

# ADB-UNESCAP Workshop on Secure and Efficient Cross-Border/Transit Transport

## Customs Facilitation using electronic seal (eSeal) Technologies

*Anusorn Lovichit*

*Apilak Waengwan*

Thai International Freight Forwarders Association (TIFFA)

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**WD** Western Digital

Secure Free Zone Project

# How did it all begin?

*The uniqueness of Western Digital production environment sets the tone...*

Multi-location manufacturing plants (5) and  
Logistics center (1)

Approved Thai Customs Free Zone for all locations

Just in time raw material feed into production line

Non stop production 24 x 7

Average as many as 5,000 truck trips per month  
carrying raw material and finished goods  
between multiple locations

## How did it all begin? (cont'd)

*Being the Customs free zone resident, WD-TH is obligated to the following:*

Filing (paper base) Customs declaration and performs Customs procedure on every shipment in/out of the free zones *<hence, cost associated>*

Nearly all shipments must go through randomize Customs inspection *<hence, time associated>*

Every 6 months, WD must file stock report on every shipment for all of their free zone locations *<hence, cost/time/accuracy associated>*

*So, we're left with a challenge of ...*

## How did it all begin? (cont'd)

*The following “how to...” “*

Transform paper base Customs Declaration into electronic version and submit to Thai Customs?

Reduce (or minimize) the randomized inspection by Thai Customs?

All that and “Save Cost”!\$!\$!\$

*Because Thai Customs doesn't want to invest in providing eSeal/infrastructure...only interested in DATA!*



*Plants in Bang Pa-In Industrial Estate*



**Virtual border manufacturing facility expansion!**



*Plants in Navanakorn Industrial Estate*

*Logistics Center in Bang Pa-In Industrial Estate*

Transfer within or between Customs Free Zones

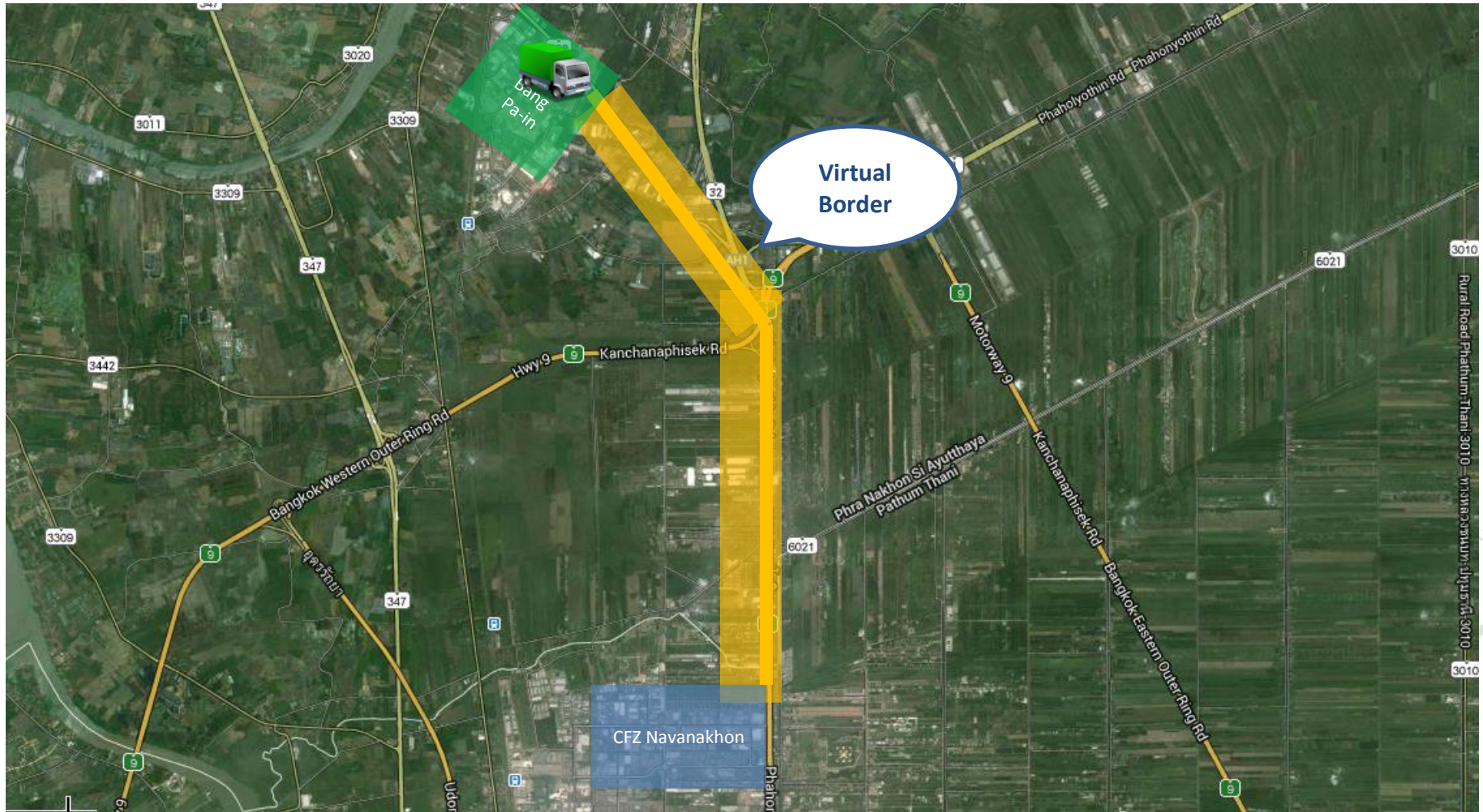
# GeoZone





Transfer between Customs Free Zones

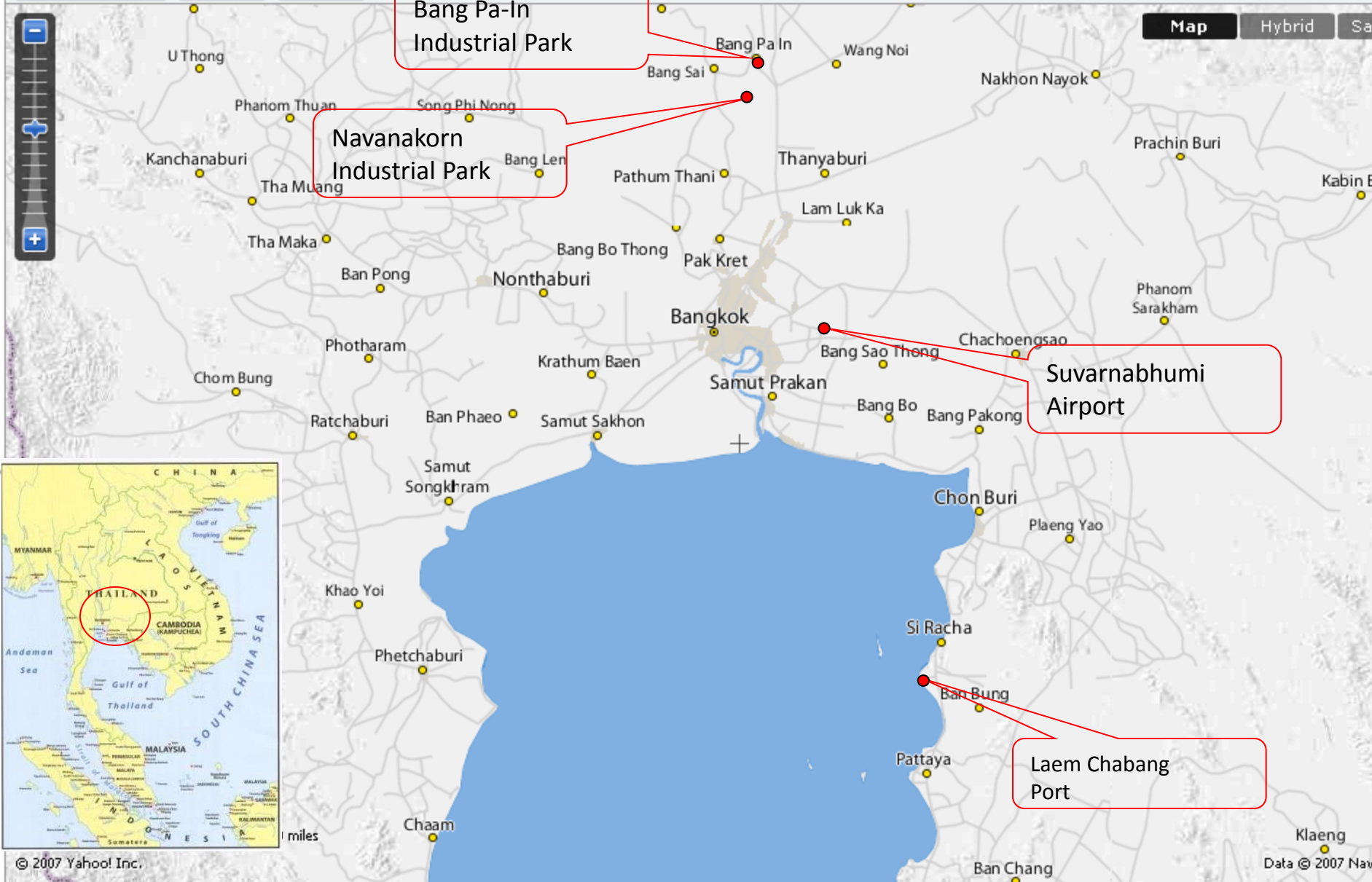
# GeoCorridor





[Printable Version](#) [Send](#) [Save](#)  [Live Traffic](#)

**Map** Hybrid Sat



# RFID Readers *(period: 2006 – 2012)*







## *Electronic Seal (eSeal)*

1<sup>st</sup> generation





## *Electronic Seal (eSeal)*

2<sup>nd</sup> generation



*Electronic Seal  
(eSeal)*

3<sup>rd</sup> generation



# The eLock



eLock device installation on various form factor

# eLock Device (GPS/GPRS/RFID)



# Device implementation Combination

*Prime-Movers fitted with IVM and iSensors*

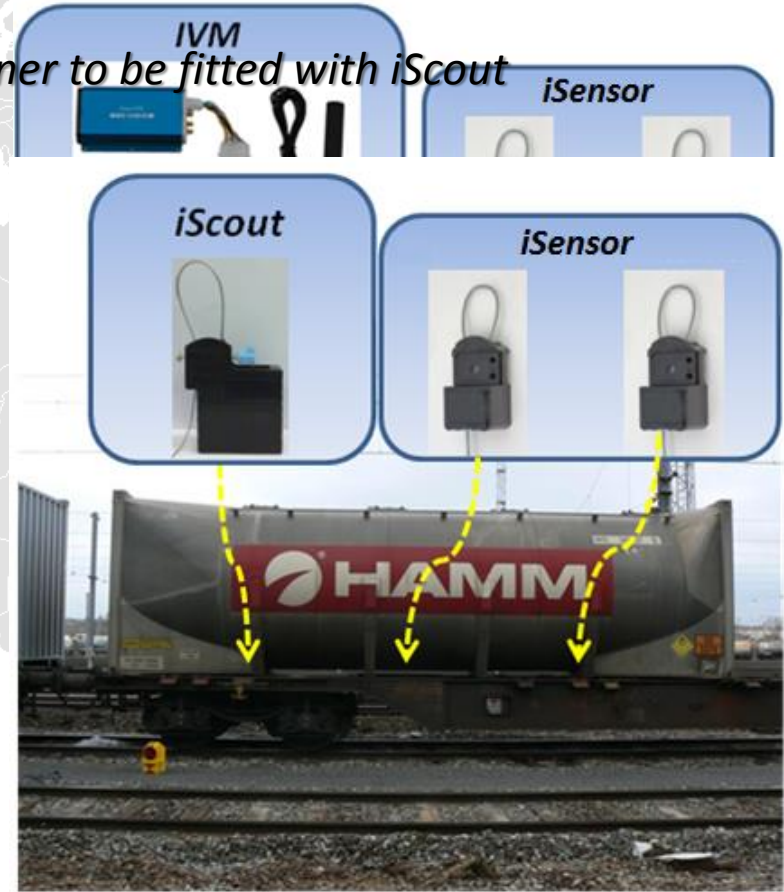


*Bulk Liquid Container to be fitted with iScout and 1 or many iSensors*

*Fuel Trucks with iScout and iSensors*

*Fuel Trucks with IVM and iSensors*

*Container to be fitted with iScout*



*Transit vehicles to be fitted with iScout*



The Reinstatement!

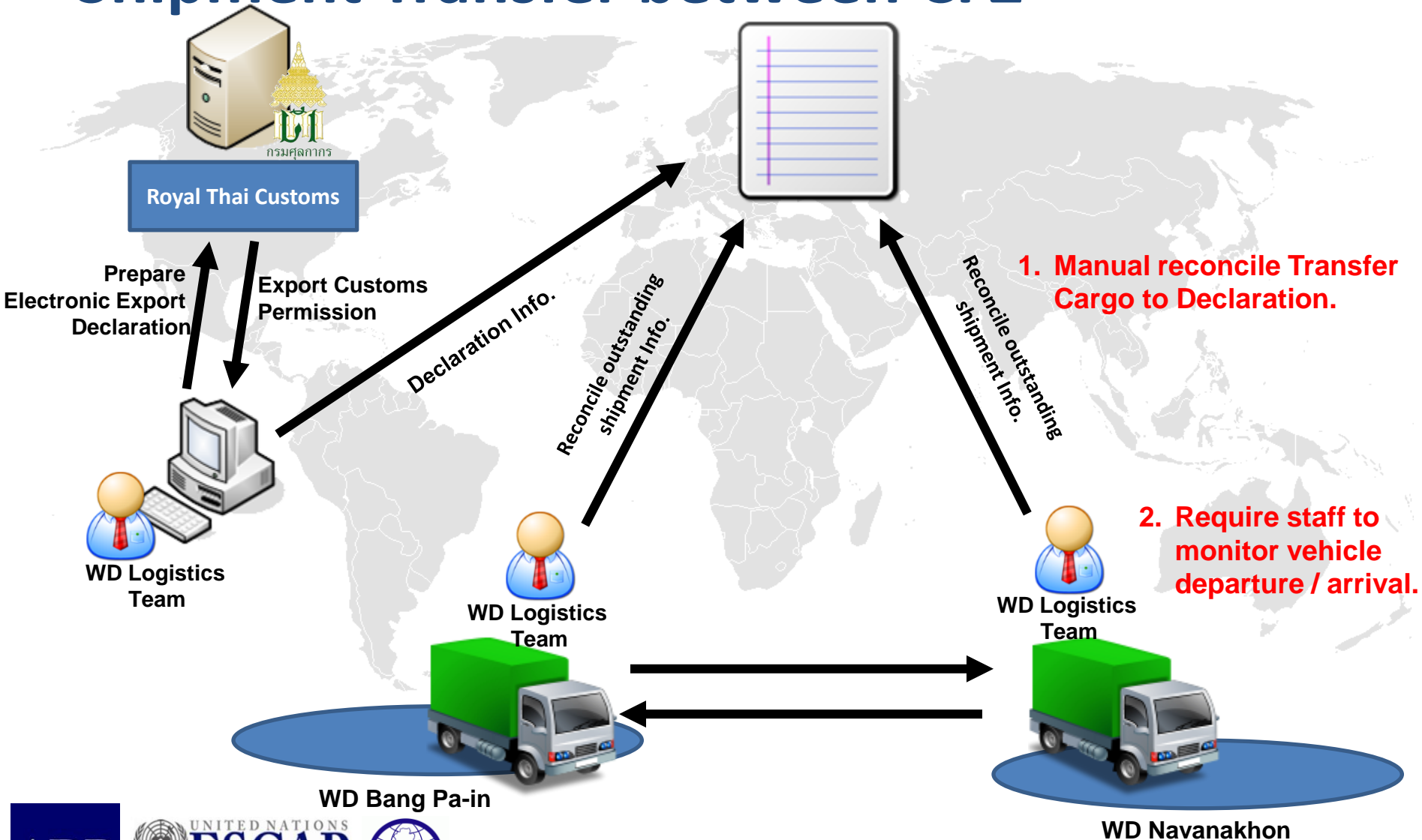
# SECURE FREE ZONE





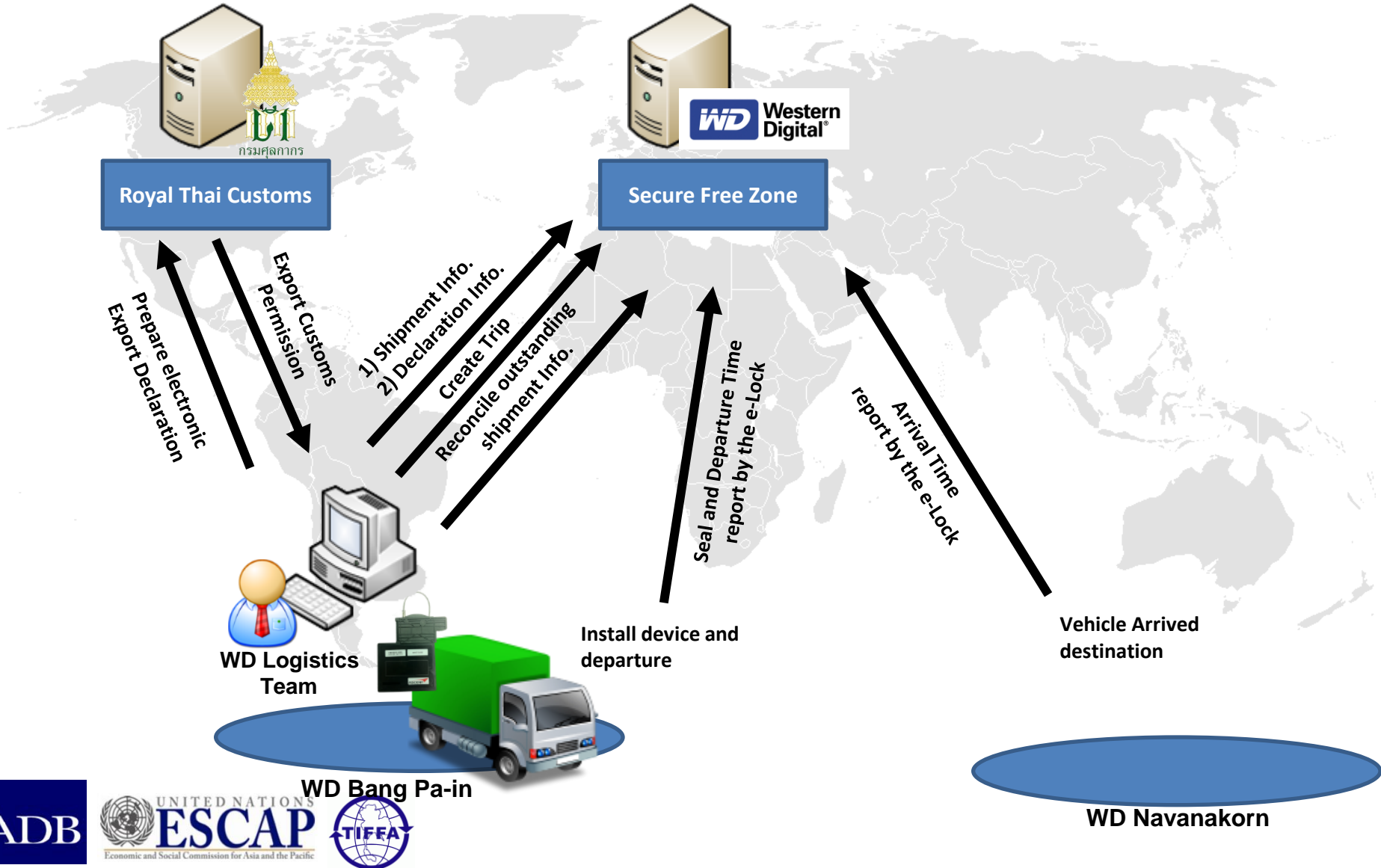
# Traditional Process

## Shipment Transfer between CFZ



# Secure Free Zone

## The Reinstatement!



...BUT

Better?...

...Which technology...

**RFID**

**VS**

**GPS/GPRS/RFID**





How the system works

# SYSTEM APPROACH



# Data Centralization

Cross Border Systems

Common Platform

Private Systems

GPS/GPRS

RFID

GPS/GPRS

GPS/GPRS

RFID

GPS/GPRS

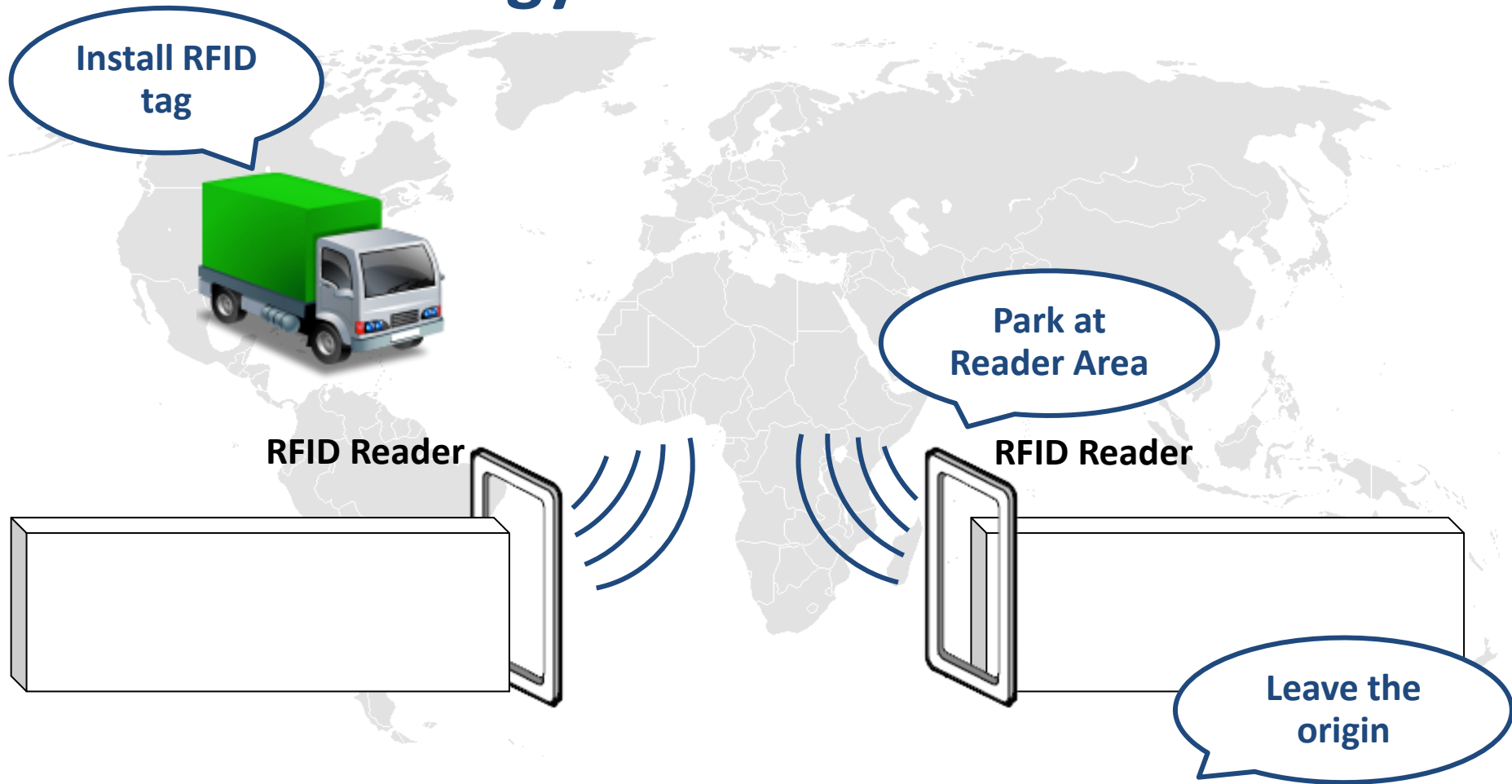


How the technology works

# TECHNOLOGY APPROACH



# RFID Technology





# GPS/GPRS/RFID Technologies

Install  
GPS/GPRS  
tag

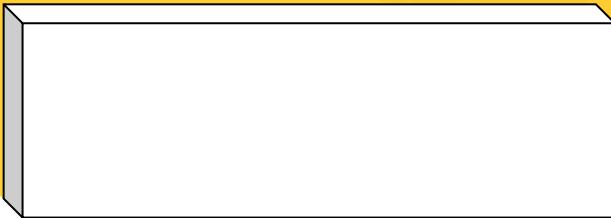


Get Signal (location)



## Geozone

Reader is  
substituted by  
virtual area



Leave the  
origin

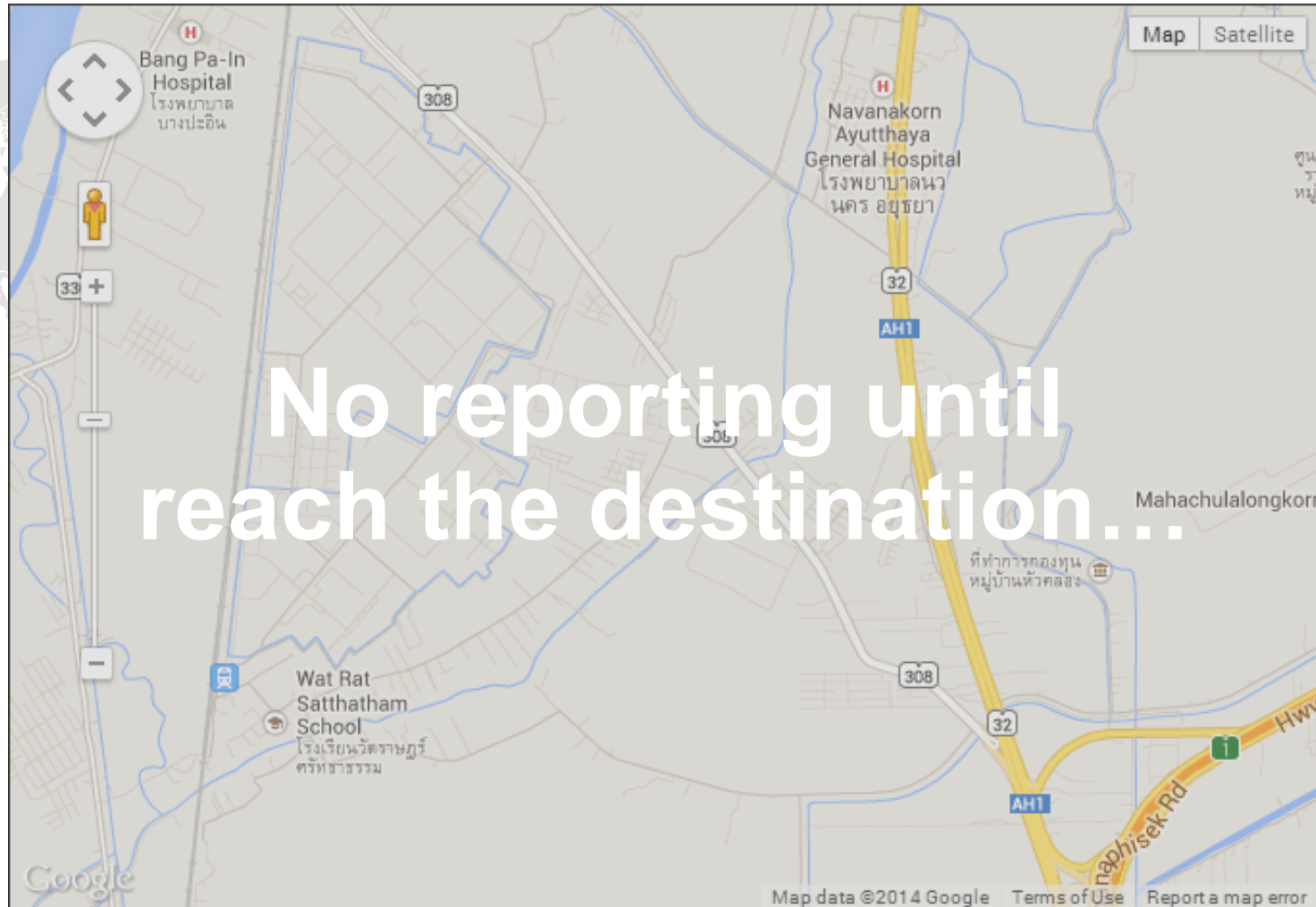


How to monitor the cargo

# VISIBILITY APPROACH

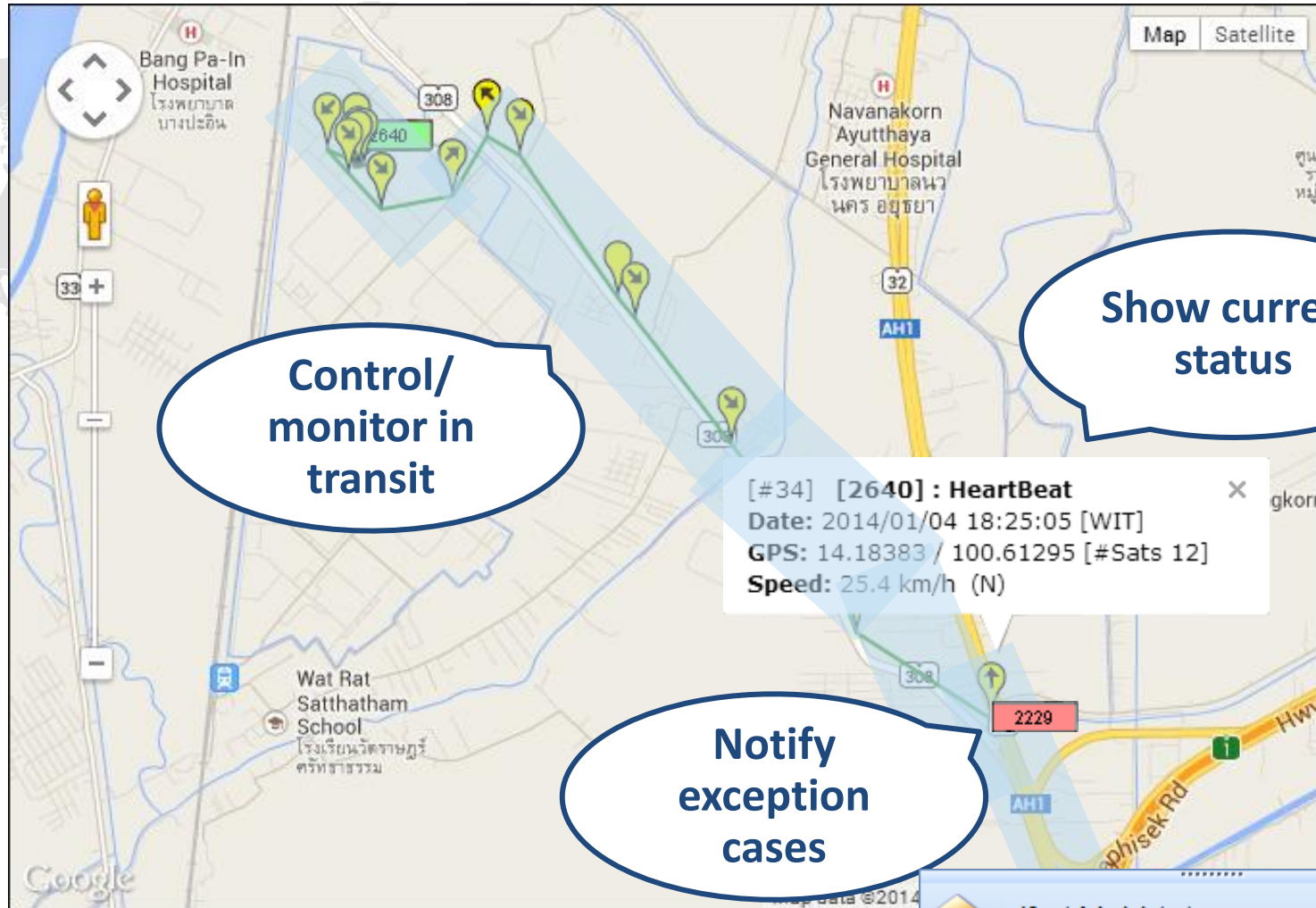


# RFID Technology





# GPS/GPRS/RFID Technologies



Control/  
monitor in  
transit

Show current  
status

Notify  
exception  
cases

[#34] [2640] : HeartBeat  
Date: 2014/01/04 18:25:05 [WIT]  
GPS: 14.18383 / 100.61295 [#Sats 12]  
Speed: 25.4 km/h (N)

iSpot Administrator  
**Security Alert Notification !!!**  
Device ID: 2230 Truck ID: 82-8290



**ADB – UNESCAP  
Secure and Efficient  
Cross Border Transport**



# QUESTIONS & ANSWERS







# Thank you

*Thai International Freight forwarders Association (TIFFA)*

