United Nations
Economic Commission for Africa

Strengthening Capacity to design and implement policies and identify solutions that promote transport connectivity for the achievement of SDGs

Topic: Application of Smart Technology for Seamless Cross-borders in Africa

Soteri Gatera
Senior Economic Affairs Officer
UN ECA
28th September 2021

[Virtual]

Application of Smart Technology for Seamless Cross-borders

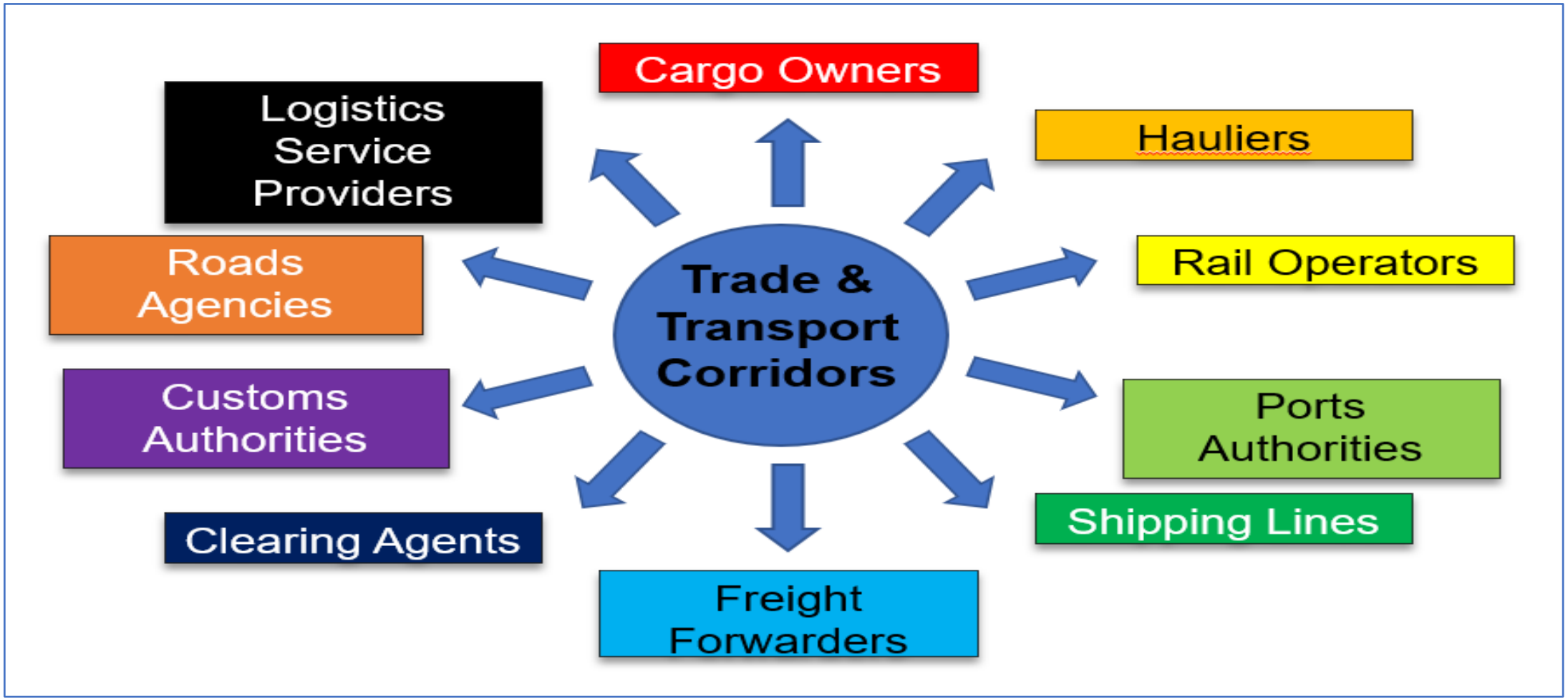
The Challenge in Africa: While seamless cross-border transport and trade requires a regulatory framework and management structures, it still requires technology support to make it a reality

The technology support for SMART and Seamless Transport and Trade requires capabilities at three levels:

- Smart collection of trade and transport information across the entire trade value chain
- Smart processing of this information to convert it into trade and transport intelligence
- Smart decision support at operational, tactical and strategic level

Application of Smart Technology for Seamless Cross-border

Transport and Trade Stakeholders



Application of Smart Technology for Seamless Cross-borders

Recommended SMART Systems:

- **Seamless Connectivity must include the following elements:**
  - ❖ **ASYCUDA compatible conversion programs** and integration between ASYCUDA, other customs systems
  - ❖ AEO (**Authorised Economic Operator) recognition and integration** with trade systems operated by AEO accredited corridor users
  - ❖ **Accredited registered transporter programs** that offer tangible benefits to compliant corridor users in terms of faster transit times.
  - ❖ **Total electronic data capture**, not only for customs declaration but for all verification processes and for any cargo vehicle that uses a corridor.
  - ❖ **Inter-agency international data transmissions** to enable all agencies to utilize information captured in the systems of other agencies.

Application of Smart Technology for Seamless Cross-borders

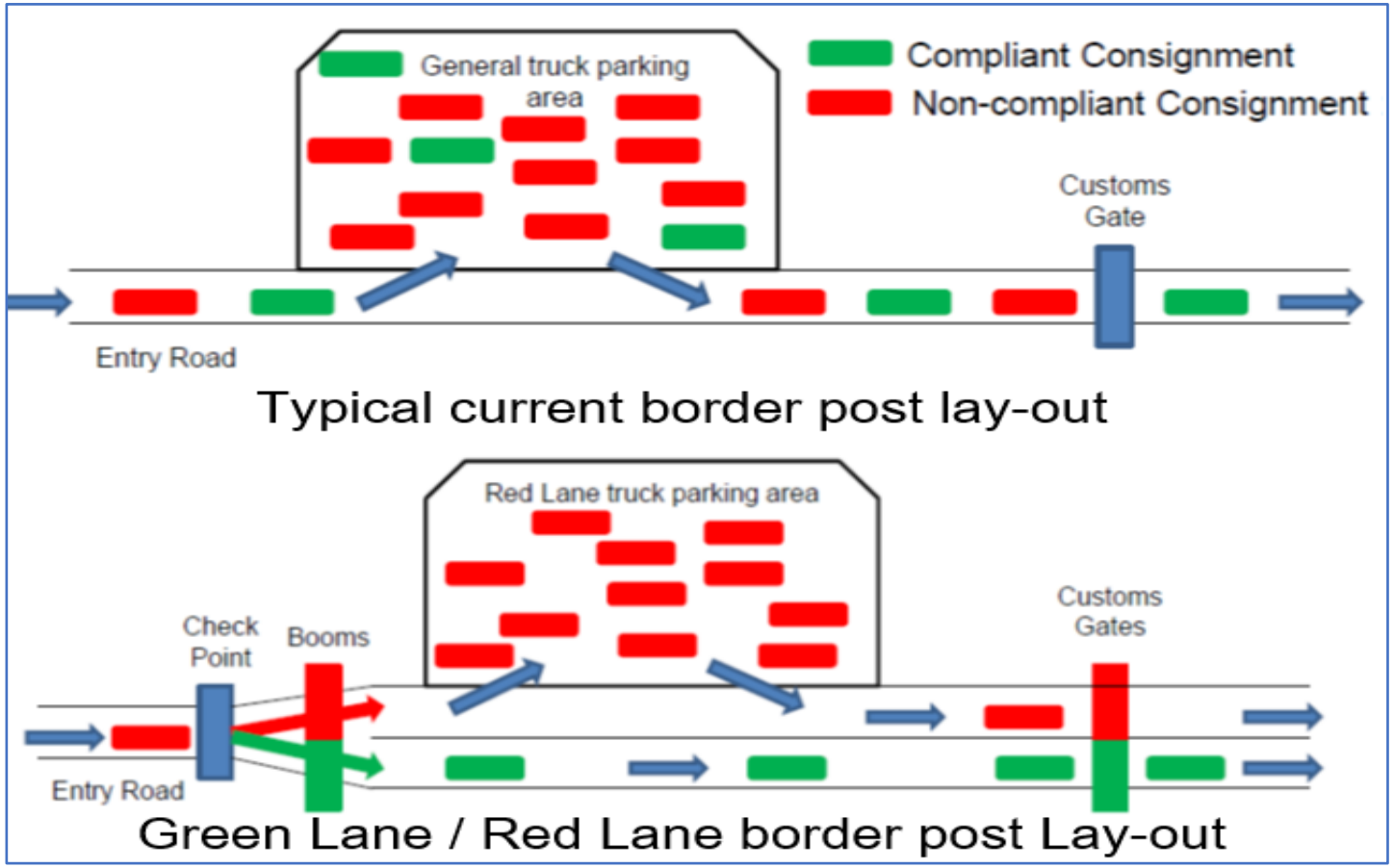
Recommended SMART Systems:

- **Smart Connectivity**
  - ❖ **Driver Monitoring** to enable transport companies, cargo owners and government agencies to verify if instructions are accurately implemented and if rules are complied with.
  - ❖ **OBC (on-board computers)** to analyse data collected en-route and to advise drivers about appropriate actions in case of unforeseen incidents.
  - ❖ **Real-time mapping** of all in-transit cargo vehicles to detect incidents and verify if rules are complied with.
  - ❖ **Hazard warning / security alarm system** to enable appropriate corrective action in case of efforts towards theft or non-compliance with rules.

Application of Smart Technology for Seamless Cross-borders

Recommended SMART Systems:

- **Corridor and Border Monitoring:** **GPS tracking; Corridor & Border Performance; Delay problem reporting**



Application of Smart Technology for Seamless Cross-borders

Recommended SMART Systems:

- **Electronic Document Management:** Preloading relevant documentation; Declaration of Origin, Destination &Designated routes
- **Route Planning and Monitoring:** Use of Transport route planning software; Establish standard sector times and routes
- **Automating the Monitoring of Vehicle Weights:** Automated Plate Number Recognition; Automated detection for truck overloads changes and lanes change
- **Online Support Systems for Transporters:** Online Registration and Permit Applications; Online Performance Reports
- **Green Corridor Systems:** Vehicle Emission Monitoring; Fuel Usage Monitoring
- **Electronic Navigation Seals and Smart Containers:** e-Seals and TIR approved containers; Automatic scanning on routes and borders

Application of Smart Technology for Seamless Cross-borders

Recommended SMART Systems:

- **Smart Tachographs:** Automated verification of driving times; Automated distance measurements based on tolling charges
- **Information systems for Intermodal interaction and Transport Nodes:** Transport hubs for cargo transfers; Electronic Marketplace linking cargo owners, freight agents and Transport Service providers
- **Automated Driverless Vehicles:** Assist drivers in risky situations; Control of vehicles over long stretches of road
- **Creating an ecosystem of Digital Corridors:** Integrated Corridors systems; Integrated Corridor Infrastructure Masterplans
- **Peripheral system support requirements:** Training for stakeholders to exploit digital support capabilities; Systems Maintenance to avoid disruptions
- **Compliance Systems:** Agents, Operators accreditation; Use of TIR , TIRe; Integrated Driver Clearing System

Application of Smart Technology for Seamless Cross-borders

In Conclusion:

- ICTs **have proved to be a keystone to more efficient and productive trade and transport systems. This provides the motivation for the use of technology systems to provide Seamless and Smart Connectivity to trade and transport systems on the African continent.**

- **In the short term the proposed systems will assist efforts towards the Covid-19 pandemic mitigation by reducing physical contact between human operators in trade and transport value chains**
- **It will furthermore automate procedures that currently lead to long queues and waiting times at border posts and ports.**

- **In the long term the proposed systems will enable more effective coordination between trading partners, increase asset utilization levels, improve the management and protection of infrastructure, reduce turnaround and waiting times and lead to higher levels of service delivery.**

THANK YOU!

Ideas to Action