



# Logistics and Supply Chain Management in Singapore

**Global Supply Chains – Implications on  
Central Asia Development Policies**  
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# Big Picture : Types of Logistics Practices



U.S : The Transformer

Innovates logistics processes, heavy use of technological innovations, align customers' needs, heavily market-driven



Europe : The Footballer

Stresses on integration and teamwork, multi-modal transport, harmonization of procedures and standards



Japan : The Samurai

Focus on efficiency, high priority on quality, reduce waste, smart use of automation, tackles bullwhip effect strategically

# Big Picture : So Singapore, what are we?



We are small, but we are **fast** and **agile!**  
We may not be the pioneer in best practices, but we **mix and match** and **implement ruthlessly** to produce the results we want.

**Bottom-line : Agile, Adaptable, Action-Oriented!**

## **Awards (2013) :**

Ease of Business : Top in World Bank Doing Business 2013

Logistics Performance Index : Ranked Number 1 (2012)

Best Seaport : Asian Freight and Supply Chain Awards (AFSCA)

Best Airport : Skytrax

Best Airline : Skytrax (Economy Class)

# Where is Singapore?



# Country Profile



Land Size : 704 sq km

Population : 5.3 million

## *Why is Singapore an effective transport and logistics hub?*

- Efficient public agencies
- Strong Manufacturing Base
- Huge Shipping and Maritime Industry
- Free trade Agreements (FTA) with different and various markets
- IT Linkages
- Access to local talents
- Pro-Business Environment
- Stable Society

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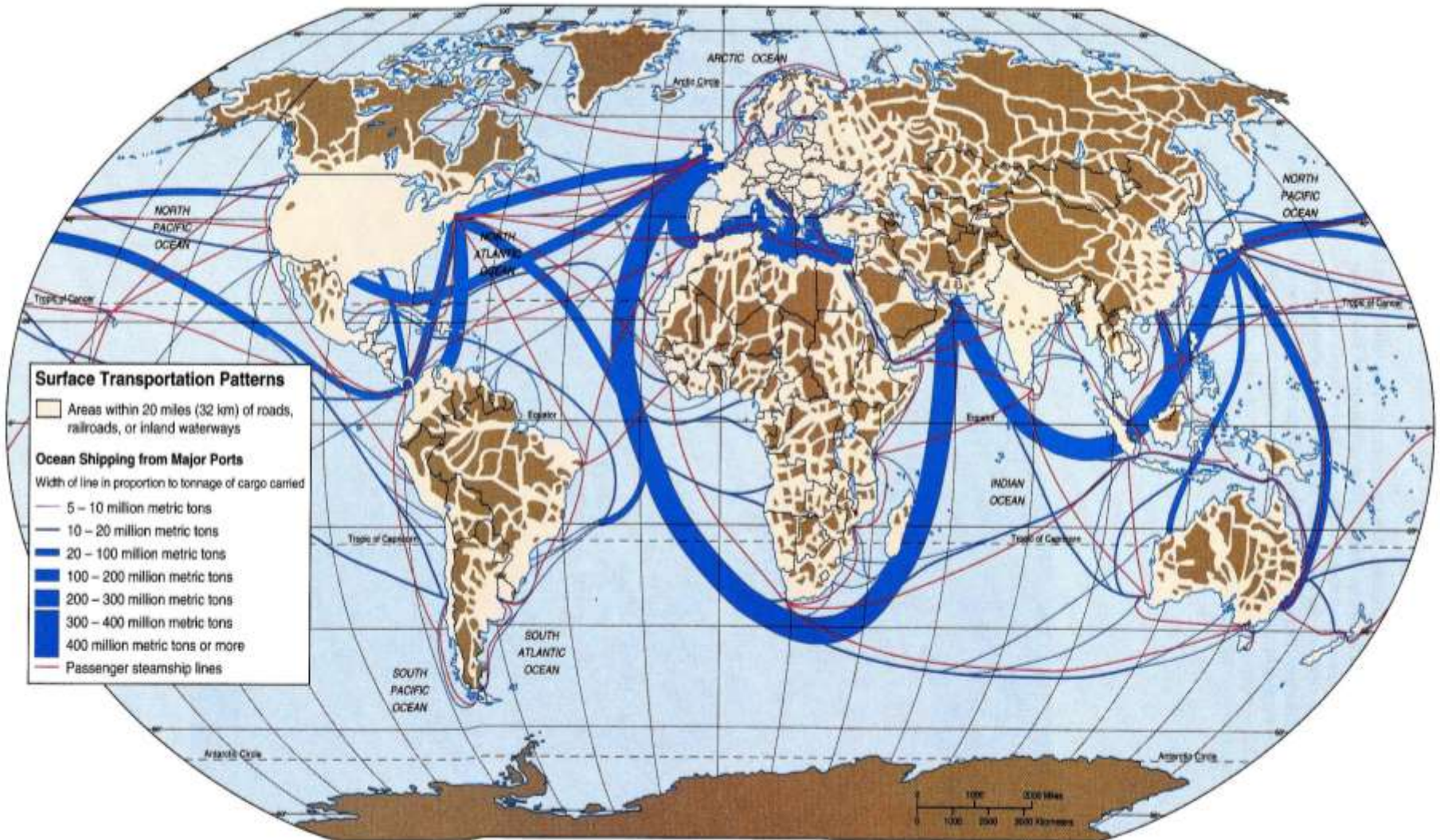
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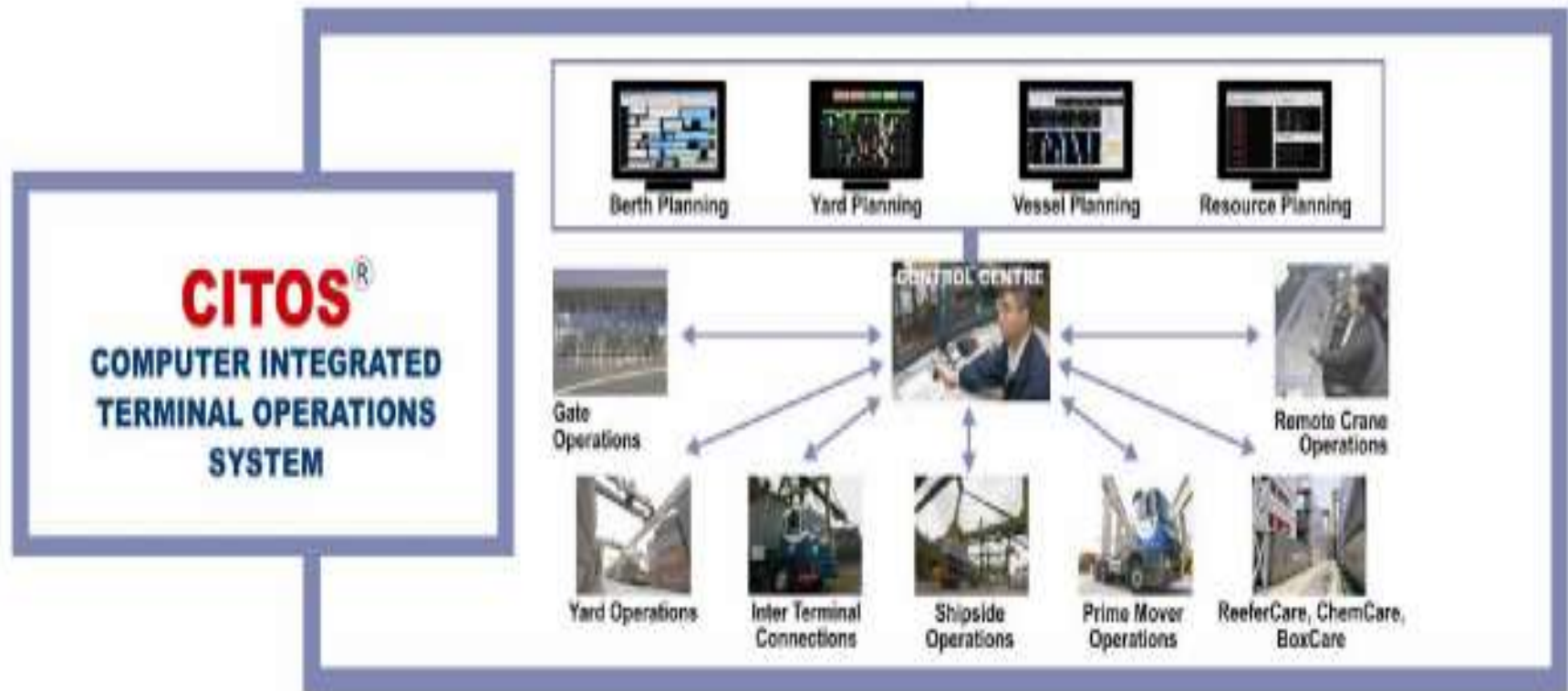


# Major Shipping Lanes





# CITOS in Singapore Ports



# Port Community System

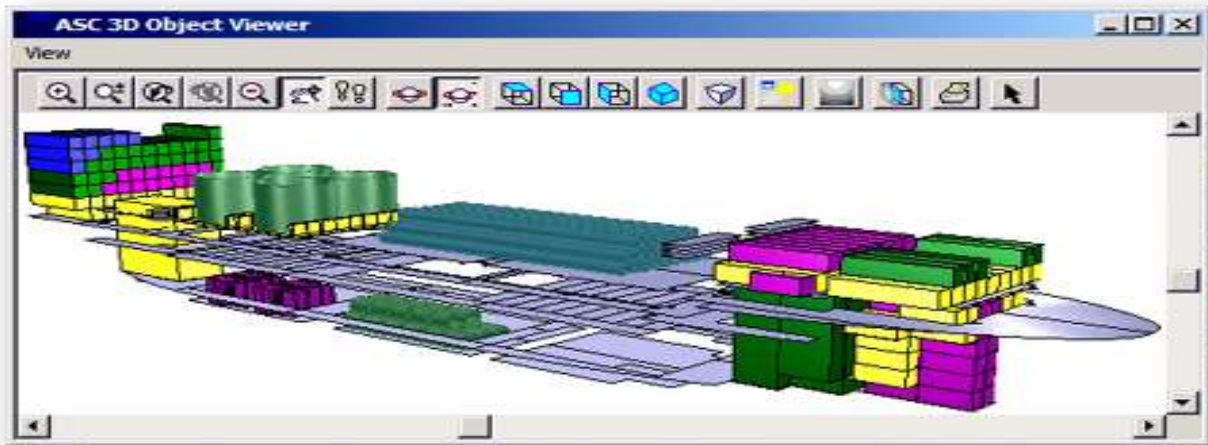
**PORTNET** simplifies and synchronises millions of processes for customers moving their cargo through Singapore.

1. **EZShip** : Managing complex transshipment processes of shipping lines
2. **ALLIES** : Supporting slot exchanges among alliance partners
3. **TRAVIS** : Enabling companies to monitor performance and make critical business decisions
4. **CargoD2D** : Providing a documentation portal between shipping lines and shippers



# Stowage Planning System

ASC 3D Object Viewer

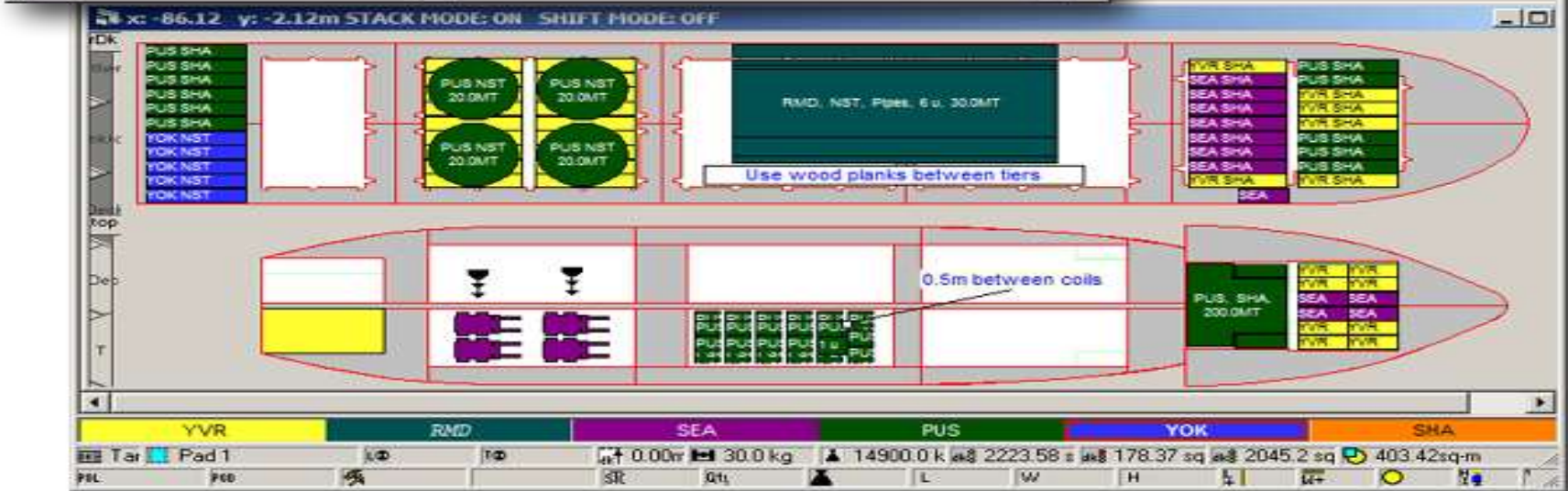


View

Gen cargo demo.pln

Vol (cu-m)	Description	C.C.	C.T.
11.514	Equipment	Equipment	40FR
10.000	Pipes	Breakbulk	
12.000	Pipes	Breakbulk	
16.000	Pipes	Breakbulk	
10.000	Ro/Ro	Ro/Ro	
10.000	Breakbulk	Breakbulk	

x: -86.12 y: -2.12m STACK MODE: ON SHIFT MODE: OFF



YVR SHA PUS SHA PUS NST 20.0MT PUS NST 20.0MT RMD, NST, Pipes, 6 u, 30.0MT YVR SHA PUS SHA SEA SHA PVR SHA SEA SHA PVR SHA SEA SHA PUS SHA SEA SHA PUS SHA PVR SHA PVR SHA

Use wood planks between tiers

0.5m between coils

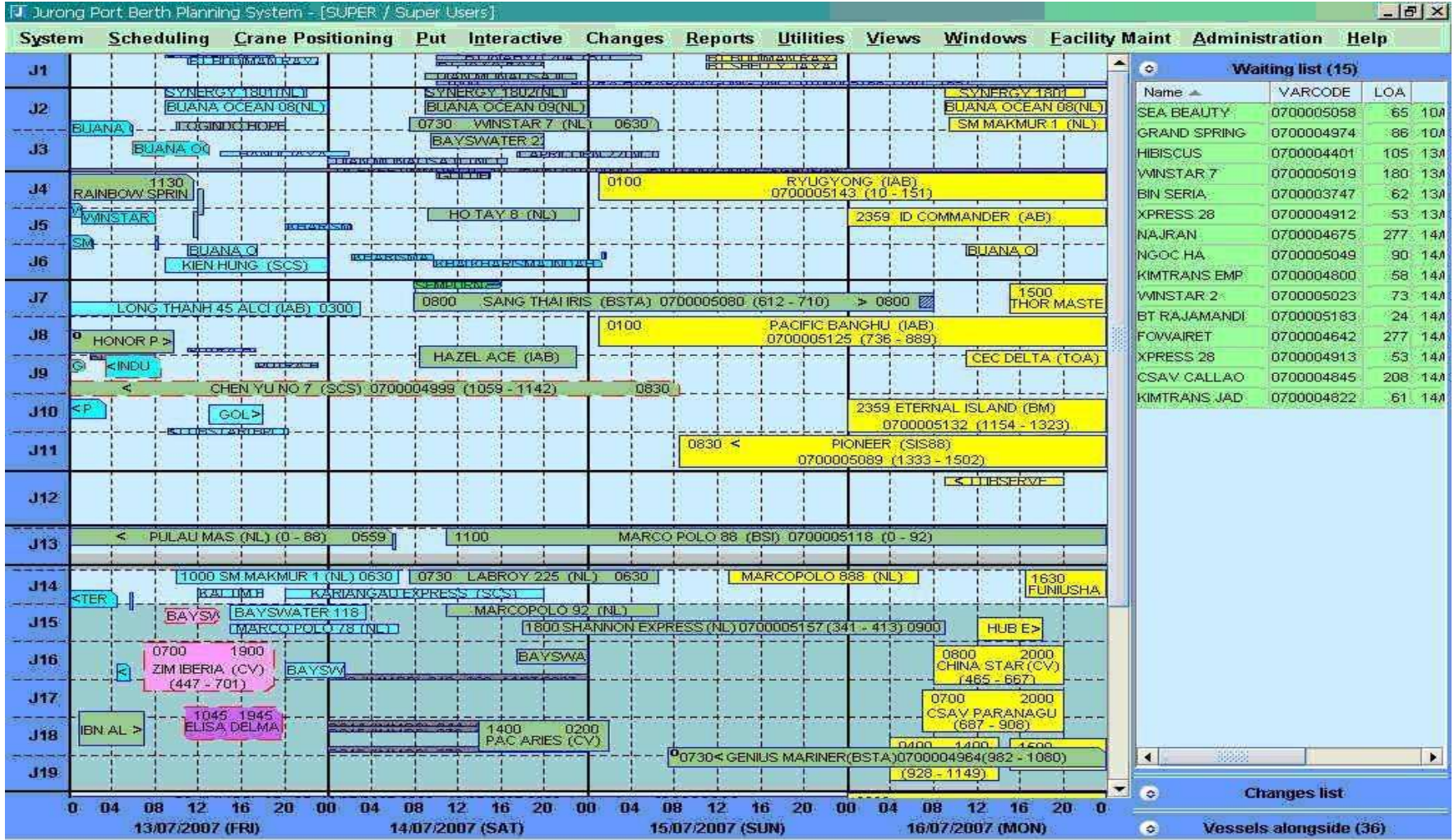
YVR RMD SEA PUS YOK SHA

Tar Pad 1 0.00v 30.0 kg 14900.0 k 2223.58 s 178.37 sq 2045.2 sq 403.42sq-m

SR 0t L W H



# Berth Planning System





# Reducing Vessel Turnaround Time

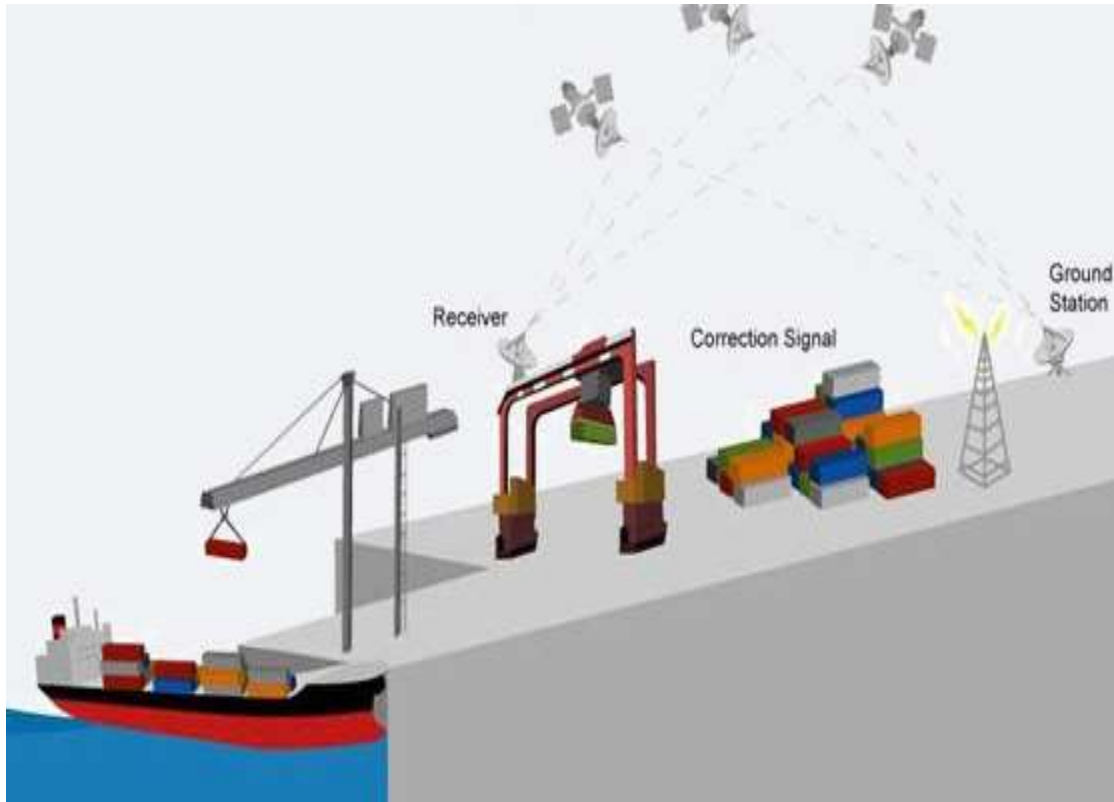


Deploy of quay cranes to discharge or load containers once vessel is berthed. Singapore is now exploring the use of new generation quay cranes that can move two or four TEUs at the same time.

# Yard Planning System



# Gate Operations



*GPS : Global Positioning System*

Modern ports have integrated GPS and RFID into their operations. So is Singapore.

Trucks with GPS or RFID will send a signal to the gate whenever they pass through one. This allows the gate to compute the truck throughput, as well as identify the location of each truck and the laden container.

With such IT, shippers in Singapore can also conduct track and trace on their mobile or desktop application.

# Air Transport



The Changi International Airport is located at the eastern tip of Singapore. It is run by the Changi Airport Group and operates the airport. Served by award-winning Singapore Airlines, the airport has served 55 million passengers in 2012 alone.



# Changi International Airport



There are currently three main passenger terminals and forms a 'U' shaped. Connected by air shuttle bus, passengers can move between the terminals without re-processing customs formalities.

# Future Expansion Plans



Planning for Terminal 4 and 5 has started. A third runway will be constructed and the combined capacity can serve 135 million passengers per year by mid-2020s.

# Global Hub for Air Transport



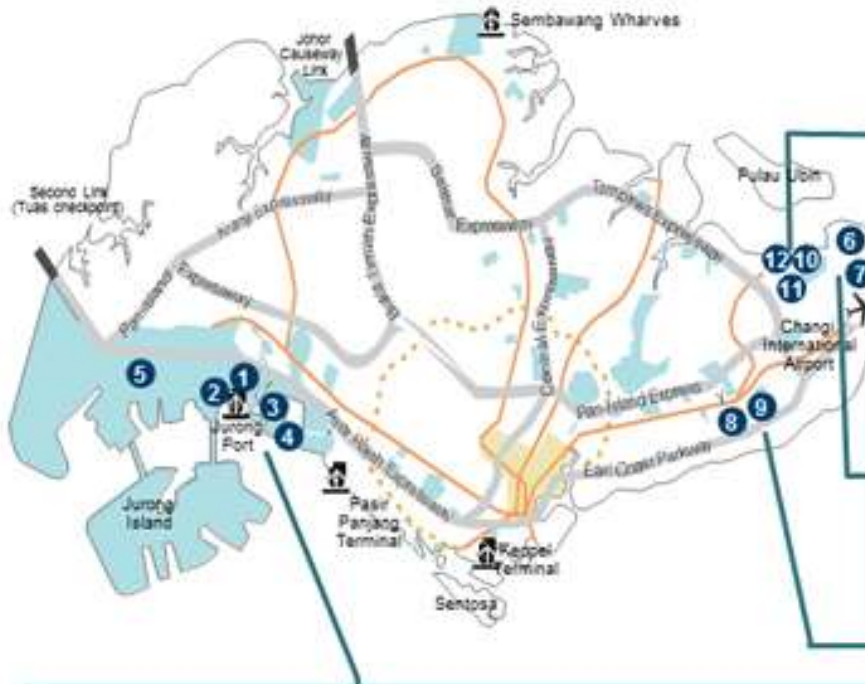
Several courier and express companies have established regional HQ in Singapore.

# Air Logistics Park





# Logistics Clusters in Singapore



## Changi North



10 APC Distrihub  
6 Changi North Way



11 Pan Asia Logistics Centre  
21 Changi North Way

## Loyang



12 Air Market Logistics Centre  
22 Loyang Lane

## Airport Logistics Park ("ALPS")



6 Schenker Megahub  
51 ALPS Avenue



7 Hi-Speed Logistics Centre  
40 ALPS Avenue

## Changi South



8 C&P Changi Districentre  
5 Changi South Lane



9 C&P Changi Districentre  
3 Changi South Street 3

## Pandan/Penjuru



1 CWT Commodity Hub  
24 Penjuru Road



2 CWT Cold Hub  
2 Fishery Port Road



3 Kim Heng Warehouse  
4 Penjuru Lane



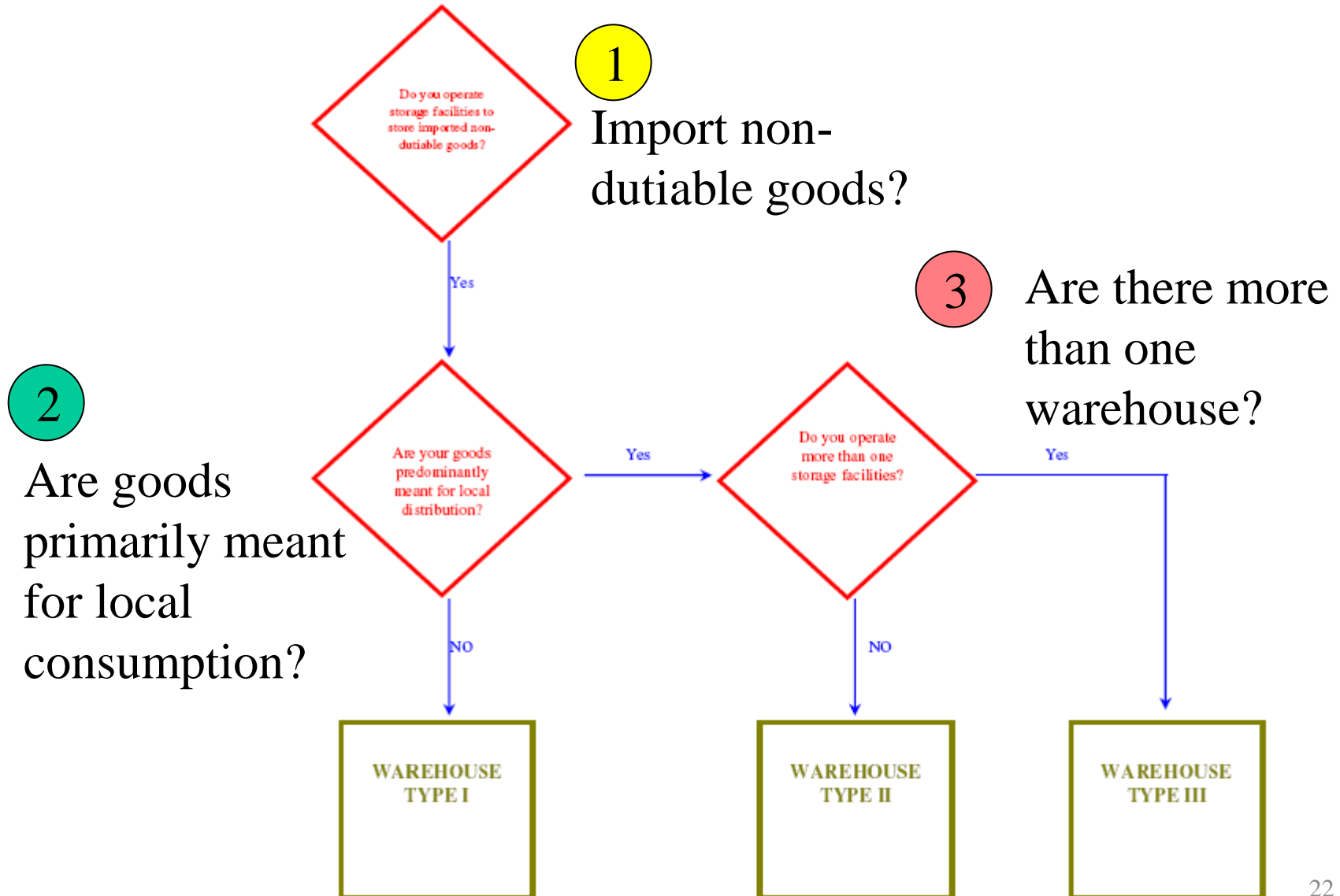
4 Pandan Logistics Hub  
49 Pandan Road

## Gul Way



5 Precise Two  
15 Gul Way

# Zero GST Warehouse



# Warehouse Retail Scheme



IKEA in Singapore. This warehouse is located in Tampines. The top floor exhibits the furniture and design, while the bottom floor is the warehouse. Customers pick and check out the goods by themselves.

**Warehouse Retail Scheme** by the Singapore Economic Development Board. The scheme aims to facilitate integrated businesses that encompass regional headquarters, retail, warehousing and industrial activities to operate on industrial sites. Previously, retail operations are not allowed on industrial land. This scheme relaxes the regulation for approved companies.

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# Cold Chain



Coolport@Changi – Asia’s first and largest dedicated on-airport cold room. It is 8,000 m<sup>2</sup> locate within FTZ. Temperature control within 19°C to -28 °C. Facility is designed with HACCP in mind.



The facility serves food processing, biomedical and pharmaceuticals, seafood and flowers. It is also the first Halal certified air cargo hub for perishables in the region.

# Fashion and Apparels



Supply chain for fashion and apparels is characterized by time-sensitive, low weight and high value, dealing with a large variety of assortment.

Singapore logistics companies provide value-added services in warehouse, such as tagging and labelling. Increasingly, clothings are distributed in the form of 'Garments on Hangars' or GOH so that the final product arrives at the store without creasing or foldings.

# Chemicals



The chemical sector contributes \$38 billion of manufacturing output in 2012. To support the growth of this sector, the government has reclaimed the Jurong Island to become a chemical hub. Many of the world's leading energy and chemical companies, among them BASF, ExxonMobil, Lanxess, Mitsui Chemicals, Shell and Sumitomo Chemicals are located here. Presently, Jurong Island has successfully attracted investments in excess of S\$35 billion.

To support such growth, Singapore has many chemical logistics specialists. They are certified in IMO DG (International Maritime Organization – Dangerous Goods) as well as other skills to handle the different classes of chemicals and petrochemicals products. The island will also contain a large underground cavern to store chemicals and crude oil in future.

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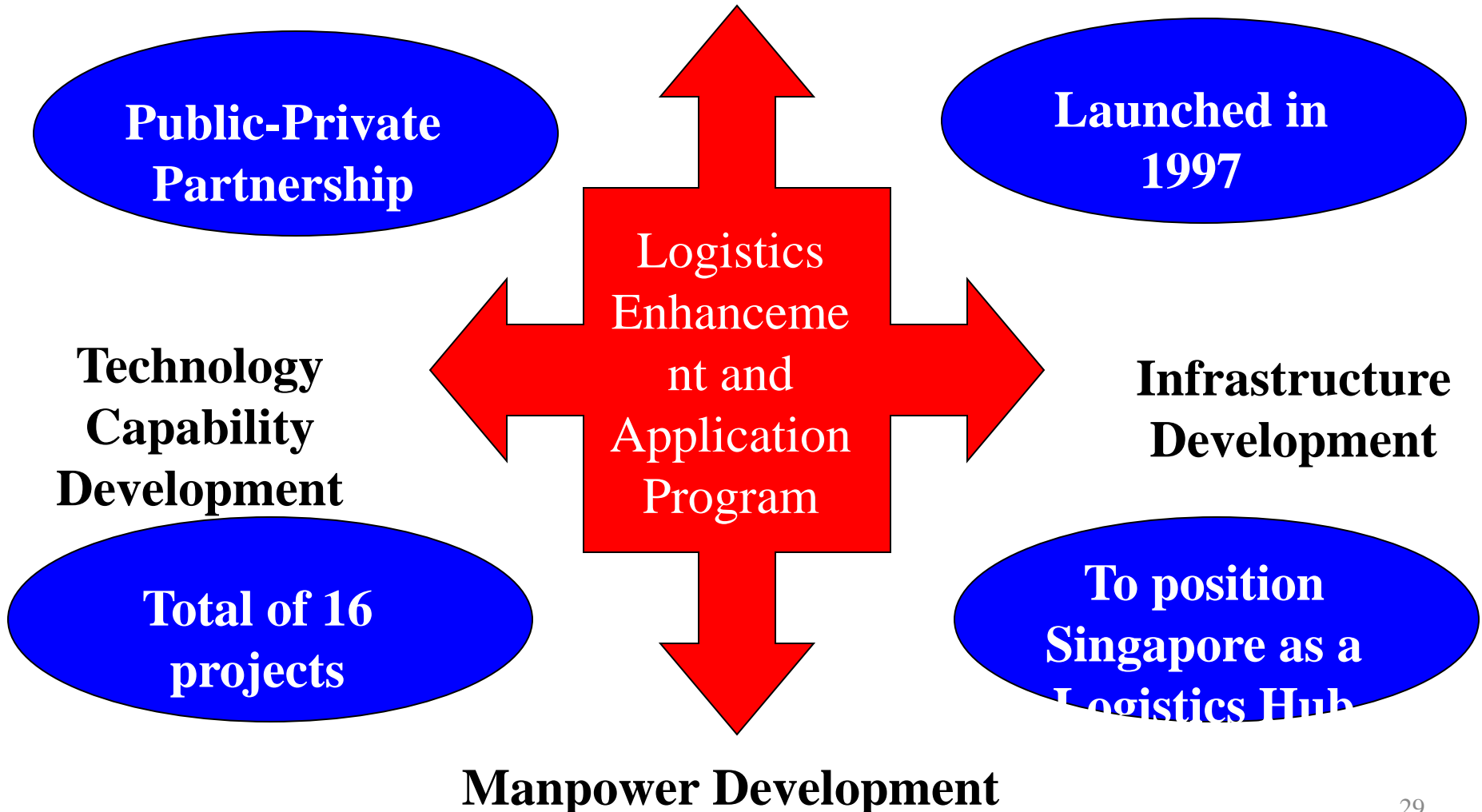
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# Logistics Enhancement and Application Program (L.E.A.P.)



## Business Process Enhancement



# Sample L.E.A.P. Projects

1997

1. Logistics Benchmarking
2. Balanced Scorecard
3. Cost of Quality Program

1999

1. Pallet Standardization
2. Electronic Container Seal
3. Promoting I.T. in Logistics

2001

1. Certified Logistics Professional Program
2. Strategic Manpower Conversion Program
3. National Competency Roadmap

# Strategic Manpower Program (SMCP)

- IE Singapore and Ministry of Manpower (MOM) partnered to launch SMCP.
- The objective is to convert more non logistics professionals into the logistics industry through conversion courses to provide specific skills.
- Subsidize up to 50% or \$4,000 of course fees.
- Participants can go for full-time training and offered monthly allowance up till \$800.
- On the job (OTJ) training allowance for 3 months at 50% of salary, capped at \$800 if participant works in the logistics industry for a minimum of 6 months after conversion.

# Certified Logistics Professional

1. Launched by IE Singapore, Infocomm Development Authority (iDA) and Chartered Institute of Logistics and Transport (CILT).
2. Similar to CPA, CFP and CFA in the accounting, financial planning and investment industries, where professionals are certified to provide recognition of achieving the minimal criteria in work experience and knowledge.
3. Applicants can do a self assessment and determine the current possibility on achieving the certification.
4. A minimal of 400 points must be obtained to qualify for the entrance examinations. The main areas of assessment includes “Work and Management Experience”, “Formal Education” and “Professional Membership”.



# Certified Logistics Professional

## HOW TO GET CERTIFIED



# eLogistics Benchmarking

1. Check the [www.escm.org.sg](http://www.escm.org.sg) for more information.
2. Determine if eSCM assessment is relevant and beneficial for the enterprise.
3. Arrange a senior management meeting with SMA.
4. Apply for the ID and password.
5. Conduct on-line self assessment and review current gaps.
6. Set a date for the full audit.
7. Payment : \$6,000 (government grants are applicable)

# eLogistics Benchmarking - Sample

## PLAN

Aggregate Planning P1.1a **Do you collaborate with customers on demand forecasting?**

- 
- N/A
  - No structured process exists
  - Process exists using simple and manual methods of communication such as emails/fax/phone.
  - Structured process exists for limited number of items using electronic data interchange with proprietary standards, and not fully integrated with internal systems
  - Structured process exists for significant number of items using electronic data interchange with proprietary standards, and not fully integrated with internal systems
  - Structured process exists for significant number of items using electronic data interchange with open standards, and fully integrated with internal systems

# Case Study : Trade Net

In 1979, Singapore first surfaced the idea of a single window.....



1. Increasing trade and shortage of labour (1980s)



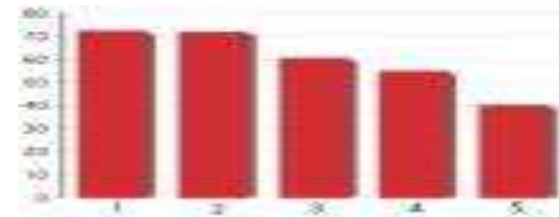
3. Support JIT operations



4. HK announced the creation of Trade-Link (1986)



2. The need to link the seaport and airport



5. First recession hit Singapore! Economic Review Committee recommended acceleration of TradeNet. (1985)



# #1 : Ownership Structure

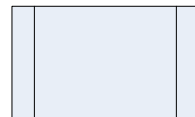
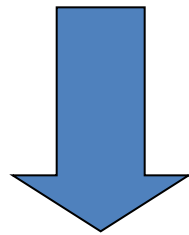
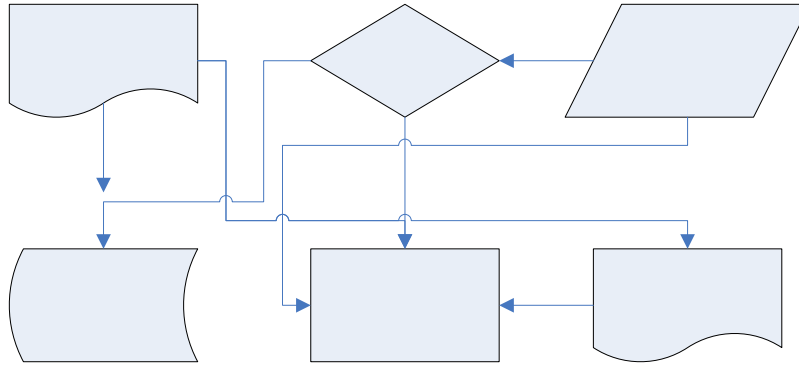
**Singapore Trade Development Board** became the coordinating point for various agencies, including,

- Customs and Excise
- Port of Singapore Authority
- Civil Aviation Authority of Singapore



Three working sub-committees were created to report to the TradeNet Steering Committee

# #2 : Process Streamlining



## As-Is

More than 20 over forms needed for document processing

## To-Be

Redesign the process and use one single form to capture all needed information

## #3 : Legislation



New laws are drafted and ratified to grant executive powers to the government agencies to set up and run TradeNet, as well as approve such Trade Documents as a form of irrevocable agreement in commerce.



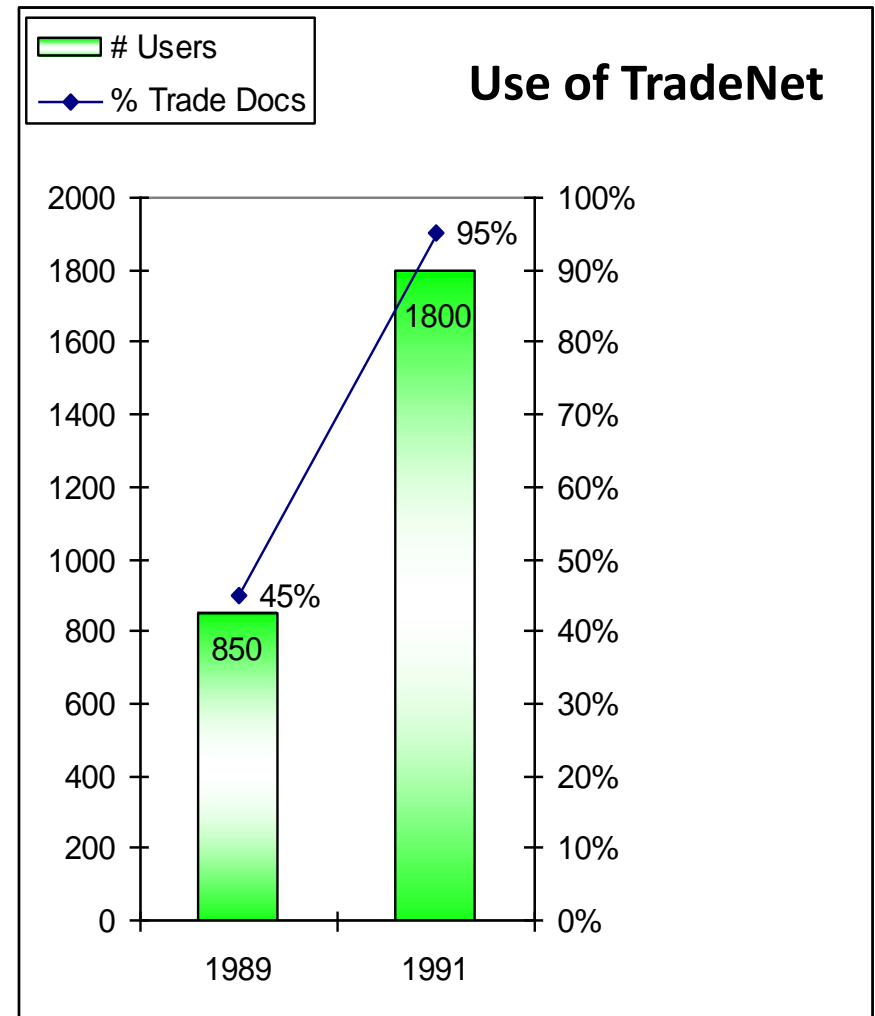
Penalties were also revised to include punishment of offenders who misused the systems for false declaration of documents as well as hackers who made illegal access and acquisition of the data in TradeNet.

# Benefits of Trade Net



## Tangible Benefits

1. Turnaround Time : 2 days to 15 mins
2. Processing Cost : Drops 20%
3. 20 forms to 1 form
4. IE Staff from 160 to 70
5. Better cashflow for customs
6. Faster compilation of trade statistics





# Secure Trade Partnership (STP)



**STP is Singapore's approved framework for Authorized Economic Operators (AEO) under World Customs Organization.**

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# Implications for Central Asia

1. Every country is **different**. Each country has to carve its niche strategy.
2. **Political will** is the single-most important condition for driving reforms and changes to achieve results.
3. Besides infrastructure, **trade facilitation** is as important. This can usually be more cost-effective and implemented in a shorter time.
4. Trade facilitation requires regional cooperation, as well as developments in **human resources** and **information technology**.
5. Being a transit nation is not enough. A country has to target particular niches and provide the conditions and enablers for it to succeed. This may entail **production** or **processing** in certain parts of the global supply chain.

# THANK YOU!



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