SMART CORRIDORS: APPROACH AND WAY FORWARD

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1.1 Project Background

PIDA has estimated that the African Regional Transport Infrastructure Network corridor inefficiencies cost about US75bn a year.

Smart Corridors

PIDA PAP Continental project No. 3 is "Model Smart Corridors and Efficiency Monitoring" which entails:

a) Design of model smart corridor system(s) and selection of corridors for implementation (Phase1) and

b) Design and implementation of corridor efficiency monitoring systems

1.2 The path 1

Smart Corridor Definition and Characteristics	Multi-criteria for Selecting a Pilot Smart Corridor	Corridor Assessment and Ranking for at Least one PSC
Selection of NSC and DC as PSCs	Review of Corridor Coordination Models and Proposed Model for SC	Technical Note on Intelligent Transport Systems (ITS) Concepts and Gap Analysis Methodology for SCs

1.3 The path

Gap Analysis of what is obtaining in the PSCs versus what should be in the corridors necessary to convert them into a SCs	**Identification of activities that must undertaken to close the gap for the conversion to SCs.**	**Costing of the activities required to convert the PSCs to a SCs i.e. to close the Gap**
PSCs Stakeholder Workshop to agree on the activities, options and approach for converting the corridor into PSC.	**Preparation of TORs for implementing the PSCs**	**Final Report on the Design and Costing of the PSCs.**

1.4. PSC Implementation Expected results

2. SMART Corridor Definition and Characteristics

SMART stands for "Safety, Mobility and Automated Real-time Traffic Management"

2.1 SMART Corridor -Summarized Definition

Transport corridor with quality infrastructure to carry intraregional and international cargo; Intelligent Transport Systems (ITS) for real-time information; & implementation of WTO and REC trade and transport facilitation tools, policies etc.

ITS – Intelligent Transport Systems
Software and hardware technology implemented on the corridor to rationalize, simplify, automate processes in order to save time and money.

ITS– Entails:
Technologies that provide **access to information** through **telecommunications** which includes the network infrastructure and communication tools used to **interface** stakeholders' various operational systems

2.2 SMART Corridor - Objectives

- ✓ **Provide real-time information on corridor traffic movements to stakeholders to enable them to manage the necessary processes effectively;**
- ✓ **Enhance corridor efficiency through trade and transport facilitation;**
- ✓ **Reduce cargo transportation time and costs;**
- ✓ **Increase safety and security of transport services;**
- ✓ **Ease the opening-up of landlocked countries trade;**
- ✓ **Enhance corridor countries' competitiveness.**

2.3 SMART Corridor - Key Characteristics

1. **Intelligent Transport Systems & Network**
   - **Trade Community Data Hub (EDI)**
   - **Cargo/Transit Tracking System**
   - **Regional Transit Security Bond Guarantee**
   - **Customs Risk Management System**
   - **Weighbridge interface and X-ray scanner**

2. **WTO Trade Facilitation (TF) Tools**

3. **RECs' TF policies, regulations, etc.**

4. **Quality Transport Infrastructure. & Maintenance**

EDI Documents

TRADE FALICITATION
Simplification   Strandardisation
Harmonisation

Policy
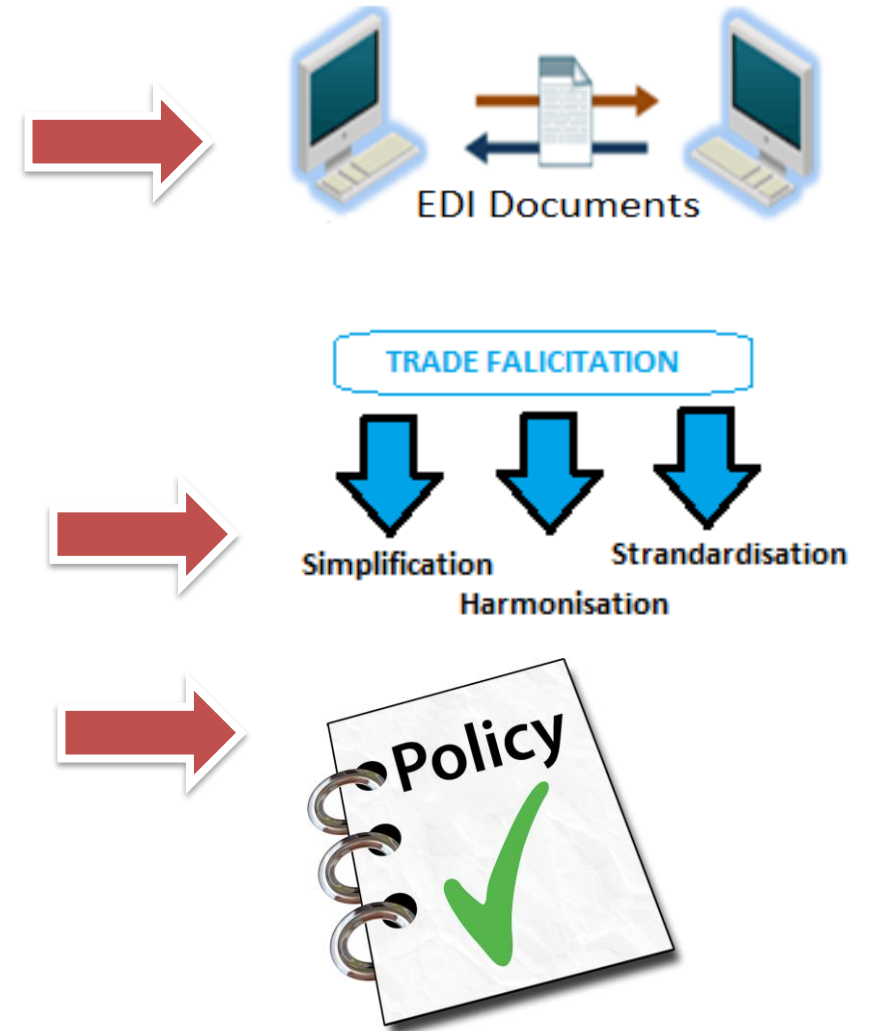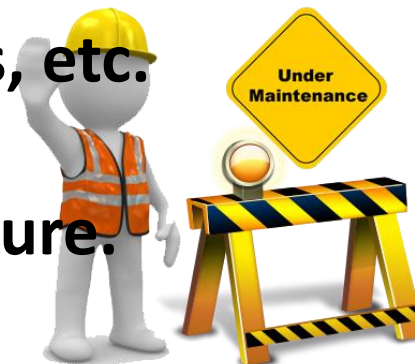
2.4 Corridor Processes- From Paper to ITS Paperless Solutions

Usual Import / export paper documents and stamped validations

Certificate of Origin
Invoice
Import declaration
Manifest
Bill of Lading
Transit Customs Declaration
Invoices (Terminal, Port, etc.)
Bank payment confirmations
Customs release Order
Weight and Scanning report
Transit Bank Guarantee
Road Authority Certificate
Import Customs Declaration
Other agencies doc, etc...

Data interfaces Between stakeholders

Automated & Paperless

Rationalization & simplification of processes

Redundant processes and delays reduced
=
Time and cost savings

Usual and known Delays of Import / Export

Waiting port arrival to start
Storing goods in terminal
Queuing stamped validation
Waiting payment confirmation
Queuing to Weigh and Scan
Resubmitting for each country
Redundant data entry
Customs inland check points
Customs escort organization
Waiting processing at border
Double border customs
inspections.Redundant bank
guarantees

2.5 SMART Corridors - ITS Key Components

The ITS should have the following functions/modules/outputs-specifications::

1. Cross border **Trade Community Data Hub** (TCDH) & Electronic Data Interchange (EDI);
2. **Customs Management Systems** (CMS) connected through the TCDH / regional network;
3. **Customs Risk Management Systems** for cargo physical examination selection;
4. **Electronic payment** systems between stakeholders banks via the TCDH;
5. **Real time monitoring and Tracking System** for cargo and vehicle movements - GPS/GPRS tracking devices and electronic seals for all types of cargo transport vehicles;
6. Corridor Management Institution's statistical **corridor performance monitoring & reporting system**;
7. Customs **Regional Transit Security Bond Guarantee** monitoring software at regional level;
8. X-ray Cargo Scanners **remote image analysis** at destination for cargo examination
9. **Weigh-in-motion weighbridges** automated and interconnected to the TCDH;
10. Electronic **toll portal** equipment on highways;
11. Electronic application / delivery of **authorizations /credential** by government agencies;
12. Route status / alerts - **data collection and report delivery** to corridor users
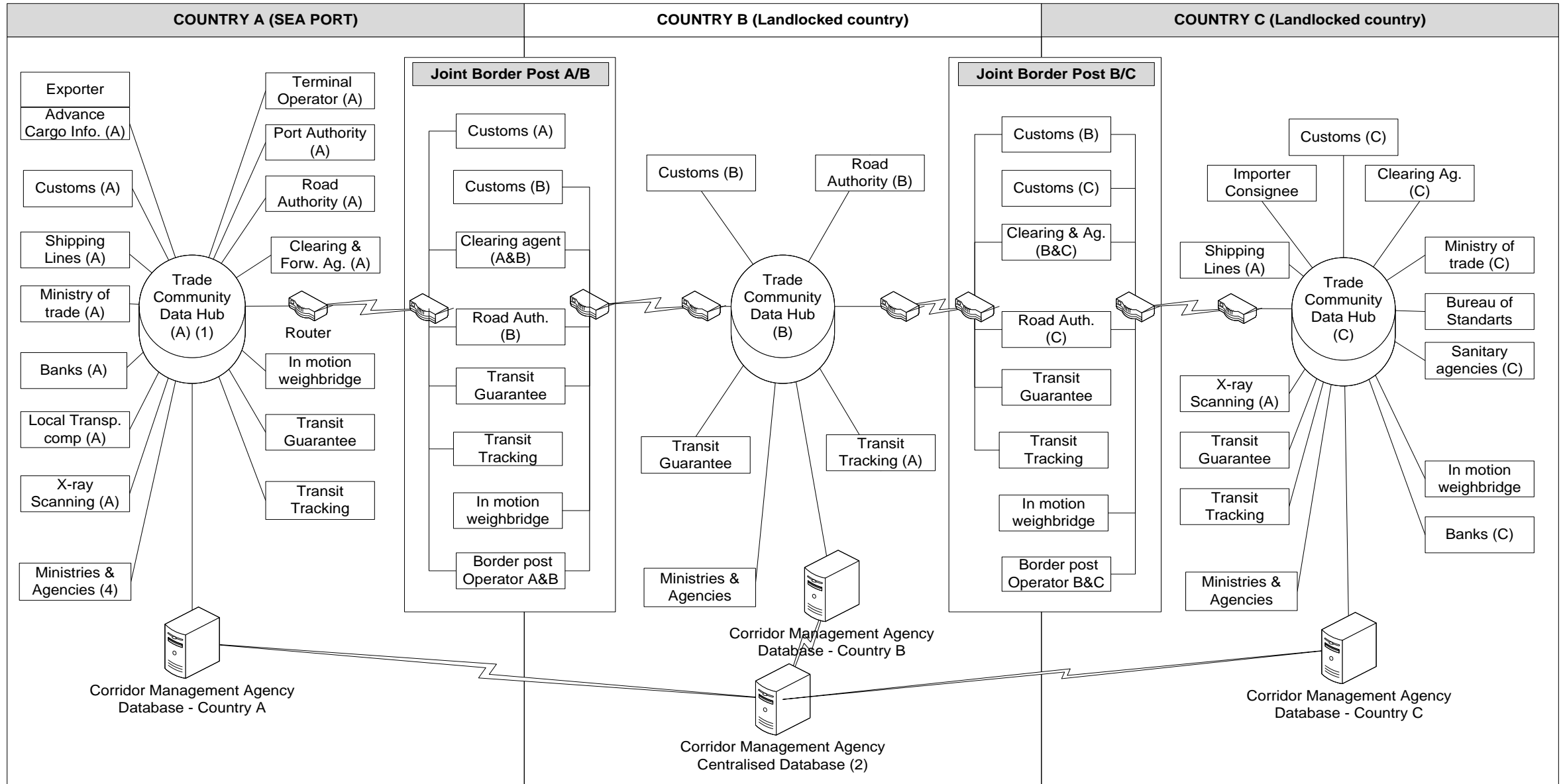
2.6. Implementation of a Cross-Border ITS − Stakeholders EDI & Network

Data hub: **The trade community is connected together on a single network. Each stakeholder's operational software is connected to the main central database, the "hub". Data content or validations are transferred from one stakeholder to another trough the hub.**
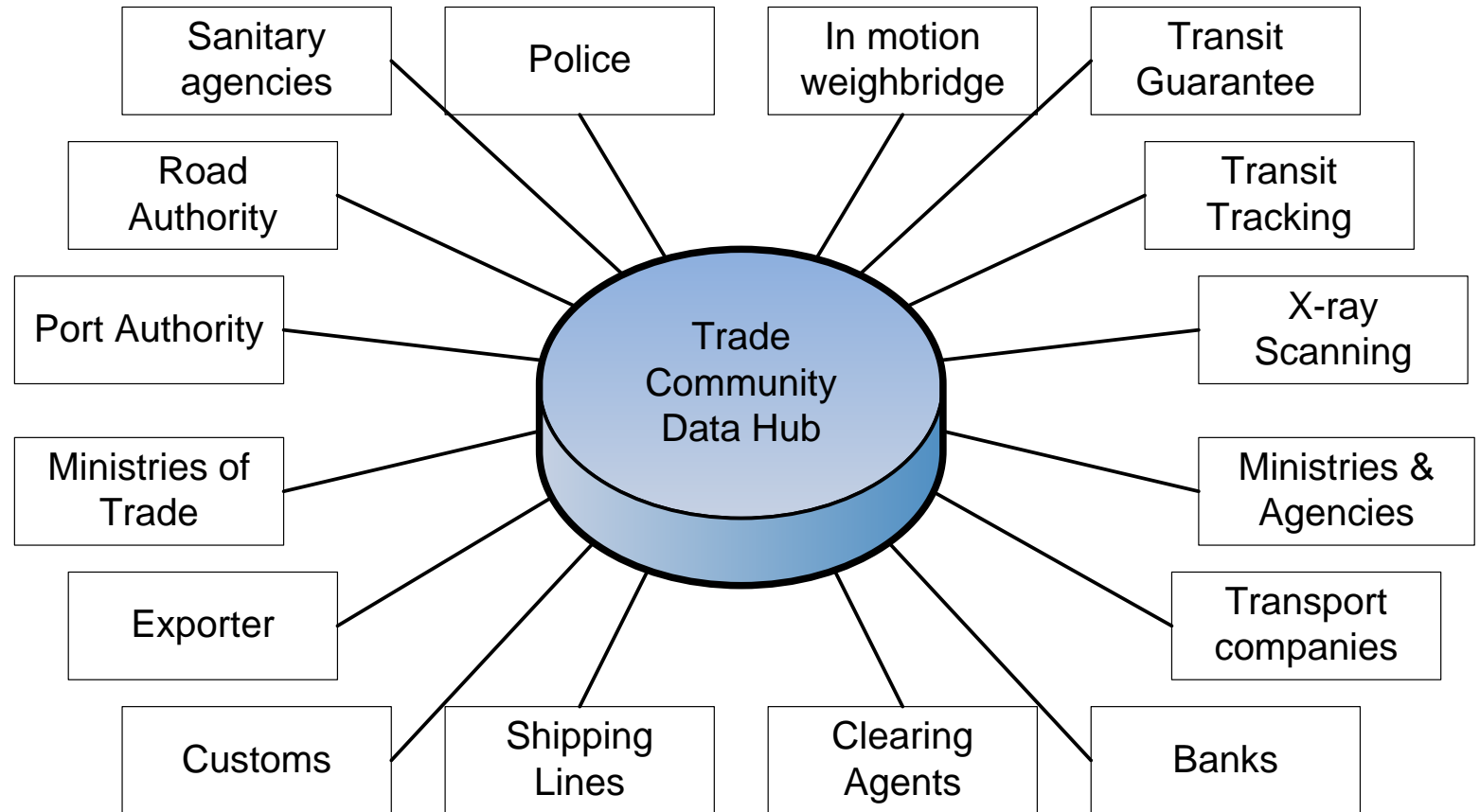
Confidentiality: User access is restricted by stakeholder. Only relevant data is accessible to a particular user. The system attribute a specific role to each user that grant him a specific and restricted information access.
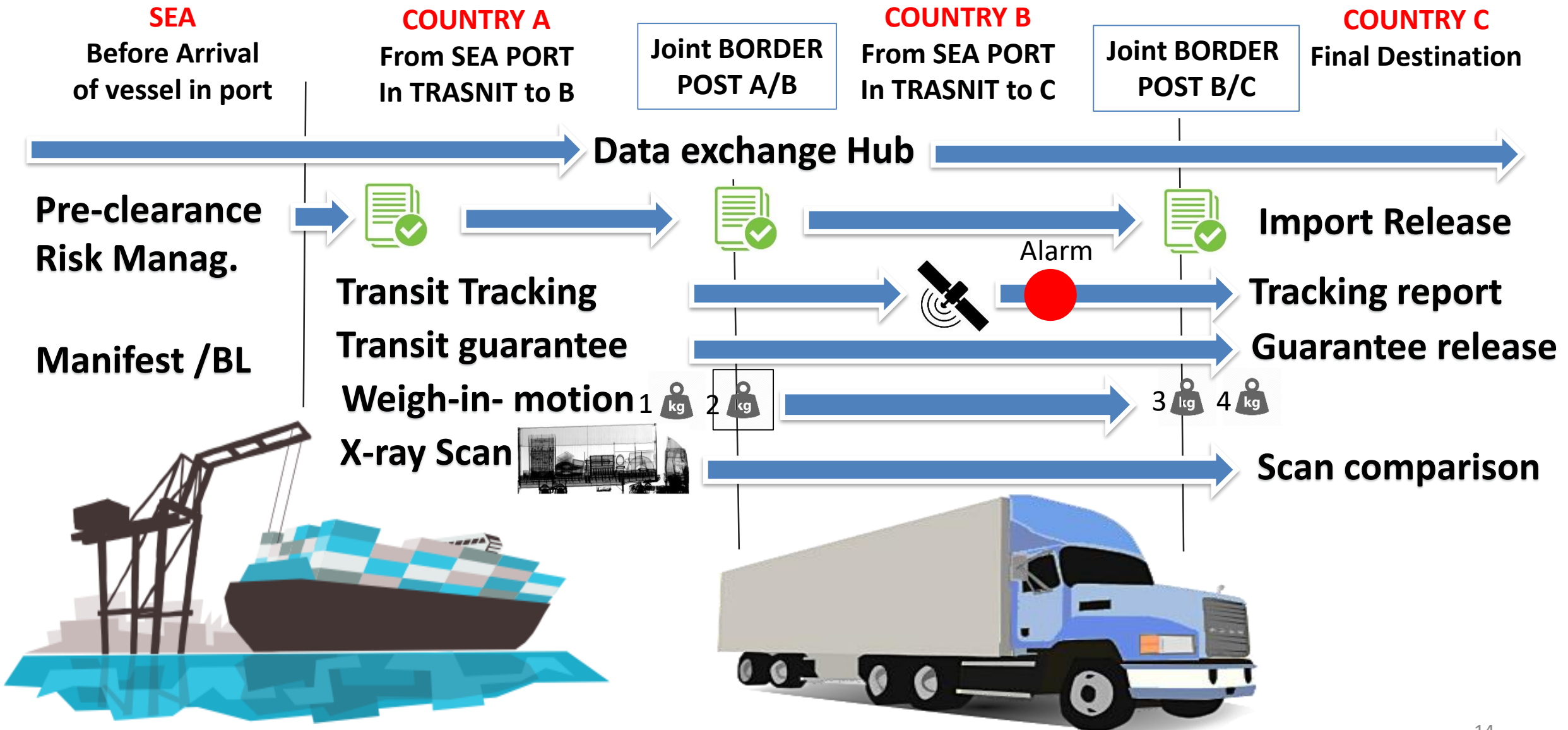
2.7 Corridor ITS infrastructure – Stakeholders & Network

COUNTRY A (SEA PORT)	COUNTRY B (Landlocked country)	COUNTRY C (Landlocked country)

COUNTRY A (SEA PORT)

- Exporter
- Advance Cargo Info. (A)
- Customs (A)
- Shipping Lines (A)
- Ministry of trade (A)
- Banks (A)
- Local Transp. comp (A)
- X-ray Scanning (A)
- Ministries & Agencies (4)

Trade Community Data Hub (A) (1)

- Terminal Operator (A)
- Port Authority (A)
- Road Authority (A)
- Clearing & Forw. Ag. (A)
- In motion weighbridge
- Transit Guarantee
- Transit Tracking

Router

Joint Border Post A/B

- Customs (A)
- Customs (B)
- Clearing agent (A&B)
- Road Auth. (B)
- Transit Guarantee
- Transit Tracking
- In motion weighbridge
- Border post Operator A&B

COUNTRY B

- Customs (B)
- Road Authority (B)

Trade Community Data Hub (B)

- Transit Guarantee
- Transit Tracking (A)
- Ministries & Agencies

Joint Border Post B/C

- Customs (B)
- Customs (C)
- Clearing & Ag. (B&C)
- Road Auth. (C)
- Transit Guarantee
- Transit Tracking
- In motion weighbridge
- Border post Operator B&C

COUNTRY C

- Customs (C)
- Importer Consignee
- Clearing Ag. (C)
- Shipping Lines (A)
- Ministry of trade (C)
- Bureau of Standarts
- Sanitary agencies (C)
- X-ray Scanning (A)
- Transit Guarantee
- Transit Tracking
- In motion weighbridge
- Banks (C)
- Ministries & Agencies

Trade Community Data Hub (C)

Corridor Management Agency Database - Country A

Corridor Management Agency Database - Country B

Corridor Management Agency Centralised Database (2)

Corridor Management Agency Database - Country C

Comments:
(1) In some countries the Trade Community Data Hub and the Corridor Management agency Database could be the same. The TCDH is usually dedicated to any type of import /export /transit transaction and not only related to transit
(2) The central database can be located in any country of the corridor, preferably in the country where the Corridor Management Entity is settled.
(3) The global appropriate network structure shall be studied on a real corridor configuration
(4) Ministries and agencies are governmental bodies other than the ones involved in the corridor process. These stakeholders are entities that need to have access to raw data to perform studies using corridor statistics in order to issue general policies.

# 2.8. Smart Corridor - ITS Key Components Processes

SEA
Before Arrival of vessel in port

COUNTRY A
From SEA PORT In TRASNIT to B

Joint BORDER POST A/B

COUNTRY B
From SEA PORT In TRASNIT to C

Joint BORDER POST B/C

COUNTRY C
Final Destination

Data exchange Hub

Pre-clearance Risk Manag.

Import Release

Manifest /BL

Alarm

Transit Tracking

Tracking report

Transit guarantee

Guarantee release

Weigh-in- motion   1   2   3   4

X-ray Scan

Scan comparison

2.11 Implementation of WTO TF Tools -National Single Window

A process that enables parties to submit standardized information and documents in a single entry to fulfil all import, export, and transit regulatory requirements.

A Single Submission of Documents
Simplifies flow of information between government and traders
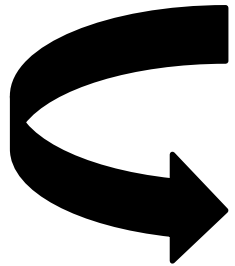
A Single Decision Making Process
Standardizes & integrates processes for cargo clearance
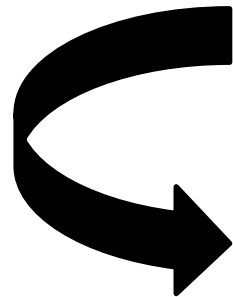
A Single Process to Release Goods
Reduces time and costs for cargo clearance

2.14. IMPLEMENTATION OF SMART CORRIDORS INFRASTRUCTURE

Design according to TAHs norms and standards
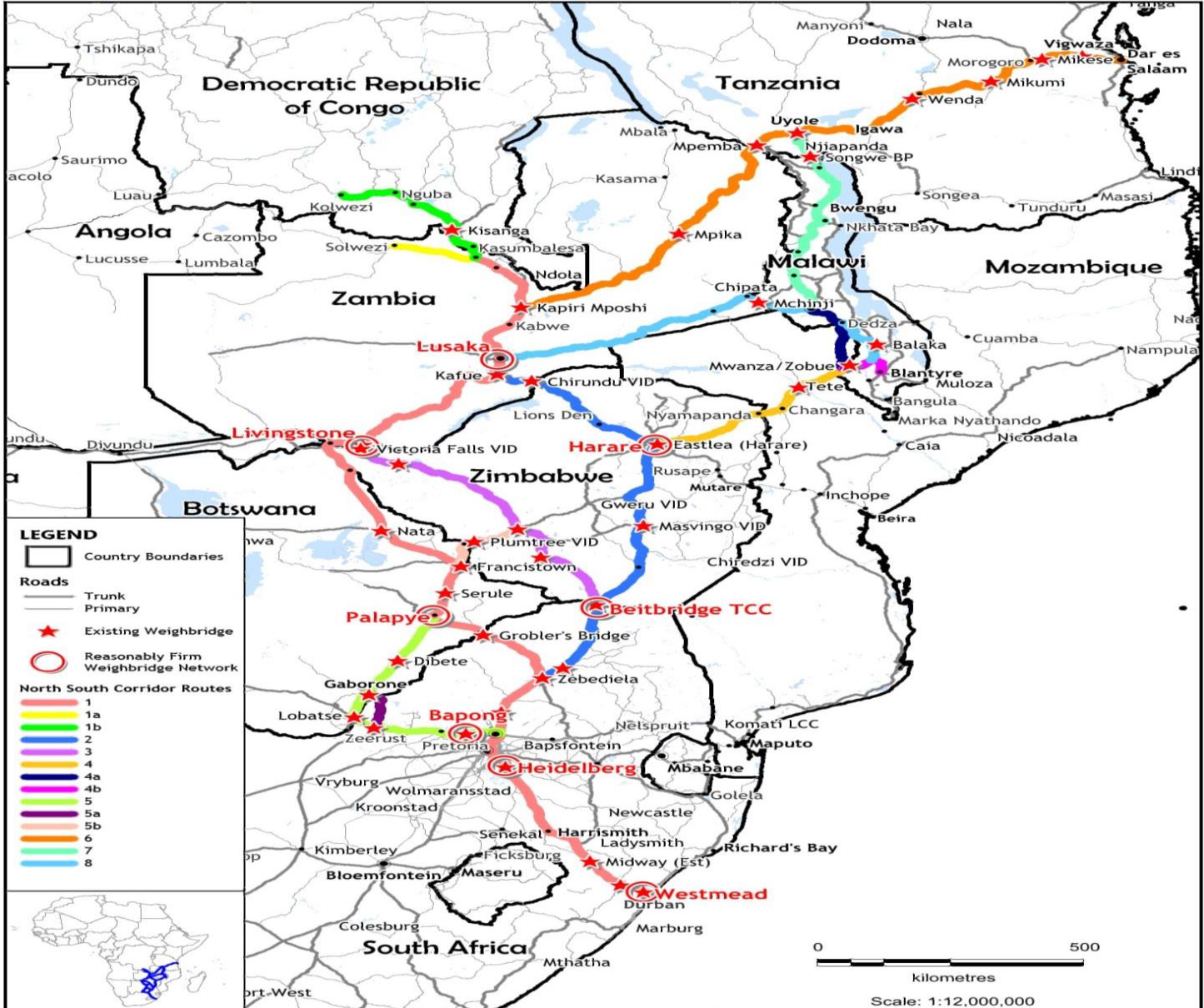
Toll and Weigh-in-motion Weighbridges

Specific lanes for slow-moving vehicles

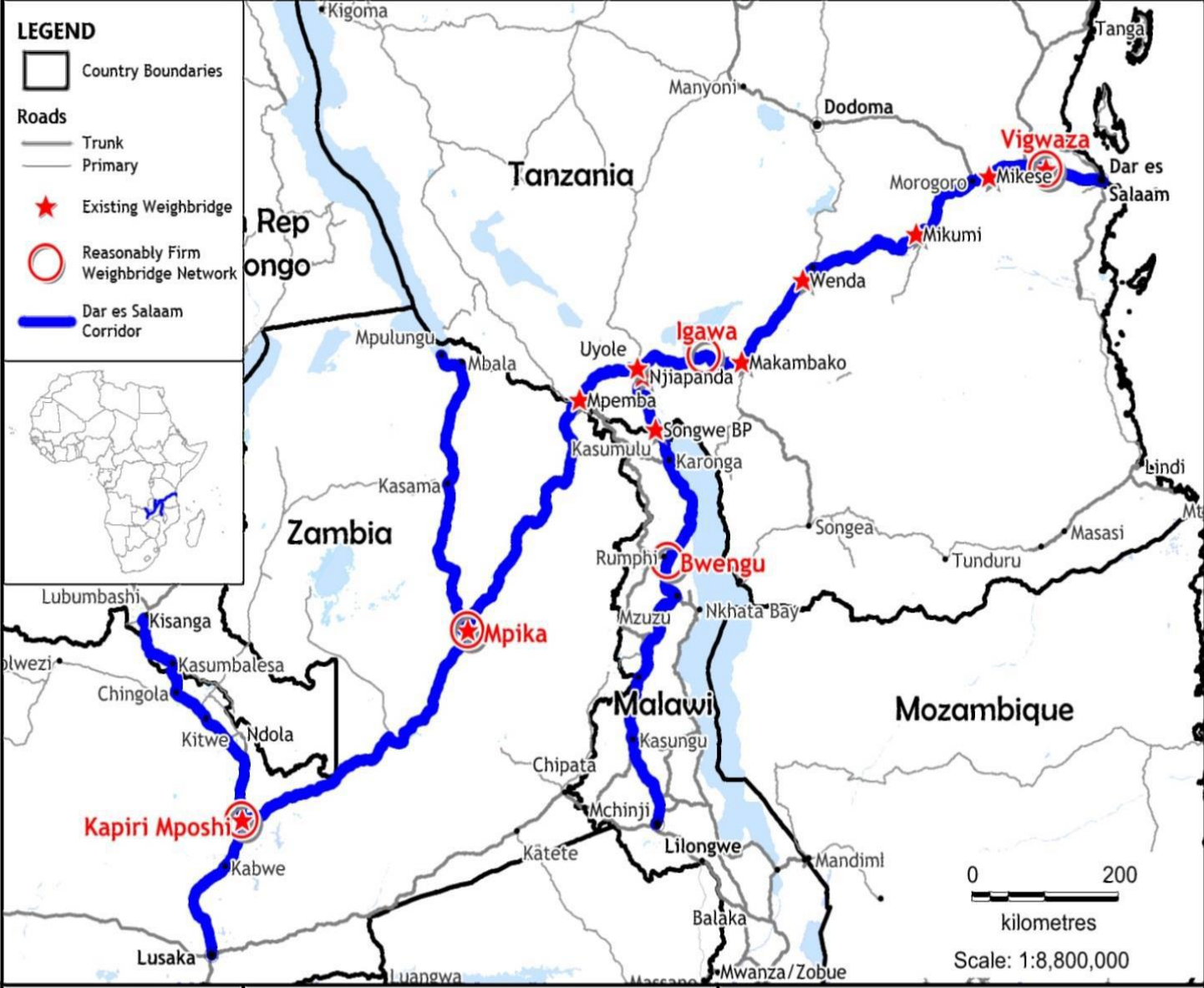# Were we are: 2 pilot SC

NORTH SOUTH CORRIDOR (2016)

	US M $
ITS/ICT Activities	: 14
Road works	: 1259
Weighbridges	: 83
Border post infra.	: 43
TOTAL	**: 1399**

NB: In country/ITS/ICT works to be perform (South Africa, Botswana, Zimbabwe, Mozambique, Tanzania, Malawi, Zambia, DRC)
Cost:
123 US M $

Were we are: 2 pilot SC

Dar es Salaam Corridor

DAR CORRIDOR (2016)

	US M $
ITS/ICT Activities	: 4.5
Road works	: 2 601
Weighbridges	: 31
Border post infra.	: 42
TOTAL	**: 2 678.5**

Way forward

- Implementation of SCs designed (Dar Es and North South)

- Conversion of other corridors into SC

- Disclosure of the concept and corresponding policy dialogue

Obrigago, Merci, Thank you