

1. Reducing logistics cost (*Cost Efficiency*), increase business *Responsiveness*, *Reliability* and *Security*
2. Create *Value-Added* on logistics industry and related business

Strategic Agenda

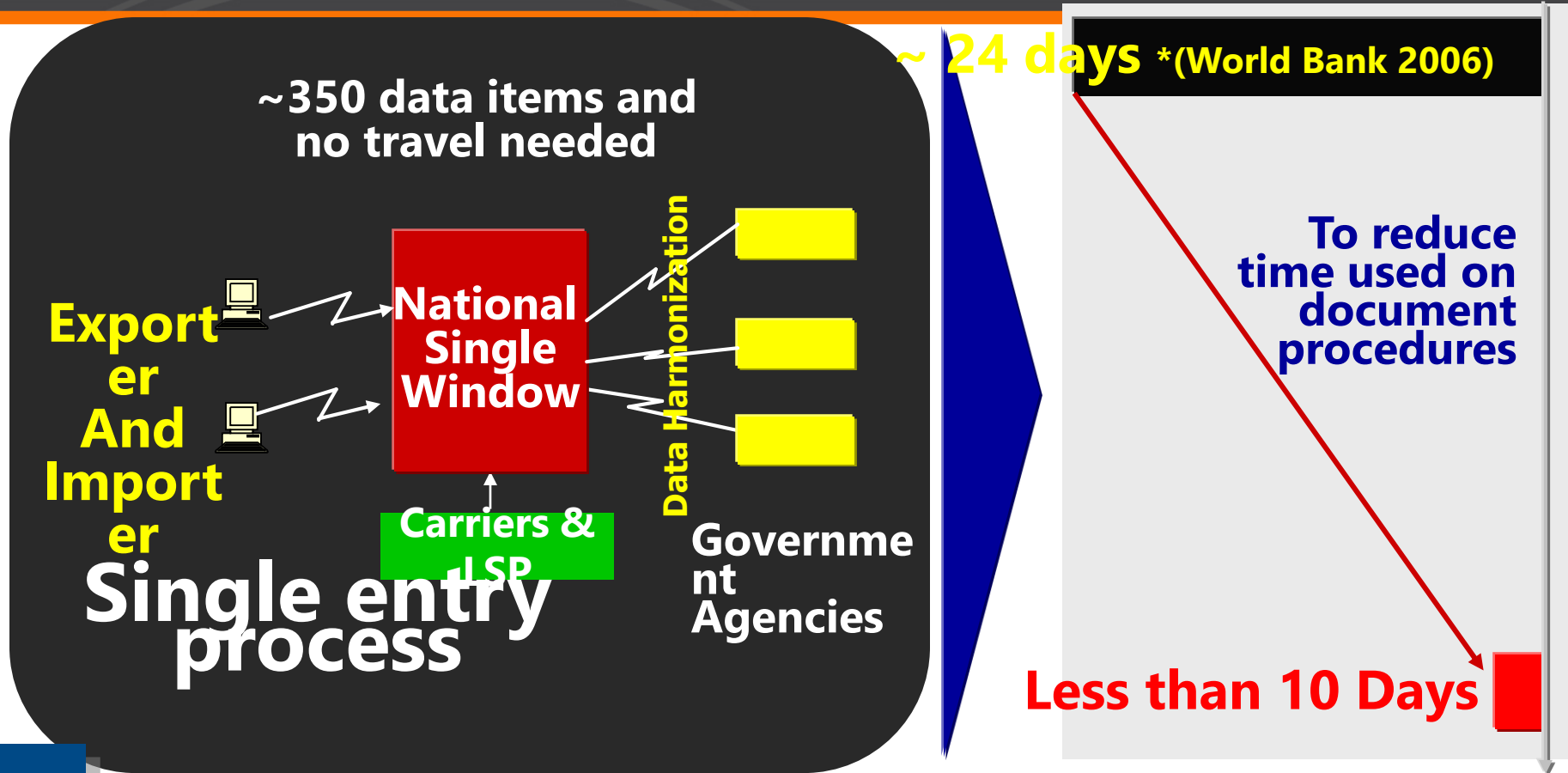| Improve Logistics efficiency in industry *1* | Improve efficiency in transport and logistics *2* | Build Logistics Service Providers Business *3* | Enhance Trade Facilitation *4* | Build Human Resources in Logistics *5* |

To reduce the trade logistics cost from 19% (2007) to 16% (2011) (comparing to GDP)

National Single Window (e-Logistics)

Action Plan to develop data exchange platform among different government agencies and business related to import/export procedures

Thailand vision:
from multiple windows to Single Window

~350 data items and no travel needed

~ 24 days *(World Bank 2006)*

Export er And Import er

National Single Window

Data Harmonization

Carriers & LSP

Government Agencies

Single entry process

To reduce time used on document procedures

Less than 10 Days

Impact to economy

- One day delay costs 1% reduction in export value (World Bank, 2006)

- Direct and indirect costs incurred in documentary process account for 1-15 % of finished goods (OECD, 2003)

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Current Situation (2007)

- Declaration
- Invoice
- Packing List

New Generation of EDI
(ebXML MS/XML Messages/Digital Singnatures)

Server

Paperless Customs Declaration
and Clearance
Customs Dept

Exporter

Browser (Request for C/O)

Web-Based Application
(Certificate of Origin)
Dept of Foreign Trade

Browser (Request for Health Cert.)
except Shrimp (Request from Dept of Fisheries)

Web-Based Application
(Health Certificate)
Dept of Livestock Development

Many Paper Documents

About 80% of required documents are physical papers not electronic papers yet.

Separate ICT islands

Web-Based Application
(Health Certificate)
Dept of Fisheries

Paper Handling and/or Web-Based Application
(Bill of Lading)
Carriers or other logistics service providers

A Conceptual Architecture of the "To-Be" National Single Window

Now, technical interoperability standard (e.g. based on ebXML MS) is needed, and common definitions of data elements, and semantic data structures (common data models) among different documents required by different organizations are required also.
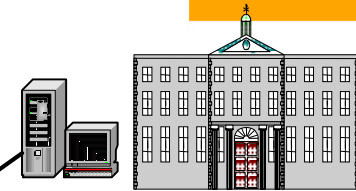
Exporter

Goal - Single Window/e-Documents
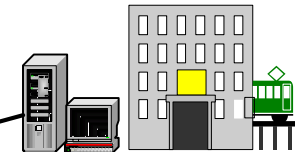One time submission for each data element but multiple usage for different purposes on different ICT platforms

National Single Window

Paperless Customs Declaration and Clearance
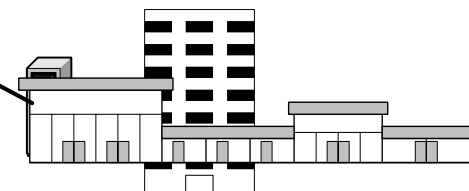**Customs Dept**

36 Regulatory Agencies

Web-Services (ebXML) Application (Certificate of Origin)
Dept of Foreign Trade

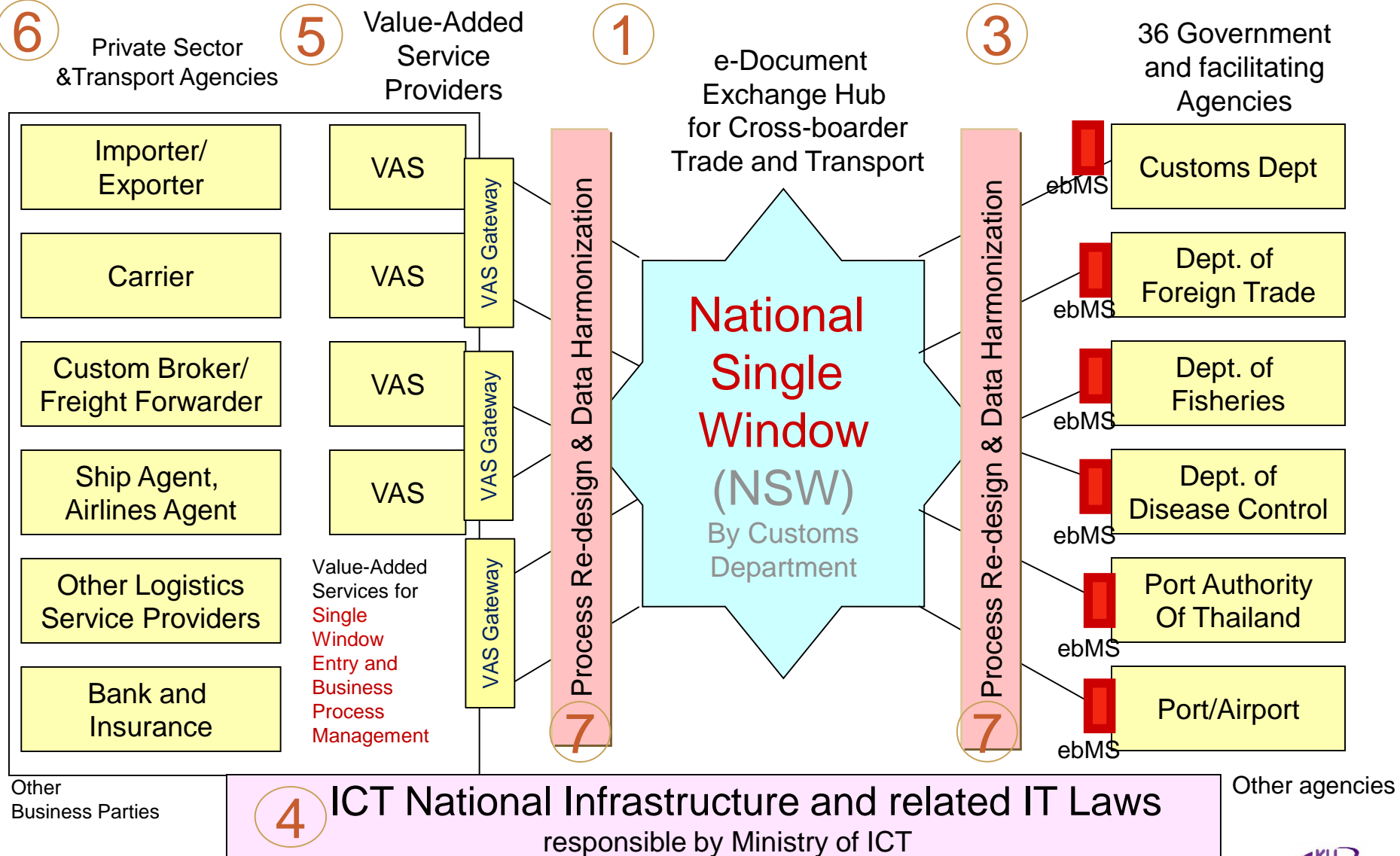Web-Services (ebXML) Application (Health Certificate)
Dept of Livestock Development

Web-Services Applications (e.g. Bill of Lading, and other documents)
Carriers or other logistics service providers

Web-Services (ebXML) Application (Health Certificate)
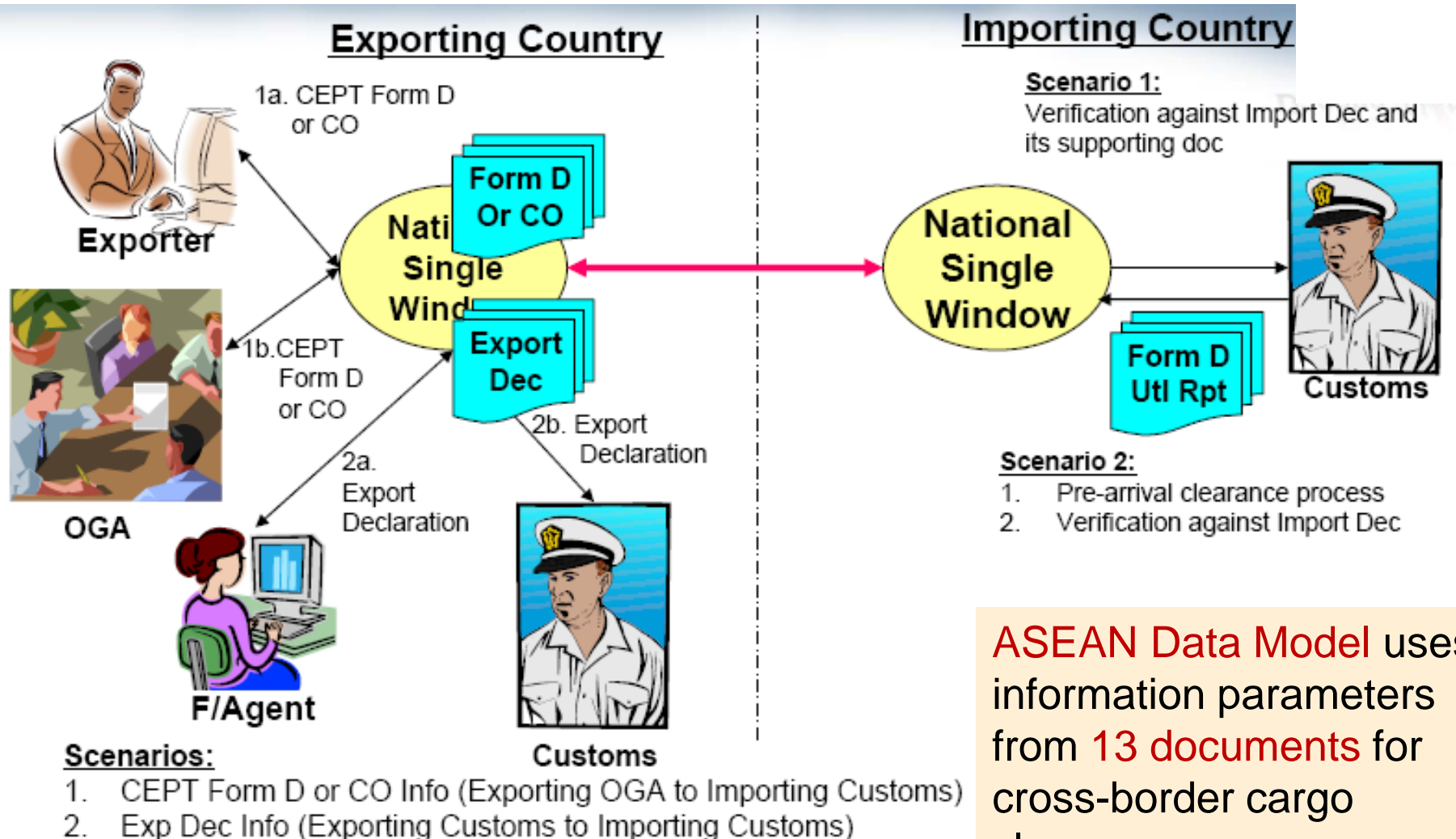**Dept of Fisheries**

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"To-Be" Thailand SW Architecture

2 **Governance Mechanism** – policy decision, service charge regulation, service level agreement etc.

6 Private Sector & Transport Agencies

5 Value-Added Service Providers

1 e-Document Exchange Hub for Cross-boarder Trade and Transport

3 36 Government and facilitating Agencies

| Importer/ Exporter |
| VAS |

| Carrier |
| VAS |

| Custom Broker/ Freight Forwarder |
| VAS |

| Ship Agent, Airlines Agent |
| VAS |

| Other Logistics Service Providers |

| Bank and Insurance |

VAS Gateway

Value-Added Services for **Single Window Entry and Business Process Management**

7 Process Re-design & Data Harmonization

National Single Window (NSW)
By Customs Department

7 Process Re-design & Data Harmonization

ebMS — Customs Dept

ebMS — Dept. of Foreign Trade

ebMS — Dept. of Fisheries

ebMS — Dept. of Disease Control

ebMS — Port Authority Of Thailand

ebMS — Port/Airport

Other Business Parties

Other agencies

4 **ICT National Infrastructure and related IT Laws**
responsible by Ministry of ICT

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A Regional Connectivity: ASEAN Single Window

Exporting Country

1a. CEPT Form D or CO

Exporter

Form D Or CO

National Single Window

1b. CEPT Form D or CO

OGA

Export Dec

2a. Export Declaration

2b. Export Declaration

F/Agent

Customs

Scenarios:
1. CEPT Form D or CO Info (Exporting OGA to Importing Customs)
2. Exp Dec Info (Exporting Customs to Importing Customs)

Importing Country

Scenario 1:
Verification against Import Dec and its supporting doc

National Single Window

Form D Utl Rpt

Customs

Scenario 2:
1. Pre-arrival clearance process
2. Verification against Import Dec

ASEAN Data Model uses information parameters from 13 documents for cross-border cargo clearance.

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Measurement of Impacts (Example)

NSW in Thailand (2009) - through reform, and applying IT for Paperless Customs and NSW

Trading Across Borders data	Doing Business 2007	Doing Business 2008	Doing Business 2009
Rank		51	10
Documents for export (number)	9	7	4
Time for export (days)	24	17	14
Cost to export (US$ per container)	848	615	625
Documents for import (number)	12	9	3
Time for import (days)	22	14	13
Cost to import (US$ per container)	1042	786	795

Transaction Cost reduction from 848 to 625 (~220 USD) per container
(x 3.5 million TEU per year) = **770 Million USD** transaction cost reduction per year

By World Bank www.doingbusiness.org Feb 2009
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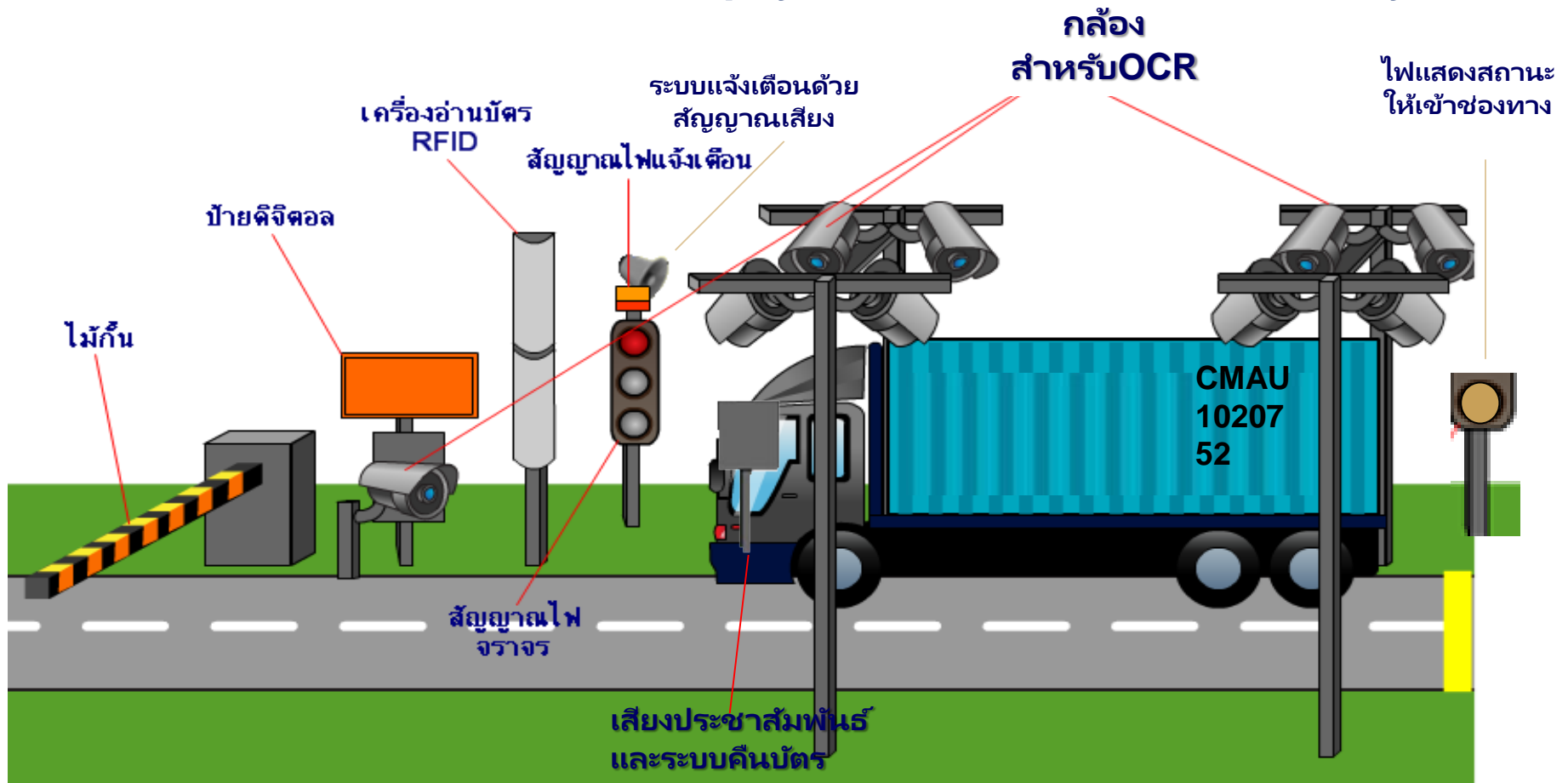
3. **Recommendations**

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Layout of the Bangkok Port

Stuffing CargoYard

East Main Gate

Customs Dept

Express Way

Empty Container Yard

Cargo Warehouse

Container Terminals

West Main Gate

Chao Phraya River

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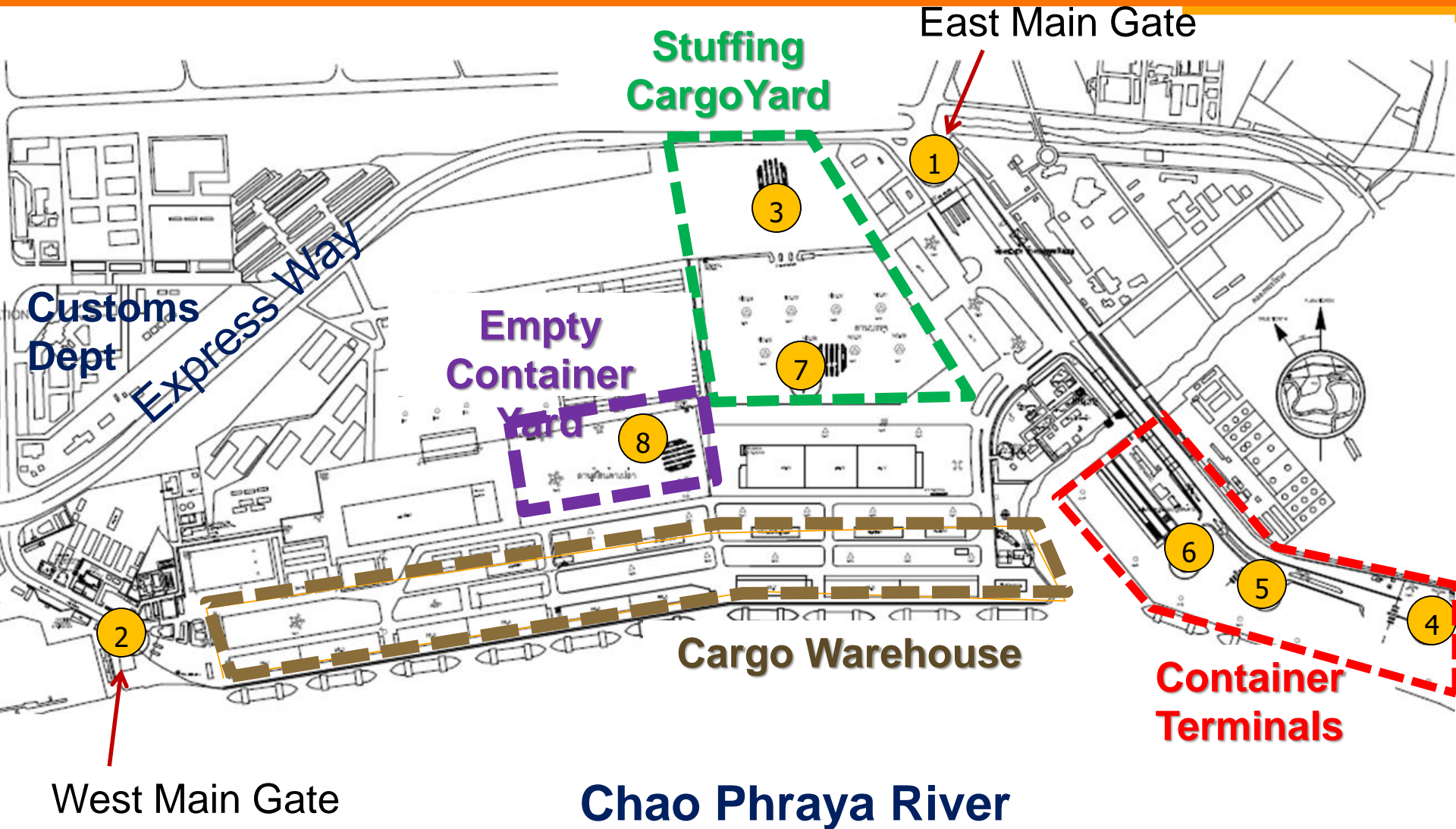
Automatic Gate (e-Gate) at Bangkok Port

for automatic identification, e-payment, Customs Connectivity, etc.

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Small farmers through co-operative exporting bananas to Japanese Markets with a barcode traceability system

70-75% banana maturity for post harvesting at the farms
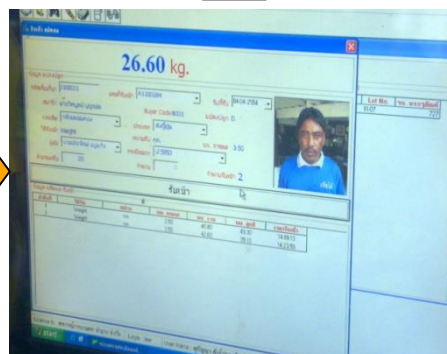
Ready for truck transportation and exporting to Japan by ships

Traceability information, e.g. each banana package coming from which farm, is available on the internet for Japanese consumers to access and check.

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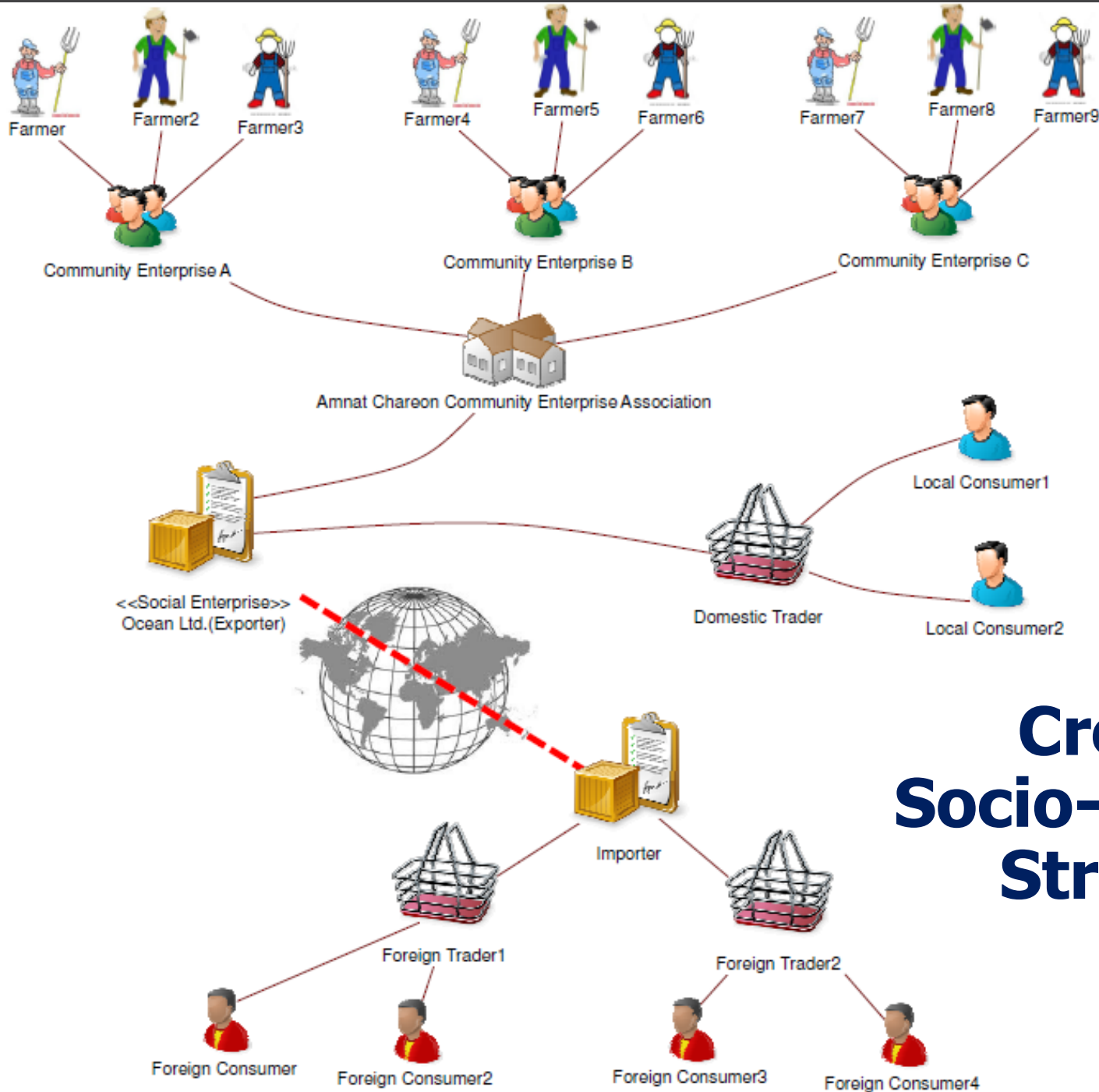
Creative Socio-economic Structure

Trusted B2B2G Single Window for Trade Logistics

Large Exporters & Importers

B2B Single Window Entry

G2G Regulatory NSW

Public and Private Regulatory Agencies (35 agencies)

ERP Systems

1. Provide Paperless Invoice & Packing-List e-Documents

SME Exporters & Importers

1. Key-in Invoice & Packing List electronically (web applications)

A. Traders could choose a freight forwarder or a broker, and track their service status.

Trusted e-Document Sharing & Guardian Services

3. Submit e-Doc with Digital Signatures

Gateway Operators

- Trade Siam
- CAT
- NetBay

National Single Window (NSW)

ebMS — Customs Dept

ebMS — Foreign Trade Dept

ebMS — Fisheries Dept

ebMS — Disease Control Dept

ebMS — Port Authority

ebMS — Air Port Authority

Other Agencies ....

2. Freight Forwarders log in, check and re-use e-documents for regulatory & transport amanagement.

B. Freight Forwarders & Customs Brokers log in to see whether there are any job assignments, re-use e-data elements without re-keying to prepare Customs declaration, application forms for permit & certificates, container & ship booking, pre-advice for the port, vehicle arrangement, e-Payment and Survey-er services (Single Window Entry)

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3. **Recommendations**

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Recommendations for Ghana - 1

- Adopt the SWIF-Single Window Implementation Framework to develop and manage the SW Master Plan (at the national level and the regional level).

  - Establish the Measurable Trade Facilitation Vision (or Single Window Vision) at the national level, and aligining with the regional level,
    e.g. 25% better, faster and cheaper Trading Across Border within 2015

  - Conduct detailed Business Process Analysis (based on, for example, some key export products, strategic trade partners, and/or through major ports) to identify bottlenecks, and also propose better, faster and cheaper Business Process (that is feasible by e-documents, and Single Window functions).

Recommendations for Ghana - 2

- Prioritize the SW scope(s) for iterative implementation based upon the context, needs and the strategy of the country, e.g.

  - Development of e-customs declaration first, then e-cargo clearance at some major ports, etc.

- Analyze and agree upon the new business process as the common standard for within-the country connectivity, and regional connectivity (e.g. single-stop cargo clearance at the border).

- Conduct the targeted document and data simplification based on international standards, e.g. UNLK, WCO DM 3.0, CCL, ...

- Adopt international standards for technical interoperability, e.g. ebXML Message Services, UN/CEFACT XML NDR, ...

- Develop your SW architecture (Business, Data, Application, Technology)

- Handle your change management carefully......

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References

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- Eveline van Stijn, Thayanan Phuaphanthong, Somnuk Keretho, Markus Pikart, Wout Hofman, and Yao-Hua Tan, **"An Implementation Framework for e-Solutions for Trade Facilitation,"** in the book "Accelerating Global Supply Chains with IT Innovation," Springer, 2011.

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- Somnuk Keretho, **"UNNExT Managerial Guide for Single Window Planning and Implementation,"** UNNExT Workshop on SW Planning and Implementation, 14-15 December 2011, Geneva.
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Thank you.

"Dear friend, I pray that you may enjoy good health and that all may go well with you, even as your soul is getting along well."

3 John 2 [The Holy Bible].

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